Self-Study Accreditation Report for:

Doctor in Dental Medicine

Predoctoral Program

Academic Years 2013-2019

Presented to the Commission on Dental Accreditation

February 18-20, 2020
SCHOOL OF DENTAL MEDICINE
PREDOCTORAL PROGRAM
SELF-STUDY REPORT

Submitted to the Commission on Dental Accreditation
American Dental Association
December 2020

Accreditation Site Visit
February 18 – 20, 2020
ADMINISTRATOR VERIFICATION
OF THE SELF-STUDY FOR A DENTAL EDUCATION PROGRAM

The Commission requires appropriate administrators of the institution* verify that the contents of the self-study are factually accurate.

SPONSORING INSTITUTION

I have seen and reviewed the completed Self-Study (and required appendix information) that will be used in an upcoming site visit to this institution and verify that it is accurate and complete and that it complies with the Commission on Dental Accreditation’s Privacy and Data Security Requirements for Institutions.

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This document contains the following types of evidence:

- **Exhibits**
  
  Tables and figures included with the text of the report. Numbered sequentially within each standard.

- **Appendix A, Required Tables**
  
  Tables 1 – 17 sequentially organized as a section of the Self-Study Report.

- **Supporting Documents**
  
  Supporting materials referenced in the text.

- **Courses Syllabi**
  
  Syllabi of courses in the following categories:
  - Biomedical Sciences
  - Behavioral Sciences
  - Clinical Sciences

- **Agreements**
  
  Contracts, agreements, and/or collaborations documents

Other documents and materials referenced in the text and not included in the above categories will be available on site.
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# Abbreviations Used in Self – Study

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<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AADR</td>
<td>American Association for Dental Research. University of Puerto Rico</td>
</tr>
<tr>
<td>AAL</td>
<td>American Association of Leadership</td>
</tr>
<tr>
<td>AAPHD</td>
<td>American Association of Public Health Dentistry</td>
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<tr>
<td>AAWD</td>
<td>Association of Women Dentists</td>
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<td>ADA</td>
<td>American Dental Association</td>
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<tr>
<td>ADCFP</td>
<td>Academic Dental Careers Fellowship Program</td>
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<td>ADEA</td>
<td>American Dental Education Association</td>
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<td>AGD</td>
<td>Academy of General Dentistry</td>
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<tr>
<td>AHA</td>
<td>American Heart Association</td>
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<tr>
<td>APDMD</td>
<td>Advanced Placement Doctor in Dental Medicine Program</td>
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<td>APPC</td>
<td>Academic Progress and Performance Committee</td>
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<td>ASDA</td>
<td>American Students Dental Association</td>
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<tr>
<td>CAPP</td>
<td>Committee of Academic Progress</td>
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<td>CBDE</td>
<td>Community Based Dental Education</td>
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<tr>
<td>CBE</td>
<td>Case-based exam</td>
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<tr>
<td>CCA</td>
<td>Clinical Competency Assessment</td>
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<td>CCRHD</td>
<td>Center for Collaborative Research in Health Disparities</td>
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<td>CCRHP</td>
<td>Center for Clinical Research and Health Promotion</td>
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<td>CDA</td>
<td>Committee for Diversity Affairs</td>
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<tr>
<td>CDC</td>
<td>Center of Disease Control</td>
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<tr>
<td>CE</td>
<td>Continued education</td>
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<tr>
<td>CECSI</td>
<td>Centro Estudiantil de Consejería y Sicológia (Student Counseling and Psychology Center)</td>
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<tr>
<td>CIPE</td>
<td>Centro de Integración y Planificación Educativa (Center for Educational Integration and Planning)</td>
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<tr>
<td>CIRE</td>
<td>Center for Informatics and Educational Resources</td>
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<td>CITA</td>
<td>Council of Interstate Testing Agencies</td>
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<tr>
<td>CODA</td>
<td>Commission on Dental Accreditation</td>
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<tr>
<td>CPR</td>
<td>Cardiopulmonary resuscitation</td>
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<tr>
<td>DCGC</td>
<td>Dental and Craniofacial Genomic Core</td>
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<tr>
<td>DIS</td>
<td>Direct ion storage</td>
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<tr>
<td>DMD</td>
<td>Doctor in Dental Medicine</td>
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<tr>
<td>DS</td>
<td>Dental Student</td>
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<tr>
<td>DSPDI</td>
<td>División de Servicios para Adultos con Discapacidad Intelectual (Division of Services for Adults with Intellectual Disability)</td>
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<tr>
<td>HER</td>
<td>Electronic health record</td>
</tr>
<tr>
<td>ENACT</td>
<td>Expanding National Capacity in PCOR through Training Program Excellence</td>
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<td>FDA</td>
<td>Food and Drug Association</td>
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<td>FDP</td>
<td>Faculty dental practice</td>
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<td>FLRP</td>
<td>Faculty Loan Repayment Program</td>
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<tr>
<td>GVI</td>
<td>Government health insurance</td>
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<tr>
<td>HCTRECD</td>
<td>Hispanic Clinical and Translational Research Education and Career Development</td>
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<tr>
<td>HHS</td>
<td>Health and Human Services</td>
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<tr>
<td>HIPAA</td>
<td>Health Insurance Portability and Accountability Act of 1996</td>
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</tbody>
</table>
HMO Health maintenance organization
HRSA Health Resources Administration
ICCO Infection Control Compliance Officer
ICD International College of Dentists
ICDAS International Caries Detection and Assessment System
INBDE Integrated National Board Dental Examination
IPE Inter Professional Education
IRB Institutional Review Board
LGBTQ Lesbian, gay, bisexual, and transgender
MBRS RISE Research Initiative for Scientific Enhancement
MBRS-SCORE Minority Biomedical Research Support - Support of Continuous Research
MCQ Multiple choice question
MSC Medical Sciences Campus
NBDE National Board Dental Examination
NGO Nonprofit organization
NIDCR National Institute of Craniofacial Research
NIH National Institute of Health
OADR Office of the Assistant Dean for Research
OMCCC Oral Microbiology and Caries Control Core
OSCE Objective structured clinical examination
OSEI Oficina de Servicios a Estudiantes con Impedimentos (Office of Services for Students with Disabilities)
PAHO Pan American Health Organization
PCOR Patient-Centered Outcomes Research
PICO Model for clinical questions in evidenced based method
PRCTRC Puerto Rico Clinical and Translational Research Consortium
PRIDE Puerto Rico Innovation in Dental Education
PRISMA Database tool for modern application development
PROMESA Puerto Rico Oversight Management and Economic Stability Act
QAP Quality Assurance Program
QAPP Quality Assurance Prosthetics Program
RCMI Research Center in Minority Institutions
REAU Research and Equity Analysis Unit
RPD Removable Partial Denture
SA Skills Assessment
SCDA Special Care Dentistry Association
SD Supportive document
SDM School of Dental Medicine
TA Typodont Assessment
UDH University District Hospital
UPRSDM University of Puerto Rico School of Dental Medicine
PREVIOUS SITE VISIT RECOMMENDATIONS

The UPRSDM accreditation status as established in the CODA Site Visit Report of August 8, 2013 was: Approval with reporting requirements. The only recommendation was the following:

Recommendation #1 – It is recommended that the dental school employ student evaluation methods that measure the defined competencies (Dental Education Standard 2-8).

The recommendation was related to the competency examinations of two disciplines: Endodontics and Prosthodontics:

- The specific competency exams for permanent teeth in Endodontics were not patient based.
- The specific competency exams for Prosthodontics (fixed and removable) were not patient based.

The School took immediate actions to comply with the standard and submitted a complete report with evidences in June, 2014:

- Immediate redefinition and implementation of competency exams in Prosthodontics (fixed and removable) to include patient-based independent clinical performance assessment.
- Immediate implementation of competency exams in Endodontics to include patient-based independent clinical performance assessment.

In August 12, 2014 the Commission on Dental Accreditation determined that the recommendations cited in the August, 2013 site visit report have been met and adopted a resolution to change the program’s accreditation status to **Approval without reporting requirements**.

THIRD PARTY COMMENTS

The UPRSDM has solicited third-party comments from communities of interest such as students and patients that pertain to the standards or policies and procedures used in the Commission’s accreditation process. An announcement for soliciting third-party comments was published at least 90 days prior to the site-visit. The notification was available to students and patients in has copy postings and electronic postings: Facebook page, web page, UPRSDM network and Medical Sciences network.

COMPLAINTS

1. Students complaints – The UPRSDM students are notified, at least annually, of the opportunity and the procedures to file complaints with the Commission. Additionally, the a record of student complaints received is kept at the Office of the Assistant Dean for Students.
2. Formal complaint since last accreditation – The records of formal complaint are kept in the Office of the Dean. The UPRSDM had an anonymous complaint related to CODA standards in September, 2018. The School offered a response to the anonymous
complaint. After reviewing the evidence, the Commission on Dental Accreditation confirmed the program’s accreditation status: Approval without reporting requirements.

DISTANCE EDUCATION

The UPRSDM's didactic curriculum is lecture based, in the traditional sense, with only several hybrid courses and no full online courses. Courses materials are posted in blackboard with protected log in and password. The instructions of courses are posted in blackboard and also given on site. All electronic assessments; ExamSoft, OSCE, etc. require individual secure log in that also protects privacy.

Program Performance with Respect to Student Achievement

The UPRSDM has an already established Outcomes Assessment Plan. The current plan follows the UPR Academic Assessment requirements, which supports quality student learning by assisting academic programs in defining learning outcomes, developing assessment strategies, and encouraging a culture of learner-centered education.

For example, the UPRSDM predoctoral program uses student achievement measures to assess the program’s overall performance, such as, approval of the NBDE I and NBDE II in the first attempt, graduates approval of the state board in the first attempt, students who complete the DMD program in four (4) years, students who complete the Advanced Placement undergraduate program in two (2) years, and the percentage of graduates who apply to residencies or graduate programs accepted to at least one (1) program. (For a detailed analysis and information, please refer to Standard 1-2)
FOREWORD

The University of Puerto Rico School of Dental Medicine has become the leader in the improvement of the oral health of Puerto Rico and the Caribbean area. The School of Dental Medicine of the UPR is a proactive institution of higher education for the development of professionals of the highest quality, who are sensitive to the needs of their patients and are oriented to comprehensive service to the people of Puerto Rico and the global community.

The School is in the Medical Sciences Campus (MSC) of the University of Puerto Rico. The Medical Sciences Campus is part of the University of Puerto Rico (UPR) System, a multi-campus, state-supported institution of higher education licensed by the Puerto Rico Education Council (Certification CEPR 2018-4641). The Medical Sciences Campus is composed of the Schools of Medicine, Dental Medicine, Public Health, Pharmacy, Nursing, and Health Professions, along with the Deanship of Administration, Deanship for Student Affairs, the Deanship for Academic Affairs, and the Deanship of Research.

The MSC professional schools and programs, and hospital-based residencies hold school and profession-specific accreditations. It offers 66 academic programs. The campus operates as a health sciences center with close ties to the community through an extensive network of public and private practice sites. It operates the University of Puerto Rico Hospital in Carolina, and has numerous teaching and practice arrangements with hospitals in the Puerto Rico Medical Center (adjacent to the institution) and the nearby Veterans Administration Hospital, among others. The School of Dental Medicine operates its main practice site on school premises and also sponsors several community-based service projects in low income areas in which students participate. Over the years these arrangements have gained the campus prestige in the community and have strengthened its ties with many practicing professionals who serve as preceptors and mentors on an ad honord basis.

Besides teaching and service, the campus is also engaged in numerous research projects, many funded by the National Institutes of Health and its subdivisions. Over the past 10 years, this activity has continued to grow, fueled in part by seed monies and infrastructure building programs such as the Minority Biomedical Research Support (MBRS), Research Centers in Minority Institutions (RCMI), and the MD Anderson Comprehensive Cancer Center.

As of academic year 2018-2019, the campus had 2,253 students, 440 residents, 989 faculty members and 1,277 non-teaching staff to support its mission. For academic year 2019-2020, 2,232 students were enrolled (August 21, 2019), compared to 2,253 in previous academic year 2018-2019.

Since the last accreditation visit in 2013, the School has continued its evolution emphasizing in the following areas: technology, innovation, enhancement of curriculum, research and financial resources.

The School had a major curricular reform in the period between 2006 – 2013. The integration of basic sciences and dental medicine in the curriculum has also been one of the targeted goals. During the period of 2013 to present, the reform actions have continued. The school has also embraced new models for patient care and research upon which to build innovative programs for
teaching and learning. Combined with a technological explosion across the world and in education, the UPRSDM is accepting the challenge on many fronts, such as electronic patient records, educational modifications and integration of technology. As the school moves ahead to the future, additional advances and innovations are planned to follow.

In 2014, before the beginning of the academic year 2014-2015, the School made a curricular change to the third year academic curriculum. We went from 13 clinical discipline rotations to one comprehensive clinical care course. This curricular change was based on our experience with the fourth year comprehensive patient care course and the commitment of the School to have a patient centered care model at all levels of the clinical setting. The fourth year patient care curricula were the result of almost four years of hard work from the CCI Liaison’s group of the School and this effort was published at the Journal of Dental Education in April, 2011.

This clinical academic model has allowed us to have a more reliable assessment of students’ clinical work. The students that experience academic difficulties succeed by means of early interventions, assignment of mentors in some cases, and academic and psychological counseling when needed. In most instances, students have been able to meet the curricular demands and successfully complete their studies.

An important challenge for the school during the period under evaluation has been the diversification of funding sources so as to rely less on state allocations. The school has strengthened the strategies by obtaining funding from its research, grants, service, and academic activities. The School of Dental Medicine Strategic Plan redirects the school towards a more fiscally sustainable institutional management with a strengthened mandate to incorporate greater internal efficiency into its academic and administrative operations. Looking towards the future, we are reinforcing the funding base necessary for changes to occur towards achieving higher levels of fiscal sustainability. The actions to be taken to achieve this goal will be: the expansion of the clinical services with the newer clinical facilities for the Faculty Practice Plan (new facilities in progress), the establishment of the Master of Dental Sciences in Periodontology, the participation in the Electronic Health Record federal incentives program, to promote and facilitate new revenue projects like distance learning through our professional offerings from the Continuing Education Division, and to increase the enrollment of students to the Advanced Placement Program up to 40 students (up to 20 per class by the 2021 academic year). This increase in enrollment was already approved by CODA and has been implemented during academic year 2018-2019. The Advanced Placement Program has proven to be a successful academic component of the school providing an important source of funding to our Institution.

Changes Since the Last Accreditation

Administration and Institutional Environment

In February, 2018, the Chancellor of the Medical Sciences Campus, appointed Dr. José R. Matos Interim Dean of the school. Some members of the Staff have been appointed: the Interim Associate Dean, the Interim Assistant Dean for Academic Affairs, and the Interim Assistant Dean for Student Affairs. The Assistant Dean for Research, the Assistant Dean of Graduate Studies, the Assistant Dean for Clinical Affairs, and the Chairs of the Departments remained in their positions. The
university, the campus and the UPRSDM have been in constant evolution coevolving with other institutions and stakeholders. Processes are in constant creation, implementation and revision.

The Medical Sciences Campus, as well our School have made significant efforts in the following areas:

- Promotion of an institutional climate of respect to all members of the academic community - revision and enhancement of reasonable modification processes, diversity policies, etc.
- Enhanced planning of students and SDM activities to improve institutional environment - Activities Committee, Structured Activity plan in Office for Students Affairs, etc.
- Structured and Augmented Interprofessional Experiences - Academic, Clinical and Research (i.e. PRIDE HRSA Grant, IPE activities in courses at preclinical and clinical levels)
- Participation of institutional faculty and personnel from MSC Schools in the AAL/UPRSDM Program
- UPRSDM efforts: Revised Strategic Plan, Outcome Assessment Plan, Revised Academic Progress and Performance Rules and Regulations, and the Revised Vision and Mission Statements among others.

**Curriculum and education**

Since the last accreditation visit, the Curriculum and Institutional Assessment Committees have fine-tuned the curricular reform by using the diverse measures of the school’s assessment plan as well as course evaluations. Changes since last accreditation include:

- Review of Competencies
- Review of Competency Assessment Methods
- Creation of Center for Informatics and Educational Resources
- Development of ExamSoft Program for Assessments
- Review of Courses and Syllabi (Hours, Descriptions, Content, New)
- Implementation of IPE Activities in Four Years of Curriculum
- Third Year Comprehensive Clinic Course Substitutes Previous Clinic Courses (Rotations)
- Implementation of elective and continued education courses that include topics on diversity
- Implementation of calibration modules and assessment process

**Facilities and Equipment**

The School of Dental Medicine maintains up-to-date physical facilities in order to assure that educational services and research can be offered at optimal levels. Improvements and changes made since last accreditation include;
Clinical services

- The waiting area of the main clinic was remodeled allowing a new patient flow that is more convenient to the patients, students, and clinical support staff.
- The sterilization area was also remodeled to meet the demands of students in all clinics.
- Digital radiography has been implemented, including radiology equipment and hardware to store the image data.
- Implementation of Electronic Health Record (AxiUm)
- Acquisition of Cad-Cam Technology
- Creation of an Ad Hoc Committee for the acquisition of instruments by the UPRSDM
- Needs Analysis Report for the Acquisition of Instruments of the UPRSDM
- Creation of Ad Hoc Committee of Dental Materials.
- Revision of Quality Control Forms for Laboratory Cases.
- Integration of a Quality Control for Laboratories.
- Creation of a Protocol for Power Outages and Disruptions.
- Integration of a Clinic for Prevention and Promotion of Oral Health (Recall).
- Cardiovascular Hospital Laboratory Agreement for patient’s assistance during blood pathogen exposures.
- Renewal of Institutional Licenses
- Implementation of Inventory Module
- Implementation of Electronic Prescriptions

Educational facilities

- The laboratories for the freshman and sophomore students were remodeled including the update of technology resources.
- New center for Educational Technology was created with hardware (new 45 computer stations room with educational technology equipment), ExamSoft and other software.
- New Center for Informatics and Educational Resources was created, new personnel were appointed and upscale technological equipment was installed.
- New equipment for the Facegenes project of the Dental and Craniofacial Genomics Research Core.
- New Caribbean Dental Biorepository with its equipment is in the process of being established
- Remodeling of A142 Room and update in technologies in several rooms (video conference, etc.)

General facilities and resources

- Enhancements to the students’ rest/lounge areas
- Assignment of new office space to the Students’ council.
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- Welcome activities for new students that include tour and in vivo academic experience with parents as observers while they are in courses (video conference)
- Formal PRIDE Mentoring Program is developed and running – peer mentoring (students), faculty-student mentoring
- Center for Information and Education Resources has been created and is in place - New space, equipment and recruitment of Director (PhD in Educational Technology), and personnel.
- Increased participation of students in Associations- the institution now enrolls all students in ADEA, and new associations chapters have emerged (ADEA ADCFP)- Ethics Association- AGD have increased.
- Protocols in case of utility interruptions and/or external circumstances have been developed and are in place
- Leadership Program that starts upon enrollment and continues after graduation.
- Participation of students with the faculty in the AAL/UPRSDM Leadership Activities

Research

The growth of the UPRSDM research infrastructure began since the previous accreditation period with the establishment of the Office of the Assistant Dean for Research, which promotes a research culture among faculty and students and supports collaborative and interdisciplinary activities in the Medical Sciences Campus and abroad. Proceeds from an endowment fund granted by the National Institutes of Health, funded the recruitment of a magnet investigator and the establishment of the Center for Clinical Research and Health Promotion to study oral-systemic links.

During the current accreditation period, four new Research Cores and Units have been created to conduct clinical and translational studies in oral and systemic health and social determinants of health. As a result, research productivity at the UPRSDM has dramatically increased in terms of publications and NIH research funding, converting the UPRSDM into a research-intensive institution with a $17,000,000 endowment grant and more than $3,000,000 in active NIH-research funding (Fiscal Year 2019). CariDen, the first saliva and oral tissue biorepository in the Caribbean was established in 2018 to provide UPRSDM researchers a valuable source of samples and linked clinical data for oral and systematic health studies. The UPR Medical Sciences Campus has recently established an Associate Deanship for Research to help improve the administrative aspects of research.

The research culture among students has been strengthened with the incorporation of a new introductory research course in the 1st year, and the integration of evidence-based research requirements (Systematic Reviews) into the clinical portfolios of the 3rd and 4th year students. The ADEA Academic Dental Careers Fellowship Program (ADCFP) was implemented in 2016 to enhance the involvement of undergraduate students and Faculty in Education research.
Faculty

The self-study process helped the faculty reflect on areas that needed improvement, among those are the annual faculty evaluation process and its link to faculty development. It became evident that this process must occur periodically, and must include a thorough interview with each faculty member in order explore their professional goals as well as those of the school. This process has to be put into action by each department chair. An updated annual evaluation form and process was implemented. Also, the review of the process has enhanced the communication of the faculty, immediate supervisor, and Chair. This allows an integrated development of the faculty. The school has among its goals the encouragement and development of faculty by providing the opportunities for training and courses to provide skills and knowledge to the faculty. Their development may include continuing education courses, international meetings in their specialty, and participation in ADEA Leadership Institute, among others. In addition, the School has made a collaborative agreement with the Academy for Academic Leadership (AAL) to implement the Center for Leading and Learning (CLL) that will provide professional developing programs for health care professional.

Community Outreach

Since the previous accreditation, the school has continued to promote student participation in multidisciplinary, collaborative service activities throughout the island. During their senior year students participate in 11 additional hours of activities in the community. In addition to the regular community activities of the courses and those required for the junior and senior year, the school has implemented trademark unique community activities: Give Kids a Smile- elementary school child, Dale cabeza a tus síntomas, oral cancer prevention, and Recinto llega a ti – Medical Sciences Campus initiative after Hurricane Maria that consisted of more than sixty-five interprofessional community interventions (lasted for almost a year). Voluntary participation is also fostered among students throughout all their academic years. Participation in these activities enhances student awareness and empathy regarding the needs of medically and socio-economically disadvantaged groups.

Hurricane Maria

A Category 4 hurricane hit Puerto Rico in September, 2017. The UPRSDM is located in the Medical Center Area and is affiliated to the hospitals. The School became the main oral care provider of the island before, during, and after the event. Thanks to its proximity to the Medical Center and to not having suffered serious structural damages, the School resumed the administrative and academic activities only 13 days after the phenomenon.

The aftermath could be resumed as follows:

- UPRSDM demonstrated leadership at all levels: administration, academic community and collaborators demonstrated the capacity of adequate development and implementation of strategies of response
- UPRSDM has a committed and well-centered community
- Enrollment of faculty and students was maintained to 100%
Emergency protocols were immediately revised, tailored to the situation, and practiced in vivo.

Adequate rescheduling of activities assured timely completion of academic activities maintained at an excellent level.

Students lived unique community service experiences and played a protagonist role in the populations’s health recovery.

**Self-Study Process**

The School of Dental Medicine began its self-study process by appointing the Steering Committee in February, 2017, and had a structural modification in September, 2018. The committee is chaired by Dr. Elaine Pagán, Interim Associate Dean, and includes a student representative and seven faculty members: the co-Chair and one leader by Standard. The appointment of these members was based on their experience and expertise mostly related to their positions in School:

- **Co-Chair** Dr. José A. Capriles
- **Standard I** Dr. Eliel Melón
- **Standard II** Dr. Damaris Molina
- **Standard III** Dr. Aileen Torres
- **Standard IV** Dr. Ginette Izquierdo
- **Standard V** Dr. Lindanyr Arroyo
- **Standard VI** Dr. Evangelia Morou
- **Student** Francisco Moran DS IV

Dr. José A. Capriles is the Associate Dean for Academic Affairs of the Medical Sciences Campus, with vast experience in accreditation work. Dr. Marcia Ditmyer, experienced accreditor and academic, serves as consultant to the Steering Committee. Francisco Moran is the President of the Students Council of the School.

Faculty members from the three school departments were appointed to each subcommittee to collect and analyze the information required for each topic.

The Steering Committee prepared a work schedule and held its first official meeting on September, 2018. Meetings were held with all members of the Steering Committee periodically as often as needed, also individual meetings with Leaders of the Subcommittees were held monthly. Every subcommittee met on a regular basis.

The school conducted a Mock Visit approximately eight months prior to the accreditation visit in which it received feedback from the reviewers that was later analyzed and incorporated in the document as needed. The self-study draft was shared with the faculty for revision before the Mock Visit. Also, the document was shared will all members of the academic community on September, 2019 to receive the final input from faculty and students. At that time, faculty and students had the opportunity to comment on the strengths, weaknesses, and corresponding recommendations that resulted from the self-study process. The recommendations were included in the document. The Steering Committee proceeded with the final edition of the document with the assistance of the Director of the Accreditation Office of the campus Deanship for Academic
Affairs. The final document received the approval of all sectors of the academic community, of
the Steering Committee and the Dean on November, 2019 respectively.

The identified actions for further improvement were ranked by the Steering Committee as high,
medium, or low priority. An action plan was developed to work in each area. The categories were
defined as follows:

**High Priority** - Areas that may have a significant impact upon the desired outcomes and the
accreditation standards. A short term plan of action is required.

**Medium Priority** – Areas that may have a moderate impact upon the desired outcomes and the
accreditation standards. An intermediate term plan of action is required.

**Low Priority** - Areas that may have a minimal/minor impact upon the desired outcomes and the
accreditation standards. A long term plan of action is required.
The analysis of identified strengths and weaknesses by standard follows:

**ANALYSIS OF STRENGTHS, WEAKNESSES, RECOMMENDATIONS, AND ACTIONS TAKEN**

**STANDARD 1**

<table>
<thead>
<tr>
<th><strong>STANDARD 1- STRENGTHS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The School has demonstrated it has a clearly stated purpose/mission statement appropriate to dental education addressing teaching, patient care, research and service.</td>
</tr>
<tr>
<td>2. The School has a Strategic Plan that was developed after a thorough systematic analysis of the external and internal environments and was approved by the faculty in 2017.</td>
</tr>
<tr>
<td>3. The overall philosophy of the School has been one of humanistic culture and positive learning environment.</td>
</tr>
<tr>
<td>4. An appropriate administrative structure has evolved that facilitates delivery of an integrated academic curriculum as well as a research and service component.</td>
</tr>
<tr>
<td>5. High success rates of students in the Council of Interstate Testing Agencies (CITA) exam - above the national average.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Weaknesses</th>
<th>Priority</th>
<th>Recommendations and Actions Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. There are many official documents in Spanish without an English translation.</td>
<td>Low</td>
<td>Instructions have been given to Staff to elaborate new processes documents in English.</td>
</tr>
<tr>
<td>2. Diversity affairs are attended by various offices.</td>
<td>High</td>
<td>The Dean will establish a Diversity Committee at the School before the end of 2019.</td>
</tr>
<tr>
<td>3. Fiscal challenges of Puerto Rico.</td>
<td>High</td>
<td>The School of Dental Medicine has managed its fiscal resources by analyzing and identifying areas of opportunity to make necessary adjustments without affecting academic offerings, clinical services and research. Budget allocations were revised to use resources in the areas of greatest need according to priorities. At the same time, school departments were given the flexibility in the allocation of their resources according to their particular development plans.</td>
</tr>
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</table>
STANDARD 2

STRENGTHS - STANDARD 2

1. The School has demonstrated a strong commitment to curricular changes and innovation based on assessment data. It has revised the competencies, courses and assessment methods to assure a competency-based curriculum and the incorporation of technology and new knowledge.
2. PhD-level scientists with experience in their respective fields teach biomedical sciences courses designed for dental students.
3. There is a strong behavioral sciences component in the curriculum, as well as structured community experiences that emphasize the philosophy of preventive dentistry.
4. The fourth-year clinical assessment system is focused on the student’s achievement of all competencies.
5. The UPRSDM’s location within the Puerto Rico Medical Center offers students a large, varied, and constant pool of medically compromised patients and the opportunity of interaction with a multidisciplinary team of health care professionals.
6. The School has implemented Inter Professional Education (IPE) activities in courses with students and faculty from the UPR Schools of Pharmacy, Nursing, Medicine and Physical Therapy throughout the four years.
7. The School has created the Center for Informatics and Educational Resources to provide the infrastructure and support for faculty and students in the use of new technology.

<table>
<thead>
<tr>
<th>Weaknesses - Standard 2</th>
<th>Priority</th>
<th>Recommendations and Actions Taken</th>
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</thead>
<tbody>
<tr>
<td>1. There are many official documents in Spanish without an English translation.</td>
<td>Low</td>
<td>Instructions have been given to Staff to elaborate new documents in English</td>
</tr>
<tr>
<td>2. Participation of faculty in calibration courses and activities</td>
<td>Medium</td>
<td>Instructions have been given to department directors to give follow up to faculty attendance at workshops and calibrations exercises. Calibration modules for faculty were prepared and are available in the blackboard platform. These modules were also included in an easier platform for surveys. Completion of modules is emphasized by department directors.</td>
</tr>
<tr>
<td>3. Need to improve some institutional and</td>
<td>High</td>
<td>Assessment and definition of strategies to improve National Dental Boards outcomes (Part I, INBDE tracks)</td>
</tr>
</tbody>
</table>
Weaknesses - Standard 2 | Priority | Recommendations and Actions Taken
--- | --- | ---
outcomes assessment goals |  | 
4. It has been challenging to reduce course hours and material and at the same time incorporate curriculum needs in the courses. | Medium | Support is being given to faculty in order to review their material to allow space for innovation and inclusion of new topics. 
5. Some course coordinators have found challenging the use of information technology in their didactic courses. | Low | Constant support is being given by Office if Academic Affairs and CIRE, Technology workshops are being offered: Drive, Axium, Examsoft, etc. 
6. Verbal student self-assessments are more common than written self-assessments in the pre-clinical courses. | Low | Formal written communication is constantly encouraged and reinforcement of this action discussed with a students’ leadership in regular liaison’s meetings. Self-assessment inclusion in rubrics is being promoted in manual skills courses. 
7. Some School policies are not explicitly stated in official documents. | Medium | Accreditation self-study workgroups are updating official documents. 

**STANDARD 3**

One of the UPRSDM’s greatest strengths is the quality and commitment of its faculty. The teaching, service and research loads are distributed among a core of FT career dental educators, paid contract faculty members, and a solid pool of volunteer (ad honorem) faculty that are fully committed to the mission and vision of the school.

The self-study process has helped administrators identify the areas for improvement. Among these, is the faculty development plan which led to the creation of the position of Faculty Development Officer who will oversee, along with the department chairs, the ongoing enhancement of our faculty. Closely linked to faculty improvement is the Annual Faculty Evaluation Forms that will permit a constant evaluation of the faculty’s scholarly activity on an annual basis allowing the administration to assess the real needs of the faculty as well as their achievements.

The faculty credentialing and re-credentialing process has been fine-tuned in order to maintain updated records of all professors. Also, a Mentoring Program for coaching and supporting young
faculty was implemented as a mean of preparing these new scholars in their journey through an academic career.
### STANDARD 3- STRENGTHS

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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Quality and commitment of faculty- The educational program is staffed with faculty members who are skilled in teaching and possess the appropriate dental qualifications for their assignments and duties.</td>
</tr>
<tr>
<td>2.</td>
<td>The review of detailed workload assignments for all faculty member’s reveals that 95% of all faculty is involved in direct teaching. The faculty identifies strongly with the School’s historical character as a strong clinical teaching institution.</td>
</tr>
<tr>
<td>3.</td>
<td>Defined structures and processes- The governance structure in the Dental School has more than a 60-year history of effectiveness. All our Standing Committees are geared to increase communication among all levels of our academic community. Periodic faculty meetings promote ample faculty participation and involvement in the decision-making process.</td>
</tr>
<tr>
<td>4.</td>
<td>Faculty Loan Repayment Program - The government incentives program for health professionals has proven to be an applicable tool for faculty recruitment and retention. Also, the Faculty Loan Repayment Program was granted as a means to attract, develop, and retain new and young faculty.</td>
</tr>
<tr>
<td>5.</td>
<td>Continued Education-Traditionally, the School offers all of its faculty members CE courses free of charge. Faculty members continuously improve their skills and knowledge by participating in the wide variety of CE courses offered. Of particular attention is the tremendous effort the administration has placed on digital and electronic training of faculty and staff.</td>
</tr>
<tr>
<td>6.</td>
<td>Defined and structured promotion and tenure assessment process.</td>
</tr>
</tbody>
</table>

### STANDARD 3

<table>
<thead>
<tr>
<th>Weaknesses</th>
<th>Priority</th>
<th>Recommendations and Actions Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The emergency fiscal policies have put tenure track appointments on hold. Hiring of new personnel, including replacement of retired core faculty is a challenge for school’s administrators.</td>
<td>Medium</td>
<td>Financial and fiscal adjustments have been made to replace retired faculty. New sources of external funding are being put in place for this purpose.</td>
</tr>
<tr>
<td>2. Need to better address the necessities of new core faculty so that they can quickly assume the responsibilities assigned</td>
<td>Low</td>
<td>The designation by the Dean of a Faculty Development Officer, is a step forward in the academic development of young faculty in our Institution</td>
</tr>
</tbody>
</table>
### STANDARD 3

<table>
<thead>
<tr>
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<th>Recommendations and Actions Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Employee benefits have diminished throughout the last ten years.</td>
<td>Low</td>
<td>We have identified new sources of revenue through grants, federal and local incentives so that faculty still feels comfortable in their work environment.</td>
</tr>
</tbody>
</table>

### STANDARD 4

#### STANDARD 4- STRENGTHS

1. The Office of Student Affairs has been successful in offering support and has a well-defined system of direct counseling by certified psychologists and counselors.
2. Campus and School’s extracurricular and recreational activities are well attended and well received by students.
3. The Student Ombudsperson Office has proven to be effective in advocating for student rights and in offering mediation, negotiation, and conciliation services to students.
4. There are multiple opportunities for student participation in decisions that affect them.
5. There is a defined process for early identification of students with academic difficulties that allows early intervention and counseling.
6. The school has procured the funds to offer emergency student loans.
7. The Advanced Placement Program is a very important part of the academic and fiscal component of the School.
**STANDARD 4**

<table>
<thead>
<tr>
<th>Weaknesses</th>
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<th>Recommendations and Actions Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Physical spaces</td>
<td>Medium</td>
<td>• Development of faculty shared common work areas.</td>
</tr>
<tr>
<td>• Limited availability for faculty offices – difficulty to have individual offices for part time and volunteer faculty</td>
<td></td>
<td>• A plan for renovation of the areas and equipment used by students and patients. Funds are being identified for the renovations. Also, CIRE has a plan that provides a continuous monitoring and renovation of technological equipment.</td>
</tr>
<tr>
<td>• Wear and tear of equipment</td>
<td></td>
<td>• A224/225 classrooms will be redesigned-will include new set up and capacity enhancement</td>
</tr>
<tr>
<td>• Common areas used by students and patients such as restrooms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Classrooms – technology changes continuously. Wear and tear.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. The Medical Sciences Campus has experienced delays in the disbursement of student loans.</td>
<td>Low</td>
<td>Situation has been discussed with MSC Financial Aid Office, modifications have been made to be more efficient. Emergency loans at School level are available and in place.</td>
</tr>
</tbody>
</table>
STANDARD 5

STANDARD 5- STRENGTHS

1. The UPRSDM provides integrated dental care services to satisfy the needs of the island population through its general clinic and graduate programs.
2. The UPRSDM daily receives a significant amount of new patients that provides a solid and constant pool of patients for students.
3. A varied and sufficient patient treatment pool.
4. The location of the patient care services in an academic health center where hospital based treatment is also available in an interprofessional academic and clinical environment.
5. The UPRSDM implemented an electronic health record (EHR) and digital radiography that have simplified the assessment and selection of the pool of patients for evaluation, data collection and analysis necessary in the Quality Assurance Program. The EHR is a significant tool that has simplified and upgraded the review process of care.

<table>
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<tr>
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<th>Recommendations and Actions Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. High demand of patients requesting treatment</td>
<td>Medium</td>
<td>Plan to refer patients waiting for treatment to the new facilities of the Faculty Dental Practice.</td>
</tr>
<tr>
<td>2. Space limitations</td>
<td>Low</td>
<td>Relocation of two advanced education programs and Faculty Dental Practice to new facilities in another building</td>
</tr>
<tr>
<td>3. Acquisition and distribution of dental materials</td>
<td>High</td>
<td>Ad Hoc Committee of Dental Materials created –standardization of processes Implementation of Inventory Module in progress</td>
</tr>
</tbody>
</table>
STANDARD 6

<table>
<thead>
<tr>
<th>STANDARD 6- STRENGTHS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The UPRSDM Research program is a driving force promoting and integrating innovation in the teaching, the clinical activities and the oral health public policy in Puerto Rico, the Caribbean, and Latin America.</td>
<td></td>
</tr>
<tr>
<td>2. Organized structure for research activities</td>
<td>Research activities of faculty and students are organized by the Office of the Assistant Dean for Research (OADR) around the Center for Clinical Research and Health Promotion and in four new Research Cores and Units. In 2018, the Associate Deanship for Research of the UPR Medical Sciences Campus was established.</td>
</tr>
<tr>
<td>3. The UPRSMD is a Research-intensive institution with a $17,000,000 endowment fund and more than $3,000,000 in active NIH-research funding (Fiscal Year 2019)</td>
<td></td>
</tr>
<tr>
<td>4. Qualified faculty</td>
<td>Currently the Office of the Assistant Dean of Research of the SDM is staffed with six PhD-level researchers and several Master’s level dentists, physicians and epidemiologists/statisticians who conduct NIH-funded clinical and translational studies focused on eliminating health disparities in the five main Research Cores and Center.</td>
</tr>
<tr>
<td>STANDARD 6- STRENGTHS</td>
<td>COMMENTS</td>
</tr>
<tr>
<td>----------------------</td>
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</tr>
<tr>
<td>5. High level research diverse activities and work- on going projects and publications.</td>
<td>Through the Research Center and Cores the SDM has carried out important translational, population-based and prevalence studies, which have impacted public policy on in Puerto Rico. Academic collaborations and initiatives of faculty research, predental predoctoral students and postdoctoral resident. The research portfolio of the UPRSDM researchers includes clinical and translational studies in oral and systemic health, craniofacial disorders, infectious diseases, and social determinants of health and provides multiple opportunities for faculty and students to participate in research projects.</td>
</tr>
<tr>
<td>6. Capacity building in research</td>
<td>UPRSDM faculty has opportunities to participate in ongoing research projects at the school's Research Cores and Center, to develop their research projects with students with the support of the Office of the Assistant Dean for Research, and to participate in research meetings and training supported by the Endowment fund. Faculty who are interested in developing independent investigators have access to additional training, pilot funding and research resources available in the RCM, including the Research Center in Minority Institutions (RCMI) program, the Puerto Rico Clinical and Translational Research Consortium (PRCTRC), the Post-Doctoral Masters in Clinical Research program and others.</td>
</tr>
</tbody>
</table>
### STANDARD 6- STRENGTHS

| 7. Strong research component in the predoctoral and postdoctoral curricula. | The UPRSDM provides a strong academic research curriculum for pre-dental and dental students, residents, fellows, and Master’s level students. Research courses begin in 1st Year and they span the four years of the DMD curriculum including evidence-based research activities integrated in the comprehensive dental clinics. The ADEA Academic Dental Careers Fellowship Program (ADCFP) provides additional opportunities for the involvement of undergraduate students and Faculty in Education research. |

### STANDARD 6

<table>
<thead>
<tr>
<th>Weakness</th>
<th>Priority</th>
<th>Recommendations and Actions Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Research activity has increased since the last accreditation, in terms of academic offerings and active research protocols. There is a need for additional staff and space for research.</td>
<td>Low</td>
<td>A full-time assistant to the Assistant Dean for Research and a part-time research administrator have been recruited. Space and funds for the construction of CariDen Biorepository have been allocated. Additional space must be identified.</td>
</tr>
<tr>
<td>2. The administrative processes for hiring research personnel and purchases are very slow</td>
<td>Low</td>
<td>An Associate Dean for Research has been appointed for the UPR Medical Sciences Campus to help improve the administrative problems for RCM researchers</td>
</tr>
<tr>
<td>3. The need for more research faculty to help with the DMD and graduate research courses and to serve as mentors.</td>
<td>Low</td>
<td>A new biostatistician has been hired at the CCRHP and will help with student research projects and teaching. Funding has been identified and contract has been extended to a DRPH to assist students in completing and submitting manuscripts</td>
</tr>
<tr>
<td>4. Dental students and residents need protected time for research</td>
<td>Low</td>
<td>The Assistant Dean for Research is discussing with the Director of Curriculum and the Graduate Program Directors to provide protected research time for students and residents.</td>
</tr>
</tbody>
</table>
STANDARD 1—INSTITUTIONAL EFFECTIVENESS

1-1 The dental school must develop a clearly stated purpose/mission statement appropriate to dental education, addressing teaching, patient care, research and service.

The UPRSDM is in compliance with this standard.

The UPRSDM is one of the six schools that constitute the University of Puerto Rico Medical Sciences Campus (UPR-MSC). The UPR is the multi-campus, state supported institution of higher education of the Commonwealth of Puerto Rico. The mission of the University of Puerto Rico, as stated in the University Law of 1966 (Available on Site), is to “transmit and increase knowledge by means of the sciences and arts, placing these at the service of the community through the actions of its professors, researchers, student doctors, and graduates.”

The UPRSDM was established in 1957 as part of the commitment of the Commonwealth to improve and safeguard the health of its population. Since then, it has been the only institution in the island providing education to the oral health professionals. The school’s name was changed from UPR School of Dentistry to UPR School of Dental Medicine upon recommendation of the school faculty and approval by the Board of Trustees on December 17, 2007. The name change was a result of the school’s vision regarding oral health as a key component of the integral health of human beings. It also reflected its mission to educate the dentists as part of the interdisciplinary team that will maintain and improve the health conditions of the Puerto Rican community through teaching, research, and service, in agreement with that of the Medical Sciences Campus (SD 1-1.1A UPRSDM Mission and Goals Statement).

Vision, Mission, Values, and Goals

The UPRSDM’s Vision and Mission Statements are communicated to all members of the academic and general community through its website, catalogs, annual reports, and meetings, among others. They are also posted on the entrance hallway on the way to the main clinic. The school’s Vision, Mission, Values, Institutional and Strategic Goals address teaching, service, and research Exhibit 1.1. These statements were examined as part of a new strategic plan re-assessment that initiated during the 2015–2016 academic year by the Strategic Planning Ad-hoc Committee. The committee re-assessed the previous Strategic Plan 2012-2016 and developed new goals for the new Strategic Plan 2017-2022 (SD 1-1.1A UPRSDM Mission and Goals Statement; SD 1-1.1B Student Handbook; SD 1-1.1C MSC Catalog (Available on Site); SD 1-1.1D Clinical Manual; SD 1-1.1E Program Website). The goals and corresponding activities drafted by the committee were reviewed by the dental school faculty and presented in several faculty meetings. The Strategic Plan was approved by the faculty on December 13, 2017. As part of this process modifications were made to the vision, mission, values, and goals. Exhibit 1.1 details the current vision, mission, values.
Exhibit 1.1 UPRSDM Vision, Mission, Values, and Goals

<table>
<thead>
<tr>
<th>VISION</th>
</tr>
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<tbody>
<tr>
<td>An educational institution recognized internationally for academic excellence, with strategic alliances at the national and international levels, which enhance educational competitiveness and service. A leading institution, in a framework of research and social and community commitment.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>MISSION</th>
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<tbody>
<tr>
<td>The School of Dental Medicine of the UPR is a proactive institution of higher education for the formation of dentists of the highest quality, who are sensitive to the needs of their patients and are oriented to comprehensive service to the people of Puerto Rico and the global community, with a Doctor of Dental Medicine program, supplemented by various post-doctoral offerings and an innovative Continuing Education program. The institution is a leader in research on inequalities in oral and systemic health, fostering critical thinking, intellectual curiosity, and commitment to the needs of people. Interprofessional practice, the integration of the technology in creative endeavors, and the construction of new scientific knowledge regarding the determinants of oral health are a part of a continuing, inclusive, rigorous, respectful, collaborative, and sustainable process.</td>
</tr>
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<table>
<thead>
<tr>
<th>VALUES</th>
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<tbody>
<tr>
<td>1. Respect for the search for truth, justice, and freedom.</td>
</tr>
<tr>
<td>2. Conduct and lifestyles oriented at achieving the highest levels of health, well-being, and the comprehensive physical, mental, and social development of the individual.</td>
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<tr>
<td>3. The accumulation and advancement of knowledge, freedom of thought and expression, excellence, creativity, and solidarity.</td>
</tr>
<tr>
<td>4. Freedom of spirit and commitment to ethical and humanistic principles that enrich a democratic society.</td>
</tr>
<tr>
<td>5. Broad and respectful dialogue, creative endeavors, and tolerance as essential to academic life and the work of the university.</td>
</tr>
<tr>
<td>6. A life-long teaching and learning process, fostering critical thinking, curiosity, creativity, and innovation.</td>
</tr>
<tr>
<td>7. Valuing diversity and collaborative and interprofessional work.</td>
</tr>
<tr>
<td>8. A sense of responsibility and commitment regarding the issues and critical situations in the field of health in the Puerto Rican society.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INSTITUTIONAL AND STRATEGIC GOALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Train general dentists with the knowledge, skills and attitudes to effectively serve the oral health needs of the population with emphasis on the Residents of Puerto Rico and the Global Community.</td>
</tr>
<tr>
<td>2. Train advance education residents/students in the field of Dental Medicine to contribute to the improvement of the oral health of the Residents of Puerto Rico and the Global Community.</td>
</tr>
<tr>
<td>3. Provide services to the Residents of Puerto Rico and the Global Community geared towards oral health promotion and prevention as a component of the general health of the individual.</td>
</tr>
<tr>
<td>4. Contribute to the advancement of knowledge through research in the different disciplines of dental medicine as well as dental education.</td>
</tr>
<tr>
<td>5. Advance the knowledge and skills of health professionals through a sound Continuing Education Program.</td>
</tr>
<tr>
<td>6. Provide an organizational environment that fosters excellence in the educational process and the fullest development of the academic community</td>
</tr>
</tbody>
</table>
Supportive Documentation

SD 1-1.1A UPRSDM Mission and Goals Statement
SD 1-1.1B Student Handbook (Available on site)
SD 1-1.1C MSC Catalog (Available on site)
SD 1-1.1D Clinical Manual
SD 1-1.1E Program Website

1-2 Ongoing planning for, assessment of and improvement of educational quality and program effectiveness at the dental school must be broad-based, systematic, continuous, and designed to promote achievement of institutional goals related to institutional effectiveness, student achievement, patient care, research, and service.

The UPRSDM is in compliance with this standard.

Strategic Planning

The UPRSDM attained planning, evaluation, and improvement of the educational quality through strategic planning and an outcomes assessment plan. The UPRSDM recognizes the importance of Strategic Planning for fulfilling its mission and achieving its long-term goals. The UPRSDM has been involved in strategic planning since 1987, with subsequent plans developed in 1991, 1999, 2004, 2011-2016, and 2017-2022. The active participation of teaching and non-teaching staff, academic administrators, and the dean of the UPRSDM are essential for the success of this process.

The UPRSDM Strategic Plan is the result of a participatory and deliberative process that included the various members of the academic community. The School of Dental Medicine Strategic Plan 2017-2022 was developed after a thorough strategic analysis of the external and internal environments and was approved by the faculty on December 13, 2017. The framework for the discussion was the general context of the United States and Puerto Rico, global challenges for higher education, macro trends that have arisen with the changes brought on by the emerging knowledge society, trends in the health professions. Also, the transformations caused by the massive presence of information technology in teaching, research, and community service in a variety of contexts.

The assessment of the external environment took into consideration economic, sociological, technological, and legal events, as well as external educational policies. The assessment of the internal environment was carried out parallel to the external assessment, using questionnaires. The analysis examined the trends and changes in the institutional indicators, enrollment in the different programs, and changes in the social and demographic profile of the region and Puerto Rico.

The current Strategic Plan 2017-2022 was developed based on the assessment measures for goals and objectives as stated in the UPRSDM Outcomes Assessment Plan for 2012-2016, as well as an assessment of the level of achievement of activities in the previous UPRSDM Strategic Plan 2011-2016. The Medical Sciences Campus (MSC) Strategic Plan 2016-2021, were also used as references for the development of the UPRSDM 2017-2022 Strategic Plan.
The *UPRSDM New Strategic Plan 2017-2022* includes eight (8) strategic priorities, their objectives, activities, and a timetable for monitoring the completion of the plan. All strategic decisions were in alignment with the achievement of the school's general goals. The mission statement was also evaluated, reviewing the language and the principles expressed. The analytical and deliberative process concluded with a new statement that includes elements such as fiscal sustainability, innovation, Interprofessional practice, internationalization, integration of technology in creative efforts, service, and the construction of new scientific knowledge of the determinants of oral health. The participants also proposed a new Vision Statement, under which the UPRSDM aspires to international recognition for excellence, competitiveness, leadership, and social and community commitment.

The six strategic areas of the *UPRSDM Strategic Plan 2011-2016* and the eight (8) strategic priorities and objectives included in the *UPRSDM New Strategic Plan 2017-2022* are in alignment to the *MSC Strategic Plan goals and objectives*, as well as the *UPR Plan Ten for the Decade and the new UPR Strategic Plan 2017-2022*. The *Congruence between Goals and Strategic Decisions at the School, Campus, and University System Levels* (Exhibit 1.2) presents the alignment between the school goals and the strategic decisions at the three levels: the school, medical campus, and university levels. The campus-wide planning process is linked to the planning processes at the schools through representatives in the Institutional Planning and Development Committee. The Dean represents the UPRSDM in the committee. Exhibit 1.2 demonstrates the relationship between the UPRSDM, the Medical Campus, and the University strategic goals.
Exhibit 1.2 Relationship between the UPRSDM, Medical Campus, and University Goals.

**Congruence between Goals and Strategic Decisions at the School, Campus, and University System Levels**

|---------|----------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------------|-----------------------------------------------|------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------|----------------------------------------------------------|--------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|

**Goal: I**
Train general dentists with the knowledge, skills, and attitudes to effectively serve the oral health needs with an emphasis on the Residents of Puerto Rico and Global Community.

**Goal II:**
Train advance education residents/students.
<table>
<thead>
<tr>
<th>School of Dental Medicine Institutional Goals</th>
<th>School of Dental Medicine Strategic Plan (2012-2016)</th>
<th>Medical Sciences Campus Strategic Plan (2009-2016)</th>
<th>UPR Ten for the Decade Strategic Plan (2006-2016) Operational Lines (OL)</th>
<th>School of Dental Medicine Strategic Plan (2017-2022)</th>
<th>Medical Sciences Campus Strategic Plan (2017-2022)</th>
<th>UPR Strategic Plan (2017-2021)</th>
</tr>
</thead>
<tbody>
<tr>
<td>dents in the field of Dental Medicine to contribute to the improvement of the oral health of the Residents of Puerto Rico and the Global Community.</td>
<td>Strategic Goal II: Financial Resources, Administrative Systems, Processes and Physical Facilities</td>
<td>n and Informatics</td>
<td>OL #2: Research</td>
<td>Pillar I II. A: Research and Innovation Management</td>
<td>Pillar I II. A: Research and Innovation Management</td>
<td>Strategic Affair II: Research and Creation</td>
</tr>
<tr>
<td>Goal III: Provide services to the Residents of Puerto Rico and the Global Community geared towards oral health promotion and prevention as a component of the general health of the individual.</td>
<td>Strategic Goal I: Academic Development</td>
<td>Strategic Goal II: Academic Health Center</td>
<td>OL #3: Institutional Climate</td>
<td>Priority #2: Academic offerings and Accreditations</td>
<td>Pillar I A: Academic Quality and Innovation:</td>
<td>Strategic Affair I: Education Environment</td>
</tr>
</tbody>
</table>
### Goal IV:
Contribute to the advancement of knowledge through research in the different disciplines of dental medicine as well as dental education.

<table>
<thead>
<tr>
<th>School of Dental Medicine Strategic Plan (2012-2016)</th>
<th>School of Dental Medicine Campus Strategic Plan (2009-2016)</th>
<th>UPR Ten for the Decade Strategic Plan (2006-2016) Operational Lines (OL)</th>
<th>School of Dental Medicine Strategic Plan (2017-2022)</th>
<th>Medical Sciences Campus Strategic Plan (2017-2022)</th>
<th>UPR Strategic Plan (2017-2021)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Goal I: Academic Development</td>
<td>Strategic Goal I: Research</td>
<td>OL #2: Research</td>
<td>Priority #1: Internationalization</td>
<td>Pillar I.A: Academic Quality and Innovation:</td>
<td>Strategic Affair I: Education Environment</td>
</tr>
<tr>
<td>Strategic Goal III: Research</td>
<td></td>
<td>Priority #6: Research</td>
<td>Priority #3: Faculty Development</td>
<td>Pillar IV. A: Fiscal Strengthening and Sustainability, Efficiency in Management</td>
<td>Strategic Affair III: Technological Culture</td>
</tr>
<tr>
<td>Priority #8: Fiscal sustainability</td>
<td></td>
<td>Priority #4: Fiscal sustainability</td>
<td></td>
<td></td>
<td>Strategic Affair IV: Sustainable Management</td>
</tr>
</tbody>
</table>

### Goal V:
Advance the knowledge and skills of health professionals through a sound Continuing Education Program.

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<tbody>
<tr>
<td>Strategic Goal IV:</td>
<td>Strategic Goal VI: Organization of Cultural, Image, and Alliances</td>
<td>OL #6: Communications</td>
<td>Priority #4: Physical and technological infrastructure</td>
<td>Pillar IV. A: Fiscal Strengthening and Sustainability</td>
<td>Technological Culture</td>
</tr>
<tr>
<td>Priority #8:</td>
<td>OL #7: Continuous Improvement</td>
<td>Priority #8:</td>
<td></td>
<td></td>
<td>Strategic Affair IV:</td>
</tr>
</tbody>
</table>

Pillar I.A: Academic Quality and Innovation: Strategic Affair I: Education Environment

Pillar II. A: Research and Innovation Management: Strategic Affair II: Research and Creation

Pillar IV. A: Fiscal Strengthening and Sustainability: Strategic Affair III: Technological Culture

Strategic Affair IV: Sustainable Management
**UPRSDM Outcomes Assessment**

The UPRSDM has an already established Outcomes Assessment Plan. The current plan follows the UPR Academic Assessment requirements, which supports quality student learning by assisting academic programs in defining learning outcomes, developing assessment strategies, and encouraging a culture of learner-centered education. At the end of each academic year, the Dean and Staff prepare the annual operational plan for the next academic year, after the discussion of results of the outcome measures in the UPRSDM Outcome Assessment Committee and faculty meetings. This plan includes activities for those areas in which assessment measures indicate there

<table>
<thead>
<tr>
<th>School of Dental Medicine Institutional Goals</th>
<th>School of Dental Medicine Strategic Plan (2012-2016)</th>
<th>Medical Sciences Campus Strategic Plan (2009-2016)</th>
<th>UPR Ten for the Decade Strategic Plan (2006-2016) Operational Lines (OL)</th>
<th>School of Dental Medicine Strategic Plan (2017-2022)</th>
<th>Medical Sciences Campus Strategic Plan (2017-2022)</th>
<th>UPR Strategic Plan (2017-2021)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal VI: Provide an organizational environment that fosters excellence in the educational process and the fullest development of the academic community</td>
<td>Strategic Goal II: Fiscal Resources, Administrative Systems, Processes, and Physical Facilities</td>
<td>Strategic Goal IV, V and VI: Organizational Culture, Image, and Alliances</td>
<td>OL #3: Institutional Climate</td>
<td>Priority #2: Academic offerings and Accreditations</td>
<td>Pillar I.A: Academic Quality and Innovation</td>
<td>Strategic Affair I: Education Environment</td>
</tr>
<tr>
<td></td>
<td>Strategic Goal V: Organizational Structure and Culture</td>
<td>Strategic Goal VIII: Student Recruitment and Retention</td>
<td>OL #6: Communications</td>
<td>Priority #5: Academic environment and quality of student services</td>
<td>Pillar II. A: Research and Innovation Management</td>
<td>Strategic Affair II: Research and Creation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Priority #7: Community Services and Social Responsibility</td>
<td>Pillar IV. A: Fiscal Strengthening and Sustainability, Efficiency in Management</td>
<td>Strategic Affair IV: Sustainable Management</td>
</tr>
</tbody>
</table>
is a need for improvement/strengthening and those actions completed for the achievement of the Strategic and Assessment Plans.

At the beginning of the academic year, the administrative offices and departments present an annual report summarizing their achievements based on the operational plan developed for the previous year. The information collected in the reports is used for the UPRSDM's Outcomes Assessment Plan, as well as for the MSC Assessment Plan. The UPRSDM forwards the integrated school Annual Report to the Institutional Research, Planning, and Assessment Office under the Campus Deanship for Academic Affairs, which prepares the campus annual report. Exhibit 1.3 summaries the annual assessment planning cycle.

**Exhibit 1.3 Assessment of Planning Cycle**

<table>
<thead>
<tr>
<th>Process</th>
<th>Time frame</th>
<th>Person Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data collection &amp; reports</td>
<td>All year long</td>
<td>• Academic Affairs Office&lt;br&gt;• Institutional and Academic Assessment Office&lt;br&gt;• Department chairs&lt;br&gt;• Program / Office Directors</td>
</tr>
<tr>
<td>Dissemination &amp; analysis of outcomes</td>
<td>December and May of the academic year and as required by department chairs or committees</td>
<td>• Institutional Assessment Committee&lt;br&gt;• Curriculum Committee&lt;br&gt;• Administration Committee&lt;br&gt;• Quality Assurance Committee&lt;br&gt;• Academic Performance Committee&lt;br&gt;• Student Assessment Committees&lt;br&gt;• Faculty meetings&lt;br&gt;• Student doctors Liaison Meetings</td>
</tr>
<tr>
<td>Department / program planning</td>
<td>May-June</td>
<td>• Department chairs&lt;br&gt;• Program directors</td>
</tr>
<tr>
<td>School-wide operational and budget planning for the next academic year</td>
<td>June-July</td>
<td>• Dean&lt;br&gt;• Administration Committee</td>
</tr>
<tr>
<td>Implementation</td>
<td>August of the following year</td>
<td>• Dean&lt;br&gt;• Department chairs&lt;br&gt;• Program/office directors</td>
</tr>
</tbody>
</table>
At the UPRSDM, outcomes assessment is a systematic, ongoing process that is integrated within the Outcomes Assessment Plan. The assessments are based on a process where faculty have identified the most appropriate objectives for specific knowledge, values, skills, through clinical competency assessments. It employs a wide variety of measurements to discover as accurately as possible whether UPRSDM is achieving the intended objectives in these areas. Achieving the highest quality programs requires a well-structured approach for continuous improvement. The quality of education is vital at UPRSDM therefore; the school has established a model for continuous improvement that closes the loop, (Exhibit 1.4).

Exhibit 1.4 Continuous Improvement Cycle

Note PLAN: Recognize an opportunity and plan a change; DO: Test the change; CHECK: Review and analyze the results; ACT: Take action based on results. Deming, 1986.

The diverse assessment methods used to produce information are analyzed and shared before it can provide a basis for action. The UPRSDM Academic Progress Committee meets at least twice a year to assess student learning. The Assessment Subcommittee, composed of faculty and staff, meets every trimester to evaluate all student performance at each of the courses. The subcommittee reports to the Academic Progress Committee.

The Academic Progress Committee provides feedback to the student and gives the appropriate learning tools according to the student needs. Follow-up is given to the student during the next trimester or year, until the completion of the course. As an example, if a first-year student shows difficulty learning in the biomedical courses, the situation is discussed in the committee; as a strategy a tutor is assigned. The instructor provides after-hour biomedical courses tutoring according to the student needs. At the end of the academic year, the Academic Progress Committee discusses the outcomes of each students’ performance for promotion to the next level.

At the UPRSDM Assessment Subcommittee analyzes and discusses the results of each of the outcome measures of the school’s six primary goals. The outcome results are presented to the
Curriculum Committee and also at Faculty Meetings, for proper feedback and recommendations. When needed, an action plan is designed and implemented for those indicators that are not met. For example, in Outcome 1.5, at least 80% of the graduates will approve the state board at the first attempt. In class 2010, 70% approved the state board in the first attempt. An action plan was designed to increase the first attempt approval:

1. The School conducted a various meeting with the state board members for faculty calibration
2. As a result, the Restorative Sciences and Surgical Sciences faculty offered Hands-on workshops in the simulation laboratory for the areas of fixed prosthodontics and endodontics. In the last seven years, we have seen progress in the achievement of this outcome measure. In the Class of 2016 and 2017, approval rate in the state board in the first attempt was 86.5% and 91.7%, respectively.

Exhibit 1.5 provides examples of the changes made to the curriculum as a result of the continuous improvement process. More details are found within the Outcomes Assessment Plan.

The School has demonstrated a strong commitment to curriculum change and innovation based on assessment data. In the past year’s various projects for curriculum change and innovation have been developed and implemented. The Curriculum Committee oversees analyzing and making recommendations regarding improvements in the content and sequence of the courses. The committee also discusses course evaluations in its meetings. All information concerning student outcomes assessment is collected and analyzed regularly. The Curriculum Committee evaluates the collected information and recommends appropriate modifications in curricular content, sequence and organization. For example, the implementation of the new UPRSDM competencies, clinical assessment system for junior and senior year students is based on their progress in achieving competencies, and the organization of third and fourth-year students in clinical teams. The DMD program has implemented different and comprehensive evaluations to verify that students have achieved each one of the defined competencies.

The UPRSDM Curriculum Committee oversaw reviewing and updating the 13 competencies of the UPRSDM. An evaluation of the ADA accreditation standards (CODA) and the core principles, the dentist's competencies established by ADEA 2011 and review of the scientific literature was carried out by the committee. The UPRSDM Curriculum Committee developed a plan, including objective, organization and task assignments. Also, the committee members, including faculty and students, received workshops and seminars on topics related to competencies. The Curriculum Committee divides its members into small groups. The small groups present their findings for discussion to all members, identifying which students need repetition of the course or the academic year. The Curriculum Committee recommended the 23 new competencies for the approval of the faculty meeting on May 17, 2017.

The school has conducted a thorough assessment of student performance on the National Board Dental Examination (NBDE) because, for the 2014 and 2015 classes, a decline in NBDE part I first time passing rate. The NBDE part I passing rates were below the 80% expected results. The faculty implemented different measures in order to improve results. These measures included presenting strategies to the 2014 and 2015 student classes on how to prepare for the Boards. The
NBDE part I orientation meeting was implemented for further classes. Also, new Dental Decks were made available and loaned to students. The biomedical sciences faculty received in a meeting the results of the students' performance on the NBDE Part I in order to establish new strategies for improvement. They discussed strategies assuring that the content and format evaluations, of course, were like those presented in the Boards. For this purpose, the School distributed NBDE review materials to the biomedical faculty. Students were also required to purchase their textbooks in electronic format (Vital Source Library). Improvement in the NBDE Part I passing rate was observed but still needs to be reinforced. The Biomedical Faculty have informed the Curriculum Committee that, after reviewing the topics and the number of questions of the NBDE part I, they need more time in the courses to embrace all the topics. The increase in hours will help the student to have an intensive knowledge needed in the Biomedical Courses.

The Academic Senate of the Medical Sciences Campus approved Certification 048 2013-2014, which proposes strengthening the integration of the social determinants of health (SDH) in the Medical Sciences Campus. The School of Dental Medicine began planning the integration of the social determinants of health in the predoctoral curriculum during the academic year 2014-2015. The planning process has included the analysis of courses of the four years’ program to choose those where the integration would be more applicable. Four first-year courses have been revised and include the concepts and application of the social determinants of health.

The UPRSDM began planning the integration of these determinants in the curriculum during the academic year 2014-2015. The implementation began in the academic year 2017-2018. Exhibit 1.5 provides an example of Outcomes Assessment Results.

### Exhibit 1.5 Examples of Outcomes Assessment Results

<table>
<thead>
<tr>
<th>Date</th>
<th>Course</th>
<th>Requested Action/Reason</th>
<th>Action Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-1-2017</td>
<td>1. CBIO 7170 General Systemic Pathology</td>
<td>1. Increase the number of contact hours of the Oral and General Pathology, and Gross Anatomy components in the curriculum.</td>
<td>1. Increase the number of contact hours of the Oral and General Pathology from 57 to 71 hours and the re-evaluation of the distribution of contact hours and content included.</td>
</tr>
<tr>
<td></td>
<td>2. CBIO 7110 Gross Anatomy</td>
<td>2. Re-evaluate the distribution of contact hours and content included in the Oral and General Pathology, and Gross Anatomy components in the curriculum.</td>
<td>2. Increase the number of contact hours of the Gross Anatomy from 108 to 135 and the re-evaluation of the distribution of contact hours and content included.</td>
</tr>
<tr>
<td>Date</td>
<td>Course</td>
<td>Requested Action/Reason</td>
<td>Action Taken</td>
</tr>
<tr>
<td>----------</td>
<td>------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>8-1-2017</td>
<td>1. DESP 7100 Introduction to Research in Dental Medicine. (NEW)</td>
<td>Students’ skills should be improved in evidence-based practice and systematic literature review and apply these into the preparation for their junior and senior year portfolio.</td>
<td>1. Established a research course in the first-year curriculum. 2. Integration of the evidence-based and systematic review into the junior and senior portfolio.</td>
</tr>
<tr>
<td></td>
<td>2. PRET 7387 Third Year Comprehensive Care Clinic</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. PRET 7400 Comprehensive Care Clinic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-1-2017</td>
<td>1. PRET 7326 Review for NBDE Part II</td>
<td>The first-time passing rate of students on the National Boards Dental Examination Part II is below the school's established outcomes indicator. A change in the course grading system is recommended to stimulate an increase in the student’s preparation.</td>
<td>1. Change the grading system of course PRET 7326 Review for NBDE Part II from Pass or Fail to an A-F scale.</td>
</tr>
<tr>
<td></td>
<td>2. EVDI 7105 Introduction to Assessment and Diagnosis of the Patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. EVDI 7115 Human Development and Behavioral Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. DESP 7117 Introduction to Professional Development I</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. PRET 7116 Preventive Dentistry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-1-2017</td>
<td>1. EVDI 7105 Introduction to Assessment and Diagnosis of the Patient</td>
<td>The UPRSDM began planning the integration of these determinants in the curriculum during the academic year 2014-2015. The implementation began in the academic year 2017-2018.</td>
<td>Integrate the topic of social determinants of health in four courses of the first-year curriculum: EVDI 7105, EVDI 7115, DESP 7117, and PRET 7116</td>
</tr>
<tr>
<td></td>
<td>2. EVDI 7115 Human Development and Behavioral Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. DESP 7117 Introduction to Professional Development I</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. PRET 7116 Preventive Dentistry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Course</td>
<td>Requested Action/Reason</td>
<td>Action Taken</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>8-1-2017</td>
<td>1. PRET 7296 Endodontics</td>
<td>There have been numerous technological advances in dentistry over the last decades. The introduction of the electronic record in health practices has made imperative the use of new and compatible technologies</td>
<td>Increase course hours to incorporate digital from 76 to 95 hours. Radiographic technology.</td>
</tr>
<tr>
<td>8-1-2017</td>
<td>1. PRET 7387 Third Year Comprehensive Care Clinic</td>
<td>1. Increase course hours to accommodate the availability of clinical resources in real-time, facilitating the incorporation of new technology and assessment of new accreditation standards and competencies.</td>
<td>Increase course hours from 715 to 893.</td>
</tr>
<tr>
<td>6/12/18</td>
<td>PRET7425 Maxillofacial Prosthetics and Dental oncology</td>
<td>Course coordinator prefers 2 hours sessions to interfere the least with school activities/ According to course director, other SDM activities disrupt the attendance</td>
<td>-The course was change as requested by the professor. In step of 16 encounters of 1 hour they will have 8 encounters of 2 hours.</td>
</tr>
<tr>
<td>3/14/18</td>
<td>PRET 7296 Endodontics</td>
<td>Improve quality of Videos, provide extra radiography room</td>
<td>In progress</td>
</tr>
<tr>
<td>3/14/18</td>
<td>EVDI 7255 Oral and Maxillofacial pathology</td>
<td>- Increase course hours &lt;br&gt;-create the course on Blackboard, use exam soft for course exams/many</td>
<td>-creation in Blackboard platform &lt;br&gt;-Offer exam in Examsoft</td>
</tr>
<tr>
<td>Date</td>
<td>Course</td>
<td>Requested Action/Reason</td>
<td>Action Taken</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 11/2018  | DESP 7117 Introduction to Professional Development | -Include remedial actions for the course in the syllabus  
-Include critical thinking competency to the syllabus  
-Include technological resources in the course  
-Review and adapt the syllabus to the official template that the UPR-School of Dental Medicine use | -Remedial action included in the syllabus  
-Syllabus reviewed and adapted to the official template |
| 10/18/16 | EVDI 7245 Development of the orofacial complex | -Include junior faculty to give some conferences (ortho residents)  
-Have this course on blackboard | -Course is in blackboard platform  
-Junior faculty will be included in 2020 |
| 11/4/14  | PRET 7405 Oral health promotion in a Special Community | -Add one period to the course to include social determinants | Social determinants period was included in the course |
Direct vs. Indirect Assessments

Direct assessment is a measure of student performance based on a variety of types of actual student work. It is an assessment of a student's demonstrated ability to perform specific tasks or acceptably relate material compared to student learning outcomes. It is also any process which is based on the examination of an actual performance (written or oral) that demonstrates the outcome in question. Comparatively, indirect assessment is gathering information through means other than looking at actual samples of student work. These include surveys, exit interviews, and focus groups, among others. **Exhibit 1.6** provides examples of UPRSDM’s direct and indirect measures.

Exhibit 1.6 Examples of Direct vs. Indirect Assessments

<table>
<thead>
<tr>
<th>Type</th>
<th>Direct Measures</th>
<th>Indirect Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course</td>
<td>• Portfolio</td>
<td>• Student Course Survey</td>
</tr>
<tr>
<td>PRET 7387 THIRD YEAR</td>
<td>• OSCE</td>
<td>• Exit Interview of graduating seniors Survey</td>
</tr>
<tr>
<td>COMPREHENSIVE CARE</td>
<td>• Clinical Examination:</td>
<td>• Patient Satisfaction Survey</td>
</tr>
<tr>
<td>CLINIC</td>
<td>Operative Adult Clinical Exams: Class II Amalgam and Class III RBC</td>
<td></td>
</tr>
<tr>
<td>PRET 7400 COMPREHENSIVE CARE CLINIC</td>
<td>• Clinical Examination: Fixed Prosthodontics: Clinical Case: Crown</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Fixed Prosthodontics: Lab: crown preparation on a permanent acrylic tooth on a dental simulator</td>
<td></td>
</tr>
<tr>
<td>DMD Program</td>
<td>• National Board Dental Examination part I and II percent of approval.</td>
<td>• Education Evaluation student survey</td>
</tr>
<tr>
<td>Institutional MSC</td>
<td>• Retention rates</td>
<td>• Alumni Survey</td>
</tr>
<tr>
<td></td>
<td>• Graduation rates</td>
<td>• Teaching and non-teaching personnel survey</td>
</tr>
</tbody>
</table>

Supportive Documentation

- Example of Approach to Outcomes Assessment (Appendix A, Table 2) (Available on site)
The dental education program must have a stated commitment to a humanistic culture and learning environment that is regularly evaluated.

The UPRSDM is in compliance with this standard.

The UPRSDM has a defined Outcomes Assessment Plan that include the retrieval of information regarding humanistic culture and learning environment, analysis of results and recommendation of actions based on the results. (SD Example of Approach to Outcomes Assessment (Appendix A, Table 2), (Available on Site). An annual survey is offered to students for assessment of the cultural environment. Also, the UPRSDM faculty offers guidance and support to students through a mentoring program. The PRIDE Mentoring Program periodically monitors the student’s adaptability and situations while in School. The faculty mentor provides a biannual report whose results are analyzed and discussed in annual meetings where recommendations and plans for actions are made. For example, as a result of the 2017 reports, it was decided to increase the periodicity of PRIDE Mentoring Activities from two times a year to four times a year. This action was taken observing the results of the surveys and comments that reflected that a high percentage of the participants responded stressed the benefits of the activities of the program and suggested to increase the periodicity. The purpose of the changes is to continue and strengthen the ties of students and faculty, and have a scheduled space for activities that will contribute to academic community wellness.

General attitudes are addressed in course, instructor, team, and clinical instructor evaluations. The Assistant Dean for Student Affairs meets monthly with the Student Government Executive Committee (Liaison Committee), to update students on issues and to address any requests/issues/concerns they bring from the student body. Students have open-door access to faculty, department heads, and deans as well as to other support staff to discuss individual/personal issues and concerns.

The overall philosophy of the UPRSDM from the beginning has been one of humanistic culture and positive learning environment. Much of this is embodied in our efforts for diversity, adherence to a Patient’s Bill of Rights, the Professional Pledge, and the ADA Standards of Ethics and Professionalism. The UPRSDM has established policies regarding ethical behavior by faculty, staff, and dental students that are regularly reviewed and readily available.

**Educational Environment**

The UPRSDM is committed to provide a humanistic and appropriate learning environment for all the academic community. The MSC, and all its institutions, have a formal permanent infrastructure that assures the active participation of all members of academic community in the decision-making institutional processes, evidenced by the following existent initiatives:

- Services in the Deanship of Students of the MSC for the quality of life of student: admissions processes that assure inclusion and diversion, health, quality of life program, students’ associations, sports activities, extracurricular activities, support services offices:
counseling, psychology, office for disabled student services, student’s attorney office, faculty attorney office, etc. (CECSI, OSEI, etc.)

- Administrative Offices of the MSC for personnel support: Human Resources, Health Services, etc.

- Orientation and Manuals: Academic community are oriented on the services, policies, and rules that assure a healthy coexistence in the Campus. There are manuals with all the information that are offered during recruitment and admission of all members that contain the information and processes in order to maintain and achieve a healthy inclusive academic environment. Services and support information is available on the web page.

- Title IX Office: Consistent with Title IX of the Education Amendments of 1972, UPRSDM does not discriminate against students, faculty or staff based on sex in any of its programs or activities, including but not limited to educational programs, employment, and admission.

- Conferences about ethics are offered to faculty and personnel regularly.

- Security Office: An established security policy for the MSC, monitoring and surveillance is provided by this office.

- Clinical facilities and procedures are directed taking in consideration the wellness of all participants. Faculty, personnel and students are given the opportunity to communicate the challenges that they may find and seek for solutions. The patients’ verbal complaints and opinions are attended by the personnel and providers. Also they can visit the Office of the Assistant Dean for Clinical Affairs for more information or any other matter. Also, patients, students, and faculty participates in the UPRSDM annual survey that allow the institution to assess and make improvements.

- Meetings with the Dean: The Dean of the UPRSDM has a series of periodical meeting to inform the SDM community about various topics. To be more efficient the meetings are divided by groups and topics. The groups are the following: Faculty, Support Personnel (Non-faculty) and Students.

- Assemblies: Are being organized to provide the academic community the opportunity to be part of the solutions to the challenges, to have a closer approach with the institutional leadership. During the last year’s town halls have been held with the President, Chancellor, and the Dean with participation of all members of the academic community.

Examples of Student Support and Opportunities

The UPRSDM supports and provides various opportunities for students. These include:

Humanism, ethics, diversity and inclusiveness are also included throughout the dental curriculum with an emphasis on empathy and respect for others. The topics are present in the competencies
for the new graduate specifically in Professionalism and Practice Management and Communication, Interpersonal Skills and Collaboration:

- **Courses:** First Year - Human Development and Behavioral Management-EVDI 7115, Introduction to Professional Development I-DESP 7117, Introduction to Assessment & Diagnosis of the Patient- EVDI 7105, Introduction to Professional Development II- DESP 7127.
  
- **Second Year** - Introduction to Community Dentistry- DESP 7247.
  
- **Third Year** - Professional Development III- DESP 7357, Third Year Comprehensive Care Clinic- PRET 7387.
  
- **Fourth Year** Comprehensive Care Clinic- PRET 7400, Dental Practice Externship DESP 7467, Elective course offering: Oral Health Issues in Sexual and Gender Minorities - PRET 7445.
  
- Community activities throughout the dental curriculum. The activities range from oral health screenings to preventive treatments outside the dental school throughout the island. These communities are underserved, with poor access to oral health care and special needs populations. The community activities are either programmed by the dental school or by student associations. Also, the UPRSDM collaborates with NGO’s in their mission to provided health education and services to underserved populations. The participation of the UPRSDM is coordinated by the Community Dentistry Section.
  
- Immediately after Hurricane Maria, the dental school helped communities in need alongside student associations. Dental student associations-initiated blood drives, yoga classes, food drives and voluntary activities among others to help those affected by the hurricane. All supported by the UPRSDM.
  
- The MSC started a campaign called “Recinto Vital: Recinto llega a Ti” where students from all the six health sciences schools that comprise the MSC joined in voluntary work and health screenings to those most affected by the hurricanes that affected Puerto Rico during 2017. Our students alongside the MSC’s students participated in these interprofessional activities since October, 2017 until present. These interprofessional activities served to expose our students to the most vulnerable and to the great results acquired by collaborative work.
  
- White Coat Ceremony: The UPRSDM has a 12-year tradition of introducing first year dental students to the importance of humanism and ethics in dentistry in the “White Coat Ceremony.” This is a formal School activity and its mandatory of all Freshmen students. For this activity, the UPRSDM invites guest speakers like the President of the College of Dental Surgeons (ADA local chapter), the UPRSDM Student Council Member, the Senior Class President and a Parent Guest Speaker of the graduating class to welcome First Year Students and the entering Advanced Placement International Group to our school and their future profession.
• Pledging of the Hippocratic Oath – Another tradition that the UPRSDM has is the pledging of the Hippocratic Oath. This oath is part of the Award Ceremony that the UPRSDM has for its graduating class. It is done prior to the MCS general graduation ceremony and the whole UPRSDM community and family are invited. In this ceremony they are welcomed by the President of the College of Dental Surgeons of Puerto Rico, the President of the State Board of Puerto Rico, and representatives from local associations like AGD, where they talk about the importance of serving, ethics, life-long learning, empathy and humanism. Academic awards are presented in this ceremony and the graduating class President gives the final remarks to his/her fellow classmates. They pledge the Hippocratic Oath with their graduating gowns in front of all the academic community and family. This ceremony marks the milestone at the end of their undergraduate academic career and the beginning of their professional paths.

• Student Recognition and Awards for Humanism and Ethics: The UPRSDM has various awards and recognitions for those students that demonstrate during their path through dental school ethical and humanitarian conducts, voluntarism, leadership and exemplary service to underserve populations such as patients with special needs and special care. Some of these awards and recognitions are: Special Care Dentistry award, American Association of Women Dentists (AAWD) award, American Association of Public Health Dentistry (AAPHD) award, Junior Student Nominees for Terry Tanaka award, Academy of General Dentistry (AGD) award, International College of Dentists (ICD), Humanitarian award and the award in the memory of Dr. Raymond A. Baralt.

The UPRSDM Code of Academic Honesty, and the Subsections 1.8 & 1.9 of Section 1 and Article 1.1.6 of the UPRSDM Academic Progress and Performance Rules and Regulations apply to the members of the academic community: faculty, personnel and students. Faculty and students are expected at all times to conduct themselves in accordance with all conduct codes, rules and regulations that apply. These policies and procedures observe in detail the expected behaviors and consequences for deviation from the policies. The School also abides by the UPRMSC and the UPR institutional policies and procedures.

The students, faculty and members of the academic community are appointed to the committees that develop, revise and approve these documents. As recent as last September, 2019 the Academic Honesty Rules document’s title and content was revised by the faculty and approved by the UPRSDM Student’s Council. Also, the UPRSDM Academic Progress and Performance Rules and Regulations was revised by the Academic Progress Committee, Administration Committee, Faculty, and Dean to include the change of the Integrated National Board Dental Examination (INBDE) and updated information. This document is on its final stage of approval by the MSC Academic Senate and MSC Dean for Academic Affairs (approval expected no later than November 2019).
PRIDE Mentoring Program

The mentoring program eases new students into the culture of the institution, as well as into the specifics of their roles. The PRIDE Mentoring Program assigns a Faculty Mentor to every new student. The Faculty Mentor is also mentor of students of previous classes since 2017, and during activities all students and mentors meet and share their experiences together. The program encourages the guidance from the Faculty Mentor and also peer mentoring from Sophomore and Junior students to the Freshman student. The following exhibit demonstrates the schedule of activities of the Mentoring Program for the recent years:

Exhibit 1.7 Pride Mentoring Program Activities

<table>
<thead>
<tr>
<th>Academic Years</th>
<th>Activity</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016-2017</td>
<td>Planning and implementation of the PRIDE Mentoring Program Orientation and Workshop to the Faculty</td>
<td></td>
</tr>
<tr>
<td>2017-2018</td>
<td>Mentoring Program Activity – Sept</td>
<td>Faculty and D1 students</td>
</tr>
<tr>
<td></td>
<td>Mentoring Program Activity- May</td>
<td>Faculty and D1 students</td>
</tr>
<tr>
<td></td>
<td>Mentoring Program Workshop- June</td>
<td>Faculty</td>
</tr>
<tr>
<td></td>
<td>Mentoring Program Report- Aug/June</td>
<td>Faculty</td>
</tr>
<tr>
<td></td>
<td>Mentoring Program Evaluation – Aug/June</td>
<td>Faculty and D1 students</td>
</tr>
<tr>
<td>2018-2019</td>
<td>Mentoring Program Activity – Sept</td>
<td>Faculty, D1 &amp; D2 students</td>
</tr>
<tr>
<td></td>
<td>Mentoring Program Activity- May</td>
<td>Faculty, D1 &amp; D2 students</td>
</tr>
<tr>
<td></td>
<td>Mentoring Program Workshop- June</td>
<td>Faculty</td>
</tr>
<tr>
<td></td>
<td>Mentoring Program Report- Aug/June</td>
<td>Faculty</td>
</tr>
<tr>
<td></td>
<td>Mentoring Program Evaluation – Aug/June</td>
<td>Faculty, D1, D2, D3 &amp; D3AS students</td>
</tr>
<tr>
<td>2019-2020</td>
<td>Mentoring Program Activity – Sept</td>
<td>Faculty, D1, D2, D3 &amp; D3AS students</td>
</tr>
<tr>
<td></td>
<td>Mentoring Program Activity- May</td>
<td>Faculty, D1, D2, D3 &amp; D3AS students</td>
</tr>
<tr>
<td></td>
<td>Mentoring Program Workshop- June</td>
<td>Faculty</td>
</tr>
<tr>
<td></td>
<td>Mentoring Program Report- Aug/June</td>
<td>Faculty</td>
</tr>
<tr>
<td></td>
<td>Mentoring Program Evaluation – Aug/June</td>
<td>Faculty, D1, D2, D3 &amp; D3AS students</td>
</tr>
</tbody>
</table>

Faculty Mentoring Program

The UPRSDM appointed Dr. Mitzy Perez as Faculty Development Officer. As recent as this academic year (2019-20), she implemented a Faculty Mentoring Program where a senior faculty member is matched a junior faculty member for mentoring and support. Capacity building activities are scheduled to provide skills to the mentors and promote the interaction of faculty members.
The following exhibit contains the UPRSM events that assure interaction of students, faculty and staff for the last three years. Most of these activities are organized regularly.

### Exhibit 1.8 UPRSDM All-School Events for the last 3 years

<table>
<thead>
<tr>
<th>Activity</th>
<th>Frequency</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Coat Ceremony</td>
<td>Annual</td>
<td>All academic community invited</td>
</tr>
<tr>
<td>Graduation Ceremony</td>
<td>Annual</td>
<td>All academic community invited</td>
</tr>
<tr>
<td>Welcome to the Academic Year Event</td>
<td>Annual</td>
<td>All members of the academic community</td>
</tr>
<tr>
<td>Thanksgiving Brunch</td>
<td>Annual</td>
<td>All members of the academic community</td>
</tr>
<tr>
<td>Christmas Activity</td>
<td>Annual</td>
<td>All members of the academic community</td>
</tr>
<tr>
<td>Assemblies</td>
<td>Annual</td>
<td>All members of the academic community</td>
</tr>
<tr>
<td>ASDA PR Chapter Annual Convention</td>
<td>Annual</td>
<td>All members of the academic community</td>
</tr>
<tr>
<td>Copo Odontológica Activity (Sports)</td>
<td>Annual</td>
<td>All members of the academic community</td>
</tr>
<tr>
<td>Ethics Workshops</td>
<td>Periodic</td>
<td>Faculty and Staff</td>
</tr>
<tr>
<td>Special ceremonies</td>
<td>At the event</td>
<td>Special tributes have occurred during these years (Appointment of Distinguished Professors, Special Award Ceremonies to Professor or Student, Special tributes to deceased active colleagues, etc.) All members of the academic community</td>
</tr>
<tr>
<td>Wellness initiatives – YOGA-ADEA, etc</td>
<td>Periodic</td>
<td>All members of the academic community</td>
</tr>
</tbody>
</table>

The institution has the appropriate officers, tools, and processes where the individuals could bring their needs/issues in order to be assisted. (Exhibit 1.9 UPRSDM MSC Tools/Support to attend issues).
Exhibit 1.9 UPRSDM MSC Tools/Support to attend issues

<table>
<thead>
<tr>
<th>Tools/Support Offices</th>
<th>Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office of the Assistant Dean for Students Affairs</td>
<td>Students</td>
</tr>
<tr>
<td>Office of the Students Procurator</td>
<td>Students</td>
</tr>
<tr>
<td>Title IX Office</td>
<td>All</td>
</tr>
<tr>
<td>Office for Laboral Affairs</td>
<td>Faculty, Personnel</td>
</tr>
<tr>
<td>Department Chairs</td>
<td>Faculty, Students</td>
</tr>
<tr>
<td>Formal complaint form</td>
<td>Faculty, Students</td>
</tr>
<tr>
<td>Office of the Faculty Procurator</td>
<td>Faculty</td>
</tr>
<tr>
<td>Office of the Dean of Students of MSC</td>
<td>Students</td>
</tr>
<tr>
<td>MSC Center of Counseling and Psychology</td>
<td>Students</td>
</tr>
<tr>
<td>Appeal process</td>
<td>Certification</td>
</tr>
<tr>
<td>Students rights and participation - observed</td>
<td>MSC Student Manual</td>
</tr>
<tr>
<td></td>
<td>MSC Regulations Document</td>
</tr>
<tr>
<td>Faculty rights and participation</td>
<td>MSC Faculty Manual</td>
</tr>
<tr>
<td></td>
<td>MSC Regulations Document</td>
</tr>
</tbody>
</table>

The following exhibit demonstrates the UPRSDM commitment to attend the issues of the academic community and its organizational infrastructure allows the space to discuss the situations in various forums.

Exhibit 1.10 UPRSDM Forums for discussion of issues

<table>
<thead>
<tr>
<th>Activity</th>
<th>Participants</th>
<th>Sample of Situations Solved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liaison Meetings</td>
<td>Students, As. Dean for Students Affairs</td>
<td>Schedule of student’s activities</td>
</tr>
<tr>
<td>Monthly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff Meetings</td>
<td>As. Deans, Department Chairs, Dean, Ass. Dean, Adm. Assistant to the Dean, IT Director, CE Director</td>
<td>Administrative challenges- brought to meeting , usually decisions and solutions are obtained</td>
</tr>
<tr>
<td>Weekly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty Meetings</td>
<td>All faculty members</td>
<td>Dean Reports</td>
</tr>
<tr>
<td>At least every two months</td>
<td></td>
<td>Faculty brings issues in new affairs- attended by Dean and all faculty members. Approval of regulations, election of representatives to Senate, ADEA, etc.</td>
</tr>
<tr>
<td>Department Meetings</td>
<td>Faculty members and Chair</td>
<td>Challenge with clinic schedule– solved with additional recruitment and distribution of faculty</td>
</tr>
<tr>
<td>As needed, at least twice a year</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Activity

<table>
<thead>
<tr>
<th>Activity</th>
<th>Participants</th>
<th>Sample of Situations Solved</th>
</tr>
</thead>
</table>
| Assemblies                                    | All          | • Changes during Maria: rescheduling, basic needs of academic community, donations coordination  
| **At least, yearly for the last 3 years**     | All          | • Unexpected clinic restriction of services – solved with assignment of support and scheduling for EHR progress and update |
| Student Council Meetings Monthly              | Students     | All students issues- activities, climate, approval of regulations, planning                  |
| Special meetings with the Dean                | Student’s leadership | Ex- Clinical affairs, activities requests, changes in faculty(deceased, relocation) – rescheduling, extension of clinical schedule academic year |
| **As needed or scheduled, at least trimestral during the last years** | Non-teaching staff | Every two months                                                                         |

### Supportive Documentation

- SD 1-3.1A UPRSDM Academic Honesty Rules
- SD 1-3.1B UPRSDM Academic Progress and Performance Regulations
- SD 1-3.2A Data from groups and or surveys
- SD 1-3.2B PRIDE Mentoring Reports and Surveys
- SD 1-3.3 Faculty Participation Membership
  - Example of Approach to Outcomes Assessment (Appendix A, Table 2) (Available on site)

### Standard 1-4

The dental school must have policies and practices to:

- **a.** achieve appropriate levels of diversity among its student doctors, faculty and staff;
- **b.** engage in ongoing systematic and focused efforts to attract and retain student doctors, faculty and staff from diverse backgrounds; and
- **c.** systematically evaluate comprehensive strategies to improve the institutional climate for diversity.

The UPRSDM is in compliance with this standard.

The UPRSDM defines diversity as the welcoming and inclusion of people from different backgrounds and characteristics. These characteristics may include but are not limited to: age, socioeconomic status, cultural backgrounds, religious beliefs, ethnicity, education, gender, gender identity, sexual orientation, race, physical/mental disabilities, political beliefs, marital status, parental status, work experiences, geographical location and military experience among others.
We recognize diversity as a dynamic component that deserves attention in the context of the external and internal environment. Diversity intertwines with cultural competence.

The designated categories for diversity considered in the profile of the UPRSDM student body include but are not limited to: (1) race/ethnicity as a single category [Hispanic, White, Black, Other] (2) gender, [female, male, transgender, other] (3) socioeconomic status [at or below poverty level], (4) disability, (5) underrepresented and/or vulnerable groups [pregnant women].

**Humanistic Environment and Diversity Efforts**

The UPR abides by all federal and local laws that prohibit discrimination. Accordingly, the MSC and the UPRSDM promote and support an institutional environment free of discrimination. The UPR Board of Trustees established its non-discrimination policy in Certification 58 (2004-2005). This policy prohibits discrimination in education, employment and service delivery by matters of race, color, sex, place of birth, ethnicity, social origin or status, political and religious beliefs, marital status, gender, sexual orientation, veteran status, or disability to promote a humanistic environment, the MSC provides cultural and social activities throughout the academic year. Our students are welcome to participate, and the institution makes sure that the activities are free or very inexpensive. This measure allows all students to attend them. Besides this general policy against discrimination, the University and the Medical Sciences Campus have issued numerous policies addressing specific issues, which are summarized below.

**Diversity Goals**

The UPRSDM respects and values the differences within our academic community and the communities it serves. The members of the academic community (faculty, staff and students); come from different backgrounds and have different religious, political, economic and cultural preferences and beliefs. Diversity and Inclusiveness are immersed among our core values.

We are committed to educating and training more dentists who embody the fabric of the nations, not only to address disparities in healthcare, but also, to improve the overall health of all people. At UPRSDM, we have an ongoing commitment to increase faculty and staff awareness and understanding of issues of diversity and inclusion through professional development programs. The School promotes a climate of inclusiveness, equity and respect to all the constituents of its academic community and those that it serves fostering an environment that welcomes all promoting a sense of belonging.

**Efforts of Student Diversity**

Addressing the needs of the Puerto Rican population is an essential component of the UPR mission. By offering a highly government subsidized institution, the University strives to offer affordable higher education to the island population. Over the years the University has been the island’s “think tank” and, as such, it has addressed many of its social and health problems, including the specific issues of underserved and underrepresented sectors. The School’s diversity goals are consistent with the UPR Strategic Plan. Among the strategic objectives are the identification of urgent social problems, rehabilitation of underserved communities, recognizing
the value of the island’s plural culture, and establishing initiatives with the Puerto Rican communities in the mainland. The Medical Sciences Campus and the UPRSDM strategic plans specifically address the areas relevant to the island’s health, all within the overall University commitment to the population of Puerto Rico. The University thus targets the island’s population in all its diversity. The plan is periodically observed in order to assess the progress and monitor the actions.

Policies and procedures that support a climate for working and learning in a diverse setting

The UPRSDM abides by the UPR and the MSC comprehensive body of policies and regulations to address all issues of possible discrimination or misconduct. In so doing, the institution sets the rules for a climate free of harassment and respectful of diversity. The UPRSDM’s curriculum and other opportunities including service learning, address and build competency in diversity and cultural considerations.

The UPR has a formal permanent infrastructure that warranties the active participation of all members of the academic community in all institutional processes, including the development of its policies, such as diversity and inclusion policies. The goal has been to meet the diversity standards in all activities of the School, including the interaction with patients, peers, faculty, dental students, general public, and personnel. Students, Faculty and Staff are appointed in committees at all levels.

Commitment to maintaining and following these policies is achieved by several procedures. The UPRSDM community is informed about these policies in the campus and School’s web page. All new staff and faculty are required to sign documents acknowledging receipt of policies and regulatory documents. These are also included in the orientation of new students. Members of the campus community may file complaints at their school or unit level and appeal to higher university authorities (department heads, deans, chancellors, President, University Board, and Board of Governors). The university disciplinary actions procedure is mandated by Article 35 of the UPR General Bylaws which clearly states that the corresponding authority must act and follow procedures in grievance cases. Certification No. 138 (1981-1982) of the former Council on Higher Education, established the UPR Administrative Appeals Procedure, specifying the levels of authority and timeframe that should be observed in cases of appeal. The Board of Trustees Certification 41 (2002-2003) states that the institution must notify employees and dental students regarding their right to appeal (SD 1-4.1 UPRSDM Policy on Diversity)

Diversity Strategies

The strategies to address diversity in the academic community are mostly but not limited to four elements: (1) recruitment and retention of faculty, personnel, and students, (2) education - commitment to educate students and academic community on diversity issues; (3) practicum and external environment, and (4) community practice.

Recruitment and retention of students
The UPRSDM promotes through various activities and programs for students the importance of a diverse student body. Support and well-defined efforts are in place to provide students the assistance and structure in order to successfully complete their studies. Also, the institution follows a no discrimination and inclusion policy, applicable at all levels including recruitment. The School is engaged in activities to prepare and orient students from disadvantages backgrounds and first-generation college students to become stronger applicants. Exhibit 1.11 demonstrates the significant and sustained programs/initiatives of recruitment that observe diversity for the last years.

**Exhibit 1.11- UPRSDM Recruitment Initiatives for Diversity**

<table>
<thead>
<tr>
<th>Program/Activity/Initiative</th>
<th>Periodicity/Sustainability/Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotion activities at public and private schools (middle and high school students), where dentistry is presented as a career option</td>
<td>At least twice a year – usually more than twice a year (continuous)</td>
</tr>
<tr>
<td>Student ambassadors and participation of the UPRSDM Recruiter Public High Schools Career Fairs</td>
<td>Several times a year- (continuous)</td>
</tr>
<tr>
<td>Joint participation effort in the MSC Summer Program for public high school and college students</td>
<td>Once a year – Summer</td>
</tr>
<tr>
<td>Promotion and Recruitment Office Activities with the Pre-dental student associations of the UPR public system campuses and private institutions (high percentage of underserved population)</td>
<td>Continuous</td>
</tr>
<tr>
<td>Priorization Review System integration into the Admissions Review of Applicants – it highlights students from underserved origin, working while studying, first generation college students, underserved municipalities, etc. (AADSAS EO Indicator)</td>
<td>Enhanced in 2016. Continuous in every Admission Process</td>
</tr>
<tr>
<td>Dissemination and availability of inclusion and diversity policies in web page, publications</td>
<td>Continuous</td>
</tr>
<tr>
<td>Increase in enrollment of Advanced Placement Program from 10 students to 20 students per year</td>
<td>Authorization from CODA in 2016. Admitted students have a dental medicine degree from a non-ADA dental school (other countries)</td>
</tr>
<tr>
<td>Invitation and encouragement of participation of possible candidates or applicants to conferences and seminars on diverse population topics (Title IX, LGBTT, special needs, services to underserved populations, etc)</td>
<td>CE courses promotions</td>
</tr>
</tbody>
</table>

The UPRSDM Office for Student Affairs has diversified its methods and strategies for recruiting potential candidates. As part of the admission process, the School includes its non-discriminatory policy in promotional materials. These materials indicate that the UPRSDM admits qualified candidates regardless of race, age, sex, disability, religion, sexual orientation, or national origin.
MSC recruitment promotional materials also allude to the quest for greater diversity and cultural competence among the candidates.

**Policies and plans to recruit, develop, promote and retain a diverse faculty and staff**

The UPRSDM is committed to attracting diverse faculty and non-teaching staff. Recruitment of faculty follows the regulations established by the UPR. The MSC Department of Human Capital Management includes in its recruitment announcements and application forms the University’s non-discrimination policy. As an Equal Employment Opportunity Employer the campus abides by all federal and local labor laws.

Rules for the recruitment of a diverse staff are like those stated above for faculty in terms of non-discrimination. The process is mandated by the University’s rules and regulations and overseen by university authorities and the applicable employee organizations. Most staff employees are retained once hired.

The UPRSDM considers disabilities as one of the elements of academic diversity, as stated under Federal Law No. 101-336, 42 USC SS 12101, known as "American with Disabilities Act " of 1990, as amended in 2008 Federal LP 110-325, 42 USC SS 12101-12212 (Supp. IV 1992) (ADA, Federal Department of Justice). The MSC, in compliance with the above law has established its procedures pertaining to reasonable accommodation, as stated in the *MSC Institutional Policies* (SD 1-4.1 UPRSDM Policy on Diversity).

**Recruitment of faculty**

The integration of faculty from various backgrounds is a positive contribution to our educational system and institutional environment. Among our faculty there are diverse academic backgrounds not only related to dental specialties but in other areas such as, doctors in Public Health, PhDs in Sciences, Psychology, also Breastfeeding Medicine background, Physicians, etc. The following exhibit shows an example of the faculty members from various countries.
Exhibit 1.12 Diversity Faculty

<table>
<thead>
<tr>
<th>Name</th>
<th>Country Of Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Kamudi Joshipura</td>
<td>India</td>
</tr>
<tr>
<td>Dr. Evangelia Morou</td>
<td>Greece</td>
</tr>
<tr>
<td>Dr. Oela Alankaya</td>
<td>Madagascar</td>
</tr>
<tr>
<td>Dr. Sona Tumanyan</td>
<td>Armenia</td>
</tr>
<tr>
<td>Dr. Claudia Arcila</td>
<td>Mexico</td>
</tr>
<tr>
<td>Dr. Rosana Hanke</td>
<td>Brasil</td>
</tr>
<tr>
<td>Dr. Maria Ilse Salcedo</td>
<td>Mexico</td>
</tr>
<tr>
<td>Dr. Milagros Toro</td>
<td>Venezuela</td>
</tr>
<tr>
<td>Dr. Germán Salazar</td>
<td>Colombia</td>
</tr>
</tbody>
</table>

**Dental Faculty Loan Repayment Program (DFLRP)**

In September 2018, the UPRSDM was awarded with the HRSA Grant: “Dental Faculty Loan Repayment Program. This program provides an incentive for the recruitment and retention of qualified faculty. A critical factor in recruiting and retaining dental school faculty is the staggering student loan debt and income disparity with private practice.

The purpose of the Dental Faculty Loan Repayment Program (SD 1-4.5 UPRSDM FLRP) is to help maintain and recruit full-time general dentists and pediatric dentists as faculty members by assisting them in the repayment of their educational loans. The objectives of this project are a) to establish an administrative process to create a Loan Repayment Program and b) to select six faculty members that will provide teaching and clinical services in our academic dental settings.

A total of five faculty members were accepted for this project, the first one of this type in our Institution. The program would pay the principal and interest of the student loans based on a calculation of 10, 15, 20, 25, and 30 percent for each of the respective years of service. The first payment is scheduled for March 2020. The following funding priorities were requested in the grant application: Collaborative Project, Cultural Competency, Health Literacy, and Special/Vulnerable Populations. This initiative develops practitioners who are sensitive to the problems of the underserved and who will consider providing care in community clinics, treating Medicaid patients in their practices, and advocating for government support for the poor to receive oral health care.

The knowledge and attitudes to educate practitioners with such sensitivity are imparted while students are in training. The link among community bases dental education, access to care, and the diversity of the student body was summarized by Strauss et al. (2010), who wrote: “by making the composition of the student bodies more diverse, a greater number of dental graduates would be more inclined and better equipped to address the access to care issues of the population.
Addressing issues of equity and access both inside and outside of higher education is a hallmark of service-learning of which CBDE is an example.”: Knowledge of cultural, ethnic, and racial diversity becomes critical to understanding the problems of the underserved.

The HRSA PRIDE Project

In September 1, 2015 the UPRSDM was awarded with the HRSA PRIDE Project grant. The grant provides funds for recruitment of full-time faculty, auxiliary personnel and clerical personnel. The project main purpose is to promote primary care to underserved populations.

Efforts on education on diversity

- Orientations and dissemination of diversity topics, policies, procedures and offices – Title IX, LGBTT, Disabled persons’ office, etc.
- Continued education courses on LGBTT for all academic community and dental professionals of Puerto Rico
- Development and implementation of new elective course on LGBTT population in the curriculum
- Support and encouragement of research and community activities in minority population
- HRSA Grant Award PRIDE Project—Puerto Rico Innovation In Dental Education: Beyond The Limits Of Traditional Learning- The main purpose of this project is to shape the pre dental students of the University of Puerto Rico School of Dental Medicine to become primary care dentists with the empathy and skills to provide the adequate care to the underserved population. This project proposes a program that integrates community based inter-professional education in predoctoral students training. The students will have experiences of care for a diverse population such as, patients with special needs, elderly, diabetes and visits to rural communities. This will provide students with cultural competence, social awareness and the opportunity to reduce oral heath disparities while fostering dissemination of new knowledge.

Practicum and External Environment

The majority of academic and clinical activities of the students occur in the UPRSDM main facilities located in the Medical Sciences Campus Main Building in the Medical Center Area in San Juan, the island’s capital. The Medical Center is the main tertiary level health services provider of the Caribbean. The UPRSDM patient’s pool is mainly diverse with patients coming from almost all municipalities of the island and different backgrounds. The clinic is accessible by its location, institutional prestige, availability of specialized treatments, and reduced fees. During the Third and Fourth years, students provide care to the diverse patient population that visits the UPRSDM clinic. In addition, they are exposed to different population groups and communities in the Dental Practice Externship Course (DESP 7467) during their DS4 year in which they are assigned to different primary health care clinics around the island to provide care for a period of four weeks. The clinics are in communities of different socio-economic levels, thus enabling students to provide services to a diverse patient population. Currently, all the centers are under Section 330 of the Public Health Act (HRSA), except for the UPR-Hospital Dental
Clinic (SD 2-17.1). Under Section 330, these centers must provide primary health services to medically underserved populations and are governed by a community board. The centers are in Loiza, Cidra, San Lorenzo, Las Piedras, Ponce, and Mayagüez. Also the Oficinas Centrales de la División de Servicios para Adultos con Discapacidad Intelectual (DSPDI) of the PR’s Health Department is an extramural center that focuses in treating the special needs population, is available for extramural rotations of senior students. Senior students also have the experience of providing care to special needs patients in a school for deaf children as part of the preventive discipline clinic rotations, and during PRIDE rotations in School.

Community Practice

The students required to participate, during their Third year in 28 hours and in fourth year in 27 hours, in community experiences. In these experiences they must interact with a diverse population (elderly, children, special needs, drug dependents, and homeless, among others). The opportunity for our students to manage the diverse patient population has been a strength of the UPRSDM. Puerto Rico's diverse populations present unique oral health problems. UPRSDM reaches out to the community to provide oral health care and education by means of established agreements with centers throughout the island and by means of community activities during the academic year. Senior and Junior students are assigned to these activities. Also, Sophomore students take the course DESP 7247 - Introduction to Community Dentistry. This course offers the students the opportunity to analyze the community concept as the focus of attention and analysis for oral health care. It presents public health as an integral model for the interpretation of health concepts and health priorities in the community. In addition, teamwork is emphasized as essential in community health problem-solution oriented strategies. The participation in a community visits is part of the course. Also, all students are welcomed to participate in the School’s community activities.

Ongoing Assessment at the Institutional Level

The effectiveness of University policies on diversity and on addressing underserved populations is evaluated at several levels. The Board of Trustees issued Certification 3, (2009-2010) that establishes the indicators to measure progress. The report "Performance indicators for the goals of the operational plan for the MSC assessment of institutional effectiveness, 2010-2016" describes how the MSC is evaluating its institutional goals and objectives, including those that address issues of diversity.

The UPR does an annual climate survey whose results are evaluated periodically to make the necessary recommendations for changes in order to comply with our institutional commitment of inclusion and diversity (SD 1-4.6 Outcomes analysis of policies and programs related to diversity).

At the MSC level, there are various officers that are related to the development, promotion, and compliance of diversity and inclusion policies and procedures. The recently implemented diversity procedures at the School have been worked at a major institutional level (University or MSC level) The Exhibit 1.13 demonstrates the distribution and inclusion of works related to diversity (assessment of the topic and implementation of changes after assessment) at all institutional levels.
Nevertheless, the UPRSDM diversity initiatives and discussions are attended by Staff Members in the committees and groups that they lead, also are discussed in Faculty Meetings and/or students’ meetings. The inclusion of diversity actions that has required the revision of processes are worked following the ruled institutional processes in the committees that and recommended to the Dean for final approval.

### Exhibit 1.13- Institutional Representatives Responsible for Diversity Issues

<table>
<thead>
<tr>
<th>Individual</th>
<th>Decisional /Discussion Forums</th>
<th>Diversity topic/action discussed /taken</th>
<th>Level</th>
</tr>
</thead>
</table>
| Assistant Dean for Students Affairs | • Admissions Committee – recruitment  
• ASDMD Program Admissions Committee  
• Promotion and Recruitment Officer  
• Staff Meetings  
• Faculty Meetings  
• Administration Committee  
• Liaison Committee                                                                 | **Priorization system** in Admission process to include disadvantaged backgrounds  
**Increased enrollment in ASDMD Program**  
**LGBTQ inclusion** – Title IX orientations  
**Reasonable modifications** - revised process, monitoring, orientation  
**Complaints**                                                          | School level |
| Assistant Dean for Academic Affairs   | • Curriculum Committee  
• Staff Meetings  
• Faculty Meetings  
• Administration Committee                                                                 | Diversity policies included in all syllabi                              | School level |
| Assistant Dean for Clinic Affairs    | Staff Meetings                                                                                   | Special needs “deaf patients” translator services available                             | School level |
| Department Chairs                  | • Staff meetings  
• Department meetings                                                                                       | Orients and monitors observance of diversity procedures by faculty members – recipient of diversity complaint during courses or professors/students | School level |
| Associate Dean                     | • Staff Meetings  
• Faculty Meetings  
• Administration Committee  
• CIPE Committee                                              | Diversity policies in academic issues and institution                                   | School level, MSC level |
| Dean                              | • Staff Meetings  
• Faculty Meetings  
• Administration Committee  
• Administrative Board                                                                 | Assurance of implementation and compliance of diversity policies. I.e.: Title IX meetings at all UPRSDM levels | School level, MSC level |
As recent as November 2019, the UPRSDM Dean created and Ad-Hoc Committee for Diversity Affairs CDA in order to provide an organized attention of this topic.

The goals and works of the committee will include:

- Develop and implement a School Diversity Policy
- Provide inclusive leadership
- Involve all stakeholders in the diversity integration- staff, student, alumni and patients
UPR – School of Dental Medicine
Predoctoral Program Self-Study Report 2020

- Establish a robust infrastructure of diversity, access, equity and inclusion
- Involve the CDA with dental school leadership team
- Engage the CDA in admissions decisions and recruitment of faculty
- Have CDA reports directly/indirectly to the Dean
- Provide attention and or conduct climate studies and utilize the results and recommendations to lead institutional change and culture
- Design and recommend cultural sensitivity/diversity trainings

The already have the following strategies to promote an inclusive climate, nevertheless the CDA will oversee them in their structure:

- Climate surveys
- Diversity website
- Curriculum integration
- Annual employee evaluation
- Mandatory employee training
- Demonstrate commitment to diversity and inclusion

Exhibit 1.14 UPRSDM commitment to social justice criteria and/or community service criteria

<table>
<thead>
<tr>
<th>Process</th>
<th>Action/Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission of students</td>
<td>• Interview rubric- First college generation,</td>
</tr>
<tr>
<td></td>
<td>• Portfolio rubric- community service activities, member of civic associations</td>
</tr>
<tr>
<td>Recruitment and retention of faculty and or staff</td>
<td>FLRP Grant – recruitment of faculty. Directed to the funding priorities requested in the grant application: Collaborative Project, Cultural Competency, Health Literacy, and Special/Vulnerable Populations</td>
</tr>
</tbody>
</table>


The financial resources must be sufficient to support the dental school’s stated purpose/mission, goals and objectives.

The UPRSDM is in compliance with this standard.

Financial Overview

Puerto Rico is currently experiencing a fiscal crisis never seen before in the Island. In 2016, the U.S. Congress enacted the Puerto Rico Oversight Management and Economic Stability Act or “PROMESA Act” to provide a method for a covered territory to achieve fiscal responsibility and access to the capital markets. Also, on Wednesday, September 20, 2017, the hurricane Maria made landfall on Puerto Rico as a high-end Category 4 hurricane with winds of 155 mph.

Despite these events, the School of Dental Medicine has managed its fiscal resources by analyzing and identifying areas of opportunity to make necessary adjustments without affecting academic offerings, clinical services and research. Budget allocations were revised to utilize resources in the areas of greatest needs according to priorities. At the same time, school departments were given the flexibility in the allocation of their resources according to their particular development plans.

Notwithstanding the current scenario, the School of Dental Medicine Strategic Plan redirects SDM towards a more fiscally sustainable institutional management with a strengthened mandate to incorporate greater internal efficiency into its academic and administrative operations. Looking towards the future, we are reinforcing the funding base necessary for changes to occur towards achieving higher levels of fiscal sustainability. The expansion of the clinical services with the newer clinical facilities for the Faculty Practice Plan and the establishment of the Master Program of Dental Sciences in Periodontology are examples of strategies to increase revenues. Other examples to promote and facilitate new revenues is the provision of Continuing Education course through distance learning and increasing the admission of students to the Advance Placement Program until reaching 40 students by the 2020 academic year. A budget plan for the next five years has been developed. The budget includes adequate resources to fund faculty, staffing, equipment and material needs.
Financial Resources and Budgetary Process

The UPR is a non-profit, land grant institution of the Commonwealth of Puerto Rico. The SDM receives funds for its operational budget from four major sources: state funds, federal funds, other external funds, and dental school clinics. Appropriations from the Commonwealth are the principal source of revenues of the University and are supported by Law No. 1 of January 20, 1966, as amended. Under this law, the Commonwealth appropriates for the University an amount equal to 9.60% of the average gross income collected by the government in the two fiscal years immediately preceding the year of the assignment. The UPR’s institutional financial statements are prepared on the accrual basis of accounting following the accounting and financial reporting guidelines recognized by the American Institute of Certified Public Accountants Industry Audit Guide – Audits of Colleges and Universities, as amended.

Financial decision-making rests ultimately with the Board of Trustees, which approves the budget. Once the budget is assigned, campus and school officials have considerable authority over the assigned discretionary and operational funds. The school budget is prepared as part of the annual planning and assessment cycle where the school administration establishes the priorities for the allocation or reallocation of funds according to the UPRSDM Strategic Plan for 2017-2022.

UPR General Funds include all monies assigned to the University by the Government of the Commonwealth of Puerto Rico. During the past five years, the government of Puerto Rico and consequently the UPR has encountered significant budget constraints. To manage this situation, the UPR implemented various cost reduction measures including: a freeze on vacant positions, salary increases for faculty and non-teaching personnel, and nonpayment for excess sick leave; and limited travel expenses. As recent as November, 2019 the School received an assignment of $500,000.00 that will be solely used for faculty recruitment.

The University of Puerto Rico is facing difficult financial challenges, as a result of the situation confronted by the government of the Commonwealth of Puerto Rico. As is widely known, Puerto Rico is undergoing an economic recession that has affected the Commonwealth’s financial stability and impacted its ability to repay its multimillion-dollar public debt. In response to Puerto Rico’s fiscal crisis, the U.S. Congress enacted the Puerto Rico Oversight Management and Economic Stability Act or “PROMESA Act”, H.R. 5278 (2016). Among other things, the PROMESA Act created a Financial Oversight and Management Board (Puerto Rico Oversight Board) empowered with final authority over Puerto Rico’s budgetary decision-making. Pursuant to its legal authority, the board initially proposed a $450 million budget reduction for the UPR System for 2021, which was later increased to $512 million for 2026 as outlined in the Interim President’s letter dated April 25, 2017.

In compliance with the Puerto Rico Oversight Board requirements, the UPR Board of Governors approved the UPR Fiscal Plan on July 31, 2017 to meet its fiduciary responsibility while maintaining institutional integrity, financial sustainability, fulfilling its mission, and supporting its academic offerings. The plan’s guiding principles are:

1. To protect the human, financial, technical, and capital resources necessary to succeed in the attainment of the UPR’s vision and mission.
2. To implement the UPR System’s Strategic Plan for 2017-2022 (A New Era of Innovation and Transformation for Student Success), which is based on four major areas (educational environment, research and creative work, service to diverse communities, and sustainability) to achieve student success.

3. To prioritize administrative and academic transformations that are guided by efficiency and effectiveness criteria. These include:
   a. Reorganization of administrative and academic support services into four main campus hubs: Hub 1: Mayagüez, Aguadilla, Arecibo, and Utuado; Hub 2: Medical Sciences Campus; Hub 3: Río Piedras, Carolina, and Bayamón; and Hub 4: Cayey, Ponce, and Humacao.
   b. The exercise of financial responsibility regarding specific revenues and expenditure measures to support achievement of strategic and sustainable management goals.
   c. Implementation of expense reduction measures at the UPR Central Administration, including operating and general expenses, and system service costs.
   d. Diversify revenues through tuition increase, patents, government and UPR contractual agreements (Executive Order 2017-021) (SD 1-5.06 Executive Order-2017-021), online academic offerings, collaborative agreements with the Department of Education and local municipalities, and other initiatives such as the medical cannabis project.

The UPR System is undertaking a substantial restructuring of its operations and identifying a number of revenue-generating initiatives and expense containment measures to address the reduction in government appropriations and funding. Through these actions and implementation of the measures, the UPR will be able to accomplish its mission and continue to serve the people of Puerto Rico. This measures are included in the subsequent approved Fiscal Plan approved on October 2018 that establishes the reporting requirements and laying out a series of fiscal governance reforms including cross-campus and component unit controls on how revenues are collected and expenditures reported. The last Fiscal Plan approved on June 2019 includes the expected reforms to be implemented by the UPR. This fiscal plan is the result of the previous fiscal plan outcomes.

Financial Overview

The following provides a financial overview of the UPRSDM.

Sources of Funds

The UPRSDM derives its operating revenue from four main sources: university funds, federal funds, clinical services and other external funds. UPR funds (or General Fund) include monies assigned to the UPR by the government of Puerto Rico and income generated by the UPR from enrollment, construction fees, and other sources. In the past, university funds depended on the
economic growth of the Island and tax collections. Since PROMESA, budget allocations presented in the University of Puerto Rico Fiscal Plan have to be approved by the Financial Oversight Management Board. Federal funds mostly come from competitive and minority research grants from the federal government, contracts with state agencies, and donations. Clinical services funds include general income from dental clinics. Other external funds are those obtained through special projects and programs created to diversify the sources of income.

Exhibit 1.15 School Revenue Distribution by Sources of Funds

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>UPR Appropriations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Funds</td>
<td>$12,005,853</td>
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<td>$11,644,731</td>
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<td>$12,362,716</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research/Training/Services Grants</td>
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<td>$1,346,025</td>
<td>6.1%</td>
<td>$788,040</td>
</tr>
<tr>
<td>Endowment Fund</td>
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<td>1.7%</td>
<td>$420,240</td>
<td>1.9%</td>
<td>$522,998</td>
</tr>
<tr>
<td>Clinical Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Dental Clinic</td>
<td>$2,644,038</td>
<td>12.1%</td>
<td>$2,651,434</td>
<td>12.1%</td>
<td>$2,655,210</td>
</tr>
<tr>
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<td>$286,600</td>
<td>1.2%</td>
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<td>$173,666</td>
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<tr>
<td>Oral Surgery Residency - Hospital</td>
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<td>$577,661</td>
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<td>Other External Sources</td>
<td></td>
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<td></td>
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<tr>
<td>Continuing Education</td>
<td>$147,436</td>
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<td>$86,117</td>
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<tr>
<td>Students Fees</td>
<td>$ -</td>
<td>0.0%</td>
<td>$ -</td>
<td>0.0%</td>
<td>$886,056</td>
</tr>
<tr>
<td>Student Placement Program</td>
<td>$1,372,208</td>
<td>5.0%</td>
<td>$773,235</td>
<td>3.5%</td>
<td>$785,190</td>
</tr>
<tr>
<td>State Allocations by Law</td>
<td>$2,188,221</td>
<td>9.1%</td>
<td>$2,477,861</td>
<td>11.1%</td>
<td>$2,191,850</td>
</tr>
<tr>
<td>Lutheran Hospital</td>
<td>$153,658</td>
<td>0.6%</td>
<td>$2,765</td>
<td>0.0%</td>
<td>$603,968</td>
</tr>
<tr>
<td>Private Grants and Contracts</td>
<td>$532,632</td>
<td>2.2%</td>
<td>$142,082</td>
<td>0.6%</td>
<td>$218,874</td>
</tr>
<tr>
<td>Chancellor Academic Fund</td>
<td>$70,114</td>
<td>0.3%</td>
<td>$73,169</td>
<td>0.3%</td>
<td>$71,021</td>
</tr>
<tr>
<td>Students Gifts (Materials, Books and Equipment)</td>
<td>$1,074,039</td>
<td>4.4%</td>
<td>$1,067,262</td>
<td>4.9%</td>
<td>$1,273,841</td>
</tr>
<tr>
<td>EHR Incentives</td>
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<td>0.0%</td>
<td>$ -</td>
<td>0.0%</td>
<td>$ -</td>
</tr>
<tr>
<td>Gifts and Donations</td>
<td>$75,994</td>
<td>0.3%</td>
<td>$1,995</td>
<td>0.0%</td>
<td>$52,903</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td>$24,334,152</td>
<td>100.0%</td>
<td>$22,119,688</td>
<td>100.0%</td>
<td>$22,751,311</td>
</tr>
</tbody>
</table>

The General Fund is composed of recurrent funds that cover employees’ salaries and other operational categories and non-recurrent funds assigned to cover special expenses such as renovations of clinical facilities, classrooms, laboratories, and equipment repair. This allocation of funds illustrates the commitment of the UPR and the MSC to the achievement of the UPTRSDM vision, mission, and goals.

As shown in Exhibit 1.15, General Funds decreased 12.52% during fiscal years 2013-14 through 2017-18 due to the cost containment policies. Nevertheless, it is expected that the UPR Central Administration will maintain the funding level relatively constant over the next few years. The Clinical Services and Other External Sources revenues are averaging $3.6 million and $5.6 million respectively during the same time spam.

The Exhibit 1.16 shown the way the School of Dental Medicine invest its resources to generate revenue. As stated before, the UPR is a non-profit institution entitled to reinvest its revenue within its operational activities.
Exhibit 1.16 School Expenses Distribution by Sources of Funds

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>General Funds</td>
<td>$12,006,953</td>
<td>$11,994,731</td>
<td>$12,626,716</td>
<td>$11,216,473</td>
<td>$11,289,644</td>
</tr>
<tr>
<td>Federal Appropriations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research / Training / Services Grants</td>
<td>$1,519,665</td>
<td>$1,353,546</td>
<td>$788,849</td>
<td>$375,246</td>
<td>$1,000,494</td>
</tr>
<tr>
<td>Endowment Fund</td>
<td>$600,349</td>
<td>$513,341</td>
<td>$832,304</td>
<td>$453,861</td>
<td>$440,782</td>
</tr>
<tr>
<td>Clinical Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Dental Clinic</td>
<td>$2,696,081</td>
<td>$3,089,226</td>
<td>$2,316,325</td>
<td>$2,192,015</td>
<td>$1,980,292</td>
</tr>
<tr>
<td>UPR Hospital Dental Clinic</td>
<td>$205,270</td>
<td>$206,621</td>
<td>$168,706</td>
<td>$234,534</td>
<td>$316,984</td>
</tr>
<tr>
<td>Faculty Practice</td>
<td>$143,164</td>
<td>$93,170</td>
<td>$103,999</td>
<td>$68,782</td>
<td>$29,529</td>
</tr>
<tr>
<td>Oral Surgery Residency - Hospital</td>
<td>$460,072</td>
<td>$554,925</td>
<td>$404,192</td>
<td>$452,570</td>
<td>$516,406</td>
</tr>
<tr>
<td>Pediatric Dentistry Residency - Hospital</td>
<td>$30,277</td>
<td>$45,617</td>
<td>$61,623</td>
<td>$41,536</td>
<td>$29,068</td>
</tr>
<tr>
<td>Other External Sources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuing Education</td>
<td>$116,564</td>
<td>$144,534</td>
<td>$86,812</td>
<td>$109,731</td>
<td>$48,576</td>
</tr>
<tr>
<td>Students' Fees</td>
<td>$80,364</td>
<td>$80,903</td>
<td>$29,491</td>
<td>$65,694</td>
<td>$5,645</td>
</tr>
<tr>
<td>Advance Placement Program</td>
<td>$859,533</td>
<td>$57,649</td>
<td>$927,431</td>
<td>$220,236</td>
<td>$989,485</td>
</tr>
<tr>
<td>Lutheran Hospital</td>
<td>$294,896</td>
<td>$298,480</td>
<td>$67,344</td>
<td>$238,414</td>
<td>$122,115</td>
</tr>
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<td>Phd and Grants and Contracts</td>
<td>$260,678</td>
<td>$207,934</td>
<td>$218,414</td>
<td>$89,225</td>
<td>$6,545</td>
</tr>
<tr>
<td>Chancellor Academic Fund</td>
<td>$65,265</td>
<td>$71,113</td>
<td>$71,021</td>
<td>$88,736</td>
<td>$66,817</td>
</tr>
<tr>
<td>Students' Kits (Materials, Books and Equipment)</td>
<td>$1,059,336</td>
<td>$1,270,283</td>
<td>$1,106,798</td>
<td>$1,443,489</td>
<td>$1,608,161</td>
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<tr>
<td>EHR Incentives</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Gifts and Donations</td>
<td>$124,502</td>
<td>$109,047</td>
<td>$12,984</td>
<td>$228,269</td>
<td>$87,958</td>
</tr>
<tr>
<td>TOTALS</td>
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<td>$22,377,076</td>
<td>$21,724,129</td>
<td>$20,660,209</td>
<td>$19,041,211</td>
</tr>
</tbody>
</table>

Five-Year Plan to Secure Funding and Financial Stability

The challenge with respect to finances is clear, the School of Dental Medicine must fulfill its mission, preserve the quality of its academic programs and student services, continue to strengthen research, and keep working conditions supportive of innovation with fewer state resources. It must also maintain positive employee morale to accomplish these goals. To counteract the impact of the reductions that will take place through 2023, the SDM is rethinking itself, reassessing priorities, and identifying how to best continue fulfilling its institutional mission.

During the past years, the school’s focus has been on securing funding for recruiting and retaining personnel, maintenance of dental equipment, maintaining optimal levels of supplies of dental materials, and improving physical facilities. Its priority is to guarantee the academic excellence of its programs and secure adequate funding. As part of this effort the school has established the following financial initiatives to secure additional funding in compliance with its Strategic Plan goals:

1. The most ambitious upcoming project will be the establishment of the Faculty Practice in approximately 6,000 square feet facility located in the first floor of the Students Affairs Building. In this clinic, faculty and graduate students from all dental specialties will offer services to the community. This clinic will service the school’s current patient surplus, as well as surrounding communities.

2. Another initiative is the establishment of the Master of Dental Sciences in Periodontology. The program will enhance the clinical services, teaching experiences, and contribute to the school clinical services revenues.

3. Development of the Continuing Education Office, specifically the Internship Program, which primarily enrolls students who are dentists from South and Central America seeking...
specific clinical experiences. Certificates, medical tourism, distance education and hands-on clinical courses are expected to be developed as well.

4. One of the most profitable programs has been the two-year Advanced Placement Program that admits dentists who have graduated from non-accredited universities. Tuition fees in this program are $60,000 per year. A staggering increase in the admission of students to the Advance Placement Program until reaching 40 students by the 2020 academic year has been put in place.

5. Strengthening the Donations Program through the School of Dental Medicine Alumni Association and other institutions as a source of support for the Institution.

The Exhibit 1.17 summarize the five-year plan for additional fiscal resources.

Exhibit 1.17 School Initiatives to Secure Funding

<table>
<thead>
<tr>
<th>Estimated Additional Revenue for Specific School Initiatives to Secure Funding, Years 2020-2024</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty Practice</td>
<td>$174,983</td>
<td>$769,923</td>
<td>$867,913</td>
<td>$982,800</td>
<td>$1,013,040</td>
</tr>
<tr>
<td>Other External Sources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuing Education</td>
<td>$30,000</td>
<td>$32,000</td>
<td>$34,000</td>
<td>$36,000</td>
<td>$38,000</td>
</tr>
<tr>
<td>International Advanced Placement Program</td>
<td>$90,000</td>
<td>$315,000</td>
<td>$450,000</td>
<td>$450,000</td>
<td>$450,000</td>
</tr>
<tr>
<td>Gifts and Donations</td>
<td>$10,000</td>
<td>$20,000</td>
<td>$40,000</td>
<td>$80,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>TOTALS</td>
<td><strong>1,597,500.00</strong></td>
<td><strong>2,484,120.00</strong></td>
<td><strong>2,772,001.00</strong></td>
<td><strong>3,092,394.00</strong></td>
<td><strong>3,361,548.00</strong></td>
</tr>
</tbody>
</table>

Another complementary strategy that must be pursued is to maximize the efficiency in the production of services, research, and educational activities. This requires a conscious effort by the university administration, faculty, and non-teaching personnel at all levels to make a more efficient use of the resources available. One example is to take advantage of the electronic technologies available to increase the use of digital educational media to reduce the costs by reducing the use of paper and printed materials.

Five Year Budget

As noticed, the school is looking to increase revenues from sources other than state appropriations and has moved toward more self-generated revenues activities in order to minimize the impact by decisions made by the Puerto Rico Oversight Management and Economic Stability Act in possible budget cuts. It’s important to clarify that budget cuts imposed by the Puerto Rico Oversight Management and Economic Stability Act or the Government of the Commonwealth of Puerto Rico are made over the UPR Appropriations. Other sources of funds like grants, contracts or self-
generated revenue activities are not exposed to budget cuts because those monies are not managed by the Puerto Rico Oversight Management and Economic Stability Act.

As established in the June 5, 2019 approved Fiscal Plan for the University of Puerto Rico, the UPR is expecting an enrollment decline due to the demographic shift. However, due to the academic offering at the School of Dental Medicine and the historical amount of applications received in the Medical Sciences Campus for candidates seeking a dental degree, it’s unlikely to apply the premise for demographic drop in our budget.

Exhibit 1.18 Detailed School Budget Distribution by Source of Funds

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>General Funds</td>
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<td>$10,781,100</td>
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<td>Federal Appropriations</td>
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<td>$1,020,000</td>
<td>$1,040,400</td>
<td>$1,061,208</td>
<td>$1,082,432</td>
</tr>
<tr>
<td>Endowment Fund</td>
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<td>$540,800</td>
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<td>$584,929</td>
</tr>
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<td>$3,137,970</td>
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<td>$3,457,170</td>
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<tr>
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<td>$200,000</td>
<td>$230,400</td>
<td>$259,928</td>
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</tr>
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<td>Faculty Practice</td>
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<td>$1,842,750</td>
<td>$1,984,500</td>
<td>$2,126,250</td>
</tr>
<tr>
<td>Oral Surgery Residency - Hospital</td>
<td>$525,000</td>
<td>$535,500</td>
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</tr>
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<td>$64,946</td>
</tr>
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</tr>
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<tr>
<td>Students Dues</td>
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<td>$1,920,000</td>
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<td>$2,400,000</td>
<td>$2,400,000</td>
</tr>
<tr>
<td>Advance Placement Program</td>
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<td>$2,151,471</td>
<td>$2,151,471</td>
<td>$2,151,471</td>
<td>$2,151,471</td>
</tr>
<tr>
<td>State Allocations by Law</td>
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<td>$365,736</td>
<td>$365,736</td>
<td>$365,736</td>
<td>$365,736</td>
</tr>
<tr>
<td>Lutheran Hospital</td>
<td>$200,000</td>
<td>$250,000</td>
<td>$300,000</td>
<td>$350,000</td>
<td>$400,000</td>
</tr>
<tr>
<td>Chancellor Academic Fund</td>
<td>$70,000</td>
<td>$70,000</td>
<td>$70,000</td>
<td>$70,000</td>
<td>$70,000</td>
</tr>
<tr>
<td>Students Kits (Materials, Books and Equipment)</td>
<td>$1,350,000</td>
<td>$0.0%</td>
<td>$0.0%</td>
<td>$0.0%</td>
<td>$0.0%</td>
</tr>
<tr>
<td>EHR Incentives</td>
<td>$0.0%</td>
<td>$0.0%</td>
<td>$0.0%</td>
<td>$0.0%</td>
<td>$0.0%</td>
</tr>
<tr>
<td>Gifts and Donations</td>
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<td>$140,000</td>
<td>$160,000</td>
<td>$200,000</td>
<td>$220,000</td>
</tr>
<tr>
<td>TOTALS</td>
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<td>$23,143,192</td>
<td>$23,823,216</td>
<td>$24,513,828</td>
<td>$24,688,142</td>
</tr>
</tbody>
</table>

UPR Appropriations

The funds that comes from the central government are highly controlled by PROMESA and the approved Fiscal Plan by establishing the guidelines for a more self-sufficient and develop more diverse and resilient revenue streams for the UPR. The General Fund is comprised by tenure positions for faculty and non-faculty personnel as well as part-time faculty members. Reductions to the UPR Appropriations are likely to have a direct effect in recruiting and maintain the part-time faculty members’ salaries from this source. Imposed budget reductions will imply that a new salary redistribution needs to be made in order to achieve sustainability with the flow of funds from Clinical Services and Other External Sources.

Federal Appropriations

Continuous support to faculty members will be offered through protected time and seed monies so they continue to seek external funding. The UPRSDM has a research endowment for capacity building of 15 million dollars. The Research Endowment Fund is expected to grow according to the investment market performance. This endowment fund has been instrumental in creating the necessary infrastructure for the development of research and submission of new proposals.
Clinical Services

The Main Dental Clinic revenues comes from dental procedures made by pre-doctoral students and graduate residents within the School of Dental Medicine. As part of an economic sustainability, the school is looking towards new self-generated revenue activities and growth in the current sources of income by optimizing the clinic revenue cycle. Strategies to improve the clinic revenue cycle are targeting three key areas as follow:

a. Improve Collections: A 5% increase in net collection rate can drive significant increases in revenue.
b. Reduce Insurance Claims Denials: Targeted denial prevention and management can result in significant cost savings from reduced rework.
d. A new implementation of Medicaid payment rates just became into effect in November, 2019.

As stated above, new initiatives are taking places to secure future funding to maintain or expand our level of operation. One of these initiatives it’s the moving of the Faculty Practice Clinic to a new facility that will provide a multidisciplinary comprehensive treatment center to the patients. This clinic will allow an increase in experiences for post-doctoral students and the creation of pre-doctoral rotations or internships.

Other External Sources

This category includes fiscal resources from state allocations by Law 178-2013, to ensure the financial support to post-doctoral programs accreditations and the training centers to the post-doctoral students. In terms of resources, other important category is the student kits program were the School purchase the instruments and sell it to the students at school price. This initiative was implemented to standardized and assist students to lowering costs in dental instruments and equipment.

The Advance Placement Program has been one of the most income generating initiatives that the school has implemented within the last decade. The expected net revenue for this program is close to one million annually. This net revenue would defray further budget reductions through the UPR Appropriations.

In general, the School is looking for reliable sources of income that can provide a steady and positive cash flow for the next five years. These sources will allow the School to comply with the Strategic Plan, the PROMESA Act and the June 5, 2019 approved Fiscal Plan for the University of Puerto Rico.

Supportive Documentation

Note: All supportive documentation required by the guides are included in the narrative. A detailed budget information for previous five years, current and ensuing fiscal years will be available on site.
The sponsoring institution must ensure that support from entities outside of the institution does not compromise the teaching, clinical, and research components of the program.

The UPRSDM is in compliance with this standard.

The University of Puerto Rico ensures that support from entities outside of the institution does not compromise the teaching, clinical, and research components of its programs. The UPR Board of Trustees, upon the recommendation of the UPR President, approved Certification 37 (2009-2010) on September 26, 2009 titled Institutional Policy for the Request and Receipt of Private Donations (Política Institucional para la solicitud y aceptación de donativos privados). This policy establishes that support from entities outside the institution must guarantee that their purpose has academic or administrative merit, is in accordance with the needs and priorities of the university and does not interfere with the achievement of the objectives of the program that receives the support. Acceptance of the support will not impose conditions that will in any way limit the commitment of the university to the principle of academic freedom or are contrary to the University Law or its Bylaws. Support cannot be conditioned to the sponsoring of any product or service, nor create a conflict of interest. Each institutional unit must assure an effective information system for data gathering and reports concerning the support received and assure dissemination of the information at the unit and system level.

The UPRSDM receives resources from four principle entities: tuition, student fees, clinic revenue and research grants. Teaching, clinical, and research components of the program are independent of other funding sources. Design, implementation and decisions within all areas of teaching, clinical and research activities are made collaboratively and as directed by institutional policies based on the highest levels of academic and ethical integrity. Faculty, student doctors and staff are involved with curricular and policy development (generally through committee activities), also patient care delivery systems design and implementation and research activities within the institution.

In addition, all school affiliation or contractual agreements with external institutions contain clauses establishing that the responsibility for the teaching, service, and research components rests with the school.

The primary accountability of this policy rest on the Departmental Heads who are responsible for the academic load of their faculty.
Affiliation Agreements/Memorandums of Understanding

When the school enters into an agreement with any entity, such documentation describing the relationship between the entity and the UPRSDM is required to contain language stating that such an agreement cannot exert any influence on the school or its programs. Such agreements must be cleared through the UPRSDM legal counsel which ensures that such agreements contain the appropriate language as required by the UPR Governing Board, previously known as Board of Trustees.

While pursuing its academic mission to generate and apply knowledge through teaching, research, and public service, the UPR maintains a firm commitment to the principles of integrity and transparency. The UPR has developed internal policies and procedures consistent with local and federal regulations to ensure that employees do not engage in any activities that place them in a conflict with their official responsibilities and any other interests or obligations. Faculty and staff members are required to fill out a Notice of Intention to Obtain Additional Employment Form if they intend to work for a private entity or do any outside activity to ensure that those activities do not affect/interfere with the relationship of the faculty person and the University. In the event an opportunity for outside activity arises during the reporting year, the faculty member must secure approval by submitting a Notice of Intention to Obtain Additional Employment Form.

UPR recognizes that employee involvement in activities and cultivation of relationships outside the university enhances the institutional mission. External business and service contacts facilitate innovation, collaboration, and support. Accordingly, UPR allows and encourages its faculty and staff to pursue external opportunities. All individuals are expected to act in the best interest of the UPR and the public it serves, and to uphold the highest standards of professional and fiscal conduct. Since UPR supports employee participation in outside activities and relationships that further the mission of the UPR, potential conflicts of interest and/or commitment are unavoidable.

These external connections should not interfere with an individual’s official duties and obligations to the UPRSDM. Faculty and staff should never use their official position or influence to acquire financial rewards or other gain for themselves, their relatives, friends, or personal associates, at the expense of the SDM. Because outside interactions are accompanied by an increased potential for conflict of interest and/or commitment, the UPR has developed a robust set of policies and procedures consistent with applicable local and federal regulations for identifying, reducing, managing, and/or eliminating such conflicts.

Sponsored Programs

Federal law requires that institutions performing Public Health Services or National Sciences Foundation funded research must adopt and enforce certain policies on conflict of interest. These policies must be consistent with regulatory requirements found in Titles 42 and 45 of the Code of Federal Regulations. In the process of submitting a grant proposal, the Principal Investigator and Key Personnel must submit an Internal Transmittal Form and a Significant Financial Interest Disclosure Form that requires that the individual identify any financial interest (and those of his/her affiliated persons) that could be reasonably expected to bias the design, conduct or reporting of the project.
A conflict of interest depends on the situation and on the character or actions of the individual. As mentioned before, all Principal Investigators and key personnel on a sponsored project are responsible for disclosing any financial conflict of interest on the Internal Transmittal Form and Significant Financial Interest Disclosure. These forms are They must complete and submit the Disclosure of Investigator’s Significant Financial to submitted to the Pre-Award Division of the Deanship for Research. Form 1.A is filed by investigators with non-conflict of interest, while Form 1.B is for investigators with significant conflict of interest. If any changes occur, the Principal Investigator and/or key person is responsible for immediately notifying this Deanship.

**Purchasing Regulations**

The Legislature of the Government of Puerto Rico through Law 84 of June 18, 2002 approved the ethical code for suppliers who are interested in providing goods and services to executive branches of the Government of Puerto Rico. The UPR reinforces that law by sending a communication to all its suppliers about the requirement that all invoices presented for payment shall contain the following certification:

“Under penalty of absolute nullity, I certify that no public servant of the government entity is a party to or has an interest in the profits or benefits that are the product of the contract subject of this invoice, and to be a party or have an interest in the profits or benefits resulting from the contract under this invoice a prior dispensation has been issued. The sole consideration to furnish the contracted goods or services subject of the contract is the payment agreed upon with the authorized representative of the government entity. The amount that appears in the invoice is fair and correct. The work has been performed, the products have been delivered and the services rendered, and no payment has been received for them”.

The UPR Purchasing Policy within the Article 31, ethical obligations, prohibits its employees or consultants to possess any kind of economic interest and provides assistance or consultation during a bidding or purchasing transaction.

**Supportive Documentation**

SD 1-6 Agreements
The authority and final responsibility for curriculum development and approval, student selection, faculty selection and administrative matters must rest within the sponsoring institution.

The UPRSDM is in compliance with this standard.

The UPRSDM Administration

An appropriate Administrative structure has evolved to facilitate delivery of the integrated curriculum as well as the research and service components of the School. The Dean receives advice from the Standing Committee and the Administration Committee. The Associate Dean oversees the Assistant Dean for Academic Affairs, Assistant Dean for Research, other Assistant’s Deans of the UPRSDM and the three Department Directors. The Ecological Sciences Department and the Restorative Sciences Department has two Section Chiefs and the Surgical Sciences Department has four Section Chiefs. The Section Chiefs respond to Departmental Directors and each faculty member belongs to one department and responds also to a Section Chief. The curriculum development starts every semester at the departmental level with administrative evaluation of courses. (SD 1-7.1 SDM Organizational Chart; SD 1-7.3 Curriculum Committee Membership Roster).

The Curriculum

There are several levels of curriculum development and approval. Major changes such as the creation of a new academic program begin at the department level and must be approved by the campus and university system academic and administrative governing bodies. Minor changes are approved by the Deanship for Academic Affairs of each campus. The final authority for approval of new programs resides with the Governing Board of the University of Puerto Rico according to Certification 64 (2018-2019) Rules for the Creation of Academic Programs in the University of Puerto Rico. This new certification assures the formal integration of indicators of excellence from the design stages up to the implementation of academic initiatives. Once created by the university, all programs must be licensed by the Puerto Rico Council on Education. The Office of UPR President is responsible for requesting the Council’s licensing of newly approved programs. Exhibit 1.19 depicts the curriculum development and approval process of new programs at the MSC.

Student Selection

Student selection is the responsibility of the Admissions Committee of the UPRSDM, a standing committee whose responsibilities are established in the UPRSDM Bylaws, Admission flowchart and committee membership (SD 1-7.4A UPRSDM Bylaws; SD 1-7.4B Admissions flowchart). The Admissions Office of the MSC screens all applications to the predoctoral and post-doctoral programs to assure they are complete and that candidates meet the established requirements. The records of candidates who meet the requirements are referred for evaluation to the school Admissions Committee for the final selection decision.
Faculty Selection

The recruitment process is initiated at the department level. Candidates interested in becoming faculty members of the UPRSDM must submit a letter of intent to the Dean or Department Chair, who refers them to the appropriate department Personnel Committee for consideration. The duties and responsibilities of personnel committees concerning the evaluation of potential candidates for academic appointments are established in the *UPR General Bylaws*. The Department Personnel Committee evaluates the interested candidate, verifies that he/she is qualified for the available position, conducts interviews, and prepares a report based on the candidate’s experience and credentials. The committee submits the report to the department chair, who makes a recommendation to the Dean. The Dean forwards all documents to the School Personnel Committee that verifies that the candidate is qualified for the available position and that the selection process has been fair and unbiased. The School Personnel Committee then submits its recommendation to the Dean. The Dean recommends candidates for appointment to the Chancellor and the Administrative Board, who have the final authority over the appointment. (SD 1-7.5)
Faculty research committee membership for the past two years; (SD 1-7.6 Job description for the Dean of the Dental School).

**Administrative Matters**

As stated in the *UPRSDM Bylaws*, decisions concerning major administrative matters must be approved by the Administration Committee (SD 1-7.4A UPRSDM Bylaws). Changes in department organization or creation of new programs must be approved by the Academic Senate of the MSC and the Governing Board (*UPR General Bylaws*).

The organizational charts of the University of Puerto Rico, as well as of MSC (SD 1-7.2 MSC Organizational Chart) and the UPRSDM are included (SD 1-7.1 SDM Organizational Chart). These show the administrative and organizational levels of the school, campus, and university system.

**Faculty Governance**

The UPR Academic Senate is the voice of the academic and administrative faculty working transparently with the university administration to advance the vision and direction of the institution. Relying on faculty participation in its committee structure, the senate promotes shared governance. Informed by dialogue among constituent groups, the senate encourages thoughtful deliberation on campus and within its elected representative membership. The Academic Senate assures quality in research, creative activity, teaching, and service while exercising responsibility for maintaining and improving rigorous standards throughout the curriculum. The senate is a strong advocate for competitive compensation, adequate benefits, and an inclusive, equitable work environment conducive to academic achievement. The Academic Senate vigorously champions freedom of thought and expression as the basic tenet of the academic environment at UPRSDM. The senate thrives only through the active participation of its constituency: the academic and administrative faculty of UPR.

**Supportive Documentation**

SD 1-7.1 SDM Organizational Chart  
SD 1-7.2 MSC Organizational Chart  
SD 1-7.3 Curriculum Committee Membership Roster  
SD 1-7.4A UPRSDM Bylaws  
SD 1-7.4B Admissions flowchart  
SD 1-7.5 Faculty research committee membership for the past two years  
SD 1-7.6 Job Description for the Dean of the Dental School
The dental school must be a component of a higher education institution that is accredited by a regional accrediting agency.

The UPRSDM is in compliance with this standard.

The UPRSDM is a unit of the MSC. It is one of the six schools that comprise the campus, which are: School of Medicine, School of Pharmacy, School of Dental Medicine, School of Health Professions, School of Nursing, and the Graduate School of Public Health. In addition, the MSC has four support deanships: Academic Affairs, Student Affairs, Research and Administration. The most recent license to operate as a higher education institution was granted to the University of Puerto Rico by the Puerto Rico Council on Higher Education (now Puerto Rico Council on Education) on August 2, 2007 Certification 2007-097. The MSC has been accredited continuously by the Middle States Commission on Higher Education since 1949. It was last reaccredited in 2011 (next Self-Study Evaluation: 2021). Last reaffirmed on June 27, 2019 (SD 1-8.1 Institution Accreditation Certification).

Supportive Documentation

SD 1-8.1 Institution Accreditation Certification

The dental school must show evidence of interaction with other components of the higher education, health care education and/or health care delivery systems.

The UPRSDM is in compliance with this standard.

The UPRSDM engages with other colleges, departments and programs within the University in terms of collaborative research, service on University-wide committees, and graduate student supervision. The collaborative research activities are summarized in Standard 6. The UPRSDM interacts with other components of the health care delivery system, community organizations, other local components of higher education, and USA institutions of higher education.

Health Care Delivery System

The MSC of the UPR and the Department of Health, the Puerto Rico Medical Center Administration and the San Juan Municipal Government have written agreements by which student doctors of medicine, dental medicine, and other health related professions use the University District Hospital, University Pediatric Hospital, and the San Juan City Hospital, as clinical sites. The first two are operated by the Puerto Rico Department of Health, while the San Juan City Hospital is operated by the San Juan City Government. Specifically, the school uses those sites for the training of predoctoral student doctors in hospital-based dentistry and post-doctoral Pediatric Dentistry, Oral and Maxillofacial Surgery, Prosthodontics, and General Practice residents.
Community Service

There are nine (9) extramural centers located throughout the island. These include: the Council of Integral Family Health Services of Loíza, the Corporation of Health Services and Advanced Medicine of Cidra and Las Piedras, Metropolitan Hospital in San Germán, Health Department of Puerto Rico Special Care Center for the Disable in Bayamón, UPR Center at Carolina and Veteran Hospital of San Juan, the Migrant Health Center of Mayagüez, and the Health Council of the Community of the Playa de Ponce.

Exhibit 1.20 Extramural Centers Associated with the UPRSDM

<table>
<thead>
<tr>
<th>Center</th>
<th>Location</th>
<th>Affiliation agreement duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Council of Integral Family Health Services</td>
<td>Loíza</td>
<td>May 4, 2018 to May 4, 2021</td>
</tr>
<tr>
<td>Corporation of Health Services and Advanced</td>
<td>Cidra</td>
<td>February 23, 2018 to February 23, 2021</td>
</tr>
<tr>
<td>Medicine</td>
<td>Las Piedras</td>
<td>February 23, 2018 to February 23, 2021</td>
</tr>
<tr>
<td>Corporation of Health Services and Advanced</td>
<td>Humacao</td>
<td>February 23, 2018 to February 23, 2021</td>
</tr>
<tr>
<td>Medicine</td>
<td>Yabucoa</td>
<td>February 23, 2018 to February 23, 2021</td>
</tr>
<tr>
<td>Migrant Health Center of Mayagüez</td>
<td>Mayagüez</td>
<td>May 8, 2018 to May 8, 2021</td>
</tr>
<tr>
<td>Health Council of the Community of the Playa de Ponce</td>
<td>Ponce</td>
<td>February 6, 2017 to February 6, 2020</td>
</tr>
<tr>
<td>University of Puerto Rico Hospital in Carolina Dental Clinic</td>
<td>Carolina</td>
<td>Annually</td>
</tr>
<tr>
<td>Veteran Hospital of San Juan</td>
<td>San Juan</td>
<td>March 2022</td>
</tr>
</tbody>
</table>

The fourth-year student doctors and pediatric dentistry residents also has the opportunity of a rotation at Colegio San Gabriel, a non-for-profit catholic institution specialized in providing education and support services to hearing-impaired children. The third-year dental student doctors have a community service rotation with the Puerto Rico Innovation in Dental Education (PRIDE Project) with special needs patients and underserved population in a collaboration with the “Viva Carolina Project” of Carolina Municipality. The UPRSDM has affiliation agreements with these entities.

Other Components of Higher Education

The faculty of the UPRSDM actively participates in the governing boards of the MSC and in numerous campus and system-level committees. Four members of the faculty are elected to the Campus Academic Senate. The appointment of faculty to campus committees provides an opportunity for close interaction with faculty of other schools and active participation in the decision-making process of the campus, as well as the University System. The following list represent some of the committees were UPRSDM faculty participates:
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- Medical Sciences Campus Administrative Board
  - Dr. José R. Matos – Interim Dean

- Committee on Educational Integration and Planning
  - Dr. Elaine Pagán- Interim Associate Dean

- Medical Sciences Campus Academic Senate:
  - Dr. José R. Matos – Interim Dean
  - Dr. Noel J. Aymat
  - Dr. Aileen Torres
  - Dr. Nilda Sánchez
  - Dr. Dunia Rodríguez

- Institutional Planning and Development Committee
  - Dr. José R. Matos— Interim Dean

- Institutional Assessment Committee
  - Dr. Damaris Molina – Interim Assistant Dean for Academic Affairs and Academic and Institutional Assessment Director

Our School members in the Academic Senate (with the exception of the Dean) can be selected to represent the MSC on the University Board and the Governing Board

**Higher Education Related Organizations**

The UPRSDM is a member of the American Dental Education Association (ADEA) and the American Association for Dental Research. The school encourages attendance to the Annual Convention of the ADEA and AADR, as well as to other group meetings. A member of our faculty is a member of the Council of Faculties of ADEA. The Dean participates regularly in the ADEA deans’ meetings.

Interaction between the UPRSDM and other USA higher education institutions in the area of research has been established by means of formal agreements or letters of collaboration (Agreements available on-site). These include Pittsburg Institute for Clinical Research Education (July, 2017), University of Pittsburgh - of the Commonwealth System of Higher Education (July, 2018), and University of West Indies at Mona, Kingston Jamaica (August, 2016). Through these collaborations, the school has established faculty exchange agreements to offer courses or seminars in the various specialty areas. The faculty of UPRSDM also have cross disciplinary research projects (SD 1-9.3 List of cross-disciplinary faculty research)
Interprofessional

The core curriculum of UPRSDM dental education program prepares the dental students to function collaboratively on health care teams that include other health professionals. In 2015, UPRSDM started a project supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number D85HP28500 titled Puerto Rico Innovation in Dental Education (PRIDE) for a grant amount $1,684,465.00. The PRIDE project has as its main purpose to shape pre-doctoral dental students to become primary care dentists with the empathy and skills necessary to provide adequate care to the underserved population. PRIDE provides training to pre-doctoral students on an integrated community based Interprofessional education program. Collaborative agreements have been established and maintained to assure integration and participation with the community. The collaborative agreement with the Carolina Municipality Government provides an opportunity to expand the traditional delivery of care of the trainees in a community field experience by using an existing mobile van (medical) that travel to rural areas and nursing homes.

Other memorandums of understanding that has been established include the University District Hospital (UDH) Dental Department, the Hospital of the University of Puerto Rico, at Carolina and the Program “Salud, Alegría y Seguridad, Calidad de Vida en la Edad de Oro" (SAS). This last one provides medical and other services to the geriatric population of the public housing system in Puerto Rico. Through these collaborations, our students offer oral cancer screenings, oral health promotion, and oral health care services to medically compromised patients. These collaborations allow dental students to have rotations with Special Needs Patients within the hospital dental clinic and the community.

As a result of the PRIDE project initiative, the UPRSDM predoctoral program curriculum was reviewed to integrate the community-based, interprofessional experiences according to the student level of education. The school has implemented interprofessional learning by stages in the curriculum, exposing the student beginning in the first year and each academic year. These stages from D1 to D4 allows the continuum of learning into the competency level of Interprofessional Education preparing the dental students for collaborative practice. The Schools that are participating in the IPE experiences for dental students are the UPRMSC School of Nursing, School of Pharmacy, School of Medicine and the Physical Therapy Doctoral Program from the School of Health Professions. The exhibit below presents a summary of the IPE experiences by levels in the predoctoral dental curriculum, (SD 1-9.1 List of students interprofessional didactic and clinical instructions rotations assignments). On these processes the faculty has interaction with other faculty members of the academic community in the UPRRCM. (SD 1-9.2 List of cross-disciplinary faculty development program).
Exhibit 1.21 Summary of the IPE experiences by levels in the predoctoral dental curriculum

<table>
<thead>
<tr>
<th></th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Clinical Applications of Dental Skills- PRET7136</td>
<td>Oral Diagnosis and Treatment Planning- EVDI 7265</td>
<td>Comprehensive Care Clinic-PRET 7387</td>
<td>Comprehensive Care Clinic –PRET 7400</td>
</tr>
<tr>
<td></td>
<td>Medicine</td>
<td>Medicine</td>
<td>Pharmacy</td>
<td>Pharmacy</td>
</tr>
<tr>
<td></td>
<td>Pharmacy</td>
<td>Pharmacy</td>
<td>Nursing</td>
<td>Nursing</td>
</tr>
<tr>
<td></td>
<td>Nursing</td>
<td>Introduction to Restorative Dentistry- PRET 7126</td>
<td></td>
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</tbody>
</table>

**EXPOSURE COMPETENCE**

**Supportive Documentation**

SD 1-9.1 List of students interprofessional didactic and clinical instruction rotations assignments
SD 1-9.2 List of cross-disciplinary faculty development programs
SD 1-9.3 List of cross-disciplinary faculty research
- Agreements (Available on site)
STANDARD 2—EDUCATIONAL PROGRAM

2-1 In advance of each course or other unit of instruction, students must be provided written information about the goals and requirements of each course, the nature of the course content and the method(s) of evaluation to be used and how grades and competency are determined.

The UPRSDM is in compliance with this standard.

In advance of each course students are provided with a comprehensive course syllabus as established by institutional policies stated in the UPR Student Bylaws, Articles 2-10. This policy was established through MSC Academic Senate Certifications 028, 1995-1996; 031, 2007-2008; and 078, 2010-2011 under the section of Duties and Responsibilities of the Faculty and Students. These institutional policies state the required syllabus sections and the time frame for its discussion and distribution; they are distributed and discussed with new faculty members during an orientation activity held by the MSC Deanship for Academic Affairs at the beginning of each academic year. The Office of Academic Affairs oversees and monitors the development and availability of course syllabi and department directors oversee the implementation of their corresponding courses.

A Course Syllabus Template was designed to help faculty develop their syllabi. The standardized course syllabi template includes the following sections:

1. General Course Information
2. Course Description
3. Learning Resources
4. Course Goals and Objectives
5. UPRSDM Competencies and CODA Standards Addressed/Supported
6. Methods of Evaluation
7. Course Schedule
8. Specific Class Policies and Procedures
9. Additional information required by the MSC Certification 112, 2014-2015

Professors must prepare, distribute, and discuss the course syllabus with students during the first week of each course. Questions in the student course evaluation form are directed to confirm that professors comply with the institutional requirements for syllabi and their distribution. The Curriculum Committee Course Evaluation Form also includes questions related to compliance with these requirements.

In the first weeks of junior and senior years during the clinical orientation sessions students also receive the Clinic Manual, which contains all the information related to clinic rules and regulations. Competency evaluation policies and guidelines are also distributed and explained in the Competency Criteria and Assessments Manual, which is complementary to the syllabi of courses PRET 7387 Third Year Comprehensive Care Clinic and PRET7400 Comprehensive Care Clinic.
If students do not meet the didactic, behavioral and/or clinical criteria as published and distributed, individual evaluations must be performed that lead to an appropriate decision in accordance with institutional due process policies.

The UPRSDM is in compliance with this standard.

Policies, rules and regulations regarding student academic progress and performance are clearly stated in the Academic Progress and Performance Rules and Regulations (SD 1-3.1B UPRSDM Academic Progress and Performance Regulations). The document is distributed to all admitted students, including advanced placement students, and discussed by the Associate Dean during orientation week. This document is also available at the Office of the Associate Dean for review.

The Academic Progress document is revised frequently to incorporate rules and recommendations needed to respond to curricular change. Any course-specific standards are clearly outlined by the course coordinators in the syllabus. The Office of the Assistant Dean for Academic Affairs maintains a copy of all course syllabi.

Faculty members are responsible for evaluating the performance of all students in their courses based on pre-established criteria outlined in the course syllabi. Course coordinators are responsible for meeting with students who are not meeting the academic and clinical standards and counseling them on their errors or academic disadvantages as soon as these are detected. Special resources, including tutoring and psychological support can be coordinated through the Associate Dean for Academic Affairs as needed. Remedial actions and procedures for each course are specified in the course syllabus. For students with clinical deficiencies the clinical module coordinator in collaboration with the student will design individualized written work plans which may include recruitment of additional patients and performance of additional clinical experiences as described in Section 2.5.3 In cases of students with significant deficiencies and in danger of failing or not completing the courses, the concerns as well as the recommendations are communicated to the students by a letter from the Associate Dean.

The Academic Progress and Performance Committee (APPC) and its Academic Assessment Subcommittees are responsible for monitoring student performance, identifying students with academic deficiencies in one or more courses and providing support as needed.

The Academic Assessment Subcommittees for each class include the coordinators of all running courses. They meet regularly at least once during each trimester and additionally as needed for specific cases to evaluate student progress and make appropriate recommendations based on their findings. Department Directors are responsible to follow-up on the progress/status of students in
each course in their Department. Each department has an academic subcommittee that held meetings with course coordinators that are in administrative evaluation of their courses.

The *Academic Progress and Performance Rules and Regulations* document is explained and included in the incoming students’ package when they enter School and signed as received. Also, the document is discussed during orientations to all groups annually. This document contains the principles and policies related to the evaluation and promotion of the students. The APPC evaluates students at the end of each academic year. Students must meet the academic and professional criteria established in the *Academic Progress and Performance Rules and Regulations* in order to be promoted to the next class or be approved for graduation. If students do not meet these criteria, the APPC may recommend possible actions (e.g., repeating the course and/or year, take a leave of absence, or academic dismissal, among others). Students may appeal a decision of the APPC following the due process described in the *Academic Progress and Performance Rules and Regulations* document. The Dean must approve all committee decisions.

The composition of the APPC is:

1. Associate Dean (who chairs the committee),
2. Assistant Dean for Clinical Affairs
3. Assistant Dean for Student Affairs
4. Three Department Chairs
5. Chief of the Oral Biology Section
6. Assistant Dean for Academic Affair

**Professionalism and Ethics**

Professionalism and ethics are expected and evaluated across all four years of study. Policies regarding student progress and performance (including ethics and professionalism) are stated in the document *Academic Progress and Performance Rules and Regulations*. The commitment to professional behavior is emphasized during the “White Coat Ceremony” at the beginning of the academic year. The Code of Academic Honesty is in place and establish a peer-review process.

An introduction to Professionalism and Ethics is presented the first month of the first year, as part of the course DESP 7117, Introduction to Professional Development I. The course discusses the main bioethics’ principles included in the ADEA Statement on Professionalism in Dental Education and in the ADA Principles of Ethics and Professional Conduct. In the DESP 7117 course, students experience different strategies, including classroom discussions, ethical dilemmas discussions, movies, online and written lectures, and essays, to assist in students grasping a good understanding of the professionalism and ethical expectations of the dental profession. We include the dilemmas, aspects directly related to student behavior and conduct in an academic setting such as: plagiarism, academic dishonesty, use of prescription or illicit drugs, among others.

The defined outcomes and assessment tools for this course include:

- Analyze and comprehend the importance of ethics and the dental professional. (Assignment I, class discussion and Movie Essay)
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- Identify and describe the basic ethical principles (Assignment 1)
- Understand that health is influenced by the social, political and economic context of our society. (Quiz and Movie Essay)
- Recognize the basic laws related to the dental profession. (Assignment 1)
- Explain the importance of the dental health related to general health. (Quiz)
- Recognize the importance of establishing an effective relation between the dental professional and other members of the health team. (Quiz)
- Discuss the dentist’s role in community health and social issues. (Quiz)

At the end of the first month of dental school, students have been assessed in the comprehension of these topics and the expected professional and ethical standards for a student in the UFR School of Dental Medicine. Professional behavior can impact the final grade in any course, including didactic, laboratory, simulation, and clinic courses. The clinic module coordinator provides continuous feedback on student’s professional behavior and the ethics/professionalism competency assessment. The UFR has a Student General Rules and Regulations document that is relevant to this standard. This regulatory document has dispositions regarding student conduct and disciplinary process. The institution has among its regular processes the periodic revision and update of the regulatory documents.

**Substance Abuse**

The UPRSDM follows the institutional MSC policy on Substance Abuse. The policy is outlined and described in the document Rules and Regulations regarding Illegal Drugs, Controlled Substances and Abuse of Alcohol in the UPR. The rules and regulations include a thorough comprehensive outline of the policy and the importance of addressing the issue. It applies to all the academic community in the institution physical facilities or official activities. Drugs and controlled substances are prohibited. Alcohol consumption, selling or distribution is prohibited as well except for very few specific exceptions that are regulated at the Chancellor level. The Medical Sciences Campus is a Smoke Free Campus due to the state Smoke Free Workplaces Law. These Rules and Regulations refer to the UPR General Students’ Rules and Regulations for the process of discipline in case a student does not comply with the university policy. Information regarding the opioid’s national addiction crisis, and the role and responsibilities of the dental professional are now included in DESP 7357.

Additionally, the MSC and the UPRSDM has a support staff of psychologists and counselors to provide guidance and intervention for students that may need assistance. This is discussed further in Standard 4. The Dean recently appointed a Committee for Substance Abuse and Opioids that will attend these matters. The purpose of this initiative is to establish an opioid policy and to raise professional awareness about prescription opioid abuse, Also, the School plans to develop recognition trainings in model opioid prescribing and encourage students, faculty and dentists to educate on safe and effective opioid prescribing for dental pain. A periodic evaluation plan of this topic will also be a task of the committee.

**Students Conduct Within and Outside the UPRSDM and the MSC Campus**
Students conduct within and outside the campus are regulated at the MSC and University level. These rules apply to conduct in the campus.

Currently, students can be subject to disciplinary action if found guilty of a felony with moral turpitude in accordance with the Puerto Rico Criminal Code. Similar language is found in the Students’ General Rules and Regulation of the UPR, section 6.2. Therefore, any conduct that results in a conviction of a felony even outside the campus facilities is within the scope of disciplinary action by the UPRSDM/MSC/UPR.

In the most recent version of the Students Rules and Regulation of the Medical Sciences Campus (under revision) the reference to conduct outside the campus is limited. Article 2.1 establishes that the student will foster the principles of integrity, mutual respect and calm dialogue in his relations with the members of the university community, and the general community” (UPR English translation from Spanish).

There are other rules applicable for topics such as acceptable use of social media and sexual harassment. The policy on sexual harassment and sexual conduct/gender equality issues is mentioned and summarized in every syllabus. The MSC has a Title IX coordinator that addresses all complaints or issues regarding this matter. The MSC adopted a Protocol for the semi-adjustable Use of Social Media (June 15, 2017). This protocol outlines basic ethical principles, referring to the appropriate use, preservation of the institutional image, the prohibition of cyberbullying, use of copyrighted material and intellectual property of the university, confidential patient information, and a process to handle complaints in case of breach of the protocol. The protocol establishes a “Do Not Harm” philosophy regarding social media. Students and faculty to establish separate accounts if there is an institutional need to have presence of a program, school, organization, office in the social media. In the accounts linked to institutional use, commercial, religious or political posts are discouraged.

The UPRSDM is revising the Academic Progress and Performance Rules and Regulations in order to add a new section regarding conduct outside the university facilities. The section requests professional appropriate behavior when the student is wearing an MSC identification or is using scrubs/professional attire that identifies him/her as belonging to the School, Campus or UPR community.

**Supportive Documentation**

SD 1-3.1A Academic Honesty Rules
SD 1-3.1B Academic Progress and Performance Rules and Regulations Process (pages 14 to 15)
Curriculum Management

2-3 The curriculum must include at least four academic years of instruction or its equivalent.

The UPRSDM is in compliance with this standard.

The curriculum consists of four academic years with a total of 4,796 hours of instruction, including 144 hours in elective courses.

Year 1  42 weeks  1,044 contact hours  
Year 2  46 weeks  1,313 contact hours  
Year 3  42 weeks  1,175 contact hours  
Year 4  42 weeks  1,264 contact hours

The Academic and Clinical experiences of the UPRSDM Curriculum are divided into four Academic Tracks (SD 2-3.1 UPRMSC Curriculum Information on Web Page):

**Track A-Biomedical Sciences (CBIO)** includes all biomedical sciences courses; it starts in the beginning of Y1 with the Biochemistry course and runs through the 1st trimester of Y2 with the Pharmacology and Therapeutics and Integration of Biomedical Sciences in Dental Practice.

**Track B-Assessment and Diagnosis (EVDI)** also begins in Y1 with courses such as Human Development and Behavioral Management and runs through Y3 with an advance course in Oral Medicine and Diagnostic Skills including Oral Pathology.

**Track C-Prevention and Treatment (PRET)** includes all pre-clinical and clinical courses, starting in Y1 with Cariology, Preventive Dentistry, and Clinical Applications of Dental Skills, and continuing all through Y4 with the Comprehensive Care Clinic.  
**Track D-Professional Development (DESP)** runs all through the four years of the curriculum and it includes courses related to professional development, research, evidence-based dentistry, and community and extramural clinical experiences.

In addition to these four main tracks, the curriculum includes many elective courses in a diverse spectrum of topics. The Curriculum by Academic Level and Sequence for First Year Entering Class 2019-2020 is located on the UPRMSC webpage. This document states every course and number of hours for each year (1st, 2nd, 3rd, and 4th).

**Supportive Documentation**

SD 2-3.1 UPRMSC Curriculum Information on Web Page  
SD 2-3.2 Curriculum by Academic Level and Sequence  
SD 2-3.3 Academic Schedule for Current Academic Year (Calendars)
The stated goals of the dental education program must be focused on educational outcomes and define the competencies needed for graduation, including the preparation of graduates who possess the knowledge, skills and values to begin the practice of general dentistry.

The UPRSDM is in compliance with this standard.

The mission of the UPRSDM regarding the dental education program states. The School of Dental Medicine of the UPR is a proactive institution of higher education for the formation of dentists of the highest quality, who are sensitive to the needs of their patients and are oriented to comprehensive service to the people of Puerto Rico and the global community, with a Doctor of Dental Medicine program, supplemented by various post-doctoral offerings and an innovative Continuing Education Program. The institution is a leader in research on inequalities in oral and systemic health, fostering critical thinking, intellectual curiosity, and commitment to the needs of people. Interprofessional practice, the integration of the technology in creative endeavors, and the construction of new scientific knowledge regarding the determinants of oral health are seen as a part of a continuing, inclusive, rigorous, respectful, collaborative, and sustainable process.

In fulfillment of its mission, the UPRSDM concentrates on teaching, research, and service. The UPRSDM is committed to train specialists in the field of Dentistry that will contribute to the improvement of the oral health of the population of Puerto Rico, Ibero-America, and the Caribbean. This is accomplished by preparing the graduate who, as a dental health practitioner, has acquired the knowledge, skills, and values needed to begin independent, unsupervised dental practice and assume the responsibility for the protection and improvement of human life and health. The UPRSDM has developed and implemented a continuous improvement educational program informed by the CODA standards, UPRSDM competencies, and evidence-based practice. This mission is complemented by Advanced Education Programs and a solid Continuing Education Program (CE) directed to dentists of Puerto Rico, the Caribbean Basin, and Ibero-America.

As part of its mission, the UPRSDM fosters the search of scientific knowledge and the improvement of the practice of the profession through research in dental sciences. Services are aimed at fostering the well-being of the patient and the community, and at strengthening academic programs, in addition to supporting the Institution’s research efforts. These services are offered at the primary, secondary, and tertiary levels, both intramurally and extramurally with attention to prevention and education. The development of the mission of the UPRSDM is framed within an academic environment which promotes a high degree of respect towards human values and the attainment of social, ethical and financial progress of the human being of the present and of the future which is demonstrated by its service to the community of Puerto Rico.

The UPRSDM abide by the ADA definition of general practice dentistry: "evaluation, diagnosis, prevention and/or treatment (nonsurgical, surgical or related procedures) of diseases, disorders and/or conditions of the oral cavity, maxillofacial area and/or the adjacent and associated structures and their impact on the human body; provided by a dentist, within the scope of his/her education, training and experience, in accordance with the ethics of the profession and applicable law". The
UPR – School of Dental Medicine  
Predoctoral Program Self-Study Report 2020

UPRSDM Curriculum is based on 23 competencies which define the knowledge, skills, and values a graduate must possess to practice general dentistry. Competencies are based on dentists’ roles, responsibilities, and frequently performed tasks for the current practice of general dentistry. The Competencies for the New Dentist were revised in 2017. They follow the format recommended by the American Dental Education Association (ADEA). Each course syllabus distributed to students maps the competencies that the specific content of the course will develop to the course outcomes. The competency statements are distributed to all students at the beginning in the freshmen orientation period.

Supportive Documentation

SD 1-1.1A Mission and Goals Statement  
SD 2-4.1 UPRSDM Competency Document

2-5 The dental school must employ student evaluation methods that measure the defined competencies.

The UPRSDM is in compliance with this standard.

Students’ progress toward competency is an ongoing process that is assessed throughout the four years of the curriculum. Each learning experience in the curriculum contributes to the acquisition of knowledge and skills and to the development of the necessary values to achieve competency. Although our students have early introduction to clinical experiences during their first and second years, the integration of biomedical, clinical and professional development takes place in the comprehensive care clinics of the third and fourth years. For that reason, the assessment of competency development and achievement in clinical procedures, problem solving, clinical reasoning, professionalism, ethical decision-making and communications skills takes place during the clinical courses in the third and fourth years of the curriculum, respectively:

- PRET 7387 Third Year Comprehensive Care Clinic  
- PRET 7400 Comprehensive Care Clinic  
- DESP 7467 Dental Practice Externship.

These comprehensive courses have very specific experiences, requirements, assessments and criteria to ensure competence. Detailed information on all student experiences, requirements, assessments and criteria in these courses is provided in the course syllabi and manuals which are provided at the beginning of the courses. Course documents are provided for reference on the Blackboard platform for both students and all clinical faculty members. In courses PRET 7387 and PRET 7400, the students are divided into five (5) groups or clinic modules. Each module has a Module Coordinator and assigned faculty who evaluate the dental procedures, providing constant supervision to the students. The modules also have assigned dental auxiliary personnel. The students are required to attend intensive orientation activities related to all the course requirements in the first weeks of August. The formative assessment of competencies is contained during daily clinical works of students. The summative assessment of competencies occurs in the trimestral
evaluations, specific competency exams and portfolio evaluations. In addition to the clinical courses, in the third and fourth years the students also take some core and elective courses, also with specific requirements and assessments.

Students in the UPRSDM are continuously supervised by faculty and receive verbal feedback on their academic and clinical performance. At each stage of their academic and clinical development there are many numbers of evaluation methods that can be used, depending on the competencies being assessed. Using only one or two methods to assess students’ attainment of the wide variety of knowledge, skills, and abilities supporting dental competencies would not be efficient or effective. In the broad sense, assessment involves the gathering of information to determine the knowledge, skills, abilities, and performance levels of students or candidates for graduation. Assessment is designed to gather this information for feedback, diagnostic purposes, and identifying successful attainment of competence. Clinical competency assessments evaluate multiple parameters including knowledge (including biomedical application), technical skills, professionalism, self-evaluation, and clinical practice. Graded procedures include clinical patients, simulated patients, written examinations, laboratory examinations, and individual projects and assignments. Exhibit 2.1 lists the types of assessments utilized in the UPRSDM to assess level of competency in different areas of the curriculum. Specific methods and criteria for evaluating each clinical competency assessment are reviewed annually, revised where necessary, and provided to faculty, students, and staff. The UPRSDM Competency Document is located at each department office. It is also provided to students during orientation each year to discuss with the students the upcoming clinical competency assessments. Failed attempts at competency are remediated to correct the deficiencies.

Exhibit 2.1 Mapping of Types of Assessments

<table>
<thead>
<tr>
<th>AREA</th>
<th>O</th>
<th>SA</th>
<th>IA</th>
<th>SIM</th>
<th>OSCE</th>
<th>PICO</th>
<th>WS</th>
<th>WA</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Procedures</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Clinical Reasoning</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Professionalism</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethical Decision Making</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Communication Skills</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Key:

O Observation
SA Self-Assessment
IA Independent Assessment
SIM Simulation
OSCE Objective Structured Clinical Examination
PICO Problem, Intervention, Comparison, Outcome [research question]
WS Work Samples
WA Written Assignments
Exhibit 2.2 lists all clinical competency assessments in the third and fourth years of the UPRSDM curriculum, mapped to the primary CODA standards and UPRSDM competency statements which each support. Third year assessments evaluate the progress towards the development of competency while fourth year Competency Exams assess competency achievement. The protocols, guidelines, and rubrics utilized for conducting and evaluating these assessments are described in detail in the Syllabus and the Manual of the PRET 7387 and PRET 7400 courses. These documents are distributed to the students during the orientation at the beginning of the 3rd and 4th Year and are also available in Blackboard.

Exhibit 2.2 Clinical Competency Assessments by UPRSDM Competency and CODA Standard.

<table>
<thead>
<tr>
<th>SDM Competency Statement (CODA Standard)</th>
<th>Competency Development Assessments 3rd Year</th>
<th>Type*</th>
<th>Competency Exams 4th Year</th>
<th>Type*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Apply the concepts of lifelong learning, self-assessment, and critical thinking as an integral part of professional behavior and comprehensive patient care. (2-10, 2-11)</td>
<td>Portfolio (SA)</td>
<td>SA</td>
<td>Portfolio</td>
<td>SA</td>
</tr>
<tr>
<td>2. Access, critically appraise, and communicate the scientific literature in order to provide evidence-based patient care. (2-22)</td>
<td>Portfolio (SA)</td>
<td>SA</td>
<td>Portfolio OSCE</td>
<td>SA CBE</td>
</tr>
<tr>
<td>3. Recognize professional, ethical, regulatory, and legal issues associated with the practice of dentistry. (2-18, 2-21)</td>
<td>Portfolio (SA)</td>
<td>SA</td>
<td>Written Examination Essay Case Based</td>
<td>CBE</td>
</tr>
<tr>
<td>4. Apply the basic principles and philosophies of practice management to deliver and perform successfully as a leader in an oral health care team. (2-19)</td>
<td>Portfolio (SA)</td>
<td>SA</td>
<td>Portfolio Module Supervision Examination in Clinic</td>
<td>SA CCA</td>
</tr>
<tr>
<td>5. Apply the basic principles of behavioral sciences as they pertain to patient-centered approaches for promoting, improving, and maintaining oral health. (2-16)</td>
<td>Portfolio (SA)</td>
<td>SA CBE</td>
<td>OSCE</td>
<td>CBE</td>
</tr>
<tr>
<td>6. Communicate and collaborate with different health care professionals to manage patients from a diverse population and to function in a multicultural work environment. (2-17, 2-20)</td>
<td>Portfolio (SA)</td>
<td>SA</td>
<td>OSCE</td>
<td>CBE</td>
</tr>
<tr>
<td>7. Assess, interpret, and integrate findings for the diagnosis of oral conditions in patients, including those with special needs. (2-24a, 2-25)</td>
<td>Presentation of treatment plan to patient for consent after case presentation to faculty (CCA). Portfolio (SA)</td>
<td>CCA</td>
<td>Portfolio Clinical Examinations : Adult Case Presentation</td>
<td>SA CCA</td>
</tr>
<tr>
<td>SDM Competency Statement (CODA Standard)</td>
<td>Competency Development Assessments 3rd Year</td>
<td>Type*</td>
<td>Competency Exams 4th Year</td>
<td>Type*</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>---------------------------------------------</td>
<td>-------</td>
<td>---------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Case presentation of ASA II patient with multiple clinic needs with patient present. Diagnosis, treatment plan, education, and prophylaxis in single patient visit.</td>
<td>CCA</td>
<td>with Patient Present Case Presentation of a Special Needs Patient Pediatric Case Presentation with Patient Present</td>
<td>CCA</td>
<td></td>
</tr>
<tr>
<td>8. Assess risk and screen for head and neck cancer. (2-24b)</td>
<td>Presentation of treatment plan to patient for consent after case presentation to faculty. Portfolio Case presentation of ASA II patient with multiple clinic needs with patient present. Diagnosis, treatment plan, education, and prophylaxis in single patient visit.</td>
<td>CCA</td>
<td>Clinical Examinations: Adult Case Presentation with Patient Present</td>
<td>CCA</td>
</tr>
<tr>
<td>9. Apply biomedical science knowledge relevant to oral health care. (2-15)</td>
<td>Presentation of treatment plan to patient for consent after case presentation to faculty. Portfolio OSCE Clinical Examination: Hard Tissue Oral Surgery Soft tissue oral Surgery</td>
<td>CCA</td>
<td>SA CBE CCA</td>
<td>SA CBE CCA</td>
</tr>
<tr>
<td>10. Develop and discuss a comprehensive treatment plan, establish prognosis, and gather informed consent for patients. (2-24a)</td>
<td>Presentation of treatment plan to patient for consent after case presentation to faculty. Portfolio Case presentation of ASA II patient with multiple clinic needs with patient present. Diagnosis, treatment plan, education, and prophylaxis in single patient visit.</td>
<td>CCA</td>
<td>Portfolio Clinical Examinations: Adult Case Presentation with Patient Present (Presentation of Treatment Plan to Patient for consent after case presentation to faculty) Pediatric Case</td>
<td>SA CCA</td>
</tr>
</tbody>
</table>
### SDM Competency Statement (CODA Standard) | Competency Development Assessments 3rd Year | Type* | Competency Exams 4th Year | Type*  
--- | --- | --- | --- | ---  
11. Recognize the complexity of patient treatment and identify when referral is indicated. (2-24c) | Presentation of treatment plan to patient for consent after case presentation to faculty. Portfolio Case presentation of ASA II patient with multiple clinic needs with patient present. Diagnosis, treatment plan, education, and prophylaxis in single patient visit. | CCA | OSCE Clinical Examinations: Adult Case Presentation with Patient Present Case Presentation of a Special Needs Pediatric Patient Pediatric Case Presentation with a Patient Present | CBE CCA  
12. Manage local anesthesia, pain, and anxiety, and consider the impact of prescribing practices and substance use disorder. (2-24e) | Portfolio Extraction of one tooth. | SA CCA | OSCE (substance abuse) Clinical Examinations: Oral Surgery Hard and Soft Tissue Examinations | CBE CCA  
<table>
<thead>
<tr>
<th>SDM Competency Statement (CODA Standard)</th>
<th>Competency Development Assessments 3rd Year</th>
<th>Type*</th>
<th>Competency Exams 4th Year</th>
<th>Type*</th>
</tr>
</thead>
</table>

14. Communicate and manage dental laboratory procedures. (2-24g) | Portfolio OSCE Will include Prosthodontics and Implants | SA CBE | OSCE (Orthodontics ) OSCE Laboratory Examination: RPD Design and Prescription | CBE CBE TA |
15. Manage periodontal therapy. (2-24i) | Portfolio Root planning and scaling 1 quadrant. Periodontics 3-weeks recall. | SA CCA CCA | Clinical Examinations: | CBE |
<table>
<thead>
<tr>
<th>SDM Competency Statement (CODA Standard)</th>
<th>Competency Development Assessments 3rd Year</th>
<th>Type*</th>
<th>Competency Exams 4th Year</th>
<th>Type*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>16.</strong> Manage pulpal and periapical therapy. (2-24j)</td>
<td>Portfolio OSCE Laboratory Examination: <em>Endodontic Typodont Tooth</em></td>
<td>SA CBE TA</td>
<td>Clinical Examination <em>Endodontic treatment, anterior or premolar tooth</em></td>
<td>CCA</td>
</tr>
<tr>
<td><strong>17.</strong> Manage oral mucosal and osseous disorders. (2-24k)</td>
<td>Portfolio</td>
<td>SA</td>
<td>Written Examination <em>Case Based Slides</em></td>
<td>CBE</td>
</tr>
<tr>
<td><strong>19.</strong> Manage malocclusion and dental space discrepancies. (2-24n)</td>
<td>Portfolio OSCE</td>
<td>SA CBE</td>
<td>OSCE (Orthodontics)</td>
<td>CBE</td>
</tr>
<tr>
<td><strong>20.</strong> Apply health promotion and disease prevention principles in oral health care. (2-24d)</td>
<td>Portfolio Diagnosis, treatment plan, education, and prophylaxis in single patient visit.</td>
<td>SA CCA</td>
<td>Portfolio Clinical Examinations: <em>Active Recall Visit Pediatric Patient Recall Visit</em></td>
<td>SA CBE</td>
</tr>
<tr>
<td><strong>21.</strong> Evaluate the outcomes and prognosis of dental care. (2-24o)</td>
<td>Portfolio Root planning and scaling 1 quadrant. Periodontics 3-weeks recall.</td>
<td>SA CCA CCA</td>
<td>Portfolio (self-assessment of cases) Clinical Examinations: <em>Active Recall Patient Completed Recall Patient</em></td>
<td>SA CCA</td>
</tr>
</tbody>
</table>
Student clinical performance is supervised and monitored daily by the clinical module coordinators and clinical faculty who provide continuous feedback. Clinical performance is evaluated regularly, every three months (exception is trimester when student is in course DESP 7467 extramural rotation). The guidelines and rubrics utilized during these trimestral evaluations are described in detail in the syllabus and the manual of the PRET 7400 course.

The clinic module coordinator and examination coordinator authorize the students to take the competency examinations once they feel that the student is ready, on an individual basis. Students are required to evidence consistent semi-adjustable performance prior to taking the corresponding clinical examinations. It is expected that each student presents clinical work in each competency during each three-month period that is evaluated. They must have enough experiences in all areas to demonstrate a pattern of performance during each trimester in each competency (consistency). To be considered eligible to take the 4th Year competency examinations a student must have previous clinical experiences and fourth year trimestral evaluations with a performance of at least 4 in the corresponding competency as defined in the Syllabus and the Manual of the PRET 7400 course. For the competencies related to operative procedures, the students must have a trimestral evaluation with a performance at least of 5.

The students receive communications regarding their progress throughout the year in the clinical courses via Blackboard, institutional official communications by email or letters, module coordinator and faculty verbal and written feedback, trimester competency evaluation meetings, written evaluation forms, written meeting documentation forms, written work plans to help correct deficiencies in performance, and meetings with the principal and module coordinators. The module coordinators meet with students who present deficiencies in the development of their competencies to design and discuss a written work plan that the student should follow with the purpose of correcting these deficiencies. The work plan may include, among other things, the recruitment of additional patients and performance of additional clinical experiences. In cases of students with significant deficiencies and in danger of failing or not completing the courses, the concerns as well
as the recommendations are communicated to the students by a letter from the Associate Dean. Exhibits 2.3 and 2.4 summarize the junior and senior year requirements for promotion and graduation, respectively. These requirements are designed to ensure graduates are competent and ready to begin unsupervised practice as a general dentist.

### Exhibit 2.3 Requirements for Promotion by Clinical Course

<table>
<thead>
<tr>
<th>Type</th>
<th>Clinical Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>For promotion</td>
<td>PRET 7387 – Third Year Comprehensive Care Clinic</td>
</tr>
<tr>
<td></td>
<td>• Summary Form for First Evaluation of Portfolio</td>
</tr>
<tr>
<td></td>
<td>• Summary Form for Second Evaluation of Portfolio</td>
</tr>
<tr>
<td></td>
<td>• Summary Form for Third Evaluation of Portfolio</td>
</tr>
<tr>
<td></td>
<td>• Certificate of Attempts for Promotion Examinations</td>
</tr>
<tr>
<td></td>
<td>• Summary Form for Evaluations of Development of Competencies</td>
</tr>
<tr>
<td></td>
<td>• Third Year Chart Review Log</td>
</tr>
<tr>
<td></td>
<td>PRET 7400 – Comprehensive Care Clinic</td>
</tr>
<tr>
<td></td>
<td>• Summary Form for First Evaluation of Portfolio Cases/Reflections</td>
</tr>
<tr>
<td></td>
<td>• Summary Form for Second Evaluation of Portfolio Cases/Reflections</td>
</tr>
<tr>
<td></td>
<td>• Summary Form for Third Evaluation of Portfolio Cases/Reflections</td>
</tr>
<tr>
<td></td>
<td>• Competency Examinations and Health Promotion Activities Clearance Form</td>
</tr>
<tr>
<td></td>
<td>• Certificate of Attempts for Competency Examinations</td>
</tr>
</tbody>
</table>

### Exhibit 2.4 Requirements for Graduation for the UPRSDM

<table>
<thead>
<tr>
<th>Type</th>
<th>School Of Dental Medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Academic Dean</td>
</tr>
<tr>
<td>For Graduation</td>
<td>• Competency Examinations and Health Promotion Activities Clearance Form</td>
</tr>
<tr>
<td></td>
<td>• Certificate of Attempts for Competency Examinations</td>
</tr>
<tr>
<td></td>
<td>• Complete the May Assessment of Professionalism with his/her module coordinator.</td>
</tr>
<tr>
<td></td>
<td>• Fourth Year Minimum Completed Comprehensive Patient Treatment Plans by Type</td>
</tr>
<tr>
<td></td>
<td>Associate Dean</td>
</tr>
<tr>
<td></td>
<td>• Complete the Student’s Administrative Discharge</td>
</tr>
<tr>
<td></td>
<td>• Have approved the NBDE parts I and II</td>
</tr>
<tr>
<td></td>
<td>• Have all his/her grades in the Registrar’s system.</td>
</tr>
</tbody>
</table>
### School Of Dental Medicine

<table>
<thead>
<tr>
<th>Type</th>
<th>Academic Dean</th>
<th>Associate Dean</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Fourth Year Minimum Completed Comprehensive Patient Treatment Plans by Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Have a minimum of 144 elective courses hours.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Complete the PRET 7387 – Third Year Comprehensive Care Clinic Survey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Complete the PRET 7400 – Comprehensive Care Clinic Survey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Complete the UPRSDM-UPR Graduating Students Survey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Complete the Job Placement Questionnaire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Complete the ADEA Survey of Dental School Senior Graduates</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All faculty members participating in a course can assess students’ performance in their corresponding area and/or discipline according to the established evaluation criteria and procedures described in each course syllabus. Calibration of faculty members, including clinical course coordinators at extramural and special clinical sites, is provided periodically at faculty meetings, department section meetings and online modules. For faculty who were unable to attend specific required calibration sessions online courses were created and located on the Learning Management System of the Medical Sciences Campus and UPRSDM utilize. The online modules are on the Blackboard platform and could always be accessed by faculty. The evaluation of students’ clinical performance and level of competency is performed using rubrics that specifically describe all procedures and criteria to ensure that students receive an objective assessment of their skills. Clinic course coordinators schedule monthly meetings with module section coordinators for informative and calibration issues. All clinical rubrics related to clinical skills are contained on DESP 7467, PRET 7387 and PRET 7400 syllabus and manuals.

All students are evaluated using rubrics that define how to evaluate the procedure or skills. Since the first year in the pre-doctoral program, students are exposed to traditional assessment techniques such as: multiple choice tests, quizzes, mid-terms and final exams in those themes that are applicable. Also, rubrics to assess the cognitive gain of the students in small group’s discussions, problem-based learning and field activities are included in the courses. In the third and fourth year of the pre-doctoral program, comprehensive trimester evaluations are performed. Every trimester each student is evaluated about their performance in the clinic. For each evaluation a rubric is used, all rubrics related to clinical skills are contained on DESP 7467, PRET 7387 and PRET 7400 syllabus and manuals. Each professor and student work with the same rubric and later the results are discussed in a group that includes the students’ input. After the discussion, a work plan is established. No deficiencies- continue as scheduled.
Exhibit 2.5 Model for Competency Development – Clinical Courses

Supportive Documentation

SD 2-5.1 Calibration Courses and Meeting Tables
- Courses Syllabi PRET 7387 (pages 17 to 18), PRET 7400 (pages 12 to 14) and DESP 7467 (pages 5 to 6)
Students must receive comparable instruction and assessment at all sites where required educational activity occurs through calibration of all appropriate faculty.

The UPRSDM is in compliance with this standard.

UPRSDM faculty supervises clinical and educational experiences of the students in all sites including, extramural sites. The UPRSDM employs various methods to calibrate clinical faculty. These include meetings, conferences, workshops, participation in pre-clinical courses and clinical courses, access to course material on Blackboard, preparation and distribution of rubrics, online calibration modules, free continuing education courses, participation in trimestral competency assessment meetings, and participation as graders in the clinical and/or laboratory examinations. These resources are available to all faculty members. Each coordinator from the extramural center receive calibration sessions in which online calibration modules content are discussed, including syllabus content and rubrics. The purpose of calibration is to ensure standardization of all clinical faculty when evaluating student performance. The goal is to ensure precision and accuracy of grading student performance. Faculty attendance of calibration activities documents are kept in the departments. A copy is also filed by the Assistant Dean for Academic Affairs.

Calibration training strategies include:
- Presential calibration trainings during the year
- Online calibration modules

The Department Chairs monitor the regular calibration compliance of their faculty. The Department contacts any faculty member who is not in compliance and keeps track until the faculty member completes the task. If a faculty member does not meet the standard of calibration, must retake the training until approval.

Supportive Documentation

SD 2-5.1 Calibration Courses and Meeting Tables
SD 2-6.1 Training Materials for Faculty Calibration Training-Modules
SD 2-6.2 Outcomes of Faculty Calibration Training-Interval of Assessment

Biomedical, behavioral and clinical science instruction must be integrated and of sufficient depth, scope, timeliness, quality and emphasis to ensure the achievement of the curriculum’s defined competencies.

The UPRSDM is in compliance with this standard.

The UPRSDM curriculum is designed to integrate biomedical, behavioral, and clinical sciences. In order to facilitate this integration, the curriculum is organized around four curricular areas (Tracks). These areas were defined according to the knowledge, skills, and values needed to achieve the competencies of a general dentist. Biomedical Sciences instruction includes fundamental knowledge of structure, function, mechanism, and disease development in the human
body. Assessment and Diagnosis comprises knowledge, skills, and values related to the assessment of normal structures and diagnosis of abnormalities, diseases, and dysfunctions of the orofacial complex in children, adolescents, adults, and geriatric and special needs patients. Prevention and Treatment includes knowledge, skills, and values related to the health promotion, prevention, and treatment of abnormalities, diseases, and dysfunctions of the orofacial complex of children, adolescents, adults, and geriatric and special needs patients. Professional Development and Management of the Dental Practice is related to the development of individuals as oral health professionals and their role in the community. It includes, among others, the concepts of practice management, professional, ethical and legal concepts; dental utilization, infection control and risk management, and supervision skills.

**Biomedical Sciences**

The UPRSDM faculty participate actively in the biomedical sciences courses by discussing topics of clinical relevance to dentistry and offering clinical correlations so that students may understand the clinical application of concepts. For example, in Biochemistry (CBIO 7100) dental faculty with dual DMD/PhD degrees discuss topics such as extracellular matrix proteins; salivary proteins; saliva as a diagnostic fluid; applications of genomics, metagenomics, transcriptomic and proteomics in personalized dentistry; genes involved in oral cancer; and clinical cases of connective tissue anomalies. In the nutrition part of the same course the topics of early childhood caries, anorexia nervosa, nutritional supplements, fluoride, and mercury toxicity are discussed. Gross Anatomy (CBIO 7110) offers clinical correlations in which oral and maxillofacial surgeons present craniofacial surgeries and discuss the involved anatomical structures. Pharmacology (CBIO 7180) discusses the oral and systemic interactions of medications and their possible side-effects. Microbiology (CBIO 7150) includes various clinical topics. UPRSDM faculty also participates in this course discussing the microbiology of dental plaque and caries, periodontal disease, and infections of the maxillofacial region. Cariology (PRET 7106) covers in depth several oral biology concepts, such as the composition and physiology of saliva, chemical aspects of dental caries, and the composition and dynamics of the oral microbial ecology. The course also discusses modern alternative approaches for the prevention and management of dental diseases, such as caries vaccines, replacement therapy and probiotics, among others.

During the first year, students learn fundamental knowledge and skills in biomedical sciences, assessment and diagnosis, prevention and treatment, and professional development areas. To confront oral health disparities, the curriculum has been enhanced with the introduction of topics related to the economic, cultural and political social determinants of health and inter professional practice.

The course sequence in the biomedical sciences tracks has been designed to facilitate the integration of the most basic scientific concepts into the more complex biological levels and normal and abnormal biological processes, and eventually into the clinical management of patients. Students learn sequentially the basic structure of molecules in Biochemistry (CBIO 7100), of tissues in General Histology (CBIO 7120) and Oral Histology and Embryology (CBIO 7140), and of organs in Gross Anatomy (CBIO 7110). They learn the function of the organ systems under normal conditions in Basic Physiology for Students (CBIO 7160) and pathological aspects in General Systemic Pathology (CBIO 7170). In the sophomore year the students begin to apply
this knowledge into the clinical management of patients with Oral Pharmacology and Therapeutics (CBIO 7180), Introduction to Assessment and Diagnosis of the Patient (EVDI 7105), and Dental and Craniofacial Imaging (EVDI 7135). Finally, Integration of Biomedical Sciences into Dental Practice (CBIO 7190) applies this knowledge into the clinical dental management of patients with systemic conditions.

**Behavioral Sciences**

During the first year, students are exposed to behavioral aspects in dentistry in the course Human Development and Behavioral Management (EVDI 7115). This course integrates social, psychological, nutritional, biomedical, and dental aspects important in patient management. Part of the course is taught using the Problem Based Learning strategy. Cases analyzed by students are designed to include social, psychological, biomedical, and dental learning issues. In the course Introduction to Assessment and Diagnosis of the Patient (EVDI 7105), students are introduced to communication skills and the art of patient interviewing. They are also introduced to the concepts of cultural competence, health disparities and social determinants of health in oral health service provision. They learn about vital signs and basic cardiac life support protocols. Students apply knowledge and practice skills learned in this course in the context of a standardized patient exercise (Available on site). Two other courses taught during the first year are Preventive Dentistry (PRET 7116) and Cariology (PRET 7106). The Preventive Dentistry course discusses prevention concepts, the philosophy of preventive dentistry, levels of prevention, and primary preventive measures. Oral prophylaxis instrumentation, instrumentation techniques, and application of nutritional concepts as part of primary prevention and oral health maintenance are also presented in the course. Students are exposed to the importance of motivational and behavioral modification techniques in order to encourage their patients to continue an oral health preventive routine.

Introduction to Professional Development I (DESP 7117) introduces first year students to the professional life of the dentist and to his/her role in community health. In Introduction to Professional Development II (DESP 7127) they are introduced to risk management, federal and local regulations, infection control procedures, ergonomic principles, dental assistant utilization, and expanded auxiliary management.

**Pre-Clinical Sciences**

In the preclinical courses the professors discuss the specific biological and scientific concepts related to the clinical problems and treatments included in their courses. For example, Dental Anatomy and Functional Occlusion (EVDI 7125) includes a review of the histology and embryology of dental tissues, while Dental and Craniofacial Imaging (EVDI 7135) presents the theoretical aspects of dental radiology, which includes the physical nature of X-ray radiation and radiation health. Concepts in radiographic processing techniques, quality evaluation, and rectification procedures are also taught. In the second semester of the first year, in the Clinical Applications on Dental Skills (PRET 7136) course, students are exposed to a clinical experience in which they have the opportunity to apply the knowledge and practice the skills learned in most first-year courses in the areas of radiology and functional occlusion.
Most preclinical dental courses are offered during the second year (Endodontics, Periodontics, Orthodontics, Oral Surgery, Pediatric Dentistry, Diagnostic Sciences, Removable and Fixed Prosthodontics). In preclinical courses, the integration of knowledge in biomedical and behavioral sciences in order to make adequate clinical judgments is emphasized. For example, the Oral Diagnosis and Treatment Planning (EVDI 7265) course is an integrated course in which faculty from several disciplines presents the diagnostic process for different dental diseases. This course relates basic, behavioral, and clinical sciences by integrating knowledge derived from multiple disciplines in comprehensive patient evaluations.

The Apprehension and Pain Control (PRET 7286) course integrates the physiology, anatomy, and microanatomy involved in pain perception applied to the trigeminal nerve. Anatomical landmarks are studied in relation to the application of local anesthesia. The pharmacology of narcotics and non-narcotic analgesics, sedatives, tranquilizers, and ataractics is also discussed. The course Development of the Orofacial Complex (EVDI 7245) integrates foundation knowledge on human anatomy, physiology, general and oral histology, and embryology.

The Endodontics (PRET 7296) course integrates knowledge of microbiology, pathology, and pharmacology for the treatment of endodontically involved teeth. In periodontal preclinical and clinical courses, the etiology of periodontal disease is studied in relation to its microbiology, immunology, pathology, and histopathogenesis. In these courses, gross, histological and ultrastructural morphology, biochemistry, and the physiology of the periodontium are studied in-depth.

Clinical Sciences

Clinical instruction is conducted during the third and fourth years. Behavioral and biomedical knowledge is emphasized throughout didactic and clinical experiences in the Third Year Comprehensive Care Clinic (PRET 7387) as well as in the Comprehensive Care Clinic (PRET 7400). Several other courses also integrate biomedical and clinical knowledge. In the courses Assessment and Diagnosis of the Child and Adolescent (EVDI 7275) and Pediatric Dental Treatment (PRET 7277), behavioral, clinical, and biomedical concepts are integrated as applied to children and adolescent diagnosis and treatment. The Geriatric Dentistry (PRET 7376) course promotes the understanding of the biological, clinical, economic, psychological, sociological, demographic, and administrative aspects of services provided to the elderly. The Medical Emergencies (PRET 7356) course integrates concepts of pathophysiology and pharmacology in managing medical and dental emergencies in the dental practice. In the course Clinical Occlusion and TMD Management (PRET 7346), the anatomy and physiology of the stomatognathic system is discussed as applied to procedures for examining and diagnosing occlusion, masticatory muscles, vascular and cranial nerve pathology, or temporomandibular joint dysfunction. The course Dental Care for Special Patients (PRET 7316) also integrates biomedical, behavioral, and clinical aspects of patients with special needs. Topics related to physical, mental, and emotional conditions of handicapped patients are analyzed in an integrated fashion.

Depth, Scope and Timeliness

The curriculum is designed to expose the student to instruction of appropriate depth, scope, timeliness, quality, and emphasis of the biomedical, behavioral, and clinical science courses. The
curriculum is structured in such a way that students initially master concepts of foundational knowledge (biomedical, behavioral, preclinical), and subsequently focus in increasing depth in the required topic areas. This structure is heavily dependent on the integrated nature of the curriculum, which permits the student to build upon foundational knowledge in all areas as she or he progresses towards competency.

Behavioral, practice management, and clinical skills are integrated in didactic and clinical courses from the beginning of the dental curriculum. These courses are presented to students in a programmed, sequential manner. During the freshman year, they take (DESP 7117) Introduction to Professional Development I (Introduction to Dental Practice, Ethics); (DESP 7127) Introduction to Professional Development II (Infection Control, Risk Management, and Ergonomics, including DAU), and (DESP 7357) Professional Development III (Practice Management). Please refer to Standards 2-16, 17, 18, 19, 20, 21 for more in-depth information. Clinical experiences integrating behavior, practice management, and clinical skills begin at the junior year with PRET 7387 Third Year Comprehensive Care Clinic and continue in the senior year with a simulated private practice experience with their assigned clinical team. The PRET 7387 Third Year Comprehensive Care Clinic includes experiences for health education and promotion in a clinical setting. All clinical rotation courses as well as the senior year Comprehensive Care Clinic (PRET 7400) also include practical experiences that develop interpersonal and communication skills in the clinical setting. During their third year, students are required to participate in community activities offering oral health promotion education and cancer screenings to the participants. They must coordinate with faculty and auxiliary personnel and complete 27 hours in the junior year and 18 hours in the senior year of direct service to the community. During their fourth year, students rotate in an extramural setting (DESP 7467) Dental Practice Externship in which they further apply the knowledge and skills in community service experiences.

Examples of Integrated Curriculum

Several courses take advantage of this unique opportunity to address individual topics from the aspect of all areas of instruction. Principles of anatomy, physiology, biochemistry and cell biology are integrated in terms of form and function as well as service-learning opportunities that not only include oral health education but also non-invasive clinical procedures such as oral examination and topical application of fluoride varnish. Exhibit 2.6 provides examples of integration in the curriculum.
## Exhibit 2.6 Examples of Integrated Curriculum

<table>
<thead>
<tr>
<th>Course #</th>
<th>Course Name</th>
<th>Types of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBIO 7100</td>
<td>Biochemistry</td>
<td>Discussion of clinical cases of collagen diseases with oral manifestations, role of collagen in the calcification of enamel, dentin and cementum together with genetic disorders that affect the formation of these tissues, role of salivary proteins in the protection of oral tissues, modulation of oral flora and formation of acquired enamel pedicle and dental plaque, identification of diseases, biomarkers in salivary proteome and transcriptome, applications of omics for oral diseases. Prostaglandins in Odontology (Focus on periodontal inflammatory processes). Genetic Disorders of Metabolism (Includes periodontal diseases associated). Diseases and Toxicity of Mercury Dental Fillings. (Incl. discussion of a peer-reviewed article) Genes in Cancer (Emphasis on oral cancer)</td>
</tr>
<tr>
<td>CBIO 7110</td>
<td>Gross Anatomy</td>
<td>Clinical correlation conferences given by clinical dentists on specified area of knowledge; lab activities applied to clinical settings Clinical demonstrations in cadaver specimens of dental extractions, clinical demonstration of infiltration and block techniques for the placement of local anesthesia in the oral cavity</td>
</tr>
<tr>
<td>CBIO 7160</td>
<td>Basic Human Physiology for Students</td>
<td>Clinical correlations are offered by clinical faculty to complement the following systems: 1. Nervous system 2. Respiratory system 3. Endocrine system</td>
</tr>
<tr>
<td>PRET 7136</td>
<td>Clinical Applications of Dental Skills</td>
<td>Students of medical, pharmacy and nursing schools are assigned a case they discuss with them from the perspective of their profession and then all schools meet in an amphitheater with panel of expert teachers from each school to discuss the case</td>
</tr>
<tr>
<td>Course #</td>
<td>Course Name</td>
<td>Types of Integration</td>
</tr>
<tr>
<td>-----------</td>
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</tr>
<tr>
<td>EVDI 7265</td>
<td>Oral Diagnosis and Treatment Planning</td>
<td>Students of medical, pharmacy and nursing schools are assigned a case they discuss with them from the perspective of their profession and then all schools meet in an amphitheater with panel of expert teachers from each school to discuss the case.</td>
</tr>
<tr>
<td>PRET 7387</td>
<td>Comprehensive Care Clinic</td>
<td>First year students from the School of Nursing will rotate in the clinics of the School of Dental Medicine, participating in various inter professional educational activities with third year students, as well as patients. Several dental assistant utilization activities take place within the third-year comprehensive clinical course.</td>
</tr>
<tr>
<td>CBIO 7150</td>
<td>Microbiology</td>
<td>Discussion of the role of oral bacteria in the development of dental caries, ecological approaches for caries control, role of bacteria in periodontal disease, role of bacteria in endodontic pathology, role of bacteria in orofacial infections.</td>
</tr>
<tr>
<td>CBIO 7120</td>
<td>General Histology</td>
<td>Clinical application included in conferences.</td>
</tr>
<tr>
<td>CBIO 7130</td>
<td>Neuroanatomy</td>
<td>Lab activities applied to clinical settings</td>
</tr>
<tr>
<td>CBIO 7140</td>
<td>Oral Histology and Embryology</td>
<td>Clinical application included in conferences.</td>
</tr>
<tr>
<td>PRET 7366</td>
<td>Implant Dentistry</td>
<td>Cell biology. Physiology. Students learn how the surface of dental implants interacts with surrounding mesenchymal cells and the process of signaling, differentiation and deposition of these during the process of osseointegration.</td>
</tr>
<tr>
<td>PRET 7366</td>
<td>Implant Dentistry</td>
<td>Cell biology. Physiology. Students learn the process about bone healing and cellular interaction relevant to bone grafts and biomaterials used in the field of dental implants.</td>
</tr>
<tr>
<td>PRET 7366</td>
<td>Implant Dentistry</td>
<td>Principles of anatomy. Students learn the correct identification of relevant anatomical structures during the evaluation and planning phase for dental implants treatment. They are introduced to the use of adjuvants like Cone Beam CT scan for a clear visualization and identification of anatomical landmarks.</td>
</tr>
<tr>
<td>Course #</td>
<td>Course Name</td>
<td>Types of Integration</td>
</tr>
<tr>
<td>-----------</td>
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<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>PRET 7366</td>
<td>Implant Dentistry</td>
<td>Microbiology. Students learn the microbiology associated to dental implants. The interaction of dental implant surfaces with the oral microflora. The role of bacteria biofilm and the possible soft and hard tissue injury around dental implants.</td>
</tr>
<tr>
<td>PRET 7366</td>
<td>Implant Dentistry</td>
<td>Physiology. Students learn the importance and relevance of bone physiology and all the factors that could affect the interaction between the host and the dental implants. Including the metabolic state of the host, response of local factors during healing phase, biomechanics and surgical trauma.</td>
</tr>
<tr>
<td>PRET 7400</td>
<td>Comprehensive Care Clinic</td>
<td>Several interprofessional activities take place within the comprehensive clinical course; during these clinical activities, there is inter-professional collaboration of students and faculty from the School of Dental Medicine and other Schools of the Medical Sciences Campus; the students learn through interaction with each other and are evaluated by faculty members of each program.</td>
</tr>
</tbody>
</table>

The depth, scope, timeliness and emphasis of instruction in the different areas of biomedical, behavioral and clinical sciences are continuously evaluated and revised as part of the UPRSDM’s ongoing curriculum management plan as described in Standard 2.8 to ensure that the School’s goals and objectives, competencies defined for graduates, needs of the Puerto Rican community, and trends in the profession are met. Additional criteria and data that are taken into consideration in this process include course evaluations by students and peers, student performance in the National Board Examinations and State Board Exams. The UPRSDM faculty participates actively in professional development activities, trainings, national and international professional organizations and research ensuring that the students receive the most updated instruction in all didactic and clinical areas.

**Supportive Documentation**

SD 2-3.2 Curriculum by Academic Level and Sequence

- Courses Syllabi – Syllabi of Biomedical, Behavioral and Clinical Sciences
- Course List by Year (Appendix A, Table 3)
- Departmental Course Offerings (Appendix A, Tables 4 to 6)
The dental school must have a curriculum management plan that ensures:

a. an ongoing curriculum review and evaluation process which includes input from faculty, students, administration and other appropriate sources;

b. evaluation of all courses with respect to the defined competencies of the school to include student evaluation of instruction;

c. elimination of unwarranted repetition and outdated and unnecessary material;

d. incorporation of emerging information and achievement of appropriate sequencing;

e. incorporation of emerging didactic and clinical technologies to support the dental education program curriculum.

The UPRSDM is in compliance with this standard.

Curriculum oversight and implementation falls within the purview of the Office of Academic Affairs, and ultimately, the Dean. Curriculum management and review at the UPRSDM is the responsibility of the Curriculum Committee. The Curriculum Committee of the UPRSDM is the official body that advises the Dean on the design, implementation, and evaluation of the Predoctoral Program. This committee evaluates the DMD program with respect to school goals and objectives, competencies defined for graduates, needs of the Puerto Rican community, and trends in the profession. It emphasizes curriculum integration and coordination in all its dimensions and conducts an ongoing curricular review and evaluation process that includes input from faculty, students, administration, and other appropriate sources.

The objectives of the ongoing curriculum review processes are the following:

- To assess each predoctoral curriculum course in relation to the competencies defined for graduates, student course evaluations, and data collected in the outcome assessment process.
- To make recommendations for curriculum changes based on findings from course assessment.
- To follow-up the implementation of changes in the predoctoral curriculum based on the recommendations.

The Curriculum Committee is composed of two faculty members from each department (for a total of six), three student representatives, the chief of the Oral Biology Section, the Assistant Dean for Research, and a representative from the MSC library. The three department directors and the Assistant Dean for Clinical Affairs are ex-officio members of the committee, which is chaired by the Assistant Dean for Academic Affairs.

The Curriculum Committee has established a systematic and ongoing Curriculum Review Process (Exhibit 2.7). Every year students evaluate all courses according to a schedule prepared by the Office of Academic and Institutional Assessment. The schedule is prepared so each course is evaluated every year or according to specific needs identified by either the course coordinator or the Curriculum Committee. Course evaluations are conducted online using Survey Monkey. Evaluation results are provided to the course coordinator and the corresponding Department Director. The Assistant Dean for Academic Affairs oversees the coordination and distribution of
course evaluation results to the Course Coordinator, the Department Director, and Curriculum Committee.

Each Department conducts a curriculum review on a regular basis (annually or more often) to evaluate courses. Selection of the courses to be evaluated by the Curriculum Committee is by a selected academic year, or in cases in which student evaluations report unfavorable results in over 40% of any of the evaluation criteria, or when they show an unfavorable tendency compared to previous course results. The scheduling of courses for evaluation is established at the beginning of each academic year. Course syllabi, teaching materials, and course and faculty evaluations are reviewed. The Course coordinator reports the necessary information to the Departmental Curriculum Subcommittee. The evaluations include the Course Coordinator’s self-evaluation and the Department Director, peer faculty, and student evaluations. The instruments have been designed according to a series of criteria such as course content, materials, hours, scheduling, and teaching. At the end of the instrument respondents must also include a summary of specific comments and recommendations for improvement of the course (Forms for Peer and Administrative Evaluation of Courses). The Curriculum Committee discusses findings with student representatives and the course coordinator. Possible changes based on these course evaluations include content, curriculum sequence, and faculty assigned to the course among others.

If the Curriculum Committee determines that changes are recommended, the Curriculum Director and Assistant Dean of Academic Affairs prepare any necessary proposals to submit changes in courses to Medical Sciences Campus Academic Affairs Dean. Course Coordinators are informed of approved changes and they work with the Curriculum Director and Department Directors in the implantation of necessary changes. Major curriculum changes are informed to the Faculty in a Faculty Meetings. Changes and revisions in the courses will be evaluated in the next evaluation cycle as part of the circular Curriculum Review Process.
The process for curriculum review and evaluation includes analyzing data from various assessments including:

1. Recurring review of individual courses
2. Self-evaluation of Course
3. Faculty Peer Evaluations
4. Student evaluations of courses and instructors
5. Team Evaluations
6. Student exit interviews and alumni surveys
7. UPRSDM Outcome Assessment Plan Results
8. Assessment Reports
9. Assessments of student performance

In addition to these assessments the analysis also considers the results of NBDE I and II results, and State Board Examination results, as well as the redundancy, new knowledge, and sequencing of the courses in the Curriculum.
Elimination of unwarranted or outdated unnecessary material is the result of the curricular assessment process. Through administrative evaluation of courses, decisions are made to add, delete or change content. These decisions are based on students’ evaluations, curriculum sub-committee evaluation, course coordinator, departmental directors and curriculum member committee members decisions as described in the previous sections. The new tendencies like the new board INBDE, digital dentistry, flipped classrooms, among others, are considered on the administrative evaluation of courses and curriculum committee meetings to decide which material is still pertinent on each course.

The use of information technology for patient care, practice management, and professional development is addressed in Competency 3 (Develop and manage a general dentistry practice). During the last five years the UPRSDM has used the services of the VitalSource Library. Students have all the books they use during their four years in a digitized format and updated.

Students are introduced to diverse information technology resources such as computerized library resources and the Internet in the orientation sessions for new students and in the courses Human Development and Behavioral Management (EVDI 7115) and Evaluation of Scientific Literature and Epidemiology (DESP 7237). The Basic Sciences courses such as (CBIO 7100) Biochemistry and (CBIO 7110) Gross Anatomy use Blackboard to present course material, as well the preclinical courses Introduction to Restorative Dentistry and Principles of Intracorneal Restorations (PRET 7126), and Removable Prosthodontics (PRET 7246). Other courses use the Blackboard platform either to present material or for examinations.

Preclinical courses in the first- and second-year use information technology resources to present content and to enhance the students’ learning process. For example, the Tooth Morphology 3D material is used in the Dental Anatomy and Functional Occlusion (EVDI 7125) course.

Third and fourth year students must learn how to use the clinic’s administrative information system in order to schedule patient appointments, enter approved treatment plans, monitor treatment plan progress and changes needed based on specific patient needs. Each student has a password to access the school Intranet and is assigned an e-mail account by the Medical Sciences Campus. Students also have access to the campus library information resources and other libraries of the University of Puerto Rico System. They can also access other information resources through the Medical Sciences Campus website.

In 2013-14 digital radiology technology was introduced throughout the curriculum. The clinical radiology facilities at the school clinic have been equipped for this purpose and are fully digital. Students have clinical experiences in the use of digital radiographs for patient care beginning in their first year.

Creative use of technology is also stressed in the preparation of the senior year portfolio. This has been incorporated as an evaluation criterion for this purpose.

NIDCR will encourage research to address disparities and inequalities in oral health through a comprehensive approach including the social determinants of health, health policy, and an
understanding of resilience, familial and social context, and social networks and systems within communities. As the result of a systematic revision of the curriculum of the first year with the inclusion of topics related to the social determinants of oral and systemic health, the students are now exposed and better prepared to target the complexities of illness and health.

Emerging technologies- The use of information technology for patient care, practice management, and professional development is addressed in Competency 3 (Develop and manage a general dentistry practice). During the last 5 years the UPRSDM has used the services of the VitalSource Library. Students have all the books they use during their four years in a digitized format and updated.

Students are introduced to diverse information technology resources such as computerized library resources and the Internet in the orientation sessions for new students and in the courses Human Development and Behavioral Management (EVDI 7115) and Evaluation of Scientific Literature and Epidemiology (DESP 7237). The Basic Sciences courses such as (CBIO 7100) Biochemistry and (CBIO 7110) Gross Anatomy use Blackboard to present course material, as well the preclinical courses Introduction to Restorative Dentistry and Principles of Intracoronal Restorations (PRET 7126), and Removable Prosthodontics (PRET 7246). Other courses use the Blackboard platform either to present material or for examinations. Preclinical courses in the DS1 and DS2 students use information technology resources to present content and to enhance the students’ learning process. For example, the Tooth Morphology 3D material is used in the Dental Anatomy and Functional Occlusion (EVDI 7125) course.

DS3 and DS4 students must learn how to use the clinic’s administrative information system in order to schedule patient appointments and enter approved treatment plans. Each student has a password to access the school Intranet and is assigned an e-mail account by the MSC. Students have access to the campus library information resources and other libraries of the UPR System. They can also access other information resources through the MSC website.

In 2013-2014 digital radiology technology was introduced throughout the curriculum. The clinical radiology facilities at the school clinic have been equipped for this purpose and are fully digital. Students have clinical experiences in the use of digital radiographs for patient care beginning in their first year. Creative use of technology is also stressed in the preparation of the senior year portfolio. This has been incorporated as an evaluation criterion for this purpose.

Social determinants of health- Comprehensive, patient-centered care requires teaching and oral health care delivery that “ensure that patients’ preferences and their social, economic, emotional, physical and cognitive circumstances are sensitively considered”. To address oral health disparities, the National Institute of Dental and Craniofacial Research encourages interdisciplinary research with a comprehensive approach that includes the social determinants of health, health policy, and an understanding of resilience, familial and social context, and social networks and systems within communities. Beginning in 2012, the UPRSDM incorporated in its strategic plan objectives and activities related to the social determinants of health (SDH) and interprofessional education. The importance of these new undertakings was such that they were made explicit in the School’s revised mission statement which specifies that it “adopts the inter-professional practice…. and the creation of new knowledge related to the social determinants of health”. In
2014, the SDM began a systematic revision of the first year of its curriculum to incorporate the SDH; to train faculty and alumni on the topic; to conduct research to uncover the social determinants of the oral health disparities of the Puerto Rican population; and to participate actively as leaders in the development of campus-wide discussion panels, forums and other groundbreaking projects. Some of the new content developed in the School’s curriculum are: SDH as a new paradigm in the study of oral disease and actions to reduce oral health inequalities; concepts of social justice, human rights and a critical analysis of the social, economic and political aspects of health inequalities; identify and understand the social nature of poverty, ageism, sex/gender, race/ethnicity, and educational attainment; patient issues that originate from their social context and communication skills that addresses them in an effective manner.

As the result of a systematic revision of the curriculum of the first year with the inclusion of topics related to the social determinants of oral and systemic health, the students are now exposed and better prepared to target the complexities of illness and health in the following revised courses: EVDI 7105-Introduction to Assessment and Diagnosis of the Patient; EVDI 7115-Human Development and Behavioral Management; DESP 7117- Introduction to Professional Development I; DESP 7247-Introduction to Community Dentistry; DESP 7357-Professional Development III; PRET 7405-Oral Health-Promotion in a Special Community; and PRET 7106-Cariology.

Additional examples of research-driven changes that have been introduced in the curriculum include new and expanded research and evidence-based courses and activities, inclusion of risk assessment instruments and revised codes for dental caries diagnosis based on ICDAS in the comprehensive clinic, and minimally invasive concepts for the management of dental caries as described in detail in Standard 6-1.3.

**Integration Emerging Technologies**

In 2016, the UPRSDM creates the Center for Informatics and Educational Resources (CIRE). The UPRSDM provides all its students and faculty with technological services through CIRE, a unit that is attached to the Office of the Dean of the School. CIRE is responsible for coordinating and integrating all aspects of information systems, communication infrastructure, educational resources, training and distance education. It offers its services through its four main units: Information System Unit, Electronic Health Record Unit (EHR), Distance Education and Training Unit and the Technical Support Unit.

CIRE provides all the technological infrastructure that directly provides services to teaching staff, non-teaching and students of the academic programs, clinic and residences of the UPRSDM. In addition, it coordinates, plans and develops special projects for the strengthening of the academic-administrative processes and is in charge of managing, guarding and offering all the technical support of the School network, the School website, the Learning Management System (Blackboard), Jetro Cockpit Controller, Domain Backup and DNS Redundant Server, V-Center Server, Terminal Services, Sidexis, Electronic Evaluations Forms, Spiceworks, AxiUm, Oracle, Dolphin Server, Citrix Server, among other services.
Among its main resources, CIRE offers direct support to 4 computer rooms (BB-52, BB-53, BB-48, BB37) that are used for the different courses, training or independent use of student doctors. Our largest computer room has 45 computers connected to our network, providing access to our Electronic Health Record axiUm and our imaging software, Sidexis. Our Center offers direct services through its repair and help center (Help-Desk). The Server Center is in the Main Data Center of the MSC that is safeguarded by the Information System Office of the Medical Sciences Campus. They oversee the security of the network and telecommunications. For security, they use the Palo Alto Firewall. Our Servers Center support teaching and other academic-administrative processes. This center has an infrastructure of forty-two (42) servers (physical and virtual) with different services for the entire academic community of the School of Dental Medicine which are: axiUm (EHR), Oracle DBM, Citrix, XenDesktop Delivery Controller, MS SQL Server, Storefront, Remote Desktop Services, DNS, Spiceworks, among others.

In terms of software in didactic technologies that support the dental education program curriculum in our School, we have our Blackboard to provide a simple platform for our faculty to create a better learning experience and increase engagement for our students. Our MSC acquired Blackboard as our LMS because students and faculty needed access to their teaching and learning environment anytime and anywhere. Blackboard Learn is fully responsive and designed for all devices. In August 2019, we will be moving to the cloud version of the platform and we will have access to the latest version and the new Ultra design. Another software that supports the dental education program curriculum of the UPRSDM is Examsoft. This cloud-based exam software provides an easy way for our faculty to create exams online and deliver assessments to virtually any device and administer exams using a secure environment. With the software, we can instantly grade exams and make informed decisions on curricula and student remediation with real-time student performance data. Also, we have our imaging software Sidexis that we use in some courses.

In terms of hardware in didactic technologies that support the dental education program curriculum in our School, we have different audiovisual equipment in our teaching rooms, like regular TV’s, video projectors, SmartBoards, and Newline TruTouch interactive display. Specifically, with the TruTouch X series, students interact with the equipment without limitations by sharing not only voice and video but also data and annotation. It’s an all-in-one solution for collaboration that makes classes more interacting and more effective. Also, it can be used to have video conferences online with students.
Supportive Documentation

SD 2-8.1 Curriculum/ Course Review Schedule
SD 2-8.2 Detailed Course Review Flowchart Outlining Process
SD 2-8.3 Course Evaluation Forms
SD 2-8.4 UPRSDM Curriculum Management Plan
SD 2-8.5 Competencies According to Related Courses and Methods of Assessment

2-9 The dental school must ensure the availability of adequate patient experiences that afford all students the opportunity to achieve its stated competencies within a reasonable time

The UPRSDM is in compliance with this standard.

The UPRSDM main clinic and school are in the Medical Sciences Campus in the Medical Center Area of San Juan, the capital of Puerto Rico. The Medical Center conglomerates the other campus health schools, the most important public hospitals and clinics of the island and is the major provider of tertiary level health services of the PR and the Caribbean. The UPRSDM uniqueness in the island, good location, offerings of services at all level, institutional prestige and reduced prices makes it attractive for referrals and new patients. (SD 2-9.3 Number and Demographic Profile Seeking and Receiving Comprehensive Care).

New patients over 18 years old are screened by junior students and supervised by faculty of the Oral Diagnosis Clinic. The Pediatric Dentistry Section evaluates patients from 6 y/o to 18 y/o patients. Patients of 16 y/o that require complex prosthodontic, endodontics and oral surgery procedures are referred to the Diagnostic Sciences Section for evaluation. Patients under 6 y/o are evaluated and treated in the Maternal Infant Oral Center of the Pediatric Postdoctoral Program Clinic. Patients are categorized in the Clinic as regular or emergency. Emergency patients are evaluated and treated by the Emergency Senior Students Rotation. The processes for the admission and assignment of regular and emergency patients are illustrated in the Patient Admission Process Flowchart SD 2-9.1.

After being evaluated, the patients’ needs are identified and placed in the UPRSDM pool. Regular patients are categorized from Type 1-9 comprehensive treatment plans ruled by the Clinical Comprehensive Patient Treatment Plans Classification System. Students may be assigned new patients through the year, if needed, according to the procedures required to attain clinical competencies. The Clinical Module Coordinator also helps students find

Clinical Experiences

The school offers reduced fees in all clinical procedures and performs special screening activities throughout the year to help ensure an adequate pool of patients. All students are afforded on-site supervised clinical experiences geared to their level of education and experience. Most of the students’ clinical experiences take place in the third and fourth years. The UPRSDM has three clinical courses in the third and fourth years of the curriculum: PRET 7387 Third Year Main
These comprehensive main clinical courses have very specific experiences, assessments and criteria to ensure competence. There is a well-planned process of assignment and distribution of patients for the students. A group of patients is assigned to each student at the beginning of each academic year. Patient assignment and classification is done by the Oral Diagnosis Clinic staff and by the module coordinators. Patient selection will be based on the criteria already established for the Comprehensive Care Clinic (Clinical Courses Manuals – PRET 7387 / PRET 7400). The selection of the groups of patients to be assigned is based on the experiences of the students’ needs to acquire all the competencies. The number of patients assigned to and completed by each student will depend on the variety of clinical experiences offered by each patient, and his/her progress towards the achievement of the competencies.

Students also treat patients of the UPRSDM Recall Programs: Active Patient Recall Program and Completed Patient Recall Program, since the school focus is in comprehensive care. The module coordinator monitors, supervises and support the student in the progress of the patients and will assign or assist the student assuring that have the adequate patients and clinical experiences to be competent (SD 2-9.2 UPRSDM Main Clinic Number of Patient per Year, SD 2-9.4 UPRSDM Summary Table of Number of Patient Procedures, SD 2-9.5 Number of Patients Per Year Over the Past Five Years in which the Comprehensive Treatment Plan is Completed and the Patient is Placed in the School’s Recall System).

The UPRSDM ensures the availability of patient experiences for its students. Exhibit 2.8 provides the total and average of completed procedures performed by students per academic year for the last 3 years.

**Exhibit 2.8 Summary of completed procedures by students**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average</td>
<td>Total</td>
<td>Average</td>
</tr>
<tr>
<td>D3 students</td>
<td>249</td>
<td>13,449</td>
<td>284</td>
</tr>
<tr>
<td>D4 students</td>
<td>246</td>
<td>11,044</td>
<td>348</td>
</tr>
</tbody>
</table>

There is an established minimum number of comprehensive patient treatment plans that must be completed per academic level, junior students are required to complete 18 comprehensive treatment plan cases, and senior students are required 22 completed comprehensive treatment plan cases. There is no maximum for recruited patients and completed treatments. Patients are recruited during the year to complete the required minimum comprehensive treatment plans, to assure enough experiences each trimester in all competencies, and to take the clinical competency examinations. The students will work in the development of all competencies during the three trimesters. The students must have clinical experiences in all competencies each trimester.

The types of patients and variety of clinical experiences expected of each student are observed in the following exhibit:
Exhibit 2.9 Clinical Comprehensive Patient Treatment Plans Classification System

<table>
<thead>
<tr>
<th>Clinical Procedures in Comprehensive Treatment Plan</th>
<th>Minimum of Comprehensive Patient Treatment Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DS3</td>
</tr>
<tr>
<td>Comprehensive patient treatment plans with direct operative procedures and one of the following: preventive therapies or initial periodontal therapy or surgeries.</td>
<td>6</td>
</tr>
<tr>
<td>Comprehensive patient treatment plans with implants (includes surgery and/or restoration at the undergraduate level).</td>
<td>1</td>
</tr>
<tr>
<td>Comprehensive patient treatment plans with one or two fixed prosthodontics units, with or without implants.</td>
<td>2</td>
</tr>
<tr>
<td>Comprehensive patient treatment plans with treatment in four or more clinical disciplines, or that need three or more fixed prosthodontics units, with or without implants.</td>
<td>1</td>
</tr>
<tr>
<td>Comprehensive patient treatment plans with removable partial dentures, with or without implants.</td>
<td>3</td>
</tr>
<tr>
<td>Comprehensive patient treatment plans with complete dentures, immediate complete dentures, or overdentures, with or without implants.</td>
<td>2</td>
</tr>
<tr>
<td>Comprehensive patient treatment plans with at least one of the following: endodontic treatment or indirect operative procedures or esthetics.</td>
<td>1</td>
</tr>
<tr>
<td>Comprehensive pediatric patient treatment plans with (undergraduate level).</td>
<td>1</td>
</tr>
<tr>
<td>Comprehensive patient treatment plans with orthodontic guiding or interceptive treatment.</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

Also, the students’ schedules are designed to provide the clinical time to perform and complete the required clinical experiences. The Exhibit 2.10 details the number of half day clinics by semester for each year.

Exhibit 2.10 Breakdown of Clinical Experiences (by half day)

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall</th>
<th>Fall</th>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Half Days/Week</td>
<td>Total Hours/Week</td>
<td>Total Hours/Sem.</td>
<td>Half Days/Week</td>
</tr>
<tr>
<td>DS1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DS2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DS3</td>
<td>4-8</td>
<td>11-24</td>
<td>367</td>
<td>4-8</td>
</tr>
<tr>
<td>DS4</td>
<td>6-10</td>
<td>17-29</td>
<td>497</td>
<td>5-10</td>
</tr>
</tbody>
</table>

Half day = 2 or 3 hours; Total number clinic hours DS3=768, DS4=875*
*These clinical hours do not include exam hours or administrative aspects.
The UPRSDM monitors and supports the progress of the students to achieve their competencies and completion of studies. The graduation rates of the students for the past 7 years have maintained at an average of 86%. The Exhibit 2.11 evidences the graduation rates of the UPRSDM students from enrollment to graduation from 2014 through 2019. It contains the information of students that graduated on the scheduled graduation date and those students that graduated on a date other than scheduled graduation date for the past 7 academic years.

**Exhibit 2.11 Student Enrollment Tracking 2013 – 2019**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Students Enrolled (in 1st year)</td>
<td>41</td>
<td>45</td>
<td>42</td>
<td>42</td>
<td>40</td>
<td>42</td>
<td>40</td>
</tr>
<tr>
<td>Number of Students Graduated in 4 years</td>
<td>31</td>
<td>36</td>
<td>36</td>
<td>35</td>
<td>37</td>
<td>38</td>
<td>39</td>
</tr>
<tr>
<td>Graduation Percent</td>
<td>75.61</td>
<td>80.00</td>
<td>85.71</td>
<td>83.33</td>
<td>92.50</td>
<td>90.48</td>
<td>97.50</td>
</tr>
<tr>
<td>Number of Graduates after Cohort</td>
<td>10 / 41 (24.39)</td>
<td>7 / 45 (15.56)</td>
<td>5 / 42 (11.90)</td>
<td>7 / 42 (16.67)</td>
<td>2 / 40 (5.00)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leave of Absence*</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dismissed / Withdrew**</td>
<td></td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Late Graduation (August) ***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Still enrolled or have not completed administrative clearance; returned after leave to complete final competencies.

**Includes deceased.

***Does not affect graduation rate.

The Exhibit 2.12 contains the reasons for students not graduating on time and the actions taken by the UPRSDM to address them.

**Exhibit 2.12 Most common reasons for students not graduating on time for the last 3 years and actions taken by the UPRSDM to address them**

<table>
<thead>
<tr>
<th>Reason</th>
<th>UPRSDM Actions</th>
<th>Product</th>
</tr>
</thead>
</table>
| Family situations- marriage/divorce, relationships | Reinforcement and maintenance of counseling and support services | • Collaborative agreement with CECSI for in house response  
• Initiation of meditation sessions before exams  
• Emotional Topics Workshop to Support personnel of Office for Students Affairs |
<p>| Start studying dentistry but does not like the profession | Reinforce offering of detailed information and counseling in promotion and recruitment activities | • Open house activities for college candidates |</p>
<table>
<thead>
<tr>
<th>Reason</th>
<th>UPRSDM Actions</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Integration of college candidates in formal activities and dental students’ activities&lt;br&gt;• Integration of this topic in counseling interviews by Recruiter</td>
<td></td>
</tr>
<tr>
<td>Sickness</td>
<td>Promote healthy lifestyles and individual care among students</td>
<td>• MSC revised Health services system&lt;br&gt;• MSC wellness initiatives with UPRSDM&lt;br&gt;• Self-care workshop to personnel</td>
</tr>
</tbody>
</table>

**Supportive Documentation**

SD 2-9.1 Patient Admissions Process Flow Chart  
SD 2-9.2 UPR SDM Main Clinic Number of Patient Per Year  
SD 2-9.3 Number and Demographic Profile of Patients Seeking and Receiving Comprehensive Care  
SD 2-9.4 UPRSDM Summary Table of Number of Patient Procedures  
SD 2-9.5 Number of Patients Per Year Over the Past Five Years in Which the Comprehensive Treatment Plan is Completed, and the Patient is Placed in the School’s Recall System.

**Critical Thinking**

**2-10 Graduates must be competent in the use of critical thinking and problem-solving, including their use in the comprehensive care of patients, scientific inquiry and research methodology.**

The UPRSDM is in compliance with this standard.

Critical thinking and problem-solving skills related to the comprehensive care of patients are stressed throughout the curriculum. First year students begin developing skills in critical thinking and problem solving in courses such as Introduction to Professional Development I (DESP 7117); Introduction to Assessment and Diagnosis of the Patient (EVDI 7105); and Human Development and Behavioral Management (EVDI 7115). Critical thinking and problem-solving skills are assessed in the second year courses Introduction to Community Dentistry (DESP 7247); Evaluation of Scientific Literature and Epidemiology (DESP 7237); and Oral Diagnosis and Treatment Planning (EVDI 7265). Learning experiences in these courses are designed to initiate students in the necessary thought processes to develop skills in clinical decision-making, taking into consideration the patient’s health status. During their clinical experiences, students are exposed to increasingly complex cases in which higher order thinking skills are required to provide comprehensive patient care. During their daily clinical evaluation, students’ critical thinking and problem-solving skills are assessed in the professional development criterion. In the course Professional Development III (DESP 7357), critical thinking is encouraged by using the Socratic
Method. In the senior year trimester evaluations this area is assessed in the competency pertaining to lifelong learning, self-assessment, and critical thinking as an integral part of professional behavior.

Students include various cases that showcase clinical knowledge and a final reflection about their experience in the senior year portfolio. This portfolio is monitored and evaluated by the students’ Module Coordinator. At the end of the academic year they are required to present their portfolio to a group of faculty and fellow students and are expected to answer questions from the audience. The portfolio has various critical thinking components. Students must show the process followed in making treatment decisions in their cases and their literature review must be based on a treatment decision. As part of their competency examinations at the end of the year, students are assessed in their achievement of competency in this area using a rubric prepared for this purpose (Exhibit 2.13).

**Exhibit 2.13 Key Experiences for the Development of Critical Thinking by Course and Academic Year**

<table>
<thead>
<tr>
<th>Year</th>
<th>Courses</th>
<th>Critical Thinking Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td><strong>Introduction to Professional Development I</strong> (DESP 7117)</td>
<td>• Problem solving tasks</td>
</tr>
<tr>
<td></td>
<td><strong>Introduction to Assessment and Diagnosis of the Patient</strong> (EVDI 7105)</td>
<td>• Standardized patient exercise for medical and dental history taking</td>
</tr>
<tr>
<td></td>
<td><strong>Human Development and Behavioral Management</strong> (EVDI 7115)</td>
<td>• Essays</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Case based learning</td>
</tr>
<tr>
<td>Second</td>
<td><strong>Introduction to Community Dentistry</strong> (DESP 7247)</td>
<td>• Essays and planning of a community intervention.</td>
</tr>
<tr>
<td></td>
<td><strong>Evaluation of Scientific Literature and Epidemiology</strong> (DESP 7237)</td>
<td>• Formulating a clinical problem using a PICO format</td>
</tr>
<tr>
<td></td>
<td><strong>Oral Diagnosis and Treatment Planning</strong> (EVDI 7265)</td>
<td>• Systematic literature review (Triple Jump Exercise)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Case based learning</td>
</tr>
<tr>
<td>Third</td>
<td><strong>Professional Development III</strong> (DESP 7357)</td>
<td>• Socratic Method</td>
</tr>
<tr>
<td></td>
<td><strong>Third Year Comprehensive Care Clinic</strong> (PRET 7387)</td>
<td>• Essays</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Diagnosis and treatment planning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Clinical decisions in patient treatment</td>
</tr>
<tr>
<td>Fourth</td>
<td><strong>Comprehensive Care Clinic</strong> (PRET 7400)</td>
<td>• Diagnosis and treatment planning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Clinical decisions in patient treatment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Developing and preparing a portfolio</td>
</tr>
</tbody>
</table>
The critical thinking and problem solving in the area of scientific inquiry and research methodology are observed in the competency #2 of the UPRSDM: Access, critically appraise and communicate the scientific literature in order to provide evidence-based patient care.

The UPRSDM attends the mentioned development of skills during the four years of studies. Exhibit 2.14 demonstrates courses where the critical thinking is measured. Exhibit 2.15 shows the time and method of assessments of competency #1 and #2 during the years of studies.

### Exhibit 2.14 Courses where Critical Thinking is Measured

<table>
<thead>
<tr>
<th>Year</th>
<th>Courses</th>
</tr>
</thead>
</table>
|      | • Literature review of treatment options on a patient case  
|      | • Oral presentation of portfolio cases |

### Courses where the Competencies #1 and #2 are Measured

<table>
<thead>
<tr>
<th>UPRSDM Competency</th>
<th>Courses Contributing to Competency Progression and Attainment</th>
</tr>
</thead>
</table>
| 1                 | CBIO 7100, EVDI 7105, EVDI 7115, EVDI 7125, CBIO 7110,  
|                   | CBIO 7130, PRET 7106, CBIO 7150, PRET 7136, EVDI 7245,  
|                   | CBIO7180, PRET7126, PRET 7257, PRET7246, PRET7266,  
|                   | CBIO 7190, EVDI 7265, DESP7247, PRET 7296 DESP 7100,  
|                   | DESP 7357, PRET 7376, DESP 7237, PRET 7326, PRET 7426,  
|                   | PRET 7387, PRET 7400, DESP 7467, DESP 7408, PRET 7415,  
|                   | PRET 7419, DESP 7411, PRET 7410, PRET 7429, PRET 7436,  
|                   | PRET 7435, PRET 7425, PRET 7445, PRET 7409, DESP 7401,  
|                   | CBIO7300, PRET 7407, PRET 7405, EVDI 7266, PRET 7428,  
|                   | PRET 7286, PRET 7300, DESP 7117 |
| 2                 | EVDI 7115, CBIO 7110, CBIO 7130, CBIO 7150, PRET 7136,  
|                   | PRET 7116, DESP 7100, EVDI 7245, CBIO 7180, PRET 7276,  
|                   | PRET 7246, PRET 7296, PRET 7346, DESP 7237, PRET 7326,  
|                   | PRET 7426, PRET 7387, PRET 7400, DESP 7408, PRET 7419,  
|                   | DESP 7411, PRET 7429, PRET 7428, PRET 7407, EVDI 7266,  
|                   | PRET 7300 |
Exhibit 2.15 Academic Activities Where Competencies #1 And #2 Are Measured

<table>
<thead>
<tr>
<th>UPRSDM COMPETENCY</th>
<th>ASSESSMENTS</th>
</tr>
</thead>
</table>
| 1. Apply the concepts of lifelong learning, Self-Assessment, and critical thinking as an integral part of professional behavior and comprehensive patient care. (CODA 2-10, 2-11) | Pre-clinical courses:  
- Daily Faculty Feedback  
- Standardized Patient  
- Dental Laboratory Projects  
- MCQ Written Quizzes and Examinations  
- Group Assignments  
- Case Discussions  

Pre-clinical courses:  
- MCQ and Essay Written Quizzes and Examinations  
- Standardized Patient  
- Axium EHR Charting  
- Group Assignments  
- Case Discussions  
- Oral Presentations  

PRET 7387:  
- Portfolio  
- Student Self-Assessment for Trimester Clinical Evaluations  
- Trimester Clinical Evaluations  

PRET 7400:  
- Portfolio  
- OSCE  
- Student Self-Assessment for Trimester Clinical Evaluations  
- Trimester Clinical Evaluations  

DESP 7467:  
Dental Externship Portfolio Weekly and Final Reflection Essays (Form S-012)  
Final Oral Examination  |

2. Access, critically appraise and communicate the scientific literature in order to provide evidence-based patient care. (CODA 2-22) | Pre-clinical courses:  
- Daily Faculty Feedback  
- Standardized Patient  
- Dental Laboratory Projects  
- MCQ Written Quizzes and Examinations  
- Group Assignments  
- Case Discussions  

Pre-clinical courses:  
- MCQ and Essay Written Quizzes and Examinations  
- Standardized Patient  
- Axium EHR Charting  
- Group Assignments  
- Case Discussions  
- Oral Presentations  

PRET 7387:  
- Portfolio  
- Systematic Literature Review  
- IPE Peer Assessment  
- Student Self-Assessment for Trimester Clinical Evaluations  
- Trimester Clinical Evaluations  

PRET 7400:  
- Portfolio  
- Systematic Literature Review  
- IPE Peer Assessment  
- Student Self-Assessment for Trimester Clinical Evaluations  
- Trimester Clinical Evaluations  |

Supportive Documentation:

SD 2-8.5 Competencies According to Related Courses and Methods of Assessment
Self-Assessment

2-11 Graduates must demonstrate the ability to self-assess, including the development of professional competencies and the demonstration of professional values and capacities associated with self-directed, lifelong learning.

The UPRSDM is in compliance with this standard.

Self-Assessments

The importance of lifelong learning and self-assessment in maintaining competency is well established in the school’s curriculum. To reinforce its importance, students are encouraged to read, discuss, and evaluate relevant literature along their four years of study. Some pre-clinical courses include student self-assessments as part of the laboratory component. An example of this is the course Introduction to Restorative Dentistry and Principles of Intracoronal Restoration (PRET 7126). Self-assessment is also emphasized throughout the clinical courses.

Clinical Evaluation

The clinical evaluation system provides for student self-evaluation after completion of procedures and before the professors’ evaluations. Seminar to strength the ability of faculty to foster and assess self-assessment competency has been given. The process has been standardized among faculty using a systematic approach to feedback and self-assessment. Our view of self-assessment is that it is a process of gathering and analyzing information on one’s own performance and using that information to alter behaviors.

The faculty is trained to guide learner to reflect and self-assess before the formal grading or evaluation. This is done by creating an interactive dialogue, evaluation of student’s level of thinking and performance and using the Socratic method of questioning (thought provoking questions that guide students to critically think). Self-assessment is also stressed during the active and completed recall clinical rotations in which students assess their work and that of their peers. At the end of junior year, students present part of their portfolio to all the classmates. They select with the faculty input either a clinical case, a research project or a reflection on how the progress towards the competencies. Those doing clinical case must include evidence base basis for the treatment and self-assessment of the overall performance. They also take questions from the classmates and faculty.

In their junior and senior years, at their trimester evaluations, students are required to complete a self-assessment of their clinical performance in each competency. Also, for the senior year portfolio they must prepare a reflection on their process or journey in developing their competencies for the practice of dentistry. They must also include a self-assessment of their portfolio cases based on the standard of care and evidence-based dentistry and on the senior year Dental Practice Externship course (DESP 7467) they also must perform self-assessments.
Lifelong learning and self-assessment are addressed in Competency 2 (Value the role of lifelong learning, self-assessment, and critical thinking as an integral part of professional behavior). The importance of lifelong learning and self-assessment in maintaining competency is well established in the school’s curriculum. To reinforce its importance, students are encouraged to read, discuss, and evaluate relevant literature along their four years of study.

**First Year**

In PBL experiences in the first-year course Human Development and Patient Management (EVDI 7115), students learn how to search for appropriate literature to sustain hypotheses, as developed in case discussions. They also learn to evaluate sources of information as they research learning issues identified in each case. Approval of this course is subject to the student being able to demonstrate learning of these skills. Students also take the course DESP 7100 Introduction to Research in Dental Medicine. In this course, students have introductory experience searching the literature, using PICO question and doing critical appraisal of scientific articles.

**Second Year**

In the second-year course Evaluation of Scientific Literature and Epidemiology (DESP 7237), students develop the basic skills necessary to interpret and evaluate published peer-reviewed scientific literature on clinical and translational research and apply this information to decide on a hypothetical clinical problem. They also develop a group exercise using the PICO format (P-patient with problem, I-intervention, C-comparison, and O-outcome) and prepare a systematic literature review to make a recommendation on the clinical problem formulated. They are required
to make a presentation and discuss their findings before their classmates and a group of mentors and professors. The presentation is graded, and approval of the course would not occur if students do not demonstrate the ability to develop a PICO question, keyword and search strategy, research database, and apply to a clinical scenario: all main components of evidence-based dentistry. The purpose of this exercise is to find reliable scientific literature that help the students perform a comprehensive patient care based on the patient’s needs.

**Senior Seminar**

Seminar sessions on the review of literature for clinical decision-making were introduced in the junior year in academic year 2011-2012 to further develop the student’s understanding of the concepts of evidenced based practice. A literature review regarding the care of a clinical case is required in the senior year portfolio. Beginning in academic year 2011-2012 this requirement evolved into a systematic literature review on a clinical problem. Students develop a PICO question by module. Then each student performs research to address this question and present its conclusion to the group. Final work is included in their portfolio.

In addition, recognizing the importance of the role of lifelong learning and self-assessment, the school promotes active participation of student doctors in courses, conferences, seminars, forums, hands on activities, and workshops offered by the Continuing Education Program. Students are encouraged to participate in professional meetings such as those of the American Dental Education Association (ADEA), American Dental Association (ADA), American Association of Dental Research (AADR), International Association of Dental Research (IADR), or local forums to present research findings, exhibit clinics, and posters. Students also participate in organizations such as American General Dentistry Association (AGD) and the Annual Convention of the Puerto Rico College of Dental Surgeons. Students are offered a bonus in their clinical years for participation in continuing education activities. Through these experiences, they also become aware of the importance of lifelong learning.

**Supportive Documentation**

SD 2-11.1 Student Self-Assessment Forms
SD 2-11.2 Students Professional Activities
- Courses Syllabi – Case Reflection PRET 7400 Syllabus (page 23 to 25)
2-12 Biomedical science instruction in dental education must ensure an in-depth understanding of basic biological principles, consisting of a core of information on the fundamental structures, functions and interrelationships of the body systems.

The UPRSDM is in compliance with this standard.

Biomedical Sciences comprise the first of four academic tracks in the curriculum of the UPRSDM. The objective of this curricular component is for students to obtain an in-depth knowledge and understanding of fundamental structures, functions, and interrelationships of body systems and the application of this knowledge to the practice of dentistry. Biomedical Sciences courses and laboratories are taught by the faculty of the corresponding departments of the UPRMSC. However, the courses are specifically designed for the UPRSDM under the supervision and direction of the Oral Biology Section, and they are exclusively taught to dental students.

The Biomedical Sciences Track consists of 726 contact hours. It is divided into two parts, namely Basic Sciences I: Structure and Function, and Basic Sciences II: Function and Disease. Basic Sciences I course extends from August through March of the freshman year. It includes (CBIO 7100) Biochemistry; (CBIO 7110) Gross Anatomy; (CBIO 7120) General Histology; (CBIO 7130) Neuroanatomy; (CBIO 7140) Oral Histology and Embryology; and (CBIO 7150) Microbiology (See Course Syllabi). Courses in the Basic Sciences I track are sequentially arranged as independent blocks in the above order. The objective of these courses is to provide fundamental knowledge of the development, structure, and functions of the human body. Basic Sciences II begins in the spring semester of the freshman year with the courses (CBIO 7160) Basic Human Physiology for Dental Students, and (CBIO 7170) General Systemic Pathology and it continues through the fall semester of the sophomore year with the courses (CBIO 7180) Oral Pharmacology and Therapeutics; and (CBIO 7190) Integration of Biomedical Sciences into Dental Practice. The sequence in the courses of the Basic Sciences II allows the students to first learn the normal functions of the human body systems, and then use this knowledge to understand the mechanisms of disease and the pharmacological treatment of pathological conditions. Finally, the dental management of patients presenting related medical conditions, or using related medications is discussed in the (CBIO7190) Integration of Biomedical Sciences into Dental Practice course by faculty from the Oral Surgery Department. This allows students to integrate the biomedical sciences knowledge into the clinical management of dental patients.

In addition to the Biomedical Sciences Track (Basic Sciences I and II), a number of topics related to Oral and Craniofacial Biology are discussed in-depth in various courses throughout the curriculum, such as (PRET 7106) Cariology (biochemistry and physiology of saliva, chemical aspects of dental caries, oral ecology, biological caries risk factors), and (EVDI 7245) Development of the Craniofacial Orofacial Complex. Finally, the importance and the scientific methodology for understanding the biological processes that determine oral health and disease are emphasized in the course (DESP 7237) Evaluation of Scientific Literature and Epidemiology. These topics contribute an additional 46 hours to the biomedical sciences curriculum, for a total of approximately 772 hours. Overall, the biomedical sciences comprise 18.3 % of the total curriculum hours.
The UPRSDM recognizes the importance for future dentists to have a sound basic science foundation in order to perform appropriate clinical management of the patients. The dental student must not only learn to perform clinical procedures but should also acquire the biomedical knowledge necessary to understand what causes the patient's condition and how is best to treat it. The UPRSDM considers that introducing important clinical concepts while the dental student is exposed to the biomedical sciences is an excellent way for them to develop the concept that clinical and biomedical science are integrated in the daily management of patients. Early and recurrent exposure of the students to clinical concepts during their basic science courses stresses this integration between clinical and biomedical knowledge and serve as motivation during the early training period for the student that are looking forward to start treating patients. This integration enhances the dental student development and helps achieve the competencies needed for the clinical management of patients.

For the dental student to recognize this important concept, the UPRSDM provides multiple experiences where both basic and clinical sciences are combined. This is in part achieved by the participation of multiple faculty from the UPRSDM in the biomedical courses teaching both basic science and clinical topics. In the Basic Human Physiology for Dental Students course CBIO 7150 the general dentist and dental specialty faculty discusses cases of dental patients with conditions of the cardiovascular, respiratory, and endocrine systems. Clinical UPRSDM faculty also participates in Microbiology CBIO 7150 discussing topics on bacteriology and pathogenesis of periodontal diseases, endodontic infections, and caries. In the Gross Anatomy and Neuroanatomy courses CBIO 7110 and 7130 dental faculty perform cadaver and skull demonstrations of teeth extractions and injections of local anesthesia. In Gross Anatomy dental faculty also discusses manifestations of oral cancer, the importance of early detection, and the use of technology to improve early detection. Three basic science courses (General Histology, Oral Histology and Oral Pathology) are taught using members of the dental faculty who provide the perspective of a practicing clinician. Recognizing the importance of integrating basic and clinical sciences, the UPRSDM has recruited faculty with dual degrees (DDS or DMD and PhD) who are actively involved in the teaching of basic sciences and clinical courses, such as biochemistry, microbiology, cariology and research design. Examples of basic sciences topics taught by the dual degree faculty include collagen and its role in calcification, salivary macromolecules and their role in oral health or as a diagnostic fluid, oral ecology and physiology, biology of dental caries, applications of Omics in dentistry and others. All these concepts are reinforced in the course of Integration of Biomedical Sciences in Dental Practice CBIO 7190, where basic science faculty and clinical faculty review the concepts learned in the biomedical courses through the discussion of clinical cases and their management.

Each biomedical science course utilizes exams during the duration of the course to assess the student knowledge in the topics discussed and a final exam in order to determine the final grade. The student should achieve a passing grade in order to be promoted to the next academic year. Those students that fail to achieve a passing grade are given the opportunity to prepare, and tutoring is offered, to take reposition exams and demonstrate that they have acquired the minimum knowledge that requires the syllabi of each biomedical course in order to approve the course and be promoted.
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The other part of achieving integration of clinical and biomedical science occurs during the clinical training years, where the students apply the knowledge acquired in the biomedical sciences to properly diagnose and prepare treatment plans to manage the patients' conditions. Through literature reviews, systematic reviews, and case presentations the knowledge is reviewed, the scientific rationale is presented, and the students questioned to confirm that he/she maintains this basic science knowledge. An example of this can be seen in the Surgery clinic where the dental student has to present every case that is brought to the clinic and is questioned about the medical condition of the patient, pathophysiology of this condition, pharmacology of the medications taken, possible medical complications associated with the patient condition. Completing the Competency #18 of the course PRET-7400 in the 4th year of the student is the final experience to assess his/her knowledge in Biomedical Sciences.

Overall, we believe that the curriculum of the UPRSDM exposes the dental student to adequate experiences in clinical and biomedical science and that it is well distributed through the four years program in an integrated manner (Exhibit 2.17).

Exhibit 2.17 Courses where Foundation Knowledge is Measured

<table>
<thead>
<tr>
<th>UPRSDM Competency</th>
<th>Courses Contributing to Competency Progression and Attainment</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPRSDM 9. Apply biomedical science knowledge relevant to oral health care. (CODA Standard 2-15)</td>
<td>CBIO 7100, EVDI 7115, CBIO 7120, CBIO 7110, CBIO 7130, CBIO 7140, PRET 7106, CBIO 7150, CBIO 7160, CBIO 7170, PRET 7116, EVDI 7245, CBIO 7180, PRET 7126, PRET 7257, PRET 7286, EVDI 7275, CBIO 7190, PRET 7296, EVDI 7255, PRET 7346, PRET 7366, PRET 7356, PRET 7376, PRET 7336, PRET 7326, PRET 7387, PRET 7400, DESP 7467, PRET 7419, PRET 7429, PRET 7425.</td>
</tr>
</tbody>
</table>

Supportive Documentation

- Courses Syllabi

2-13 The biomedical knowledge base must emphasize that the oro-facial complex is an important anatomical area existing in a complex biological interrelationship with the entire body.

The UPRSDM is in compliance with this standard.

Courses in Biomedical Sciences are specifically designed for students and emphasize the importance of the orofacial complex as an integral part of the human body. Courses stress the
importance of treating the patient’s dental needs taking into consideration medical management factors, as well as the importance of the oral cavity in the etiology and diagnosis of human diseases. Biochemistry (CBIO 7100) includes several topics directly related to oral biology, such as salivary proteins and extra cellular matrix proteins, connective tissue calcification, saliva as a diagnostic fluid for systemic diseases, and the applications of genomics, metagenomics, and proteomics in personalized dentistry. Gross Anatomy (CBIO 7110) devotes 78 contact hours to head and neck anatomy. General Histology (CBIO 7120) and Oral Histology and Embryology (CBIO 7140) emphasize the histology and embryology of oral tissues. Microbiology (CBIO 7150) discusses all bacteria groups, viruses, fungi, and parasites that can cause oral infections or systemic infections with oral complications. Microbiology also devotes considerable teaching time exclusively to the microbiology of dental plaque and caries, periodontal diseases, endodontic infections, and all types of maxillofacial infections. The course also includes twelve hours of laboratory exercises devoted primarily the oral biology-related topics, such as plaque formation and synthesis of extracellular polysaccharides from sucrose by oral bacteria. The complex interrelationship between the orofacial complex and the entire body is further emphasized in Basic Sciences II. Basic Human Physiology for Students (CBIO 7160) emphasizes the interrelationship of the orofacial complex with the body systems, while (CBIO 7170) General Systemic Pathology discusses the oral findings associated with systemic diseases. Oral Pharmacology and Therapeutics (CBIO 7180) discusses medications used for the management of oral diseases and emphasizes indirect effects of other types of medications in oral health. Finally, in Integration of Biomedical Sciences into Dental Practice (CBIO 7190), students can integrate this information into the clinical practice of dentistry by discussing special considerations involved in the dental management of patients with medical problems.

Supportive Documentation

- Courses Syllabi – Course Syllabi for Biomedical Science Courses

2-14 In-depth information on abnormal biological conditions must be provided to support a high level of understanding of the etiology, epidemiology, differential diagnosis, pathogenesis, prevention, treatment and prognosis for oral and oral-related diseases.

The UPRSDM is in compliance with this standard.

Understanding the mechanisms of disease and disease processes is essential for effective diagnosis and treatment. The biological basis for understanding the etiology, pathogenesis, and treatment of pathologic conditions is provided initially in the courses of the Basic Sciences I: Structure and Function (CBIO 7100) Biochemistry; (CBIO 7110) Gross Anatomy; (CBIO 7120) General Histology; (CBIO 7130) Neuroanatomy; (CBIO 7140) Oral Histology and Embryology; and (CBIO 7150) Microbiology and in (CBIO 7160) Basic Human Physiology for Students, and in Basic Sciences II: Function and Disease (CBIO 7160) Basic Human Physiology for Dental Student doctors, and (CBIO 7170) General Systemic Pathology. It continues through the fall semester of the sophomore year with the courses (CBIO 7180) Oral Pharmacology and Therapeutics and (CBIO 7190) Integration of Biomedical Sciences into Dental Practice.
In the (CBIO 7170) General Systemic Pathology course, students acquire in depth knowledge of the biology of basic pathological processes and how they produce disease. The natural history of diseases is explained, and students develop an understanding of those that require special dental treatment. In the second year, the (EVDI 7255) Oral Pathology course develops the students’ comprehension of abnormalities in soft and hard tissues of the orofacial and the dento-alveolar complex. Topics include terminology, description of abnormalities, oral manifestations of systemic diseases, oral manifestations that are effects of medical treatment, and lesion treatment and abnormalities. The biological processes leading to oral diseases are also discussed in other courses such as Introduction to Assessment and Diagnosis of the Patient (EVDI 7105) and Cariology (PRET 7106) in the first year. In the second year, courses such as Oral Diagnosis and Treatment Planning (EVDI 7265); Assessment and Diagnosis of the Child and Adolescent (EVDI 7275); Preventive Dentistry (PRET 7116); Periodontics (PRET 7257); Endodontics (PRET 7296); and Oral Surgery (PRET 7266) also present topics on abnormal biological conditions and etiology of dental disease. The epidemiology of these conditions is presented in the course (DESP 7237) Evaluation of Scientific Literature and Epidemiology later in the third year, as part of evidence-based learning.

Supportive Documentation

- Courses Syllabi – Course Syllabi for Biomedical Science Courses

2-15 Graduates must be competent in the application of biomedical science knowledge in the delivery of patient care.

The UPRSDM is in compliance with this standard.

Biomedical Sciences knowledge offers the foundations required to interpret and apply advances in modern biology and therapies to clinical practice. In the Biochemistry (CBIO 7100) course students develop the necessary knowledge to understand the biological basis of oral phenomena. In this course, special emphasis is given to the application of molecular biology into the detection, prevention, and treatment of medical/oral conditions. Relevant topics include genetics of oral cancer, the uses of saliva as a diagnostic fluid for oral and systemic conditions, and the applications of genomics, metagenomics, transcriptomics, and proteomics in personalized dentistry. The Cariology (PRET 7106) course discusses in-depth the chemical and biological phenomena involved in the pathogenesis of dental caries and gives students the opportunity to understand the biological basis behind conventional and novel approaches for the diagnosis, prevention, and treatment of dental caries such as caries vaccines, replacement therapy, and probiotics. The course also discusses epidemiological and biological approaches to caries risk assessment, and novel caries detection methods, such as QLF and ICDAS.

New preventive dentistry therapies, products, and their biological mechanisms of action are presented in the Preventive Dentistry (PRET 7116) course. (CBIO 7180) Oral Pharmacology and Therapeutics discusses all new types of medications as they continue to develop, while new dental
materials are discussed in all the appropriate clinical courses. The anatomy, physiology, and biology of periodontal disease are reinforced in the Periodontics (PRET 7257) course, in which students are exposed to periodontal treatment, including the application of new periodontal surgical procedures. The relationship between periodontal disease and other chronic, systemic inflammatory diseases, such as cardiovascular disease and diabetes, and the importance of periodontal treatment to reduce the risk for these diseases is also discussed. Advances in implantology are also discussed in this course, emphasizing biological principles. The osseointegration of dental implants is discussed in the Oral Surgery (PRET 7266) and in Implant Dentistry (PRET 7366), which integrate basic sciences and clinical disciplines in order to present a clear view of the scientific basis for successful treatment with dental implants, including the use of growth factors and bone grafting for the regeneration of tissue needed for placement of implants. The principles of implant restoration are also covered in the Removable and Fixed Prosthodontics courses (PRET 7246 and 7276).

Students also receive training in reading and interpreting scientific literature through the Evaluation of Scientific Literature and Epidemiology (DESP 7237) course, in which they develop basic skills to interpret and evaluate literature and the application of information to improve the patient’s oral health. Exhibit 2.18 maps UPRSDM 9 to the student assessments.

Exhibit 2.18 describes how students are assessed in the application of biomedical knowledge in the treatment of patients.

### Exhibit 2.18 UPRSDM Assessment 9 to Outcomes Assessments

<table>
<thead>
<tr>
<th>UPRSDM Competency</th>
<th>First Year Assessments</th>
<th>Second Year Assessments</th>
<th>Third Year Assessments</th>
<th>Fourth Year Assessments</th>
</tr>
</thead>
</table>
| UPRSDM 9: Apply biomedical science knowledge relevant to oral health care. (CODA STANDARD 2-15) | Pre-clinical courses:  
- Daily Faculty Feedback  
- Dental Laboratory Projects  
- MCQ Written Quizzes and Examinations  
- Group Assignments  
- Case Discussions | Pre-clinical courses:  
- MCQ and Essay Written Quizzes and Examinations  
- Standardized Patient  
- Axium EHR Charting  
- Group Assignments  
- Case Discussions  
- Oral Presentations | PRET 7387:  
- Clinical Examination: Case Presentation of ASA II Patient with Multiple Clinic Needs with Patient Present  
- IPE Peer Assessment  
- Portfolio Systematic Literature Review  
- Portfolio Reflection | PRET 7400:  
- Clinical Examination: Adult Case Presentation with Patient Present  
- Clinical Examination: Case Patient Present  
- Clinical Examination: Pediatric Case Presentation with Patient Present  
- IPE Peer Assessment |
### UPRSDM Competency

<table>
<thead>
<tr>
<th>First Year Assessments</th>
<th>Second Year Assessments</th>
<th>Third Year Assessments</th>
<th>Fourth Year Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Portfolio Cases</td>
<td>• Portfolio Oral Presentation</td>
<td>• Daily Faculty Feedback</td>
<td>-Portfolio Systematic Literature Review</td>
</tr>
<tr>
<td>• Portfolio Oral</td>
<td>• Daily Faculty Feedback</td>
<td>• Student Self-Assessment for Trimester Clinical Evaluations</td>
<td>-Portfolio Reflection</td>
</tr>
<tr>
<td>Presentation</td>
<td></td>
<td>• Trimester Clinical Evaluations</td>
<td>-Self-Assessment of Cases in Portfolio</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Production Reports</td>
<td>-Portfolio Oral Presentation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PRET 7316: MCQ Written Examinations</td>
<td>Daily Faculty Feedback</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PRET 7326: MCQ Written Quizzes and Mock Board Examination</td>
<td>Student Self-Assessment for Trimester Clinical Evaluations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PRET 7346: MCQ, Fill in the Blank Written Examinations</td>
<td>Trimester Clinical Evaluations</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Production Reports</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>DESP 7467: Dental Externship Portfolio Forms</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>S-003 and F-002</td>
</tr>
</tbody>
</table>

### Supportive Documentation

SD 2-15.1 Meeting Minutes Between Basic Sciences Faculty and Clinical Faculty Where Incorporation and Integration of New Medical and Biologic Knowledge into the Previsions of Dental Care is Discussed.

- Courses Syllabi – Clinical Courses Syllabi PRET 7387 (pages 19 to 37), PRET 7400 (pages 15 to 37) and DESP 7467 (page 7)
Behavioral Sciences

2-16 Graduates must be competent in the application of the fundamental principles of behavioral sciences as they pertain to patient-centered approaches for promoting, improving and maintaining oral health.

The UPRSDM is in compliance with this standard.

Summary of the Behavioral Sciences Curriculum

Basic behavioral sciences concepts are introduced in didactic courses beginning the first year and continuing throughout the pre-doctoral curriculum. The curriculum also provides several formal didactic and clinical experiences in which students develop the necessary knowledge and skills to manage a diverse patient population. During their first year, students take three courses (EVDI 7105) Introduction to Assessment and Diagnosis of the Patient; (EVDI 7115) Human Development and Behavioral Management; and (PRET 7116) Preventive Dentistry that enable them to develop a core of knowledge related to human growth and development from different perspectives such as ecological and bio-psychosocial, and to apply those concepts to establish proper rapport with patients. These experiences are reinforced with hands-on practice in exercises using standardized patients, in interviews with subjects at different age stages at individual and community level, as well as during their early clinical experiences. In the first year, in Introduction to Assessment and Diagnosis of the Patient (EVDI 7105), students are introduced to knowledge and skills for effective communication and interviewing and cultural competence principles.

Problem-based Learning (PBL)

PBL as a teaching methodology is used in the Human Development and Behavioral Management (EVDI 7115) course to expose freshmen students in a hypothetical manner to a diverse patient population. Problem Based Learning cases are designed to contain learning issues related to cultural, age, socioeconomic, and gender diversities. Also, the students are exposed to (psychiatric) neurodevelopmental and neurodegenerative diagnoses like Attention Deficit Disorder and Alzheimer’s Disease in the cases used in PBL.

Behavioral concepts as they pertain to the promotion of oral health are also analyzed in two second year courses Introduction to Community Dentistry (DESP 7247) and Assessment and Diagnosis of the Child and Adolescent (EVDI 7275). In the first course, dental students can visit an underprivileged community to develop an oral health needs assessment after conducting interviews with people living in the community and community leaders. Students also visit organizations established within the community to collect data and learn more about the community’s socio-cultural environment. Students are required to develop a presentation of the experience and make recommendations based on their findings. The data collected and analyzed in the community and the oral health needs assessment findings are presented to community leaders and senior students that are enrolled in the Oral Health Promotion in Special Communities (PRET 7405) elective course. The senior students then design a community intervention using the data collected by the sophomore class. In this way, the disadvantaged community’s specific oral health needs are followed-up. In these visits,’ students can apply their interpersonal and
communication skills, as well as their skills in management of scientific data. In Assessment and Diagnosis of the Child and Adolescent (EVDI 7275), students learn behavioral principles applied to children and adolescent patients. They are also exposed to their characteristics and needs, as well as the issues of child abuse and neglect.

To assess the development of competency in this area, evaluations in the above mentioned courses are used as formative evaluations. Among the strategies used for this process are written examinations, essays, analysis of PBL cases, standardized patient exercises, observation, and direct feedback of student/patient interaction through case presentations and seminars.

In the third year course Dental Care for Special Patients (PRET 7316), students are also exposed to behavioral principles as they apply to patients of diverse ages, as well as to patients with mental, systemic, and chronic conditions and disabilities. In the course on Geriatric Dentistry (PRET 7376), also taught in the third year, students learn about psychosocial concepts and principles related to the aging patient. Students can apply these concepts in the junior and senior year clinical experiences.

In their junior and senior years, students integrate their knowledge and understanding of the behavioral sciences concepts into their daily clinical activities. They apply these principles in the junior year PRET 7387 Third Year Comprehensive Care Clinic, in which they develop a plaque control program that must include a preventive treatment plan, counseling patients on oral health maintenance, nutrition, and tobacco control, if needed. Junior Students must also complete 27 hours of community-based experiences in which, as part of the evaluation, they are asked to prepare a reflection on how to integrate this experience into their clinical work. Students may also be asked to prepare educational modules and/or brochures tailored to the needs of the communities visited.

During their senior year, students apply their behavioral sciences knowledge and skills in ten periods recreating a simulated private practice environment. These experiences are performed in the general clinic, using the auxiliary personnel of the clinical team that the student is assigned to. During these experiences, concepts such as communication skills, adequate delegation of procedures, patient rapport, behavioral management, organization, and planning are specifically emphasized. Students are assessed as they integrate these concepts in the delivery of dental care and management of a dental practice. An examination is offered in order to assess the students’ level of competency in this area. If students do not reach the established level of competency, they must repeat the experience until they attain the competency.

Students are also expected to apply behavioral sciences concepts in their intervention with patients regarding patient education and the prevention of oral diseases. Such services include the initial examination, recall examination, oral prophylaxis, fluoride application, oral hygiene instructions, and dietary counseling. Specifically, students are required to demonstrate competency in the following areas:

- Establishment of an effective and productive dentist/patient relationship
- Recognition of patient needs, expectations, and values
- Recognition of psychological needs and development in patient management
The level of competency in these areas is evaluated through direct observation and feedback. If students do not reach the established level of competency, they must repeat the experience until they acquire it.

In addition, senior students’ competency in the application of knowledge and skills in the behavioral sciences is assessed daily. In the trimester evaluations students’ communication and interpersonal skills are also assessed. This criterion is evaluated in the encounters they have with their patients, faculty, and staff. Students must reach the minimum level of competency in all criteria or go through additional experiences until they demonstrate competency.

In PRET 7445: Oral Health Issues in Sexual and Gender Minorities, an elective course for senior students, issues about sexual behavior, beliefs towards health practices and access to oral health services are discussed. The students can discuss the characteristics of the different groups that compose the LGBTTI community and the barriers that they encounter in seeking and having access to oral health care. The students have the opportunity in this course to work directly with the LGBTTI community in focused activities with them.

Exhibit 2.19 summarizes how students are assessed in the application of the fundamental principles of behavioral sciences as they pertain to patient-centered approaches for promoting, improving and maintaining oral health, including the ways by which students demonstrate effective interpersonal communication skills during patient interactions.

**Exhibit 2.19 UPRSDM Assessment 5 to Outcomes Assessments**

<table>
<thead>
<tr>
<th>UPRSDM Competency</th>
<th>First Year Assessments</th>
<th>Second Year Assessments</th>
<th>Third Year Assessments</th>
<th>Fourth Year Assessments</th>
</tr>
</thead>
</table>
| UPRSDM 5: Apply the basic principles of behavioral sciences as they pertain to patient centered approaches for promoting, improving and maintaining oral health. (CODA STANDARD 2-16) | Pre-clinical courses:  
- Daily Faculty Feedback  
- Standardized Patient  
- Dental Laboratory Projects  
- MCQ Written Quizzes and Examinations  
- Group Assignments  
- Case Discussions | Pre-clinical courses:  
- MCQ and Essay Written Quizzes and Examinations  
- Standardized Patient  
- Axium EHR Charting  
- Group Assignments  
- Case Discussions  
- Oral Presentations | PRET 7387:  
- OSCE  
- Portfolio Reflection  
- Student Self-Assessment for Trimester Clinical Evaluations  
- Trimester Clinical Evaluations  
- IPE Activities | PRET 7400:  
- OSCE  
- Portfolio Reflection  
- Student Self-Assessment for Trimester Clinical Evaluations  
- Trimester Clinical Evaluations  
- DESP 7467: Dental Externship Portfolio Forms S-012 Weekly and Final Reflection Essays and F-005 Extramural Center Activities Evaluation |
Supportive Documentation

SD 2-16.1 List of Student Experiences
- Courses Syllabi – Clinical Courses Syllabi PRET 7387, PRET 7400, DESP 7467 and Course Syllabi for Behavioral Sciences Courses

2-17 Graduates must be competent in managing a diverse patient population and have the interpersonal and communications skills to function successfully in a multicultural work environment.

The UPRSDM is in compliance with this standard.

During the junior and senior years, students provide care to the diverse patient population that visits the UPRSDM clinic. In addition, they are exposed to different population groups and communities in the Dental Practice Externship Course (DESP 7467) during their senior year in which they are assigned to different primary health care clinics around the island to provide care for a period of four weeks (four days a week). The clinics are in communities of different socioeconomic levels, thus enabling students to provide services to a diverse patient population. Currently, most centers are under Section 330 of the Public Health Act (HRSA), except clinics located in Carolina, Bayamón, San Juan and San Germán (SD 2-17.01). Under Section 330, these centers must provide primary health services to medically underserved populations and are governed by a community board. The centers are in Loíza, Cidra, Las Piedras, Ponce and Mayaguez. Also, an extramural center in the Oficinas Centrales de la División de Servicios para Adultos con Discapacidad Intelectual (DSPDI) of the PR’s Health Department is available for senior students (Figure 2-17.01). The main characteristic of that center is that focuses in treating the special needs population. Senior students also have the experience of providing care to special needs patients in a school for deaf children as part of the preventive and community rotations. Junior students are required on PRET 7387 course to participate in a minimum of 27 hours in community experiences in which they must interact with a diverse population (elderly, children, special needs, drug addicts, and homeless, among others). Also, Senior students participate in a minimum of 28 hours on Health Promotion activities and obtain bonus points for PRET 7400 when they participate on additional community activities (0.25 per activity). The students develop the skills of cultural sensibility through all experiences in the various settings. The different regions have specific cultural characteristics and behaviors with different socioeconomic backgrounds. Although Puerto Rican population mainly communicates in Spanish, English is also an official language. Students learn to communicate on both languages and to perform in different settings and scenarios.
Exhibit 2.20 Map of HRSA Section 330 Areas

HRSA 330 Centers throughout the Island of Puerto Rico

Exhibit 2.21 UPR School of Dental Medicine Extramural Centers throughout the Island of Puerto Rico

UPR School of Dental Medicine
Extramural Centers throughout the Island of Puerto Rico

The following exhibit 2.22 demonstrates the diversity of ethnicity of Puerto Rican population.
Exhibit 2.22 Diversity of ethnicity of Puerto Rican population

In the clinical setting, analysis and evaluation of student/patient interaction is assessed daily through direct observation from faculty members. The student’s ability to motivate and encourage patients to assume responsibility for their health is assessed through patient education activities and observation of student/patient interaction. An example of this assessment occurs during the active and completed recall clinical activities in which students assess their work and that of their peers and encourage patients to maintain and improve their oral health. If students do not reach the established level of competency, they must go through additional experiences until they perform at the established level.

The opportunity for our students to manage the diverse patient population has been a strength of the UPRSDM. Puerto Rico's diverse populations present unique oral health problems. UPRSDM reaches out to the community to provide oral health care and education by means of established agreements with centers throughout the island and by means of community activities during the academic year. Senior and junior students are assigned to these activities.

The following exhibit describes how student interpersonal skills and communication skills are assessed in a multicultural work environment.
Exhibit 2.23 How Student Interpersonal Skills and Communication Skills Are Assessed in a Multicultural Work Environment

<table>
<thead>
<tr>
<th>UPRSDM Competency</th>
<th>First Year Assessments</th>
<th>Second Year Assessments</th>
<th>Third Year Assessments</th>
<th>Fourth Year Assessments</th>
</tr>
</thead>
</table>
| 6: Communicate and collaborate with different health care professionals to manage patients from a diverse population and to function in a multicultural work environment. (CODA 2-17, 2-20) | Pre-clinical courses:  
  - Daily Faculty Feedback  
  - Standardized Patient  
  - Dental Laboratory Projects  
  - MCQ Written Quizzes and Examinations  
  - Group Assignments  
  - Case Discussions | Pre-clinical courses:  
  - MCQ and Essay Written Quizzes and Examinations  
  - Standardized Patient  
  - Axium EHR Charting  
  - Group Assignments  
  - Case Discussions  
  - Oral Presentations | PRET 7387:  
  - IPE Peer Assessment  
  - Portfolio Reflection  
  - Portfolio Oral Presentation  
  - IPE Oral Presentation  
  - Student Self-Assessment for Trimester Clinical Evaluations  
  - Trimester Clinical Evaluations | PRET 7400:  
  - IPE Peer Assessment  
  - Portfolio Reflection  
  - Portfolio Oral Presentation  
  - IPE Oral Presentation  
  - Portfolio Self-Assessment for Trimester Clinical Evaluations  
  - Trimester Clinical Evaluations |

Supportive Documentation

SD 2-17.1 Clinical Courses Manual (Clinical Assessments Forms) (PRET 7387 PDF pages 11 to 53, PRET 7400 PDF pages 71 to 168
SD 2-17.2 Patient Feedback Surveys and Questionnaires
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- Courses Syllabi – Courses Syllabi for Behavioral Sciences Courses, Dental Public Health and/or Epidemiology (DESP 7237 and PRET 7436)

Practice Management

2-18 Graduates must be competent in applying legal and regulatory concepts related to the provision and/or support of oral health care services.

The UPRSDM is in compliance with this standard.

Students are introduced to regulatory and legal aspects on the first month of their Dental studies. During the course DESP 7117. Students learn about the basic regulations including a typical Dental Act and the actual Puerto Rico Dental Act. They learn about the requirements to obtain a dental license, the causes for license suspension or cancellation and the role of the Dental Examining Board. Students also learn about infection control in the context of the Non-Maleficence bioethics principle and Social Determinants of Health in the context of the Justice bioethics principle. Students’ knowledge is assessed through online and written examinations. DESP 7127, covers topics regarding employee safety and infection control. During the course EVDI 7265, students learn about the legal issues of treatment planning, about informed consent and record keeping. This is assessed using written examination. In junior year, students take the course DESP 7357, Professional Development III. This course dedicates one fourth of its sessions on legal and regulatory issues. Then the course uses foundation information to apply dental regulation and legal issues to areas of practice management (Exhibit 2.24).

Exhibit 2.24 DESP 7357 Course Content

<table>
<thead>
<tr>
<th>Topic</th>
<th>Assigned Reading</th>
<th>Learning Exercises (Le)</th>
<th>Comments</th>
</tr>
</thead>
</table>
| **Introduction to principles of Law and Jurisprudence.**  
The judiciary system and legal duties and obligations.  
Contract Theory. Advocacy | Aymat, Chapters
- Introduction  
- The Judicial System  
- Appendixes A and B Owsiany article. | LE # 1  
The Intersection Of Ethics And Law | Owsiany article. |
| **Regulation of dental practice.**  
The Dental Act and other regulation. | Aymat, Chapters:  
The Puerto Rico Dental Act  
Regulation that affects Dental Practice  
Appendix C | Also suggested: Pollack.  
LE # 2  
Comparison of Dental Acts among different | Reflection on a clip from the movie: Philadelphia-litigation of a case. |
<table>
<thead>
<tr>
<th>Topic</th>
<th>Assigned Reading</th>
<th>Learning Exercises (Le)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulation of dental practice. The Dental Act and other regulation.</td>
<td>states in the United States of America.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principles of Torts: Malpractice and Informed Consent</td>
<td>Aymat, Chapters: Medical Malpractice and Informed Consent Appendix D, complete Medina v Vélez</td>
<td>LE # 4 Application of informed consent principles in clinical situations. Pollack article</td>
<td>Reflection on the “malpractice crisis” Balancing Doctors and Patients Interests- Lobbying</td>
</tr>
<tr>
<td>Informed Consent Clinical skills</td>
<td>Aymat, Chapters: Medical Malpractice and Informed Consent Appendix D, complete Medina v Vélez</td>
<td>LE # 5 Problem Based Exercise to apply Torts and Dental Act (like Competency Examination 4th year)</td>
<td>Reflection on the Movie: The Verdict</td>
</tr>
<tr>
<td>Tort-Cases/Jurisprudence Discussion</td>
<td>Class rep should arrange to view the movie The Verdict</td>
<td>LE # 6 Medical Records and Expert Witness in Malpractice Trial: Reflection on The Verdict (Movie)</td>
<td>Reflection on the Movie: The Verdict</td>
</tr>
<tr>
<td>Conference on Risk Management</td>
<td>Aymat, Chapter VIII- Risk Management</td>
<td></td>
<td>May be scheduled at evening, wait for class announcements</td>
</tr>
<tr>
<td>Jurisprudence wrap up and review for Test</td>
<td>Aymat, Chapter VIII- Risk Management</td>
<td>LE # 7 Reflection on Risk Management.</td>
<td></td>
</tr>
<tr>
<td>Test on Dental Law and Jurisprudence</td>
<td>Closed book. Individual Test</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The course is provided using the Blackboard software and lectures. The Socratic Method is used requiring students to read before class and become prepared to apply knowledge to hypothetical situations. Using Learning Exercises that the students need to complete before class is a method of assuring class preparation before the lectures. Assessment is done by a written examination.
Legal aspects are also learned during the practice management component of the course. Principles of contracts are taught in order to get an understanding of how the dental insurance companies get involved in oral health care and the impact in the dental practice. Labor laws are taught in this component as well. Employment safety is part of the content including the Employees Handbook, MSDS, OSHA regulations and others. Some areas of Business Law are covered, and the students learn the difference between a DBA practice, a Partnership and a Corporation. Assessment is done through a Learning Exercise in which the students have to prepare a Business Plan and answer questions on those areas. A written examination is also used to assess.

The UPRSDM developed the Resource Center for Dental Professional Development. This Center is a physical space with library, faculty and electronic resources to assist the students to discuss actual ethical or legal issues that arise while in the clinical scenarios. The focus is mostly on academic development of the student in this area. See included Center description. Relevant objectives of this Center are:

1. Provide meeting space for small groups for students taking DESP 7117 and DESP 7357.
2. Administer oral examinations on Professional Ethics.
3. Provide support to student while dealing with ethical, legal or risk management issues arising out of their clinical experiences. Module coordinators are kept aware of students’ concerns and supportive interventions by the Center.

Didactic knowledge is assessed using an online examination in the introductory first year course DESP 7117. Also, a written examination in the third year in the course DESP 7357. This junior year examination accounts for ¼ of the total grade of this course. However, students need to approve this specific examination. In case a student fails this examination, students must have remedial actions even if he/she approves the course overall.

During senior year, students’ assessment examination is offered to measure the competency. A written essay examination is provided with a hypothetical situation. The students need to demonstrate knowledge in four (4) areas to succeed in that examination. The areas are: 1) Professionalism and ethics, 2) Medical Malpractice and Professional Liability, 3) Informed Consent, and 4) Dental Act/Dental regulation.

Students are expected to identify the issues, apply, and judge the action of the dentist in that hypothetical situation.

**Exhibit 2.25 UPRSDM Assessment 3 to Outcomes Assessments**

<table>
<thead>
<tr>
<th>UPRSDM Competency</th>
<th>First Year Assessments</th>
<th>Second Year Assessments</th>
<th>Third Year Assessments</th>
<th>Fourth Year Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>3: Recognize professional, ethical, regulatory and legal issues associated with</td>
<td>Pre-clinical courses:</td>
<td>Pre-clinical courses:</td>
<td>PRET 7387:</td>
<td>PRET 7400:</td>
</tr>
<tr>
<td></td>
<td>• MCQ Written Quizzes and</td>
<td>• MCQ and Essay Written Quizzes and</td>
<td>• Portfolio Reflection</td>
<td>• Essay competency examination</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• May Assessment</td>
<td>• Portfolio Reflection</td>
</tr>
<tr>
<td>UPRSDM Competency</td>
<td>First Year Assessments</td>
<td>Second Year Assessments</td>
<td>Third Year Assessments</td>
<td>Fourth Year Assessments</td>
</tr>
<tr>
<td>-------------------</td>
<td>------------------------</td>
<td>-------------------------</td>
<td>------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>the practice of dentistry. (CODA 2-18, 2-21)</td>
<td>Examination s • Group Assignments • Case Discussions</td>
<td>Examination s • Standardized Patient • Axium EHR Charting • Group Assignments • Case Discussions • Oral Presentations</td>
<td>by Module Coordinator • Trimester Clinical Evaluations • Student Self-Assessment for Trimester Clinical Evaluations • Trimester Clinical Evaluations</td>
<td>• May Assessment by Module Coordinator • Student Self-Assessment for Trimester Clinical Evaluations • Trimester Clinical Evaluations</td>
</tr>
</tbody>
</table>

**Supportive Documentation**

SD 2-17.1 Clinical Courses Manual (Clinical Assessment Forms) (PRET 7387 PDF pages 11 to 53, PRET 7400 PDF pages 71 to 168
- Courses Syllabi – DESP 7117, DESP 7357, EVDI 7265

**2-19 Graduates must be competent in applying the basic principles and philosophies of practice management, models of oral health care delivery, and how to function successfully as the leader of the oral health care team.**

The UPRSDM is in compliance with this standard.

Comprehensive patient care is a philosophy taught to our students in all aspects of professional activity including practice management. The principles and concepts of teamwork, interprofessional healthcare and dentist as leader are discussed since the very first month of dental education through the course DESP 7117 Introduction to Professional Development I. One of the objectives and assessment is to recognize the importance of establishing an effective relation between the dental professional and other members of the health team. The dental profession is presented with its specialties, the education requirements and auxiliary personnel. DESP 7127 develop these principles further providing in depth knowledge of the functions and importance of the dental auxiliary personnel. Students have faculty from the Dental Assisting Program in the preventive course of first year. Interprofessional activities in pre - clinical courses include faculty
and students from the Schools of Medicine, Pharmacy and Physical Therapy Program. Interprofessional activities in clinical courses include faculty and students from the Schools of Pharmacy Nursing and Occupational Therapy Program.

Most dental pre-clinical courses have generalists and specialists as faculty. In such courses students interact with most dental specialists. In the clinic, most dental specialties are represented among the faculty. The rest of the faculty that students work within the clinic is comprised of behavioral faculty, informatics, dental hygienists and researchers. As part of their clinical work during junior and senior years, students are required to consult their cases with different relevant dental specialists. AxiUm software electronic health record is used to write and provide evidence of consultations or referrals. The recognition of the need to consult and the decisions using the specialist’s opinion are part of the overall clinical performance assessment, mostly during case presentations.

The curriculum also provides them experience in a simulated private practice environment during their senior year, designed to further familiarize students with dental assistants with expanded functions and how to delegate daily tasks. As part of this experience students schedule their daily clinical work using more than one dental unit per each AM/PM period, and delegate all reversible dental care to the assistants. Students are evaluated in leadership and supervisory skills, decision-making, time management, and productivity, among other criteria.

The school’s dental clinic has dental assistants as part of the staff. Students can work together with the dental assistants on a regular basis. The Medical Sciences Campus has an Expanded Duties Dental Assistant Program, whose students also do their chairside experiences with our junior and senior years students. During junior year in course PRET 7387, students participate in activities to develop skills in working chairside with an assistant. Working with dental technicians and laboratories is another aspect integral to the students’ clinical work. Students are guided and assessed regarding the process of submitting an order/prescription to a dental laboratory, communication with the laboratory as necessary and assessing the quality of the returned work before delivery to the patient. A Quality control procedure is in effect for this process. As part of the process a faculty member that has not been involved in the case, evaluate the product delivered by the laboratory. This faculty member musts assess the quality of the student, supervising faculty and laboratory work. Each case must comply with the standard of care and policies of the Department of Restorative Dentistry. Orthodontic appliance process requires a written prescription and comply with the orthodontic section specification. This process is done under the supervision of the orthodontic faculty. Students can contact the laboratory as needed.

**Practice Management Curriculum**

The curriculum includes several courses that present different models of oral health care management and delivery. Leadership is a core theme of the Introduction to Professional Development I (DESP 7117) course taught in the first month of Freshmen year. This is an introductory course that presents the profession to our entering class with the following content (Exhibit 2.26):
Exhibit 2.26 Content Introductory Practice Management Course

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
</table>

**Practice Management Content of DESP 7127**

In the Professional Development II (DESP 7127) course, students are introduced to the foundation to the development of practice management clinical skills. This experience is designed to develop the necessary skills to work effectively with expanded duties dental assistant using ergonomic principles and chair side assistance. Students are evaluated in areas such as: professional attitude, infection control, posture, and instrument transfer following ergonomic principles.

**Practice Management Content of DESP 7357**

During the junior year, students are required to take the course Professional Development III (DESP 7357), which covers topics such as setting practice goals and determining location, financing, budgeting, management, business planning, business regulations, human resources and marketing of a practice. Students are required to do field project on actual private practices on topics such as marketing, human resources, dental insurance, and dental technology/informatics. They also engage in the discussion of effective communication skills and how to establish rapport with patients. They are evaluated through written examinations, learning exercises and group presentations designed to assess their comprehension of practice management concepts (Exhibit 2.27).

**Exhibit 2.27 Practice Management Content of DESP 7357**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory of Healthcare Administration</td>
<td>Administration theories. Supervision. Human Relations. Leadership; Communication. Group and Organizational dynamics; Organizational Behavior; and Motivation.</td>
</tr>
</tbody>
</table>
### Business Law and Contract Issues
- Forms of enterprise organization: Corporation, Partnership, Solo and Group Practices; Basic legal principles of Contracts. Common contracts in dental practice; The Associateship Contract.

### The Business Plan

### Dental Office Planning and Design/Equipment and Technology

### Insurance and Third Payer Concepts

### Database management system (DBMS) and the electronic health record (EHR).
- Working as a Team; Group Exercise Concepts; and Views of Practice Management

### Exhibit 2.28 DESP 7357 Practice Management Group Projects

<table>
<thead>
<tr>
<th>Group</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>Field Inquiry on Marketing. Consult what the Puerto Rico CCDPR Code on Ethics says about ethical advertisement or marketing. Interview the president of the Ethics Commission on the topic. Visit actual dental practices in Puerto Rico and research how these practices advertise themselves, how they direct the efforts to get new patients and to keep those they have. How the recall system works. Look for printed promotional materials such as brochures, logos, letterheads etc. Also, investigate the Yellow Pages and Newspapers and provide examples on how dentists advertise for their services. Students must meet with the president/member of the Puerto Rico Dental Examining Board to discuss the issues regarding the marketing of dentists and issues that may be arising now or in the past. Prepare a 45 MINUTES presentation on the topic for their fellow students.</td>
</tr>
<tr>
<td>Group 2</td>
<td>Field Inquiry on Practice operations and human resources. Visit actual dental practices in Puerto Rico and research how these practices schedule their patients, how many personnel they have, and the personnel role in the provision of dental services, ask dentists how they recruit new personnel, how they evaluate that personnel and how personnel issues affect their practices. Check on the newspaper about dental personnel job positions ads. Interview faculty (Professor Aslín González) from the Dental Assisting Program in the Medical Sciences Campus and review the preparation the dental assistant gets in their training. Students must meet with a local officer of OSHO (state equivalent for OSHA) to discuss policy issues.</td>
</tr>
</tbody>
</table>
The final examination of course DESP 7357, assess knowledge from these group presentations.

**Senior year Dental Practice Externship (DESP 7467)**

The senior year Dental Practice Externship (DESP 7467) course develops awareness and a better understanding of the dental health problems of the people of Puerto Rico, as well as the development of a positive attitude and willingness to contribute to the solution of such problems. In the extramural clinical rotations in centers located throughout the island, students are exposed to the different clinical scenarios of Puerto Rico’s health care delivery models. Students also can practice and improve communication and manual skills in these scenarios. In order to guarantee the reliability of the extramural experience, uniform evaluation criteria have been developed for all centers. These include quantity and quality of clinical procedures completed and professional attitude. Also, as part of this experience, students are required to write reflective essays (one per week). In these essays, students must reflect on their experiences and comment on the provision of oral health care in Puerto Rico. Also, students must meet with an interdisciplinary group team that works in the center (social worker, primary doctor, nutritionist, pharmacist, nurse, and psychologist). Students attend to a seminar in oral health care delivery models as an important component of their extramural experience, in which they thoroughly discuss different oral health care models and the importance of the dentist working in the interdisciplinary group to obtain maximum health in the population.
Senior year Dental Practice Management Experiences (PRET 7400)

In Comprehensive Care Clinic PRET 7400, senior students participate in different experiences regarding practice management. They are exposed to six in-module experiences where they are expected to book appointments of three or more patients in a four-hour period. During this period, they must use efficiently and effectively the auxiliary personnel, physical resources and time management. They also must participate in two experiences as dental assistants’ role. The curriculum also provides them experience in a simulated private practice environment during their senior year, designed to further familiarize students with dental assistants with expanded functions and how to delegate daily tasks. As part of this experience students schedule their daily clinical work using more than one dental unit per each AM/PM period, and delegate all reversible dental care to the assistants. Students are evaluated in leadership and supervisory skills, decision-making, time management, and productivity, among other criteria. All senior students must complete 44 hours in this experience and be evaluated by a behavioral sciences expert.

Communication with Government Personnel

A Group project is mentioned and described in the curriculum as part of course DESP 7357. This project includes the interview to a government official, an experience that needs to be done and shared to the rest of the Students (Exhibit 2.29).

Exhibit 2.29 DESP 7357 Practice Management Group Project with Government Officials

<table>
<thead>
<tr>
<th>Group</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1: Marketing</td>
<td>Students must meet with the president/member of the Puerto Rico Dental Examining Board to discuss the issues regarding the marketing of dentists and issues that may be arising at the moment or in the past.</td>
</tr>
<tr>
<td>Group 2: Human Resources</td>
<td>Students must meet with a local officer of OSHO (state equivalent for OSHA) to discuss policy issues regarding safety and occupational health of dental personnel.</td>
</tr>
<tr>
<td>Group 3: Insurance</td>
<td>Students must meet with an officer of the Administration of Health Insurance, the state regulatory body for Medicaid funds and the governmental dental plan. The objective is to discuss policy issues regarding the dental coverage.</td>
</tr>
<tr>
<td>Group 4: Technology/Informatics</td>
<td>Students must meet with an officer of the Department of Health regarding the state policy on the electronic health record for dentists.</td>
</tr>
</tbody>
</table>

Students are also encouraged to get involved in student body organizations and students’ organizations. As part of that student governance activities, they get involved with university and governmental officers to address policy issues.

Student Assessment in Practice Management

Introductory courses in first year such as DESP 7127 use written examination to assess the attainment of the objectives. During 3rd year in the course DESP 7357 the students has 30 contact
hours on practice management as mentioned previously. Students must do a field project and present to class- that accounts for 10 % of the course grade. The topics are marketing, human resources, insurance and technology/informatics, previously described. At the end, students take a written examination that accounts for 25 % of the course grade. The examination covers the content of the lectures, group presentations and the comprehension of business planning concepts worked during the class and based in a learning exercise.

Clinical Competency Assessment

This examination consists of the following activity:

During the months, from March through May, each Senior Dental Student will oversee their Clinic Module supervision during a Clinical period. This exercise will simulate the supervision of a Professional Dental Group. Each student will coordinate with the faculty members of this component the scheduling of the experiences. The Clinical period consists of half day (4 hours).

During this period, the student will demonstrate the ability to apply leadership and managerial skills that are necessary in the management of a dental practice. The ability to apply concepts, philosophies and principles related to leadership, teamwork, time management, human resources, communication, supervision, and others is expected and assessed using the rubric provided below. It is expected from the student that he/she has knowledge about the procedures and activities that will be conducted in the module and to take actions and made decisions accordingly. He/she will be responsible for the implementation of short-term administrative strategies that could improve the efficiency and quality of the dental services.

The criteria to be evaluated are:

1. Organization
2. Time Management
3. Functions/Procedures Delegation (Auxiliary Personnel and Peers)
4. Adequate Utilization or Human and Physical Resources
5. Teamwork
6. Communication
7. Supervision of Dental Procedures
8. Problem Solving /Incident Management
9. Administrative Aspects/ Documentation
10. Production

The student must demonstrate proficiency in each one of the criteria.

** It is required to complete all the clinical experiences and activities before taking the competency exam.
Definitions

1. Organization
Demonstrate knowledge and control of the different elements regarding the activities that will be performed at the clinical module (dental procedures, records, tickets, etc.). The student must conduct a meeting with the Auxiliary Personnel and peers prior the test. He/she will assign the task to be performed, coordinate the patient’s appointments and time management.

2. Time Management
Clinical procedures should be performed during the designated period. Adequate patient flow and efficient time use during the procedures must be demonstrated in order to minimize down time.

3. Functions/Procedures Delegation
Demonstrate knowledge about the delegation of clinical procedures. The student makes adequate use of the human and physical resources using them accordingly their capacities and functions.

4. Adequate Utilization or Human and Physical Resources
Demonstrate knowledge in how to use the personnel, as well as, the equipment for an adequate dental service provision.

5. Teamwork
Demonstrate capacity to establish a professional relationship between him/her and fellow Dentists (peers), Dentists/Auxiliary Personnel. Student’s leadership and decision-making skills will be evaluated in these criteria.

6. Communication
Can adequately communicate ideas, instructions and give feedback to others.

7. Supervision of Dental Procedures
Demonstrate to have the evaluation criteria and knowledge necessary to determine if dental procedures are performed following the standards of quality, whether it was delegated to an Auxiliary Personnel or a Dental Student.

8. Problem Solving /Incident Management
Demonstrate problem solving skills and how to deal with different situations that can interfere with the good functioning of a dental practice, for example: misunderstandings, personnel or patient absence, administrative aspects, etc.

9. Administrative Aspects/ Documentation
The student is in charge of auditing the dental record (progress notes revision and signature) at the end of the clinical period, all procedure must be ticketed and paid, and that the area is clean at the end of the period.

10. Production: Amount of dental procedures charge in the module during the clinical period. The paid clinic tickets will be used to make the calculation.
Practice Management Evaluation Criteria

The Dental Student will:

**Organization**
- Demonstrated knowledge of the dental procedures to be done.
- All medical/dental records, instruments, and/or laboratories are available.
- Tray and dental chair preparation.

**Time Management**
- Starts and complete the clinical period as established in the clinical manual.
- Adequately manages “down time” in the clinical module.
- Has an adequate patient flow

**Functions/Procedures Delegation**
- Demonstrate knowledge about which procedures and functions are delegable.
- Efficient utilization of the Auxiliary Personnel by delegating adequately functions and procedures.
- Coordinate equitably assignment of functions/procedures delegation between the Auxiliary Personnel under his/her charge.

**Supervision of Dental Procedures**
- Demonstrate an ample perception of the procedures to be evaluated and is able to establish adequate priorities.
- Demonstrate adequate evaluation criteria to determine the quality of the clinical procedures performed.
- Offers feedback to the Auxiliary Personnel and peers related to the clinical procedures that are performing in the Clinic Module.

**Teamwork**
- Establish a good working environment for the completion of the daily tasks.
- Maintain a respectful environment within the members of the team.
- Give opportunity for analyzing, acting and/or suggests actions to improve teamwork.

**Communication**
- Demonstrate good skills for establishing an effective dialog in the workplace.
- Asks, listen and accept suggestions from the members of the team.
- Give instructions and feedback in a firm and assertive manner.

**Problem Solving**
- Demonstrate capacity to identify and analyze situations that can affect the good functioning of their practice.
- Promptly resolves situations that can present in the practice management.
- Demonstrate auto control during problem solving.
Administration/ documentation
- Makes sure that all medical/dental records are up to date.
- Makes sure that all tickets are printed and paid.
- Makes sure that all progress notes, prescriptions and/or laboratory orders are completed before dismissing the patient or the end of the clinical period.

Adequate utilization of human and physical resource
- Recognizes the skills and knowledge that all members of his/her team have and utilizes them efficiently.
- Utilizes adequately the physical facilities assigned to him/her (do not sub or super utilize them).
- Maintains the clinical area clean and orderly.

Production
- Utilizes adequately all the resources and options in the clinic module in order to conduct a cost-effective practice.
- Maintains record of the profits made during the clinical period.
- Is able to identify the aspects that limited the profit during the clinical period.

Criteria for Exam Approval
Under direct supervision of the faculty involved in the practice management component, the student must demonstrate proficiency in all evaluation criteria. The supervising faculty will follow the rubric based on the aspects defined above. If the student does not approve the exam, she/he will have a second opportunity. If in the second opportunity, he/she does not approve, then he/she must complete two (2) additional practice management experiences before retaking the exam. These experiences will have to be performed before May 30th of the academic year.
Exhibit 2.30 UPRSDM Competency 3 and 4 to Outcome Assessment

<table>
<thead>
<tr>
<th>UPRSDM Competency</th>
<th>First Year Assessments</th>
<th>Second Year Assessments</th>
<th>Third Year Assessments</th>
<th>Fourth Year Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>4: Apply the basic principles and philosophies of practice management to deliver oral health care and perform successfully as a leader in an oral health care team. (CODA 2-19)</td>
<td>Field Experience Presentation, Written Exam (EVDI 7115), Online Examination (DESP 7117)</td>
<td>Written Reflection, Community field activities (DESP 7247) 7357 Written Examinations Group Assignments Learning exercises</td>
<td></td>
<td>PRET 7400 Private Practice Simulation Competency Examination DESP 7467 Reflective essays Seminar Participation</td>
</tr>
</tbody>
</table>
Supportive Documentation

SD 2-17.1 Clinical Courses Manual (Clinical Assessment Forms) (PRET 7387 PDF pages 11 to 53, PRET 7400 PDF pages 71 to 168

- Courses Syllabi – Courses Syllabi DESP 7357, PRET 7400 and DESP 7467

2-20 Graduates must be competent in communicating and collaborating with other members of the health care team to facilitate the provision of health care.

The UPRSDM is in compliance with this standard.

Students are exposed to interact with other health professionals very early in their education. In the first year, students receive lectures and PBL experiences where they interact directly with Public Health Professionals and a Health Psychologist. They also have Inter Professional Education (IPE) activities in PRET 7136, Clinical Applications of Dental Skills with schools of Medicine, Pharmacy and Nursing. During the sophomore year in the course DESP 7247: Introduction to Community Dentistry a group of Public Health Faculty and researchers give lectures and assists the students in the development and follow-up of an oral health needs assessment. On the second year also have IPE experience on EVDI 7265 Oral Diagnosis and Treatment Planning with Schools of Medicine, Pharmacy and Nursing, these year during the PRET 7126 Introduction to Restorative Dentistry the dental student participate with the Physical Therapy student. Junior and Senior students participate in Inter Professional Education (IPE) activities in their clinic courses (PRET 7387 and PRET 7400). In this activity, the students interact with nursing and pharmacy students in the dental clinic. Each dental student shares a patient with the nursing and pharmacy students. They have to understand the implications in the dental treatment of the polypharmacy and the importance of monitoring the vital signs and management of systemic conditions in the dental appointment.

Clinical Experience

During the junior and senior year, the students participate in community health fairs. These experiences are monitored and evaluated by the School’s faculty. During these activities, students must educate the participants in the proper health care practices for them. Also, they must interact with other health care professionals communicating findings and promoting adequate referrals of the participants where appropriate.

Student Assessment

Exhibit 2.31 maps the clinical competency assessments that evaluate communication and collaboration with other healthcare providers.
Exhibit 2.31 UPRSDM Assessment 6 to Outcome Assessments

<table>
<thead>
<tr>
<th>UPRSDM Competency</th>
<th>First Year Assessments</th>
<th>Second Year Assessments</th>
<th>Third Year Assessments</th>
<th>Fourth Year Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPRSDM 6:</td>
<td>Pre-clinical courses:</td>
<td>Pre-clinical courses:</td>
<td>PRET 7387:</td>
<td>PRET 7400:</td>
</tr>
<tr>
<td></td>
<td>Daily Faculty Feedback</td>
<td>MCQ and Essay Written Quizzes and Examinations</td>
<td>IPE Peer Assessment Portfolio Reflection</td>
<td>IPE Peer Assessment Portfolio Reflection</td>
</tr>
<tr>
<td></td>
<td>Standardized Patient</td>
<td>Standardized Patient</td>
<td>Portfolio Oral Presentation</td>
<td>Portfolio Oral Presentation</td>
</tr>
<tr>
<td></td>
<td>Dental Laboratory Projects</td>
<td>Axium EHR Charting Group Assignments Case Discussions</td>
<td>Student Self-Assessment for Trimester Clinical Evaluations</td>
<td>Trimester Clinical Evaluations</td>
</tr>
<tr>
<td></td>
<td>MCQ Written Quizzes and Examinations</td>
<td>Group Assignments Case Discussions</td>
<td>Trimester Clinical Evaluations</td>
<td>Trimester Clinical Evaluations</td>
</tr>
<tr>
<td></td>
<td>Group Assignments Case Discussions</td>
<td>Case Discussions Oral Presentations</td>
<td>Trimester Clinical Evaluations</td>
<td>Trimester Clinical Evaluations</td>
</tr>
</tbody>
</table>

**Supportive Documentation**

SD 2-17.1 Clinical Courses Manual (Clinical Assessment Forms) (PRET 7387 PDF pages 11 to 53, PRET 7400 PDF pages 71 to 168
SD 2-20.1 List of Extramural Clinics and Sites Where Interaction and Collaboration Takes Place
SD 2-20.2 Student Case Reports, Journals, or other Documentation of Interpersonal Experiences
- Courses Syllabi – Course Syllabi for Behavioral Sciences Courses
Students are provided with structured learning in professional, legal, and ethical issues starting with the course Introduction to Professional Development I (DESP 7117). Professional responsibilities of dentists are discussed from an ethical, social, and legal perspective. The course introduces first year students to ethical dilemmas relevant to academic honesty and integrity in order to help them develop ethical reasoning skills. For example, we discuss issues related to unethical manipulation of patients in order to get to consent to treatment based on student’s need, unlawful distribution of prescription drugs to keep attentiveness, dishonest conduct during examination; all these are nationally recognized challenges regarding professionalism, healthy and professional conducts and the pressures of dental school. The school believes that if the situations presented are relevant to the students’ academic life, the objective of ethical reasoning and decision making is more effectively attained. The purpose of introducing students to ethical reasoning at this level is to foster professional and ethical attitudes in them that will help them face challenging situations, even before graduation. Students also learn about infection control in the context of the Non-Maleficence bioethics principle and Social Determinants of Health in the context of the Justice bioethics principle.

As mentioned earlier, the defined outcomes and assessment tools (in parenthesis) for this course include:

- Analyze and comprehend the importance of ethics and the dental professional. (Assignment I, class discussion and Movie Essay)
- Identify and describe the basic ethical principles (Assignment 1)
- Understand that health is influenced by the social, political and economic context of our society. (Quiz and Movie Essay)
- Recognize the basic laws related to the dental profession. (Assignment 1)
- Explain the importance of the dental health related to general health. (Quiz)
- Recognize the importance of establishing an effective relation between the dental professional and other members of the health team. (Quiz)
- Discuss the dentist’s role in community health and social issues. (Quiz)

At the beginning of the first year, students participate in the white coat ceremony. Students are invested with white coats, signifying the responsibility they are assuming by deciding to become health professionals. A dentist who has excelled in the dental profession is invited as guest lecturer in the ceremony. Ethics and professional behavior are an integral part of academic activities. Professionalism is assessed in every course. A rubric for the evaluation of this component is specified in every syllabus. We see professionalism as a core value embedded in every aspect of the student formation. The Professional Development II (DESP 7127) course discusses federal and local laws concerning occupational hazards, infection control in the workplace, and risk management. The course Professional Development III (DESP 7357), offered in the third year,
includes concepts and principles of practice management, ethics, and law. Ethical principles are learned in an eleven areas such as clinical care, practice management and research. For example, we discuss issues regarding ethical treatment plan decisions when the dentist feel pressure arisen from business related agreements or corporate contractual agreements. The case of Tuskegee research is brought to attention to discuss the ethical challenges of research.

Students are also exposed to learning experiences to fully integrate the concepts of ethics, law, and practice management. Students are exposed to a series of ethical issues in dentistry and given opportunities to apply them to clinical situations. They are encouraged to find their own answers based on principles recognized by the dental profession, as stated in the works of ethics scholars and professional codes of conduct (ADA, ADEA, local associations, and others). Critical thinking and analysis are strongly fostered. Correlations are constantly made between ethical “solutions” and legal obligations. Students are urged to ethically commit themselves to protect and promote the patients’ best interests and recognize the importance of observing a professional attitude when practicing dentistry.

During their clinical experience, students are encouraged and expected to apply ethical concepts in their daily work. As students’ progress through their clinical experiences, increasing emphasis is placed on diverse aspects of appropriate treatment plan presentation, proper referrals, and coordination of patient treatment.

The UPRSDM developed the Professional Development Resource Center. This Center is a physical space with library, faculty and electronic resources to assist the students to discuss actual ethical or legal issues that arise while in the clinical scenarios. The focus is mostly on academic development of the student in this area. Resources mostly used are:

- Faculty providing support on this area of Ethics and Legal aspects.
- Ethics video, written and online library of the American College of Dentists (ACD).
- Textbooks
- Hypothetical dilemmas for group discussions and examinations.

Senior students are offered the option to take elective course DESP 7401: Social, Ethical and legal issues relevant to Healthcare using Movies.

**Student’s Participation in Disciplinary Procedures**

In 2007, the dental medicine students approved a Code of Honor developed by the entering class of 2003-2004. Since academic year 2007-2008, the students’ Code of Honor is given to by all entering students to the school. The document was revised in January 2019; not having modifications on its content, nevertheless it has been renamed as Code of Academic Honesty. This change will be in effect for academic year 2019-2020 and serves as a peer review mechanism. The students also participate in the Campus Discipline Board through elected representation by the Campus student government. Any breach of the MSC Student Rules and Regulations may be presented to the Board of Discipline. The Board of Discipline is appointed at the beginning of the academic year. The composition is as follows: (1) One member of the Campus community appointed by the Chancellor; (2) Two Faculty
members appointed by the Academic Senate (in which students from all Schools including Dental Medicine has representatives); (3) Two students elected by the MSC General Students Council. The General Students Council has representatives from all Schools including Dental Medicine. The Board of Discipline receive the report of an examining legal officer for the case referred and will provide recommendations to the Chancellor.

**Student Assessment**

Exhibit 2.32 maps the clinical competency to evaluate the application of the principles of ethical decision making and professional responsibility.

**Exhibit 2.32 UPRSDM Assessment 3 to Outcomes Assessments**

**Professionalism and Ethics Independent Assessment**

Professionalism is assessed in every course. A rubric for the evaluation of this component is specified in every syllabus. We see professionalism as a core value embedded in every aspect of the student formation. The main course teaching and assessing this competency is DESP 7357 in third year. Ethics is the very first part of the course, finishing with the assessments before October.

<table>
<thead>
<tr>
<th>Recognize professional, ethical, regulatory and legal issues associated with the practice of dentistry. (CODA 2-18, 2-21)</th>
<th>Pre-clinical courses:</th>
<th>Pre-clinical courses:</th>
<th>PRET 7387:</th>
<th>PRET 7400:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Daily Faculty Feedback Essays (DESP 7117)</td>
<td>MCQ and Essay Written Quizzes and Examinations Standardized Patient Axium EHR Charting Group Assignments Case Discussions Oral Presentations</td>
<td>Portfolio Reflection May Assessment by Module Coordinator Trimester Clinical Evaluations Student elf Assessment for Trimester Clinical Evaluations Trimester Clinical Evaluations</td>
<td>Competency essay Examination Portfolio Reflection May Assessment by Module Coordinator Trimester Clinical Evaluations Student Self Assessment for Trimester Clinical Evaluations Trimester Clinical Evaluations DESP 7467: Dental Externship Portfolio Professional Attitude (Form F-003)</td>
</tr>
</tbody>
</table>
Assessment within course DESP 7357 is divided in two steps:

1. Ethical Principles and Reasoning objective written examination. This objective part assesses the student comprehension of the Principles of Bioethics (Autonomy, Non-Maleficence, Beneficence, Justice and Veracity), Professional ethics theory and the American Dental Association Principles of Ethics and Code of Professional Conduct. Students are also assessed regarding the Puerto Rico dental association code of ethics to provide a comparison among two codes of ethics.

2. Small Group Oral Examination- Class is divided in groups of no more than 5 students. Students are presented with an ethical dilemma and orally in group they need to analyze the dilemma and come up with solutions. The analysis is based on the Ethical Decision Model I of the American College of Dentists. Students are familiar to the model before the oral examinations by two previous sessions of small groups discussions with a faculty member.

Assessment in 4th year within PRET 7400

Competency # 3, including Ethics, Professionalism, Regulatory and Legal affairs is measured during the first trimester of 4th year using a written examination. In this examination, students evaluate a hypothetical situation. Students need to identify and explain bioethical principles, judge the dentist professionalism, explain the elements or malpractice, demonstrate the skill to obtain informed consent and apply the Puerto Rico Dental Act to the situation beforehand. Students must approve this examination.

Resources students are exposed/referred to in considering ethical decision-making.

During DESP 7117, in first year, the first reading in ethics is provided by the American College of Dentists. It is called Introduction of ethics, professionalism and ethical-decision-making. Students complete the online examination. Then students are exposed to lectures on the topic with which they have to apply the knowledge to specific situations or scenarios. The movie The Doctor is used as a tool to develop further the concept of professionalism and other important values. Students write an essay about the movie which is discussed in class.

Professionalism is part of the evaluation in each course as mentioned before, hence the faculty provides support for students as necessary.
During DESP 7357, in third year, students are provided with lectures, written assignments and discussions. Small groups discussions get the students familiar and competent in ethical decision making using American College of Dentist Decision Model I.

**Ethical Decision Model I**

1. Step 1—Determine the Alternatives
   Determine that there is clarity and agreement on all relevant facts.

2. Step 2—Determine the Ethical Considerations
   Consider the ethical implications of each alternative. Identify the ethical principles involved and determine the role of beneficence, nonmaleficence, autonomy, and justice. Determine the balance of good over harm.
3. Step 3—Determine the Considered Judgments of Others
   Consider what your colleagues have concluded in similar situations. Consider codes of
dental ethics, other codes, and views of other organizations.
4. Step 4—Rank the Alternatives
   Try to determine which alternative best satisfies the ethical requirements of the case.
   Select the course of action that best resolves the conflicts.

Clinical faculty also provides support during their clinical years. The Professional Development
Resources Center is a space developed during 2017 to provide for students support in this area. Students are encouraged to get assistance to address ethical dilemmas that may arise during their clinical work.

Supportive Documentation

SD 2-21.1 Ethics Competency Examination Rubrics
- Course Syllabi DESP 7117, DESP 7357, PRET 7387 and PRET 7400

Clinical Sciences

2-22 Graduates must be competent to access, critically appraise, apply, and communicate
scientific and lay literature as it relates to providing evidence-based patient care.

The UPRSDM is in compliance with this standard.

Curriculum Related to Clinical-Translational Research

Students are exposed to the basic principles of clinical and translational research early on, at the
1st Year. In the course DESP 7100 “Introduction to Research in Dental Medicine” 1st Year students receive an introduction to the concepts and theoretical background of research in dental medicine, including fundamental concepts of epidemiology, research design and analytical methods for assessing risk and exposures, identifying sources of bias and confounding, internal and external validity, fundamental concepts of biostatistics, and introduction to Evidence Based Dentistry and Systematic Reviews. At the end of the course the students can distinguish between different research designs and to recognize statistical results from peer-reviewed articles published in dental journals.

The course “Evaluation of Scientific Literature and Epidemiology” (DESP 7237) in the third year, builds upon the concepts introduced on “Introduction to Research in Dental Medicine” (DESP 7100) and expands the understanding of these concepts so that the students can begin to interpret statistical findings and understand the application of research to clinical decision making. The course begins with expanded topics on research designs and biostatistics, including methods for assessing validity of diagnostic tests, and hypothesis testing, and the hierarchy of the quality of evidence. In the second part of this course the students work in groups to perform a basic literature search on a topic of their interest, select an article and perform a thorough analysis of each individual part, including the hypothesis, research design and methods, and statistics. In the third part of this course the students work again in groups with a mentor to formulate a PICO question,
develop a research strategy and perform a systematic review. At the end of the course each group presents their systematic review and conclusion to the faculty and classmates.

In the senior year, students can apply this knowledge into making clinical decisions as part of their portfolio of the “Comprehensive Care Clinic” (PRET 7400) course. At the beginning of the year each student develops a PICO question based on a clinical topic related to one of his/her clinical cases. The PICO questions are discussed among the members of each Clinical Module and their Module Coordinator to select one topic that is most interest to all members. The students work as a group to develop a search strategy using PRISMA guidelines including setting inclusion/exclusion criteria and to select the most relevant articles meeting their inclusion/exclusion criteria. Each student is assigned one or more articles to perform data extraction and qualitative synthesis using specifically designed data extraction forms. The findings are discussed among the group in order to make conclusions and they are presented in the form of an oral case presentation to the entire class and clinic faculty, and as a written Systematic Review manuscript following the PRISMA guidelines. This experience provides the students the opportunity to identify and critically appraise the literature most relevant to their clinical questions, discuss their findings with their peers and faculty and use this knowledge into their clinical decision making and to educate their patients.

Techniques, denture adhesives, use of antimicrobials perioperatively for surgical procedures, minimally invasive procedures for caries control, immediate loading of implants, etc.

Students who have a deeper interest in research can engage in more advanced individual systematic review projects as part of the elective course “Research Experiences in Dentistry” (DESP 7411), which is available in the fourth year. Students who participate in this course work individually with a mentor to develop a Systematic Review on a topic of their interest and they are required to present their work at the Annual Research Forum of the UPR Medical Sciences Campus and the ASDA convention of the PR Chapter.

**Scientific Inquiry**

The ability of students to access, critically appraise, apply and communicate scientific and lay literature is assessed as part of the evaluation process in the “Introduction to Research in Dental Medicine”, “Evaluation of Scientific Literature and Epidemiology” (DESP 7237), and “Comprehensive Care Clinic” (PRET 7400) courses. As described in the previous section, these courses include hands-on exercises and group activities consisting of evaluation of selected articles, performing literature searches and systematic reviews, and presenting their findings to their peers and faculty using oral presentations and written reports. Even though these are group activities each student has to submit their individual work at each step, such as PICO question, Research Strategy, Qualitative Synthesis Exhibit, and Quality of Evidence assessment using standardized forms. Students are graded individually for each part, and for the group report, and also for their attendance to the group meetings and discussions. In the junior and senior Years, the points they receive for each of these exercises comprises a significant portion of their clinical portfolio value.
Supportive Documentation

SD 2-22.1 Students Assessment Forms
- Courses Syllabi – Clinical and Translational Research (DESP 7237)

2-23 Graduates must be competent in providing oral health care within the scope of general dentistry to patients in all stages of life

The UPRSDM is in compliance with this standard.

UPR Definition of the Scope of General Dentistry General Dentistry includes the evaluation, diagnosis, prevention and/or treatment (nonsurgical, surgical or related procedures) of diseases, disorders and/or conditions of the oral cavity, of the infant, child, adolescent, adult, older adult, and special needs patients. The practice of general dentistry identifies the dentist as the primary oral health care provider, supported by dental specialists, allied dental professionals, and other health care providers. The graduated must be competent to provide care using standard infection control practices, HIPPA and ethics standards and manage patient pain and anxiety. The UPRSDM has a list of competencies that the new general dentist must possess. These competencies are based on the CODA definition of competency: A complex behavior or ability essential for the general dentist to begin independent, unsupervised dental practice; it assumes that all behaviors and skills are performed with a degree of quality consistent with patient well-being and that the general dentist can self-evaluate effectiveness of treatment.

The competencies of the UPRSDM predoctoral dental education program include the knowledge, skills and values that a new general dentist must possess. The UPRSDM’s curriculum addresses these competencies and includes the academic activities that assure that the students acquire all competencies throughout their four years of study.

Stages of life:

At the UPRSDM recognizes that the human being is an integral self with equal intensity in the psychosocial and bio-physiologic aspect. Understanding these two dimensions is of vital importance in the process of establishing a treatment plan that satisfies the patients bio-psychosocial needs. Regarding human growth and development, the pediatric patient is considered from 0 years/age to 17 years-11 months. The adult patient is considered from 18 years of age and older. An effective dentist-patient relationship, resulting in an uplifting clinical and interpersonal dental experience for both the patient and the dentist is expected during the clinical years (3rd and 4th years).

Categorization of the Stages of Life:

The UPRSDM classified the stages of life into two categories:

a. Child/Adolescent 17 years of age and younger
b. Adult/Older Adult   18 years of age and older

In their junior and senior years, the students provide comprehensive dental care to a group of patients in need of dental treatment. These patients include children, adolescents, adults, and older adults, including geriatric patients. Students apply the different disciplines and skills of dentistry while working with these patients in order to achieve competency as a general dentist. The student performs all the procedures needed for each patient that are within the student’s scope of knowledge and skills.

Third Year

The Third Year Comprehensive Clinic Course has established a Clinical Cases Classification System. Third year students in the Comprehensive Clinic Course must complete a minimum of 16 patients for third year. These consist of Type 1-9 patients. Type 1-7 patients are usually adult and older adult patients, including geriatric patients. The students also have a minimum of 2 child/adolescent patients that continue treatment during their fourth year.

Fourth Year

Fourth year students in this Comprehensive Clinic Course must complete a minimum of 22 comprehensive patient treatment plans during fourth year and are usually adult and older adult patients, including geriatric patients. The students also have a minimum of 3 child/adolescent patients that continue treatment during their fourth year. The number of patients assigned to and completed by each student depends on the variety of clinical experiences offered by each patient, and his/her progress towards the achievement of the competencies.

The students are evaluated in both clinical courses (PRET 7387 and PRET 7400) using various assessment methodologies:

Pediatric dentistry assessments:
- Clinical competency exams: Case presentation with patient and pediatric dentistry faculty. Reevaluation of a completed case with patient present. Patient must have been completed by the student to be eligible for the reevaluation.
- Laboratory competency exam: Class I amalgam performed on a dental simulator.
- Pediatric rotations: Competency based trimestral clinical evaluations.

Adult/Geriatric assessments:
- competency based trimester clinical evaluations
- digital portfolio
- competency examinations
- rotations and health promotion activities
- minimum comprehensive patient treatment plans

Dental Externship Course (DESP 7467)

The extramural dental experience course DESP 7467 is for senior students. The course purpose is that students develop awareness and better understanding of dental health problems in Puerto Rico
as well as a positive attitude and willingness to contribute to the solution of such problems. The student delivers dental services to patients in different stages of life in the community.

All students’ experiences are evaluated using the following assessment methods:

- Quantity of procedures completed
- Quality of procedures completed
- Professional attitude
- Reflection essays
- Extramural center activities evaluation form
- Budget analysis
- Seminar oral presentation
- Final oral exam

**Exhibit 2.33 Number of Patients Visits Per Stage of Life for the Last Three Years**

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>0-17 Y/O</th>
<th>18 Y/O and Older</th>
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<tr>
<td>2018-2019</td>
<td>2,051</td>
<td>16,327</td>
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<tr>
<td>2017-2018</td>
<td>1,896</td>
<td>13,452</td>
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<td>2016-2017</td>
<td>1,687</td>
<td>10,104</td>
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</table>

**Supportive Documentation**

SD 2-17.1 Clinical Courses Manual (PRET 7387 PDF pages 11 to 53, PRET 7400 PDF pages 71 to 168)

SD 2-9.4 UPRSDM Summary Table of Number of Patient Procedures
At a minimum, graduates must be competent in providing oral health care within the scope of general dentistry, as defined by the school, including:

a. patient assessment, diagnosis, comprehensive treatment planning, prognosis, and informed consent;
b. screening and risk assessment for head and neck cancer;
c. recognizing the complexity of patient treatment and identifying when referral is indicated;
d. health promotion and disease prevention;
e. local anesthesia, and pain and anxiety control, including consideration of the impact of prescribing practices and substance use disorder;
f. restoration of teeth;
g. communicating and managing dental laboratory procedures in support of patient care;
h. replacement of teeth including fixed, removable and dental implant prosthodontic therapies;
i. periodontal therapy;
j. pulpal therapy;
k. oral mucosal and osseous disorders;
l. hard and soft tissue surgery;
m. dental emergencies;
n. malocclusion and space management; and
o. evaluation of the outcomes of treatment, recall strategies, and prognosis

The UPRSDM is in compliance with this standard.

The school’s defined competencies include the areas addressed in this standard. The learning experiences structured as part of the curriculum are designed to achieve these competencies and the school mission. Students are exposed to clinical experiences throughout the four years of their predoctoral studies. In their freshman and sophomore years they participate in early clinical experiences which complement their pre-clinical courses. In their junior and senior years, students have clinical courses and experiences which provide them enough opportunities to develop and apply knowledge and motor skills.

The UPRSDM graduate is a general dentist who exhibits professional and ethical behavior, diagnoses and manages oral health conditions and diseases, and provides culturally sensitive, compassionate, safe, and effective dental care for healthy and moderately medically complex patients across the stage of life. Procedural competencies of the UPRSDM graduate include restorative, fixed, and removable prostheses for patients who have exhibit occlusion that do not require full-mouth rehabilitation; implant-supported single-tooth restorations; non-surgical periodontal therapy; uncomplicated and surgical extractions; and non-surgical endodontics. The UPRSDM graduate can identify when to refer due to medical or dental complexity.

Overall competence in clinical care is assessed by the Module Coordinator in combination with the other faculty members in the Team. These faculty members consider the quantitative metrics and qualitative observations and complete a Clinical Competency Assessment (CCA) Form to
determine competence within each selected areas. The CCAs Forms are used to inform the student’s competence within an area (SD2-24.01). Trimestral evaluations of students assess the progress of each student including the comprehensive care of patients that have been assigned.

**First Time Pass-Rate**

Exhibit 2.34 details the first-time pass rate for the CAAs. Exhibit 2.34 First Time Pass Rates 2012 to 2019

**Exhibit 2.34**

<table>
<thead>
<tr>
<th>Competency</th>
<th>First Attempt</th>
<th>Second Attempt</th>
<th>Third Attempt</th>
<th>Total</th>
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<td>N</td>
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<tr>
<td>1</td>
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<tr>
<td>Case Based / Clinical Performance</td>
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<td>2</td>
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<td>Portfolio Based Assessment</td>
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<td>Module Supervision Exercise</td>
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<td>Pediatric Case Presentation &amp; Muco-Gingival Disorders Exam</td>
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<td>6</td>
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<td>Assessed During an Extraction</td>
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<td>Pediatric Dentistry Written Exam Case Based</td>
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<td>8</td>
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<td>Clinical Case Based Emergency</td>
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<td>Medical Emergency Hypothetical Case</td>
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<td>Procedure involving soft tissue surgery</td>
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<td>13</td>
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<tr>
<td>Active Recall</td>
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<td>Pediatric Dentistry Recall Visit</td>
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<td>16</td>
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<td>Written Periodontics Case Presentation and Re-evaluation RPC</td>
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# Competency Test Results 2013 – 2014

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<th></th>
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<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
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<td>1 Case Based Written Examination Clinical Performance Assessment by Module Coordinators</td>
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<td>3.57</td>
<td>1</td>
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## Competency Test Results 2017 – 2018

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## Competency Test Results 2018 – 2019

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**Patient Assessment, Diagnosis, Comprehensive Treatment Planning, Prognosis, and Informed Consent**

UPRSDM Competency 7: Assess, interpret, and integrate findings for the diagnosis of oral conditions in patients, including those with special needs.

**UPRSDM Competency 10:** Develop and discuss a comprehensive treatment plan, establish prognosis and gather informed consent for patients.

**Patient Assessment and Diagnosis**

Biomedical sciences courses establish the foundation knowledge for this competency. Dental students are exposed to these concepts from the beginning of their first year, in the course *Introduction to Assessment and Diagnosis of the Patient* (EVDI 7105). In this course, students practice their communication and interviewing skills utilizing a standardized patient. Students are also exposed to theoretical knowledge and practice of skills in basic life support measures and taking vital signs. The course *Clinical Applications of Dental Skills* (PRET 7136), also in the first year, gives the students the opportunity to participate in several oral diagnosis early clinical experiences.

During the second year, the concepts related to patient assessment and diagnoses are taught in the course *Oral Diagnosis and Treatment Planning* (EVDI 7265). This is an integrated course in which students learn the process of a comprehensive evaluation and patient diagnosis. Faculty members from various disciplines discuss the assessment and diagnosis of different oral conditions. Students practice their assessment and diagnostic skills through clinical exercises and participation in case presentations and discussions. In the course *Assessment and Diagnosis of the Child and Adolescent* (EVDI 7275) students learn these concepts applied to children and adolescents.

In the third year, students provide care to patients and apply and integrate their knowledge and skills for a comprehensive assessment and diagnosis. The course *Third Year Comprehensive Care Clinic* (PRET 7387) is designed to provide students with enough patient experience for the
development of clinical competence in the area of oral diagnosis and the development of a
treatment plan. Students examine, gather, record, and evaluate information that contributes to the
identification of abnormalities of the head and neck region that relate to the total health of the
patient. The purpose of this information is to establish a diagnosis in order to formulate a rational
treatment plan.

In the fourth year, students have the opportunity to apply assessment and diagnosis knowledge and
skills when they provide comprehensive patient care in the Comprehensive Care Clinic (PRET
7400). Before beginning the treatment of a patient, students must perform the diagnostic
procedures necessary to develop and present to a faculty member and the patient an appropriate
treatment plan based on the needs of the patient. The diagnostic procedures include medical and
dental histories, vital signs, intraoral and extraoral examinations, radiographs, diagnostic models,
vitality tests, periodontal chartings, diagnostic wax ups, and medical consultations, among others.
They must also approve the examination for Competency 4 (Assess, interpret, and integrate
findings geared towards diagnosis and prevention of oral conditions of patients of all ages).

**Comprehensive Treatment Planning and Prognosis**

Students are provided with ample opportunities to develop their competency in treatment planning
and case presentations. During the first year, this concept is initially presented in the course
Human Development and Behavioral Management (EVDI 7115). This course studies the human
being in his/her life cycle. It recognizes the human being as an integral self in which the
psychosocial and bio-physiologic aspects are equally significant. Understanding these two
dimensions is of vital importance in the process of establishing a treatment plan that satisfies the
patients' bio-psychosocial needs. In the course Preventive Dentistry (PRET 7116), also in the first
year, students have an early clinical experience where they discuss a clinical case and design an
individual plaque control program according to the patient's needs.

During the second year of the dental curriculum, pre-clinical courses provide content in treatment
planning in areas such as surgery, orthodontics, pediatric dentistry, periodontics, endodontics,
operative, and fixed and removable prosthodontics. At the end of the second year, students have
the opportunity to diagnose and prepare a treatment plan with clinical exercises, case-based
discussions, and an Objective Structured Clinical Examination in the course Oral Diagnosis and
Treatment Planning (EVDI 7265).

In the third year, the course Professional Development III (DESP 7357) continues to develop the
students’ understanding of informed consent. The course covers the origins, history, legal
development and doctrine of informed consent. The subject is discussed with a detailed study of
actual legal cases. Students do a learning activity in the classroom to fully understand the
requirements of an appropriate informed consent. They are presented a hypothetical scenario in
which they have to individually present all the information deemed necessary- based on legal and
ethical standards- to obtain an informed consent. They must also differentiate between informed
consent and medical malpractice. A written individual examination is used to measure their
knowledge of this topic.

In the fourth year, students must take a competency examination on legal issues. This is part of the
examination for SDM Competency 3 (Recognize professional, ethical, regulatory and legal issues
associated with the practice of dentistry. (CODA 2-18, 2-21). It is an individual examination in which a hypothetical case is presented. Students must recognize the relevant ethical and legal issues in that case and explain how they relate to the situation. The topics included in the competency examination are informed consent, medical malpractice, and the state Dental Act.

**Informed Consent**

The School of Dental Medicine has a written consent or acceptance form that must be signed by patients before receiving treatment from dental students. If the patient is twenty-one years of age or less, a parent or guardian must sign the consent form. During their third- and fourth-year clinical courses, students must obtain informed consent from patients, or their parents or tutors, before they complete their treatment plan and engage in actual treatment. After presenting a treatment plan to an assigned faculty member and obtaining approval, students have to discuss this approved treatment plan with the patient. When the patient agrees with the treatment, he/she signs the form consenting to receive treatment as presented. Emergency patients are also required to sign a consent form prior to receiving dental treatment.

Students learn the importance of explaining the treatment plan to patients and obtaining their consent for procedures in various pre-clinical courses. During the first year, the course *Introduction to Assessment and Diagnosis of the Patient* (EVDI 7105) teaches students to recognize the importance of a signed authorization for assessment and diagnosis. *Professional Development I* (DESP 7117), also in the first year, emphasizes the importance of applying ethical and legal principles in the profession.

During the second year, in the course *Oral Diagnosis and Treatment Planning* (EVDI 7265), students discuss the rationale for informed consent for treatment. Also, in *Assessment and Diagnosis of the Child and Adolescent* (EVDI 7275) a parental consent demonstration is given.

In the third year, the course *Professional Development III* (DESP 7357) continues to develop the students’ understanding of informed consent. The course covers the origins, history, legal development, and doctrine of informed consent. The subject is discussed with a detailed study of actual legal cases. Students do a learning activity in the classroom to fully understand the requirements of an appropriate informed consent. They are presented a hypothetical scenario in which they have to individually present all the information deemed necessary- based on legal standards- to obtain an informed consent. They must also differentiate between informed consent and medical malpractice. A written individual examination is used to measure their knowledge of this topic.

In the fourth year, students must take a competency examination on legal issues. This is part of the examination for SDM Competency 3 (Recognize professional, ethical, regulatory and legal issues associated with the practice of dentistry. (CODA 2-18, 2-21). It is an individual examination in which a hypothetical case is presented. Students must recognize the relevant legal issues in that case and explain how they relate to the situation. The topics included in the competency examination are informed consent, medical malpractice, and the state Dental Act.
Screening and Risk Assessment for Head and Neck Cancer

UPRSDM Competency 8: Assess risk and screen for head and neck cancer.

In the second year, the (EVDI 7255) Oral Pathology course develops the student’s comprehension of abnormalities in soft and hard tissues of the orofacial and the dentoalveolar complex. Topics include terminology, description of abnormalities, oral manifestations of systemic diseases, oral manifestations that are effects of medical treatment, and lesion treatment and abnormalities. The biological processes leading to oral diseases are also discussed in other courses such as Introduction and Assessment and Diagnosis of the Patient (EVDI 7105) and Cariology (PRET 7106) in the first year. In the second year, courses such as Oral Diagnosis and Treatment Planning (EDVI 7265); Assessment and Diagnosis of the Child and Adolescent (EVDI 7275); Preventive Dentistry (PRET 7116); Periodontics (PRET 7257); Endodontics (PRET 7296); and Oral Surgery (PRET 7266) also present topics on abnormal biological conditions and etiology of dental disease. The epidemiology of these conditions is presented in the course (DESP 7237) Evaluation of Scientific Literature and Epidemiology later in the third year, as part of the evidence based learning. In addition, the course Geriatric Dentistry (PRET 7376) provides to third year students lectures and discussions based on patient cases.

Clinical

In the UPRSDM clinic screening and risk assessment for head and neck cancer is performed on a routine basis to all patients seen, evaluated, or treated at the UPR School of Dental Medicine, including patients who walk in with dental/oral emergencies.

During the initial patient evaluation (patient screening) the patients are evaluated to identify patient dental needs. During this evaluation cancer risk assessment is discussed with the patient. New patient screening is scheduled every morning from 7:00 am to 11:00 am.

Third year students have a rotation at the Oral Diagnosis Clinic during the new patient Screening sessions, as described in Third Year Comprehensive Clinic (Course PRET 7387). Patients are evaluated by a faculty member, a third-year student and a dental assistant, assigned to the Oral Diagnosis Clinic. Recording of findings are included in the patient’s electronic record. Once patients are assigned to students, students are required to complete in detail: patient medical and dental history, including risk habits for possible cancer induced practices, intraoral examination, and radiographs, as needed. This information is recorded in the electronic dental patient record. During the Oral Diagnosis Case Presentation, the faculty member verifies and discusses with the student all the findings. All case presentations are presented by the student to a faculty member, either from the Oral Diagnosis Section or a faculty member assigned to the main clinic. This presentation is done in front of the patient and includes screening and risk assessment for head and neck cancer and other abnormalities.

Treatment plan options are discussed between the student and the faculty member. Once the faculty member and the student agree on the ideal treatment plan and different treatment options, the treatment plan is explained in detail to the patient. All treatment plan options are documented in the patient electronic record.
Immediately after the patient is dismissed, students perform a self-assessment of his preparedness and accuracy of findings, diagnosis and treatment plan options for the procedure after the case is presented and the treatment plan is approved. The student’s self-assessment and faculty evaluation of the student are discussed in detail between them. (See competency evaluation forms for Third Year Comprehensive Care Clinic (PRET 7387), and Fourth Year Comprehensive Care Clinic (PRET 7400) courses.

The UPRSDM annually conducts a special clinical activity with emphasis in oral cancer screening. This activity is called in Spanish “Dale cabeza a tus síntomas” (Give a thought to your symptoms). All third- and fourth-year students participate together with their clinical faculty. It is aimed to provide community experiences to students. The activity is included in the UPRSDM academic calendar and promoted island wide. The results have been excellent with a large number of participants screened from all over the island.

Recognizing the Complexity of Patient Treatment and Identifying when Referral is Indicated

UPRSDM Competency 11: Recognize the complexity of patient treatment and identify when referral is indicated.

The level of complexity of a specific Patient Treatment is determined on a case by case basis, depending on the findings. The UPRSDM has general guidelines, provided by the Director of the dental departments. These guidelines provide, in general terms, the levels of patient treatment complexity a predoctoral student should be involved with.

One of the purposes of involving third year predoctoral students in rotations during the new patient screening process is to have them involved in the evaluation of an unknown patient and determine if the case is exhibit for a student at the pre-doctoral, or should be referred to a post-doctoral program. During this rotation the complexity level, the criteria, reasons or observations utilized are discussed with the students. This is a rotation within Third Year Comprehensive Care Clinic (PRET 7387).

Both courses: PRET 7387, Third Year Comprehensive Care Clinic and PRET 7400, Fourth Year Comprehensive Care Clinic address clinical cases and the complexities of treatment.

For both courses, PRET 7387 and PRET 7400, students must perform a complete patient evaluation, once patients are assigned to them. Students have to determine the oral diagnosis and must present proposed treatment plan options. During this process students are encouraged to make consults with the dental clinical specialists to determine the problems observed and treatment options. The faculty consulted discusses the situations with the students and once again, the complexity of treatment and need of referral is re-assessed.

When the comprehensive patient case presentation is done, the students must prepare and discuss with the faculty the findings, diagnosis and treatment options.

The overall aim is to always assure what is best for the patients, while providing a dental education of excellence to the students.
Health Promotion and Disease Prevention

UPRSDM Competency 21: Apply health promotion and disease prevention principles in oral health care.

Since prevention is part of the philosophy of the school and the profession, it is present in all instructional activities in the curriculum. It is emphasized throughout all the pre-clinical and clinical courses through multiple learning experiences provided for the development of competencies.

The curriculum provides three pre-clinical courses which deal specifically with preventive dentistry. These are: Preventive Dentistry (PRET 7116) and Introduction to Community Dentistry (DESP 7247). Students are also exposed to different learning concepts of preventive dentistry in other disciplines, including operative dentistry, prosthodontics, endodontics, periodontics, pedodontics and orthodontics.

In the first-year course Preventive Dentistry (PRET 7116), the concepts of prevention, philosophy of preventive dentistry, levels of prevention, and primary preventive measures are discussed. Emphasis is given to the maintenance of oral hygiene by education, products, and techniques. Oral prophylaxis instrumentation techniques and application of nutritional concepts as part of primary prevention and oral health maintenance are also presented in the course.

In the second year, the course Introduction to Community Dentistry (DESP 7247), gives students the opportunity to analyze a community as the focus of health care delivery. Health promotion activities are conducted in the community to present the means available for the maintenance of sound oral hygiene.

In the third-year course Third Year Comprehensive Care Clinic (PRET 7387) students provide preventive patient care applying the knowledge and skills learned in previous courses. Students provide preventive services to all their assigned patients. Progress towards competency is evaluated through a clinical test, which consists of the following procedures: diagnosis, treatment plan, prophylaxis, and education performed in a single visit.

As part of the Comprehensive Care Clinic (PRET 7400), fourth year students provide primary preventive care in the control of oral diseases to all their patients who are under active treatment at the school. Students perform comprehensive and periodic oral evaluations, education, oral prophylaxis, fluoride treatments, sealants, and any other preventive measure indicated for the prevention or arrest of oral disease. They have the opportunity to evaluate the efficacy of preventive methods during their active treatments and through recall appointments. They also participate with faculty in evaluating active and completed patients in the School Quality Assurance Program (Active and Completed Recall experiences).

Third- and fourth-year students are required to participate in various health promotion community activities, where they provide oral health education to underserved groups and populations with special needs such as the elderly, patients with special needs, children with learning disabilities, and drug addicts. An example of this activities is “Dale Cabeza a tus Síntomas” a community outreach activity for early detection of oral cancer. Third year students dedicate a minimum of 18
hours to these activities, while fourth year students dedicate a minimum of 28 hours. Third year outreach experiences include community services and the presentation of preventive dentistry educational module or PowerPoint presentations of preventive dentistry topics. Among the fourth-year activities, which are part of the Comprehensive Care Clinic (PRET 7400), students provide preventive treatment at offsite clinic rotation.

Junior and senior year students are required to provide all patients with an intraoral and extraoral screening for head and neck cancer. If they identify a soft tissue lesion, they will consult with any of the diagnostic faculty member present at the clinic. If it necessary to refer the patient for further diagnosis or treatment, they will refer them to the Oral Medicine Clinic, and observe, and participate with their patient of the biopsy or any other procedure performed to the patient by the oral medicine specialist at that clinic.

As part of the Comprehensive Care Clinic (PRET 7400) during the fourth year, students are required to approve various clinical examinations, that are part of their competency assessment in providing preventive dentistry services. These examinations include an active recall visit and a pediatric recall visit.

The elective course Oral Health Promotion in Special Communities (PRET 7405) is offered to fourth year students to apply their knowledge and skills in developing a preventive and educational program for a disadvantaged community. They present the results of an oral health promotion intervention to the professor, classmates and community representatives.

**Local Anesthesia, and Pain and Anxiety Control, Including Consideration of the Impact of Prescribing Practices and Substance Use Disorder**

**UPRSDM Competency 12:** Manage local anesthesia, pain, and anxiety, and consider the impact of prescribing practices and substance use disorder.

Pain and anxiety control are introduced during the first year of the curriculum in the course Neuroanatomy (CBIO 7130). In Oral Pharmacology and Therapeutics (CBIO 7180), clinical correlations covering the more commonly used drugs in dental practice are included.

In the second-year course Apprehension and Pain Control in Dentistry (PRET 7286), students are introduced to the application of the psychological and chemical modalities for the prevention and treatment of pre-operative and post-operative patient apprehension and for pain control. They have demonstrations and must be able to perform a physical evaluation of the patient prior to the administration of a local anesthetic. In the course Oral Surgery (PRET 7266), topics related to pain control are also discussed, including the management of operative and post-operative pain and the prescription of medications.

In the clinic, students become competent and confident in managing apprehension, administering local anesthetics, and in writing prescriptions for drugs utilized in dentistry. Third- and fourth-year students are evaluated daily in the management of their patients during the clinical courses Third Year Comprehensive Care Clinic (PRET 7387) and Comprehensive Care Clinic (PRET 7400). Some of the competency clinical assessments for SDM Competency 12: Manage local anesthesia, pain, and anxiety, and consider the impact of prescribing practices and substance use
disorder (CODA 2-24e) in third and fourth year include anesthesia as an evaluation criterion. The competency is also assessed with OSCEs in the third- and fourth-year clinical courses (PRET 7387 and PRET 7400).

In the fourth year, students are allowed to administer nitrous oxide sedation to several patients if they participate in the elective course *Nitrous Oxide Inhalation Sedation in Dentistry* (PRET 7415).

**Restoration of Teeth**

**UPRSDM Competency 13**: Restore and replace teeth.

**Operative Dentistry**

In pre-clinical and clinical courses, students are exposed to a wide variety of learning experiences necessary in order for them to perform restorative procedures on patients. During the first year, the curriculum includes the *Dental Anatomy and Functional Occlusion* (EVDI 7125) course. In the first part of the course, students have the opportunity to learn the morphology and anatomy of human teeth, their function and their immediate associated parts. During the laboratory component students reconstruct in wax the coronal portion of permanent maxillary and mandible teeth following their correct contour and morphology. The second part of the course presents the basic knowledge of occlusion. During the laboratory component students mount study casts in a semi-adjustable articulator and wax-up opposing posterior quadrants on the casts. The cast is waxed to the functional occlusion using a modified addition waxing technique according to the setting of the articulator. There is also a dental materials component.

The first-year course *Cariology* (PRET 7106) introduces the fundamental biological, epidemiological, and clinical aspects of dental caries. As part of the course activities, the students perform a caries detection and scoring laboratory exercise.

The *Introduction to Restorative Dentistry and Principles of Intracoronal Restoration* (PRET 7126) pre-clinical course consists of a series of lectures, laboratories with natural and ivorine teeth, dental simulator laboratories and clinical experiences, intended to provide the students with the basic knowledge and skills necessary for an adequate performance in the field of Operative Dentistry during their clinical practice. Students acquire knowledge on the basic treatment of carious lesions that need to be restored with composite resin, amalgam, cast gold, and porcelain dental materials, from minimally invasive interventions to more complex situations of severely affected teeth. The course includes fissure sealants, vital bleaching techniques, and an overview on new materials for preventive and aesthetics considerations. Students have six dental simulation examinations, including Class I Amalgam and Cement Placement, Class II Amalgam, Class III Resin Based Composite, Class IV Resin Based Composite, and an examination that includes both Class III Resin Based Composite and Class II Amalgam. In this course, they also have an early clinical experience in which they place a maxillary and a mandibular rubber dam on each other.

Restoration of primary teeth is taught in the course *Pediatric Dental Treatment* (PRET 7277). The course is designed to provide the sophomore dental student with all the contemporary concepts in
managing the oral health of non-medically compromised children and adolescents. It includes topics on restorative techniques and local anesthesia techniques applied to pediatric dentistry. The course includes theoretical and laboratory instruction activities. Laboratory experiences are conducted using pediatric dental simulators in which students perform various exercises related to the preparation and restoration of primary teeth, such as Class I and Class II amalgams and stainless-steel crowns.

The course *Third Year Comprehensive Care Clinic* (PRET 7387), provides the third-year student with the initial clinical experiences in operative dentistry necessary for the development of the competencies expected of graduates. In addition, students must pass a Class I amalgam clinical examination. The clinical restorative treatment of children and adolescents also begins in this third-year course, in which students apply the knowledge acquired in pre-clinical courses and continue developing skills in techniques related to this age group.

Fourth year dental students’ experiences in operative dentistry take place in the course *Comprehensive Care Clinic* (PRET 7400). As students complete their assigned patients, they perform a variety of operative experiences that include restorations in amalgam, resin-base composite, indirect restorations, and bleaching. The students are also required to follow-up their pediatric patients from the third year at least every six months. They may be assigned new patients. In addition, pediatric dentistry experiences are offered through rotations at the UPR Hospital in Carolina and the Center for Maternal-Infant Oral Health (CSOMI) dental clinic.

As part of the course *Comprehensive Care Clinic* (PRET 7400), students must approve several examinations in order to meet Competency 13 (Provide restoration to reestablish form, function, and esthetics to patients of all ages). The operative component consists of two clinical competency examinations similar to the Puerto Rico State Board examinations. One is a Class III preparation restored with composite and the second is a Class II preparation restored with amalgam. These competency examinations must be approved in order to approve the course.

**Crowns**

In the pre-clinical course *Fixed Prosthodontics* (PRET 7276), all basic crown dental preparation and restoration techniques are discussed, studied, demonstrated and done in a laboratory in order to prepare the student for an optimal clinical performance in the comprehensive treatment of dental patients. The course emphasizes the mechanical, biological, and dental materials considerations related to fixed prosthodontics.

In the laboratory portion of the course, students perform dental preparations and impressions on ivorine teeth mounted on simulators. They mount the working casts obtained from the simulator on a semi adjustable articulator. The laboratory experiences include several types of dental crown preparations including screw retained temporary crown for implant, a porcelain fused to metal anterior crown, conventional fixed temporary restorations (2 single crowns), implant supported crown, interocclusal records, and diagnostic wax-ups, among other procedures.
The student makes the following dental preparations:

- Mandible posterior Full Metal crown preparation #18 and a Porcelain Fused to Metal crown preparation# 20.
- Maxillary posterior Porcelain Fused to Metal Veneer crown preparation #3 and a Porcelain Fused to Metal crown preparation# 5.
- Maxillary anterior Porcelain Fused to Metal crown preparation# 9 and a Porcelain Fused to Metal crown preparation# 11.
- All Ceramic crown preparations #6 and #8.

The students construct the following restorations:

- Temporary anterior crown for an endodontically treated extracted natural tooth with intraradicular retention (Post).

As part of the *Fixed Prosthodontics* second year course, students must pass various crown laboratory examinations. These include the following: a mandibular premolar abutment for full crown metal retainer, a mandibular molar abutment with buccal groove for full crown metal retainer, a maxillary molar abutment for full crown metal retainer, a maxillary premolar abutment for porcelain fused to metal crown retainer, a maxillary canine abutment for full crown porcelain fused to metal crown retainer, a maxillary central abutment for an all ceramic crown retainer, a single crown provisional restoration with intraradicular retention.

In the course *Third Year Comprehensive Care Clinic* (PRET 7387), third year students have clinical practice experiences in the construction of crowns. They must pass a Promotion Laboratory Examination, which is evaluated by three faculty members. The examination consists of preparations of porcelain fused to metal, a ceramic, and a cast metal crown. Students must also pass a written Promotion Review Test, which assesses their knowledge of fixed prosthodontics concepts.

Crown clinical experiences are part of the *Comprehensive Care Clinic* (PRET 7400). As the students complete their assigned patients' treatment plans, they perform all the crowns needed by their patients. Students must pass a fixed prosthodontics mannequin examination that resembles the Puerto Rico State Board examination on fixed prosthodontics, which includes crowns. This examination is part of the examination for SDM Competency 13 (Restore and replace teeth). They must also approve a clinical examination on a patient.

**Posts**

In the pre-clinical course *Fixed Prosthodontics* (PRET 7276), the student makes the following dental preparations:

- Preparation for a Cast Post and Core on endodontically natural extracted tooth.
- Preparation for a Prefabricated Post and Core on endodontically natural extracted tooth.

The students construct the following restorations:

- Wax pattern (or resin pattern) for post and core for mutilated non-vital extracted natural tooth.
Prefabricated post and composite resin core for mutilated non-vital extracted natural tooth.

As part of the Fixed Prosthodontics second year course, students must pass various laboratory examinations. These include the following: a dental preparation and interradicular resin pattern for a post and core on a natural tooth, and a dental preparation and cementation of a prefabricated post with a composite resin reconstruction on a natural severely damaged tooth.

**Communicating and Managing Dental Laboratory Procedures in Support of Patient Care**

**UPRSDM Competency 14:** Communicate and manage dental laboratory procedures.

Even though most of the laboratory phase is performed by a commercial laboratory, students and faculty are responsible for the supervision of the laboratory work. There is a Quality Control Committee in the Restorative Sciences Department, which along with students and faculty in charge of the case evaluates every phase or intermediate step of the fixed or removable work performed by the commercial laboratory and also is the responsible that each clinical step has been supervise and evaluated by a clinical professor different that the one in the Quality Control Committee before sending it to the laboratory. Students use a specially designed form to register approval of each step prior to continuing work in the clinic. Also, with pediatric patients, students are required to complete a quality assurance form for all the appliances. Every step is evaluated, approved and signed by the attending faculty in order to send the request to the laboratory. When the appliance is received it is evaluated by the student and faculty before insertion. If the appliance is not in compliance with the standards of care, it is returned to the laboratory for its correction or replacement.

**Replacement of Teeth Including Fixed, Removable and Dental Implant Prosthodontic Therapies**

**UPRSDM Competency 13:** Restore and replace teeth.

**Fixed Prosthodontics**

In the pre-clinical course *Fixed Prosthodontics* (PRET 7276), all basic fixed prosthodontics dental preparation and restoration techniques are discussed, studied, demonstrated and done in a laboratory in order to prepare the student for an optimal clinical performance in the comprehensive treatment of dental patients. The course emphasizes the mechanical, biological, and dental materials considerations related to fixed prosthodontics.

In the laboratory portion of the course, students perform dental preparations and impressions on ivorine teeth mounted on simulators. They mount the working casts obtained from the simulator on a semi adjustable articulator. The laboratory experiences include several types of dental preparations, including conventional fixed temporary restorations (4 bridges), working casts for conventional fixed partial dentures, interocclusal records, and diagnostic wax-ups, among other procedures.
The student makes the following dental preparations and restorations:
   a. Mandibular posterior temporary bridge.
   b. Maxillary posterior temporary bridge.
   c. Maxillary anterior temporary bridge.
   d. Anterior single crown, casting and porcelain finish.

The student performs the following intermediate steps for a permanent fixed restoration:
   a. Diagnostic wax-up for a mandibular posterior bridge.
   b. Diagnostic wax-up for a maxillary posterior bridge.
   c. Diagnostic wax-up for a maxillary anterior bridge.
   d. Maxillary working model and dies.
   e. Maxillary final impression using elastomeric material.
   f. Articulation of maxillary working model on a semi-adjustable articulator using occlusal record.

As part of the Fixed Prosthodontics second year course, students must pass various laboratory examinations. These include the following: A preparation of a posterior all metal crown restoration, preparation of PFM posterior crowns restoration (maxilla and mandibular), three unit provisional bridges (maxilla and mandibular), preparations for a posterior PFM crown veneer, preparations for anterior PFM crowns and 3 unit provisional anterior restorations and all ceramic anterior crown preparations and temporary restorations.

In the course Third Year Comprehensive Care Clinic (PRET 7387), third year students have clinical practice experiences in the construction of fixed partial prostheses. They must pass a Promotion Laboratory Examination, which is evaluated by three faculty members. The examination consists of preparations of porcelain fused to metal, a ceramic, and a cast metal crown. Students must also pass a written Promotion Review Test, which assesses their knowledge of fixed prosthodontics concepts.

Fixed prosthodontics clinical experiences are part of the Comprehensive Care Clinic (PRET 7400). As the students complete their assigned patients’ treatment plans, they perform all the fixed prostheses needed by their patients. Students must pass a fixed prosthodontics mannequin examination that resembles the Puerto Rico State Board examination on fixed prosthodontics. This examination is part of the examination for SDM Competency 13 (Restore and replace teeth). They must also approve a clinical examination on a patient.

Removable Prosthodontics

During the second year, the curriculum provides a series of learning experiences in replacement of missing teeth in the Removable Prosthodontics (PRET 7246) course. This lecture and laboratory course provides the preclinical dental student with the necessary knowledge of the clinical and laboratory procedures in order to design and construct removable complete dentures, partial dentures, immediate dentures, and implant supported removable prosthesis. The laboratory component is taught by using study models and/or dentiforms, to expose the students to simulated partially and completely edentulous clinical situations. Some procedures are demonstrated by the teaching staff, either directly or with audiovisual aids. Students have laboratory experiences and
examinations related to the fabrication of a set of complete dentures, an immediate complete denture, and the design process of a removable partial denture.

During the third year, the *PRET 7387 Third Year Comprehensive Care Clinic* course is designed to provide the students the opportunity to develop their skills in the treatment of patients needing removable complete and partial dentures. Patients are selected from a general pool generated by the screening done by the Diagnostic Department and accepted by the Removable Prosthodontics faculty. Students must be able to complete 6 units by the end of the third year. The experiences should include: a maxillary complete denture with a mandibular removable partial denture, or a maxillary removable partial denture with a mandibular removable partial denture, or maxillary immediate denture replacing at least 5 anterior teeth with a mandibular complete denture, or a mandibular removable partial denture.

During the fourth year, as part of the *Comprehensive Care Clinic* (PRET 7400), students rehabilitate patients with removable prostheses. They complete 8 units (4 complete dentures, immediate dentures or overdentures and 4 RPDs). Valplast material can only be used in combination with a metal framework and with the permission of a prosthodontics faculty member. Towards the end of the fourth year, a removable prosthodontics competency examination is administered, which includes the design and laboratory prescription of a given case and is part of the examination for Competency 13 (Provide restoration to reestablish form, function, and esthetics to patients of all ages).

**Implants**

In the second year course *Fixed Prosthodontics* PRET 7276 and *Removable Prosthodontics* PRET 7246, the laboratory experiences include several types of implant related activities: a surgical splint for implant placement, a working cast with flexible tissue simulator for implant rehabilitation, and a screw retained temporary crown for implant, an implant supported crown, working casts for conventional and implant supported fixed partial dentures and open and close implant impression techniques.

Students also perform clinical experiences in implant dentistry. Third year students must present the prosthetic and surgically treatment in the Implant Board for a patient who needs a dental implant restauration. The implant is surgically placed during third year and restored during the senior year. The treatment should consist of one or more single unit posterior implants crowns or two implant supported bridge, also can be a two to four implant supported over denture.

**Periodontal Therapy**

**UPRSDM Competency 15**: Manage periodontal therapy.

Beginning in the sophomore year and continuing through the third year, students take an introductory course in *Periodontics* (PRET 7257). This course provides the knowledge and understanding of the biology and pathology of the periodontium essential for the development of the necessary diagnostic skills to perform initial periodontal therapy according to the concept of
comprehensive dental care, and to understand the importance of periodontal surgical procedures in the outcome of the overall treatment.

During the clinical courses, students are responsible for the periodontal health of their patients, including those who only need prophylaxis and oral hygiene instruction. They provide initial periodontal therapy, as well as three-week and three-month periodontal reevaluations. They also perform the surgical procedures that may be necessary after the initial therapy. As part of the quality protocol in the Restorative Sciences Department, students have to get approval or clearance for periodontal procedures before starting a fixed or removable restoration.

In the third-year course PRET 7387 Third Year Comprehensive Care Clinic, every trimester, the students must work on the development of all competencies including periodontal treatment, from the diagnosis to the 3 weeks’ reevaluation.

During the senior year, as part of the course Comprehensive Care Clinic (PRET 7400), students must provide all the periodontal treatment that their patients need. They perform comprehensive periodontal case presentations, initial periodontal therapy, three weeks reevaluations, periodontal surgeries, three months reevaluations and maintenance procedures. The clinical competency examinations for Competency 15 are the following:

- Case Presentation
- Weeks Reevaluation
- RPC

**Pulpal Therapy**

**UPRSDM Competency 16:** Manage pulpal and periapical therapy.

During the second year, in the Endodontics course (PRET 7296), students obtain the theoretical background related to the prevention and treatment of pulpal and periapical diseases. Concurrent with this didactic course, a laboratory portion includes exercises to perform conventional root canal therapy and non-surgical re-treatment. Acrylic and natural extracted teeth are used in the exercises.

In the course Pediatric Dental Treatment (PRET 7277), second year students learn pulpal therapies as indirect pulp capping, direct pulp capping, and management of other pulpal disorders of traumatic origin in the primary and in the young permanent dentition.

Junior and senior students are exposed to clinical experiences that substantiate their theoretical background in endodontics, mainly in the treatment of pathological pulpal and periapical problems. The clinical courses also correlate endodontics with other fields of dentistry, with special emphasis on its importance in the conservation of a healthy stomatognathic system.

The third-year course PRET 7387 Third Year Comprehensive Care Clinic has didactic, laboratory, and clinical components. The didactic component consists of a series of lectures related to the prevention and treatment of pulpal and periapical diseases, endodontics clinical topics like vital pulp therapy, success and failure of endodontic treatments, surgical and non-surgical re-treatments, endodontic-periodontics’ relationships, and management of traumatic injuries, among others. The
laboratory part consists of root canal treatments on an anterior, maxillary two-rooted premolar, maxillary molar and mandibular molar, either acrylic or extracted teeth. During the month of August, students have four three-hour clinical periods to work on the laboratory part. The clinical component exposes students to diagnosis, access openings, working length determination, instrumentation, master point adaptation, and obturation in anterior teeth and premolars. The student may also be exposed to emergency treatment of acute pulpal and periapical conditions. During the third year, students complete a minimum of two clinical cases on anterior or premolar teeth. The assessments include a written test on endodontics clinical topics like vital pulp therapy, success and failure of endodontic treatments, endodontic-periodontics’ relationships, among others, root canal treatments in acrylic and natural teeth including molars, a case discussion of a clinical case with the student’s self-assessment, a summative endodontic clinical case on an anterior or premolar tooth, and a promotion test (root canal treatment on an anterior acrylic tooth mounted in a dentiform on a pole in a laboratory setting simulating a clinical case).

As the senior students complete their patients in the Comprehensive Care Clinic (PRET 7400), they perform at least two additional endodontic treatments (one must be on a premolar tooth). The examination for Competency 12 consists of two parts: a case-based written test and a laboratory examination on an acrylic premolar with two roots mounted in a dentiform on a pole in a laboratory setting simulating a clinical case. During the senior year, students must have successfully completed at least two endodontic treatments on patients prior to taking the laboratory component of the competency examination.

In the PRET 7387 Third Year Comprehensive Care Clinic and the Comprehensive Care Clinic (PRET 7400), students also have clinical experiences providing pulp protection, performing pulp cappings, diagnosing pulpal pathology, and providing pulpal emergency treatments. During their pediatric dentistry rotations in the fourth year, they also have the opportunity of performing pulpotomies in primary teeth on pediatric patients.

**Oral Mucosal and Osseous Disorders**

**UPRSDM Competency 17**: Manage oral mucosal and osseous disorders.

Students are exposed to different learning experiences in relation to the diagnosis and treatment of oral mucosal disorders. During freshman year they take the *Oral Histology and Embryology* (CBIO 7140) course in which the normal and abnormal tissue structures are presented. In the sophomore year, in the *Oral Pathology* (EVDI 7255) course, they study the different oral mucosal disorders and manifestations. In the third year, they take the course *Review for National Board Dental Examination II* (PRET 7326), which prepares them for the National Board Dental Examination Part II. Short lectures on the topics covered in the examination, discussion of board type questions, and practice exams are provided. Among the topics covered in the course are oral pathology and oral medicine. At the end of the course, a mock examination is administered. During their third- and fourth-year clinical courses and as they recruit and treat patients in the clinic, students identify, diagnose, and manage oral mucosal disorders in their patients, as well as any other oral pathological lesion they present.
Hard and Soft Tissue Surgery

UPRSDM Competency 18: Manage hard and soft tissue surgical procedures.

The School of Dental Medicine curriculum provides pre-clinical and clinical experiences to develop competency in oral surgery. A basic course, Oral Surgery (PRET 7266), is offered during the sophomore year. This course presents and discusses the correct method for removal of erupted teeth and fractured roots, as well as assessment of surgical risk patients and complications that might result. Pre-prosthetic surgical techniques, biopsy, and the management of uncomplicated infections within the oral cavity are taught, as well as proper record filling and prescriptions.

In the third-year course Advanced Oral Surgery (PRET 7336), students are exposed to the special considerations that should be considered in the diagnosis, management, and treatment of oral and maxillofacial pathology, trauma, temporomandibular joint / temporomandibular dysfunction, dentofacial deformities, and pre-prosthetic surgery. At the end of the course, students should be able to recognize and diagnose oral and maxillofacial pathology, trauma, and deformities and recognize which conditions they can treat or refer to an oral and maxillofacial surgeon, or to the corresponding dental, medical, or surgical specialist.

As part of the clinical courses Third Year Comprehensive Care Clinic (PRET 7387) and Comprehensive Care Clinic (PRET 7400), junior and senior students work in the Oral Surgery Clinic, where they perform surgical treatment on their patients. They are exposed to non-medically and medically compromised patients for evaluation and surgical treatment who may require complicated extractions, pre-prosthetic surgery, emergency treatment of acute dental and orofacial conditions, pathology and trauma, alveolectomy, treatment for tooth impaction, exostosis excision, biopsies, and other hard and soft tissue surgical procedures. They also develop skills in post-operative treatments that could include suture removal and any other palliative treatment needed by the patient.

Dental Emergencies

UPRSDM Competency 19: Manage dental emergencies.

The UPRSDM Oral Diagnosis Clinic receives patients with dental emergencies on a daily basis. Fourth year students provide treatment as needed, during their rotations to the Dental Emergency Clinic (Described below as part of Fourth Year Comprehensive Care Clinic (PRET 7400).

Students are responsible for managing the dental emergencies of their assigned patients if they arise. They receive the didactic instruction for the management of dental emergencies in several pre-clinical courses. The first-year course Introduction to Assessment and Diagnosis of the Patient (EVDI 7105), introduces students to the art of medical history taking and patient interviewing. They develop skills in communication that enable them to establish proper rapport with patients and arrive at an initial assessment. Course EVDI 7275 - Assessment and Diagnosis of the Child and Adolescent includes topics regarding the management of dental emergencies to the younger population of patients.
Didactic courses given prior or during third year provide the UPRSDM de knowledge and theory involved dental emergencies. Examples of such courses are the second-year course *Oral Diagnosis and Treatment Planning* (EVDI 7265). This course initiates students in extra and intraoral examinations, chartings, records, diagnostic aids, and the development of treatment plans. The course *Endodontics* (PRET 7296) exposes second year students to the causes of pulpal injury and the theory that underlies the principles of endodontic treatment.

The third year course *Medical Emergencies* (PRET 7356) provides theoretical knowledge regarding the prevention and treatment of common dental emergencies: pericoronitis, acute alveolar abscess, dry socket, stomatitis, cellulitis, soft tissue injury, trauma to bone, broken needles, aspiration of instruments, displacement of teeth and roots to surrounding tissues, and maxillary sinus involvement. Students also participate in a hospital emergency room rotation with oral and maxillofacial residents.

In the *Third Year Comprehensive Care Clinic* (PRET 7387), third year students are expected to provide emergency treatment for their assigned patients. Third year students also have a rotation at the Oral Diagnosis Dental Emergency Clinic.

The *Fourth Year Comprehensive Care Clinic* (Course PRET 7400) includes a component where fourth year students are required to rotate at the UPRSDM Emergency Clinic, located in the Oral Diagnosis Clinic. Fourth year students have a minimum of six rotations, three per semester. Students are required to evaluate, diagnose and provide dental /oral emergency treatment (or referral) to patients who walk in with a dental or oral emergency. Patients treated at the Emergency Clinic are not part of the patient pool of any student. During the rotation at the emergency clinic the fourth-year student is responsible for the initial patient assessment, immediately following the assessment the student consults the case with the faculty member assigned to the Emergency Clinic that day. The students discuss the case, medical and dental history, oral assessment and diagnosis and treatment proposed with the faculty in duty. Following the faculty’s member approval, the student will take the x rays, as needed, and any other diagnostic test will be performed.

The diagnosis and proposed treatment are discussed with the faculty. The faculty member oversees the treatment option proposed and will be supervising the entire procedure. The course *Comprehensive Care Clinic* (PRET 7400) has a competency examination for the adequate management of a dental emergency. This competency examination is during the last assigned rotation or as soon as competency can be evidenced. There is an Electronic Evaluation Form filled up by the student and signed by the faculty as evidence.

**Malocclusion and Space Management**

**UPRSDM Competency 20:** Manage malocclusion and dental space discrepancies.

When acquiring skills regarding occlusal and maxillo-mandibular jaw relation assessment, first year students learn basic dental concepts related to normal occlusion and malocclusion as part of the *Dental Anatomy and Functional Occlusion* (EVDI 7125) course. Also, the *Clinical Applications of Dental Skills* (PRET 7136) course provides hands-on experiences by mounting dental diagnostic casts, while taking into consideration jaw relationships and interocclusal registrations present in the patient. Moreover, during the second-year course *Development of the*
Orofacial Complex (EVDI 7245), growth and development of the head and face, as well as changes in the dentition of the growing child and adolescent, are discussed and serve as a building foundation in the acquisition of this competency.

Basic diagnosis and treatment planning skills for malocclusion and space management are obtained during the second, third and fourth years in courses that prepare students in the recognition, classification and treatment of malocclusions and dentofacial deformations in the early, mixed and permanent dentitions. In the second year, the Orthodontic Treatment Planning (PRET 7298) course presents lectures on comprehensive orthodontic diagnosis and treatment planning focused in evaluating dental and skeletal problems in the three planes of space (transverse, anteroposterior & vertical), and tooth size – arch length discrepancies. Students are taught to recognize habits, medical conditions, and/or syndromes that have an impact in jaw/occlusal relationships and their treatment. Class exercises and take-home assignments are provided during the course in order to teach cephalometric tracing and analysis, as well as dental casts for space analysis. Additionally, laboratory exercises in wire bending are offered to help in developing skills in plier use and appliance adjustments. The Third Year Comprehensive Care Clinic (PRET 7387), provides time at the beginning of the fall semester for the interactive “Orthodontic Case Presentation Seminar.” The class seminar is divided in groups of a ratio of “6-8 students - to - 1 faculty member”, and two (2) actual clinical cases are discussed in order to generate a problem list, diagnosis, objectives, proposed treatment plan and prognosis. Thereafter, students in Third Year Comprehensive Care Clinic (PRET 7387) are paired with Fourth Year Comprehensive Care Clinic (PRET 7400) to compose a “Two-Student Ortho Team” that will provide care to selected in-treatment and/or new mild-moderate complexity cases in the mixed dentition or early permanent dentition in 1-2 patients. The “Two-Student Ortho Team” is expected to see the patient(s) on a monthly basis to provide for the necessary care and follow-up progress – both students must be present and supervised by the faculty at each appointment for assurance of proper patient care and to receive the “Monthly -Visit Graded Evaluation”. Also, the “Two-Student Ortho Team” is responsible for obtaining primary caretaker informed consent and for designing the laboratory appliance(s), including any communication with dental technician, when needed.

During the spring semester, as part of treatment outcomes and prognosis of actual in-treatment patient’s condition, the “Two-Student Ortho Team” takes new orthodontic diagnostic aids and prepares a “Transfer and/or Discharge Case Presentation” presented to the faculty, to determine the patient’s present needs and evaluate accomplishment of treatment objectives. If the patient needs additional treatment, he/she may continue at the orthodontic undergraduate clinic, graduate clinic or private practice dependent on the specific needs. If the patient’s treatment objectives have been achieved, and no further malocclusion and space management treatment is required, the patient is discharged from active orthodontic treatment. The “Monthly-Visit Graded Evaluation” and “Transfer and/or Discharge Case Presentation”, as well as the additional Third Year Comprehensive Care Clinic (PRET 7387) written “Case-Based Examination” and Fourth Year Comprehensive Care Clinic (PRET 7400) “Orthodontic OSCT”, serve as basis for ensuring that graduates are competent in this area.
Evaluation of the Outcomes of Treatment, Recall Strategies, and Prognosis

UPRSDM Competency 22: Evaluate the outcomes and prognosis of dental care.

Students evaluate two patients in the Active Patient Recall Program during the academic year. Their competencies are evaluated with the second case presentation. The rubric used for this assessment is presented in the Competency Criteria and Assessments Manual for Fourth Year Students. Students who do not meet the score requirement must evaluate and present another patient until they attain the competency.

Students evaluate two patients in the Completed Patient Recall Program during the academic year. Their competencies are evaluated with the second case presentation. The rubric used for this assessment is presented in the Competency Criteria and Assessments Manual for Fourth Year Students. Students who do not meet the minimum score requirement will repeat another case presentation until they attain the competency.

Students reevaluate the treatment of one of their pediatric completed patients during a recall visit in the fourth year to assess this competency. The rubric used for this assessment is presented in the Competency Criteria and Assessments Manual for Fourth Year Students.

In the student’s third- and fourth-year digital portfolio there is a component of self-assessment. During the junior year, two cases are completed and in the senior year, three cases are completed. This assessment is part of the Competency 22 examination. The rubric used for this assessment is presented in the Competency Criteria and Assessments Manuals for Third Year and Fourth Year Students.

During their clinical experiences, students are expected to perform comprehensive patient care. While they are completing the treatments, students perform self-assessments of the treatment provided. This contributes to the evaluation and discussion of their performance with the professor and the treatment outcome.

As part of the removable prosthodontics experiences in the clinic, students, along with the patients and the faculty members supervising the cases, make an assessment of the completed treatment and all three sign a form certifying that the treatment is semi-adjustable and that they are satisfied with the treatment outcome.

As part of the pediatric dentistry clinical experiences, students are assigned several patients for comprehensive treatment. Patient re-evaluation by the students and faculty in charge is performed after completing treatment, giving students the opportunity to evaluate their own work.

Students also have the opportunity to evaluate treatment outcomes as part of the PRET 7387 Third Year Comprehensive Care Clinic. A recall visit for previously treated patients is scheduled after three months to evaluate the results of the preventive treatment performed.

During the third and fourth years, students are required to do three-week and three-month periodontal reevaluations after their patients’ initial periodontal therapy has been completed. They
evaluate the patient's response to the treatment and make decisions regarding necessary surgical procedures and maintenance care.

As part of the fourth year *Comprehensive Care Clinic* (PRET 7400), students participate in the school's Quality Assurance Recall Program which includes the Active Patients Recall and Completed Patients Recall groups. In this program, students perform self-assessment, peer assessment, and evaluation of outcomes of treatment. For each recall group there is a clinical examination that is part of the examination on Competency 22: (Evaluate the outcomes and prognosis of dental care). Child and adolescent patients have a recall appointment every six months after completion of the comprehensive treatment plan.

At the end of fourth year, students must transfer or discharge their orthodontics patients. They must prepare a case presentation which reviews the patients’ treatment and outcomes to date, along with the future management of the cases.

The attainment of the competency of self-assessment is examined with the students’ digital portfolio prepared for the *Comprehensive Care Clinic* (PRET 7387 & PRET 7400) courses. The junior student’s portfolio includes the documentation of two cases from the diagnosis phase until to the completion of the treatment plan. The senior student’s portfolio includes the documentation of three patient cases from the diagnostic phase to the completion of the treatment plan. Each student presents a self-assessment of their completed cases as part of the documentation.

During their third and fourth years, students provide comprehensive clinical care to patients within a team or clinical module coordinated by an assigned faculty coordinator. The teams/modules are composed of assigned students, faculty and dental assistants. The module coordinators supervise administrative aspects of the students’ work, as well as patient assignment and follow-up on the completion of treatments.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Third Year</th>
<th>Fourth Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion of Minimum of Varied Needs</td>
<td>PRET 7387:</td>
<td>PRET 7400:</td>
</tr>
<tr>
<td>Comprehensive Patients</td>
<td>• Completion of Minimum of 16 Varied Needs Adult and Older Adult Patient Comprehensive Treatment Plans according to Clinical Cases Classification System</td>
<td>• Completion of Minimum of 22 Varied Needs Patient Comprehensive Treatment Plans according to Clinical Cases Classification System (adult, older adult, pediatric/adolescent and orthodontic)</td>
</tr>
<tr>
<td></td>
<td>• Presentation and Treatment of a Minimum of 1 Pediatric/Adolescent Patient (this patient is continued in fourth year until completed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Presentation and Treatment of a Minimum of 1 Orthodontic Patient (this patient is continued in fourth year until completed)</td>
<td></td>
</tr>
<tr>
<td>Clearance of Patient Records</td>
<td>PRET 7387:</td>
<td>PRET 7400:</td>
</tr>
<tr>
<td>Requirement</td>
<td>Third Year</td>
<td>Fourth Year</td>
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<tr>
<td>Upon completion of all clinical work, the student undergoes a clearance,</td>
<td>Upon completion of all clinical work, the student undergoes a clearance, with the module coordinator, of all assigned patient records, including pediatric and orthodontic patient records, to ensure that all documentation is complete and that all completed patients are discharged or transferred for follow-up either to the School’s Recall System, a specialized clinic, or private practice. All initiated but not completed patients during the third year will be continued in the fourth year Comprehensive Care Course (PRET 7400).</td>
<td>Upon completion of all clinical work, the student undergoes a clearance, with the module coordinator, of all assigned patient records, including pediatric and orthodontic patient records, to ensure that all documentation is complete and that all patients are discharged or transferred for follow-up either to the School’s Recall System, a specialized clinic, private practice or to another student.</td>
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<tr>
<td>the student undergoes a clearance, with the module coordinator, of all</td>
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<tr>
<td>assigned patient records, including pediatric and orthodontic patient</td>
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<tr>
<td>records, to ensure that all documentation is complete and that all</td>
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<tr>
<td>completed patients are discharged or transferred for follow-up either to</td>
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<tr>
<td>the School’s Recall System, a specialized clinic, or private practice. All</td>
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<td>initiated but not completed patients during the third year will be continued</td>
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<tr>
<td>in the fourth year Comprehensive Care Course (PRET 7400).</td>
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<tr>
<td>Comprehensive Cases in Portfolio</td>
<td>PRET 7387:</td>
<td>PRET 7400:</td>
</tr>
<tr>
<td>• Documentation of 2 Cases from diagnostic phase to completion and</td>
<td>-Documentation of 3 Cases from diagnostic phase to completion and follow up: •1Child/Adolescent, 1 Adult, 1 Older Adult •At least one (1) case should include treatment in at least three (3) disciplines, in addition to Oral Diagnosis, Radiology and Preventive. •For the other two (2) cases, the minimum of disciplines is two (2), in addition to Oral Diagnosis, Radiology and Preventive.</td>
<td></td>
</tr>
<tr>
<td>follow up; 1 case should include treatment in at least 1 discipline, 1</td>
<td>•1Child/Adolescent, 1 Adult, 1 Older Adult •At least one (1) case should include treatment in at least three (3) disciplines, in addition to Oral Diagnosis, Radiology and Preventive. •For the other two (2) cases, the minimum of disciplines is two (2), in addition to Oral Diagnosis, Radiology and Preventive.</td>
<td></td>
</tr>
<tr>
<td>case should include treatment in at least 2 disciplines.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Required Completed Comprehensive Patients Document for End of Year</td>
<td>PRET 7387:</td>
<td>PRET 7400:</td>
</tr>
<tr>
<td>Module Coordinator Academic Clearance</td>
<td>• Third Year Completed Patient Log</td>
<td>Fourth Year Completed Patient Log</td>
</tr>
</tbody>
</table>
## Third Year Clinical Cases Classification System and Minimum Comprehensive Patient Caseload

<table>
<thead>
<tr>
<th>Case Type</th>
<th>Procedures</th>
<th>Minimum Comprehensive Patient Caseload</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Patients who need <strong>direct operative procedures</strong> and one of the following: preventive therapies or initial periodontal therapy or surgeries.</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>Patients who need implants (surgical phase, undergraduate level).</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Patients who need one or two fixed prosthodontics units, with or without implants.</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Patients who need treatment in four or more clinical disciplines, and <strong>must include</strong> a three or more fixed prosthodontics units, with or without implants.</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Patients who need removable partial dentures, with or without implants.</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>Patients who need complete dentures, immediate complete dentures, or overdentures, with or without implants.</td>
<td>2</td>
</tr>
<tr>
<td>7*</td>
<td>Patients who need at least one of the following: endodontic treatment, or indirect operative procedures.</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Pediatric patients (undergraduate level).</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Patients who need orthodontic guiding or interceptive treatment.</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
<td></td>
</tr>
</tbody>
</table>

*The Module Coordinator may substitute the Type 7 Endodontic Comprehensive Patient for another type if the student has completed the minimum experiences required in endodontics.

## Fourth Year Clinical Cases Classification System and Minimum Comprehensive Patient Caseload

<table>
<thead>
<tr>
<th>Comprehensive Patient Treatment Plan Type</th>
<th>Minimum Clinical Procedures in Comprehensive Treatment Plan</th>
<th>Minimum Comprehensive Patient Caseload</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Comprehensive patient treatment plans with <strong>direct operative procedures</strong> and one of the following: preventive therapies or initial periodontal therapy or surgeries.</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Comprehensive patient treatment plans with implants (includes surgery and/or restoration at the undergraduate level).</td>
<td>1</td>
</tr>
</tbody>
</table>
The Clinical Courses Manuals (SD 2-17.1) contain the list of the assessments that students must approve during their progress towards the attainment of competency throughout their four years of studies.

**Definition of Assessment Methods Used in the UPRSDM**  
Adapted from CODA Definitions

- **Faculty Assessment by Observation:** Assessment formats include longitudinal / global evaluation over extended periods of time; daily clinical evaluation; daily faculty feedback; structured observation, such as clinical competency examinations; oral examinations; professionalism assessment, including attendance.
- **Self-Assessment:** Critical assessment of one’s own performance and reflection on ways to enhance subsequent performance, often with feedback from external sources that may need to be reconciled with self-appraisal; may include standard rubrics.
- **Independent Assessment:** Independent assessments are often used in conjunction with other methods to provide a well-rounded perspective on the students’ progression toward competence, including Peer Assessment and Standardized Patients.
- **Simulation:** Assessment formats include Virtual Reality (computer-based clinical scenarios) and Typodont Models/Mannequins.

<table>
<thead>
<tr>
<th>Comprehensive Patient Treatment Plan Type</th>
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<th>Minimum Comprehensive Patient Caseload</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Comprehensive patient treatment plans with one or two fixed prosthodontics units, with or without implants.</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Comprehensive patient treatment plans with treatment in four or more clinical disciplines, or that need three or more fixed prosthodontics units, with or without implants.</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Comprehensive patient treatment plans with removable partial dentures, with or without implants.</td>
<td>4</td>
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<td>Comprehensive patient treatment plans with complete dentures, immediate complete dentures, or overdentures, with or without implants.</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Comprehensive patient treatment plans with at least one of the following: endodontic treatment or indirect operative procedures or esthetics.</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>Comprehensive pediatric patient treatment plans with (undergraduate level).</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Comprehensive patient treatment plans with orthodontic guiding or interceptive treatment.</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>22</td>
</tr>
</tbody>
</table>
• **Objective Structured Clinical Examination (OSCE):** Assessment consisting of multiple, standardized stations, each of which will require candidates to use their clinical skills to successfully complete one or more dental problem-solving tasks.

• **PICO:** Patient/Problem, Intervention, Comparison, Outcome (PICO) questions.

• **Work Samples:** Assessment formats include Portfolios and Records Reviews (chart simulated review); dental laboratory courses projects; axiUm Academic Dental Software production reports; and biomedical sciences laboratories.

• **Written Assessment:** Assessment formats include multiple choice questions (MCQ), short answer, structured essay, research reports, and written reports.

• **Other:** Assessment formats include multi-competency assessments; group assignments; oral presentations; case discussions; case-based and problem-based discussions.

Every student is assessed on each competency. Exhibit 2.35 describes the competency progression and attainment by year.

### Exhibit 2.35 Types of Assessment Methods for Clinical Competency Progression and Attainment by Year

### Specific Assessments for Clinical Competency Progression and Attainment by Year

<table>
<thead>
<tr>
<th>Clinical Procedures And Clinical Reasoning</th>
<th>Coda Competency</th>
<th>UPRSDM Competency</th>
<th>First Year Assessments</th>
<th>Second Year Assessments</th>
<th>Third Year Assessments</th>
<th>Fourth Year Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-24a: patient assessment, diagnosis, comprehensive treatment planning, prognosis, and informed consent</td>
<td>7. Assess, interpret, and integrate findings for the diagnosis of oral conditions in patients, including those with special needs. (2-24a, 2-25)</td>
<td>Pre-clinical courses: -Daily Faculty Feedback - Standardized Patient -Dental Laboratory Projects -MCQ Written Quizzes and Exams -Group Assignments -Case Discussions</td>
<td>Pre-clinical courses: -MCQ and Essay Written Quizzes and Exams - Standardized Patient -AxiUm EHR Charting -Group Assignments -Case Discussions -Oral Presentations</td>
<td>PRET 7387: -Clinical Examination: Case Presentation of ASA II Patient with Multiple Clinic Needs with Patient Present -IPE Peer Assessment -Portfolio Systematic Literature Review -Portfolio Reflection -Portfolio Cases -Portfolio Oral Presentation -Daily Faculty</td>
<td>PRET 7400: -Clinical Examination: Adult Case Presentation with Patient Present -Clinical Examination: Case Presentation of a Special Needs Patient -Clinical Examination: Pediatric Case Presentation with Patient Present -IPE Peer Assessment -Portfolio Systematic Literature Review -Portfolio Reflection -Portfolio Cases -Portfolio Oral Presentation -Daily Faculty</td>
<td></td>
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</table>
### Clinical Procedures And Clinical Reasoning

<table>
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<tr>
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<th>Fourth Year Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>9: Apply biomedical science knowledge relevant to oral health care. (CODA 2-15)</td>
<td>Pre-clinical courses: Written Work Samples Assessment Other</td>
<td>Pre-clinical courses: Written Assessment Work Samples Other</td>
<td>PRET 7387: -Clinical Examination: Case Presentation of ASA II Patient with Multiple Clinic Needs with Patient Present -Portfolio Systematic Literature Review -Portfolio Cases and</td>
<td>PRET 7400: -Portfolio Systematic Literature Review -Portfolio Cases and</td>
<td>DESP 7467: Dental Externship Portfolio Forms S-003 and F-002</td>
</tr>
</tbody>
</table>

- Feedback -Student Self-Assessment for Trimester Clinical Evaluations -Trimester Clinical Evaluations -Production Reports PRET 7316: MCQ Written Exams PRET 7326: -MCQ Written Quizzes and Mockboard Examination PRET 7346: MCQ, Fill in the Blank Written Exams
- Literature Review -Portfolio Reflection -Self-Assessment of Cases in Portfolio -Portfolio Oral Presentation -Daily Faculty Feedback -Student Self-Assessment for Trimester Clinical Evaluations -Trimester Clinical Evaluations -Production Reports DESP 7467: Dental Externship Portfolio Forms S-003 and F-002
<table>
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<tr>
<td>Coda Competency</td>
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<td>Third Year Assessments</td>
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## Clinical Procedures And Clinical Reasoning

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<th>Second Year Assessments</th>
<th>Third Year Assessments</th>
<th>Fourth Year Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-24c: recognizing the complexity of patient treatment and identifying when referral is indicated</td>
<td>11. Recognize the complexity of patient treatment and identify when referral is indicated. (2-24c)</td>
<td>Pre-clinical courses: -Daily Faculty Feedback - Standardized Patient -Dental Laboratory Projects -MCQ Written Quizzes and Exams -Group</td>
<td>Pre-clinical courses: -MCQ and Essay Written Quizzes and Exams - Standardized Patient -Axium EHR Charting -Group Assignments -Case</td>
<td>PRET 7387: - Clinical Examination: Case Presentation of ASA II Patient with Multiple Clinic Needs with Patient Present -Portfolio Reflection -Daily Faculty Feedback -Student Self-Assessment</td>
<td>PRET 7400: - Clinical Examination: Adult Case Presentation with Patient Present -Clinical Examination: Case Presentation of a Special Needs Patient -Clinical Examination: Pediatric Case</td>
</tr>
</tbody>
</table>

DESP 7467: Dental Externship Portfolio Forms S-003 and F-002
Clinical Procedures And Clinical Reasoning

<table>
<thead>
<tr>
<th>Coda Competency</th>
<th>UPRSDM Competency</th>
<th>First Year Assessments</th>
<th>Second Year Assessments</th>
<th>Third Year Assessments</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Assignments</td>
<td>Discussions</td>
<td>for Trimester Clinical Evaluations</td>
<td>Presentation with Patient Present</td>
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<td></td>
<td>-Case Discussions</td>
<td>-Oral Presentations</td>
<td>-Trimester Clinical Evaluations</td>
<td>-Portfolio Reflection</td>
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<td>-Production Reports</td>
<td>-Daily Faculty Feedback</td>
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<td></td>
<td>Pre-clinical courses:</td>
<td>Pre-clinical courses:</td>
<td>PRET 7387:</td>
<td>PRET 7400:</td>
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<tr>
<td></td>
<td></td>
<td>-Daily Faculty Feedback</td>
<td>-MCQ and Essay Written</td>
<td>-Clinical Examination:</td>
<td>-Clinical Examination:</td>
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<td></td>
<td></td>
<td>-Standardized Patient</td>
<td>Quizzes and Exams</td>
<td>-Diagnosis, treatment plan, education and prophylaxis in a single patient visit</td>
<td>Active Recall Patient</td>
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<tr>
<td></td>
<td></td>
<td>-Dental Laboratory Projects</td>
<td>-Standardized Patient</td>
<td>-Portfoli Reflection</td>
<td>-Clinical Examination:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-MCQ Written Quizzes and Exams</td>
<td>-Axium EHR Charting</td>
<td>-Daily Faculty Feedback</td>
<td>Completed Recall Patient</td>
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<td>-Group Assignments</td>
<td>-Group Assignments</td>
<td>-Student Self-Assessment for Trimester Clinical Evaluations</td>
<td>-Clinical Examination:</td>
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<tr>
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<td></td>
<td>-Case Discussions</td>
<td>-Case Discussions</td>
<td>-Trimester Clinical Evaluations</td>
<td>Pediatric Patient Recall Visit</td>
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<td></td>
<td></td>
<td></td>
<td>-Oral Presentations</td>
<td></td>
<td>-Portfolio Reflection</td>
</tr>
</tbody>
</table>

2-24d: health promotion and disease prevention

21. Apply health promotion and disease prevention principles in oral health care. (2-24d)

PRET 7400: - Clinical Examination: Active Recall Patient - Clinical Examination: Completed Recall Patient - Portfolio Reflection - Daily Faculty Feedback - Student Self-Assessment for Trimester Clinical Evaluations
<table>
<thead>
<tr>
<th>Coda Competency</th>
<th>UPRSDM Competency</th>
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<th>Fourth Year Assessments</th>
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<tbody>
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</tr>
<tr>
<td>2-24g: communica</td>
<td>14. Communicate and manage</td>
<td>Pre-clinical courses: -Daily</td>
<td>Pre-clinical courses: -MCQ and</td>
<td>PRET 7387: -OSCE -Portfolio</td>
<td>PRET 7400: -Lab: RPD Design and</td>
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<td>ng and</td>
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<table>
<thead>
<tr>
<th>Coda Competency</th>
<th>UPRSDM Competency</th>
<th>First Year Assessments</th>
<th>Second Year Assessments</th>
<th>Third Year Assessments</th>
<th>Fourth Year Assessments</th>
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<tbody>
<tr>
<td>managing dental laboratory procedures in support of patient care</td>
<td>dental laboratory procedures. (2-24g)</td>
<td>Faculty Feedback - Standardized Patient - Dental Laboratory Projects - MCQ Written Quizzes and Exams - Group Assignments - Case Discussions</td>
<td>Essay Written Quizzes and Exams - Standardized Patient - Axium EHR Charting - Group Assignments - Case Discussions - Oral Presentations</td>
<td>Reflection - Daily Faculty Feedback - Student Self-Assessment for Trimester Clinical Evaluations - Trimester Clinical Evaluations - Production Reports</td>
<td>Prescription - OSCE - Portfolio Reflection - Daily Faculty Feedback - Student Self-Assessment for Trimester Clinical Evaluations - Production Reports</td>
</tr>
</tbody>
</table>
## Clinical Procedures And Clinical Reasoning

<table>
<thead>
<tr>
<th>Coda Competency</th>
<th>UPRSDM Competency</th>
<th>First Year Assessments</th>
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<tr>
<td>2-24k: oral mucosal and osseous disorders</td>
<td>17. Manage oral mucosal and osseous disorders. (2-24k)</td>
<td>Pre-clinical courses: -Daily Faculty Feedback - Standardized Patient -Dental Laboratory Projects -MCQ Written Quizzes and Exams</td>
<td>Pre-clinical courses: -MCQ and Essay Written Quizzes and Exams - Standardized Patient -Axiom EHR Charting -Group Assignments</td>
<td>PRET 7387: -Portfolio Reflection -Daily Faculty Feedback -Student Self-Assessment for Trimester Clinical Evaluations -Trimester Clinical Evaluations -Production Reports</td>
<td>PRET 7400: -OSCE -Portfolio Reflection -Daily Faculty Feedback -Student Self-Assessment for Trimester Clinical Evaluations -Trimester Clinical Evaluations -Production Reports</td>
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DESP 7467: Dental Externship Portfolio Forms S-003 and F-002
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<tr>
<th>Coda Competency</th>
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<th>First Year Assessments</th>
<th>Second Year Assessments</th>
<th>Third Year Assessments</th>
<th>Fourth Year Assessments</th>
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## Clinical Procedures And Clinical Reasoning

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<tr>
<th>Coda Competency</th>
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<th>Third Year Assessments</th>
<th>Fourth Year Assessments</th>
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</thead>
<tbody>
<tr>
<td>2-24o: evaluation of the outcomes of treatment, recall strategies, and prognosis</td>
<td>22. Evaluate the outcomes and prognosis of dental care. (2-24o)</td>
<td>Pre-clinical courses: -Daily Faculty Feedback - Standardized Patient -Dental Laboratory Projects</td>
<td>Pre-clinical courses: -MCQ and Essay Written Quizzes and Exams - Standardized Patient -Axium</td>
<td>PRET 7387: -Clinical Exams: Clinical Case Presentation, Root Planning and Scaling of One Quadrant, and Periodontics 3 Week Recall</td>
<td>PRET 7400: - Clinical Examination: Active Recall Patient - Clinical Examination: Completed Recall Patient - Clinical Examination:</td>
</tr>
</tbody>
</table>

DESP 7467: Dental Externship Portfolio Forms S-003 and F-002
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<thead>
<tr>
<th>Coda Competency</th>
<th>UPRSDM Competency</th>
<th>First Year Assessments</th>
<th>Second Year Assessments</th>
<th>Third Year Assessments</th>
<th>Fourth Year Assessments</th>
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</thead>
<tbody>
<tr>
<td>Pre-clinical courses:</td>
<td></td>
<td>EHR Charting</td>
<td>-Portfolio Reflection -Daily Faculty Feedback -Student Self-Assessment for Trimester Clinical Evaluations -Trimester Clinical Evaluations -Production Reports</td>
<td></td>
<td>Periodontics 3 Weeks Reevaluation -Portfolio Self-Assessment of Cases -Portfolio Reflection -Daily Faculty Feedback -Student Self-Assessment for Trimester Clinical Evaluations -Trimester Clinical Evaluations -Production Reports</td>
</tr>
<tr>
<td>23. Manage the oral health care of patients in different stages of life, within the scope of general dentistry to patients in all stages of life. (2-23)</td>
<td>Pre-clinical courses: -MCQ and Essay Written Quizzes and Exams -Standardized Patient -Axium EHR Charting</td>
<td>Pre-clinical courses:</td>
<td>PRET 7387: -Portfolio -OSCE -Daily Faculty Feedback -Student Self-Assessment for Trimester Clinical Evaluations -Trimester Clinical Evaluations -Production Reports</td>
<td>PRET 7400: -Portfolio -OSCE -Daily Faculty Feedback -Student Self-Assessment for Trimester Clinical Evaluations -Trimester Clinical Evaluations -Production Reports</td>
<td></td>
</tr>
<tr>
<td>2-23 Graduates are competent in providing oral health care within the scope of general dentistry to patients in all stages of life.</td>
<td></td>
<td>-Group Assignments -Case Discussions -Oral Presentations</td>
<td></td>
<td>DESP 7467: Dental Externship Portfolio Forms S-003 and F-002 Final Oral Examination</td>
<td></td>
</tr>
</tbody>
</table>
In their third and fourth years, the students must approve different types of assessments that measure the different competencies. In previous sections we have listed the types of assessments and specific assessments used to measure the UPRSDM competencies throughout the curriculum. The multiple and varied assessment methods and instruments give the faculty the opportunity to assess if students have accomplished the established competencies expected of a new dental graduate. The following exhibit presents the UPRSDM competencies aligned with this standard’s areas of clinical competency.

Exhibit 2.36 Alignment of CODA Clinical Competencies and UPRSDM Competencies

<table>
<thead>
<tr>
<th>CODA Competency</th>
<th>School Competencies Addressing CODA Competency</th>
</tr>
</thead>
<tbody>
<tr>
<td>a patient assessment, diagnosis, comprehensive treatment planning, prognosis, and informed consent</td>
<td>7: Assess, interpret, and integrate findings for the diagnosis of oral conditions in patients, including those with special needs. (CODA 2-24a, 2-25) 9: Apply biomedical science knowledge relevant to oral health care. (CODA 2-15) 10: Develop and discuss a comprehensive treatment plan, establish prognosis and gather informed consent for patients. (CODA 2-24a)</td>
</tr>
<tr>
<td>b screening and risk assessment for head and neck cancer</td>
<td>8: Assess risk and screen for head and neck cancer. (CODA 2-24b)</td>
</tr>
<tr>
<td>c recognizing the complexity of patient treatment and identifying when referral is indicated</td>
<td>11: Recognize the complexity of patient treatment and identify when referral is indicated. (CODA 2-24c)</td>
</tr>
<tr>
<td>d health promotion and disease prevention</td>
<td>21: Apply health promotion and disease prevention principles in oral health care. (CODA 2-24d)</td>
</tr>
<tr>
<td>e local anesthesia, and pain and anxiety control, including consideration of the impact of prescribing practices and substance use disorder</td>
<td>12: Manage local anesthesia, pain, and anxiety, and consider the impact of prescribing practices and substance use disorder. (CODA 2-24e)</td>
</tr>
<tr>
<td>f restoration of teeth</td>
<td>13: Restore and replace teeth. (CODA 2-24f, 2-24h)</td>
</tr>
<tr>
<td>g communicating and managing dental laboratory procedures</td>
<td>14: Communicate and manage dental laboratory procedures. (CODA 2-24g)</td>
</tr>
<tr>
<td>CODA Competency</td>
<td>School Competencies Addressing CODA Competency</td>
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<td>-----------------</td>
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</tr>
<tr>
<td>h</td>
<td>in support of patient care</td>
</tr>
<tr>
<td>i</td>
<td>replacement of teeth including fixed, removable and dental implant prosthodontic therapies</td>
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<tr>
<td>j</td>
<td>periodontal therapy</td>
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<td>k</td>
<td>pulpal therapy</td>
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<td>l</td>
<td>oral mucosal and osseous disorders</td>
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<td>m</td>
<td>hard and soft tissue surgery</td>
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<tr>
<td>n</td>
<td>dental emergencies</td>
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<tr>
<td>o</td>
<td>malocclusion and space management</td>
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<tr>
<td>p</td>
<td>evaluation of the outcomes of treatment, recall strategies, and prognosis</td>
</tr>
</tbody>
</table>

13: Restore and replace teeth. (CODA 2-24f, 2-24h)

15: Manage periodontal therapy. (CODA 2-24i)

16: Manage pulpal and periapical therapy. (CODA 2-24j)

17: Manage oral mucosal and osseous disorders. (CODA 2-24k)

18: Manage hard and soft tissue surgical procedures. (CODA 2-24l)

19: Manage dental emergencies. (CODA 2-24m)

20: Manage malocclusion and dental space discrepancies. (CODA 2-24n)

22: Evaluate the outcomes and prognosis of dental care. (CODA 2-24o)

All the third and fourth competency examinations must be approved as one of the requirements for approving the clinical courses. Students who fail the competency examinations have to repeat them until they pass them. Based on the student’s performance, the coordinators of each examination will determine the additional preparation, including additional clinical experiences that each student must undertake prior to repeating the examinations. When a student presents multiple failures, the school’s Office for Academic Affairs will help the coordinator determine the appropriate course of action.

The following exhibit presents a summary of the third- and fourth-year requirements for promotion and graduation. These requirements have the purpose of ensuring the competence of our graduates.

**Exhibit 2.37 Summary of the Third- and Fourth-Year Requirements for Promotion and Graduation**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Third Year</th>
<th>Fourth Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion of Minimum of Varied</td>
<td>PRET 7387: Completion of Minimum of 16</td>
<td>PRET 7400: Completion of Minimum of</td>
</tr>
<tr>
<td>Requirement</td>
<td>Third Year</td>
<td>Fourth Year</td>
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</tbody>
</table>
| Needs Comprehensive Patients                | Varied Needs Adult and Older Adult Patient Comprehensive Treatment Plans according to Clinical Cases Classification System  
-Presentation and Treatment of a Minimum of 1 Pediatric/Adolescent Patient (this patient is continued in fourth year until completed)  
-Presentation and Treatment of a Minimum of 1 Orthodontic Patient (this patient is continued in fourth year until completed)                                                                                   | 22 Varied Needs Patient Comprehensive Treatment Plans according to Clinical Cases Classification System  
(adult, older adult, pediatric/adolescent and orthodontic)                                                                                                                                                                              |
| Clearance of Patient Records                | PRET 7387: Upon completion of all clinical work, the student undergoes a clearance, with the module coordinator, of all assigned patient records, including pediatric and orthodontic patient records, to ensure that all documentation is complete and that all completed patients are discharged or transferred for follow-up either to the School’s Recall System, a specialized clinic, or private practice. All initiated but not completed patients during the third year will be continued in the fourth year Comprehensive Care Course (PRET 7400). | PRET 7400: Upon completion of all clinical work, the student undergoes a clearance, with the module coordinator, of all assigned patient records, including pediatric and orthodontic patient records, to ensure that all documentation is complete and that all patients are discharged or transferred for follow-up either to the School’s Recall System, a specialized clinic, private practice or to another student. |
| Transfer Case Presentations of Orthodontic Patients | PRET 7387: Third year students participate in the Orthodontic Transfer Case Presentations (patient present) to receive all their assigned patients.                                                                                                                                                                                                 | PRET 7400: Fourth year students make Orthodontic Transfer Case Presentations (patient present) to transfer all their assigned patients to third year students at the end of the year.                                                                 |
| Completion of Interprofessional Activities   | PRET 7387:  
-UPRSDM and UPR School of Nursing  
-UPRSDM and UPR School of Pharmacy  
-UPRSDM and UPR School of Health Professions Dental Assistant Program                                                                                                                                                                                                                                                                     | PRET 7400:  
-UPRSDM and UPR School of Nursing  
-UPRSDM and UPR School of Pharmacy  
DESP 7467: In the dental externship centers the students must work in an interprofessional clinical environment.                                                                                                                                                  |

UPR – School of Dental Medicine  
Predoctoral Program Self-Study Report 2020
<table>
<thead>
<tr>
<th>Requirement</th>
<th>Third Year</th>
<th>Fourth Year</th>
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</thead>
</table>
| Completion of Special Needs Rotations           | PRET 7387: 7 hours in community special needs centers                      | PRET 7400: -San Gabriel Clinic (1/2 day)  
-PRIDE Clinics (1 day), each student must choose one:  
UDH, HUPR, or UPR  
PRIDE Dental Clinic                                                                                         |
| Completion of Minimum of Health Promotion Activities | PRET 7387: -Give Kids a Smile  
-Dale Cabeza a Tus Sintomas  
-Other (coordinated by Community Activities Coordinator)                              | PRET 7400: -Give Kids a Smile  
-Dale Cabeza a Tus Sintomas  
DESP 7467: -Educational Activity in Dental Externship                                                                                             |
| Completion of Minimum of Pediatric Dentistry Rotations | PRET 7387: N/A                                                          | PRET 7400: -Pediatric Dentistry Clinical Rotations at Carolina, CSOMI, Pediatric Hospital, and Graduate Pedo Recall Clinic                                                                                   |
| Approval of All Competency Examinations         | PRET 7387: 13 Competency Examinations (some are multi-competency assessments) | PRET 7400: 23 Competency Examinations (some are multi-competency assessments)                                                                                                                               |
| Completion and Approval of Portfolio            | PRET 7387: -Documentation of 2 Cases from diagnostic phase to completion and follow up:  
1 case should include treatment in at least 1 clinic, 1 case should include treatment in at least 2 clinics  
-Systematic Literature Review  
-Reflection with Evidence on Development of 23 Competencies  
-Self-Assessment of 3 Cases  
-Oral Presentation  
DESP 7237: -Systematic Literature Review | PRET 7400: -Documentation of 3 Cases from diagnostic phase to completion and follow up:  
• 1 Child/Adolescent, 1 Adult, 1 Older Adult  
• At least one (1) case should include treatment in at least three (3) disciplines, in addition to Oral Diagnosis, Radiology and Preventive.  
• For the other two (2) cases, the minimum of disciplines is two (2), in addition to Oral Diagnosis, Radiology and Preventive.  
-Systematic Literature Review based on 1 clinical case  
-Reflection with Evidence |
## Requirement | Third Year | Fourth Year
--- | --- | ---
| **on Development of 23 Competencies**<br>-Self-Assessment of 3 Cases<br>-Oral Presentation | | DESP 7467: Dental Externship Portfolio |
| **Required Documents for End of Year Module Coordinator Academic Clearance** | PRET 7387: Third Year Completed Patient Log<br>-Competency Examinations and Health Promotion Activities Clearance Form<br>-Certificate of Attempts for Competency Examinations | PRET 7400: Fourth Year Completed Patient Log<br>-Competency Examinations and Health Promotion Activities Clearance Form<br>-Certificate of Attempts for Competency Examinations<br>-May Assessment of Professionalism by Module Coordinator |
| **Approval of NBDE Part I and II** | Approval of NBDE Part I required for promotion to third year. | Approval of NBDE Part II required for graduation. |
| **Professional and Ethical Behavior** | As a condition for Academic Progress, the students must demonstrate and maintain professional and ethical behavior. | As a condition for Academic Progress, the students must demonstrate and maintain professional and ethical behavior. |
| **Approval of Courses** | PRET 7346 Clinical Occlusion and TMD Management<br>DESP 7357 Professional Development III<br>PRET 7366 Implant Dentistry<br>PRET 7356 Medical Emergencies<br>PRET 7376 Geriatric Dentistry<br>PRET 7336 Advanced Oral Surgery<br>PRET 7316 Dental Care for Special Patients<br>DESP 7237 Evaluation of Scientific Literature and Epidemiology<br>PRET 7326 Preparation for National Board Dental Examination II<br>*PRET 7426 Review Basic Concepts and Laboratory in Removable, Fixed and Implant Prosthesis for International Students<br>PRET 7387 Third Year Comprehensive Care Clinic | PRET 7400 Comprehensive Care Clinic<br>DESP 7467 Dental Practice Externship<br>Elective Courses (144 hours) |

**Supportive Documentation**
2-25 Graduates must be competent in assessing the treatment needs of patients with special needs.

The UPRSDM is in compliance with this standard.

The student is exposed to experiences in assessing the treatment of patients with special needs throughout the four years of the curriculum, from the pre-clinical through the clinical years. Each learning experience in the curriculum contributes to the acquisition of knowledge and skills and to the development of the necessary values to achieve competency. Although our students have early clinical experiences during their first and second years, most of the students’ clinical experiences with special needs patients take place in the third and fourth years.

**Didactic Experiences**

The DS1 course, Introduction to Assessment & Diagnosis of the Patient (EVDI 7105), students are introduced to the art of medical history taking, patient interviewing, and the development of communication skills that will enable him/her for proper interaction with the patient and successful arrival at initial assessment. The second-year course Integration of Biomedical Sciences into Dental Practice (CBIO 7190), provides students with the opportunity to correlate basic sciences course topics with the dental clinical management of patients presenting medical conditions. The course is conducted using the case-based learning strategy. Theoretical knowledge for the assessment and diagnosis of children, adolescents, is provided in the courses Assessment and Diagnosis of the Child and Adolescent (EVDI 7275), the adult patient in the Oral Diagnosis and Treatment Planning (EVDI 7265) and Geriatric Dentistry (PRET 7376), this course offers the student knowledge, skills, and values required for the provision of oral health care to older adults. In Pediatric Dental Treatment (PRET 7277), students are again exposed to a special population that requires modification of the usual dental treatment. In the pre-clinical Oral Surgery (PRET 7266) and Advanced Oral Surgery (PRET 7336) courses, they learn about treatment modification for medically and physically compromised patients.

**Clinical Experiences**

During their clinical experiences, students have several opportunities to provide services to patients with special needs. An appropriate patient pool is available to provide experiences that may include patients whose medical, physical, psychological, or social situations make it necessary to consider a wide range of assessment and care options.

The UPRSDM is located at the MSC, the largest and most important tertiary medical center in the island. Providing students with one of the largest and constant pools of medically and physically compromised patients. A large portion of the patient pool is composed of geriatric patients.
Students also rotate in community clinics and participate in community health fairs, where they are exposed to additional special needs populations.

In the DS3 year, the Dental Care for Special Patients (PRET 7316) course prepares students to identify, develop proper communications skills, and learn treatment modalities for individuals including but are not limited to, people with developmental disabilities, cognitive impairment, complex medical problems, significant physical limitations, and the vulnerable elderly. Additionally, the Medical Emergencies in the Dental Practice (PRET 7356) course provides the future graduate intensive learning experiences about the evaluation, consultation, and treatment modifications of medically compromised patients, and the management of medical emergencies in this type of patient. DS3 students also learn about the oral health needs of the elderly in the Geriatric Dentistry course (PRET 7376).

The UPRSDM have three clinical courses in the DS3/DS4 years of the curriculum: PRET 7387 Third Year Comprehensive Care Clinic, PRET 7400 Comprehensive Care Clinic, and DESP 7467 Dental Practice Externship. These comprehensive courses have very specific experiences, requirements, assessments and criteria to ensure student experiences in assessing the treatment of patients with special needs. Detailed information on all student experiences, requirements, assessments and criteria in these courses is provided in the course syllabi and manuals which are provided at the beginning of the courses. All course documents are provided for reference on the Blackboard platform for both students and all clinical faculty members. The students are also required to attend intensive orientation activities related to all the course requirements in the first weeks of August, including the Special Needs Patient rotation.

**Clinical Rotations**

The dental student has rotations for the patient with special needs in at least one of the community settings: extramural and intramural clinics. The community-based rotations are integrated into the Third Year Comprehensive Care Clinic Course (PRET 7387). In the community, the student develops proper communication techniques and assesses diverse population with special needs, perform a clinical examination and preventive treatment, including education, oral prophylaxis, varnish application, and oral cancer screening complemented with Velscope and IDENTAFI technology. The student also referred the patient to an appropriate setting to complete their treatment. After the experience, the faculty completes and discuss with the third-year dental student the evaluation form title *Third-year student community experience with special need patients*.

The extramural and intramural clinical rotations were incorporated into the Fourth Year Comprehensive Care Clinic Courses (PRET 7400). The senior students are required to attend a clinical rotation during which they provide supervised dental care for a population of the patient with special needs. Instruction consist of one fourth-year students in one of the two clinical settings: extramural and intramural, with one supervising faculty members. The supervising faculty members have a general practice residency program training in treating patients with special health care needs. Each student completes a seven hours’ clinical rotation. Before each clinic rotation students are required to review background, information and knowledge acquired during the previous three years. During the rotation, the fourth-year dental student can enhance
proper communication techniques and assess the treatment needs of a patient with special needs, including patient information as demographics, medical and oral history, current and past prescriptions, x-rays, and patient consent form signature are taken. After the evaluation (diagnostic) phase, the student discusses the comprehensive case with the supervising faculty to the patient and caregivers. In the extramural clinical setting, in operation room, the fourth-year students can perform comprehensive care in one appointment visit. Several appointments are necessary for the intramural clinical setting. Faculty members facilitate discussions that focus on students' clinical experiences, and patient interactions. The senior students’ level of confidence is monitored using a survey before and after the completion of the patient with special needs rotations. The survey asked students to determine their level of agreement regarding their, knowledge, clinical experience, attitudes, to indicate whether they believed that after their graduation from the dental school, they would treat people with special needs and if they plan to pursue formal education.

**Student Assessment**

**Exhibit 2.38** maps the clinical competency assessments the evaluate communication and collaboration with other healthcare providers.
## Exhibit 2.38 UPRSDM Assessment 7 to Outcomes Assessment

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<th>UPRSDM Competency</th>
<th>First Year Assessments</th>
<th>Second Year Assessments</th>
<th>Third Year Assessments</th>
<th>Fourth Year Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVDI 7105</td>
<td>Pre-clinical courses</td>
<td>CBIO 7190</td>
<td>PRET 7387: Clinical Examination: Case Presentation of ASA II Patient with Multiple Clinic Needs with Patient Present IPE Peer Assessment Portfolio Systematic Literature Review</td>
<td>PRET 7400: Clinical Examination: Adult Case Presentation with Patient Present</td>
</tr>
<tr>
<td></td>
<td>Daily Faculty Feedback</td>
<td>EVDI 7265 Written Examinations Group Assignments Case Discussions Oral Presentations Axium EHR Charting-Standardized Patient</td>
<td>PRET 7727 Written Examinations PRET 7266 Written Examinations</td>
<td>PRET 7316: MCQ Written Examinations PRET 7326: MCQ Written Quizzes and Mock board Examination PRET 7346: MCQ, Fill in the Blank Written Examinations</td>
</tr>
<tr>
<td></td>
<td>Standardized Patient Dental Laboratory Projects MCQ Written Quizzes and Examinations Group Assignments Case Discussions Oral Presentations Axium EHR Charting-Standardized Patient</td>
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### Supportive Documentation

SD 2-25.1 Special Needs Student Assessment Forms  
SD 2-25.2 List of Special Needs Experiences  
193
Dental education programs must make available opportunities and encourage students to engage in service-learning experiences and/or community-based learning experiences.

The UPRSDM is in compliance with this standard.

Community Outreach

The school promotes student participation in multidisciplinary, collaborative service activities throughout the island providing the student with experiential education in the community. During their junior year, students participate in a total of 27 hours of community oral health activities programmed by the school’s Community Oral Health Section. In each activity the students are accompanied by a faculty member and interacts with members of the community. An evaluation form is completed by the faculty member where she/he describes the participation of the student. Voluntary participation is also fostered among students throughout all their academic years. Participation in these activities enhances student awareness and empathy regarding the needs of medically and socio-economically disadvantaged groups and gives the students the opportunity to enhance their skills and ethics as well as the importance of their civic responsibility.

Community Service

During their senior year, the student has 4 weeks (4 days a week) rotation in an extramural center. There are nine (9) extramural centers located throughout the island in which they can rotate. These include: The Council of Integral Family Health Services of Loíza, the Corporation of Health Services and Advanced Medicine of Cidra and Las Piedras, Metropolitan Hospital in San Germán, Health Department of Puerto Rico Special Care Center for the Disable in Bayamón, UPR Center at Carolina and Veteran Hospital of San Juan, the Migrant Health Center of Mayagüez, and the Health Council of the Community of the Playa de Ponce (Affiliation agreements available on site). Prior their rotation the students have lectures (16 hours total) where they are exposed to different topics regarding oral health provision models, administration approaches in primary care provision, diversity, health disparities and cultural competence among others. The students have to submit a weekly reflexive essay about their experience in the extramural center. In the essay the have to address what challenges they encounter in the center in order to provide oral health care, what strengths do the center has, recommendations to overcome the challenges and their personal experience working as part of the center’s team. An integration seminar is held at the end of the rotation where a discussion of each experience and the role of the dentist in the community is presented by the senior students. Community service is also provided by senior students by means of clinical rotations in the following centers: The University District Hospital, Dr. Federico Trilla UPR Hospital, UPRSDM Diabetes Center Clinic and Colegio San Gabriel.

Another opportunity that the students have to experience service learning are in the second-year course: Introduction to Community Dentistry (DESP 7247). In this course, students have the opportunity to visit an underprivileged community and perform an oral health needs assessment after conducting interviews with community members and community leaders. Sophomore
students have the opportunity to integrate public health concepts by a collaboration with the UPR School of Public Health faculty. Students integrate these concepts in oral health provision through weekly reflections. They also visit organizations established within the community to collect data and learn more about the community’s socio-cultural environment. Students are required to develop a presentation of the experience and make recommendations based on their findings. The analysis of data collected about the community and the oral health needs assessment findings are presented to community leaders.

The students are informed of the opportunities for community outreach during orientations throughout their path in the UPRSDM. They are provided with information in the Section of Community Dentistry, where there is an activity coordinator for the students. Faculty, dental assistants and a hygienist are assigned to the Schools Community Dentistry Section and are responsible for the students when participating in official School’s outreach activities.

Our School has a strong community outreach program. All our students are required to participate in service-learning and/or community-based learning experiences as part of their core courses through the curriculum.

**Supportive Documentation**

SD 2-16.1 List of Student Experiences
SD 2-26.1 Percentage of Students Participating in Service-learning and/or Community-based Learning Experiences Over the Past Five Years
STANDARD 3- FACULTY AND STAFF

3-1 The number and distribution of faculty and staff must be sufficient to meet the dental school’s stated purpose/mission, goals and objectives at all sites where required educational activity occurs. The faculty member responsible for the specific discipline must be qualified through appropriate knowledge and experience in the discipline as determined by the credentialing of the individual faculty as defined by the program/institution.

The UPRSDM is in compliance with this standard.

The UPRSDM faculty and staff is well distributed and contributes to a well-balanced academic and experienced body of scholars which will accomplish the School’s mission, goals, and objectives. As presented on Standard 1, the mission of the School of Dental Medicine involves teaching, service and research, and the three are well represented by our highly qualified and diverse faculty and staff. Each department has faculty with various ranks and specialty qualifications, who possess the knowledge and experience to provide efficient administration and provision of our educational activity. In addition, each specialty within the departments is properly represented by skilled and competent faculty members, who along with the generalists, provide students with the necessary training to achieve the required competencies established in the School’s curriculum.

The determination of faculty qualifications at the SDM takes into consideration two main elements: 1) completion of academic degree in the area of expertise of the faculty member, and 2) experience in the specific area of teaching, research or service in which the individual is engaged. Both criteria must be coupled with merit and academic excellence. The policies and procedures for initial appointment, appointment renewal, promotion, tenure and dismissal of faculty members are clearly stated and applied in Articles 36-37 and 42-47 of the University General Bylaws (SD 3-1.5 Policy Documents for Faculty Activities). The recruitment process is initiated at the school level by the Dean or Department Director, when the need arises.

Faculty Credentialing

The assessment of the credentialing criteria of new faculty members is the role of the department and school’s personnel committees at the time of recruitment, as well as promotion and tenure. These criteria, established by the School’s Personnel Committee and approved by the Administration Committee (SD 3-1.1 Faculty Credentialing Documents) include academic degrees, specialty boards, research and scholarly activities, and capacity for creative work, among others; and it is carefully evaluated and appraised. All credentials must be submitted in original forms and digital copies appropriately certified. The Department Personnel Committee, with the referral and recommendation from Department Chairs, receive and reviews documents from interested applicants, conducts interviews, and prepares a report with recommendations to the Department Director, based on the candidate’s experience and credentials. The Director reviews the Committee’s report and submits recommendations to the Dean, who forwards all pertinent documents to the School’s Personnel Committee for review. The Committee verifies that the candidate is qualified for the available position and that the selection process has been fair and
unbiased; and submits its recommendations to the Dean. Both Committees, with full representation from all school’s departments, have an advisory capacity in the process. The Dean may accept or reject the committees’ recommendations. The Dean recommends candidates for appointment to the Chancellor and the Administrative Board, who have final authority over all faculty appointments and rank assignments. The MSC Human Resources Office might request additional documents from the new faculty member according to local and federal labor laws and regulations.

Re-credentialing

At the beginning of the academic year, administration staff will prepare a list of all of its faculty with expired or about to expire credentials. This list will be disclosed to the departments who will oversee notifying the faculty member of the needed documents and will collect all documents in each professor’s record. Each Department, helped by the Personnel Committees, will carefully reviews the credentials of its appointed faculty, including license renovations, CPR Certificates, and specialty boards recertification’s, in order to maintain updated records of all its faculty members following the School’s Re-Credentialing Policy. The records will be kept in the Administration Office. (SD 3-1.1 Faculty Credentialing Documents).

Faculty possess earned credentials awarded by appropriately accredited institutions. In judging faculty competence, consideration is given to the academic preparation and experience of each faculty member consistent with accepted higher education practices. The UPRSDM utilizes the Higher Learning Commission (HLC) guidelines. Common expectations for the UPRSDM faculty credentials is that the faculty should have completed a program of study in the discipline or subfield (if applicable) in which they teach, and/or for which they develop curricula, with coursework at least one level above of the courses being taught or developed. Completion of a degree in a specific field enhances an instructor’s depth of subject matter knowledge and is easily identifiable. As explained before, most of all dental approved specialties are well represented in our faculty; disciplines such as oral and maxillofacial surgery, periodontics, endodontics, orthodontics, prosthodontics, pediatric dentistry, oral pathology and forensics, oral medicine, dental radiology, epidemiology and dental public health are imparted to our students by way of our own faculty members.

Most faculty in the biomedical sciences are provided by the UPR School of Medicine’s Department of Biomedical Sciences by contractual agreement, and has demonstrated, by education and experience, that they are qualified to teach in the area of their specialty based on their credentials (Faculty Listings – Appendix A, Tables 7-13).

Workload Policy

The UPRSDM is continuously assuring and working in the recruitment of faculty committed with excellence at the clinical and academic level. Department Chairs are constantly monitoring the clinical faculty schedules to ensure that all clinical time slots are covered and supervised by general practitioners as well as specialists. The Medical Sciences Campus has a policy regarding
attendance of faculty according to local human resources regulations. The enforcement of this policy is performed by the Department’s Chairs.

Each department chair has manifested the need of more faculty and the administration has evidenced recruitment efforts (Faculty Listings – Appendix A, Tables 7-13). The SDM has appointed 30 new faculty members in the last 24 months, has granted 11 permanents, tenured-track positions (“plazas”) and 13 permanencies since the last accreditation period as a retention measure. Among them, there are specialists and general dentists. (Faculty Listings (Appendix A, Tables 7-13).

Faculty rights and responsibilities are stated in the University of Puerto Rico General Bylaws and the Medical Sciences Campus Faculty Manual (Available on Site). Besides clinical supervision, course preparation and teaching, faculty members are assigned to administrative positions, research, mentorship of faculty and students, and participation in faculty practice and committees. The UPRSDM strongly supports the involvement of faculty in research and different leadership scenarios. Faculty must arrange with their supervisors or department chairs in order to assure that academic and clinical responsibilities are met.

Articles 64 and 65 of the UPR Rules and Regulations define a full- time tenured faculty member as one who works 37.5 hours/week with 12 hours of direct contact with the student (SD 3-1.5 Policy Documents for Faculty Activities). According to the Medical Science Campus, a tenured and/or tenure-track, full-time faculty member in the UPRSDM requires an academic load of 37.5 trimester/semester hours with specific Equivalency Tables defining and distributing the hours, according to the nature of his/her academic duties and service.

Most of the UPRSDM professors comply with the minimum 12 hours of direct contact with the student at the clinics, laboratories or didactic courses, as required by the rest of the UPR system. The equivalent proportion is 1:1 for all educational activities mentioned. The academic term for the dental pre doctoral program ranges from 10 to 11 months. The rest of the academic responsibilities (counseling of students, course preparation, meetings, etc.) is redistributed according to Certification #105 (2014-15) and Certification #60 (2015-16) from the UPR Governing Board and making sure not to exceed the regulatory 37.5 hours (SD 3-1.5 Policy Documents for Faculty Activities).

This distribution may vary according to each faculty member’s main academic load (research and/or service) and is strictly discussed with the Department Chair. Every professor coordinating a course has a 3-hour academic download for course preparation; 2 hours for meetings; and 7.5 hours for academic preparation (calibration, faculty practice, research, and/or service). Academic Senators also receive a 3-hour academic download for their participation in their deliberative sessions. Part time and non-tenured track faculty positions must limit their distribution to direct contact (face-to-face) with students (or academic duty assigned) as it is strictly defined by the corresponding contractual agreement.

There are also faculty members that hold administrative responsibilities within the School, the Campus and the UPR Central Administration. (SD 3-1.5 Policy Documents for Faculty Activities). All administrative officers are full-time faculty members with release (protected) time for their
administrative workload. Nonetheless, all of them maintain their teaching responsibilities, both didactic and clinical, in their areas of expertise within the UPRSDM’s program (Exhibit 3.1). A reasonable core of full-time faculty members is always mandatory for appropriate continuity of instruction and patient care, for administrative functions, and the countless tasks necessary for the efficient operation of dental schools.

Exhibit 3.1 Breakdown Administrative/Teaching Responsibilities UPRSDM Administrators

<table>
<thead>
<tr>
<th>Administrator</th>
<th>% Administrative Duties</th>
<th>% Teaching Didactic</th>
<th>% Teaching Clinical</th>
<th>% Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>J. Matos (Dean)</td>
<td>0.8</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>E. Pagán (Assoc. Dean)</td>
<td>0.6</td>
<td>0.1</td>
<td>0.1</td>
<td>0</td>
</tr>
<tr>
<td>D. Molina (Acad. Affairs Ass. Dean)</td>
<td>0.6</td>
<td>0.1</td>
<td>0.1</td>
<td>0</td>
</tr>
<tr>
<td>L. Arroyo (Clinical Affairs Ass. Dean)</td>
<td>0.6</td>
<td>0.1</td>
<td>0.1</td>
<td>0</td>
</tr>
<tr>
<td>G. Izquierdo (Student Affairs Ass. Dean)</td>
<td>0.4</td>
<td>0.1</td>
<td>0.5</td>
<td>0</td>
</tr>
<tr>
<td>M. Pérez (Curriculum)</td>
<td>0.6</td>
<td>0</td>
<td>0.4</td>
<td>0</td>
</tr>
<tr>
<td>E. Díaz (Rest Chair)</td>
<td>0.6</td>
<td>0</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>V. Garri (Ecol Chair)</td>
<td>0.5</td>
<td>0</td>
<td>0.3</td>
<td>0</td>
</tr>
<tr>
<td>F. Lugo (Surgery Chair)</td>
<td>0.4</td>
<td>0</td>
<td>0.6</td>
<td>0</td>
</tr>
<tr>
<td>Y. Heredia (Post Grad Ass. Dean)</td>
<td>0.4</td>
<td>0</td>
<td>0.3</td>
<td>0.3</td>
</tr>
</tbody>
</table>

During the past five years, there has been a tendency of reducing the number of tenured positions for faculty being the most of new recruitments by annual contracts. The administration recognizes the importance of competitive retention measures, among them, the Faculty Loan Repayment Program has been able to retain five faculty members by paying-off their student loans. Also, the government’s Law 14 has been proactive in stimulating healthcare providers, including dentists, to join and be retained in academia.

Faculty Representation

The School of Dental Medicine has a total of 187 faculty members (Faculty Listings – Appendix A, Tables 7-13), for a total of 93.55 FTE’s. This faculty distribution provides continuity to the curriculum as well as ensuring that every competency is well taught and evaluated in accordance to the mission and goals of the School. Most faculty members are Puerto Rican with more diversity
in terms of country of origin seen in the research department. This department holds professors from Greece, India, Madagascar, Armenia and the continental USA. It is a highly qualified and diverse faculty with wide variety of academic degrees, social backgrounds, and experience to achieve its mission in teaching, research and service activities. The diversity in their post graduate training allows successful multidisciplinary approaches across the school’s programs and disciplines.

Diversity and Inclusiveness are immersed among our core values. Due to our geographical and fiscal challenges, a diverse faculty pool that will represent all segments of our global dental professional entity has not been achieved. Our faculty is homogeneous in terms of country of origin, basic education, and cultural settings. However, the administration, helped by government incentives, has been proactive in attracting faculty individuals from different nations, cultural backgrounds, advanced disciplines, and professional experiences. The UPRSDM defines diversity as the welcoming and inclusion of people from different environments and characteristics. These characteristics may include but are not limited to age, socioeconomic status, religious beliefs, ethnicity, educationally disadvantaged regarding to economic needs, gender and gender identity preferences, race, disabilities, marital status, parental status, work experiences, geographical location and military experience among others. Most important, the SDM promotes a climate of inclusiveness, equity and respect to all the constituents of its academic community and those that it serves.

Full listing of all faculty and their academic ranks can be found in Faculty Listings – Appendix A, Tables 7-13. Part-time faculty is mostly supportive to the clinical courses, each one under one of the seven sections (Endodontics, Periodontics, Oral Surgery, Orthodontics, Pediatric Dentistry, Operative Dentistry, Prosthodontics). Each field of concentration (specialty) is well represented in its section/department with enough members to meet the school’s purpose of education, research and service. Also, all sites where the school provides services, are well supported by prepared faculty members specialized in their field. These includes the hospitals and health centers where the school imparts clinical training to its students and residents.

The following tables represent a graphic summary of the school’s faculty composition.

**Exhibit 3.2 Distribution of Faculty Positions by Rank and Appointment in UPRSDM**

<table>
<thead>
<tr>
<th>Rank and Appointment</th>
<th>Professor</th>
<th>Associate Professor</th>
<th>Assistant Professor</th>
<th>Instructor</th>
<th>Adjunct Professor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTE Full Time Faculty</td>
<td>43</td>
<td>17</td>
<td>6</td>
<td>0</td>
<td>1</td>
<td>67(36%)</td>
</tr>
<tr>
<td>FTE Part Time Faculty</td>
<td>5</td>
<td>8</td>
<td>52</td>
<td>1</td>
<td>0</td>
<td>66(35%)</td>
</tr>
<tr>
<td>FTE Ad Honorem Faculty</td>
<td>6</td>
<td>1</td>
<td>47</td>
<td>0</td>
<td>0</td>
<td>54(29%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>54</td>
<td>26</td>
<td>105</td>
<td>1</td>
<td>1</td>
<td>187</td>
</tr>
</tbody>
</table>

Number of Males: 103(55%)
Number of Females: 84(45%)
Exhibit 3.3 Distribution of Faculty by Department

<table>
<thead>
<tr>
<th>Department</th>
<th>Professor</th>
<th>Associate Professor</th>
<th>Assistant Professor</th>
<th>Instructor</th>
<th>Full Time</th>
<th>Part Time</th>
<th>Ad Hoc</th>
<th>Adjunct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical Sciences</td>
<td>16</td>
<td>8</td>
<td>45</td>
<td>1</td>
<td>19</td>
<td>25</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Restorative Sciences</td>
<td>16</td>
<td>7</td>
<td>23</td>
<td>0</td>
<td>20</td>
<td>22</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Ecological Sciences</td>
<td>22</td>
<td>11</td>
<td>37</td>
<td>0</td>
<td>27</td>
<td>19</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Research Office</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
### Exhibit 3.4 Academic Rank of Faculty Positions in UPRSDM

<table>
<thead>
<tr>
<th></th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor</td>
<td>54(29%)</td>
</tr>
<tr>
<td>Associate Professor</td>
<td>26(14%)</td>
</tr>
<tr>
<td>Assistant Professor</td>
<td>105(56%)</td>
</tr>
<tr>
<td>Instructors</td>
<td>1(0.005%)</td>
</tr>
<tr>
<td>Adjunct Professors</td>
<td>1(0.005%)</td>
</tr>
<tr>
<td>Tenured Faculty</td>
<td>45(24%)</td>
</tr>
<tr>
<td>Tenure Track</td>
<td>15(6%)</td>
</tr>
<tr>
<td>Non-Tenure Positions</td>
<td>122(65%)</td>
</tr>
<tr>
<td>Retired and back in academia</td>
<td>10(4%)</td>
</tr>
</tbody>
</table>

**Concentrations**

- Endodontics: 13
- Periodontics: 11
- Oral Surgery: 16
- Orthodontics: 25
- Pediatric: 15
- Operative Dentistry: 26
- Prosthodontics: 20

Ad honorem (volunteer) and part-time faculty (through contractual agreements) allow the UPRSDM to enrich and diversify the academic offerings and to optimize clinical and intellectual human resources. These are temporary, non-tenure track appointments of five-year terms which may be extended if needed. The salary for part-time faculty is based on the time devoted to teaching, and whether they belong to a field difficult to recruit. Most of these faculty members often teach or supervise in highly specialized areas of our academic programs. Candidate credentials are reviewed by the Department and School Personnel Committees prior to their appointment. The review focuses on the qualifications of the candidate for the course or clinic that the candidate will supervise. Future faculty hiring will be based on the maintenance of these ratios. UPRSDM follows the recruitment process outlined by the UPR Human Resources. Faculty vacancies are on Faculty Listings – Appendix A, Tables 7-13.
Faculty/Student Ratio

The school makes every effort to ensure an adequate faculty/student ratio to advance the school’s mission and goals. The ratio of faculty members to students in the preclinical didactic courses is 1:40, 40 being the approximate number of students per class in first and second year. The ratio of faculty members to students in the pre-clinical laboratory courses is approximately 1:10. The ratio of faculty to students in the clinic is 1:8, according to the number of FTE’s assigned to the predoctoral program in third- and fourth year clinical years. The ratio of faculty to students in the off-site clinical settings is 1:1. This ratio contributes and facilitates the attainment of the educational program objectives for the preclinical as well as the third- and fourth-year Comprehensive Care Clinic courses (PRET 7387 and PRET 7400). Faculty is being recruited by the School and will be available for next semester. This will strengthen the support to the students during clinical procedures. The third- and fourth-year clinical courses are divided in modules of 10 students each: 5 for third year and 5 for fourth year, all accommodated in five rows. A Clinical Module Director specifically assigned to the module supervises each, helped by a second alternate module coordinator, for those sessions where the director is busy with a student or in a meeting.

This arrangement ensures that there are always two fully licensed dental faculty members present in each clinical row at all times. This ratio contributes to provide for individualized instruction and guidance during evaluations (SD 3-1.5 Policy Documents for Faculty Activities). Specialists of the different discipline areas are assigned to each module and are always present on a consulting basis. Some disciplines, such as Endo, Ortho and Pedo, use a booking system to assign specific faculty supervision to a specific number of students; Oral Surgery functions in a separate 10-chair clinic with an average of 4 oral surgeons assigned for every clinical session. It is important to mention that not all students are present in each module at one time since they are assigned to different rotations and duties other than the main clinic. For example, students are also assigned to hospital rotations, emergency clinic rotation, extramural rotation, initial screening clinic, and elective courses.

SDM Support Staff

The UPRSDM support staff is described in SD 3-1.2 Secretarial and Clerical Support Listing.

Clerical and Dental Assistants

The UPRSDM has resources and staff that support the activities of the school. Among them are 30 administrative assistants/secretaries/clerical support staff; 9 clinical clerk personnel (includes cashier, registration clerk, billing clerk, record room, etc.); 36 expanded function dental assistants; 1 radiology technician; 4 computer/IT personnel; 3 professional staff for finance and accounting; 2 dental mechanics; other support personnel (Statistics, Inventory support, Printing and Reproduction support). The recently inaugurated Center for Informatics and Educational Resources (CIRE), staffed with five experts in technology, provides technological support to the School’s digital infrastructure and is responsible for coordinating and integrating all aspects of information systems, communication infrastructure, educational resources, training and distance education. It offers its services through its two main units: Infrastructure and Technology Unit, and its AxiUm Electronic Record Unit. In addition, the general clinic is divided into modules
of 10 students and each module (total of 10) is sufficiently furnished with enough dental assistants and support personnel for the compliance of proper oral health delivery.

**Teaching Assistants**

Residents from the post graduate programs are assigned to clinical sessions as needed. They also work as research assistants for professors doing investigative work.

**Dental Laboratory Technicians**

Dental laboratory technicians are no longer in service since all laboratory work is either performed by the student (by choice) or sent to commercial laboratories in the area (school’s policy).

**Other support personnel**

Provided by the MSC, including security, cleaning and maintenance, as well as the support and professional staff in units such as the Registrar’s, Library, Student Services, Information Systems Office, among others. As mentioned before, the School is equipped with its own server managed by technological specialists in the area of information technology, whose expertise is adjuvant to the knowledge and execution of the technological platform in the clinical as well as in the academic component. (SD 3-1.3 MSC List of Support Services).

The UPRSDM has an adequate faculty body, enough in number, expertly qualified in the clinical and dental science fields, and sufficiently empowered to make decisions regarding the curriculum, admissions and graduations. Personnel policies are clear and address all steps of the recruitment, promotion, tenure and retention processes.

**Supportive Documentation 3-1**

SD 3-1.1 Faculty Credentialing Documents
SD 3-1.2 Secretarial and Clerical Support Listing
SD 3-1.3 MSC of Support Services
SD 3-1.5 Policy Documents for Faculty Activities
SD 3-1.6 Policies and Procedures for Faculty use of any Centralized Administrative Service
SD 3-1.7 Faculty Recruitment and Retention Policies and Procedures
- Faculty Listings (Appendix A, Tables 7 – 13)
- Summary of Committee Membership

**3-2 The dental school must show evidence of an ongoing faculty development process.**

The UPRSDM is in compliance with this standard.

Faculty development is strongly encouraged at the School of Dental Medicine. Goal 3 of the 2017-22 School of Dental Medicine Strategic Plan clearly states the objectives for faculty development: (1) Strengthening of faculty qualifications and attributes, (2) strengthening of the school’s faculty
professional development plans, and (3) support of professors and researchers in obtaining advanced training experiences. UPR regulations promote faculty development through strategies such as: areas for professional growth, sabbaticals, financial aid for advanced studies, leave of absence to study, tuition exemption, travel funding, continuing education activities, and allotted time to attend courses within the UPR system; being the last three the most common.

The 2017-22 UPRSDM SP mandates the revision of the faculty development plan in order to analyze the professional development needs, develop the faculty’s competencies, and increase faculty’s participation in all given continuing educations workshops and calibration activities. UPRSDM Annual Reports for 2014-15, 2015-16, 2016-17, 2017-18, and 2018-19 (SD 3-2.1 Annual Reports 2014 – 19) depict the participation of faculty in the different faculty development opportunities provided. Given the limited resources allocated to the institution for these purposes, the UPRSDM has made extra efforts to continue with our historical and well-established tradition of supporting these activities for the benefit of our most important asset: our faculty.

Recognizing the need of a division to develop and expand an enhancement program for its faculty with opportunities for advancement in different areas of the academic environment, the UPRSDM appointed a Faculty Development Officer who is in charge of maturing a Faculty Development Plan (FDP), carefully coordinated by the Office of Academic Affairs (SD 3-2.3 Faculty Development Plan). With the increasing retirement of full-time faculty, recruitment, retention and development measures are crucial to achieve the goal of producing quality, culturally competent, bilingual dentists. The Faculty Development Program intends to promote academic excellence and innovation and will serve as a tool for improving the educational vitality of our institution through attention to the competencies needed by individual teachers and to the institutional policies required to promote academic excellence.

THE FDP also combines a loan repayment program that offers repayment of any educational loan related to the individual’s role of faculty engaged in primary care. This Faculty Development Loan Repayment Program has two main goals: establish a development program for faculty engaged in primary care and loan repayment of individuals enrolled in the provision of primary care services. Their specific objectives are: to develop faculty members to become future leaders in dental higher education; to prepare dental educators to refine teaching skills that will enhance the quality of their interactions with today’s students and promote institutional enhancement; to provide strategies and skills for grant writing, among others. Planned activities, for which they have an annual budget of $2,000, include the participation in leadership workshops, Blackboard platform training, EHR training, interprofessional education experiences, and participation as speakers in scientific meetings.

Three areas of development have been identified: organizational, instructional, and professional. Briefly, the school provides instruction in the area of organization (decision making, team work, ethics, cultural competency, diversity and inclusion), instructional (educational technology, educational methods and evaluation), and professional (research, publications, postdoctoral studies, instruction in specific discipline areas, leadership opportunities and development of clinical skills). A survey distributed to the SDM faculty in March 2019, designed to inquire about needed areas of faculty development, revealed the following results (SD 3-2.4: Faculty Survey).
### Exhibit 3.5 Topics/Areas of Interest for Faculty Development (2019 Survey Report)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Faculty Response(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching with Instructional Technologies</td>
<td>71</td>
</tr>
<tr>
<td>New Teaching Methods</td>
<td>67</td>
</tr>
<tr>
<td>Digital Dentistry</td>
<td>63</td>
</tr>
<tr>
<td>Faculty Development Planning</td>
<td>57</td>
</tr>
<tr>
<td>Digital Radiology</td>
<td>52</td>
</tr>
<tr>
<td>Evaluation Methods</td>
<td>51</td>
</tr>
<tr>
<td>Dealing with Millennials</td>
<td>50</td>
</tr>
<tr>
<td>Cone Beam 3D Imaging</td>
<td>49</td>
</tr>
<tr>
<td>Conflict Resolution</td>
<td>48</td>
</tr>
<tr>
<td>Laser Dentistry</td>
<td>44</td>
</tr>
<tr>
<td>Faculty Promotion and Tenure</td>
<td>44</td>
</tr>
</tbody>
</table>

Based on these findings, the UPRSDM identified areas and disciplines to cover in workshops and conferences for the faculty. These workshops, given throughout the year or in the month of June (2019 Faculty Calibration Retreat), will provide continuous calibration of topics of most interest to the faculty. Other school-level units providing calibration and continuing education, free of charge, to the faculty are PRIDE (Puerto Rico Innovation in Dental Education Program, for faculty mentoring) and DECEP (Division of Continuing Education and Professional Studies). Refer to SDM Annual Reports for a complete list of courses, activities and faculty attending.

The MSC offers a variety of educational programs for faculty development. Among them, the Academic Development Office of the Deanship for Academic Affairs, the Research Centers in Minority Institutions Program (RCMI), the Office of Research and Development, the Title V Program, to name a few. In addition, the UPRSDM’s Office of Academic Affairs continuously offer faculty development activities in the areas of teaching and educational methods consisting of annually scheduled workshops. For example, the PRIDE workshops, designed to go beyond the limits of traditional learning training faculty in technology. These workshops include seminars on the application of technology to teaching and research.

Particularly, in the last two years, with the implementation of the new electronic health record, the faculty has spent a total of more than 40 hours in training for the complete execution and successful operation of the new technological clinical aid. In compliance with local laws, all health professionals, including dentists, must complete a specified number of CE credits every three years to renew licensure. In addition, all government employees must comply with a minimum contact of 20 hours in Ethics every two years, courses also provided by the administration. Faculty is encouraged to attend the School’s CE activities, which are offered free of charge for all faculty (full-time, part-time and Ad honorem). The UPRSDM finances these courses and calibrations with an average in-kind expenditure of $50,000 annually for its entire faculty.

These courses intend to keep the faculty updated in areas such as restorative sciences, cultural competency, emergency dental medicine, emerging clinical skills and techniques, among others. Some courses had been given in different parts of the island to encourage Ad honorem faculty at distant sites to participate. Department Chairs and Deans may also recommend faculty
representatives to attend specific academic and clinical activities, according to institutional and individual academic goals. The Dean has assigned money (approximately $10,000 per department) to be used exclusively for faculty development courses, calibrations, trips, and meetings; PRIDE’s budget also allocates $5,000 annually for faculty enhancement courses.

Other opportunities for faculty development include attendance to professional meetings, seminars, leadership institutes, and workshops, here in the island or abroad. Institutional funds are available for faculty travel. Many UPRSDM faculty members attend professional conferences and seminars utilizing funds from their clinical service or research grants. Yearly the SDM sends an average of 10-15 faculty members to the ADEA Fall and Annual meetings to get input in the areas of curriculum, research, teaching and academic management. The administration had been particularly proactive to engage faculty in ADEA and Special Care Dentistry activities (SD 3-2.1 Annual Reports 2014 – 19).

Exhibit 3.6 Budget Allocation for Faculty Development: Last three years

<table>
<thead>
<tr>
<th>AY</th>
<th>DECEP (In-kind)</th>
<th>Faculty Develop Office and Departments</th>
<th>PRIDE</th>
<th>FLRP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016-17</td>
<td>$60,960</td>
<td>$10,000</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2017-18</td>
<td>$22,680$*</td>
<td>$10,000</td>
<td>$5,000</td>
<td>n/a</td>
</tr>
<tr>
<td>2018-19</td>
<td>$72,120</td>
<td>$30,000</td>
<td>$5,000</td>
<td>$2,000</td>
</tr>
</tbody>
</table>

*Hurricane Maria

At the department level, the chair identifies the needs of faculty development necessary to keep the curriculum updated and suggest candidates to get enhancement in those professional areas. In the same way, any faculty member interested in acquiring knowledge and skills in certain discipline area is encouraged to request institutional support which can include meetings to professional organizations. With the approval of the department chairperson, junior faculty is identified by a senior faculty member in charge of important disciplines to be formally trained in order to eventually substitute the retiring faculty member in that specific area. (Four most recent examples: Dr. J. Velazquez in Dental Anatomy, Dr. R. Portela in Dental Esthetics and Dental Photography, Dr. E. Orsini and Dr. M. Prats in Implants, etc.).

The MSC Deanship for Academic Affairs oversees the new (young) faculty orientation workshops given on an annual basis to all newly hired appointments. This orientation provides all information pertaining to academic load, evaluation forms, and faculty development opportunities, among others. The deanship also offers continuing education courses on education and research in the health sciences. Faculty involvement in development and scholarly activities is evaluated at the school level using the Annual Evaluation Reports for faculty development, discussed in Standard 3-4. The annual faculty dossiers will serve as an input in preparing the annual faculty development plan by analyzing the needs and trends of our faculty enhancement.

The Administrative Board (AB) has continued to grant funds or special licenses (permits) for faculty members seeking advanced degrees and faculty growth in other administrative and service
areas. Also, another means of faculty development is through personal and professional growth. Exhibit 3.7 provides example opportunities in the last three years.

Exhibit 3.7 Example Faculty Development Opportunities

<table>
<thead>
<tr>
<th>Type of License</th>
<th>Description</th>
<th>Participant Faculty</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>License without salary to pursue studies in Orthodontics</td>
<td>Dr. Eric Torres (Professor)</td>
<td>2018-2021</td>
</tr>
<tr>
<td>License in Service</td>
<td>Serving as Interim President of the University of Puerto Rico</td>
<td>Dr. Darrel Hillman (Professor)</td>
<td>07-2017 to 08/31/2018</td>
</tr>
<tr>
<td>License in Service</td>
<td>Serving as Interim Vice President of the University of Puerto Rico</td>
<td>Dr. Ilka Rios (Professor)</td>
<td>07-2017 to 07-2018</td>
</tr>
<tr>
<td>Special Research Assignment</td>
<td>Research at the PR Comprehensive Cancer Center</td>
<td>Dr. Ilka Rios (Professor)</td>
<td>Indefinite</td>
</tr>
<tr>
<td>License in Service</td>
<td>Serving as Interim Associate Vice President for Academic Affairs of the UPR</td>
<td>Dr. Juanita Villamil (Professor)</td>
<td>07-2017 to 03/31/2019</td>
</tr>
<tr>
<td>License in Service</td>
<td>Serving as Interim Associate Vice President for Student Affairs of the UPR</td>
<td>Dr. Aileen M. Torres (Professor)</td>
<td>07-2017 to 01/31/2019</td>
</tr>
<tr>
<td>License in Service</td>
<td>Serving as Interim Executive Assistant to the Chancellor</td>
<td>Dr. Ramon Gonzalez (Professor)</td>
<td>07-2017 to present</td>
</tr>
<tr>
<td>License in Service</td>
<td>Serving as Interim UPR University Board Secretary</td>
<td>Dr. Divya Colon (Professor)</td>
<td>04-2018 to 06/30/2019</td>
</tr>
<tr>
<td>Personal License</td>
<td>Personal Reasons</td>
<td>Dr. Maria Loza (Professor)</td>
<td>07-2018 to 12/2018</td>
</tr>
<tr>
<td>Special Assignment</td>
<td>Serving as President of the PR Dental Society</td>
<td>Dr. Elba Diaz (Professor)</td>
<td>02-2018 to 02/2019</td>
</tr>
<tr>
<td>Special Research Assignment</td>
<td>Research at the PR Comprehensive Cancer Center</td>
<td>Dr. Elba Diaz (Professor)</td>
<td>Indefinite</td>
</tr>
<tr>
<td>Special Appointment</td>
<td>Serving as MSC Representative to the</td>
<td>Dr. Jose Perez-Moll (Professor)</td>
<td>Indefinite</td>
</tr>
</tbody>
</table>
Faculty also practice and improves clinical skills working at the Intramural Faculty Clinic and/or at their own private practices. Seventy-eight percent (146) of our faculty roster work at private practice. Historically, the UPRSDM has allocated and protected time exclusively for these purposes. In this way, they try out new materials, perform new clinical procedures and maintain and enhance their clinical dexterities.

**Faculty Mentorship**

Mentoring is a critical component of career advancement for our faculty. It has been defined as a voluntary and reciprocal interpersonal relationship in which an individual with acknowledged expertise shares his/her experience and learning with another usually less experience person. Each Department’s Personnel Committee appoints a higher-ranking faculty member as Mentoring Facilitators (Mentor) who, along with the Department Chairs, will oversee all aspects of the mentoring program of everyone. Junior faculty (up to associate level) and new faculty are paired with at least one career mentor in their home Department. Faculty mentors can contribute significantly to the development of their mentees’ research, teaching and clinical skills, particularly with respect to career satisfaction, career management and collegial networking.
The UPRSDM complies with an adequate faculty development process and its faculty have numerous opportunities for professional growth.

**Supportive Documentation**

SD 3-2.1 Annual Reports 2014 – 19 (Available on site)
SD 3-2.2 Financial Resources for the Faculty Development Program (Available on Site)
SD 3-2.3 Faculty Development Plan
SD 3-2.4 Faculty Survey

3-3 Faculty must be ensured a form of governance that allows participation in the school’s decision-making processes.

The UPRSDM is in compliance with this standard.

The University of Puerto Rico Medical Sciences Campus ensures that all members of faculty fully participate in all areas of decision making within the system, the campus and their respective unit. At the university level, faculty has participation within the deliberative chambers of the Governing Board and the University Board. At the campus level, faculty is represented at the Administrative Board, Academic Senate, and Ad-hoc committees. At the school level, faculty is represented at their standing committees and deliberation in their own departments and sections (Summary of Committee Membership (Appendix A, Table 15).

At the school level, faculty participation is achieved through its Administration Committee, Standing and Ad-hoc Committees. Standing Committees have active participation from faculty from each of the three departments; the Dean and Associate Dean are Ex-officio members of all committees. Whenever possible, clinical, biomedical sciences, and behavioral sciences faculty as well as senior and junior faculty are well represented at all standing committees. Also, students are represented and are appointed by the School’s Student Council. They could be guest on some committees with voice but no vote. They meet as needed, or at least 2-3 times a semester, depending on the task. Ad-hoc committees are requested by the administration as needed. The annual term of the committees will be the academic year of August 1 to July 31. The committees shall have written rules and keep minutes of all meetings which would be available in the Office of the Dean of the UPRSDM.

Standing Committees serve on an advisory capacity to the Dean. They arise at a decision and submit it to the Dean. They submit a written report by June 1 of all actions taken each year or recommendations for actions in the coming year. Ad-hoc committees are requested by the administration as needed.

The School’s Standing Committees (Summary of Committee Membership (Appendix A, Table 15) are:
Administration Committee
Serves as advisory body to the Dean in the exercise of his/her academic and administrative duties and responsibilities. The committee reviews and make recommendations on areas such as strategic planning, annual budget, operational plans, new and revised programs, rules and regulations of the dental school, teaching and research philosophy, annual reports, and other matters that the Dean may consult regarding the School’s operation.

Curriculum Committee
Advises the Dean on the design, implementation, and evaluation of all academic programs of the school. It evaluates programs with respect to the school’s objectives, mission and goals and according to the needs and demands of the Puerto Rican community and the trends in the profession.

Admissions and Transfers Committee for Dental Students
Reviews and evaluates the applications for admission to the predoctoral program and recommends to the Dean those applicants that should be admitted based on the admissions policy and the students’ profile. It is responsible of reviewing the admissions policy and recommend changes to the Dean.

Admissions Committee for Graduate Programs
Same duties as the committee for the undergraduate program, but for candidates to the graduate programs.

Academic Performance Committee for Dental Students
Conducts an early and on-going assessment of the students’ academic progress, evaluates and guides academic achievement and professional development of all undergraduate students, evaluates the students’ performance for promotion and is concerned with all aspects of their activities that may have an implication on their professional development. It offers academic guidance to those students with academic difficulties and make recommendations for promotion, remediation, retaking of courses, repeating the academic year, academic dismissal and graduation.

Academic Performance Committee for Graduate Programs
Same function as the undergraduate performance committee, but for the students at the graduate programs.

Research Committee
Serves as an advisory committee on research related matters, advises on policies to promote research within the faculty and students, and the allocation of available funds. It also applies guidelines for the preparation and evaluations of research projects.

Advanced Placement Committee
Conducts written and practical examinations for advanced placement of graduates from foreign dental schools who seek admission in advanced standing for the predoctoral International Students Program. It also reviews applications of transfer students from accredited schools and recommends actions to the Dean.
Faculty Affairs Committee
Studies, evaluates and report findings on the matters which concern the general welfare and effectiveness of the faculty and advises to the Dean on such. These areas include rules and regulations of the faculty, ethics, salaries, retirement benefits, teaching load, teaching facilities, appointments, etc.

Personnel Committee
Reviews faculty candidates for appointment, promotions in rank, and tenure for all faculty members. The committee follows the rules and regulations for the evaluation of teaching personnel as they are approved and amended by the MSC Academic Senate and/or UPR Governing Board. It is composed of the presidents of the three departmental personnel committees, the directors of the three school departments and a faculty member appointed by the Dean. The chair and secretary are elected by the members.

Awards Committee
Recommends students that should receive awards for outstanding achievement at the dental school.

Public Policy and Legislation Committee
Advises the Dean concerning regulations and trends in the external environment that may affect the future of the profession and reviews federal laws that may impact the school’s operation.

Student Liaison Committee
Provides feedback on student life at the school and plans activities that provide enriching experiences for the students. Helps identify problems that affect students and provide alternatives for their solution.

Outcome Assessment Committee
Performs periodic evaluations of the institution’s assessment plan, outcome measures, and expected results and recommends modifications. Reviews data and recommends steps to enhance institutional effectiveness in achieving the mission and goals. Recommend policies and review mechanisms for institutional assessment. Collaborates in the development of surveys or institutional assessment projects according to identified needs. Evaluate the progress in the achievement of the Strategic Plan and reports findings to the Dean for the corresponding action. Disseminate findings to the academic community.

Quality Assurance Committee
Develops a formal system of quality assurance for the patient care program, develop and revises standards of patient care, develops and conducts mechanisms to determine causes of treatment deficiencies, reviews patient records to assess the need for appropriateness and quality of care provided. Develops patient review policies, procedures, outcomes, and corrective measures. Submits recommendations for amendments of the approved program based on the experiences and in the emergence of new regulatory statutes.

UPRSDM Decision Making Protocol
When important changes, such as the creation of a new academic program, are to be implemented in the School there is an established process to be followed in order to execute changes (Exhibit 3.8). First, the proposed change is guided through one of the 14 Standing Committees to the
Dean’s administrative staff. Second, it is presented to the faculty members through each Department and/or in a general faculty meeting for endorsement and/or modifications (SD 3-3.1 Minutes of Faculty Meetings for the last 3 years). It returns to the Dean who will present it to the Chancellor and Academic Senate. The Academic Senate issues a certificate which the School will present it to the Administrative Board of the Medical Sciences Campus which in turn expedites a new certification that the Chancellor will present to the University Board of the University of Puerto Rico and to the Governing Board. Once these steps are accomplished, it returns to the Dean for its final implementation.

Other less important changes (modifications within courses, clinic and courses schedules, etc.) are discussed and implemented within each of the three departments. Some decisions are managed by one of the 14 Standing Committees depending on which area of the School is involved. There are other activities that involve the entire faculty to get input and discussion of an issue within the school. These activities are called faculty meetings (3-4 times a semester) or faculty retreats (once at the end of the academic year). These are carefully planned in order to discuss all issues involved and to introduce a faculty development activity.

**Exhibit 3.8 UPRSDM Decision Making Protocol**

**Issue presented by Group or faculty member → Dean’s Staff → Standing Committee (a proposal is generated) → Dean → MSC Academic Senate (Certification) → MSC Chancellor → Dean → Department Directors (presentation to faculty for analysis) → MSC Administrative Board → UPR University Board → UPR Governing Board → Implementation at the SDM**

If the issue presented is entirely administrative in nature (budget, personnel) it will go directly to the Administrative Board instead of going through the Academic Senate.

At the Medical Sciences Campus level, the dental faculty has deliberative and advisory roles in the Academic Senate (AS) and Administrative Board (AB). Four elected senators from the UPRSDM faculty participate actively in the Academic Senate and are members of its four committees: Academic Affairs, Faculty Affairs, Student Affairs, and Rules and Regulations. These Senators are elected for a three-year term by the School’s faculty in an ordinary meeting and can be reelected for a second 3-year term. The AS responds to the Chancellor and evaluates process and important issues regarding each of the schools in the MSC. The process used for
decision making is the Parliamentary, each cycle starts with the academic year (August-July). Representation of each school is equivalent to one senator per 0-50 students on that school. Each meeting is started following an agenda which is circulated within two weeks of the next meeting. Issues are discussed within the AS which in turn it issues a Certificate to the AB.

At the university level, faculty has participation in the University Board (members of each campus Academic Senate elect two faculty representatives to the Board) and to the University’s Governing Board (members of each campus Academic Senate elect its faculty representatives to the Board). These two deliberative bodies in turn have its committees that will discuss different university matters. In this way, UPRSDM faculty ensures its participation in institutional governance as it relates to teaching, research, services and resources, curriculum development, administrative processes, and financial planning.

**Supportive Documentation**

SD 3-3.1 Minutes of Faculty Meetings for the Last 3 Years  
SD 3-3.2 Administrative and Faculty Chart  
SD 1-7.1 SDM Organizational Chart  
**• Summary of Committee Membership (Appendix A, Table 15)**

<table>
<thead>
<tr>
<th>3-4</th>
<th>A defined evaluation process must exist that ensures objective measurement of the performance of each faculty member in teaching, patient care, scholarship and service.</th>
</tr>
</thead>
</table>

**The UPRSDM is in compliance with this standard.**

The ongoing objective evaluation of full-time and part-time faculty, including school’s administrators, is strictly performed by department chairs on an annual basis and documented on the Annual Faculty Forms (SD 3-4.1 Evaluation Forms). These forms permit the faculty member to submit information and evidence on their contributions to educational curricula, excellence in instruction, professional growth and advancement activities, institutional research, and service. The forms also provide for a thorough evaluation of faculty performance by the department chairs in the areas of teaching, quality of courses, professional attitude, clinical service, research (if any), etc.

They also allow for an annual feedback with the Department Chair for discussion of the faculty member’s performance, responsibilities, and workload. These assessment mechanisms allow faculty members to focus on areas in which they need to develop their skills and enhance their achievements. All full-time and part-time faculty, tenured and non-tenured, as well as ad honorem faculty (volunteer) are subjected to inform and provide documentation in this annual exercise of faculty scholarly activity, including school’s administrators. This compilation of information is clearly depicted in the UPRSDM Annual Reports (SD 3-2.1 Annual Reports 2014 – 19).

Once the faculty member provides his/her annual scholarly achievements, the Department Chairs, along with the Faculty Development Officer, carefully analyze the activities in terms of
professional advancement and development in order to assess areas of further professional needs and demands. Also, this analysis serves as input for developing the annual faculty development plan and harmonize it with the mission and goals of the school, as well as providing individual faculty development opportunities and observe faculty performance.

In addition, and equally important, are the course evaluations by students conducted at the end of each course, both clinical and didactic. The School strongly believes in course evaluations by students as a means for faculty improvement in their teaching. These evaluations are compulsory and anonymous and performed electronically to facilitate student participation. Items such as faculty performance, course organization, materials used, evaluations, respect in the classroom, inclusion, and course impact on student are among the elements being appraised. The report also includes student observations, comments and recommendations (SD 3-4.1 Evaluation Forms). These evaluations have proven to be an essential and important tool to monitor quality improvement and instructional development. The evaluation results are given to each faculty member and Department Chair. Results are discussed with the professor to identify areas of improvement and curricular management.

Supportive Documentation

SD 3-4.1 Evaluation Forms

3.5 The dental school has a stated process for promotion and tenure that it is clearly communicated to the faculty.

The UPRSDM is in compliance with this standard.

The evaluation of faculty for tenure and promotion is conducted using the MSC evaluation instruments specially designed for that purpose. These instruments, approved by the MSC Office of Academic Affairs, objectively measure the performance of each faculty member in the areas of teaching, service, research, academic, administration, special service, counseling and library services for those faculty members only working in the library and counseling services. These guidelines for promotion and tenure guarantee a uniform system for faculty evaluation based on academic merit. The document, under the scope of the University of Puerto Rico General Bylaws, is used for the following purposes:

- Point out the areas of activity of faculty members which must be used for evaluation purpose according to the area that the faculty member academic load and most dedicate to.
- Establish specific criteria to define the quality of performance in each of these areas.
- Establish numerical values to the different academic activities to be evaluated.
- Provide forms to facilitate compiling data for evaluation.
- Establish procedures for the analysis and interpretation of evaluation results.

The MSC evaluation instrument has the following component: 1) Self Evaluation, 2) Peer evaluation (peers and supervisor), 3) Faculty Evaluation by Students, and 4) Academic evaluation
guidelines. The system gives credit for teaching (all activities related to course planning, teaching methodology, student evaluations, instructional materials, and participation in student counseling and mentoring), research (all faculty activities performed with the purpose of expanding scientific knowledge in his/her professional discipline, engaging in writing proposals and obtaining funds for investigation), clinical service (activities pertaining to the delivery of clinical healthcare and the quality of clinical supervision of students and residents), special service (all activities related to institutional administration, committees, faculty meetings) and allows flexibility in the percentage weight assigned to each area according to the faculty member’s academic load.

Current evaluation criteria for tenure and promotion include:

- Creation of teaching material
- Quality of teaching
- Number and quality of research projects/grants/publications in peer reviewed journals
- Participation in clinical, community, and institutional activities
- Compliance with faculty duties and responsibilities
- Lectures and original work in area of expertise
- Publications, workshops, special lectures, and other scholarly activities
- Awards and recognitions
- Evaluation by students, peers, and supervisors
- Professional attitude and commitment to institution mission and goals

The evaluations for rank promotion and tenure are delineated in the document created by the MSC Deanship of Academic Affairs and approved by the MSC Academic Senate “MSC Faculty Evaluation Instruments for Tenure and Promotion,” evaluation instrument (available on site) prepared on a Power Point format that must be worked and organized by the professor. This document is accessible for the professor through the Campus Intranet and must be submitted in digital form for final evaluation, first to the Department’s Personnel Committee, then to the Faculty’s Personnel Committee and the Dean, who in turn, delivers it for final approval to the Administrative Board. As explained before, all levels of faculty performance are evaluated; there are evaluation instruments for teaching, clinical service, counseling, and academic administration, to name a few.

The established process for faculty promotion and tenure is contained in the following documents and policies:

1. Faculty Reference Manual (Manual del Docente) (Available on Site)
   This reference handbook, available online at the campus webpage www.rcm.upr.edu, was prepared by the Deanship of Academic Affairs and approved by the MSC Academic Senate in Certification 61 (1994-95). It provides the faculty with information regarding the regulations, guidelines, procedures and instructions for promotion and tenure in accordance with the General Rules and Regulations (Bylaws) of the UPR. Some topics include recruitment, academic ranks requirements, promotions, tenure, leaves of absence, available benefits, retirement.

2. UPR General Bylaws, Rules and Regulations (Available on Site)
3. Rules pertaining to promotion are contained in Article 47 of the Bylaws and those pertaining to tenure are in Article 46 (SD 3-1.5 Policy Documents for Faculty Activities)
4. UPR Board of Trustees Certifications (Available on Site/Website)

According to the university’s regulations, faculty will be considered for promotion after a specified number of years at each rank. Regulations guarantee a review process, not an automatic promotion. In order to be considered for tenure, faculty must hold a full-time, tenure-track appointment and have served at least five consecutive years at the institution on that level.

Each year, at the beginning of the academic year, the administrative office (Human Resources Office) of each unit/campus evaluates its faculty roster and compiles a list of its faculty members eligible for promotion and tenure. This list is provided to each department director and department’s personnel committees for the appropriate notification and orientation meetings with its faculty candidates. Also, the School’s Personnel Committee organizes an open orientation presentation for the faculty interested at the beginning of the academic year of the proper steps towards a successful completion of the evaluation documents. Each candidate is perceived of his/her opportunity to receive promotion and/or tenure after the completion of the process. Each interested faculty member is given the forms and documents to be prepared and submitted to the evaluating committees. Young faculty members are advised by the department chairs and departmental personnel committees, but they also receive orientation sessions by the Deanship of Academic Affairs at the beginning of their appointments and by their mentors. The Personnel Committee prepares a Working Plan with timelines for the proper submission of documents.

Following the Working Plan Schedule, the Department’s Personnel Committee receives and reviews documents from the interested candidates and prepares a report with recommendations to the Department Director, based on the candidates’ merits and supporting documents. The Director reviews the Committees’ reports and submits the recommendations to the School’s Personnel Committee for its review, who forwards all assessments to the Dean for final analysis and recommendation to the Chancellor and Administrative Board. The Board grants the promotion and/or tenure. Faculty members may appeal to the Administrative Board (AB), to the University Board and to the UPR Governing Board.

**Policies for Faculty Promotion**

Faculty members are candidates for promotion to the next higher academic rank either by obligatory or discretional consideration. For obligatory consideration, the candidate must have completed the minimum time required for each academic rank to be promoted to the next higher rank, as certified by the Administration Office at the beginning of the academic year. Time completion does not imply that the promotion is granted. Evidence of satisfactory performance, an evaluation process, and favorable recommendations from the evaluating committees, department chairperson, and the Dean are required for promotion to be granted by the AB. The minimum time required for promotion to the next higher rank is three years for Associate Professor and five years for Professor.

The purpose of a discretional consideration is to reward excellence and grant promotion to exceptionally meritorious cases. The evaluation process for a discretional promotion may be
initiated by recommendation of the Department Chairperson, the Department Personnel Committee, or by petition of the candidate himself.

Candidates for promotion have the right to be informed of the results of their evaluations and the right to appeal to the University Board if an unfavorable decision has been made. In such cases they must request a reconsideration and submit evidence to support their allegations to such Board. All promotions at the UPRSDM submitted have been granted; promotions submitted in June 2019 for the next academic year will be discussed in the next AB meeting scheduled for February 2020. (SD 3-5.1 Anonymous Listing of Faculty up for Tenure and Promotion).

**Supporting Documents**

SD 3-5.1 Anonymous Listing of Faculty up for Tenure and Promotion
STANDARD 4—EDUCATIONAL SUPPORT SERVICES

Admissions

4-1 Specific written criteria, policies and procedures must be followed when admitting predoctoral students.

The UPR SDM is in compliance with this standard.

The MSC abides by the UPR’s General Policy on Admissions, as established by Certification 116 (1978-1979) of the Council on Higher Education (CHE). The CHE is the agency of the executive branch of the government of Puerto Rico and the governing body that administers public policy on education standards in Puerto Rico, as well as issuing licenses to establish and operate educational institutions in Puerto Rico. Due to the diversity of academic programs on campus and in compliance with accreditation standards, each school has established specific programs’ admission requirements, within the framework of the CHE. These specific requirements and applicants selection procedures, as well as future modifications, must be approved by the school faculty and the MSC Academic Senate, prior to their implementation.

The School of Dental Medicine follows the institutional policies of the University of Puerto Rico which guarantees equal opportunities for admission to all applicants. Admission policies and procedures are designed to recruit and admit a diverse student population. All types of candidates are considered without discrimination of race, color, sex, birth, age, origin or social condition, ancestry, marital status, political ideas or beliefs, gender, sexual orientation and/or identification, nationality or ethnic origin. We are an institution that practices inclusion.

Admission Minimum Requirements

A candidate is eligible to be considered to admission to UPR EDM if he/she presents evidence of having completed 90 credits based on semester studies, in an accredited college or university.

Specific courses required:

- Spanish 12 credits
- English 12 credits
- Biology or Zoology 8 credits
- Physics 8 credits
- General Chemistry 8 credits
- Organic Chemistry 8 credits
- Social and Behavioral Sciences 6 credits (Sociology, Psychology, Political Science, Economics, Anthropology or Ethics)

Admissions’ Criteria

Applicants for admission to the School of Dental Medicine of the University of Puerto Rico are evaluated based on the following criteria:
1. Academic performance/ GPA
   a. GPA, understanding that a minimum final grade of C (on a scale in which A = 4.00) is mandatory in all courses.
   b. The number of repetitions, withdraws, low grades and failures is evidenced by the student’s official academic transcript.

2. DAT scores
   a. There is no minimum score for the DAT however the average score for students admitted in the last four years has been 17 or higher for both academic average and perceptual components.

3. Personal characteristics
   This criterion is evaluated through:

   a. Personal interview
      After an initial evaluation based on the information mentioned above, the Admissions’ Committee determines which students will be scheduled for a personal interview.

   b. Portfolio
      It is a summary of the candidate's educational history and life experiences. The candidate must bring and leave a copy of the portfolio to the Admissions Committee at least one week before the day of the interview.

Some of the personal characteristics considered are:

- Demonstrates initiative, motivation and genuine interest to study dentistry
- Knows the facts of the actual health issues in Puerto Rico and the USA
- Is able to express his/her defined goals
- Knows about the academic offer and the school environment
- Shows sensitivity to the needs of the community
- Is emotionally stable and adequately manages stress
- Denotes with his/her behavior, ability to manage pressure
- Demonstrates mental agility
- Shows leadership potential
- Manifests empathy for others
- Can identify own strengths and weaknesses
- Has the ability to listen
- Is respectful
- Maintains critical issues confidentiality
- Shows a proper attitude during the interview
- Exhibits professional behavior and personal appearance
- Is punctual
- Demonstrates ability to adapt
- Communicates effectively and uses appropriate language
4. Courses Approved additional to requirements
The Admissions’ Committee also takes into consideration if the candidate has taken additional courses in:
   a. Life Sciences, such as, Biochemistry or Molecular-Cellular Biology, Histology, Physiology, Anatomy, Microbiology or Genetics.
   b. Behavioral Sciences, such as, Sociology, Psychology or Ethics
   c. Social Sciences, such as, Political Sciences, Economics or Anthropology

The criteria are weighted and articulated in a formula.

**Exhibit 4.1 Admissions Formula Scores Distribution**

<table>
<thead>
<tr>
<th></th>
<th>DAT</th>
<th>GPA</th>
<th>Interview and Portfolio</th>
<th>Extra Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40%</td>
<td>40%</td>
<td>15%</td>
<td>5%</td>
</tr>
<tr>
<td>Total Science</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading Comp.</td>
<td>20%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceptual Ability</td>
<td>15%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requisite courses</td>
<td>5%</td>
<td>30%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other courses</td>
<td>10%</td>
<td>10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interview</td>
<td>10%</td>
<td>5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portfolio</td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. Others
   a. Only bilingual candidates are considered
   b. Socio-economic profile

Currently, 20% of the School’s student body is made up of students that meet the federal definition for Disadvantaged Students. Disadvantaged students are defined and considered for admissions according to the following criteria:
   • First generation university students.
   • Parents with twelve or less years of schooling.
   • An annual family income of less than $ 20,000.
   • Life challenges experienced by the candidate.

   c. Residence Location

The UPR SDM was established as part of the commitment of the Commonwealth of Puerto Rico to improve and safeguard the health of its citizens. The UPR is a state supported institution, and recognizes its responsibility in preparing personnel to meet the dental health needs of the Island. For this reason, preference is given to qualified applicants who are legal residents of Puerto Rico. Out of state residents will be considered, with special attention given to applicants who demonstrate strong ties to Puerto Rico. Foreign national applicants with an established legal residence in Puerto Rico will only considered if, at the time of application, they are either US citizens or have been granted a permanent resident VISA in the United States.

**Process for Selecting Dental Students**
The admissions process of the School is a shared responsibility of the Medical Sciences Campus (MSC) Deanship for Student Affairs and the Campus’ Dean of Students, specifically the campus Admissions Office. Student selection is the responsibility of the Admissions Committee of the UPR SDM, a standing committee whose responsibilities are established in the School of Dental Medicine Bylaws. The Admissions Office of the Medical Sciences Campus screens all applications to the predoctoral DMD regular program to assure the documentation is complete and that candidates meet the established requirements. The records of candidates who meet the requirements are scored and ranked according to the admission criteria previously mentioned and later referred for evaluation to the School’s Admissions Committee for the final selection decision.

In the MSC Central Admissions Office, the records are managed by admission official, Mrs. Raiza Hidalgo. The Director of the Admissions Office is Mrs. Maribel Ortiz. The admissions Office is below the purview and responsibility of the MSC Dean for Students’ Affairs, Dr. María Hernández-Maldonado. The records are securely filed and kept confidential.

**Applicants Selection Process**

The SDM follows the same process for admission for all of its applying candidates, no exceptions made.

Admission to the SDM is open to all qualified individuals and complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act. Moreover, the School is committed to providing equal opportunities for all students. It involves selecting applicants who can become highly competent general dentists, who are well prepared to enter private practice, or to pursue graduate or residency training programs. Admission and retention decisions are based not only on prior satisfactory academic achievement, but also on non-academic criteria that serve to ensure that the candidates are able to perform the essential technical skills for the academic program and the profession, all of the graduation requirements and subsequently adequately executed his/her professional life.
Essential Technical Skills

A candidate to be awarded a Doctor in Dental Medicine (DMD) degree must possess abilities and skills which include those that are observational, communicational, sensory/motor, intellectual/conceptual (integrative and quantitative), and behavioral/social. The use of trained intermediaries may not be acceptable in some clinical situations if it implies that a candidate’s judgment must be mediated by someone else’s power of selection and observation. Reasonable accommodations for qualified persons with disabilities can be made so long as such accommodations do not require a change in the fundamental program requirements of the curriculum, create a direct threat to the health and safety of others, including patients, or create an undue burden to the state’s property. Candidates must be able to consistently, quickly, and accurately integrate all information received by whatever sense(s) employed, and they must have the intellectual ability to learn, integrate, analyze, and synthesize data. These principles are summarized in the Policy on Technical Standards for Dental Students document, approved by the faculty in 2009. The standards state the minimum abilities and competence needed to withstand the curricular demands, pressures, and changing circumstances that characterize the practice of dentistry, in accordance with professional accreditation standards. The document is accessible to the general community and potential candidates in the school’s website. During the interview process, candidates are handed the document and must sign an acknowledgement letter stating their full understanding of this pre-matriculation health standard.

Qualified candidates are evaluated and recommended for admission by the Committee following the priority order, according to the admissions’ formula scores. 40 candidates and a maximum of 6 alternate candidates are recommended for admission. If for the last score in order of the formula is shared by more than one student, up to 42 students could be admitted for that year.

Process to rank students

The admission formula, described above, leads to a ranking of candidates that guides but does not limit the decision of the Admissions Committee. The Campus Admissions’ Office prepares a “master list” with the scores of all candidates and the Admissions Committee goes over the scores on the list. The Admissions Committee submits the recommended candidates with a list of possible alternate candidates to the Dean, who has the ultimate responsibility for admissions and signs all admission letters. Rejection letters are sent out as well to candidates who do not meet program criteria. The formula has proven useful to predict success in dental studies, as evidenced by the school’s low attrition rate, student’s success in passing the National Boards, and the successful placement of graduates in post-graduate programs (Exhibit 4.2).

Admissions’ Committee

The Admissions Committee for dental students serves on an advisory capacity to the Dean on matters related to admission of pre doctoral dental students. According to the bylaws the official name of this committee is Admissions and Transfer Committee for Dental Students. The Committee discusses and recommends matters related to the admission process of the School of Dental Medicine, including admissions’ criteria. The Admissions’ Committee is composed of six faculty members (two representatives of each one of the school’s departments), the Assistant Dean
for Graduate Programs, a member of the biomedical sciences faculty, one retired faculty member, representing the interests and needs of the community and the profession, a student representative from the pre-doctoral program, the Office for Student Affairs recruiter (does not vote), and three alternate faculty members. The MSC Dean for Students Affairs and the School’s Dean are ex-officio members. The Assistant Dean for Student Affairs chairs the committee (CODA Table 15). Each academic year, the Committee has an initial meeting every academic year where the norms, rules (including a signed confidentiality agreement), and processes are established. The MSC Admission Officer assigned to the School participates of the meeting and its activities. The applicants are interviewed by the committee members. The Admissions’ Committee meetings are held once all of the candidate’s application records are complete or anytime during the process, if needed.

The members of this committee will be the following:

- **Assistant Dean for Student Affairs (Interim)**
  - Dr. Ginette M. Izquierdo Rodríguez
- **Six (6) faculty representatives** [two (2) from each department, one (1) from the Biomedical Sciences, one (1) from the post graduate level, and one (1) from the Research Office. One alternate from each department for interviewing purposes only. The alternate may be called upon at the need of the Committee.
  - Ecological Sciences Department Representative
    - Dr. Ina I. Negrón Quesada
    - Dr. Grace Pagán Collazo
    - Dr. Juan B. Giusti De Jesús (alternate)
  - Surgical Sciences Department Representative
    - Dr. Elizabeth M. Orsini López
    - Dr. Xiomara Rivera Morales
    - Dr. Lis Arocho (Alternate)
  - Restorative Sciences Department
    - Dr. Rafael Portela
    - Dr. Hernán Rodríguez
    - Dr. Lorna Rodríguez (Alternate)
  - Research Office Representative
    - Dr. Lydia López Del Valle
- **Post-doctoral level Representative**
  - Dr. Yolanda Heredia Matos
- **Biomedical Sciences Representative**
  - Dr. Carlos Torres
- **One (1) student representative**, preferably from the Senior class and one alternate
  - Franco Morán
  - Alejandra Riera (alternate)
- **One (1) representative** from Counseling Office with behavioral expertise.
  - Dr. Joselyn Medina, Psychologist
- **One (1) retired faculty member** representing the interests and needs of the community and the profession.
Faculty, students and other personnel selected as a member of the UPR EDM Admission Committee must demonstrate with his/her behavior/conduct the following values:

- Objectivity, especially on candidate’s evaluation and decision making processes
- Ethical behavior
- Humanism
- Empathic and concerned for others needs
- Professionalism
- Non-biased
- Commitment to inclusion and diversity in aspects, such as, races, ethnicities, religions, sexual identification and orientation, cultural backgrounds (cities, rural areas and geographic regions), and personal interests, talents, and perspectives.
- Respectful to others values and believes
- Active in community outreach and/or civic activities

Administration and Faculty Participation Admission Criteria Revision Procedures

Admissions criteria are re-evaluated periodically. Previously admitted students’ academic scores and Dental Boards results are taken into consideration. This process is within the responsibilities of the School’s Assistant Dean for Students Affairs who is also the President of the School’s Admissions’ Committee. The Assistant Dean along with the Committee members recommend modifications of admission criteria and procedures to the School’s Dean and to the Faculty. The Admissions’ Committee has faculty and students’ representatives. The students’ representatives are recommended by their pairs. Admissions criteria modifications are ultimately approved by the MSC Academic Senate, a governing body where the faculty, students and administration of all of the MSC professional schools and administrative deanships are also represented.

Throughout the years, the admissions criteria have been revised with the purpose of attracting students from disadvantaged backgrounds. A review of the relative weight given to the GPA and DAT scores has been re-considered and an open review file approach was implemented to give a higher weight to non-cognitive criteria, such as leadership abilities and factors like ability to maintaining a job. The current criteria have enabled the school to recruit a qualified student body which perform well academically. Efforts are continuously made to attract students from disadvantaged backgrounds.

Admission’s Criteria and Procedures and Program Goals Communication to potential Candidates

The information about the program’s criteria, procedures for admission and program goals is contained in a document which is publicly available through the UPR SDM Web page. (‘Medical
The School’s Goal is contained within the Mission: “train individuals in the practice of dentistry as an integral part of the multidisciplinary team of health professionals who will be in charge of the needs of the Puerto Rican people.”

Only applicants who meet the program’s admission criteria are admitted.

Applicants who are not admitted are informed of their admission status by a letter and through the MSC platform. Orientation is available for those students not admitted who request information to the Admissions’ Office. They are directly and confidentially advised by Assistant Dean for Students Affairs on how to become more competitive for admission.

Remediation advice given to these students that are willing to submit an application for the next year include:

1. Repetition of DAT and improving preparation with strategies, such as, commercially available review courses
2. Repetition of Courses to increase their GPA
3. Taking additional sciences courses
4. Improving their resume and the portfolio by:
   a. Involving in ongoing research projects at the dental school
   b. Participating in outreach community service activities
   c. Clinical shadowing
   d. Job experiences

**Student Attrition and Performance Monitoring**

The Office of the Associate Dean for Academic Affairs and the Assistant Dean for Student Affairs monitor attrition rates. The Academic Progress and Performance Committee, a standing committee, evaluates student performance at the end of each academic year and recommends academic progress, promotion and/or graduation. The Associate Dean for Academic Affairs is the President of this Committee. The Students’ Assessment Committee, an ad-hoc committee to the Academic Committee was created to provide ongoing follow-up of students’ academic progress throughout the academic year. The Student Assessment Committee meets with course coordinators three times throughout the academic year (October, February, and May) to monitor the students’ academic and clinical performance. Those students manifesting academic challenges are identified early during the academic year, they are informed of their deficiencies, and referred for academic counseling and/or support to be provided by the assigned mentors, and/or referred for participating in academic tutorials and receiving remedial assistance.

These early interventions have proven to be effective in helping students to achieve academic progress towards the next level of study, as evidenced by the UPR SDM’s high retention rates (Exhibit 4.2). All cases are handled under strict confidentiality protocols. Professors and teaching assistants offer tutorials and review sessions for students exhibiting academic difficulties in any given course. Students are also assigned to professors for mentoring in order to help them in their
academic development. Also, tutoring and mentoring sessions are available to all students once the needs are identified and course coordinator is consulted for the appropriate strategies. The students have worked in mentoring/tutoring initiatives for the last years, for example in the following courses: Dental Anatomy and Occlusion (EVDI 7125), and Gross Anatomy (CBIO 7110). Also, Junior students are mentoring students during the preclinical laboratory session in Fixed Prosthodontics (PRET 7276).

Exhibit 4.2 DMD Program: Attrition, Graduation, and Retention Rates 2014 – 2019

<table>
<thead>
<tr>
<th>Year of Graduation</th>
<th># of Enrolled</th>
<th># of Graduates (in 4 years)/ Retention %</th>
<th>Graduation %</th>
<th># Graduates after cohort</th>
<th>Added from Previous Year</th>
<th>Added to Sub. Year</th>
<th>Sick Leave *</th>
<th>Retention %</th>
<th>Attrition Dismissed / Withdrew§</th>
<th>Late Graduation (August)**</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>45</td>
<td>36</td>
<td>80.00</td>
<td>7 / 45 (15.56)</td>
<td>91.49</td>
<td>1</td>
<td>2.22 %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>42</td>
<td>36</td>
<td>85.71</td>
<td>5 / 42 (11.90)</td>
<td>97.62</td>
<td>2</td>
<td>4.67 %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>42</td>
<td>35</td>
<td>83.33</td>
<td>7 / 42 (16.67)</td>
<td>100.00</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>40</td>
<td>37</td>
<td>92.50</td>
<td>2 / 40 (5.00)</td>
<td>97.50</td>
<td>1</td>
<td>2.50 %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>42</td>
<td>38</td>
<td>90.48</td>
<td></td>
<td>4</td>
<td>90.48</td>
<td>Not determined</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>40</td>
<td>39</td>
<td>97.50</td>
<td></td>
<td>1</td>
<td>97.50</td>
<td>Not determined</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Leave of Absence / Still enrolled or have not completed administrative clearance, returned after leave to complete final competencies.

** Does not affect graduation rate

§ Includes deceased

As observed on the attrition percentages shown on Exhibit 4.2 students leave the school due to academic or non-academic reasons (illness, vocational, financial, and family situations). Nevertheless, from 2014 to 2017, the school has experienced 2.22 % to 2.50 % attrition rate/percentage due to academic reasons that school officials are trying to assess. Attrition for years 2018 and 2019 cannot be determined yet since there are some students absent on sick leave.

The school offers special curricular arrangements to dental students who have evidenced academic deficiencies. A leave of absence may also be granted when there is a need to take time off and solve a personal or health issues. The student may return and complete the academic program within a specific time period, according to UPR SDM “ACADEMIC PROGRESS AND PERFORMANCE: RULES AND REGULATIONS”. In order to assist entering students with potentially high-risk in adapting to the demands of the dental curriculum, the MSC Deanship of Student Affairs designed a form for students with disabilities (MSC Self-Identification of Disability Form) in which they may voluntarily identify their difficulties. This allows for rapid identification of students with special needs so that reasonable accommodation or remedial activities can be arranged. The main goal is to retain students, allow them time to manage their challenges and enable them to successfully complete their academic program.
Exhibit 4.3 Profile of Entering Classes, 2014 to 2019

<table>
<thead>
<tr>
<th>Year</th>
<th># of Applicants</th>
<th># Applicants who meet minimum admission criteria</th>
<th>Admitted Students</th>
<th>Average GPA</th>
<th>Average DAT Total Science</th>
<th>Read ing Comp.</th>
<th>Perceptual Ability</th>
<th>Students Enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>137</td>
<td>75</td>
<td>43</td>
<td>3.60</td>
<td>17</td>
<td>19</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>149</td>
<td>80</td>
<td>40</td>
<td>3.64</td>
<td>17</td>
<td>21</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>377</td>
<td>61</td>
<td>41</td>
<td>3.55</td>
<td>18</td>
<td>19</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>362</td>
<td>99</td>
<td>41</td>
<td>3.57</td>
<td>18</td>
<td>18</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>398</td>
<td>48</td>
<td>41</td>
<td>3.45</td>
<td>17</td>
<td>18</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>313</td>
<td>81</td>
<td>40</td>
<td>3.57</td>
<td>17</td>
<td>18</td>
<td>40</td>
<td></td>
</tr>
</tbody>
</table>

Exhibit 4.4 Advanced Placement Program Applications and Admissions, 2014-2019

<table>
<thead>
<tr>
<th>Year</th>
<th>Applicants Total</th>
<th>Applications Submitted</th>
<th>Qualifying Candidates</th>
<th>Candidates Admitted</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>91</td>
<td>77</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>2015</td>
<td>148</td>
<td>116</td>
<td>19</td>
<td>10</td>
</tr>
<tr>
<td>2016</td>
<td>223</td>
<td>109</td>
<td>26</td>
<td>10</td>
</tr>
<tr>
<td>2017</td>
<td>228</td>
<td>107</td>
<td>38</td>
<td>15</td>
</tr>
<tr>
<td>2018</td>
<td>379</td>
<td>148</td>
<td>34</td>
<td>15</td>
</tr>
<tr>
<td>2019</td>
<td>314</td>
<td>149</td>
<td>37</td>
<td>17</td>
</tr>
</tbody>
</table>

For the last five (5) years there have been no transfer students.

Exhibit 4.5 Admission of Transfer Students, Years 2015-2019

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Applications</th>
<th>Accepted</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2016</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2017</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2018</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>2019</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

Supportive Documentation

SD 4-1.1 Sample rating sheets for student selection
SD 4-1.2 Application form and /or packet
Admission of students with advanced standing must be based on the same standards of achievement required by students regularly enrolled in the program.

The UPRSDM is in compliance with this standard.

The current advanced standing program offered in the UPR-SDM is targeted to candidates that have completed pre-doctoral dental training at a non-CODA accredited program.

The School of Dental Medicine has an Advanced Placement Program, available to U.S. citizens who have graduated from foreign schools, permanent residents, as well as international students, but it mainly targets dentists with dental degrees from Spanish speaking international dental schools. The UPR SDM Advanced Placement Program (APP) for International trained consists of five weeks of summer session and two academic years of the regular curriculum, which are the third and fourth years of the DMD program. This program is also commonly known as the International Program.

The Preparatory Clinical and Academic Integration for International Students Course, PRET 7300, is the summer session. This course consists of a series of lectures, seminars, demonstrations, and laboratory exercises related to the diagnosis, prevention and treatment of diseases, disorders, and conditions of the oral cavity. The general objective of this course is to offer students the opportunity to integrate their previous knowledge and skills with the clinical and academic philosophy of the UPR School of Dental Medicine, as well as to become familiar with the criteria, equipment, and armamentarium used at the school.

After completing the summer course, the APP students enroll in the third year of the regular DMD program. The standards of achievement for these candidates are the same required to regular UPR-SDM students who are promoted from second to third year of the DMD program. The students of the APP have the same curricular experience that our DS III and DS IV have. The newly admitted students from APP, are fully integrated to the third year class and they continue under the same curricula until they meet all the graduation requirements for the DMD degree. These graduation requirements, including the competency assessment exams, are the same as those required to regular dental students.

Policies and Procedures for Advanced Standing

There are specific and clear policies and procedures for an international trained dentist to be awarded credits for former studies and be admitted to the APP. These policies haven’t changed since 2010.

Requirements for Admission

Requirements for admission include:

- Satisfactorily completed an academic program of studies culminating in a degree, diploma or certificate in dentistry recognized by the appropriate civil authorities of the country in which the school is located.
• Submit their credentials to an international credential evaluation service for proper evaluation.
• Pass Part I of the National Board Dental Examination and have the official score report sent to the Office of Admission.
• Take the Test of English as a Foreign Language (TOEFL) and have the official score report sent directly to the Office of Admissions of the University of Puerto Rico Medical Sciences Campus. Student copies of the score reports are not acceptable.
• Proficiency in the Spanish language is required as well as ample knowledge of English.
• Candidates will be contacted in writing or electronically to schedule a personal interview and a Skills Test (Bench Test) where a set of standard dental procedures will be examined.
• A minimum grade point average of 2.00 (in scale where A=4.00) from dental school, or its equivalent, is mandatory.
• Three letters of reference (preferably from dental school faculty).
• Attested copies, with English translation, of dental school diploma and dental school transcripts.
• Copy of visa or immigration status.
• Curriculum vitae.
• Personal statement or essay.

All applications to the University of Puerto Rico School of Dental Medicine (UPRSDM) are filed through the ADEA Centralized Application for Advanced Placement for International Dentists, (CAAPID). The School of Dental Medicine does require a supplemental application.

Candidate’s applications are submitted to the UPR-SDM Advanced Standing Committee. This Committee evaluates the candidates and conducts an analysis of the applicant’s file. Proficiency in the Spanish language is assessed during the interview process.

For determining which students are admitted, their scores are tallied, ordered and prioritized by the use of a standard admission formula. Applicants admitted to the Advanced Placement Program are those that score higher results with the admission formula (Available on Site).

After this process is completed, the Advanced Standing Committee submits its recommendations to the UPR-SDM Dean who makes the final decision for the applicant’s acceptance.

The APP Administrative Assistant, Ms. Magdalena Sepulveda, also attends the Committee meetings to support its administrative work, such as, taking the minutes and keeping track of the applicants’ admission records.

On February 2017, CODA approved a request for increase enrollment of the APP from 10 students per year up to 20 students per year following a four-year plan. This plan was approved to start in the 2017-2018 academic year. Seventeen (17) students were admitted to the APP for the current academic year, 2019-2020. (Exhibit 4.4 Advanced Placement Program Applications and Admissions, 2014-2019)
Supportive Documentation

SD 4-2.1 Examples and results of appropriate qualifying examinations, including a list of the number of applications received and the number of advanced standing students accepted into the program for the last five years. (Available on site)

4-3 Students with advanced standing must receive an individualized assessment and an appropriate curriculum plan that results in the same standards of competence for graduation required by students regularly enrolled in the program.

The UPR SDM is in compliance with this standard.

The current advanced standing program offered in the UPRSDM is targeted to candidates that have completed pre-doctoral dental training at a non-CODA accredited program. No transfer cases have been executed since the last accreditation visit. (Exhibit 4.5)

The transfer applicants from Predoctoral CODA Accredited Programs to the School of Dental Medicine must meet the regular admission criteria for the predoctoral program of the UPRSDM (Standard 4-1), and follow the regular established admission process.

Also, these factors are taken consideration during the evaluation:

1. Position availability
2. Curriculum and approved courses identically aligned with the UPRSDM curriculum (timetable, credits approved)
3. Negative record of ethical conduct
4. Favorable academic progress

4-4 Admission policies and procedures must be designed to include recruitment and admission of a diverse student population.

The UPR SDM is in compliance with this standard.

Institutional policies at the SDM follow those of the state UPR which ensures equal educational opportunities to all applicants. Reflecting one of its core values, which is the “appreciation for diversity and collaborative and interdisciplinary work”, the school’s Recruitment Plan, Policies and Procedures promote the admission of students from diverse backgrounds. This includes characteristics based on socio-economic background, race/ethnicity, gender, sexual orientation and gender identity.

The following table summarizes the demographic characteristics of the UPRSMD student’s population:
Exhibit 4.6 UPRSDM Current Students’ Demographic Profile: Gender and Ethnicity

<table>
<thead>
<tr>
<th>Demographic Profile</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENDER:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feminine</td>
<td>32</td>
<td>24</td>
<td>24</td>
<td>29</td>
</tr>
<tr>
<td>Masculine</td>
<td>9</td>
<td>17</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>41</td>
<td>41</td>
<td>40</td>
</tr>
<tr>
<td>Ethnicity/Race</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>1</td>
<td></td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>Hispanic</td>
<td>40</td>
<td>41</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Asian, Pacific Islander</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Indian</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2023</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Native Hawaiian</td>
<td></td>
<td></td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>Did not report</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two or more races</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

Because of the island’s economic, cultural and political reality, the concept of diversity is somewhat different from that of the U.S. Socioeconomic characteristics and workforce cultural competency are more relevant than those related to race and ethnicity. In addition, the rationale for the recruitment of underrepresented minorities and low-income students is strongly based on the widely recognized need to diversify the dental profession in order to respond better to the needs of underserved populations. Studies have shown that student characteristics are associated with plans to care for underserved patients and that disadvantaged students develop greater awareness regarding the competencies required to effectively care for diverse groups and are more likely to practice in underserved communities. [Reference: Journal of Dental Education January 2012, 76 (1) 98-106]

With this emphasis, the UPRSDM is giving disadvantaged students the opportunity to study dental medicine. Our definition of disadvantaged student is that of the US Department of Health and Human Services. It is someone who:

Part I - educational/environmental comes from an environment that has inhibited the individual from obtaining the knowledge, skills, and abilities required to enroll in and graduate from a health professions school, or from a program providing education or training in an allied health profession;

Or

Part II - economic comes from a family with an annual income below a level based on low-income thresholds according to family size published by the U.S. Bureau of the Census, adjusted annually for changes in the Consumer Price Index, and adjusted by the Secretary of Health and Human Services for use in health professions and nursing programs. Specifically, we identify first generation university students, one parent with twelve or less years of schooling, and a family yearly income of less than $20,000.
As part of the UPRSDM efforts to reach out to a more diverse pool of candidates, the School has an active participation in the MSC Health Professions Summer Camp held every year in June for high school students from state and private public schools. The students are exposed to the dental school activities and are encouraged to consider dentistry as a possibility of a future career. Also the UPRSDM offers a Summer Workshop directed to college students. The summer workshop provides activities in which college students receive basic lectures in dentistry, on how to write a resume, how to carry out a good interview, and how to design a college program of studies that provide them with information and skills to become more competitive candidates to apply for dental school.

They also visit the School’s facilities and participate in activities that make this an exciting event for these young students viewing dentistry as a reachable goal in their lives. Some of the students have joined the UPRSDM research pipeline during college and are currently working in specific projects, enriching their college careers and preparing to apply to dental school soon.

By 2016, an Open File Review system was designed and implemented to facilitate the admission of students identified as disadvantaged that are in good academic standing, but also are sensible to the needs of the Puerto Rican population, and have concepts of compassion, altruism, diversity, and respect. The admissions’ process was enhanced by implementing a new approach for the admission’s formula where more weight was to be given to non-cognitive factors in student’s performance such as professionalism, communication, interpersonal skills and personality factors. The UPRSDM recruitment efforts have been expanded in scope by improving the quality of activities, as well as placing emphasis on recruiting students from disadvantaged backgrounds and health shortage areas.

Supportive Documentation

SD 4-4.1 Qualifications for serving on the admissions committee, including a commitment to diversity and diversity-related issues

- Information regarding admissions of a diverse student body and school sponsored Programs targeted to underserved minorities is in the Standard 1-4.

Facilities and Resources

4-5 The dental school must provide adequate and appropriately maintained facilities and learning resources to support the purpose/mission of the dental school and which are in conformance with applicable regulations.

The UPRSDM is in compliance with this standard.

The UPR SDM has adequate facilities to execute its mission in the areas of didactic teaching, pre-clinical and clinical practices and administration and is in full compliance with this standard.
Didactic Teaching Facilities

Classrooms

Two of the UPRSDM are located on the second floor of the Guillermo Arbona Building. These are furnished with TV screens connected to a computer, located on a podium located in the front of the room, microphone, front screen, blackboard, chairs and desks:

1. Room A-224 – mainly used for teaching predoctoral sophomore students
2. Room A-225 – mainly used for teaching predoctoral freshmen students

Multidisciplinary laboratories, also used as classroom facilities for freshman and sophomore students, located in the UPR SDM basement:

1. Freshman Dental Anatomy Laboratory (Freshmens’ homeroom)

The first-year laboratory, aside from having laboratory benches, is equipped with an intelligent board and two monitors, so lectures and demonstrations can be offered. This laboratory is also furnished with laboratory equipment, such as, vacuum mixers, model trimmers, regular vibrators, plaster and stone bins. It also has pressurized air installations, air filters, and is equipped with bench-work mannequins.

2. Simulation Laboratory (Sophomores’ homeroom)

The new clinical simulation laboratory serves as the 2nd year dental laboratory and classroom. The facility is equipped with simulators, monitors for every student, a digital network video camera, and computer systems. It also has two X-Ray rooms next to the laboratory with digital technology and a complete digital X-Ray system and software. This facility offers dental students the opportunity to practice many of the psychomotor skills required to carry out procedures in dentistry, on a simulated environment, prior to performing these procedures in clinical patient care. This laboratory is also used for third- and fourth-year competency examinations and for students who require additional experiences for the development of competencies.

Aracelis Ortiz Amphitheater, 100 seat facility, located on the first floor of UPR SDM. It is used as one of the main classrooms, mostly by junior and senior predoctoral students.

There are two (2) students’ lounge areas/facilities located between the multidisciplinary laboratories on the UPR SDM first floor and the basement. There is also an area designated for students’ lockers close to both of these lounge areas.

Learning Technology Centers

The SDM has significantly optimized the informatics infrastructure and equipment during the last five (5) years.

The Learning Technology Centers of the School of Dental Medicine located at room BB37B and C have the purpose of providing technological support to faculty and students and enhancing self-learning. Room BB37B has 12 computers while BB37C has 13 computers. These rooms are
located in the basement of the UPR SDM. These computer laboratories have Windows 10 as their Operating Systems. Also, they are equipped with the following software: ExamSoft, MS Office 365, AxiUm (EHR) and Sidexis (radiography system). Room BB37C is equipped with a Xerox Printing Machine for students to print and copy material and a regular scanner.

In 2016, a new technology center known as, the School of Dental Medicine Technology Center, was established. It is located at room BB 52 and is used as an examination and training center. It is equipped with 45 computer stations programed with Windows software’s their OS, ExamSoft software, MS Office, AxiUm (EHR) and Sidexis (radiography) software. It’s equipped with Wi-Fi and three LCD 60” monitors.

Both technology centers are in our Active Directory network environment to assure maintain the data security and the different privileges of our users.

The Center for Informatics and Educational Resources (CIRE), is a unit established in 2016. The CIRE personnel is responsible for coordinating and integrating all aspects of information systems, communication infrastructure, educational resources, training and distance education. It offers its services through its four main units: Information Systems Unit, Electronic Health Record Unit, Distance Education and Training Unit and a Technical Support Unit. The Center for Informatics and Educational Resources (CIRE) provides all the technological infrastructure that directly provides services to teaching staff, nonteaching staff and students of the academic programs, clinics and post-graduate programs of the School.

The CIRE personnel is responsible for all the technological infrastructure that directly provides services to teaching and nonteaching staff, students of the pre-doctoral and post-doctoral programs of the School, courses offered in the classrooms, laboratories and clinics. In addition, this personnel coordinate plans and develop special projects for strengthening the academic-administrative processes. They are also in charge of managing, safe keeping and offering all the technical support of the School’s technological network, the School website, the Learning Management System (Blackboard), Jetro Cockpit Controller, Domain Backup and DNS Redundant Server, V-Center Server, Terminal Services, Sidexis, Courseval, Spiceworks, axiUm, Oracle, Dolphin Server, Citrix Server, among other services. During the first semester of Academic Year 2019-2020, CIRE will be re-located to new facilities located in the school’s 1st floor. This will facilitate accessibility for offering technical support to students, faculty and support personnel, both in didactic, as well as clinical learning scenarios.

**Facilities located in the UPR EDM basement**

The SDM has several facilities located in the basement of the MSC main building. Among these is:

1. Warehouse and basement dispensing room
2. Student lounge
3. Counseling and Psychology Office
4. The freshman and sophomore multidisciplinary laboratories and classroom facilities
   a. Freshman Dental Anatomy Laboratory
   b. Simulation Laboratory
   c. X-Ray rooms
5. Locker rooms for freshman and sophomore students
6. Faculty offices
7. Dental equipment maintenance and repair room
8. GPR Program Director Office
9. Advanced Education Programs Director Office
10. Learning Technology Centers (3)
11. Center for Informatics and Educational Resources (CIRE)
12. Puerto Rico Innovation in Dental Education (PRIDE-HRSA Grant #D85HP28500) Office
13. Restrooms

Complementary UPR MSC Resources and Services

The following resources and services, available to UPR SDM students and faculty, are provided and directly administered by the Office of the Chancellor and by the Deanship of Administrative Affairs:

1. The UPR-MSC Information Systems Office (OSI)
2. UPR-MSC “Conrado Asenjo” Library
   a. Collections and Dentistry Resources
   b. Rooms for group study
3. Center for the Integration of Technology in Academia (CATA)
4. The campus wireless network (RCMNET)

Clinical Teaching Facilities

The facilities of the University of Puerto Rico, School of Dental Medicine (UPRSDM) are located on the first floor and part of the basement of the University of Puerto Rico Medical Sciences Campus (UPRMSC) main building designated a Guillermo Arbona Building, with two additional classrooms on the second floor. This building and other Medical Sciences Campus buildings and facilities are located within the Puerto Rico Medical Center (PRMC) perimeter, in the City of San Juan. San Juan is the Island’s capital and the largest metropolitan area of the Commonwealth of Puerto Rico.

All of the UPR-SDM facilities, including clinical facilities, comply with all regulations of the Department of Health, as well as access regulations for patients with special needs.

There are five complete functional treatment clinics that are used for preclinical and clinical instruction in patient care. These are the Main Clinic, Oral Diagnosis / Emergency, Oral Surgery, Oral Radiology, and Intramural Faculty Practice Clinics. There are other clinics mainly used by residents and faculty, and are available for rotations, internships, and observation by pre-doctoral students, such as Research, Intramural Faculty Practice and clinics for the Post-Doctoral Programs of Pediatric Dentistry, Oral and Maxillofacial Surgery, Orthodontics, Prosthodontics, GPR and the collaborative AEGD and Endodontics Programs. Each clinic is furnished with independent dental cubicles, sterilization area, dispensing and storing rooms, administrative offices, x-ray facilities, and reception area.
Main General Clinic Facility

The Main Clinic is equipped with 96 dental cubicles for individualized clinical training in general dental procedures. All first- and second-year students’ early clinical experiences, as well as the third- and fourth-year Comprehensive Care Clinic Courses utilize the facilities of the Main Clinic.

Each individual dental cubicle in the Main Clinic is equipped with the following:

- A complete dental unit (dental chair, dental light, and dental unit)
- One sink for every four cubicles
- Computer monitor, keyboard, mouse and Thin client unit

There are two digital intra-oral x-rays in the Main Clinic for the use of predoctoral students, as well as monitors, computers and printers. The clinic is fully converted to digital technology with an Electronic Health Record (EHR) and a complete digital X-ray system and software.

The Center for Informatics and Educational Resources (CIRE) directly provides all the technological services needed by teaching staff, nonteaching staff and students in the clinical teaching environment.

Use of the Dental Clinics

The Main Clinic and some of the other clinics of UPR SDM are shared by the predoctoral students and by Expanded Functions Dental Assisting programs, OMFS and GPR Programs’ students.

In the case of predoctoral students, there is an Appointments’ Coordinator for scheduling the distribution of chairs in the clinic using the scheduling module of the Electronic Health Record (EHR) (Exhibit 4.7).

Exhibit 4.7 Clinical Hours for Each Students Group

<table>
<thead>
<tr>
<th>Year</th>
<th>Courses With Clinical Component</th>
<th>Clinical Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PRET 7136 Clinical Application of Dental Skills</td>
<td>13-21</td>
</tr>
<tr>
<td>1</td>
<td>DEST 7127 Introduction to Professional Development II</td>
<td>4</td>
</tr>
<tr>
<td>1</td>
<td>PRET 7116 Preventive Dentistry</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>PRET 7298 Orthodontic Treatment Planning</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>PRET 7286 Apprehension and Pain Control</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>PRET 7126 Introduction to Restorative Dentistry and Principles of Intracoronal Restorations</td>
<td>6</td>
</tr>
</tbody>
</table>
Half of the chairs located in last line of the left of the Main Clinic are shared with the GPR Program Residents. The schedule is the following:

- Mondays - GPR Programs Residents
- Tuesdays - GPR Programs Residents
- Wednesdays - GPR Programs Residents
- Thursdays – AM- PRIDE
- Thursdays – PM- GPR Programs Residents
- Fridays - AM / PM

Half of the chairs located on last line of the left of the Main Clinic are shared with the Expanded Functions Dental Assisting Program of the UPR Health Professional School, during the second semester of each academic year.

**Interprofessional Activities**

Students and faculty from the MSC School of Pharmacy and School of Nursing come to our Main Clinic, the Oral Diagnosis / Emergency Clinic and /or Main Clinic waiting room to participate in Interprofessional Activities (IPE) with our third- and fourth-year students. Faculty and students from other UPR MSC Schools also participate in some health promotion activities in our clinics during the year. The PRIDE Mentoring Program coordinates an interprofessional activities program.

**Materials Dispensing Facility**

A central dispensing area is located in the Main Clinic and has an elevator which connects it to the central warehouse. This dispensing facility supplies the materials for all the clinics located on the first floor of the UPR SDM. All materials purchased at the SDM must be approved by the FDA and when applicable, with the ADA Seal of Approval. The UPR-SDM has a continuous inventory system that assures the supply of adequate quantity and quality of the appropriate dental materials.

In order to make materials’ management and tracking more efficient, the UPRSDM has implemented axiUms’s Plus Dispensary Module.
Specialized Clinical Facilities

Oral Diagnosis/Emergency

The facilities for the Oral Diagnosis/Emergency Clinic are located adjacent to the main waiting room. It consists of two dental units, where new and emergency patients’ screenings are conducted, and three offices for administrative staff and faculty. Like the Main clinics, it is fully converted to digital technology with Electronic Health Record and complete digital X-ray system. Two desktop computers for the staff and students are also available.

Use of OMFS Clinical Facilities

The Oral and Maxillofacial Surgery (OMFS) Program and Oral Surgery Predoctoral Clinic is adjacent to the Oral Diagnosis/Emergency Clinic. It is equipped with the following:

- Cubicles with dental units and chairs for use by predoctoral students and residents
- Monitors and equipment for nitrous oxide and intravenous sedation
- Equipment for dental implant surgery
- Central dispensing room and recently remodeled sterilization facilities
- New fully equipped surgery suite adjacent to the clinic with recovery area
- Digital technology with EHR and a complete digital X-ray system and software

The Oral Surgery Clinic is shared by predoctoral students and OMFS residents. There is an appointment coordinator for the scheduling of surgical procedures in the clinic. When the residents are not in the clinic, students may use all available dental units. The usual schedule is the following:

- Mondays - Residents and students
- Tuesdays - Residents and students
- Wednesdays - Residents
- Thursdays - Residents and students
- Fridays - Residents and students

Oral and Maxillofacial Radiology

The Oral and Maxillofacial Radiology Clinic complies with the standards of the Radiological Health Section of the Department of Health and is equipped with the following: 4 intra-oral X-ray machines with direct intra oral adult and children CMO digital devices, 2 digital panoramic and cephalometric X-ray units, a Cone Beam CT-Scan machine, and a portable intra oral x-ray machine, among others. It is fully converted to digital technology with EHR and a complete digital X-ray system and software. A supplementary phosphorus plates radiographic system is also available. Radiation protective equipment, such as, X-Ray aprons and cervical collars are available in the area. Since 2013 the SDM has replaced all of its analog radiographic systems, utilizing only digital receptors, both in intraoral and extraoral radiographs.
Faculty Intramural Practice Clinic

The Faculty Intramural Practice Clinic is furnished with one sink, a computer monitor, keyboard, mouse, one portable handheld dental x-ray machine and four (4) individual dental cubicles, furnished with dental units, operator and assistant stools.

The Intramural Faculty Practice Clinic are shared with the Expanded Functions Dental Assisting Program of the UPR School of Health Professions on specific pre-scheduled days, during the first semester of each academic year.

Support Facilities

First Floor Dental Laboratories Facilities

These laboratory facilities are located behind the Main Clinic and designated for predoctoral students’ use. This area has benches for student laboratory work, a porcelain processing room, rooms for different laboratory purposes and a bench area for hands on courses. The facilities are equipped with model trimmers, vibrators, vacuum mixer, ball bearing lathe, plaster and stone bins, and a burn-out oven, and other laboratory equipment, all inside separate rooms and cubicles. A Digital Dentistry laboratory to be used by predoctoral and postdoctoral students is being developed. The Digital Dentistry Laboratory will have the following equipment: 10 computers connected through the UPR SDM network, a milling machine and a dental scanner. This new facility will be fully operational in 2020.

Central Warehouse

The central warehouse which includes a dispensing area is located adjacent to the second-year laboratory. This area is used for receiving, storing, dispensing and distributing dental materials, dental equipment and other supplies that are used in the School. These facilities are equipped with a safety box, refrigerators, and an elevator that connects with the Main Clinic dispensing room. This facility has a window for dispensing of materials to both preclinical laboratories.

Central Sterilization and Instruments Dispensing Rooms

The central sterilization and instruments dispensing rooms serve the Main Clinic and provide support to others clinical areas of the school and multidisciplinary laboratories. In front of the Main Clinic sterilization facilities, there is a cleaning and packing area where students prepare their instruments for sterilization. In this area, reusable equipment, instruments, and supplies are cleaned and decontaminated, by manual or mechanical cleaning processes, before being sterilized. This area includes ultrasonic machines, sinks, and a window to deliver the non-sterilized packaged instruments and trays, and an area for disposing contaminated material. The sterilization facilities include an electric boiler, the main sterilizer and instrument dental washer disinfection units. After sterilization, items are transferred to the sterile storage area until they are requested by each student.
Research Facilities

Facilities located on UPR EDM first floor

• -Research Clinic and Assistant Dean for Research Office
  The Research Clinic is within the Research Department facilities, adjacent to the Oral Diagnosis / Emergency Clinic, on the first floor, comprising a 1,500 sq. feet area. This clinic has two dental units, a waiting room, a reception area, and four research faculty offices.

• -Center for Clinical Research and Health Promotion
• -Caribbean Dental Biorepository Project
• -Oral Biology Laboratory

UPR SDM Facilities Renovations since 2012 [last seven (7) years]:

The following school facilities and or infrastructure have been either built or remodeled during this period:

1. Digital Radiology software and hardware
2. Office of Assistant Dean of Student Affair
3. Office of Assistant Dean of Clinic affair
4. Administrative Offices
5. Electronic Health Record
6. Pediatric Dentistry Clinic
7. Dental Insurances Plans Billings Office
8. Graduate Prosthodontics Clinic
9. Pediatric Graduate Program Conference Room
10. Dental Clinic at the University of Puerto Rico Carolina Hospital
11. Main Clinic- replacement of 40 dental chairs
12. Main Clinic – A/C system
13. Clinics Doors and access security systems
14. Faculty Computers
15. Digital technology hardware and software in every dental unit and clinical facilities
16. School of Dental Medicine Learning Technology Center
17. Center for Informatics and Educational Resources (CIRE)
18. First-Year Dental Laboratory
19. Simulation Laboratory
20. Simulation Laboratory Digital X-ray System and software
21. Graduate Prosthodontics Program Laboratory
22. Students’ Lounge Areas
23. Classroom A 224 and A 225 teaching and learning digital infrastructure
24. Amphitheater teaching and learning digital infrastructure
25. Cabanas Conference Room
26. Main Clinic Prosthodontic and pre-clinical Prosthodontic course laboratory
27. Patient Management and Distribution System for Clinic
28. Announcement Monitors System
29. Dental History Displays
30. School Entrances and Main Lobby

Extramural Clinical Sites

Medical Sciences Campus Main Teaching Hospitals

The hospitals of the MSC are interconnected and within walking distance of the main building of the MSC. There are multiple hospital and/or health related institutions located within or close to the Puerto Rico Medical Center. These include: Pediatric University Hospital, University Adult Hospital, Oncologic Hospital, Municipal Hospital, Industrial Hospital, Psychiatric Hospital, Correctional Psychiatric Hospital, Latin-American Center for Sexually Transmitted Diseases (CLETS), PR and Caribbean Cardiovascular Center, Trauma Center, Central Emergency Clinic, School of Medicine and Dental Medicine Faculty Practice Clinics and Forensic Medicine Institute, among others.

These hospitals and institutions serve the medically indigent of San Juan and medically compromised patients requiring specialized tertiary health care services not offered in other health institutions in Puerto Rico. The center is a Level 1 Trauma Center. Its offers faculty and students the advantage of hands-on training and exposure to groups requiring specialized services, both adult and pediatric. Dental predoctoral students rotate in some hospital facilities for courses and clinical experiences. The hospitals are also available to predoctoral dental students for voluntary clinical experiences.

Other Off-Campus Dental Care and Clinical Educational Facilities and Resources

Predoctoral students rotate at several off-campus facilities besides the Dental Clinic at University of Puerto Rico Hospital, Federico Trilla, in Carolina. There are eleven 11 extramural centers located throughout the island in which the predoctoral dental students rotate. These include: Bayamón Regional Hospital; Medicine and Health Services Corporation (COSSMA) Rio Piedras, Humacao, Cidra and Yabucoa; Integral Health Council, Loíza; Migrants Center Mayagüez; Playa de Ponce Community Health Council, San Juan Veterans Hospital and San German Metropolitan Hospital.

Administrative Processes

Facilities and Equipment Assessment

The Deanship of Administration of the MSC provides the infrastructure and coordination of administrative processes of the Medical Sciences Campus. These administrative processes include: Finance, Human Capital Management, Purchasing, Physical Resources, Safety, Environmental Quality, Occupational Health and Safety for employees, Complementary Services, Planning and Safety in Research Laboratories, among others.

The UPR SDM, with the support of the Deanship of Administration of the MSC, provides an adequate and appropriate maintenance of the School facilities and a continuous improvement of
its infrastructure with the coordination of the following School’s personnel and offices: Dental Equipment Technicians, Clinic Supervisor, Department Chairs, Center of Informatics and Educational Resources (CIRE), Assistant Dean for Clinical Affairs, Department of Physical Resources, Information Systems Office, Engineering Department, Dean of Administration and Executive Assistant to the Dean of Administration.

**Materials’ Inventory**

The SDM has a system that assures the supply of adequate quantity and quality of the appropriate dental materials. All materials purchased at the SDM must be approved by the FDA and when applicable, with the ADA Seal of Approval.

At present, there is an established Ad Hoc Committee for Dental Materials with the purpose of maintaining an integrated and defined process of acquisition, management and distribution of the dental clinic materials. The Committee Members are: Assistant Dean of Clinic Affairs, Section Heads of the three School Departments, and President of the School Dental Instruments Committee. The Committee assures the acquisition of standardized high quality dental materials.

The UPR SDM has administrative and clerical staff that supports the inventory and distribution of the dental clinic materials. The Assistant Dean of Clinic Affairs and the President of the Dental Materials Committee, with the assistance of the School’s Administrator, oversees the work, along with the support staff of the School’s Warehouse, Purchase Office, Administrative Office, Dispensing Areas, and Clinic personnel. The warehouse has a continuous review system that permits the monitoring of inventory levels and maintenance of an adequate stocks of materials. Also, this continuous inventory system helps to know the availability of materials in dental clinics in order to avoid an overstock of materials (Exhibit 4.8).
In order to make materials’ management and tracking more efficient, the UPRSDM has implemented AxiUm’s Plus Dispensary Module.

**Assessment of Commercial Laboratories**

All dental laboratories must comply with the quality standards and guidelines established by the Institution. These include quality standards for commercial prosthodontics laboratories and orthodontic laboratories. All dental laboratories must follow the instructions of the laboratory prescription sent by the School and all prostheses must be constructed as requested in the prescription and/or model design. Those cases shipped in articulators should be kept in the articulators in which they were shipped.

The laboratories must include the information of the metals used in the fabrication of the prosthesis (one label) with each case, along with the Prosthodontics Quality Control Forms which ultimately will be scanned to the patient’s EHR. The laboratory must return the case back to the School in no less than two weeks. The SDM has an Office for the Delivery of Laboratory Cases. At this office there is a dental assistant in charge of organizing, sending and receiving the work/cases delegated on private laboratories. She is responsible of communicating with the student and/or the faculty to clarify or correct any doubt or discrepancy. The laboratories must receive and deliver prosthetic cases only through this designated person.

In the case of not complying with these standards of quality, the information related to the laboratories is evaluated by the Quality Control Committee, the Department of Restorative Sciences and/or the faculty members. Once deficiencies are identified and reported, the laboratory
must correct them, if not this laboratory is disqualified for continuing to provide services to the School.

The followings dental laboratories comply with the quality standards established by the Institution and are the only ones authorized to be used for fixed and removable prosthesis, orthodontic and implants cases on the Main Clinic of the School of Dental Medicine for academic years 2018-2019 (Exhibit 4.9).

Exhibit 4.9 Authorized Dental Laboratories for Academic Years 2018-2019

<table>
<thead>
<tr>
<th>Name Laboratory</th>
<th>Fixed Prosthesis</th>
<th>Removable Prosthesis</th>
<th>Orthodontic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revolution Dental</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>EZCAD Dental</td>
<td>X</td>
<td>X</td>
<td>x</td>
</tr>
<tr>
<td>Aconcagua Dental</td>
<td>X</td>
<td>X</td>
<td>x</td>
</tr>
<tr>
<td>P.R. Snoring</td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

All casting procedures will be made at commercial laboratories, with the exception of those cases authorized by the Quality Control Committee of the Restorative Sciences Department. The accepted metals for use in the School indirect restorations and prostheses are the following (Exhibit 4.10):

Exhibit 4.10 Accepted Metals for Use in the School of Dental Medicine

<table>
<thead>
<tr>
<th>Classification</th>
<th>Requirement</th>
<th>Used in UPR School of Dental Medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Noble Alloys</td>
<td>Noble Metal Content ≥ 60% (gold+ platinum group*) and gold ≥ 40%</td>
<td>≥40% Au (Ag Free)</td>
</tr>
<tr>
<td>Noble Alloys</td>
<td>Noble Metal Content ≥ 25% (gold + platinum group*)</td>
<td>≥25% Pd (Ag Free)</td>
</tr>
<tr>
<td>Predominantly Base Alloys</td>
<td>Noble Metal Content &lt; 25% (gold +platinum group*)</td>
<td>Cr-Co (Ni Free)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cr-Co 76% Nickel (for Maryland Bridges Only)</td>
</tr>
</tbody>
</table>

*Metals of the platinum group are platinum, palladium, rhodium, iridium, osmium and ruthenium.

There is an established Quality Control Protocol for Restorative Dentistry in the predoctoral program. All the cases prepared by students at the predoctoral clinic are evaluated by members of the faculty with specialty training in prosthodontics. All the steps from the diagnostic cast to the completion of the laboratory procedures before insertion in the patient's mouth are meticulously evaluated. The objectives of this system are:

- Prevent appliances deficiencies, through the management of a step by step process of quality control of all the prosthodontic cases prepared and treated by undergraduate dental students.
- Ensure the quality of the services rendered.
Achieve consistency in the quality of the services rendered between its strategy, its structure and practices.
- To improve the satisfaction of our patients.
- To maintain and improve the job skills required by the Faculty and students.
- To have the availability of quality commercial laboratories

The findings provide a constant overview panorama and assessment of the Restorative’s Dentistry Department Quality control protocol enables early identification of the private laboratories compliance and/or failures. As an example, during the second semester for the academic year 2017-2018, the system provided information to identify the non-compliance of one of the laboratories. It allowed the School’s administration to take the corrective measures that resulted in the termination of this laboratory’s contract with the School.

**Maintenance of Equipment and Facilities**

The SDM has established procedures for maintenance of clinical equipment, facilities, and laboratories. Annually, the Assistant Dean for Academic Affairs and the School Administrator evaluate the needs for equipment and facilities maintenance and renovations. Based on this information, they develop an annual plan according to the school’s Strategic Plan priorities and available funds.

Throughout the academic year and as the need arises, each department submits requests for maintenance of its physical facilities and information systems, using the campus intranet platform. The Physical Resources Department and the Information Systems Office receives these requests and offer the corresponding service. The departments may also request supplies and equipment to the school administrator and purchasing agent. These are granted if the requests are justified and funds are available. The dental equipment technicians periodically assess the clinical equipment for repair or replacement needs. They have implemented a preventive maintenance plan for all areas. The Assistant Dean for Clinical Affairs approves all requests for supplies and dental equipment technician services.

The SDM continuously maintains the academic facilities and looks forward to offer state of the art education. Some of the most important completed projects include:

1. New Digital technology and infrastructure
2. Emerging technologies’ dental equipment
3. Innovative educational technology equipment
4. New patients and clinical services
5. Electronic Health Record
6. New OMFS surgical facilities
7. Dental simulation state of the art technology and facilities

An important challenge for the school during the period under evaluation has been diversifying its sources of funding so as to rely less on state allocations. The school has strengthened the strategies by obtaining funding from its research, grants, service, and academic activities. The School of Dental Medicine Strategic Plan redirects the school towards a more fiscally sustainable
institutional management with a strengthened mandate to incorporate greater internal efficiency into its academic and administrative operations. Looking towards the future, we are reinforcing the funding base necessary for changes to occur towards achieving higher levels of fiscal sustainability. The actions to be taken to achieve this goal will be: the expansion of the clinical services with the newer clinical facilities for the Faculty Practice Plan, the establishment of the Master of Dental Sciences in Periodontology, to promote and facilitate new revenue projects like providing a stronger presence of distance education in academic and professional offerings through Continuing Education, and to increase the enrollment of students to the Advanced Placement Program. The Advanced Placement Program has proven to be a successful source of funding.

### Student Satisfaction with Equipment and Facilities

Satisfaction surveys of the last graduating classes reveal the levels of satisfaction with equipment and facilities (Exhibit 4.11)

#### Exhibit 4.11 Level of Student Satisfaction (Excellent/Good/Regular)

<table>
<thead>
<tr>
<th>Actual Results</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library resources related to their field</td>
<td>97.87</td>
<td>97.92</td>
<td>100.00</td>
<td>97.62</td>
</tr>
<tr>
<td>Laboratory Facilities</td>
<td>88.24</td>
<td>90.20</td>
<td>90.91</td>
<td>93.88</td>
</tr>
<tr>
<td>Clinical Practice Facilities</td>
<td>90.57</td>
<td>92.16</td>
<td>93.33</td>
<td>97.96</td>
</tr>
<tr>
<td>Facilities Technological Resources for Learning Center (Center of Excellence)</td>
<td>90.38</td>
<td>95.83</td>
<td>97.73</td>
<td>97.96</td>
</tr>
<tr>
<td>Classrooms</td>
<td>96.23</td>
<td>94.12</td>
<td>88.64</td>
<td>95.92</td>
</tr>
<tr>
<td>Technological equipment needed for teaching</td>
<td>94.34</td>
<td>94.12</td>
<td>93.33</td>
<td>93.88</td>
</tr>
<tr>
<td>Dental equipment needed for teaching</td>
<td>96.15</td>
<td>90.20</td>
<td>84.44</td>
<td>97.96</td>
</tr>
<tr>
<td>Dental materials needed for teaching and learning</td>
<td>92.45</td>
<td>86.27</td>
<td>86.36</td>
<td>97.96</td>
</tr>
</tbody>
</table>

The dental school conducts continuous efforts to obtain external funds, as included in the School’s strategic plan. Some of the latest funds granted are:

1. Federal EHR Incentives – for digital infrastructure
2. UPR Central Administration funds -for the modernization of classrooms and laboratories.

The school has strengthened the strategies by obtaining funding from its research, grants, service, and academic activities. Looking towards the future, we are reinforcing the funding base necessary for changes to occur towards achieving higher levels of fiscal sustainability. The actions to be taken to achieve this goal include:
1. the expansion of the clinical services with the newer clinical facilities for the Faculty Practice Plan
2. tuition fees increase
3. continuing education revenues
4. Advanced Placement Program enrollment increment

Supportive Documentation

SD 4-5.1. Blue-print schematic detailing the shape and dimensions of the facilities
SD 4-5.2. Building use permit

Written Agreements

4-6 Any site not owned by the sponsoring institution where required educational activity occurs must have a written agreement that clearly defines the roles and responsibilities of the parties involved.

The UPRSDM is in compliance with this standard.

The senior predoctoral students participate of outreach clinical experiences as established in the compulsory course, DESP 7467, Dental Practice Externship. Dr. Angel Pagán is this course coordinator. The course amounts to 120 contact hours. The course is designed with the purpose that students develop awareness and better understanding of dental health problems in Puerto Rico, especially in underserved communities, as well, as positive attitude and willingness to contribute to the solution of such problems, and cultural competence in the delivery of oral health care.

These extramural clinical experiences take place in the clinical sites included in Exhibit 4.12, the students are supervised and evaluated by the clinical sites’ Directors.

Exhibit 4.12 Extramural Educational Practical Experiences Clinical Sites

<table>
<thead>
<tr>
<th>Clinical Site</th>
<th>Agreement Validity Period*</th>
<th>Clinical Site Director</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migrants Health Center, Mayagüez</td>
<td>May 8, 2018 to May 8, 2021</td>
<td>Dr. Inés Russo Suárez</td>
</tr>
<tr>
<td>Health and Advanced Medicine Corporation (COSSMA)</td>
<td>February 23, 2018 to February 23, 2021</td>
<td>Dr. Marienaldy Berrios Diaz</td>
</tr>
<tr>
<td>Loíza Integral Health Council (Concilio de Salud Integral de Loíza)</td>
<td>May 4, 2018 to May 4, 2021</td>
<td>Dr. Juan Aponte Montañez</td>
</tr>
<tr>
<td>Puerto Rico Health Council, Ponce location (Consejo de Salud de Puerto Rico, Ponce)</td>
<td>February 6, 2017 to February 6, 2020</td>
<td>Dr. Miguel Cintrón Bermúdez</td>
</tr>
</tbody>
</table>

*The agreements have a 3-year validity period starting on the date that these are signed by the MSC Chancellor.
The copies of the agreements are submitted as supporting documents to this section 4-6. The agreements are established so dental predoctoral students can use the extramural clinical site as an educational clinical scenario, with the main objective of exposing the students to a real working environment.

**Parties’ Roles and Responsibilities**

**UPRSDM Responsibilities**

1. Assign students for a period of 4 weeks
2. Send the list of students to the dentist in charge of the students’ training in the site, in advance
3. Provide information on clinical techniques and materials to the dentist in charge of the students’ training
4. Supervise and evaluate the extramural programs, based on the students’ performance
5. Provide professional resources needed to enhance students’ training and faculty professional development.
6. Provide academic ranks to the site’s faculty, following the UPR bylaws.
7. Collaborate with the Dental Clinic Director, the faculty and the clinic personnel
8. Provide professional liability and civil responsibility coverage

**Clinical Site Responsibilities**

Design the training program with the following components:

- direct student’s participation and daily discussion of the cases seen with his/her clinical supervising preceptor
- Supervise students and evaluate them according to the pre-determined rubric
- Provide an outline of the proposed training program including:
  - maximum number of students permitted, according to the site’s facilities
  - rotation dates
  - other necessary information
- Be available to receive students punctually
- Teach, guide, supervise and evaluate students, according to the program designed
- Fill and submit the evaluation form for each student to the course coordinator, at the end of the rotation
- Submit application and the supporting documents to be awarded academic rank, according to the UPR institutional policies
- Collaborate with UPR SDM education, training and clinical research initiatives, as much as possible.
- Patient’s comprehensive clinical care

The parties’ responsibilities are similar for all the extramural clinical sites mentioned above.
Supportive Documentation

SD 4-6.1 List of Sites Where Educational Activities Occurs

- Agreements (Available on site)

Student Services

<table>
<thead>
<tr>
<th>4-7</th>
<th>Student services must include the following: (address separately)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>personal, academic and career counseling of students;</td>
</tr>
<tr>
<td>b.</td>
<td>assuring student participation on appropriate committees;</td>
</tr>
<tr>
<td>c.</td>
<td>providing appropriate information about the availability of financial aid and health services;</td>
</tr>
<tr>
<td>d.</td>
<td>developing and reviewing specific written procedures to ensure due process and the protection of the rights of students;</td>
</tr>
<tr>
<td>e.</td>
<td>student advocacy;</td>
</tr>
<tr>
<td>f.</td>
<td>maintenance of the integrity of student performance and evaluation records; and</td>
</tr>
<tr>
<td>g.</td>
<td>Instruction on personal debt management and financial planning.</td>
</tr>
</tbody>
</table>

The UPRSDM is in compliance with this standard.

Personal, Academic and Career Counseling of Students

Personal Counseling

The Counseling Office, located in the basement of the building, is open from 7:00am to 3:00pm. Up to June 30, 2019, the office was staffed with a full-time licensed psychologist. They offered support to students dealing with issues such as academic difficulties, personal problems, and career issues. On June 30, 2019 the School’s psychologist retired. At the time it was decided that an agreement would be signed with the campus Center for Counseling and Psychological Services (CECSI, for its Spanish acronym) that will guarantee the attention to the students of the UPR SDM. After discussing the details and various drafts, an agreement was signed and is on effect since October 17, 2019.

The CECSI has full time services by two professional counselors and one clinical psychologist which are all licensed by the Puerto Rico Health Department in the area of mental health. Also part time psychiatry services are offered. If a student needs to be evaluated by the psychiatrist, he/she is referred to the Psychiatry Clinic of the School of Medicine and to several psychiatrists’ voluntary psychiatrists of the community. All of the services are provided to the students free of charge.

The agreement signed establishes that at the beginning of an academic year, he UPR EDM Assistant Dean for Student Affairs sends a list of all the recently admitted students to the CECSI’s Director. At the beginning of the semester, the Director assigns each student to one of the professional counselors. The students are scheduled for an appointment with his/her counselor assigned. This first visit is to assess the specific needs and the challenges faced by each student. The student receives orientation about the services offered by the CECSI, the
electronic record system and the aspects of confidentiality of their visits and the information in
their records. The students are only care for by only one specific counselor. Each student fills
an informed consent form certifying that he was oriented and accepting the services. If the
counselor appraisal is that the student needs the services of the psychologist, he refers the
student to the Center psychologist or to a psychiatrist from the School of Medicine. Each case
is analyzed and treated taking into consideration the student’s individual circumstances. The
students’ records are all filed and managed confidentially within the CECSi offices.

The students can also be referred by fellow students, deans, faculty, non-teaching personnel or
voluntary visits by the own student.

According to the agreement between the UPR EDM and the CECSi, if a student suffers an
emotional crisis and/or needs emergency treatment, one of the members of the CECSi personnel
mobilizes to the UPR SDM designated area which is an office located in the School’s basement
and the situation is managed according to the student specific needs.

The most common reasons why the students request the services offered by the CECSi are:
anxiety, panic attacks, minor depression or blues and situations with their sentimental partner.

The Student Center for Counseling and Psychological Services works closely with the Wellness
Office in activities that promote social responsibility of students towards the community, such as
visits to homes for children and the elderly.

Other Complimentary Activities and Services provided by the Deanship of Students Affairs

Wellness and Quality of Life Office

The Campus’ Wellness and Quality of Life Office develops programs to promote a healthy and
safe environment for the university community. It promotes prevention of drug and alcohol abuse,
violence, sexually transmitted diseases, sexual assault, and sexual harassment. It collaborates
actively in the implementation of the campus safety policy to ensure compliance with federal
regulations and the Jeanne Clery Act. The Title IX coordinator office provides campus wide
education activities regarding sexual harassment and other related misconducts and receives
complaints about this issue. The Title IX coordinator has the authority to start investigations and
submit recommendations to the Campus Chancellor. The Wellness Office has an advisory
committee composed of representatives of the six schools who collaborate in promotional efforts
and participate in policy and standards revisions. This Office also coordinates special events such
as educational fairs, community service, dance lessons, and special interest workshops.

Extracurricular Fitness and Sports Services

The MSC has a fitness center administered by the Deanship of Students Affairs. They offer
personal evaluation and counselling by certified fitness trainers. The gym is equipped with strength
and cardio machines and a free weight equipment (dumbbells and disks of multiple weights). It is
open weekdays from 6:00 am to 9:00 pm, with certified personnel present all the time. This is an
elective service and students pay a nominal fee of $10/month.
There is an extracurricular activities program, also under the purview of the Campus’ Dean for student Affairs, which organizes annual basketball, futsal and baseball tournaments, in which the schools’ teams compete with each other.

**Academic Counseling**

The school makes every effort to identify as soon as possible those students who are experiencing academic difficulties for different reasons. Professors or course coordinators are the first to suggest academic counseling, tutoring, and support based on the student’s performance or behavior. Direct communication exists and is encouraged between the course’s coordinators and the Assistant Dean of Academic Affairs of the School. The school has also developed its own mechanism for early identification of academic deficiencies through the Student Assessment Committee. This is an ad-hoc committee to the Academic Performance Committee that conducts periodic monitoring of the students’ academic performance in order to identify those with academic problems and refer them for tutoring or academic counseling at an early stage. It meets three times a year to assess the students’ performance and identify those in need of academic or personal counseling. Once a student is identified, he/she may be assigned an academic counselor by the Assistant Dean for Academic Affairs or referred to the school’s Office for Student Affairs for academic advising, or to the school’s counseling services for identification of probable root causes of problems or deficiencies.

The UPR SDM provides tutoring and mentoring services offered by post-graduate dental students and by biomedical sciences graduate students. The money to pay the tutors come from the institutional student assistantships’ program funds, administered by MSC Deanship for Academic Affairs. Most students receiving academic assistance or who are placed in remedial activities are successful in completing predoctoral studies, including graduation requirements, as evidenced by the School’s retention rate. In some circumstances, the school offers special curricular arrangements to dental students who have evidenced academic deficiencies. The main goal is to retain students, allow them time to manage their challenges, and enable them to successfully complete their academic program.

A leave of absence may be granted to students when there is a need to take time off and resolve a serious situation. The student may return and complete the academic program within a specific time period. In order to promote the students’ well-being, the school and campus also offer stress releasing extracurricular activities such as cultural and social activities and the campus sports program.

On the current academic year, the UPR SDM has implemented a project in which Psychologists from the MSC offer relaxation technique interventions to students before the Biochemistry Exams. This initiative has been well received among students.

In 2016, the Campus developed the Office for Services for Students with Disabilities (OSEI, for its Spanish acronym). This was in response to the new University of Puerto Rico policy on students with functional diversity and disabilities that require a centralized office per campus. This office
receiving the request for academic modifications and certifies the need for them. This is done in coordination with the Assistant Dean of Students Affairs of the School of Dental Medicine.

Early interventions have proven to be effective in helping students achieve academic progress to the next level of study, as seen in the school’s high retention rates, as seen on table Exhibit 4.2. All cases are handled under strict confidentiality protocols. Professors or teaching assistants offer tutoring services and review sessions to students exhibiting academic difficulties in any given course. Students may also be assigned a professor as an academic counselor to monitor their progress.

**Career Counseling**

The UPR EDM Professional Development Center, coordinated by Dr. Noel Aymat, provides mentoring activities to the junior and senior predoctoral students, targeted to identifying postdoctoral career and studies choices, including support to submit applications and conduct interviews; clinical rotations abroad; job offers and their contracts.

**Effectiveness of the Counseling System in Place**

Currently there 17 students receiving the services of the CECSI. Since the agreement was established 33 students have been taken care of; 19 of these were freshmen on their first assessment appointment.

The following Exhibit 4.13 summarizes the CECSI’s services offered to UPRSDM students submitted the CECSI Director, Dr. Blanca Amoros:

**Exhibit 4.13 CECSI Services Report**

<table>
<thead>
<tr>
<th>Student’s Class/ Level</th>
<th>Appointments</th>
<th>Care Offered to</th>
<th>Active Treatment/ Follow up</th>
<th>Group Therapies **</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020 Class/ Seniors</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td>Self-referred</td>
</tr>
<tr>
<td>2021 Class/ Juniors</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>Self-referred</td>
</tr>
<tr>
<td>2022 Class/ Sophomores</td>
<td>30</td>
<td>11</td>
<td>7</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2023 Class/ Freshmen</td>
<td>41</td>
<td>19</td>
<td>8</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

* This Report was prepared by the CECSI Director, Dr. Blanca Amoros

** Group therapies consists of relaxation and auto hypnosis provided by the Center’s Psychologist, before students’ tests.

The system in place is effective, especially with the sophomore and freshmen classes in which 26.2% and 46.3% respectively have received the services offered by the CECSI personnel. This is congruent with the nature of studies of the first and second year of the predoctoral dental program are the most difficult for students to adapt due to the amount of courses and continuous assessment activities undergone.
Student Participation on the School’s Committees

The UPR SDM assures that there are student representative/s in all pertaining standing and ad-hoc committees.

Curriculum Committee
The Curriculum Committee will be the official body that will advise the Dean on the design, implementation, and evaluation of all academic programs of the School. This committee will evaluate programs with respect to the goals and objectives of the School, according to the needs and demands of the Puerto Rican community and the trends in the profession. Emphasis will be placed on the integration and coordination of the curriculum in all its dimensions. This committee will conduct an ongoing curriculum review and evaluation process which will include input from faculty, students, administration and other appropriate sources.

- Four (4) Student Representatives from pre-doctoral Program (one from each class)

Admissions and Transfers Committee
The Admissions Committee for dental students will serve on an advisory capacity to the Dean on matters related to admission of pre-doctoral dental students.

- One (1) student representative, preferably from the Senior class and one alternate

Research Committee
The Research Committee will serve as an advisory committee on research related matters.

- One (1) Undergraduate student representative that serves as President of the Student Research group and or AADR
- One (1) Postgraduate student representative nominated by their peers

Student Liaison Committee
The Student Liaison Committee will serve on an advisory capacity to the Dean on matters related to student life at the School.

- Four (4) class Presidents
- Student Council President
- ASDA President
- AAWD President
- ADEA Student Chapter President
- President of Research Club
- IADS President
- HDA President
- One (1) Postgraduate Student Representative

Quality Assurance Committee
The Quality Assurance Committee will serve on an advisory capacity to the Dean on matters related to quality assurance.

- Two (2) student representatives from the senior and junior year selected by their own classmates
Dental school or university staff member responsible for coordinating each of the following areas for dental students:

**Personal Counseling**
Dr. Blanca Amoros, the CECSi Director, MSC Deanship for Student Affairs

**Academic Counseling**
Dr. Elaine Pagán, UPR SDM Interim Dean for Academic Affairs

**Career Counseling**
Dr. Noel Aymat, Coordinator of UPR SDM Professional Development Center

**Financial Aid and Instruction on Person Debt Managements and Financial Planning**
Mrs. Yolanda Rivera, Director of Financial Aid Office, MSC Deanship for Student Affairs

**Health Services**
Dr. Miriam Castro-Chandri, Health Clinic and Services for Students Director, MSC Deanship for Student Affairs

**Due Process and Protection of Students Rights and Student Advocacy**
Dr. Maribel Pérez-Mercado, MSC Student Advocate (in Spanish “Procuradora Estudiantil”)
Dr. Ginette Izquierdo, UPR SDM Interim Assistant Dean for Student Affairs

**Maintenance of Integrity of Student Performance and Evaluation Records**
Dr. Elaine Pagán, UPR SDM Interim Associate Dean for Academic Affairs

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### Student Financial Aid

4-8 At the time of acceptance, students must be advised of the total expected cost of their dental education.

The UPRSDM is in compliance with this standard.

Information about the estimated costs of the Dental Medicine Program is published annually on the MSC and SDM web pages, and in brochures and official catalogs of the school. It is available to all who request to enter the school at the following link:


Current information as follows:

### Exhibit 4.14 School of Dental Medicine Predoctoral Program Studies’ Estimated Costs*

<table>
<thead>
<tr>
<th>Expenses</th>
<th>First year</th>
<th>Second year</th>
<th>Third year</th>
<th>Fourth year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition*</td>
<td>$16,000.00</td>
<td>$16,000.00</td>
<td>$16,000.00</td>
<td>$16,000.00</td>
</tr>
</tbody>
</table>
### Expenses

<table>
<thead>
<tr>
<th>Expenses</th>
<th>First year</th>
<th>Second year</th>
<th>Third year</th>
<th>Fourth year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital books</td>
<td>1,366.00</td>
<td>1,048.00</td>
<td>1,057.00</td>
<td>1,066.00</td>
</tr>
<tr>
<td>Maintenance Fee</td>
<td>141.00</td>
<td>141.00</td>
<td>141.00</td>
<td>141.00</td>
</tr>
<tr>
<td>Laboratory Fee</td>
<td>198.00</td>
<td>5 courses</td>
<td>1 course</td>
<td>1 course 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>165.00</td>
<td>33.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Technology Fee</td>
<td>75.00</td>
<td>75.00</td>
<td>75.00</td>
<td>75.00</td>
</tr>
<tr>
<td>Educational Resource Fund</td>
<td>711.00</td>
<td>711.00</td>
<td>711.00</td>
<td>711.00</td>
</tr>
<tr>
<td>Materials and Instruments</td>
<td>14,768.00</td>
<td>15,419.00</td>
<td>3,622.00</td>
<td>3,622.00</td>
</tr>
<tr>
<td>Lodging &amp; Diets</td>
<td>13,231.00</td>
<td>14,554.00</td>
<td>14,554.00</td>
<td>13,231.00</td>
</tr>
<tr>
<td>Personal expenses</td>
<td>1,500.00</td>
<td>1,650.00</td>
<td>1,650.00</td>
<td>1,500.00</td>
</tr>
<tr>
<td>Transportation (^2)</td>
<td>953.00</td>
<td>1,048.00</td>
<td>1,048.00</td>
<td>953.00</td>
</tr>
<tr>
<td>Medical Plan (^3)</td>
<td>1,168.00</td>
<td>1,168.00</td>
<td>1,168.00</td>
<td>1,168.00</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$50,111.00</td>
<td>$51,979.00</td>
<td>$40,059.00</td>
<td>$38,500.00</td>
</tr>
</tbody>
</table>

**TOTAL FOR THE FOUR YEARS OF STUDY:** $180,649.00

1. The Tuition for non-residents varies. Please refer to the Office of the Register for details.
2. Estimated maximum if you are living in the limits of the metropolitan area.
3. Optional: Dental - Only applies to students who do not have a Private Medical Plan.

In addition to the information provided by the SDM, the Financial Aid Office offers the student information related to the financial aid available, the total expected cost of educational expenses (tuition, fees and equipment) and the estimated cost of living (estimated provided by the Vice Presidency of Students of Central Administration of the UPR). The student is also advised on the process to apply for financial aid and the deadlines to submit their application. The Financial Aid Officer provides potential students with written information about costs, available assistance and any other relevant information that should be known through a brochure that contains such information. Some of the available documents are: Admission Booklet (link, supra), Financial Aid Information Brochure, Student Application for the Financial Aid Form (FAFSA) and other brochures.

Students admitted to the School of Dental Medicine receive an invitation letter, via email for groups orientation. In the orientation, they receive a package with information about:

1. Financial aid available for that academic year
2. The detail process of how to apply for financial aid
3. Every details explaining students about the financial aid they will receive
4. Study costs for the academic year
5. The Financial Aid Application
6. They will receive detailed written information regarding interests, grace period payments dates, loan increase and disbursements cancelations or grants
7. Payments extensions and payments method
8. Their responsibilities when applying to Federal Loans.
The financial aid renewal process for students (second through fourth year) begins during the month of March. An email is sent to them to go through the office to pick up the application and inform the deadlines for the delivery. Also the deadlines information will be available throughout the Student Affair Office of the school and posted in bulletin boards and television sets in the campus. The documents that the student must deliver may vary according with the students need. The students will receive detail of the cost of study for the academic year. They will also receive the payments extension sheet for credits, books, instruments and instructions where to deliver and the deadline. The dates for disbursements for the aid requested per year will also be informed to students. Beginning in August 2019, the Financial Aid Office did implement a new process in which each student receives a document with the information of his/her accumulate debt and interests for the second, third and fourth year students who are recipient of financial aid. Fourth year students that have been granted federal loans throughout their academic years, are required to complete a final exit interview (Exit Counseling) with the Federal Government. In that interview, the Federal Government will inform about grace period, interest, payments plan, deferments and other terms. In addition, the student receives information on debt management options.

Exhibit 4.15 Information Provided to Students Prior to Graduation

<table>
<thead>
<tr>
<th>Information</th>
<th>How the School informs the Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repayment schedules and specific billing procedures</td>
<td>During each year of study, we inform students who have processed unsubsidized loans that they should be aware of the emails sent by the guarantor agency in coordination with the federal government. These emails will inform of the accumulated interest. Our Financial Aid Officers are always available to guide or clarify any questions that the student has about their loans. During the second semester, the officer sends the student who has received the unsubsidized loan an email indicating that they have to complete the exit interview online (studentloans.gov). The exit interview gives detailed information about how the student will pay the loans. In addition, the officer indicates to the student that he must go through the Office to collect a brochure with detailed information on the different payment plans to which they can available. <strong>Regarding the Legislative Loan, once the Office of Collections and Claims is notified that the student has obtained a degree or separated from the study program, he or she is invited for orientation and is given the exit interview package. Students are also oriented on the duties and obligations of the loan, grace period, deferrals and any other relevant information that should be known. Also in the Legislative Loan and Scholarship Procedures Manual, it’s found detailed information about this financial aid and can access it online at:</strong> <a href="http://de.rcm.upr.edu/wp-content/uploads/sites/18/2018/02/Manual-Procedimientos-Adm-Becas-Prestamos-Legislativos.pdf">http://de.rcm.upr.edu/wp-content/uploads/sites/18/2018/02/Manual-Procedimientos-Adm-Becas-Prestamos-Legislativos.pdf</a></td>
</tr>
</tbody>
</table>
## Information | How the School informs the Students
--- | ---
Grace periods and their impact on repayment schedules | During the second semester of the last year of student study, the Financial Aid Officer communicates via email to guide you about completing the online exit interview (studentloans.gov). The exit interview provides detailed information about the grace period. In addition, the officer tells the student that he must go through the Office to collect a brochure with detailed information that he must know and to give him relevant information about his Unsubsidized Loan.

Deferments and their implications | During the second semester of the last year of student study, the Financial Aid Officer communicates via email to guide you about completing the online exit interview (studentloans.gov). The exit interview provides detailed information about the deferment. In addition, the officer tells the student that he must go through the Office to collect a brochure with detailed information that he must know and to give him relevant information about his Unsubsidized Loan.

Cancellation provisions | During the second semester of the last year of student study, the Financial Aid Officer communicates via email to guide you about completing the online exit interview (studentloans.gov). The exit interview provides detailed information about the cancellation provisions. In addition, the officer tells the student that he must go through the Office to collect a brochure with detailed information that he must know and to give him relevant information about his Unsubsidized Loan.

Description of available consolidation options and the time frame in which students would be eligible for them. | The consolidation of loans is a tool that is provided for students who have several federal loans and they were assigned to different guarantee agencies. Once the student completes his grace period and it is his responsibility to start paying off his loans, that alternative is an option. All students are eligible and it is recommended as it allows payments to be made to a single agency.

## Supportive Documentation

SD 4-1.2 Application form and or packet (Financial Aid Information)
SD 4-8.1 - Accumulate Debt Report
The institution must be in compliance with all federal and state regulations relating to student financial aid and student privacy.

The UPRSDM is in compliance with this standard.

The Medical Sciences Campus of the University of Puerto Rico has policies and procedures in place to comply with federal and state regulations regarding student financial aid and student privacy. The main place to find this policies and rules is in the Campus website under the Dean of Students section http://de.rcm.upr.edu/politicas/.

Students has the right to consent in writing before any disclosure of his/her academic or disciplinary record. This is reaffirmed in the Students’ Rights Handbook, approved by the Academic Senate of the Medical Sciences Campus (Certification 016, 2011-12, will be available on site)

Supportive Documentation

SD 4-1.2 Application form and or packet (Financial Aid Information)
SD 4-9.1 Policy and procedures related to student privacy (Student Authorization)

Health Services

The dental school must advise prospective students of mandatory health standards that will ensure that prospective students are qualified to undertake dental studies.

The UPRSDM is in compliance with this standard.

Students admitted to UPR SDM must complete the Admission Health Form. This includes medical history and a physical examination.

New students must also comply with immunization policies and provide the following:

1. Results of the Tuberculin Skin Test (PPD) or Quantiferon Test. (No more than three months made the start date of classes).
2. Chest Plate (only for persons that have positive test of Tuberculin Skin Test).
3. Blood exams results for syphilis serology. (No more than three months made the start date of classes).
4. Hepatitis B Surface Antibodies Quantitative- only for students that already were administered the three-dose vaccine.
5. Physical Examination
6. Consent for the use and disclosure of health
7. Affidavit authorizing services for under 21 years’ old
8. A color photo 2 x 2

Supportive Documentation
4-11 There must be a mechanism for ready access to health care for students while they are enrolled in dental school.

The UPRSDM is in compliance with this standard.

All students enrolled in the School of Dental Medicine are required to have health insurance coverage throughout their years of study. During registration, students may apply for the health insurance plan offered by the University of Puerto Rico through a local insurance company or submit evidence of comparable coverage by another plan. The campus provides health care services to all students free of charge at the Student Health Services Clinic, located on the third floor of the main building. These are offered by a general physician with the assistance of a registered nurse, emphasizing health maintenance and prevention.

The student health clinic requires Hepatitis B immunization and provides for those that do not have it before admission. Influenza vaccinations campaigns are given before and during flu season. The clinic provides for antiviral medication and follow-up laboratory tests for cases of HIV occupational exposure, as established in the CDC Guidelines for such cases. Students also receive evaluation and treatment for primary health conditions, first aid medication, and diagnostic tests at the clinic, and referral for x-rays and laboratory tests, specialized tests, emergency room visits, specialists’ visits, and hospitalizations. These services are all covered by the health insurance plan at local hospitals and health care facilities. The clinic is open Mondays through Fridays from 8:00 am to 5:00 pm. After regular hours, students may seek care at private health care facilities or at the Medical Center Emergency Room. All students receive information about health services during orientation week (SD 4-11.1 Student Health Brochure).

The Counseling and Psychology Office (CECSi) of the Deanship of Students promotes the social, emotional and psychological well-being of students. Services are directed to assist students in coping with the demands of dental studies, support them while establishing personal and professional goals, and promote self-knowledge and healthy lifestyles. Should a medical condition develop, students are referred to the Student Health Services Clinic or a physician of her/his choice. The services provided by the CECSi have been previously described in detail, under Sub-standard 4-7 of this document.

Supportive Documentation

SD 1-1.1B Student Handbook
SD 1-1.1D Clinic Manual (School policies and procedures for infectious disease and environmental hazards exposure in clinical settings)
Students must be encouraged to be immunized against infectious diseases, such as, mumps, measles, rubella and hepatitis B, prior to contact with patients and/or infectious objects or materials, in an effort to minimize the risk of infection to patients and dental personnel.

The UPRSDM is in compliance with this standard.

The UPR SDM and the MSC encourages students to be immunized against infectious diseases and also, along this line, has compulsory vaccination requirements.

Requirements for UPR SDM students:

1. A booster shot for tetanus, diphtheria and acellular pertussis (TDAP) and tetanus booster against tetanus and diphtheria (TD), as applicable.
2. Two-dose of MMR (or two dose of Measles, two dose of German Measles and two of Mumps administered individually.
3. Three-dose of Hepatitis B.
4. Seasonal Influenza vaccine.
5. Two dose of Varicella vaccine or Varicella Titers IgG Quantitative (blood test)

If the student is under 21 years old, three doses of Polio vaccines are required. This policy allows for the protection of each students and the rest of the community.

The importance of vaccination and immunization is reinforced in some of the courses offered in the first and second year of the predoctoral dental curriculum. Thus the students are able to understand why the CDC and other institutions implement strict regulations regarding vaccination and immunization. Examples of these courses are: Infection Control and Microbiology.

Supportive Documentation

SD 4-10.1 Student Medical Information and Forms-History Form
STANDARD 5—PATIENT CARE SERVICES

The School of Dental Medicine of the University of Puerto Rico is an Institution, as established in its main mission, dedicated for the formation of dentists of the highest quality, sensitive to the needs of their patients and oriented to comprehensive service to the people of Puerto Rico. Although teaching is the primary purpose of the clinical activity at the School, the patient concurrently is the recipient of a health service.

The UPRSDM seeks to provide comprehensive patient care services for Puerto Rican’s underserved population that has limited access to care and to provide an alternative to the private practice model. The dental clinics offer a broad variety of high-quality dental services, through the predoctoral and specialty clinics, and the faculty dental practice (FDP). The community-based affiliations expand access to care for patients and educational opportunities for students.

5-1 The dental school must have a published policy addressing the meaning of and commitment to patient-centered care and distribute the written policy to each student, faculty, staff, and patient.

The UPRSDM is in compliance with this standard.

The statement of patients’ rights of the UPRSDM is a written document included in the EHR (AxiUm). It is available in Spanish and English. During the first visit, patients fill the Request for Treatment form and digitally sign the Treatment Consent Form General Information for Patients of the Dental Clinic, Patient’s Rights and Responsibilities, which includes the patients’ rights (SD 5-1.1). Also, Patient’s rights and responsibilities statement posters are displayed on the walls of all patient waiting areas. These posters are provided by the local government Patient Ombudsman Office.

Patients’ rights are informed in the Clinic Manual. This manual is distributed to all new and current clinical faculty and support staff, and to third and fourth-year students. It is also distributed by email on a yearly basis. If there are any changes, a revision of the document is distributed to all clinical personnel and students. Additional copies of the Clinic Manual are available at the Office of the Assistant Dean for Clinical Affairs and given to clinical personnel and students upon requests.

Supportive Documentation

SD 5-1.1 Patient’s Rights and Responsibility Document
The UPRSDM is in compliance with this standard.

**Evidence-based Dentistry**

The UPRSDM is committed to ensure graduates, as a dental health practitioner, have acquired the knowledge and skills needed to assume the responsibility for the protection and improvement of human life and health. The UPRSDM competencies highlight the transition from provision of patient care under the supervision of faculty to the independent practice of general dentistry. Current literature and evidence-based information are used as major learning resources throughout the pre-doctoral curriculum to ensure students gain experience in accessing and critically evaluating the literature. In each year of the curriculum, students are challenged to utilize logic, synthesis and critical thinking when evaluating the professional literature in dental journals and scientific papers. This process builds throughout the four-year curriculum, and includes the importance of discovery via research, of critical review of practice, and of continued lifelong learning, and provides a value and knowledge core for professional continuing dental education and professional mentoring. The result is an enhancement of critical thinking skills, clinical judgment, and a reliance on evidence-based decision making.

The pre-doctoral students program requires an early experience approach of evidence-based dentistry that increases throughout the four years of study to clinical instruction application. The Third- and Fourth Year Comprehensive Care Clinic courses are designed to provide dental students the experience of comprehensive patient care, in order to develop clinical skills for the prevention, diagnosis and treatment of oral diseases, as well as, the ethical and professional competencies for the practice of general dentistry. As part of these courses the students must present cases with complete radiographic examination and interpretation, diagnosis, and treatments plans. Ideal and alternate treatments plans based on evidence are presented to patients. Patients can evaluate different treatment options allowing customized treatment plans that addresses patient values instead of an ideal treatment plan. Patients are encouraged to ask questions or express their concerns regarding their treatment at any time. They are instructed to ask their assigned student first. If they still have questions or doubts, they can ask the faculty assigned to the area, the Clinical Module Coordinator, or seek help at the office of the Assistant Dean for Clinical Affairs.

Didactic and clinical courses routinely reinforce evidence-based dentistry (EBD) through reading assignments within their textbooks, journal articles, research papers, and course materials. Courses are reviewed regularly through the curriculum management process for the use of evidence-based components and address issues and concerns that may arise.

Clinical competency assessments requiring the student to provide evidence from the literature to support their treatment plan are done in the Comprehensive Care Clinic Courses. These competency assessments are outlined below.
1. Competency Based Trimester Clinical Evaluations - Competency Assessment 2: Access, critically appraise and communicate the scientific literature in order to provide evidence-based patient care. (CODA 2-22)

2. Portfolio of Patient Cases - A documentation of the treatment performed, supporting scientific evidence for treatment decisions, special considerations, problems, modifications encountered, prognosis, and a self-assessment of each case with learning opportunities and needs, and plans for further care.

3. Systematic Literature Review Group Exercise - This activity consists of developing a systematic literature review, a summary table and a PowerPoint presentation of the activities related to the exercise.

4. Interprofessional Education (IPE) Activities

The UPRSDM clinical practice is focused on evidenced based care. The clinical decision making is based on guidelines and recommendations statements intended to optimize patient care that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options. It is applied in all clinical procedures from diagnosis, treatment planning, caries control, periodontal therapies, oral surgery, etc. The reinforcement of the philosophy of evidenced based care is integrated in the regular activities held in school, such as faculty calibration, clinical orientations, seminars, lectures, module meetings, evaluation meetings, etc. In the clinic, the students receive daily verbal feedback of their clinical performance from the module faculty. The assessment takes in consideration evidence based care at all stages of the procedure including the treatment outcomes. Also, the students are evaluated longitudinally each trimester based on the development of the different competencies, including the evidence based care skills competency: The student demonstrates excellent clinical skills and judgment based on evidence and is always able to independently perform this competency.

Faculty members receive yearly continued education courses through Continuing Education Office (DECEP) or Faculty Workshops. These courses re-enforce the use of evidence to evaluate new technology and products and to guide diagnosis and treatment decisions.

In addition, the different departments, through the section meetings, also offer evidence-based discussions to their faculty. Topics such as evidenced-based for the use of pit and fissure sealants, cephalometric tracings and nonrestorative treatments for carious lesions were discussed in pedo-ortho sections meetings during the academic year 2018-2019. Basic and new concepts, levels of evidence and making decision skills were also discussed in oral diagnostic section. (SD 5-2.2A – Oral Diagnosis Section Meetings Minutes).

Seven faculty investigators took the ADA course How to conduct and publish systematic reviews and meta-analysis, a hands-on workshop of American Dental Association, Center for Evidence-Based Dentistry and the Journal of the American Dental Association. The purpose of this hands-on workshop was to provide participants with the theoretical and practical tools to effectively conduct and publish high-quality systematic reviews of therapeutic interventions. (SD 5-2.2B – Research Committee Meetings Minutes).
Use of EBD within UPRSDM Clinics

Students must present to faculty all their cases with complete radiographic examination and interpretation, diagnosis, and treatment plans. Ideal and alternate treatment plans based on evidence are presented to patients. Patients can evaluate different treatment options allowing customized treatment plans that addresses patient needs and values instead of an ideal treatment plan. Patients are encouraged to ask questions or express their concerns regarding their treatment at any time. They are instructed to ask their assigned student first. If they still have questions or doubts, they can ask the faculty assigned to the area, the Clinical Module Coordinator, or seek help at the office of the Assistant Dean for Clinical Affairs.

Inclusion of Patient Values in Patient Care

As previously stated in Standard 2, the students’ interpersonal skills and communication skills are assessed in the clinic daily by faculty and module coordinators. Within the screening clinic, students begin by taking a complete patient history and assessment of the patient needs, wants, and values. Patients are then assigned to the students on treatment needs with an emphasis on diversity of the patient population to expose students to a variety of ages, ethnicities, cultures, behaviors, and medical conditions. When students discuss the findings with the patients/parents or provide the patient/parent with instructions, patient values is a key component. To help evaluate whether the UPRSDM is including the patient wants, needs, and values, patients are asked to complete a patient satisfaction survey.

Discussion with faculty about implementation and discussion of evidence based dental treatment

The UPRSDM has a Quality Assurance Program that assesses the quality of patient care. Quality assurance is a mechanism for assessing the quality of care and implementing and evaluating changes in the patient care delivery system to maintain or improve the quality of care. Each service area within the UPRSDM must play an integral part in the quality assurance system.

The benefits to be derived from a systematic quality assurance program include the documentation of the effectiveness of the educational and patient care programs using an evidence based approach, the identification of the areas of the educational and patient care programs that could benefit from improvements, and the establishment of a mechanism for on-going identification of strengths and weaknesses that will support plans for development, revision, improvement, and expansion within the UPRSDM educational and patient care programs. (SD 5-2.1. A - Quality Assurance Committee Minutes, SD 5-2.1. B – Infection Control Committee Minutes).

Patient Care Evaluation Reports are discussed in Faculty Meetings throughout the year. See Exhibit 5.1 Quality Assurance Committee Report of Patient Care Evaluation.
## Exhibit 5.1 Quality Assurance Committee Report of Patient Care Evaluation

<table>
<thead>
<tr>
<th>Date</th>
<th>Faculty Meeting</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 14, 2016</td>
<td>QA Report</td>
<td>• Patient Case&lt;br&gt;• Completion Recall&lt;br&gt;• Patient Record Audit</td>
</tr>
<tr>
<td>October 26, 2016</td>
<td>QA Report</td>
<td>• Findings and Recommendations</td>
</tr>
<tr>
<td>April 6, 2016</td>
<td>QA Report</td>
<td>• Findings and Recommendations</td>
</tr>
<tr>
<td>April 8, 2015</td>
<td>QA Report</td>
<td>• Quality Assurance Report</td>
</tr>
<tr>
<td>March 4, 2015</td>
<td>QA Report</td>
<td>• Active Patient Recall&lt;br&gt;• Patient Case Completion Recall&lt;br&gt;• Infection Control Report&lt;br&gt;• Patient Satisfaction Survey Report&lt;br&gt;• Patient Record Audit</td>
</tr>
</tbody>
</table>

### Committees Evaluate New Materials and Technology

The Dean appointed an Ad Hoc Committee for Dental Materials with the purpose of maintaining, integrating and defining the process of acquisition, management and distribution of the dental clinic materials. The Committee assures the acquisition of standardized high-quality dental materials. All materials purchased at the School of Dental Medicine must be approved by the FDA and when applicable, with the ADA Seal of Approval. New materials or products are evaluated by the Committee and referred to the Departmental Section Heads for evaluation. The faculty of the different disciplines evaluate the materials that correspond to their expertise. These evaluations include FDA approval, evidence-based research, and material testing, among others, in order to be used and be available for the students in the institution (SD 5-2.1.C – Dental Materials Committee Minutes).

### Supportive Documentation:

- SD 5-2.1A Quality Assurance Committee Minutes
- SD 5-2.1B Infection Control Committee Minutes
- SD 5-2.2A Oral Diagnosis Section Meetings Minutes
- SD 5-2.2B Research Committee Meetings Minutes
- SD 5-2.1C Dental Materials Committee Minutes
To assure quality patient care, all students/residents are supervised by calibrated, faculty members. The UPRSDM faculty consist of full-time faculty (academic and non-academic supported by part-time and volunteer faculty. The full-time faculty equivalent to student ratio is 1:8 only taking in consideration full-time and part-time faculty. The UPRSDM has a Quality Assurance Program (QAP) that assesses the quality of patient care by means of chart audits, patient satisfaction questionnaires, assessments of infection control and risk management, and the evaluation of patients in active and completed patient recall visits. The QAP is described in the UPRSDM Quality Assurance Program Manual. The Program is evaluated by the Quality Assurance Standing Committee. This Standing Committee oversees the program’s effectiveness and the need for the implementation of corrective actions.

The QA Standing Committee has faculty members assigned to specific areas that comprise the program. This committee has representation from all departments including clinical faculty and clinic administrators. The Quality Assurance Program Manual describes the components of the program, the committee’s role, and the standards of care. The QAP provides the necessary information for modifying and/or updating the curriculum in areas where deficiencies have been identified. It provides reassurance of the quality of the existing curriculum and delivery of patient care.

Periodic evaluations and changes have been included in the Quality Assurance Program (QAP) as a result of recommendations from faculty, staff, students, patients and administration. The inclusion of the electronic health record (EHR), in the 2016-2017 academic year has helped in data collection and patient selection for the Quality Assurance Program. As a result of EHR inclusion, changes in the way the forms and the data are collected has improved and helped with the dissemination of results at formal faculty meetings. As petitioned, the committee or any of its members presents the results in detail to sections and departments in meetings where specific changes and recommendations are further implemented.

**Standards of Patient-Centered Care**

Patient-centered care is a dynamic process that facilitates individualized support for the person using health and social services as equal partners in planning, developing, and monitoring care to make sure it meets their needs, values, and preferences. This means putting individuals and their
families at an active role in decision-making working alongside professionals to get the best outcome. Patients’ individual needs, values, family situations, social circumstances, and lifestyles play a major role in the development of appropriate treatment solutions. Faculty, students and staff make sure that the patient (and their family where appropriate) are involved in their care. The UPRSDM recognizes this as a key component of developing high quality oral healthcare.

The UPRSDM standards of care are patient-centered and focused on comprehensive care. They serve as benchmarks for the evaluation criteria in each of the clinical disciplines. The UPRSDM standards of care are based on recommendations and evaluation criteria of the clinical disciplines with the ADA Parameters of Care as reference. The standards of care are also based on the consensus of faculty, discipline specific evaluation criteria, evidence based and research outcomes. Efforts to improve measurement techniques are continuous and discussed. Defined and constantly monitored systems are existent to assure compliance with the standards.

The standards of care and the quality of care are discussed with students before they enter the clinic in the Clinical Orientations at the beginning of their Third and Fourth Year. These are available to students, faculty and clinical staff. The UPRSDM Standards of Care are stated in the Quality Assurance Program (QAP) Manual, (SD 5-3.1: QAP Manual, Standards of Care, Section V, Page 10).

The standards of care include the following areas:

1. General aspects of patient care in accordance to health status and needs, infection control and direct clinical supervision by faculty
2. Patient treatment needs by categories: emergency care versus regular comprehensive care needs
3. Comprehensive Care Patient Needs: identification of patient needs, HIPAA and informed consent, treatment planning and management of treatment needs by clinical areas

A thorough medical and dental history and treatment plan that adjusts to the patient’s needs is done following the UPRSDM philosophy of care. All treatment plans are evaluated by general dentists in consultation with specialists, as needed. The treatment plan is sequenced with the emergency care first, followed by the required treatment taking into consideration the patient’s needs. Patients with emergency care are treated at the clinic teams/modules, at the Oral Diagnosis Emergency Clinic, the graduate programs or the faculty dental practice clinic.

**General Provisions for the Standards of Care**

Every prospective patient is evaluated by faculty assigned to the Oral Diagnosis Clinic in order to determine if the patient needs are appropriate to be treated at the pre-doctoral teaching clinics. During this initial visit, the staff assesses the patient’s general treatment needs, along with a determination of whether the patient understands and accepts that the treatment may take longer than in a private practice setting due to the educational nature of the institution. Patient assignment is based on patient needs, making sure the students have diverse and comparable clinical experiences.
1. After evaluation by the faculty member, if the patient cannot be treated by the undergraduate students, the faculty member will make a referral to a more appropriate setting for clinical care. These include the post graduate education programs or faculty dental practice clinic.

2. The UPRSDM follows local and federal applicable laws and regulations for non-discrimination, based on race, color, nationality, gender, disability, sexual orientation, or age. No patient will be denied treatment because of these reasons.

3. Once patients are accepted at the pre-doctoral clinics, they are categorized depending on their treatment needs as regular or emergency patients. A regular patient is one with a completed comprehensive oral exam, who has been examined by a pre-doctoral clinical faculty member, in most instances an Oral Diagnosis faculty. These patients have accepted an official treatment plan. A patient with an oral or dental emergency is one with a specific need for care, who is evaluated with a problem-focused oral examination and is admitted to the clinics in order to receive a timely examination. Patients with urgent oral or dental conditions are also evaluated and referred for appropriate management.

4. Pre-doctoral clinics emphasize patient-centered comprehensive care. Students serve as primary care providers and are responsible for the coordination of all their patients’ treatments. This is supervised and approved by their clinical module coordinators.

5. Informed Consent- Patients are informed of their treatment needs, treatment options, treatment benefits and risks, as well as the risks of not being treated. These are presented along with the costs for the services to be rendered. If patients approve, they sign the treatment form and receive a copy.

6. All DS3 and DS4 students’ clinical activity is divided into clinic modules supervised by clinic team coordinators and assigned faculty members. The team/module coordinator is a faculty member in charge of the students and patients assigned to that module. He/she acts as a mentor and evaluator and is responsible for the follow-up of the students’ clinical progress and the patients’ timeliness and treatment plan sequence. All students are required to obtain faculty approval at the start of each patient encounter. This assures approval of the planned treatment and verification of instrument sterility. The assigned faculty who evaluates the dental procedures, provides constant supervision to the students. At the end of the appointment, a faculty signature is required in the patient’s EHR. Please refer to the Clinic Manual (SD 5.1.1.D, Page 223), for a detailed description of the clinical module coordinator responsibilities.

7. All patient records and information are protected and managed according to local and federal HIPAA regulations. Access to patient records and information is restricted. Students only have access to the records of patients who are assigned to them for their care. Patients have the right to access the information contained in their records with the approval of the Assistant Dean for Clinical Affairs and following HIPAA laws.

8. Regular patients should have a periodic oral examination every 3-6 months as indicated, which should include an oral exam, medical history update, necessary radiographs, and prophylaxis.

9. At the end of the third year, all team coordinators perform an evaluation and audit of the patient records under the students’ care. All treatment plans are assessed before the students are promoted to their fourth year. At the beginning of the fourth clinical year, the students present the patients under their care to their new module coordinator who reviews treatment plans and assesses continuity of care. Upon completion of the process, the patient becomes part of the fourth-year module patients. At the end of the fourth year the team coordinator’s evaluation and audit is done in order to receive the clearance from the clinics.
**Patient Satisfaction**

Patient satisfaction is of utmost importance to the UPRSDM. The QA Committee designed a Satisfaction Questionnaire for Patients in the Clinics of the UPRSDM (SD 5.3.2 – Satisfaction Questionnaire for Patients Report) to obtain this information. These surveys are conducted as part of the Completed Patient Recall Program and at the Patient’s Main Clinic Waiting Area. The results are presented in faculty meetings. For the years 2014 to 2017, a range of 51% to 64% of the patients surveyed were women. Statistics showed that the main reason for the initial visit to the clinic was their interest in receiving the services of the UPRSDM through recommendations of family and/or friends. For almost 80% of those surveyed, the most influential factor for the decision to receive treatment was the trust in the quality of service, the treatment cost, and the prompt attention. Ninety-eight percent (98%) of the patients reported that the dental student or dentist explained the treatment and 98% also reported they approved the treatment plan. In general, 90% to 96% of the patients were satisfied with the quality of the service rendered and 97% would recommend the UPRSDM clinics to other patients. Please refer to the (SD 5.3.2 Satisfaction Questionnaire for Patients Report).

**Description of the Quality Assurance Program**

The UPRSDM has a Quality Assurance Program (QAP) for patient care as contemplated in the Quality Assurance Manual which is patient-centered and focuses on comprehensive patient care. The program assesses the quality of patient care by means of chart audits, patient satisfaction questionnaires, assessments of infection control and risk management, and the evaluation of patients in active and completed patient recall visits.

**QA Standing Committee**

The QA Standing Committee oversees the program’s effectiveness and the need for the implementation of corrective actions. Faculty members are assigned to oversee all the specific areas that comprise the program. The QAP Manual describes the components of the program (including examples of assessment forms), the committee’s role, and the standards of care. The QAP provides the necessary information for modifying and/or updating the curriculum in areas where deficiencies have been identified. It provides reassurance in terms of the quality of the existing curriculum and delivery of patient care when the outcomes are compatible with the ones expected.

The QA Standing Committee is composed of faculty members who evaluate the different areas of the program, the Infection Control Committee President, a faculty representative from each department, and the school’s statistician. The Assistant Dean for Clinical Affairs and the three department directors are ex-officio members. Among the committee responsibilities are:

2. Develop and review the standards of patient care.
3. Conduct record audits to assess appropriateness, necessity, and quality of the care provided.
4. Develop and conduct patient review policies to determine causes of treatment deficiencies.
5. Submit recommendations for modifications to the approved program based on outcomes.
Quality assessment and improvement are the pillars of the QA Program. It involves all members of the academic community and feedback from the stakeholders is of utmost importance. Administration, faculty, students, and staff are involved in different aspects of the program. The administration and faculty make sure patients receive quality care that is assessed by the QA Standing Committee. This committee has representation from all departments with clinical faculty and from clinical administration. It collects data on all aspects identified in the QAP and analyzes results prior to reporting them to the department chairs and faculty in an annual faculty meeting and departmental and section meetings as deemed necessary.

**QAP Components and Areas where Indicators are assessed**

1. Periodic evaluation of the active patient (Active Patient Recall System)
2. Post-treatment evaluation (*Completed Patient Quality Form* and *Patient Satisfaction Questionnaires*)
3. Completed Patient Recall System
4. Random sampling of *Patient Satisfaction Questionnaires* conducted at the waiting room area of the main clinic
5. Record audits in both Active and Completed Patient Recall Systems
6. Restorative Sciences Department Quality Assurance Program for Prosthesis
7. Infection Control and Biohazard Risk Management, which is monitored daily by the clinic module coordinators and faculty, and periodically by the Infection Control Committee.

**Restorative Sciences Department QA Prosthetics Program (QAPP)**

The QAPP is geared to prevent any treatment deficiencies at clinical or laboratory levels. This program is part of the Quality Assurance Program (QAP), of the UPRSDM. It is preventive tool to assure the quality and efficacy of dental laboratory work prior to delivering the prosthesis to the patient. As part of the program, mechanisms are in place to correct deficiencies and these, in turn, are evaluated. The program is described in the *QAP Manual* (SD 5-3.1, Page 138).

The Assistant Dean of Clinical Affairs created a log for treatment remakes. Faculty refer these cases to the Assistant Dean with the reasons for the remake and the necessary consults are done. The log serves as another method to measure the quality of care provided. This log was integrated in the EHR for the 2016-2017 academic year. For the 2016-2017 academic year, there was a total of 49 cases approved for remakes for prosthetic laboratories. A reduction in remakes was observed (down to 25 remakes), for the academic year 2017-2018. For the Academic Year 2018 – 2019, there was a total of 34 remakes (SD 5-3.4 – Remake Reports for the past three years, and (SD 5-3.4 - Prostheses Remakes and No-Charge Application Form).
The UPRSDM QA Program structure is presented in an [Exhibit 5.2](#).

### Exhibit 5.2

[Diagram of Quality Assurance Program]

### Ongoing Compliance Review Process

The UPRSDM QAP assesses the quality of patient care by means of assessing indicators in different areas or categories of patient services: Active and Competed Recall Programs, chart audits, patient satisfaction questionnaires and assessments of infection control and risk management. Mechanisms are well established to correct deficiencies and these, in turn, are evaluated. A detailed evaluation of the quality of services rendered is done by faculty after a careful assessment of the patient has been executed by students self-evaluating their work (Active Patient Recall visits), and that of their peers (Active and Completed Patient Recall visits).

The electronic health record (EHR) and digital radiography have simplified the assessment and selection of the pool of patients for evaluation, data collection and analysis necessary in the QAP.
The EHR assures the flow of established steps in information gathering for all patients. Indicators of quality are easily seen, and the system itself protects for the compliance with the recommended processes. For example, in order to have completion of procedures, the electronic system requires the signature of a faculty member. It only allows the signature if the agreed steps for the procedure are included and revised. In summary, the EHR is a significant tool that has simplified and upgraded the review process of care.

**Ongoing Review of a representative sample of patients and patient records to assess the appropriateness, necessity and quality of the care provided**

The Record audits are used to review the compliance with HIPAA and are an essential part of the Quality Assurance Program. The record review process is performed as part of the Active Patient Recall and Completed Patient Recall Programs. Each fourth-year student evaluates two patients in each of the programs. The evaluations are done in consultation with faculty. In the Active Recall Program, the students evaluate one patient from his/her patients and another from a peer (peer review). In the Completed Recall Program, the student evaluates only patients from other students (peer review). The record audits evaluations are performed, and results are verified by the faculty member assigned to the program. The Quality Assurance Committee continuously reviews the data reports and makes recommendations when it identifies deficiencies. Most of the deficiencies previously found were corrected with the implementation of the electronic health record (EHR). The electronic health record program assigns a record number to every new patient with all the necessary documentation in compliance with local and federal laws. Included in the documents to be filled are all the necessary HIPAA consent forms. Faculty members in charge of evaluating case presentations monitor that all documents are completed and signed by the patient or the legal guardian. The adequate gathering of information is part of the students’ daily evaluation. The faculty member in charge of the chart/record auditing part of the Quality Assurance Program evaluates all the data collected and makes recommendations to the Quality Assurance Committee. The results of record audits have improved after the implementation of the EHR in the 2016-2017 academic year. The record audit includes radiographic assessment to determine quality of the radiographic images, medical and comprehensive oral history, dental and periodontal charting, treatment plan, progress notes, and the evaluation of proper treatment sequence and timeliness of care. (SD 5.3.3 – Patient Record Audit Protocol, forms and results for the past three years).

**Determining Treatment Deficiencies**

The standards of care are used as a guide for the development of the evaluation criteria for each of the clinical disciplines. Students are evaluated for each dental treatment performed in order to guarantee quality of patient care. Procedures that do not meet standards of care are redone at no charge to the patient with the approval of the Assistant Dean for Clinical Affairs. If a student repeatedly fails to meet with what is expected from his/her clinical work, the faculty along with the course director and dental module coordinator will plan remedial actions.

The chart audits are used to review the non-clinical standards of care and are an essential part of the QA Program. The record review process is performed as part of the Active Patient Recall and Completed Patient Recall Programs. Chart audits confirm compliance with clinic protocols.
Records auditing compliance with the basic required standards has improved since the implementation of Axium in 2016.

**Active Patient Recall Program** is a tool the School of Dental Medicine uses to evaluate and monitor clinical dental services rendered by students. The patient evaluations are done by fourth year students under the supervision of the faculty member assigned to the program. All DS4 students must rotate through the program. They collect patient record data, evaluate the patient, collect all the necessary clinical data, complete the evaluation forms and discuss the findings by a comprehensive case presentation in order to receive credit for their participation. The student, in consultation with the faculty member assesses the patient’s comprehensive treatment, appropriateness, timeliness, acceptability of care and provides the oral preventive treatment. Consultations with specialists are done as needed. The patient evaluation also includes the chart audit. Students in conjunction with a faculty member select one patient from their own pool and one from another student (peer review). Results from these evaluations are analyzed and discussed by the QA Standing Committee for recommendations. They are also disseminated at faculty meetings for recommendations and actions to be taken in order to correct any identified deficiencies.

**Completed Patient Recall Program** is another tool used to measure the quality of services rendered to the patients by the undergraduate students. The purpose of the rotation is to assess appropriateness, acceptability of the treatment provided and patient satisfaction. The patients are selected from the pool of patients who have completed their treatments by other students. These evaluations are done by fourth year students in conjunction with a faculty member assigned to the program. Students evaluate the quality of the treatment rendered (peer review), following the established criteria. They administer the Patient Satisfaction Questionnaire, conduct a complete record audit, oral and medical history update and an oral prophylaxis as part of the rotation. If necessary, a new treatment plan is developed for the patient. The student may continue with this patient as part of his patient pool or refer the patient to another student or clinic depending on the patient’s needs and preferences.

Student evaluations from both recall programs are part of the preventive care competency evaluation included in the fourth year Comprehensive Care Clinic course. Results from these evaluations are analyzed and discussed by the QA Standing Committee for recommendations. They are also disseminated at faculty meetings for recommendations and actions to be taken to improve any identified deficiencies.

In order to collect comparable data for assessments, both programs use the same evaluation forms since 2006 with periodic revisions. The Active and Completed Recall programs facilitate the flow of information to the clinical disciplines in order to improve the quality of the services rendered.

Data collected from both the active and completed patient recall programs indicate that the percentage of acceptability of treatment in fixed and removable prosthetic treatments for both groups has ranged yearly since 2006 between 90% - 96%, meeting or exceeding the 90% benchmark. One hundred percent (100%) acceptability was observed in the completed endodontics patients recall group for root canal treatments in all years evaluated (2015-2019). For the oral
surgery treatments evaluated in the completed patient recall group, the percentage of acceptability was 99%, exceeding the benchmark. In operative dentistry, there was a range of 84% - 88.13% rate of acceptability in completed recall, but in active recall there was a 90% acceptability rate throughout the years (2015-2019). Calibration exercises in operative dentistry have been done in order to correct the identified deficiencies. An increase to 90% of acceptability was found in oral diagnosis in the active patient recall group for the past three years (Exhibit 5.3a and 5.3b). (SD 5-3.3: Active Patient Recall Program Report; SD 5-3.3: Completed Patient Recall Program Report).

Exhibit 5.3a Expected Acceptability and Actual Results for the Active Recall Program 2014 – 2019

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Clinical Area</th>
<th>Expected Of Acceptability</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016 – 2017</td>
<td>Operative</td>
<td>90.0%</td>
<td>90.29%</td>
</tr>
<tr>
<td></td>
<td>Prosthodontics</td>
<td>90.0%</td>
<td>92.68%</td>
</tr>
<tr>
<td></td>
<td>Endodontics</td>
<td>90.0%</td>
<td>100.00%</td>
</tr>
<tr>
<td></td>
<td>Oral diagnosis</td>
<td>90.0%</td>
<td>90.30%</td>
</tr>
<tr>
<td>2017 – 2018</td>
<td>Operative</td>
<td>90.0%</td>
<td>89.46%</td>
</tr>
<tr>
<td></td>
<td>Prosthodontics</td>
<td>90.0%</td>
<td>96.12%</td>
</tr>
<tr>
<td></td>
<td>Endodontics</td>
<td>90.0%</td>
<td>100.00%</td>
</tr>
<tr>
<td></td>
<td>Oral diagnosis</td>
<td>90.0%</td>
<td>92.16%</td>
</tr>
<tr>
<td>2018 – 2019</td>
<td>Operative</td>
<td>90.0%</td>
<td>90.57%</td>
</tr>
<tr>
<td></td>
<td>Prosthodontics</td>
<td>90.0%</td>
<td>92.64%</td>
</tr>
<tr>
<td></td>
<td>Endodontics</td>
<td>90.0%</td>
<td>100.00%</td>
</tr>
<tr>
<td></td>
<td>Oral diagnosis</td>
<td>90.0%</td>
<td>92.16%</td>
</tr>
</tbody>
</table>
Exhibit 5.3b Expected Acceptability and Actual Results for the Completed Recall Program 2014 – 2019

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Clinical Area</th>
<th>Expected Of Acceptability</th>
<th>Actual Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016 – 2017</td>
<td>Operative</td>
<td>90.0%</td>
<td>86.49%</td>
</tr>
<tr>
<td></td>
<td>Prosthodontics (Fixed)</td>
<td>90.0%</td>
<td>92.91%</td>
</tr>
<tr>
<td></td>
<td>Prosthodontics (Removable)</td>
<td>90.0%</td>
<td>90.38%</td>
</tr>
<tr>
<td></td>
<td>Prosthodontics (Fixed and Removable)</td>
<td>90.0%</td>
<td>91.84%</td>
</tr>
<tr>
<td></td>
<td>Endodontics</td>
<td>90.0%</td>
<td>97.92%</td>
</tr>
<tr>
<td></td>
<td>Oral Surgery</td>
<td>90.0%</td>
<td>98.03%</td>
</tr>
<tr>
<td>2017 – 2018</td>
<td>Operative</td>
<td>90.0%</td>
<td>84.11%</td>
</tr>
<tr>
<td></td>
<td>Prosthodontics (Fixed)</td>
<td>90.0%</td>
<td>97.60%</td>
</tr>
<tr>
<td></td>
<td>Prosthodontics (Removable)</td>
<td>90.0%</td>
<td>96.26%</td>
</tr>
<tr>
<td></td>
<td>Prosthodontics (Fixed and Removable)</td>
<td>90.0%</td>
<td>96.98%</td>
</tr>
<tr>
<td></td>
<td>Endodontics</td>
<td>90.0%</td>
<td>100.00%</td>
</tr>
<tr>
<td></td>
<td>Oral Surgery</td>
<td>90.0%</td>
<td>99.59%</td>
</tr>
<tr>
<td>2018 – 2019</td>
<td>Operative</td>
<td>90.0%</td>
<td>88.13%</td>
</tr>
<tr>
<td></td>
<td>Prosthodontics (Fixed)</td>
<td>90.0%</td>
<td>100.00%</td>
</tr>
<tr>
<td></td>
<td>Prosthodontics (Removable)</td>
<td>90.0%</td>
<td>94.29%</td>
</tr>
<tr>
<td></td>
<td>Prosthodontics (Fixed and Removable)</td>
<td>90.0%</td>
<td>98.01%</td>
</tr>
<tr>
<td></td>
<td>Endodontics</td>
<td>90.0%</td>
<td>100.00%</td>
</tr>
<tr>
<td></td>
<td>Oral Surgery</td>
<td>90.0%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Patient Satisfaction Surveys are another way of assessing the patients’ opinions of the quality of services received. Surveys are conducted at the completed patient recall visits. These are also conducted at the main clinic patient waiting area. Patient satisfaction has been above the 90% benchmark in most of the areas assessed (SD 5.3.2 Satisfaction Questionnaire for Patients Report).

The Restorative Sciences QAPP for Prosthetics for all prosthetic appliances inserted at the undergraduate clinics has been established since 1992 and has been revised periodically with a final major revision in the 2016-2017 academic year. Its purpose is to evaluate all steps in the fabrication of the appliances prior to insertion. The faculty members in charge make sure the appliances comply with each critical step in prosthesis construction, as required by the department and included in a form designed for the evaluation. SD 5.3.4 Evaluation Steps for Prosthetics Appliances. (Quality Control Evaluations Forms for Prosthetics Appliances will be available on-site).

As a result of assessments and faculty recommendations, quality standards for prosthodontics were integrated into the provisions of commercial laboratories contractual agreements in order to monitor the quality of the service rendered. If the laboratory does not comply with the UPRSDM’s quality standards, the School representatives proceed to meet with the laboratory personnel to discuss the findings and request adjustments. Failure to comply will be subjected to termination of their contractual agreement with the UPRSDM. In the academic year, 2017-2018, a laboratory was identified in non-compliance. After meetings held with the laboratory personnel with no adjustments observed, the UPRSDM decided to discontinue their services (SD 5-3.4 - New Quality
Standards for the Laboratories and Laboratory Technician; SD 5-3.4 - List of laboratories in 2017-2018, and 2018-2019).

Students’ compliance with infection control and clinic protocols is measured in the clinic evaluations and unannounced clinical compliance inspections by the infection control committee. These assure the use of proper techniques, compliance with standards of care, and quality of care. Non-compliance with infection control protocols is monitored by all faculty members and staff. The results of these inspections are presented and discussed in the Infection Control Committee and recommendations are presented to the Quality Assurance Committee and the Assistant Dean for Clinical Affairs for immediate actions. An immediate removal of the student from the clinic may be authorized by any faculty member or supporting staff if major breaches in compliance are detected. The care of the patient is of utmost importance and the faculty member evaluating the treatment is responsible for following the appropriate standard of care.

**Implementing Corrective Measures**

The UPRSDM utilizes several ways to assess outcomes of care and determine patient treatment deficiencies. These include faculty clinical evaluations, active and completed patients recall evaluations, chart audits, peer reviews, patient satisfaction surveys, clinic team coordinators clearance process at the end of both third and fourth year. Quality Assurance Program and Infection Control and Risk Management results are periodically disseminated. Outcomes are discussed and presented in faculty meetings. Faculty observations and recommendations at these meetings are evaluated and considered for correction of any identified deficiencies. The QA Committee makes recommendations to the department directors and faculty as needed in order to implement the corrective actions.
Exhibit 5.4.a Table of Outcomes Results and Actions Taken by Clinical Area 2014 - 2019 for Active Recall Program

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Clinical Area</th>
<th>Recommendations And Action Taken</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 – 2016</td>
<td>Operative</td>
<td>Reports will be discussed with Section faculty at shorter intervals. Faculty calibrations will be implemented.</td>
<td>Expected percentage of acceptability was obtained. Corrective actions on specific deficiencies were taken. Improvement is expected.</td>
</tr>
<tr>
<td></td>
<td>Prosthodontics</td>
<td>Specific emphasis on availability of faculty was reinforced at all time. Results were reviewed with faculty at shorter intervals and deficiencies were addressed. Calibration sessions are being carried out.</td>
<td>Acceptability percentage was maintained. At end of year improvement will be assessed.</td>
</tr>
<tr>
<td></td>
<td>Endodontics</td>
<td>Continue monitoring to maintain results.</td>
<td>Acceptability percentage was exceeded.</td>
</tr>
<tr>
<td></td>
<td>Oral Diagnosis</td>
<td>Increase in clinical faculty, faculty calibrations with emphasis in radiographic analysis.</td>
<td>Specific deficiencies were addressed for corrective actions. Improvement is expected and will continue to monitor.</td>
</tr>
<tr>
<td>2016 – 2017</td>
<td>Operative</td>
<td>Continue to monitor specific recommendations given to Department Director. Results were reviewed with faculty at shorter intervals assessing specific deficiencies found. Calibration sessions are being carried out.</td>
<td>Expected percentage of acceptability was obtained. Specific deficiencies were identified, and corrective actions were taken. Continue to monitor.</td>
</tr>
<tr>
<td></td>
<td>Prosthodontics</td>
<td>Deficiencies found were addressed. Recommendations regarding number of faculty present in clinic were given to Restorative Dept. Director.</td>
<td>Expected percentage of acceptability was obtained. Specific deficiencies were identified, and corrective actions were taken. Continue to monitor.</td>
</tr>
<tr>
<td></td>
<td>Endodontics</td>
<td>Continue monitoring to maintain results.</td>
<td>Acceptability percentage was exceeded.</td>
</tr>
<tr>
<td></td>
<td>Oral Diagnosis</td>
<td>All cases presented were assigned to a student to be treated. Availability of faculty</td>
<td>Expected percentage of acceptability was achieved. Specific deficiencies were</td>
</tr>
<tr>
<td>Academic Year</td>
<td>Clinical Area</td>
<td>Recommendations And Action Taken</td>
<td>Improvement</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------</td>
<td>----------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>2017 – 2018</td>
<td>Operative</td>
<td>Increased. Audit results were discussed with Dept. Director.</td>
<td>Identified, and corrective actions were taken. Continue to monitor</td>
</tr>
<tr>
<td></td>
<td>Prosthodontics</td>
<td>Revision of deficiencies are to be discussed with faculty, especially with remakes in composite resins. Faculty calibrations and webinars are highly recommended.</td>
<td>Acceptability % decreased due to composite resin remakes. Close student supervision by faculty was implemented. Continue to monitor results at short intervals with Section Director.</td>
</tr>
<tr>
<td></td>
<td>Oral Diagnosis</td>
<td>Continue monitoring to maintain results.</td>
<td>Acceptability percentage was exceeded.</td>
</tr>
<tr>
<td></td>
<td>Operative</td>
<td>Same recommendations given to Restorative Dept. were submitted to Prosthodontics Dept. Specific emphasis on availability of faculty was reinforced at all time.</td>
<td>Acceptability percentage increased. Photos of unacceptable work were presented to faculty. At end of year improvement will be assessed. Restorative Department Q-A section will closely monitor lab work and faculty clinic assistance.</td>
</tr>
<tr>
<td>2018 – 2019</td>
<td>Prosthodontics</td>
<td>Faculty availability was highly recommended and close monitoring on pre-clinical courses was advised for assessment of clinical procedures.</td>
<td>Acceptability percentage was maintained. Emphasis will be given to objective assessment and feedback from students under faculty supervision.</td>
</tr>
<tr>
<td></td>
<td>Oral Diagnosis</td>
<td>Increase of faculty is highly recommended for accurate diagnosis and treatment</td>
<td>Acceptability percentage increased. Strategies will be implemented for correction</td>
</tr>
</tbody>
</table>

Acceptability % decreased due to composite resin remakes. Close student supervision by faculty was implemented. Continue to monitor results at short intervals with Section Director.
Exhibit 5.4.b Table of Outcomes Results and Actions Taken by Clinical Area 2014 - 2019 for Completed Recall Program

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Clinical Area</th>
<th>Recommendations And Action Taken</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014–2015</td>
<td>Operative</td>
<td>Reports will be discussed with Section faculty at shorter intervals. Faculty calibrations will be implemented.</td>
<td>Expected improvement with faculty calibrations.</td>
</tr>
<tr>
<td></td>
<td>Prosthodontics (Fixed)</td>
<td>Continue to monitor to maintain results.</td>
<td>Acceptability percentage was maintained.</td>
</tr>
<tr>
<td></td>
<td>Prosthodontics (Removable)</td>
<td>Continue to monitor to maintain results.</td>
<td>Acceptability percentage was maintained.</td>
</tr>
<tr>
<td></td>
<td>Prosthesis (Fixed and Removable)</td>
<td>Continue to monitor to maintain results.</td>
<td>Acceptability percentage was maintained.</td>
</tr>
<tr>
<td></td>
<td>Endodontics</td>
<td>Continue to monitor to maintain results.</td>
<td>Acceptability percentage was maintained.</td>
</tr>
<tr>
<td></td>
<td>Oral Surgery</td>
<td>Continue to monitor to maintain results.</td>
<td>Acceptability percentage was maintained.</td>
</tr>
<tr>
<td>2016–2017</td>
<td>Operative</td>
<td>Reports will be discussed with Section faculty at shorter intervals. Faculty calibrations will be implemented.</td>
<td>Expected improvement with faculty calibrations.</td>
</tr>
<tr>
<td></td>
<td>Prosthodontics (Fixed)</td>
<td>Continue to monitor to maintain results.</td>
<td>Acceptability percentage was maintained.</td>
</tr>
<tr>
<td></td>
<td>Prosthodontics (Removable)</td>
<td>Continue to monitor to maintain results.</td>
<td>Acceptability percentage was maintained.</td>
</tr>
<tr>
<td></td>
<td>Prosthesis (Fixed and Removable)</td>
<td>Continue to monitor to maintain results.</td>
<td>Acceptability percentage was maintained.</td>
</tr>
<tr>
<td></td>
<td>Endodontics</td>
<td>Continue to monitor to maintain results.</td>
<td>Acceptability percentage was maintained.</td>
</tr>
</tbody>
</table>
Faculty members are required to evaluate the treatment rendered during each clinical session. Faculty signatures in patient records verify that supervision of the clinical work has occurred. Daily feedback are also evidence of patient evaluation and approval of treatment outcomes. If the treatment is not acceptable, the student must redo it, either immediately or in the next clinical encounter. The type of remediation is determined by the supervising faculty taking into consideration the patient’s well-being. When students present continuous difficulty with any given procedure, the supervising faculty recommends a remediation plan in coordination with the course director and the clinic module coordinator.
Closing the Loop

Periodic evaluations and changes have been included in the QA Program as a result of recommendations from faculty, staff, students, patients and administration. The inclusion of the electronic health record (EHR), in the 2016-2017 academic year has helped in data collection and patient selection for the QA Program. As a result of EHR inclusion, changes in the way the forms and the data are collected have improved and helped with the dissemination of results at formal faculty meetings. As petitioned, the committee or any of its members presents the results in detail to sections and departments in meetings where specific changes, corrections and recommendations are further implemented.

The UPRSDM has an Infection Control and Risk Management Coordinator who is the committee president and is responsible for the annual evaluation of the protocols. This coordinator makes recommendations regarding proper actions to address non-compliance and gives orientations to the academic community regarding changes in rules and regulations.

The UPRSDM implemented the electronic health record (EHR) for the 2016-2017 academic year. The EHR has contributed in achievement of:

1. Providing accurate, up-to-date, and complete information about patients at the point of care.
2. Enabling quick access to patient records for more coordinated, efficient care.
3. Securely sharing electronic information with patients, faculty and graduate programs.
4. Helping students more effectively diagnose patients, reduce medical errors, and provide safer care.
5. Improving patient and student interaction and communication, as well as health care convenience.
6. Enabling safer, more reliable prescribing.
7. Helping promote legible, complete documentation and accurate, streamlined coding and billing.
8. Enhancing privacy and security of patient data.
9. Reducing costs through decreased paperwork, improved safety, reduced duplication of testing, and improved health.

The EHR IT support staff of UPRSDM is working on the inclusion of information regarding dental laboratories and forms. This will step up the data collection and reports of the Office of Pick-up and Delivery of Laboratory Cases.

During this academic year 2019-2020, the Implant Recall Program was incorporated. This experience was integrated in the third-year clinical course PRET 7387. It is expected to obtain data on areas as patient satisfaction, osseointegration, prevention and maintenance of implant supported prosthesis among others, allowing the continuous monitoring of quality in patient care.

Supportive Documentation

SD 5-3.1 QAP Manual, Standards of Care, Section VI, Page 13
SD 1-1. D Clinic Manual, Page 223
SD 5-3.2 Satisfaction Questionnaire for Patients Report
SD 5-3.3 Recall Programs (Patient Record Audit Protocol, forms and results for the past three years, Active Patient Recall Program Report, Form and Results, Completed Patient Recall Program, Form and Results)
SD 5-3.4 Additional Assessments and Corrective Actions (Prostheses Remakes and No-Charge Application Form, Evaluation Steps for Prosthetics Appliances, New Quality Standards for the Laboratories and Laboratory Technician, List of laboratories in 2017-2018, and 2018-2019)

5-4 The use of quantitative criteria for student advancement and graduation must not compromise the delivery of comprehensive patient care.

The UPRSDM is in compliance with this standard.

The UPRSDM’s philosophy regarding comprehensive patient care emphasizes addressing patient oral health needs in a sequential, timely manner. The UPRSDM mission is to provide world class oral health education while providing for the dental needs of Puerto Rican citizens. The predoctoral students program requires an early experience approach to clinical instruction, while clinical experiences increase in scope and depth throughout the four years of study. The clinical instruction program is intended to develop the knowledge, skills and attitudes necessary to practice general dentistry at a competent level of performance.

Defined Comprehensive Care

Comprehensive Patient Care is defined as the ability to create a system of clinical procedures which permits students to provide patient care in a manner closely related to the way in which they will conduct their practice after graduation (Exhibit 5.5)
Exhibit 5.5 Comprehensive Patient Care System

Examination and evaluation of patients, including the patient’s medical history, systemic conditions and all additional procedures needed to attain a custom treatment plan for their patients. → Identification and recording of dental problems presented by the patients. → Prescribing an individualized treatment plan and being able to perform the care required by the patients, including care related to the several disciplines of dentistry.

Recognizing and accepting the need to refer patients to a dental specialist if the scope of the required treatment is beyond the capability of the general practitioner. → Retaining the responsibility for care while authorizing others to provide specific services delegated by students with the authorization of a faculty member. → Maintaining a proper recall evaluation system for all assigned patients while under the student’s care.

The concept of comprehensive care is introduced during the preclinical courses. Before the beginning of the clinical experience, the third-year students receive a two-week clinical orientation. As part of these orientations, the clinical teaching philosophy of the School is discussed. Annually, all third- and fourth-year students receive a digital folder with a copy of important manuals and protocols that include the Clinic Manual. This manual includes the school’s philosophy which defines the comprehensive patient care.

Most of the patient care is delivered by the assigned student. When patient care is delegated, the assigned student is responsible to assure this care is continuous and timely. Transfer of patients and/or procedures is minimized but, when indicated, it occurs for the following reasons: 1) patients prefer another practitioner; 2) need for a specific competency assessment; or 3) continuation to completion of care after graduation of DS4 students. In this last scenario, patients are reassigned to the module coordinator to continue and complete treatment. All transfers are done with the agreement of the patient and are approved by full-time faculty and module coordinators.

**Comprehensive Care Treatment Philosophy**

The comprehensive treatment philosophy is explained to patients during their initial screening visit at the Oral Diagnosis and Pediatric Dentistry Clinics. Patients are encouraged to ask questions or express their concerns regarding their treatment at any time. They are instructed to ask their assigned student first. If they still have questions or doubts, they can ask the faculty assigned to the area, the Clinical Module Coordinator, or seek help at the office of the Assistant Dean for Clinical Affairs.
Competency Exams

As stated in its mission, the UPR School of Dental Medicine, is a proactive institution of higher education for the formation of dentists of the highest quality, who are sensitive to the need of their patients and are oriented to comprehensive service to the people of Puerto Rico. Competency, the ability to demonstrate skill, knowledge, and attitude derived from specialized training and experience, is at the core of exceptional professionals. It relates to the treatment of the child, adolescent, adult, geriatric, and medically-compromised patient. Our pre-doctoral dental students must demonstrate competency prior to graduation and entry into dental practice.

The Students must approve 26 competency exams in addition to completion of all other established requirements. For the examinations, the clinic module coordinator and examination coordinator will authorize the students to take the examinations once they feel that the student is ready, on an individual basis. Students will be required to evidence consistent acceptable performance prior to taking the corresponding clinical examinations. The students will obtain a pass or fail grade in each exam. Students that fail any examination will be required to evidence a review of the examination deficiencies with the examination coordinator and any additional preparation the coordinator deems necessary, prior to being authorized to participate in a remedial examination. The pediatric clinical examinations must be repeated with the same faculty. The students will give the module coordinator the Competency Examination Clearance Form once all the examinations are approved and signed. The module coordinator will forward copy of this form to the Office of the Assistant Dean for Academic Affairs.
### Competency Examinations Fourth Years Students

<table>
<thead>
<tr>
<th>SDM Competencies</th>
<th>Coda Standards</th>
<th>Examinations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Apply the concepts of lifelong learning, self-assessment, and critical thinking as an integral part of professional behavior and comprehensive patient care.</td>
<td>2-10, 2-11</td>
<td>• Portfolio</td>
</tr>
<tr>
<td>2. Access, critically appraise and communicate the scientific literature in order to provide evidence-based patient care.</td>
<td>2-22</td>
<td>• Portfolio • OSCE</td>
</tr>
<tr>
<td>3. Recognize professional, ethical, regulatory and legal issues associated with the practice of dentistry.</td>
<td>2-18, 2-21</td>
<td>• Written Examination: Essay Case Based</td>
</tr>
<tr>
<td>4. Apply the basic principles and philosophies of practice management to deliver and perform successfully as a leader in an oral sector.</td>
<td>2-19</td>
<td>• Clinical Examination: Module</td>
</tr>
<tr>
<td>5. Apply the basic principles of behavioral sciences as they pertain to patient-centered approaches for promoting, improving and</td>
<td>2-16</td>
<td>• OSCE</td>
</tr>
<tr>
<td>6. Communicate and collaborate with different health care professionals to manage patients from a diverse population and to function in</td>
<td>2-17, 2-20</td>
<td>• OSCE</td>
</tr>
<tr>
<td>7. Assess, interpret, and integrate findings for the diagnosis of oral conditions in patients, including those with special needs.</td>
<td>2-24a, 2-25</td>
<td>• Clinical Examinations: Adult Case</td>
</tr>
<tr>
<td>8. Assess risk and screen for head and neck cancer.</td>
<td>2-24b</td>
<td>• Clinical Examination: Adult Case Presentation</td>
</tr>
<tr>
<td>9. Apply biomedical science knowledge relevant to oral health care.</td>
<td>2-15</td>
<td>• Clinical Examinations: Hard Tissue Oral</td>
</tr>
<tr>
<td>10. Develop and discuss a comprehensive treatment plan, establish prognosis and gather informed consent for patients.</td>
<td>2-24a</td>
<td>• Clinical Examinations: Adult Case</td>
</tr>
<tr>
<td>11. Recognize the complexity of patient treatment and identify when referral is indicated.</td>
<td>2-24c</td>
<td>• Clinical Examinations: Adult Case</td>
</tr>
<tr>
<td>12. Manage local anesthesia, pain, and anxiety, and consider the impact of prescribing practices and substance use disorder.</td>
<td>2-24e</td>
<td>• Clinical Examinations: Hard Tissue Oral</td>
</tr>
<tr>
<td>SDM Competencies</td>
<td>Coda Standards</td>
<td>Examinations</td>
</tr>
<tr>
<td>------------------</td>
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</tr>
</tbody>
</table>
| 13. Restore and replace teeth. | 2-24f | • Clinical Examinations:  
  ➢ Operative |
| 14. Communicate and manage dental laboratory procedures. | 2-24g | • Laboratory Examination:  
  ➢ Complete Denture |
| 15. Manage periodontal therapy. | 2-24i | • Clinical Examinations:  
  ➢ Case Presentation |
| 16. Manage pulpal and periapical therapy. | 2-24j | • Clinical Examination:  
  ➢ Endodontic |
| 17. Manage oral mucosal and osseous disorders. | 2-24k | • Written Examination:  
  ➢ Case Based Slides |
| 18. Manage hard and soft tissue surgical procedures. | 2-24l | • Clinical Examinations:  
  ➢ Hard Tissue Oral |
| 19. Manage dental emergencies. | 2-24m | • Clinical Examination:  
  ➢ Dental Emergency |
| 20. Manage malocclusion and dental space discrepancies. | 2-24n | • Orthodontics OSCE |
| 21. Apply health promotion and disease prevention principles in oral health care. | 2-24d | • Clinical Examinations:  
  ➢ Pediatric Patient |
| 22. Evaluate the outcomes and prognosis of dental care. | 2-24o | • Clinical Examinations:  
  ➢ Pediatric Patient |
<p>| 23. Manage the oral health care of patients in different stages of life, within the scope of general dentistry. | 2-23 | • Portfolio |</p>
<table>
<thead>
<tr>
<th>SDM Competencies Examined</th>
<th>Examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>7, 8, 9, 10, 11</td>
<td>Presentation of treatment plan to patient for consent after case presentation to faculty</td>
</tr>
<tr>
<td>All Competencies</td>
<td>Portfolio</td>
</tr>
<tr>
<td>5, 9, 13^a, 14, 16, 20</td>
<td>OSCE</td>
</tr>
<tr>
<td>7, 8, 9, 10, 11</td>
<td>Case presentation of ASA II patient with multiple clinic needs with patient present</td>
</tr>
<tr>
<td>12, 18</td>
<td>Extraction of one tooth</td>
</tr>
<tr>
<td>7, 8, 9, 10, 11, 21</td>
<td>Diagnosis, treatment plan, education and prophylaxis in single patient unit</td>
</tr>
</tbody>
</table>
| 15, 22                   | Clinical Case Presentation  
                          | Root planning and scaling 1 quadrant  
                          | Periodontics three weeks recall |
| 16                       | Endodontic Typodont Tooth Laboratory Examination |
| 13                       | Operative Clinical Examination: Class I or II amalgam preparation and restoration |
| 13                       | Fixed Prosthodontics Laboratory Examination:  
                          | 3 crown preparations (porcelain fused to metal, ceramic, cast metal) in acrylic permanent teeth on dental simulator |
| 13                       | Construction of acrylic tray, border modeling and final maxillary impression in edentulous patient |

**Comprehensive Treatment Planning Requirements**

Third- and Fourth-year dental students in the Comprehensive Clinic Courses must complete a minimum of 18 and 22 comprehensive patient treatment plans respectively. These consist of Type 1-9 comprehensive patient treatment plans. The number of patients assigned to and completed by each student will depend on the variety of clinical experiences offered by each patient, and his/her progress towards the achievement of the competencies. Depending on these two factors, the Module Coordinators will require that some students perform more clinical experiences and/or recruit more patients.

There is no maximum for recruited patients and completed treatments. Patients are recruited during the year to complete the required minimum comprehensive treatment plans, to assure enough experiences each trimester in all competencies, and to take the clinical competency examinations.
The students will work in the development of all competencies during the three trimesters. They must have clinical experiences in all competencies each trimester. The minimum requirements of comprehensive treatment plans are outlined in Exhibit 5.6.

Exhibit 5.6 Comprehensive Treatment Plan for DS3 and DS4 students

<table>
<thead>
<tr>
<th>Clinical Procedures in Comprehensive Treatment Plan</th>
<th>Minimum of Comprehensive Patient Treatment Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DS3</td>
</tr>
<tr>
<td>Comprehensive patient treatment plans with direct operative procedures and one of the following: preventive therapies or initial periodontal therapy or surgeries.</td>
<td>6</td>
</tr>
<tr>
<td>Comprehensive patient treatment plans with implants (includes surgery and/or restoration at the undergraduate level).</td>
<td>1</td>
</tr>
<tr>
<td>Comprehensive patient treatment plans with one or two fixed prosthodontics units, with or without implants.</td>
<td>2</td>
</tr>
<tr>
<td>Comprehensive patient treatment plans with treatment in four or more clinical disciplines, or that need three or more fixed prosthodontics units, with or without implants.</td>
<td>1</td>
</tr>
<tr>
<td>Comprehensive patient treatment plans with removable partial dentures, with or without implants.</td>
<td>3</td>
</tr>
<tr>
<td>Comprehensive patient treatment plans with complete dentures, immediate complete dentures, or overdentures, with or without implants.</td>
<td>2</td>
</tr>
<tr>
<td>Comprehensive patient treatment plans with at least one of the following: endodontic treatment or indirect operative procedures or esthetics.</td>
<td>1</td>
</tr>
<tr>
<td>Comprehensive pediatric patient treatment plans with (undergraduate level).</td>
<td>1</td>
</tr>
<tr>
<td>Comprehensive patient treatment plans with orthodontic guiding or interceptive treatment.</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
</tr>
</tbody>
</table>

Oral Diagnosis Presentation

The patient’s individualized comprehensive treatment plan is determined in the oral diagnosis case presentation. Students must meet the oral diagnosis clinic criteria for case presentations. The treatment plan must reflect the patient’s needs, taking into consideration his/her complete or comprehensive oral health and other pertinent information. During the discussion of the detailed treatment plan, students inform the patient of the various options available, the expected outcomes of each treatment, and the potential risks of deviation from the plan. They also explain the option
and risks of no treatment. The student enters the patient’s information and treatment plan in a sequential order in the patient’s electronic health record. The faculty approves the treatment plan designed according to the patient’s needs and priorities. Once the treatment plan is approved, it is signed by the student, patient, and faculty member who approved the plan. Patients receive a copy of the treatment plan in the recommended sequence and the cost of all procedures which students are required to follow in order to assure comprehensive patient care.

**Comprehensive Treatment Plan**

When the oral diagnosis case presentation is completed and the treatment plan approved, the student schedules appointments for the patient to complete the treatment plan and meet the established dental care needs. All dental services are provided to patients under the supervision of the faculty members allocated to the clinical modules to which the students are assigned. Faculty members and clinical module coordinators ensure that the patient’s treatment plan is followed in the specified sequential order. The faculty member working with the student must review the treatment plan and all previous completed treatment in the patient’s electronic health record. This ensures that the treatment is carried out in the appropriate order and that the students’ needs do not take priority over the patient’s wellness.

Each patient care is provided by one student to ensure comprehensive care. Patient re-assignment, transfer, or referral is only permitted with the approval of the faculty (clinical instructor) and must not compromise the order of the comprehensive treatment plan. It may only be authorized by the Clinical Team Coordinator, with the patient’s consent and taking into consideration the well-being of the patient as a priority. Patients may be transferred to another predoctoral student, referred to any of the postdoctoral programs, or to the faculty dental practice.

**Completion of Comprehensive Treatment Plan**

At the end of the year, students must again discuss all treated patients with the Clinic Team Coordinator. This activity verifies the completion of the patient’s dental treatment and identifies any patient whose treatment has not been completed. Completed patients are referred to the Completed Patient Recall system. Patients whose treatment has not been completed are evaluated. The patient will either continue as a patient in the same Clinical Team with the entering fourth year students or referred elsewhere for treatment completion (faculty dental practice, or postdoctoral programs), thus assuring comprehensive treatment.

**Supportive Documentation:**

SD 2-17.1 Clinical Courses Manual (Clinical Assessment Forms)
The UPRSDM is in compliance with this standard.

Emergency Patients

Professional services for the management of dental emergencies are provided for all patients that attend the School’s facilities. An emergency patient is defined as any person that attends the UPRSDM’s facilities seeking attention for acute pain, inflammation, infection, or complications after an oral procedure that merits immediate evaluation and treatment. Patients with dental emergencies, regardless of whether they are registered or unregistered patients, have access to the Oral Diagnosis Clinic, Monday through Friday, on a walk-in basis, from 7:00 A.M to 2:00 P.M. Patients are screened and managed by assigned fourth year students and their supervising faculty. Cases beyond the expertise of pre-doctoral students are referred for treatment to Graduate Programs or Faculty Intramural Practice.

Dental Emergencies within UPRSDM

The diagnosis and management of dental emergencies protocol is described in the Clinic Manual (SD 1-1.1D: Clinic Manual, Page 243). Instructions to patients regarding this protocol are also displayed on the School’s webpage (http://dental.rcm.upr.edu/). Additional information and instructions are posted on the walls of the waiting room (SD 5-5.1: Oral Diagnosis Clinic General Information; (SD 5-5.2: Oral Diagnosis Clinic After Hours Emergency Information); (SD 5-5.3 Additional Displayed Signs); and printed on the back of patient’s appointment cards (SD 5-1.2: Clinic Manual, Patient Appointment Card, Page 169).

Patients also receive information regarding how and where to request dental emergency treatment in the Oral Health Patient Brochure “Salud Oral: Parte Esencial de su Salud General” (SD 5-4.1: Oral Health: Essential Part of your General Health Brochure).

Emergency Patients (During Working Hours)

Active patients asking for an emergency treatment must be evaluated, treated or referred accordingly by their assigned student. If the student, for any reason, is unavailable to take care of his/her patient, the case is managed by the student assigned to the emergency rotation at the Oral Diagnosis Clinic.

Patients requesting dental emergency treatment at the UPRSDM during working hours must take a ticket at the waiting room’s patient check-in kiosk. The data entry personnel will register the patient demographic information to create an electronic health record (EHR). The patient is then evaluated and accurately managed in the Diagnosis Clinic.

Dental emergency patients are screened by the Oral Diagnosis Clinic faculty to determine if they are true dental emergencies. Patients are informed about their rights and responsibilities during their screening. Fourth year students assigned to the emergency rotation, as part of the course
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PRET 7400, will evaluate and perform the necessary treatment. All management and treatment provided to dental emergency patients by the students is directly supervised and evaluated by a faculty member.

Emergency Patients (After Hours)

Patients presenting dental emergencies after working hours and/or on weekends are treated by the General Practice Residency (GPR), Pediatric Dentistry Residency (PDR), or the Oral and Maxillofacial Surgery (OMS) postdoctoral students at their affiliate hospitals facilities. Registered patients are instructed by their assigned students regarding the appropriate measures to be taken in case they require emergency dental treatment. Patients are instructed to request treatment at the emergency room of the Puerto Rico Medical Center and the UPR Carolina Hospital. Instructions to patients regarding this procedure are also displayed on the school website and recorded on the school telephone answering system.

Supportive Documentation

SD 5-5.1 Oral Diagnosis Clinic General Information  
SD 5-5.2 Oral Diagnosis Clinic After Hours Emergency Information  
SD 5-5.3 Additional Displayed Signs

5-6 All students, faculty and support staff involved in the direct provision of patient care must be continuously recognized in basic life support (B.L.S.), including cardiopulmonary resuscitation, and must be able to manage common medical emergencies.

The UPRSDM is in compliance with this standard.

All students, faculty, and support staff involved in the direct provision of patient care are continuously recognized in basic life support (B.L.S.), including cardiopulmonary resuscitation, and can manage common medical emergencies. All students are required to take courses on basic life support and management of common medical emergencies and be certified in cardiopulmonary resuscitation (CPR). Students are first introduced during the freshman year to basic life support skills in the course EVDI 7105 Assessment and Diagnosis I, in which they are certified in cardiopulmonary resuscitation (CPR) by an official instructor from the American Heart Association (AHA). Students are re-certified in basic life support prior to their clinical experience in the third year. Students admitted to the advanced international student placement program are also required to take the course the summer before the start of the academic year. The Assistant Dean for Clinical Affairs maintains a record of student’s CPR certificates. (SD 5-6.1: Summary Log of Basic Life Support Certification), (SD 3-1.1 Faculty Credentialing Documents).

The UPRSDM, through the Office of Continuing Education, offers all clinical personnel, staff and faculty, the continuous opportunity to take B.L.S. courses. Once a year, a course on the management of medical emergencies is also offered to clinical personnel. Evidence of CPR certification is requested to faculty members through the Department Director Chairs.
Assistant Dean for Clinical Affairs request evidence for clinical staff members. BLS records of all faculty and support staff are kept at the Administrative Office.

**Emergency Carts**

The UPRSDM has several complete emergency kits, automatic external defibrillators, and oxygen units. All equipment is inspected regularly according to local laws. Defibrillators are inspected on a monthly basis by personnel from the University Security Office and a log is kept in the area with the dates in which they were inspected. The emergency equipment is inspected regularly according to local laws by a company under contract that includes automated replenishment program online application and up-to-date medications. All emergency kits are in easy access areas as represented on (SD 5.6.2. – Location of Emergency Equipment).

The UPRSDM has formal written policies regarding the management of medical emergencies which are included in the following documents (SD 5-6.3 Medical Emergency Protocols; SD 5-6.3 Medical Emergency Protocol). These protocols establish roles, responsibilities, emergency exits and other relevant procedures. The Policy on Basic Life Support Recognition will be available on-site.

Emergency drills are performed in the clinic at least twice a year. Emergencies are simulated at random in the Oral Surgery Clinic to test the students’ readiness to handle emergencies. Three emergency teams are assigned to assist in case of real emergencies. Each team is composed of a faculty member, a student, and two dental assistants as established in the Medical Emergency Protocol.

If for any reason, a member of the UPRSDM is medically or physically unable to perform a cardiopulmonary resuscitation for basic life support, he/she must follow the institutional process for reasonable modification. This process requires a CPR certification without the clinical practice.

**Supportive Documentation:**

SD 3-1.1 Faculty Credentialing Documents
SD 5-6.1 Summary Log of Basic Life Support Certification
SD 5-6.2 Location of Emergency Equipment
SD 5-6.3 Medical Emergency Protocols
### 5-7 Written policies and procedures must be in place for the safe use of ionizing radiation which includes criteria for patient selection, frequency of exposing radiographs on patients, and retaking radiographs consistent with current, accepted dental practice.

The UPRSDM is in compliance with this standard.

The UPRSDM has written policies regarding the safe use of ionizing radiation which includes criteria for patient selection, frequency of exposing radiographs on patients, and retaking radiographs consistent with current, accepted dental practice.

The criteria for patient selection and the frequency of exposing radiographs on patients are based on the 2012 revision of the document “Dental Radiographic Examinations: Recommendations for Patient Selection and Limiting Radiation Exposure” published by the American Dental Association (ADA) Council on Scientific Affairs, in conjunction with a panel of experts of the U.S. Department of Health and Human Services (HHS) Public Health Service, Food and Drug Administration and the collaboration of the American Academy of Oral and Maxillofacial Radiology. The UPRSDM policies also comply with the ALARA principle which means “As Low As Reasonably Achievable” a phrase coined by the International Commission on Radiographic Protection in 1973. The UPRSDM guidelines for patient selection, frequency of exposing radiographs on patients, and retaking radiographs are included in the school’s *Clinic Manual* (SD 1.1.D Clinic Manual, pages 60-90).

Basic principles of the UPRSDM patient selection criteria for radiologic exposures:
- Every patient must be examined clinically before determining the type and number of radiographic images to be taken.
- The clinical examination conducted must consider the patient’s oral and medical histories, as well as the patient’s vulnerability to environmental factors that may affect oral health before performing a radiographic examination.
- Radiographs are prescribed on an individual basis, according to dental and medical history, clinical examination, previously available records and radiographic images, and potential treatment to be performed, amongst other criteria.
- Radiographs should be taken only when there is an expectation that the diagnostic yield will affect patient care.
- The clinical examination and radiographs prescription must be approved by a faculty member, either in the general clinic or in the radiology clinic, prior to the student performing imaging study.
- A clinical instructor shall approve the quality of the imaging.
- Retakes should be approved by a faculty supervisor and should be taken only for severely limited diagnostic value, not for the purpose of improving the esthetics of the radiograph.
- A member of the faculty should always be available for consultation when required.
Since 2013 the UPRSDM has replaced its analog radiographic systems, utilizing only digital receptors, both in intraoral and extraoral radiographs. This policy has significantly lowered the amount of ionizing radiation needed to be used to perform radiographic images. Thus, also significantly lowering the amount of exposure to the patient and the exposure to secondary and stray radiation to students, personnel and faculty. Most of the intraoral and extraoral receptors are direct CMO devices which shortens the time for capturing and reviewing the radiographic images, as well as determining if retakes need to be taken. These systems provide for digital enhancement of images for the purpose of analysis. The Pediatric Dentistry Post-Doctoral Clinic and the Radiology Clinic have intraoral phosphorous plates systems in place. Other radiographic equipment includes extraoral digital imaging devices for panoramic/cephalometric views, and a Cone Beam CT unit.

A significant investment has been made in both, infrastructure and effort to improve and maintain adequate backup systems to protect the image’s integrity and security, while complying with requirements for patient records’ privacy and confidentiality.

UPRSDM monitors the radiation dose exposure of occupationally exposed workers. Dosimeters are provided to the clinics’ personnel and faculty working in areas where radiographic equipment is located. Pregnant dental personnel operating x-ray equipment is required to wear personal dosimeters. Currently, these dosimeters consist of a digital radiation monitoring device based upon direct ion storage (DIS) technology featuring Bluetooth support which gives access to real-time dose reads and measurement data.

School’s radiographic equipment is inspected annually by local authorities and is either updated or replaced periodically as needed. All the radiographic equipment available at the clinics and laboratories complies with Title 21, Code of Federal Regulations, Sections 1020.30-33, on the Performance Standard for Diagnostic X-ray Systems and their Major Components, as revised on April 1, 2018.

All documents pertaining to the safe use of ionizing radiation are kept in the Office of the Assistant Dean for Clinical Affairs. Among these are radiographic equipment inventory, radiographic equipment inspections by the local government, and radiation dosimeters reports. Log of x-ray unit inspections will be available on-site).

Supportive Documentation:

SD 5-7.1 Log of x-ray unit inspections (Available on-site)
The UPRSDM is in compliance with this standard.

The UPRSDM’s Infection Control and Risk Management Protocols (SD 5-8.1) are revised and updated on an annual basis to ensure adequate preclinical, clinical, and laboratory asepsis, infection and biohazard control, and the adequate disposal of hazardous waste consistent with accepted dental practice. The program is based on policies, procedures, rules, and regulations set forth by the UPRSDM, UPR, local, state, and federal entities (e.g., Occupational Safety and Health Administration, the Code of Federal Regulations documents, and the CDC Infection Control in Dental Health-Care Settings Guidelines). Compliance is mandatory for all the academic community of the UPRSDM. The faculty member, who is the Infection Control Coordinator, also serves as consultant to the UPRSDM and is responsible for the provision of faculty, student, and staff trainings in everything related to infection prevention and waste management. The UPRSDM has identified an Infection Control Compliance Officer who assists in this task and helps in hazardous waste monitoring and disposal. The UPRSDM has designated an Infection Control Committee that monitors compliance with all the protocols.

During the DS1 year, the students are introduced to all infection prevention and control protocols by being enrolled in the “Professional Development I (DESP 7117) course. During the DS2 year, students are enrolled in “The Professional Development II (DESP 7127). This is a core course, in which infection prevention and control, ergonomics, and risk management topics are taught. During their third year of training, students review what has been presented in previous courses, within the Clinical Orientations where all clinical protocols are discussed, prior to get in contact with patients in the clinical courses. In addition, at the end of their third year, they get enrolled in a course named Review for the National Boards Dental Examination II (PRET 7326), where all these protocols are reinforced. Students in the Advanced Placement Program for International Students are introduced to the protocols during their Summer course, Preparatory Clinical and Academic Integration for Advanced Placement International Students.

**Education and Training**

The Infection Control and Risk Management Protocols are mandatory for all its academic community revised and updated annually to ensure adequate preclinical, clinical, and laboratory asepsis, infection and biohazard control, and the adequate disposal of hazardous waste consistent with accepted dental practice. Updates are done to adopt new techniques and procedures to comply with local, federal and university regulations. Faculty and staff are trained and/or retrained annually in Infection Control and Risk Management. Annual trainings participation is documented by the Continuing Education Office and the evidence is maintained at the different UPRSDM departments. A faculty member is appointed in charge of the Infection Control Committee, who also serves as consultant to the UPRSDM, and is responsible for the provision of faculty, student
and staff trainings in everything related to infection prevention and waste management. This faculty member is identified as the Infection Control Coordinator who is ultimately responsible for the monitoring of compliance with infection control in the clinics.

**Enforcement and Compliance**

Enforcement and compliance with the protocols is a responsibility shared by all clinical and laboratory faculty and staff. Clinical faculty is responsible for monitoring adequate infection control at all times. Daily evaluation of infection control and follow-up on compliance with the school’s regulations is performed for every treatment rendered. Reminders of specific aspects of infection control and risk management are placed in all clinical and laboratory areas. The Infection Control Committee, the Infection Control Coordinator and Compliance Officer conduct unannounced inspections in clinics and laboratories. These are done throughout the academic year at the undergraduate and graduate programs. Infractions must be corrected immediately. Course directors, faculty, and staff conducting educational programs at affiliated sites are responsible to comply with such established protocols. If a student is observed in non-compliance with the UPRSDM Infection and Risk Management protocols, he or she will be immediately informed, and may either receive a written report of the findings as a first warning or may be suspended from the clinic until actions are taken to correct the deficiency. This action will depend on the severity of the non-compliance event. Students may receive up to three warnings before being suspended from the clinic.

The UPRSDM Infection Control Committee Chairperson, the Clinic Module Coordinators, and the Assistant Dean for Clinical Affairs receive a copy of the citations or warnings. If non-compliance occurs in a laboratory or graduate programs, a written report is sent to the Infection Control Coordinator or the Assistant Dean for Clinical Affairs for immediate actions to enforce compliance. Failure to comply with the established protocols by employees may result in disciplinary actions. Non-compliance by students will reflect on their formative and summative evaluations affecting the trimestral evaluations and may result in loss of clinical privileges. Contingent with the severity of the infraction, students may be suspended from the clinics until they present evidence to the Infection Control Committee that they understand the importance of infection control policies and give assurance that they will comply with them.

**Immunizations (Hepatitis B)**

Students, faculty and clinical personnel are mandatory to be immunized against Hepatitis B (with seroconversion status verified); as well as other infectious diseases. The MSC as well as UPRSDM provide annual vaccination cycles to the academic community. The UPRSDM established a protocol on how to handle possible influenza cases. Consonant with the protocols, local and federal laws, any member of the academic community may decline to receive the Hepatitis B vaccination. A written Hepatitis B Vaccination Declination Form is signed and maintained at the Assistant Dean of Clinical Affairs Office. If that person subsequently decides to accept the vaccination, it will be offered.
Other Immunizations or Tests

Annual Influenza vaccination is strongly recommended. The MSC as well as UPRSDM provide annual vaccination cycles to the academic community. The UPRSDM established a protocol on how to handle possible influenza cases. Annual tuberculin tests are recommended for all members of the academic community. If any member is positive to the tuberculin test, a chest X-ray is required after medical evaluation. It is mandatory for every student to be tested for Tuberculosis before entering the UPRSDM. The UPRSDM also recommends vaccination with Measles, Mumps and Rubella, Tetanus booster, Varicella and Herpes zoster for those 50 years old or older.

Bloodborne Pathogen Exposure

The Infection Control and Risk Management Protocols include the Protocol for the Management of Injuries for accidents in which possible exposure to blood-borne pathogens may occur. It is enforced by the UPRSDM and the Infection Control Committee and followed by all members of the academic community. All accident and incident reports are kept at the Assistant Dean of Clinical Affairs Office and will be available on site. It is also reported to the Assistant Dean for Students Affairs Office.

Standard/Universal Precautions

All members of the academic community must always adhere to standard/universal precautions as established by all of UPRSDM protocols. These standard precautions are followed in all laboratories and clinics during patient care.

Hand Hygiene

Hand hygiene (hand washing, hand antisepsis, or surgical hand antisepsis), substantially reduces potential pathogens on the hands and is considered the single most critical measure for reducing the risk of disease transmission. Proper hand hygiene techniques must be done during patient care by all members of the academic community as well as in laboratory areas. (Refer to the Infection Control and Risk Management Protocols).

Workplace Controls and Housekeeping

Before, during and after patient treatment work practice controls consonant with standard precautions are required. Work practice controls include correct use of personal protective equipment, barrier protection, cabinet organization and maintenance, dental unit preparation and dental unit cleaning and disinfection before and after patient care as specified in the UPRSDM Infection Control and Risk Management Protocols. Students are responsible for keeping their work areas including the dental unit clean and disinfected. They are responsible for the cleaning and disinfection of all instruments and equipment.
Sterilization Protocols

Sterilization of instruments is done by clinical staff at the central sterilization area in the main clinic. All students are responsible for the cleaning and decontamination of their instruments. There is a separate room next to the central sterilization for the ultrasonic cleaning and packaging of instruments prior to sterilization. The graduate clinics also have an ultrasonic cleaning and packaging area, except the Oral and Maxillofacial Surgery and Orthodontics clinics that have their own sterilization areas. All sterilizers are biologically monitored at least once a week following CDC recommendations. If growth of bacterial spores occurs in any of the sterilizers, another test is done immediately to confirm the finding. If positive, the sterilizer is instantly removed until the problem is corrected. In order to ensure compliance with the proper sterilization of instruments, the Infection Control Committee monitors specific steps to assure sterility that includes the dates when sterilization occurred and the new bar code system for instrument cassettes. A new bar code system for instrument cassettes is being introduced as a pilot program to ensure sterility. This new bar code system incorporated in the electronic health record is another tool that assures sterility at the clinic modules prior to patient treatment. (Autoclave Testing Results a will be available on site).

Disposal of Biohazardous Waste

The UPRSDM has specific protocols for the handling and disposing of waste. Biomedical and hazardous waste is handled at the UPRSDM following local and federal laws. (SD 5.8.1 Infection Control & Risk Management Protocols, Hazardous Waste Control Policy, Page 96). Waste is divided into three categories: regular, biomedical (infectious), and hazardous.

Regular non-contaminated waste from all the laboratories and clinics is placed in regular waste covered trash containers identified for that purpose with a clear plastic bag. This non-contaminated waste is disposed in the normal waste stream by the MSC maintenance personnel.

Biomedical (infectious) waste is discarded in red, impervious plastic bags with the biohazard sign in designated red biohazard labeled containers. Students have small red biohazard bags at their work areas where they deposit the contaminated waste. These are disposed at the end of the clinical session in the big red plastic bag containers located at all clinics and laboratories. Sharps containers labeled with the biohazard sign are also available in all the clinics and laboratories where sharps are handled. Both biomedical waste and sharps containers are collected and disposed of by a private company according to federal and local laws.

Specific satellite areas, where the hazardous waste is located for the private company to dispose are located and identified for that purpose in all the clinics and laboratories where hazardous waste is generated. A dental assistant or staff member is responsible for the cleanliness, proper recording of the information and disposal forms in each of the areas. The Infection Control Compliance Officer (ICCO) is responsible for the inspection of these “satellite areas” and for the generation of the forms required for the hazardous waste final disposal. If non-compliance is observed with the proper handling of hazardous waste, immediate action is taken by the ICCO to address the issue (Sample Monitoring Report Form will be available on site). Hazardous waste is collected as soon as the UPRSDM generates the order to the MSC Office of Radiological and Hazardous Waste
Management. The hazardous waste is then disposed following federal and local laws. Safety Data Sheets are available at all clinics and laboratories. *(Safety Data Sheet will be available on site).*

The logs containing the information regarding the collection of biomedical and hazardous waste are maintained by the Office of the Assistant Dean for Clinical Affairs and will be available on site. Assessment measures of infection control and safety include infection control inspection reports, safety evaluations, annual infection control and risk management trainings, accident reports, sterility assurance logs, and biological monitoring for sterility and quality assurance (SD 5.8.2 Infection Control Efforts Table).

**Supportive Documentation**

SD 5-8.1 Infection Control & Risk Management Protocols  
SD 5-8.2 Infection Control Efforts Table  
- Autoclave Testing Result (Available on site)  
- Sample Monitoring Report (Available on site)  
- Safety Data Sheet (Available on site)

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**5-9 The school’s policies must ensure that the confidentiality of information pertaining to the health status of each patient is strictly maintained.**

The UPRSDM is in compliance with this standard.

The UPRSDM has written policies regarding patients' health status information and its confidentiality following patient privacy regulations. These are included in the Clinic Manual, in the patient’s Note of Privacy Practices, and the Confidentiality Agreement forms. The Patient Privacy Practices Notification is written document included in the electronic health record. It is available in Spanish and English. Patients are informed about this document and asked to sign it as evidence of the information received. If the patient refuses to accept the policy, his/her signature is asked as evidence as well. A copy of this signed document is printed upon request (SD 5-9.1 Privacy Notification).

Data entry personnel are instructed to corroborate the patient’s identity whenever possible with a photo ID and to obtain a photo ID or affidavit from parents or legal guardians of underage patients. They are also instructed not to enter any information on the patient’s identity and new clinical records information unless the patient privacy consent forms are signed by the patient or his/her legal guardian. Patients paper records, are securely stored so that only authorized persons can access them. No unauthorized copies of any part of a patient record or form are permitted. Patients or legal guardians requiring copies of their records must go in person to the Office of the Assistant Dean for Clinical Affairs to fill out the appropriate request form.
Patient Confidentiality

The UPRSDM strives daily to keep the trust of the community and maintain the confidence of each patient by maintaining the highest regards to patient confidentiality. Each faculty, students, and staff are trained regarding the confidentiality of information that pertains to the patients’ health status and treatment. New faculty members, researchers, and students are instructed to comply with the HIPAA regulations through exposition of training in IRB meetings and seminars, new faculty orientations, and clinic orientation week for students and residents. All researchers at the School of Dental Medicine are instructed by the IRB Office of the Medical Sciences Campus on HIPAA regulations regarding research and patients’ confidentiality. Each department is responsible for the identification of new employees and their training. HIPAA training is offered by the HIPAA Compliance Officer or the IRB Office of the MSC.

Training on HIPAA and PHI

Training for faculty, students, and staff regarding the use and disclosure of protected HIPAA awareness training is currently being provided through the Assistant Dean for Clinical Affairs Office. Students, faculty, and staff are instructed on all the privacy forms, voice and noise control, and the proper use of confidential information. The General Clinic doors have controls that limits non-patients into treatment areas. Patients related information from the EHR are printed in a secured printer. Protected health information is disposed by an assigned staff. For intraoral photos, the students request intraoral cameras kept in sterilizing room. Personal devices are not allowed for these purposes. They also receive an electronic health record training that includes the discussion of the responsibility to preserve and protect confidential patient information and a signature of a confidentiality agreement required. (SD 5-9.2 Confidentiality Agreement).

Center for Informatics and Educational Resources

The UPRSDM provides all its students and faculty with technological services through its Center for Informatics and Educational Resources (CIRE), a unit that is attached to the Office of the Dean of our School. CIRE is responsible for coordinating and integrating all aspects of information systems, communication infrastructure, educational resources, training and distance education, following the Institutional Policies of Information Technologies. CIRE provides all the technological infrastructure that directly provides services to teaching and students of the academic programs, clinic and residences of the School.

Electronic Health Record

The UPRSDM uses axiUm as our Electronic Health Record (EHR). axiUm is a dental software that is HIPAA-compliant, ONC-ATCB certified system that includes electronic health record (EHR), billing and practice management applications. For the confidentiality of the patient, axiUm allow multiple user levels and roles to be set up to control access to information. AxiUm’s unique security features, such as user access, field level auditing and encryption, help to keep our patient data secure. Additional security features are in place to extend the security of our patient information. To access any computer of our network, we use Microsoft Active Directory service on our Windows Server Infrastructure. This service manages permissions and access to networked
resources. Every user in the UPRSDM requires a Username and Password to access computers in our network. Also, we restrict the installation of software in any of these devices. As another step to provide confidentiality for the patient information, we enable Group Policies in Active Directory. This component provide flexibility and support extensive configuration information. One of those group policies in place is that when a computer reaches 10 minutes of inactivity, it will lock down the computer and the user will need to put his/her credentials, to gain access to the device again.

**Business Associate Agreements (BAA)**

The UPRSDM use the services of external laboratories for fixed and removable prostheses cases of our students. To guarantee the confidentiality of the information related to each patient, each laboratory must sign the Confidentiality Business Associate Agreement. This agreement is maintained at the Assistant Dean of Clinical Affairs Office and will be available on site.

**Supportive Documentation**

SD 5-9.1 Privacy Notification
SD 5-9.2 Confidentiality Agreement
STANDARD 6-RESEARCH PROGRAM

6-1 Research, the process of scientific inquiry involved in the development and dissemination of new knowledge, must be an integral component of the purpose/mission, goals and objectives of the dental school.

The UPRSDM is in compliance with this standard.

Research is integral to the UPRSDM purpose as stated in its Mission:

“The School of Dental Medicine of the UPR is a proactive institution of higher education for the formation of dentists of the highest quality, who are sensitive to the needs of their patients and are oriented to comprehensive service to the people of Puerto Rico and the global community, with a Doctor of Dental Medicine program, supplemented by various post-doctoral offerings and an innovative Continuing Education program. The institution is a leader in research on inequalities in oral and systemic health, fostering critical thinking, intellectual curiosity, and commitment to the needs of people. Interprofessional practice, the integration of the technology in creative endeavors, and the construction of new scientific knowledge regarding the determinants of oral health are a part of a continuing, inclusive, rigorous, respectful, collaborative, and sustainable process”. (SD 1-1.1A UPRSDM Mission and Goals Statement).

In alignment with the Strategic Objectives of the UPR Medical Sciences Campus, the Strategic Plan of the SDM for 2017-2022 defines research as one of the priority areas with three strategic objectives:

1. To promote a research culture among the faculty and students of the SDM.
2. To improve health through the development of new knowledge using quantitative, qualitative and mixed methods research.
3. To promote the UPRSDM as a leader in medical research in the Caribbean and worldwide.

As part of its mission, the UPRSDM fosters the search of scientific knowledge and the improvement of the practice of the profession through research in dental and craniofacial sciences. In the past 20 years the SDM has developed into a research-intensive academic institution and leader in dental research for the Caribbean and Latin America conducting research on prevailing health conditions in Puerto Rico and world-wide, such as dental caries, periodontal disease, craniofacial disorders, cancer, infectious diseases (Zika), and cardiometabolic diseases. The SDM is one of the best-funded schools of the UPR system, with more than $ 7,000,000 in NIH research grants alone in the last five years and an endowment fund of 17 million dollars (Institutional Research (Appendix A, Table 16).

The number of publications by UPR faculty has more than doubled compared to the previous accreditation period, and it is almost 10-fold higher compared to what it was 20 years ago (Exhibit 6.2). Currently the Office of the Assistant Dean of Research of the SDM counts with six PhD-level researchers and several master’s level dentists, physicians and epidemiologists/statisticians who conduct NIH-funded clinical and translational studies focused on eliminating health disparities in five main Research Centers and Cores (Exhibit 6.3). Through these Research Centers and Cores the SDM has carried out important translational, population-based and prevalence...
studies, which have impacted public policy on in Puerto Rico. Some examples include the recent Law 69 that mandates oral exams for children as a requirement for entry to public schools, the Law 40, which prevents smoking in public spaces, and amendments to the government health insurance program (GVI).

After Hurricane Maria the SDM received two NIH grants to conduct time-sensitive research related to the impact of this natural disaster on patients with chronic conditions, and on the epigenetics/microbiome of babies that were prenatally exposed to the hurricane (Exhibit 6.1). In 2018 the SDM established the first Caribbean Dental Biorepository (CariDen), which is a valuable source of oral tissue samples linked to patients’ dental records for research. The UPRSDM has been taking the lead in the establishment of important oral health alliances in Puerto Rico, the Caribbean and world-wide, such as the Caribbean Oral Health Initiative (COHI), the Puerto Rico Health Alliance, and the Caribbean Section of the IADR. The mission of these alliances is to bring together academic organizations, local governments and industry in order to thoroughly assess and address the oral health disparities in the Caribbean and world-wide. The Assistant Dean for Research in the SDM and founder of COHI received an award for Significant Experiences in Health Promotion in the Region of the Americas from the Pan American Health Organization (PAHO) in 2018.
### Exhibit 6.1 NIH-funded research projects by UPRSDM faculty in the last 5 years

<table>
<thead>
<tr>
<th>Grant #</th>
<th>Title</th>
<th>PD/PI</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>1S21MD001830</td>
<td>Capacity Advancement in Research Infrastructure (ENDOWMENT SDM)</td>
<td>Elias, Augusto R.</td>
<td>640,000</td>
<td>640,000</td>
<td>431,670</td>
<td>344,923</td>
<td>351,643</td>
</tr>
<tr>
<td>5U01HD072834-02</td>
<td>Pregnancy and early lifestyle improvement study</td>
<td>Joshipura, Kaumudi J</td>
<td>714,851</td>
<td>723,267</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1R01DE020111-01 (MPI)</td>
<td>Periodontitis and pre-clinical diabetes</td>
<td>Joshipura, Kaumudi J</td>
<td></td>
<td></td>
<td></td>
<td>127,920</td>
<td></td>
</tr>
<tr>
<td>1K99DE024571-01</td>
<td>Genetic and Environmental Risks for Oral Clefts in Puerto Rican Hispanics</td>
<td>Buxo, Carmen J.</td>
<td></td>
<td></td>
<td></td>
<td>126,994</td>
<td></td>
</tr>
<tr>
<td>1R21DE027235-01</td>
<td>Dental and craniofacial defects of intrauterine ZIKA infection</td>
<td>Campos, Maribel</td>
<td>251,882</td>
<td>148,860</td>
<td>112,719</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1R21MD013666</td>
<td>Changes Risk Resilience for Non-Communicable Disease After Hurricaine Irma and Maria</td>
<td>Kaumudi, Joshipura J.</td>
<td>300,000</td>
<td></td>
<td></td>
<td>112,500</td>
<td></td>
</tr>
<tr>
<td>1R21MD013652-01 (MPI)</td>
<td>Epigenetic and microbial profiles related to Hurricane Maria prenatal stressors</td>
<td>Morou-Bermudez, Evangelia; Buxo, Carmen J.; Martinez, Karen</td>
<td></td>
<td>230,789</td>
<td>315,822</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4R00DE024571-03, 1K99DE024571</td>
<td>Genetic and Environmental Risks for Oral Clefts in Puerto Rican Hispanics</td>
<td>Buxo, Carmen J.</td>
<td></td>
<td>248,996</td>
<td>398,939</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R01DE028195</td>
<td>Oral Microbiome, Nitric oxide Metabolism, and Oral and Cardiometabolic Health</td>
<td>Joshipura, Kaumudi J; Morou-Bermudez Evangelia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>601,439</td>
</tr>
</tbody>
</table>
The SDM organizes and oversees research activities through the Office of the **Assistant Dean for Research (OADR)**. The OADR was established in 2002 to foster and promote a research culture within the UPRSDM; its Director and founder was named Assistant Dean for Research in 2002 and he is also the PI of the UPRSDM NIH-Endowment Fund (“Capacity Advancement in Research Infrastructure: School of Dental Medicine, University of Puerto Rico”), which supports research activities by the SDM faculty and students.

In 2018, the Associate Deanship for Research of the UPR Medical Sciences Campus was established. The SDM Research Committee presided by the Assistant Dean of Research provides continuous oversight of the research activities in the OADR. The Assistant Dean for Research represents the OADR in the Dean’s Staff and Faculty Meetings ensuring the integration of the SDM research activities with the clinical and academic activities of the UPRSDM. The **Mission** of the OADR is to “promote collaborative and scientifically meritorious research and scholarly activities among faculty and students at UPR School of Dental Medicine to impact health and eliminate health inequalities. The **Vision** of OADR is “to be a nucleus for interdisciplinary research with community participation that impact health policies and curriculum to improve health and eliminate health inequalities in Puerto Rico and the Caribbean”.

The specific goals of the OADR are:

1. Develop research programs and projects directed to improve health and eliminate health inequalities.
2. Promote research and scholarly activities among students and faculty to augment their academic, clinical and research skills.
3. Establish a pipeline to prepare future trained researchers and faculty members.
4. Secure funds to promote and enhance research and scholarly activities.
The OADR consists of four core elements (SD 6-2.2 List of Trainings in Research):

1. **Research Centers and Cores** geared to address Health Inequalities in Puerto Rico, mainland US, the Caribbean and Worldwide:
   
   a. The **Center for Clinical Research and Health Promotion** (CCRHP), is the primary research center in the UPRSDM. It focuses on oral-systemic links such as the association of periodontal diseases with cardiovascular disease and diabetes. The CCRHP aims on health promotion, through finding, evaluating and promoting preventive measures that are cost-saving, free or low-cost, and can be adopted widely and globally. The Director of CCRHP is the Endowed Chair of the UPRSDM Endowment Grant (“Capacity Advancement in Research Infrastructure: School of Dental Medicine, University of Puerto Rico”).

   b. The **Dental and Craniofacial Genomic Core** (DCGC) conducts research on the genetics and epidemiology of craniofacial disorders (cleft lip/palate). The first **Caribbean Dental Biorepository (CariDen)** was developed by the DCGC in 2018. This is a general saliva, teeth, oral tissue, and DNA biorepository for use by the faculty,
students, and researchers at the UPRSDM and external research/health institutions. We must clarify that it is in progress or under construction.

c. The **Oral Microbiology and Caries Control Core** (OMCCC) is primarily focused in research related to the biology and the prevention of dental caries in children. The COMCC also studies the oral microbiome in relation to oral and systemic health. The COMCC includes the Oral Biology Laboratory, which has the necessary equipment for initial processing of clinical samples and basic biochemical and microbiological procedures.

d. **Research and Equity Analysis Unit (REAU)** (*Unidad de Investigación y Análisis para la Equidad* (UIAE)). The purpose of the Research and Equity Analysis Unit is to promote, and conduct research oriented to reduce the oral and related health disparities in Puerto Rico through collaborative interdisciplinary efforts and action on the social determinants of health. The long term objectives are: a) to generate knowledge that can be useful to increase access to effective and efficient oral and general health care; b) to improve oral health workforce education and practice; and c) to develop oral and general health policies, regulations and interventions that pursue equitable results. The unit will achieve these objectives through strategies directed in three action areas: disease/disability prevention, health care and public policy.

e. **Corporate Research Core** (CRC), which conducts corporate-sponsored clinical trials but also epidemiological and prevalence studies in PR, the Caribbean, and Latin America.

2. **Academic and Research Programs and Pipeline.** This includes Research Courses and Programs for Pre- and Post-doctoral dental students and faculty, described in detail in Standards 6.2 and 6.3. The OADR offers and supports diverse research activities at different educational levels, from high school through post-doctoral training and faculty. These programs constitute the SDM’s pipeline for the development of future researchers and faculty.

3. **The Biostatistics and Epidemiology Core** provides support in study design and data analysis to research projects by dental school students and faculty. Personnel serving in this core consist of master’s and PhD-level statisticians, one PhD in Epidemiology and a research assistant. These professionals advise and train faculty and students in study design and methods to conduct scientifically meritorious research.

4. **Supporting Programs Core,** which includes:

   a. The Oral Cancer Control Program with emphasis on studying the factors that affect the delayed detection in PR.
   b. A standardization and calibration program in dental caries (NIDCR, ICDAS), gingivitis.
   c. The dental clinical research facility
   d. The dental materials lab
Information regarding research productivity and activities is collected annually as part of the Annual Report of the UPRSDM as part of the school’s continuous outcomes assessment process described in Standard 1-2, includes assessment of research outcomes according to the Strategic Plan Goals up to 2017; Appendix A, Table 2 Outcomes Assessment (Available on Site) includes preliminary assessment of a subset of these indicators for 2017-2018 according to the new Strategic Plan of 2017-2022.

The Research Committee chaired by the Assistant Dean for Research evaluate periodically these Indicators and makes recommendations to the Dean and Staff of the SDM. The Research Committee evaluates the goals and objectives of the OADR in order to achieve its mission and vision. Annual modifications are implemented to address the recommendations of the committee, which evaluates the strengths, weaknesses, external and internal threats, and opportunities to involve the faculty in research projects, continuing education training in research, and opportunities to complement the students’ educational activities. As a result of this continuous evaluation process several changes and improvements have been made for the OADR to reach its goals during the 2013-2019 period:

a. Three new Research Cores were established (Dental and Craniofacial Genomic Core, Oral Microbiology and Caries Control Core and the Research and Equity Analysis Unit to promote the research in Oral Health disparities as described in the previous section. Two novel transdisciplinary research projects to confront oral health inequalities are being developed to study interpersonal violence as a determinant of craniofacial fractures at the Trauma Hospital and the social determinants of food insecurity among households in a southern town of the island.

b. The academic research component of the DMD curriculum was expanded and updated as described in the following section. Research courses now begin earlier, as early as the first year, and evidence-based principles and activities are incorporated into the clinical activities.

c. Short presentations by research faculty regarding their ongoing projects and recent accomplishments, as well as other important research issues (i.e. IRB regulations) are included in the monthly Faculty meetings.

d. Several research training courses (i.e. ICDAS calibrations, systematic reviews) have been presented to the Faculty as described in Standard 6.2.

e. In addition to existing collaborations with the University of Rochester and the University Iowa, undergraduate dental students have been sponsored to attend summer research programs at the University of Iowa and to NIDCR.

f. The ADEA Academic Dental Careers Fellowship Program (ADCFP) was implemented in 2016 to enhance the involvement of undergraduate students and Faculty in Education research.
g. **CariDen**, the first saliva and oral tissue biorepository in the Caribbean was established in 2018 in order to provide SDM researchers a valuable source of samples and linked clinical data for oral and on systematic health studies.

h. The establishment of the **Smiles for Puerto Rico Program**, a school-based caries prevention program in the community of Coamo, which fosters an alliance between community, dentists, academia and government to improve the oral health of children in public schools in PR.

i. The UPRSDM based Puerto Rico Chapter of AADR organized the first symposium on Oral Health Disparities among Children in the Caribbean Region within the 2017 Annual Meeting of the IADR. The symposium was sponsored by the Cariology Group of the IADR and by COHI and it included researchers from Puerto Rico, Trinidad and Tobago and the Dominican Republic who brought for the first time the attention of the international dental research community to the oral health status and inequalities of children in the Caribbean region. For the 2020 Annual IADR meeting the Puerto Rico AADR Chapter has submitted a proposal for a symposium titled: **“Oral Health Outcomes of Hurricane Maria Prenatal Stressors: Project HELiOS”**, which has received sponsorship from four different IADR research groups.

j. As part of our commitment to addressing issues of health inequalities, our representative in the Medical Sciences Campus Research and Education Forum presented a proposal for an institutional Justice in Health Award which is now an annual activity at the MSC.

Through its **Academic Programs and Pipeline Core** the OADR coordinates all Research Courses and Programs for Pre- and Post-doctoral dental students and faculty, as described in detail in Standards 6-2 and 6-3. The OADR offers and supports diverse research activities at different educational levels, from high school through post-doctoral training. These programs constitute the SDM’s **Research Pipeline** for the development of future dental researchers and faculty. As described in detail in Standard 2-22 formal research courses and activities are an essential component of the undergraduate curriculum as early as the first year and throughout the four years, including the comprehensive care clinics.

Examples of research-driven changes in the curriculum and clinical training which were spearheaded by the OADR include:

a. A new research course (**DESP 7100 “Introduction to Research in Dental Medicine”**) was added in the 1st year of the pre-doctoral curriculum in 2017 so that the students can be introduced to basic principles of epidemiology, statistics, and evidence-based medicine /systematic review at an early stage in the curriculum.

b. The existing course **DESP 7237 “Evaluation of Scientific Literature and Epidemiology”**, offered in the 3rd year was reinforced with principles of evidence-based dentistry.

c. A systematic review component was added in the 4th year portfolio (**“Comprehensive Care Clinic” (PRET 7400)** which promotes the integration of research principles and evidence-based dentistry in the clinical management of patients. The students and their clinical
module coordinators participate in this activity as a group under the direction of a research faculty member.

d. The UPRSDM has participated in the development of consensus curriculum for the teaching of Cariology and Periodontics in the Dental Schools in Caribbean and South American countries. As a result of this process the topic of social determinants of health was introduced to the Cariology course (PRET 7106), in the Introductory Course in research (PRET 7100), in the research elective course (DESP 7411), and in various aspects of the pre-doctoral and post-doctoral curriculum. These topics are taught by the research faculty of the newly established OADR Research and Equity Analysis Unit.

e. Risk assessment instruments for dental caries, periodontal disease and oral cancer were introduced in the undergraduate comprehensive care clinic.

f. The treatment codes for dental caries in the new electronic record system were revised to include codes for early lesions in order to promote early caries detection and control.

g. In April of 2019, the OADR organized a full-day forum in the RCM with the purpose of presenting, discussing, and implementing new concepts and paradigms in the control of dental caries.

Supportive Documentation

SD 1-1.1A UPRSDM Mission and Goals Statement
SD 6-1.1 Research Goals and Outcomes with Assessment (2017-2018)
- Example of Approach to Outcomes Assessment (Appendix A, Table 2), (Available on site)

6-2 The dental school faculty, as appropriate to meet the school’s purpose/mission, goals and objectives engage in research or other forms of scholarly activity and provide opportunities for students to participate.

The UPRSDM is in compliance with this standard.

Research productivity is evaluated as part of the ongoing annual faculty evaluation process. Faculty members who dedicate time for research are evaluated on this component at the time of evaluation for promotion in academic rank. The criteria for this evaluation are developed by the Deanship for Academic Affairs and include evaluation on the following items: publications in peer-reviewed journals of high impact (with citations by other authors), awards for research activities, obtained funding, integration of the research in classroom, mentorship of students (thesis, presentations, publications by students), as well as creation and administration of research centers. The criteria used for evaluation of the faculty research activities is included in the SD 6-2.1 Faculty Evaluation Form. The weight of the research component in the faculty evaluations depends on the type of the faculty appointment and the FTE they dedicate in research.
Since July 2012, UPRSDM faculty authored 77 publications, including 75 manuscripts in peer reviewed journals and 2 books (SD 6-2.4 List of Peer-Reviewed Articles). During the same period, faculty and student research was presented in PR, national, and international conferences, by 130 presentations (60 in local conferences, and 70 in the U.S. or international), see SD 6-2.6 List of Presentations for the complete list of abstracts. This corresponds to a 100% increase compared to the previous accreditation period (Exhibit 6.1).

Clinical faculty who are interested in engaging in research work on individual basis with mentors who are part of the OADR or other researchers at more advanced stages of research career. The OADR counts with a group of Epidemiologists and Statisticians who guide the researchers through study design, data collection and analysis, as well as content experts in Cariology, Microbiology, Social determinants, among other fields.

Faculty have the opportunity to enroll in formal research education and mentorship programs, such as UPRMSC Postdoctoral Master’s program in Clinical Research (as well as phase 2 and 3 of the same program) and Master’s degree program in Dental Science (MSD) which help them identify their mentors through the corresponding programs and departments. The MSD program is available to faculty who previously graduated from clinical residency program with a certificate in Pediatric Dentistry, Prosthodontics or Oral and Maxillofacial Surgery. During this reporting period, a faculty member who had previously obtained a certificate in Pediatric Dentistry (1995), completed a semester course in proposal preparation and statistics (PDOC 9102), her master’s thesis (PDOC 9000), and obtained the MSD degree in 2015.

Faculty enrolled in trainings and workshops that require an outcome of submitted (or ready-to-submit) grant proposals or manuscripts (such as grant writing seminars) actively engage with OADR faculty, as well as with faculty from outside the UPR system with mentorship and guidance requests. In addition, UPRSDM faculty who are enrolled in the University of Pittsburg online courses in Patient-Centered Outcomes Research (PCOR) (Writing a Successful Concept Proposal, part I and II) and Fellowship Program identify and work with their research mentors through the Expanding National Capacity in PCOR through Training Program (ENACT). During this reporting period, two UPRSDM faculty have completed this online training program and prepared a research proposal under the mentorship of faculty from the University of Pittsburg, the UPRSDM and other institutions. One of these was later accepted in the ENACT fellowship program (2017) and prepared a PCOR grant application under the mentorship of the ENACT faculty.

One of the research faculty members is in the dissertation stage of her DrPH in Public Health with a Specialty on Social Determinants of Health. This academic degree is unique in Puerto Rico and elsewhere. She also completed the first 6 month- Bootcamp Proposal Development Workshop by the Clinical and Translational Research Consortium at the Medical Sciences Campus; as the result of this intensive training she developed and submitted an R-21 grant proposal. Two faculty members received a certificate for a training in Community-Based Participatory Research with expert Dr. Nina Wallerstein.

UPRSDM predoctoral dental students who are interested in pursuing an academic career have an opportunity to conduct a mentored research project under the American Dental Education Association (ADEA) fellowship program. During this process, students choose a clinical faculty
member as their mentor. The student and their clinical faculty mentors are additionally assigned a research faculty and they additionally receive epidemiological and statistical guidance and support from the Biostatistics and Epidemiology Core.

UPRSDM faculty has access to the “Interdisciplinary Research Leaders program”, funded by Robert Wood Johnson Foundation, which provides mentorship opportunities to faculty. One of our research faculty members has been one of the beneficiaries of this program since 2016.

**Financial support**

Faculty and student research-related activities are supported by funds allocated from the Capacity Advancement in Research Infrastructure Endowment Fund (S21) and indirect funds assigned to the OADR. These funds are used to cover personnel costs (e.g., bridging funds), as well as faculty and student travel to scientific conferences and meetings, participation in trainings, posters. In addition, these funding sources may cover expenses related to research projects, such as research equipment, materials and computers. OADR and endowment funding is used to invite 1-2 experts in the field to participate in research forums every year.

In addition to the SDM Endowment Fund, the UPR provides Institutional Research funds to developing researchers from the UPRSDM. One of our research faculty members received start-up funds of $300,000 between 2016-2017 to begin the R00 phase of her K99/R00 award. She also received UPR Institutional funds of $450,000 (2017-2020) for the development of the Oral Tissue Biorepository (CariDen). Additional financial support for developing investigators, such as pilot project funds and travel awards are available through the RCMI program, MBRS program, the PRCTRC and Post-doctoral master’s in clinical research of the MSC, as described in the last section of 6-2.

In additional to financial support for research activities, UPRSDM faculty receive important financial incentives for engaging successfully and productively in research activities. Faculty members who are granted external funds can receive compensations up to an amount equivalent to 100% of their salary in addition to their regular salary. Since its approval in June 27, 2008, Law 101 permits tax exemption on income paid to researchers working on competitive grants that fall within its specifications.

**Support related to writing and administering grants**

OADR faculty, including a team of Epidemiologists and Biostatisticians, are available to support the SDM researchers in the research design development and grant writing process. UPRSDM faculty also have an opportunity to participate in grant writing seminars (including workshops, with the expected outcome of a ready-to-submit grant proposal) through Puerto Rico Clinical and Translational Research Consortium (PRCTRC) Professional Development core. The PRCTRC Research Design and Biostatistics core also provides consultations and guidance in study design and data collection methods, including sample size calculation. The SDM employs three full-time administrators/accountants who actively work with faculty research grants.
Access to facilities

The main offices of the OADR and the CCRHP are located on the main floor of the Medical Sciences Campus building (141AE and A142). The 3,000 sq. ft. facility includes a dental clinic with two dental chairs, seven administrative and research faculty offices, a reception area and ample storage space. In addition, four research faculty offices are in the basement of the Medical Sciences building (BB32 and BB34). The Research and Equity Unit (directed by Prof. Gloria Nazario) also has a dedicated office space in the UPRSDM (A105). The OADR and the CCRHP offices are equipped with computer terminals connected to the Medical Sciences Campus’ mainframe and statistical software. There are four portable dental chairs and state-of-the-art technology for dental caries detection, including Quantitative Light Induced Fluorescence (QLF) and Fiber Optic Trans Illumination (FOTI), and near infrared transillumination (Dexis Carivu).

Oral Microbiology and Caries Control Center

A 750 sq. ft. Oral Biology laboratory is part of this center. The laboratory is located on the first floor, adjacent to the clinical area (B136C). It is equipped with a refrigerated centrifuge, micro centrifuges, water bath, CO₂ incubator, pH meter, -20°C freezer, analytical balance, Beckman spectrophotometer, electrophoresis chamber with a power supply, and a chemical hood, among other resources. The oral biology laboratory also employs a full-time laboratory technician. The laboratory provides laboratory support for faculty and student research projects related to oral microbiology and oral biology, and to the Cariology course (PRET 7106).

The Dental and Craniofacial Genomics Center (DCGC) of UPRSDM is supported by grants from National Institutes of Health (NIH) (K99DE024571, S21MD001830, R37DE008559) and it provides infrastructure and support for craniofacial research. It has state-of-the-art equipment to perform 3D imaging for the purpose of documenting craniofacial anatomical alterations, such as 3D facial imaging, lip ultrasound, nanometer, digital cameras and 6 desktop computers (3 iMac and 3 Lenovo) with up to 1 Terabyte of storage and connected to the UPRMSC secure and encrypted internet network. The personnel include 2 researchers, 2 research coordinators, 1 assistant and 1 interviewer.

The Center also provides health education information with videos and training for families. The DCGC contains an office space of 406 square feet at the UPRSDM (Office B-155) with a waiting, interview/exam room, researchers and staff cubicles, and locked cabinet record storage following HIPAA guidelines. Additional research space (2000 sq. ft.) has been assigned for DCGC at the School of Pharmacy. The DCGC is developing the first Caribbean Dental Biorepository (CariDen) in Puerto Rico with 800 square feet on the first floor (A-119) of the UPRSDM, adjacent to DCGC. This will be available in late 2019, as a general saliva, teeth, oral tissue, and DNA biorepository.

Samples will be frozen or stored for future use for faculty, students, and researchers/scientists at the UPRSDM and external research/health institutions. The CariDen Biorepository space will be shared with other researchers and will have the necessary equipment for specimen processing, storage and maintenance of samples and handling required. The DCGC also has support from the DR, as well as, availability of students and residents that benefit from their research projects.
Center for Informatics and Educational Resources

The School of Dental Medicine provides all its students and faculty with technological services through its Center for Informatics and Educational Resources (CIRE), a unit that is attached to the Office of the Dean of the School. CIRE is responsible for coordinating and integrating all aspects of information systems, communication infrastructure, educational resources, training and distance education. It offers its services through its four main units: Information Systems Unit, Electronic Health Record Unit, Distance Education and Training Unit and the Technical Support Unit.

CIRE provides all the technological infrastructure that directly provides services to teaching staff, non-teaching and students of the academic programs, clinic and residences of the School. In addition, it coordinates, plans and develops special projects for the strengthening of the academic-administrative processes and is in charge of managing, guarding and offering all the technical support of the School network, the School website, the Learning Management System (Blackboard), Jetro Cockpit Controller, Domain Backup and DNS Redundant Server, V-Center Server, Terminal Services, Xidexis, Courseval, Spiceworks, axiUm, Oracle, Dolphin Server, Citrix Server, among other services.

Among its main resources, CIRE offers direct support to 4 computer rooms (BB-52, BB-53, BB-48, BB37) that are used for the different courses, trainings or independent use of students. It offers direct services through its repair and help center (Helpdesk). The Server Center is in the Main Data Center of the Campus that is safeguarded by the Information System Office of the Medical Sciences Campus. They oversee the security of the network and the telecommunications. For the security, they use the Palo Alto Firewall.

Our Servers Center support teaching and other academic-administrative processes. This center has an infrastructure of forty-two (42) servers (physical and virtual) with different services for the entire academic community of the School of Dental Medicine which are: axiUm (EHR), Oracle DBM, Citrix, XenDesktop Delivery Controller, MS SQL Server, Storefront, Remote Desktop Services, DNS, Spiceworks, among others. In the future, the facilities of the computer lab called Technology Center will be expanded to become a Prometix center and offer DAT, ADAT, National Boards, among others, and be able to raise funds for the office.

Other facilities within the UPRMSC

Puerto Rico Clinical and Translational Research Consortium (PRCTRC)

This is a 14,000 square feet facility with eight examination rooms, two dental exam rooms equipped with dental chairs, two nurses’ stations, two procedure rooms, two infusion areas, one record room, pharmacy, core laboratory, and administrative areas. Support personnel include: one head nurse, two research nurses, one patient coordinator (patient contact and follow-up), one administrator, two administrative assistants, one Biostatistics/Epidemiology coordinator, one core lab manager at a Masters’ level, one medical technologist and one dental hygienist.
Center for Collaborative Research in Health Disparities (RCMI Program)

This includes five major research services in the Division of Research Resources: A Translational Proteomics Center, a Center for Translational Genomics, a Translational Neuroscience Program, an Infectious and Global Diseases Program, and a Center for Information Technologies and Telecommunications. The Collaboration and Partnerships Key Activity is also a component of this division. Other specialized laboratories and services which received RCMI support during previous cycles will be sustained using institutional funds and/or funds generated by charge-back systems.

RCMI-PRCTRC Bioanalytical Core Laboratory facility has the necessary equipment for the initial specimen processing and handling required for shipping to reference laboratories and for storage and maintenance at a sample repository. The full spectrum of services and instrumentation offered by the Bioanalytical Core Laboratory include: (1) clinical diagnostics - routine chemistry, specialized blood chemistry, hematology determinations, urinalysis; (2) molecular diagnostics instrumentation: Bio-Rad iCycler - Real time RT-PCR for mRNA quantification and gene copy number determinations, NanoDrop ND-1000 UV/Vis spectrophotometer, and DAKO Cymatation-Automated Immunohistochemistry Apparatus; (3) bacterial cell culture facilities: Class II hood and cell culture incubator; (4) neurological functional testing: Instrumentation for peripheral nerve function assays; and (5) Other services: processing of study samples such as centrifugation, preparation of smears, DNA extraction and storage, sample storage capability room temperature, 4°C, and -80°C; shipping of specimens at room temperature, refrigerated or frozen samples. A NanoDrop 1000 spectrophotometer, and a biological hood are available at Bioanalytical Core laboratory of the PRCTRC. All necessary instruments for the PCR analysis are available at the RCMI Molecular Genetics Core Lab, and in other core labs of the RCMI program.

Libraries

The UPRMSC Conrado F. Asenjo Library is the main health sciences library in Puerto Rico. It contains one of the most complete collections of its kind in the Caribbean. This library offers a full range of services to the UPRMSC students and faculty. It also serves practicing health professionals and the community at large. The library participates in a document delivery program as a resource library of the National Network of Libraries of Medicine of the National Library of Medicine (NLM). It is also member of the Consortium of Southern Biomedical Libraries (CONBLS). Through these programs, materials that are not available in the collection are obtained from other health sciences libraries using the ARIEL software for interlibrary loan transmittal. Also, there are collaborative agreements with the Veterans Administration Hospital Library, the UPR Río Piedras Campus Natural Sciences Library, and other units of the UPR library system. FAX and electronic transmittal of documents are also available. The collection comprises 44,097 book titles and 1,245 active journal subscriptions covering all the fields offered by the campus academic programs. Interdisciplinary in nature, the collection has been developed using selected lists of books and journals published in the health sciences, and through the active participation of faculty in the selection process. Non-print materials such as slides, films, cassettes, CD-ROMs, DVD’s and videocassettes programs are available at the Audiovisual Center, which provides equipment for individual and group viewing.
The Puerto Rico Health Sciences Journal (PRHSJ)

The Puerto Rico Health Sciences Journal (PRHSJ) is the scientific journal of the University of Puerto Rico Medical Sciences Campus. It was founded in 1982 as a vehicle for the publication of reports on scientific research conducted on-campus, Puerto Rico and abroad. All published work is original and peer reviewed. The PRHSJ is included in Index Medicus, MEDLINE, SCOPUS, Index Pharmacus, Science Citation Index Expanded (SciSearch®) and Journal Citation Reports/Science Edition. All papers are published both online and in hard copy. From its beginning, the PRHSJ is being published regularly four times a year. The scope of the journal includes a range of medical, dental, public health, pharmaceutical and biosocial sciences research. The journal publishes full-length articles, brief reports, special articles, reviews, editorials, case reports, clinical images, and letters arising from published material. The Journal’s editors are available to assist authors with editing.

Faculty development opportunities

SDM faculty had opportunities for professional development in research by participating in 16 workshops and trainings organized by the school during 2012-2018 (SD 6-2.2 List of Trainings in Research). SDM faculty has organized several continuing education courses and faculty workshops in ICDAS. In addition, since July 2012, various cores of PRCTRC have organized 191 trainings, seminars, workshops and symposia on various aspects of research, which were open to all UPRMSC faculty. The complete list of PRCTRC trainings is provided in SD 6-2.3 PRCTRC Professional Development Activities.

UPRSDM faculty members have an opportunity to participate in the Annual Summer Institute of Dental Clinical Research Methods training program at the University of Washington at Seattle, School of Public Health. Dr. Maria A. Loza has successfully completed this training program and obtained a certificate in 2011. In November of 2018, 6 SDM faculty members and 1 DrPH student attended an interactive workshop organized by American Dental Association Center for Evidence (“How to Conduct and Publish Systematic Reviews and Meta-Analyses: An Interactive Workshop”) on systematic reviews under the mentorship of faculty from the State University of New York at Buffalo and postdoctoral fellows from McMaster University.

SDM Faculty who are recipients of training grants (K-grants from NIH) received their trainings through the collaborating institutions, including the Forsyth Institute (“Periodontal training and calibration”), University of Melbourne (“Epigenetic control of gene expression”), University of Pennsylvania (“Introduction to bioinformatics”), the University of Pittsburgh (“Cariofacial Genotyping”), Johns Hopkins University (“Genomics”, online course) and its Genetics, Genomics, Omics, Jackson Laboratory (“56th Annual Short Course on Medical and Experimental Mammalian Genetics”), and the UPR/MD Anderson Comprehensive Cancer Center (“The Multiple Faces of Biobanking in Translational Research”, “Biobanking: a new science for translational research”) and completed online courses (“Introduction to Immunology”) through the Advance Learning Interactive Systems Online (ALISON).

Additional faculty development opportunities are available through several formal Institutional programs of the UPRMSC, such as the Post-doctoral Master’s in Clinical Research, the Center for
Collaborative Research in Health Disparities (RCMI Program), and the Minority Biomedical Research Support - Support of Continuous Research Excellence (MBRS-SCORE) Program as described in the last section of 6-2.

**Protected time for research.**

SDM clinical faculty can request up to 6 hours/week for research activities from the corresponding department chair. Between 2012 and 2018, 54 faculty members had protected time to contribute to research: 34 in 2012-2013 and 2013-2014; 31 faculty members in 2014-2015 and 2015-2016, 38 in 2016-2017, and 42 in 2017-2018. Four faculty members were recruited between 2012 and 2018 and dedicated 75% or more of their academic time to research. The full list of faculties who had protected time for research is included in SD 6-2.5 Research Faculty. In 2017-2018, 15 faculty members dedicated ≥50% of their academic time to research. During 2012-2019, three full-time and one part-time ad honorem faculty with specialties in Craniofacial Abnormalities, Biostatistics and Cariology were recruited with protected time for research.

**Master’s in Dental Science (MSD)**

This program is offered by the SDM Graduate Programs with the collaboration of the OADR and it is primarily offered to residents of the post-graduate programs of the UPRSDM; however, the program is available to SDM faculty. During this reporting period, Dr. Elaine Pagan, who had previously obtained a certificate in Pediatric Dentistry (1995), completed her master’s thesis and obtained the MSD degree in 2015.

**Post-Doctoral Master’s in Clinical Research**

The Post-Doctoral Master of Science in Clinical and Translational Research program is a joint academic offering between the School of Health Professions and the School of Medicine of the Medical Sciences Campus, University of Puerto Rico. The program started in 2001 with a NIH-Planning Grant and has been continuously partially funded by the National Institutes of Health (NIH) (2001-2022) through the Hispanic Clinical and Translational Research Education and Career Development (HCTRECD) Award (R25MD007607) from the National Institute on Minority Health and Health Disparities.

It offers a two-year multidisciplinary training program in clinical and translational research, integrating the didactic component (24 semester credits) with a mentor-based research experience (6 semester credits) to prepare independently funded and committed clinical translational researchers. The program’s mission is to promote the development of multidisciplinary clinical scientific teams working in collaboration toward the attainment of two common goals: improvement in quality of life and decreasing health disparities among Hispanics. The program is open to Faculty and Residents of the UPRMSC. Candidates within 7 years of their doctorate degree or 10 years from the end post-doctoral clinical training are also eligible for a NIH Fellowship to support their program. The program requires a minimum of 50%-time release in the first year and 75% in the second year.
Additional admission requirements can be found at the program’s website http://eps.rcm.upr.edu/post-doctoral-master-of-science-in-clinical-and-translational-research/. Second and third phases of support are available to successful students who want to pursue careers as independent investigators. One research faculty member and one teaching assistant completed the UPRMSC Postdoctoral Master’s program in Clinical Research in 2012 and 2017, respectively. The faculty member also completed the subsequent fellowship programs: phase 2 (2014-2016) and phase 3 (2016-2017) while the teaching assistants is currently pursuing a PhD degree. Another faculty member has completed all academic requirements for the master’s program and is currently in the thesis preparation stage.

Puerto Rico Clinical and Translational Research Consortium (PRCTRC)

The PRCTRC offers many resources for research faculty of the UPRMSC including establishing collaborations within and outside the RCM, research proposal/grant preparation, study implementation, statistical analysis and data management, scientific manuscript editing, etc. Through its pilot project the PRCTRC also offers funds for pilot projects on an annual competitive basis. A detailed description of the PRCTRC available resources is available at the center’s website https://prctrc.rcm.upr.edu/. Eight SDM faculty members and one postdoctoral student have received support from PRCTRC from 2012-todate for carrying-out NIH funded projects.

Center for Collaborative Research in Health Disparities (RCMI Program)

The mission of CCRHD is to contribute to the national infrastructure and the capacity for research in the health sciences by supporting basic, behavioral and clinical studies in health disparities that affect the Puerto Rican population. As previously described, this program offers many resources for researchers of the UPRMSC. The Investigator Development Core of this program goal has a pilot-project program (PPP) to nurture the growth of promising junior faculty within the UPRMSC by soliciting, reviewing, and awarding funds to innovative proposals that will lead to competitive independent funding.

The specific aims of the IDC are three-fold: 1) to mentor early career investigators as they transition to independent funding; 2) to fund innovative basic, behavioral and/or clinical pilot projects focusing on health disparities and/or minority health; 3) to match RCMI faculty with outside collaborators/mentors in order to strengthen collaborative networks. Two of the researchers from the Dental and Craniofacial Genomics Center received support from the CCRHD during this period in the form of pilot fund, and/or travel awards and also funds for the full projects (“Intervention to Promote Physical Activation and Improve Sleep and Feeding Practices in Infants for Preventing Obesity Early in Life-The Baby-Act Trial”).

The Minority Biomedical Research Support - Support of Continuous Research Excellence (MBRS-SCORE) Program and its sister MBRS RISE (Research Initiative for Scientific Enhancement) compose the MBRS Program on the Medical Sciences Campus. Both Programs are funded under the umbrella of the Minority Opportunities in Research Division (MORE) in the National Institute of General Medical Sciences (NIGMS) of the National Institutes of Health (NIH). MBRS SCORE Program awards support individual faculty members research endeavors and strengthens the institution's biomedical research capabilities thus providing opportunities for
student research and training. The sister MBRS RISE Program supports student and training endeavors and together the two MBRS Programs enrich the biomedical research environment on the Medical Sciences Campus. Additional information about this program is available at http://mbrs-score.rcm.upr.edu/abstract.html.

**Supportive Documentation**

SD 6-2.1 Faculty Evaluation Form  
SD 6-2.2 List of Trainings in Research  
SD 6-2.3 PRCTRC Professional Development Activities  
SD 6-2.4 List of Peer-Reviewed Articles  
SD 6-2.5 Research Faculty  
SD 6-2.6 List of Presentations  
- Institutional Research (Appendix A, Table 16)  
- Faculty Research Information (Appendix A, Table 17)

6-3 Dental education programs must provide opportunities, encourage, and support student participation in research and other scholarly activities mentored by faculty.

The UPRSDM is in compliance with this standard.

The OADR provides students at all levels, from high school to post-doctoral dental residents and fellows, with opportunities for involvement in biomedical, translational, educational, epidemiologic, and clinical research. The Academic Research Program of the OADR provides research courses throughout the pre-doctoral and post-doctoral curriculum and a Master’s in Dental Science (MSD) program (Exhibit 6.1). These activities are in agreement with the mission of the Institution. The dental education program introduces students to the fundamentals of research.

The school offers pre-doctoral research courses in the 1st, 3rd, and 4th Year. First year students must enroll in a research introductory course. Third Year students are required to enroll in an evidence-based introductory course and 4th Year students are required to conduct a systematic review (research-integrated portfolio). An elective research course is offered to 4th Year students.

**Pre-Doctoral Research Courses**

*DESP 7100 Introduction to Research in Dental Medicine*

This course is offered during the first year. It is geared to Dental Medicine Students. Its purpose is to provide an introduction to the concepts and theoretical background of research in Dental Medicine. Students will apprehend basic research concepts needed to interpret scientific literature. The course topics include: Basic Epidemiology and Biostatistics, Research Design, Evidence Based Dentistry, Systematic Review of Literature, and ethics in research, including IRB regulations.
**DESP 7237 Evaluation of Scientific Literature and Epidemiology**

This course is offered during the third trimester of the second year. Its purpose is to help dental students develop the basic skills necessary to interpret scientific literature. The course topics are presented in three units: Research Design, Biostatistics, and Epidemiology. Students are grouped according to a research question they formulate for which they review the literature and prepare a PowerPoint presentation for SDM researchers and other students attending the course.

**PRET 7400 Comprehensive Dental Clinic (Systematic Review-Portfolio)**

This course provides dental students the opportunity to incorporate evidence-based strategies into the clinical management of their patients in their senior year. As part of this course the students of each clinic module conduct and present a systematic review as a group, based on a PICO question selected and formed by the group. The final report is presented during the students’ final case presentations and forms part of each student’s portfolio.

**DESP 7411 Research Experience in Dentistry**

Senior and junior students can enroll in this elective course designed to develop knowledge and skills in research methods through active participation in ongoing research activities under the supervision of a mentor. Students are required to present their work as an oral and/or poster presentation in a research forum in Puerto Rico or abroad. Students who attend summer research programs abroad receive credits in this course as well.

Student research is an essential and highly valued activity at the University of Puerto Rico School of Dental Medicine. There are numerous opportunities for students to become engaged in research across a variety of disciplines. The school provides research opportunities for undergraduate and graduate students. In addition, it offers mentoring to college and high school students at who are pursuing research projects interested in oral and systemic research. The information about opportunities for engaging in research is offered through the school webpage, institutional electronic mail, and student meetings.

The UPRSDM Student Research Group which belongs to of the Southeast B region of the AADR National Student Research Group plays an important role in promoting the available research opportunities and research culture among the dental students. The faculty of the OADR coordinates and offers courses and mentorship to undergraduate, doctoral, and post-doctoral students.

**Predoctoral Level (DMD) Students**

The OADR provides dental students with several opportunities to be involved in research activities throughout the four years of dental school.
Summer Research Programs

The summer research program is an experience for first- and third-year dental students, conducted in Puerto Rico and abroad for a period of 6 to 10 weeks. Students receive elective credit towards graduation. Participating institutions include the University of Iowa, Rochester, the University of Minnesota, National Institute of Craniofacial Research (NIDCR) and MD Anderson University of Texas. The program is sponsored by the SDM Endowment fund (S21). Participating students receive a stipend and funds to cover travel and lodging expenses. Upon completion of this summer research experience, students are required to prepare an abstract for a poster or oral presentation at the AADR, UPRMSC Research and Education Forum, local ASDA meeting, and the Puerto Rico Dental Society Annual Meeting. The student who wins the first prize at the local ASDA research competition receives a travel award to represent the UPRSDM in the annual Student Clinician Research Program sponsored by Dentsply-Sirona and is co-sponsored by the ADR to attend a National AADR Convention. Students from this program have also attended the First Poster Session of the Annual Meeting of the American Student Dental Association and the Scientific Session of the American Dental Association’s Annual Meeting.

In 2017, the Office of the Assistant Dean of Research (OADR) entered into a collaboration with the University of Iowa (UI) to offer a scholarship for the UI Dental Genetics Research Summer. Three 3rd-year students participated in a 4-week Craniofacial Summer Research Experience at the University of Iowa. The award from UI and OADR covered the research summer experience including the tuition costs, ground transportation, airfare and housing. Their work utilized samples from the FaceGenes study cohort on lip and/or fissured palate at UPR. One of these projects won the Hinman Student Research Symposium Award sponsored by the University of Tennessee in 2018.

Another student who visited the University of Iowa in 2016 worked in a project that led to the identification of rare ADCY9 mutations in Puerto Rican children. This project won the first-place award in the ASDA Puerto Rico Chapter Table Clinics competition and a travel award from Dentsply-Sirona to represent the UPRSDM in the annual Student Clinician Research Program in 2018.

One additional dental student had OADR-sponsored summer research experience in 2016 at the University of Minnesota working in the project “Pain Modulation Using the Bivalent Ligand MCC22 in a Mouse Model of Sickle Cell Disease” under the supervision of Dr. Donald Simone (Department of Diagnostic & Biological Sciences, School of Dentistry; University of Minnesota).

A 2nd Year dental student was selected by the National Institute of Dental and Craniofacial Research (NIDCR) to participate in the 8-week “NIH Summer Dental Research Fellowship Award Program”. He studied the effect of the overexpression of miRNA 142-3p on AC9 in human salivary gland cells” with the collaboration of NIDCR mentors and presented a poster entitled “Association between Maternal Folic Acid Intake and Oral Clefts in Puerto Rican Children” at the 29th Annual Special Care Dentistry Association (SCDA) in Charlotte, North Carolina.
Research Electives and the ADEA fellowship program

Several dental students are involved in research activities as part of the Elective DESP 7411 course (between 8 to 10 students per year) and the ADEA Academic Dental Careers Fellowship Program. The ADEA Fellowship program is promoted through the UPRSDM website and is presented to the first-year students during the Introduction to Professional Development Course early at the beginning of the first year. The Assistant Dean for Research and the Assistant Dean of Students, members of the Admissions Committee, establish the admission requirements and process. The OADR provides mentorship and expertise in research design and statistics for the Scholars’ and their primary clinical mentors during the program. One of the ADEA fellows won the first-place award in the ASDA Puerto Rico Chapter Table Clinics competition and a travel award from Dentsply-Sirona to represent the UPRSDM in the annual Student Clinician Research Program in 2019.

Systematic Reviews and Evidence-Based Dentistry

All junior and senior-year students are required to participate in a Systematic Review research project as part of the DESP 7237 and DESP 7400 courses, respectively, as previously described.

DMD Ph.D. Training Program

The DMD/Ph.D. Training Program, jointly offered by UPRSDM and the University of Rochester, is coordinated from the OADR. The program has been inactive during this period; however, the training program in Oral Sciences of the University of Rochester was recently funded again and a memorandum of intention to re-establish the program is being prepared.

Post-doctoral students SDM Post-doctoral programs

Certificate and Masters in Dental Sciences (MSD) Post-doctoral programs in Pediatric Dentistry, Prosthodontics, Orthodontics, and Oral and Maxillofacial Surgery offer residents a Post-doctoral certificate or a Master in Dental Science (MSD). The Orthodontics Program requires the completion of the master’s degree; for all other residency programs, the master’s degree is optional but encouraged. Pediatric and Oral and Maxillofacial Surgery residents often choose to pursue the master’s program upon completion of the appropriate post-doctoral certificate. All post-doctoral UPRSDM students are required to complete a research project and are encouraged to prepare a manuscript for submission to a peer reviewed journal. Those enrolled in the MSD program are required to complete a research project and submit an article to a peer reviewed journal. The courses offered for post-doctoral students include epidemiology, statistics, systematic literature review, research planning and design, methods, statistics applied to their project, and thesis. Regarding the Graduate Programs, second- and third-year postdoctoral students complete their research courses and projects under the ADR. During the 2013-2018 period, a total of 20 post-doctoral students completed a master’s degree.
Fellowships

The OADR and its Centers and Units offer a one-year or two-year post-doctoral residency in Clinical Research. Residents participate in protocol preparation and as research assistants of funded researchers. They also participate in postdoctoral research courses.

Student research productivity

Between 2012 and 2018 48 pre-doctoral and 104 post-doctoral students have participated in research projects (SD 6-3.2 Table of Student Publications for the past 3 years). Pre-doctoral students have authored or co-authored 4 manuscripts and 20 peer-reviewed abstracts in national or international dental conferences. Post-doctoral students have authored or co-authored 1 manuscript and 21 peer-reviewed abstracts (SD 6-3.1 Table of Student Research Projects for the past 3 years)

Financial Support

Research Incentives Funds: Student research activities are supported by funds allocated from the Capacity Advancement in Research Infrastructure Endowment Fund (S21) and indirect funds assigned to the Office of the Assistant Dean for Research. The following funds are available: research in PR and the US; $1,500 to $2,000 are available for four students yearly. Travel Funds for research project presentations: A total of $5,000 is available yearly to support student research projects, distributed among participating student’s o Funds to support poster presentations, accepted at research meetings. Funds are also available to support summer research in the USA (AADR, ADA and ASDA).

Awards

Each year, the Medical Sciences Campus Research and Education Forum holds a campus-wide research competition for students from the Schools of Medicine, Dental Medicine, Nursing, Health Professions, Pharmacy, and the Graduate School of Public Health. Over the past 20 years, SDM students have excelled in the oral and poster competitions of this event.

Access to Facilities/Equipment

Students have access to all the OADR research facilities and resources which are described in detail in 6-1 and 6-2.

Protected time for research

Pre-doctoral students do not have formal protected time for research; however, the UPRSDM provides special time accommodations for research-related activities (i.e. summer programs) on an individual basis. Post-doctoral programs provide protected time for research; the time depends on the program
Researcher Pipeline Development

The SDM offers and supports diverse research activities at different educational levels, from high school through post-doctoral training. These programs constitute the SDM’s pipeline for the development of future researchers and faculty. (Exhibit 6.1).

a. High school: the SDM research office coordinates a mentoring program for high school and college students interested in participating in oral health related research projects. OADR researchers serve as mentors to these students.

b. Junior and senior college students: students from the UPR Río Piedras campus can enroll in a 3-5 credit elective course (BIOL 4990) to participate in an ongoing research project mentored by investigators at the UPRSDM. Generally, participating students have an interest in pursuing a career in dentistry or medicine. Each year, eight to 10 students enroll in this course, work on pilot projects with UPRSDM mentors, prepare oral presentations, and assist post-doctoral students in literature reviews.

c. DMD students: the research activities for DMD students include the research courses described previously, starting in the first year. Additionally, they have summer research opportunities and opportunities to conduct a research project as part of the research elective course (DESP 7411).


Supportive Documentation

SD 6-3.1 Table of Student Research Projects for the past 3 years
SD 6-3.2 Table of Student Publications for the past 3 years