



Item: III.b

Thursday, December 8, 2022

**SUBJECT: Approval of Amended Proposal for Establishing a College of Dentistry and Associated Legislative Budget Request**

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**PROPOSED BOARD ACTION**

- I.) The approval of the amended proposal to create and offer a new Doctor of Dental Medicine degree program that will be housed in the newly-established College of Dentistry.
- II.) The approval of the amended LBR to Establish a College of Dentistry.

**BACKGROUND INFORMATION**

On Monday, September 19, 2022, the Florida Atlantic University Board of Trustees approved the proposal to create and offer a new Doctor of Dental Medicine (DMD) degree program that will be housed in a newly-established College of Dentistry on the Boca Raton campus. The purpose of this advanced degree program is to produce general dentists who will provide comprehensive, culturally-safe, person-centered oral health care for patients of all ages and abilities by working in teams with other health care providers including medical doctors to support the overall health of individuals and communities, with a special emphasis on the underserved.

After receiving the appropriate faculty and board approvals, FAU submitted the initial DMD proposal to the Board of Governors (BOG) on September 26, 2022. After reviewing the proposal, BOG staff asked for a series of revisions to the DMD proposal document. We have incorporated the requested revisions and expect the revised DMD proposal to be added to the BOG agenda at their January 2023 meeting. To ensure the DMD proposal is in the proper posture for a BOG vote, the BOT must approve the revised document prior to January 2023 Board of Governors meeting.

The new document does not have any financial changes or changes to the core requirements of the degree program. The BOG asked FAU for clarification on timeline items with respect to the Commission on Dental Accreditation (CODA), curriculum approval, and the faculty hiring plan, as well as clarification on the financial feasibility of offering the degree program the demand/need for another dental program in the state. The necessary information and clarifications were provided and accepted by BOG staff. The biggest change to the document is an adjustment of the timeline for implementation from Fall 2025 to Fall 2026, allowing for a more feasible path to CODA accreditation.

The following overview information has been updated to reflect the new implementation date, and all other relevant information remains the same. The FAU College of Dentistry will confer the degree of Doctor of Dental Medicine to its graduates through a CODA accredited program to practice dentistry in the United States. Florida Atlantic University aims to create this new College of Dentistry and to offer the DMD program starting in 2026. The new college, which will be the second public college of dentistry in the state of Florida, plans to admit 45 students in year 1 and have a staggered increase to 90 students over 4 years with a total enrollment of 350 students (assuming attrition) once fully enrolled. These students would be educated and supported by 110 full time equivalent positions, consisting of 30 core faculty, 10 administrators, and 70 support personnel. In addition, the College of Dentistry will also be supported by a proposed \$30 million philanthropic donation and will be housed in a new state-of-the-art dental education facility on the FAU Boca Raton campus.

FAU's proposed College of Dentistry and DMD degree supports the SUS Strategic Plan 2025 Goals for the state universities by increasing the number of graduate degrees awarded in an area of strategic emphasis, increasing the number of graduate degrees awarded in STEM and Health, strengthening the quality and recognition of commitment to community and business engagement, increasing levels of community and business engagement, and increasing community and business workforce. The College of Dentistry is aligned with the development of the FAU Health Network and with the University's mission as "a multi-campus public research university that pursues excellence in its missions of research, scholarship, creative activity, teaching, and active engagement with its communities." Traditionally, doctoral-level professional schools are also major hubs for research and scholarship activities, attracting faculty members who are externally funded to explore and develop cutting edge clinical practices and techniques, in addition to investigating broader complex health equity and policy issues. Accordingly, the DMD and the new College of Dentistry reinforces the University's continued focus on becoming nationally recognized for the highest levels of impactful research and inquiry. Additionally, this program supports FAU's Strategic Plan for the Race to Excellence, 2015- 2025, which incorporates a "Health Aging" pillar that is broken out into such topics as "Health and wellness," "Geriatrics and aging in place," and "Health policy, health equity, and health economics."

In addition to the programmatic proposal, FAU has amended its Legislative Budget Request (LBR) for *Establishing a College of Dentistry* to align with the programmatic proposal documents and reflect the new implementation date. As previously stated in the LBR documents that were approved by the Board on September 19, 2022, the *Establishing a College of Dentistry* LBR totals \$123.3 million (\$37.9 million in recurring operational funds and \$85.5 million in nonrecurring startup costs). The approval of the revised LBR will ensure continuity between all of the documentation we have submitted to the BOG.

We appreciate the BOG staff's willingness to work with the university as we continue to move through the approval process. Both of the BOT votes will be transmitted by the Provost's Office to BOG staff.

#### **IMPLEMENTATION PLAN/DATE**

- I.) The approval of the amended proposal to create and offer a new Doctor of Dental Medicine degree program that will be housed in the newly-established College of Dentistry.

- II.) The approval of the amended LBR, Establishing a College of Dentistry, will be recorded to reflect that the BOT has reviewed and supports the request. Subsequently, both approvals by the Board will be transmitted by the Provost's Office to BOG staff.

#### FISCAL IMPLICATIONS

See attached LBR for proposed budget estimates.

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**Supporting Documentation:** Revised Florida Atlantic University Request to Offer a New Degree Program (with exhibits)

Revised FY2023 – 2024 Florida Atlantic University Education and General Legislative Budget Request

**Presented by:** Mr. Ryan Britton, Executive Director of Government Relations **Phone:** 561-297-2583



Board of Governors, State University System of Florida  
**REQUEST TO OFFER A NEW DEGREE PROGRAM**  
 In Accordance with BOG Regulation 8.011  
 (Please do not revise this proposal format without prior approval from Board staff)

**Florida Atlantic University**  
 Institution Submitting Proposal

**Fall 2026**  
 Proposed Implementation Term

**College of Dentistry (Newly Created)**  
 Name of College(s) or School(s)

**College of Dentistry**  
 Name of Department(s)/Division(s)

**Dentistry**  
 Academic Specialty or Field

**Doctor of Dental Medicine (DMD)**  
 Complete Name of Degree

**51.0401**  
 Proposed CIP Code (2020 CIP)

The submission of this proposal constitutes a commitment by the university that, if the proposal is approved, the necessary financial resources and the criteria for establishing new programs have been met prior to the initiation of the program.

\_\_\_\_\_  
 Date Approved by the University Board of Trustees

\_\_\_\_\_  
 President's Signature Date

\_\_\_\_\_  
 Board of Trustees Chair's Signature Date

\_\_\_\_\_  
 Provost's Signature Date

**PROJECTED ENROLLMENTS AND PROGRAM COSTS**

Provide headcount (HC) and full-time equivalent (FTE) student estimates for Years 1 through 5. HC and FTE estimates should be identical to those in Appendix A – Table 1. Indicate the program costs for the first and the fifth years of implementation as shown in the appropriate columns in Appendix A – Table 3A or 3B. Calculate an Educational and General (E&G) cost per FTE for Years 1 and 5 by dividing total E&G by FTE.

Implementation Timeframe	HC	FTE	E&G Cost per FTE	E&G Funds	Contract & Grants Funds	Auxiliary/ Philanthropy Funds	Total Cost
Year 1	45	45	2590150	116,556,750	0	0	116,556,750
Year 2	90	90					
Year 3	158	158					
Year 4	248	248					
Year 5	293	293	128283.28	37587000	0	0	37587000

## **Additional Required Signatures**

I confirm that I have reviewed and approved Need and Demand Section III.F. of this proposal.

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Signature of Equal Opportunity Officer

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Date

I confirm that I have reviewed and approved Non-Faculty Resources Section VIII.A. and VIII.B. of this proposal.

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Signature of Library Dean/Director

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Date

## Introduction

### I. Program Description and Relationship to System-Level Goals

#### A. Describe within a few paragraphs the proposed program under consideration, and its overall purpose, including:

- degree level(s)
- majors, concentrations, tracks, specializations, or areas of emphasis
- total number of credit hours
- possible career outcomes for each major (provide additional details on meeting workforce need in Section III)

The degree program will be housed in the newly-created College of Dentistry on the Boca Raton campus. The purpose of this advanced degree program is to produce general dentists who will provide comprehensive, culturally-safe, person-centered oral health care for patients of all ages and abilities by working in teams with other health care providers including medical doctors to support the overall health of individuals and communities, with a special emphasis on the underserved.

The FAU College of Dentistry will confer the degree of Doctor of Dental Medicine (DMD) to its graduates, through an accredited program under the Commission on Dental Accreditation (CODA) to practice dentistry in the United States. Normally no internship or residency is required following graduation thus graduates are expected to be practice-ready upon leaving FAU.

The DMD degree does not customarily include majors, concentrations, tracks, or specializations, and there is no intention for the FAU program to do so. However, this program proposes to have an emphasis on graduating oral health care providers who are especially well equipped to practice in underserved locations, with diverse populations, and in interprofessional teams in partnership with MDs. The total number of credit hours required is 198.

Students could enter specialty training or directly into practice at the time of graduation. They could practice in private dental offices including solo or group practice, in corporate dental settings, in the public health service, the military or in dental academia. However, it is hoped that many would seek to practice in community health centers that serve low-income and rural populations that have a shortage of health care providers.

#### B. If the proposed program qualifies as a Program of Strategic Emphasis, as described in the Florida Board of Governors 2025 System Strategic Plan, please indicate the category.

- **Critical Workforce**
  - Education
  - Health
  - Gap Analysis
- **Economic Development**
  - Global Competitiveness
  - Science, Technology, Engineering, and Math (STEM)

Does not qualify as a Program of Strategic Emphasis.

## II. Strategic Plan Alignment, Projected Benefits, and Institutional Mission and Strength

A. Describe how the proposed program directly or indirectly supports the following:

- System strategic planning goals (see link to the [2025 System Strategic Plan on the New Program Proposals & Resources](#) webpage)
- the institution's mission
- the institution's strategic plan

### Support for System Strategic Planning Goals

FAU's proposed Doctor of Dental Medicine supports the SUS Strategic plan 2025 Goals for the state universities by

- Increasing the number of graduate degrees awarded in an area of strategic emphasis
- Increasing the number of graduate degrees awarded in STEM and Health
- Strengthening the quality and recognition of commitment to community and business engagement
- Increasing levels of community and business engagement
- Increasing community and business workforce

Additionally, the proposed program aligns with the 3 areas of emphasis identified in the SUS Strategic Plan: Excellence, Productivity and Strategic Priorities for a Knowledge Economy.

### Areas of Emphasis in the SUS Strategic Plan

GOALS	EXCELLENCE	PRODUCTIVITY	STRATEGIC PRIORITIES
<b>Teaching and Learning</b>	DIRECT Strengthen the Quality and Reputation of Academic Programs and Universities	DIRECT Increase Degree Productivity and Program Efficiency	DIRECT Increase the number of Degrees Awarded within Programs of Strategic Emphasis
<b>Scholarship, Research and Innovation</b>	DIRECT Strengthen the Quality and Reputation of Scholarship, Research and Innovation	DIRECT Increase Research Activity and Attract More External Funding	DIRECT Increase Commercialization Activity

<b>Community and Business Engagement</b>	DIRECT Strengthen the Quality and Reputation of Commitment to Community and Business Engagement	DIRECT Increase Community and Business Engagement	DIRECT Increase Community and Business Workforce
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*System Goals in Excellence*

The availability and visibility of dental programs at other institutions across the country indicates that FAU would benefit from developing a similar program in order to compete successfully for the best applicants in this profession, including students from traditionally under-represented groups, as well as non-traditional, returning students aiming to further their education. By providing this new, advanced professional degree in a health field, the University will directly enhance the quality and reputation of its academic programs, its research and scholarship activities, and community and business engagement. New basic science and dental faculty will contribute their diverse expertise in teaching and collaborative research to provide quality professional education, strengthening both the reputation and visibility of FAU academic programs. Through access to the state-of-the-art resources and facilities, students will master cutting edge techniques, enabling them to excel in highly innovative, impactful hands-on provision of clinical dental services to the community.

FAU recently received Carnegie Community Engagement Classification in recognition of its ongoing commitment to civic engagement and community outreach, achieved through the efforts of faculty, staff and students in programs such as active service learning and programming that would fall under the current umbrella of FAU Health Network. The notion of a new dental program was conceived with the goal of community outreach specifically through FAU Health. This commitment to excellence in community engagement is achieved through educational programs that have impacted, and will continue to impact, the southeast Florida community in measurable and meaningful ways, with students playing important roles in these programs.

*Goals in Productivity*

By providing this new academic program, FAU will be expanding degree access and productivity in a medically relevant STEM field, directly increasing the number of professional degrees awarded in programs of Strategic Emphasis identified in the 2019 update to the 2025 SUS Strategic Plan. The DMD is CIP 51.0401, designated as the *Health* category under the Strategic Areas of Emphasis. The proposed program creates a breadth of coursework and research opportunities that extend beyond any of the current health-related programs at FAU. Establishing an advanced professional health degree will also attract more top undergraduate students with who seek to pursue pre-dental and pre-health options at the university. Interactions of both the students and faculty in the program will foster collaborations and build team research efforts across the Colleges and Institutes, leading to expanded clinical services delivered to the public as students begin their practical experiences and as faculty deploy new techniques and equipment, the sharing of ideas and valuable experimental resources, more patent applications and publications, and the development of competitive grant proposals that the NIH, NSF, and other agencies favor, directly increasing levels of external funding at FAU. All of these benefits attract more students in the related disciplines where the state has strategically identified needs for increased productivity.



## Goals in Strategic Priorities for a Knowledge Economy

Establishing a new FAU degree program in the area of dentistry will directly increase the numbers of doctoral graduates with high quality training in a health field where the university will be able to devise more effective treatments to address oral health matters. This knowledge lays the groundwork for translational research aimed at designing effective diagnostics, drugs, biologics, and therapeutic devices for millions of Americans and Floridians suffering from serious dental issues that impact their comprehensive health statuses – especially affordable treatments that can be deployed in resource-strapped regions of the nation and state. A significant amount of federal funding, across multiple NIH Institutes and other federal agencies, is targeted to equity-based health research, and program faculty and students participating in collaborative research projects will be in a better position to compete for this funding. As the prevalence of oral health deterioration, especially in under-resourced regions continues to rise, the program will generate trained dentists needed to fill the national and state workforces that drive translational research and novel treatment and equipment creation and deployment to those who have the highest need.

### Support for University’s Mission

The program aligns with Florida Atlantic University’s mission as “a multi-campus public research university that pursues excellence in its missions of research, scholarship, creative activity, teaching, and active engagement with its communities.” Dentistry and oral health care is an important component of overall health and well-being, and the D.M.D. will support excellence in teaching and active engagement with our communities throughout the region of South Florida and our state. Traditionally, doctoral-level professional schools are also major hubs for research and scholarship activities, attracting faculty members who are externally funded to explore and develop cutting edge clinical practices and techniques in addition to investigating broader complex health equity and policy issues. Accordingly, the D.M.D. and the new College of Dentistry reinforces the University’s continued focus on becoming nationally recognized for the highest levels of impactful research and inquiry.

### Support for University’s Strategic Planning Goals

Additionally, this program supports FAU’s *Strategic Plan for the Race to Excellence, 2015-2025*. The plan is structured around **pillars** and **platforms**, and as the plan explains, “these areas of focus will guide institutional goals and strategic actions” (p. 5). In other words, this framework *does not* represent goals or objectives, but rather provides thematic applications for a living plan in which the goals and strategic actions can orient themselves. Throughout each of these pillar/platform ‘themes,’ FAU launches its various plan goals and strategies.

First, while FAU has already executed an incredibly successful strategic plan by many measures, the clearest evidence of these successes has been in the formal establishment of research institutes that are the living embodiment of the plan’s pillars. **Pillars** define institutional programs focused on creating knowledge that benefits society. The clearest alignment with a single pillar is the “Healthy Aging” focus, which covers a number of health-based topics, programs, and initiatives, as outlined in the bullets below.

<b>Healthy Aging</b>	<ul style="list-style-type: none"><li>• Health and wellness</li><li>• Geriatrics and aging in place</li></ul>
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	<ul style="list-style-type: none"> <li>• Drug discovery</li> <li>• Health policy, health equity, and health economics</li> <li>• Stem cell research and regenerative medicine</li> </ul>
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These topics are essential to FAU’s plan to focus on community health matters, so that even the most traditionally underserved populations throughout the state can have access to high-quality healthcare including dental medicine.

Furthermore, FAU’s strategic plan has resulted in robust university initiatives and centers that serve as the vehicle for platforms. **Platforms** represent scholarly activities that apply to and support all *Pillars*. The dental program will align with most of these platforms, but the most obvious connectivities are with community engagement and economic development (as the focus of our dental program will be serving underresourced communities with comprehensive oral health services). Many of FAU’s interprofessional health education efforts are community based. The full list of platforms and explanations for the themes are listed below.

<b>Big Data Analytics</b>	<ul style="list-style-type: none"> <li>• Develop tools to store, sort, and mine large datasets</li> </ul>
<b>Community Engagement and Economic Development</b>	<ul style="list-style-type: none"> <li>• Work with communities to develop tools to address challenges and uncover solutions that promote community development and economic prosperity</li> </ul>
<b>Diversity</b>	<ul style="list-style-type: none"> <li>• Identify and promote opportunities to diversify our students, faculty, and staff – and build institutional cross-cultural competencies</li> </ul>
<b>Global Perspectives and Participation</b>	<ul style="list-style-type: none"> <li>• Identify opportunities to share technology, discoveries and learning with other institutions across the U.S. and the globe</li> </ul>
<b>Healthy and Environmentally Sustainable Campus</b>	<ul style="list-style-type: none"> <li>• Identify opportunities to incorporate scholarship into campus operations</li> </ul>
<b>Leadership, Innovation and Entrepreneurship</b>	<ul style="list-style-type: none"> <li>• Engage faculty, staff and students in professional development of leadership skills</li> <li>• Identify intellectual property, license IP and promote a culture of startup companies for faculty and students.</li> </ul>
<b>Peace, Justice, and Human Rights</b>	<ul style="list-style-type: none"> <li>• Develop programs that share best practices and promote tolerance and understanding of diverse cultures.</li> </ul>
<b>South Florida Culture</b>	<ul style="list-style-type: none"> <li>• The region as an international hub for the arts and the humanities</li> </ul>
<b>Undergraduate Research and Inquiry</b>	<ul style="list-style-type: none"> <li>• Distinction through discovery and research experiences that promote scholarship and graduation</li> </ul>

Furthermore, there are opportunities to leverage our strengths in several of the other platform areas. For example, clear synergies exist with big data analytics and the FAU Health Network’s focus on applied intelligence-fueled health applications. The diversity platform, in which leaders from across the university come together to identify and promote efforts to continue to build on FAU’s nationally-ranked campus diversity, will also provide a lens through which the DMD can address socioeconomic and racial disparities. As with any professional health program, there are also opportunities to welcome scholars from across the world to learn and teach, conduct

research, and provide community services so that FAU can “share technology, discoveries and learning with other institutions across the U.S. and the globe.” This clearly promotes the platform of global perspectives and participation.

The DMD proposal directly fits with the specific goals and strategic actions listed in the 2025 FAU Strategic Plan, as outlined below:

Limited in number, but broad in scope and impact, attainment of these goals will ensure Florida Atlantic University’s future as a public research university that creates value for all of its institutional stakeholders. To that end, it will be the entire institution’s strategic priority to build the following six characteristics upon *Pillars and Platforms* that will define our Vision:

**Boldness** A uniquely competitive and globalized student body

Build a geographically-diverse population of students who excel in focused academic areas and engage in enriching activities that drive them to timely graduation and successful futures.

*DMD alignment as program will spotlight the quality academic offerings at the university, draw more undergraduates and graduates who wish to study at a school with multiple professional health schools, and continue to serve our diverse communities throughout the State of Florida.*

**Synergy** Prominent teams of researchers and scholars

Invest in focused pillars and platforms—connecting the most talented faculty, staff and students to expand on the robust culture of nationally respected research and inquiry.

*DMD alignment as program will provide new outlets for health-based research programs and scholars who wish to collaborate with a growing leader in the field of equity-focused health provision.*

**Place** Deep engagement with South Florida’s global communities

Partner with a diverse set of local stakeholders and enhance the physical spaces to build upon the unique cultural, demographic and environmental characteristics of each campus community – striving for leadership in developing the South Florida culture and economy.

*DMD alignment as this program is particularly focused on the the unique opportunities of South Florida’s economy and rich cultural diversity. Preparing health professionals who have exceptional cultural competencies is key to this proposal, and the strategic locations of our clinics will serve the community.*

**Quality** Continuously-assessed and evolving best practices

Design a resilient, lean organization—based on best logistical practices—that identifies economies of scale and incorporates new technologies to promote institutional development.

*DMD alignment as this program will be part of the FAU Health Network that organizes previously disparate and disjointed health-based university activities.*

**Brand** National reputation for excellence

Communicate the incredible stories of the University to an increasingly eGlobal audience, so that key internal stakeholders can link with external constituency groups.

*DMD alignment as this program will help promote the brand and identity of FAU as a high-quality institution with a focus on serving Florida's communities.*

**Strategy** Wise and innovative allocation of resources

“Budget to the plan” and pursue new revenue streams in order to make FAU self-reliant and thriving in the midst of competitive public and private funding opportunities.

*DMD alignment as this program has a strong financial model that will also give us the opportunity to bring in new partners and supporters of the university.*

Professional health programs are an exceptional way to build on each one of these goals and concepts as a university, especially given the thematic focuses outlined in our pillars and platforms. Overall, the FAU strategic plan metrics attempt to measure our success with each one of these goal characteristics, and these metrics also align with the SUS planned outcomes for the state system's strategic plan. Accordingly, the DMD program will boost institutional performance in production of degrees in areas of strategic emphasis (health), in research opportunities for health-based and applied AI-based scholars, and in direct provision of clinical services to our state's diverse communities.

**B. Describe how the proposed program specifically relates to existing institutional strengths. This can include:**

- **existing related academic programs**
- **existing programs of strategic emphasis**
- **institutes and centers**
- **other strengths of the institution**

FAU is well positioned in the present time to launch a new Doctor of Dental Medicine, given the growing institutional strengths under the umbrella of the FAU Health Network. In addition to standardized patient clinical program requirements, dental care clinic experiences will be operationalized initially in the Broward, Palm Beach, and Martin counties with full and affiliate faculty members similarly to clinical rotations provided by our College of Medicine and College of Nursing. The college will partner with public and private partners in the FAU Health Network (see below). The College of Dentistry is an essential component of FAU Health Network's mission to best serve the growing population of Florida.



**100%  
SUPPORT  
FROM FAU  
HEALTH  
PARTNER  
ENTITIES**



FAU Health Network aims to best serve the healthcare needs of the population of the region and of Florida through education and research integration and interprofessional practice. The Boca Raton campus currently houses 7 colleges related to health sciences (e.g. biomedical engineering, medicine, nursing, psychology, social work). The proposed dental school is the next natural progression of this coalition of collaboration. In addition, FAU Health Network will work collaboratively with the region's 12 dental hygiene programs to provide additional clinical rotation opportunities—also impacted by shortage of dentists in the region. The ability to find and retain adequate preceptors is becoming evermore challenging for the dental allied health providers. These programs benefit directly from connectivity to a dental school and will also help FAU reduce the cost of clinical support personnel.

The university also organizes its research efforts around Healthy Aging as outlined in the 2025 FAU Strategic Plan. We have a number of health-based research programs.

For example, FAU is part of the National Institute on Minority Health and Health Disparities program for Research Centers in Minority Institutions. This institute is a key member of the National Institutes of Health. The purpose of the Research Centers in Minority Institutions (RCMI) Program is to expand the national capacity for research in the health sciences by providing cooperative agreement support to institutions that offer doctorate degrees in the health professions or in a health-related science and have a historical and current commitment to educating underrepresented students, and for institutions that deliver health care, and provide clinical services to medically underserved communities.

The primary goals of the RCMI specialized centers are to:

- Enhance institutional research capacity to conduct world-class basic biomedical, behavioral, and/or clinical research;
- Enable all levels of investigators to become more successful in obtaining competitive extramural support, especially from NIH, particularly for research on diseases and

- conditions that disproportionately impact minority and health disparity populations;
- Foster environments conducive to career development and enhancement for post-doctoral fellows, junior faculty, and other early stage investigators;
- Enhance the tools for, conduct of, and dissemination of research generally and specifically for advancing minority health and preventing and eliminating health disparities; and
- Establish sustainable relationships with community-based organizations that will partner with the RCMI Institution.

As another example of our strength in organizing around health topics, the FAU Human Health and Dementia Research Focus Group considers afflictions which primarily impact the neurons of the human brain, resulting in diseases that are presently incurable. Researchers develop novel therapeutic agents for treating individuals with dementia and other related diseases and conditions associated with memory deficits and declining cognitive skills. A growing body of evidence suggests that lifestyle changes in diet or environment across entire lifespans can help reduce risks and impacts of neurodegenerative diseases. The Group is creating and testing outreach programs in South Florida to improve public understanding of neurodegenerative disease progression and existing and potential treatments and lifestyle strategies. While not specific to oral health topics, these individuals have a deep record of experiences investigating diseases and novel diagnostic tools and therapies.

Members of the Human Health and Dementia Research Focus Group include:

- **Jianning Wei, Ph.D., Charles E. Schmidt College of Medicine**
- **Lisa Kirk Wiese, Ph.D., Christine E. Lynn College of Nursing**
- **Deguo Du, Ph.D., Charles E. Schmidt College of Science**
- **Kailiang Jia, Ph.D., Charles E. Schmidt College of Science**
- **Robert Stackman, Ph.D., Charles E. Schmidt College of Science**
- **María Ordóñez, Director, Louis and Anne Green Memory and Wellness Center**
- **Ali Asghar Danesh, Ph.D., Department of Communication Sciences and Disorders**
- **Connie Porcaro, Ph.D., Department of Communication Sciences and Disorders**
- **Ruth Tappen, EdD, RN, FAAN, Christine E. Lynn College of Nursing**
- **Cheryl Krause-Parello, Ph.D., Christine E. Lynn College of Nursing**
- **Ning Quan, Ph.D., Charles E. Schmidt College of Medicine**
- **William R. McConnell, Ph.D., Dorothy F. Schmidt College of Arts & Letters**
- **Peter Holland, M.D., Associate Professor, College of Medicine, FAU**
- **Chad Forbes, Ph.D., Associate Professor, College of Science, FAU**
- **Beth Pratt, Ph.D., Assistant Professor, College of Nursing, FAU**
- **Claudia Rodrigues, Ph.D., Associate Professor, College of Medicine**
- **Ernane Souza, Ph.D., The Lloyd L. Gregory School of Pharmacy, PBA**
- **Tarsis Brust, Ph.D., The Lloyd L. Gregory School of Pharmacy, PBA**
- **Christina Batoh, Ph.D., School of Arts and Sciences, PBA**

In addition, the dynamics of the current healthcare environment and the needs of the communities we serve call for a collaborative approach as we focus on learning how to provide the safest and best quality of care for all persons. FAU's Office of Interprofessional Education and Practice (IPE&P) endeavors to create and implement educational experiences to address the four competencies under the domain of interprofessional collaboration, which are: values/ethics, roles/responsibilities, interprofessional communication, teams, and teamwork. As we work together to learn and apply these Core Competencies of Interprofessional Collaborative Practice, we emphasize the value of each profession and the role interprofessional teams play in addressing the Quintuple Aim of improving population health, reducing costs, enhancing the patient experience of care, improving the work-life of health providers, and the most recent focus

on health equity.

The IPE&P is home to a number of faculty facilitators who offer programs to develop interprofessional competencies for healthcare students and practitioners in our region.

- **College of Social Work & Criminal Justice:** Allan Barsky, Donna Drucker, Everiste Ambris, Georgia Brown, Joy McClellan, Kathryn McCormic, Kyle Matera, Manny Gonzalez, Morgan Cooley, Tracey Rubenstein
- **Charles E. Schmidt College of Medicine:** Adam Wyatt, George Luck, Jennifer Foster, Joseph Ouslander, Kenneth Folsom, Lee Porterfield, Lisa Martinez, Monica Weinberg, Peter Averkiou, Philip Robinson, Robert Furlong, Robert Jacobson, Suzanne Weiner
- **Christine E. Lynn College of Nursing:** Andra Opalinski, Andrea Archer, Cheryl Krause-Parello, Dawn Hawthorne, Clarene Brown-King, Deb Hain, David Newman, Herlie Bertrand, Joy Longo, Karen Chambers, Karethy Edwards, Katherine Chadwell, Kyndall Mammah, Laurie Martinez, Lisa Weise, Maria Ortega, Marlene Brennen, Mary Ann Leavitt, Michelle Broadbent, Michelle Ferguson, Nancy Harris, Narciso Quidley-Rodriguez, Raquel Brown, Shirley Gordon, Suzie Kaye, Tracian Kelly
- It also includes individuals from our partners at a private school, Palm Beach Atlantic University's Lloyd L. Gregory School Of Pharmacy: Andria Church, Jacintha Cauffield, John A. Dougherty, Erenie Guirguis, Ernane Souza, Jordan Sedlacek, Justine Latif, Laura Rhodes, Amos Abioye

Collaborations between the OIPE&P and faculty from across FAU and other institutions have resulted in various scholarly publications, conference presentations, as well as grant applications. Below is a list of the scholarship developed by our office in the past:

- Bamdas, J.A., Luna, N., & Jacomino, M. (2019). An exploration of social work and medical students' perceptions towards interprofessional education and collaborative practice (IPEC) programming. Submitted to *Advances in Social Work*.
- Eggenberger, T., Howard, H., Prescott, D., & Luck, G. (2019). Exploring quality of life in end-of-life discussions. *American Journal of Hospice & Palliative Medicine*, 37(6), 465–473.
- Eggenberger, T. & Keller, K. *Using the Lens of Caring Science to Transform Interprofessional Communication: Overcoming the Impact of Hidden Curriculum*. Global Alliance for Human Caring Education. Victoria, BC, October 1, 2019. Workshop.
- Eggenberger, T., Keller, K., & Leavitt, M. A. *Advancing Interprofessional Team Communication: Overcoming the Impact of Hidden Curriculum*. 40th Annual International Association for Human Caring (IAHC) Conference. Greenville, SC, May 30, 2019. Workshop.
- Eggenberger, T., Luck, G.R., Howard, H. & Prescott, D.E. (2019). Advanced directives and family practice: Implications and ethics for “greying” family systems and interdisciplinary collaboration. *Journal of the American Academy of Matrimonial Lawyers*, 32(1), 1-28.
- Eggenberger, T., Millender, E., Drowos, J., & France, N.E.M. (2019). Interprofessional education and practice guide: Developing interprofessional community-based clinical experiences, *Cogent Medicine*, 6(1), 1-10.
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Of course, an important partnership for FAU to form as it launches its new DMD program will be the existing programs led by FAU's Charles E. Schmidt College of Medicine.

The Schmidt College of Medicine is one of the newest and rapidly rising medical schools in the United States, nationally recognized by the U.S. News and World Report for its mission to care for diverse patient populations. The college maintains partnerships with more than 300 community agencies from Miami-Dade to Vero Beach, Florida to serve the community. With an emphasis on teamwork and collaboration, the college is dedicated to addressing the needs of its community.

The college offers an LCME accredited [M.D. degree program](#), M.D./Ph.D., M.D./M.B.A., and M.D./ M.H.A. [dual degree programs](#), as well as an [M.S. degree in biomedical science](#) and a [Ph.D. in integrative biology](#) in collaboration with FAU's Charles E. Schmidt College of Science, and the Max Planck Florida Institute for Neuroscience. A [Research Distinction Track](#) offers a parallel curriculum for medical students.

Additionally, a [Genomics and Predictive Health Certificate](#) prepares students for careers in personalized medicine, biotechnology and population health. Committed to interprofessional education and critical thinking, medical students and scientists are prepared to meet the challenges of healthcare delivery, as the college boldly advances the health and wellbeing of the community.

To address physician shortages, FAU's Consortium for Graduate Medical Education (GME) was formed in 2011 with five leading hospitals in Palm Beach County, Florida. The Accreditation Council for Graduate Medical Education (ACGME) has accredited [FAU's GME residencies](#) for internal medicine, surgery, emergency medicine, psychiatry, and neurology. The college also offers [fellowship programs](#) in cardiovascular disease, geriatric medicine, hospice and palliative care and vascular surgery.

The physicians and scientists in the Schmidt College of Medicine strive to develop innovative approaches to understand, treat and prevent disease in Palm Beach County, the state of Florida and throughout the world. Using collaborative and multi-disciplinary approaches, we seek to both to understand basic biological mechanisms and cultivate new strategies to combat disease through patient-centered research and discovery. Within the College of Medicine, the research focus areas include: Healthy Aging, Geriatrics & Neuroscience (including cardiovascular disease, stroke, cancer, eye diseases and neurodegenerative diseases), Chronic Pain & Opioid Use, and Genomics & Precision Medicine.

Research at the Schmidt College of Medicine is recognized through significant funding from the National Institute of Health (NIH), National Science Foundation (NSF) and other funding agencies. The College currently has more than 15,000 sq ft of dedicated laboratory space and a wide array of state of the art equipment generously supported by the Schmidt Family Endowment Fund and SU Excellence Funds. Our faculty and students benefit from affiliations with prestigious local research institutions such as the [Scripps Research Institute Florida](#), and the [Max Planck Florida Institute for Neuroscience](#). These relationships not only further collaborative research at the college but also provide exciting and diverse opportunities for students to gain experience working with world-class scientists.



The Schmidt College of Medicine focuses the efforts of faculty, staff and trainees on improving health through science, scholarship and innovation. This vision is realized through collaborative research initiatives in which basic, translational, and clinical researchers work together across disciplines and specialties to discover fundamental insights into human health and disease and apply their discoveries to develop new diagnostic tools and treatments.

The College of Medicine and FAU offer a number of cores and shared services to facilitate research across the university. At the university level, these include common equipment and shared equipment. We also have reciprocity agreements with Scripps-Florida and Max Planck Florida Institute for access to their core facilities. FAU faculty can access those cores with equal priority and on a cost basis.

- **Biostatistics Collaborative Core - The Biostatistics Collaborative Core provides investigators with biostatistics support, including statistical analyses, interpreting data results and project management to ensure the integrity of data collection.**
- **Advanced Cell Imaging Core - The Advanced Cell Imaging Core offers investigators a range of resources and services such as imaging services, advanced light microscopy equipment, imaging software and data analysis workstations.**
- **Clinical Research Unit - The Clinical Research Unit gives researchers access to resources and services such as exam rooms, data collection, help with Institutional Review Board submissions and advice on study design and feasibility.**
- **Comparative Medicine - The Comparative Medicine (CM) unit is responsible for the humane and ethical care of research animals. CM services include a veterinarian, housing and experimental space, equipment and animal research training. The mission of Comparative Medicine is to oversee all animal care and use at Florida Atlantic University; provide veterinary care; ensure that all animal uses are in full compliance with federal, state and local regulations; provide the necessary elements in direct support to the University's research and teaching programs that use animals; and ensure proper care and use, emphasizing the avoidance or minimization of discomfort, distress and pain. Contacts: [Sylvia Gografe, D.V.M., Ph.D., DACLAM](#), 561-297-4233.**
- **Engineering & Technology Core (ETC) - The Engineering and Technology Core offers applied project support, including project management, equipment rental, tool procurement, assembly and fabrication and data collection.**
- **Neurobehavior Core - The Neurobehavior Core provides testing rooms, software and data analysis, and expert consultation for understanding the phenotypes and selecting behaviors relevant to animal models for behavioral research.**
- **Water Analysis Lab (WAL) - The Water Analysis Lab provides instruments for detecting nutrients, major ions, metals and stable isotopes, executing basic soil analyses and analyzing some industrial waste materials.**

Specifically in the Schmidt College of Medicine, FAU offers the following shared facilities:

- The [Flow Cytometry Core Facility](#) provides access to a state-of-the-art analyzer, cell sorter and workstation and provides assistance to investigators and students with experimental design, data acquisition/analysis and interpretation.
- **MOLECULAR FACILITY** This facility provides investigators access to state-of-the-art equipment to conduct molecular experiments that include but are not limited to DNA/RNA quantitation and gene expression, RT-PCR, Q-PCR, and nucleic acid analysis. Manager(s): Dr. Max Caputi for 2nd floor [mcaputi@health.fau.edu](mailto:mcaputi@health.fau.edu)
- **IMAGING FACILITY** This facility contains equipment that provides for detection of nucleic acid and protein electrophoresis experiments. Manager(s): Dr. Lisa Brennan for 2nd and 3rd floors [Lbrenna6@health.fau.edu](mailto:Lbrenna6@health.fau.edu) – access provided after training.
- **CELL ANALYTICS FACILITY** This facility contains equipment to utilize fluorescence and/or impedance based technologies to sort and evaluate properties in both fixed and living cells.
- **GENOMICS FACILITY** This facility contains equipment and resources to support genomics

related research.

- **iPSC / DISEASE MODELING FACILITY** The Induced Pluripotent Stem Cell (iPSC) facility is used to perform genome editing and differentiation of iPS cells as an advancement in stem cell research. Contact Dr. Wang if interested in the services of this facility. Manager(s): Dr. Yingcai Wang [yingcaiwang@health.fau.edu](mailto:yingcaiwang@health.fau.edu) / – access provided after training.
- **PROTEOMICS FACILITY** This facility contains equipment to support identification and characterization of proteins. Manager(s): Dr. Andrew Oleinikov [aoleinikov@health.fau.edu](mailto:aoleinikov@health.fau.edu)
- **HISTOLOGY / QUANTITATIVE IMAGING & MORPHOLOGY FACILITY** This facility contains equipment and resources to support histological research needs. Manager(s): Dr. Ceylan Isgor [cisgor@health.fau.edu](mailto:cisgor@health.fau.edu) – access provided after training.

As noted above, FAU has many leaders, institutes, and programs that are working to meet the challenges of healthcare delivery, advancing health and wellbeing for our community, region, and state.

**c. Provide the date the pre-proposal was presented to the Council of Academic Vice Presidents Academic Program Coordination (CAVP ACG). Specify whether any concerns were raised, and, if so, provide a narrative explaining how each concern has been or will be addressed.**

The pre-proposal was submitted to BOG staff and reviewed by the CAVP ACG at the September 7, 2022 meeting. No objections to the proposed dental program at FAU were expressed by any institution. Some commented that if this program was planned correctly, it could become a national model for addressing the serious need for dentists in rural and urban HPSAs (Health Professional Shortage Area).

That being said, the group supplied feedback that collectively rose to the level of **concern**. The group felt that ours was a very important initiative that needed to be planned properly and carefully. Below are the areas of concern from the discussion.

1) The timeline for admission of the first class should be reconsidered.

This is based on the list of things that would need to be accomplished prior to admission—hiring of numerous faculty, staff and administrators, designing and seeking approval of new curriculum through the FAU processes, securing funding and space to house the program, seeking CODA accreditation, establishing community partnerships, etc. We were also cautioned to be careful with the timing of the rollout with respect to SACSCOC reaffirmation (substantive change restrictions) and the impact of such on moving to a new accreditor.

***FAU Response:*** *We concede that our initial request for a Fall 2025 start is too aggressive. This decision was largely based on a re-examination of CODA accreditation processes and discussion with Texas Tech—the most recent public dental school start-up in the U.S.*

*Note that Texas Tech was successful with a 3-year CODA timeline, from initial application preparation and submission until CODA granting "Initial Accreditation". In discussing with others (CODA colleagues of Dr. Berg), a start date of Fall 2026 should allow reasonable time to earn the CODA nod prior to the inaugural class enrollment. Our external reviewer stated a 5-year timeline for a Fall 2027 start, which we still believe is overly-conservative. Other developmental tasks, such as development of curriculum, faculty hiring and developing the relationships with clinical rotations at FQHCs, etc. can be done in parallel with the CODA work.*

*NOTE: Communication with FAU's SACSCOC Vice President liaison (Dr. Geoffrey Klein) indicated no need for concern over the timing of the degree program proposal with respect to reaccreditation (Appendix D).*

- 2) Document a well-developed funding model. Even with the significant philanthropic support, having so much funding tied to an LBR seems problematic without knowing the LBR is approved at this point, and if approved, without knowing the exact amount that will be awarded. What is FAU going to do if the LBR is not approved? Is there a contingency plan?

**FAU Response:**

*As we have outlined in the comprehensive Legislative Budget Request (LBR) we submitted to the Board of Governors and given here as Appendix M, Florida Atlantic intends to seek legislative support and state appropriations to establish the College of Dentistry. The university will seek both operational and capital funding to hire the faculty and staff (110 FTE) necessary to run the college (360 total enrollment target goal) and house them in a new state-of-the-art dental education facility (93,750 GSF). In the event that we do not receive the full amount of appropriations requested, we plan on continuing to petition the state in subsequent years until we have reached the full level of funding we articulated in our LBR. In addition to seeking state support, Florida Atlantic also is committed to seeking support from the philanthropic community. The local community's desire to assist the state is already reflected in an incredibly generous philanthropic commitment that would seed this college and seek to name it. Regardless of the level of state funding that is received, the university remains committed to pursuing philanthropic and local community support to ensure that the College of Dentistry is able to provide high quality education to the full complement of students enrolled.*

- 3) If a main focus of the program is to solve the disparity of geographic distribution of dentists in Florida, how will FAU guarantee that graduates will work in dental HPSAs?

**FAU Response:** *The literature suggests for both dental and medical programs that there is no way to guarantee that graduates will practice in the underserved areas. As suggested by our external consultant in an exit interview, the best approach is a multi-pronged plan aimed at recruiting students from or linked to the underserved areas as well as fundraising to support financial incentives such as scholarships and loan repayment incentives in exchange for service for a specified period of time in an underserved area post-graduation. He was impressed with the record of our Pre-Health Advising Office with its long-established record of serving FAU's diverse and first-generation students. The efforts of that office coupled with the efforts of our Medical Pipeline program will be successful in recruiting these students for the DMD.*

*In addition, we are in the process of creating partnerships for student pipelines with the University of West Florida and FAMU (see Appendix D). **The external consultant also suggested building a stronger network of clinical facilities with a wider statewide geographic distribution in these underserved areas than we originally planned, and that if nothing else, in doing so would increase dental care to these regions as the trained students rotate in and out.** We have rearranged and lengthened items within our original timeline to implementation of the*

*degree program to include a longer period of time to build community relationships and to expand the geographic reach of support and service within the state. Conversations have already begun as noted elsewhere in this proposal.*

*FAU would work to create rural training rotations so that there are clinical opportunities for dental students and dental residents to be exposed to underserved areas. CODA (the accrediting body for dental education) data suggests that for a class size of 80 to 100 students each year (our eventual target), the average number of patient visits annually would be in the range of 32000-39000. FAU would ensure that many of the clinical rotations would occur in underserved areas. We will work with dental colleges at the University of New England, the University of Utah and the University of Washington to design the rural, community-facing model that make sense for FAU.*

*In the Palm Beach County area, as part of the FAU Health Network, we currently have relationships with the Caridad Center that provides dental services to uninsured children and adults who reside in Palm Beach County, and live at or below the 200% federal poverty level. A commitment to providing a clinic site rotation to our students has been provided verbally and we are currently working through the administrative/regulatory details to formalize this arrangement. Similar to the Palm Beach County Health Care District, FAU has verbally secured a commitment to providing clinical site rotations for our dental students. The Brumback Clinics, operated by the Health Care District of Palm Beach County, provides medical, dental and behavioral health services to adults and children with or without insurance with the goal of helping patients establish a medical home. Providing an outstanding clinical service opportunity, FAU values this partnership and is excited to expand the relationship to incorporate dentistry.*

*Beyond Palm Beach County, FAU is working with the Hartland Rural Health Network (HRHN) to establish clinical rotations in Hardee, Highlands, DeSoto and rural portions of Polk and Charlotte Counties. The HRHN is committed to improving access to quality health care (including dental care) by working in collaboration with network members and community partners to drive rural health initiatives. Aligning with the vision of FAU College of Dentistry “to provide outstanding dental care to the rural and underserved areas of Florida, graduating dentists with a commitment to service in these communities” HRHN is a perfect partner to provide robust, plentiful and impacting clinical rotations for our learners! A letter of support from HRHN is provided in Appendix D.*

*We are also in discussions with the Florida Rural Health Association, which is a statewide organization of physicians, rural hospitals, health clinics, rural governments, nonprofits, educational institutes and Area Health Education Centers dedicated to enhancing the quality of life and advocating for Florida’s rural residents. The rural site for our clinical rotations is a 5-county region and has a significant Hispanic population (aligning with the Hispanic serving institution mission) as well rural and/or high poverty area.*

*We are learning from dental colleges around the U.S. that have set up rural clinics to aid in the geographic disparity of accessibility to dental services. We have analyzed successful programs at the University of New England, the University of Utah and the University of Washington that will be useful as we proceed.*

*For a deeper discussion, see the end of section 3A of this proposal.*

- 4) The group recommended the creation of a *network* of support that is state focused as opposed to just South Florida focused to show that FAU is committed to solving the dental HPSA problem Florida-wide. How do we best meet the needs of the state and how will we build the team to do that?
- a) Establish feeder programs throughout the state to supply students living in dental HPSAs. Obtain letters that support articulation agreements with institutions within or near HSPAs. UWF (See Appendix D), UCF and FAMU (See Appendix D) spoke up as possible schools of interest in working with FAU if the program is approved. Institutions like this could become important feeders of students to the program who are more likely to be inclined to return to work in the geographic areas of concern.
  - b) Establish strong community partners for support of the FAU program. Community partners may be a source of resources to support the program, provide spots for clinical training, etc. FAU needs to do a broad community needs assessment in the state to determine areas of early partnership to help shape the proposal. Obtain agreements with communities and hospitals and practices within those communities. Develop a large network of support.

***FAU Response:*** *As mentioned above, we have altered our timeline to implementation of the degree program to allow for expanding our network of partners throughout the state. Preliminary discussions have started with UWF (See Appendix D) and FAMU (Appendix D) to assist in building these relationships. Some of our current partners in the FAU Health Initiative also have connections statewide, and we will build on those. We have deepened discussions with agencies that would expand our reach into rural Florida as highlighted in bullet 3 above.*

**D. In the table below, provide a detailed overview and narrative of the institutional planning and approval process leading up to the submission of this proposal to the Board office. Include a chronology of all activities, providing the names and positions of both university personnel and external individuals who participated in these activities.**

- **If the proposed program is a bachelor's level, provide the date the program was entered into the APPRiSe system, and, if applicable, provide narrative responding to any comments received from APPRiSe.**
- **If the proposed program is a doctoral-level program, provide the date(s) of the external consultant's review in the planning table. Include the external consultant's report and the institution's responses to the report as Appendix B.**

The stimulus for the creation of this degree program was a series of meetings and forums with FAU leaders and various health leaders in the South Florida community. Additionally, some Florida legislators were eventually brought into the conversation. The fact that no dental program was attached to a major public research university in the South Florida area became an important focus of the FAU health initiative. This led to the creation of an LBR (and CIP) to focus on building the dental program at FAU and the discussions with BOG staff on the timeframe and process required to create the program.

Also useful to jumpstart the proposal and LBR, was a series of benchmarking meetings that assembled leaders of current College of Dentistry programs from the University of Pittsburg MC, University of North Carolina-Chapel Hill, University of Texas (Houston and San Antonio),

University of Tennessee, University of Kentucky, University of California-San Francisco and the University of Utah. The group consisted of Deans, Associate Deans and Finance Directors and discussions included faculty-size, faculty-student ratios, start-up capital needs and annual operations projections. All participants shared their information as an effort to assist FAU to quickly gather industry data in a rational way that incorporated all essential data points. These colleagues shared a detailed and transparent level of finance and other data with individual confidentiality requested. Data reported at planning meetings was in aggregate.

Assisting FAU personnel in the planning for the program, was Hanover Research for a broad feasibility marketing analysis, ECGMC Research team for deeper dive data analyses, Dr. Joel Berg (former Dean of the dental program at the University of Washington, President of Execudent and a current CODA board member), Dr. Jose Mellado (member of the Florida Board of Dentistry and practicing periodontist in Miami-Dade County), Dr. Wendi Woodall (Associate Academic Dean of the Woody L. Hunt School of Dental Medicine at the Texas Tech University Health Sciences Center in El Paso, TX) and Dr. Bruce Rotter (recently retired Dean from Southern Illinois University's School of Dental Medicine) who prepared the external consultant report.

Dr. Woodall was invaluable in our process, having been part of the planning and implementation of the newest public dental school in the US (first class enrollment in Fall 2021). The Texas Tech University feasibility report as well as interviews with Dr. Woodall served as another mentoring benchmark in fine-tuning the proposal. The full feasibility report from Texas Tech is found as Appendix P and at <https://www.texastech.edu/board-of-regents/august-2018/HSCEP-Dental%20School%20Feasibility%20Study-AUG2018.pdf>.

**NOTE: The external consultant's full report is given in Appendix O with the institutional response given in Appendix B per the *Request to Offer a New Degree Program* template.**

After preparation of the proposal, the document moved through the regular FAU committee processes until final approval by the FAU Board of Trustees. It then moved to the Board of Governors staff for initial feedback and was broadly presented to the Board of Governors at the November 9, 2022 meeting where FAU received approval to move forward with the planning.

Of note, Dr. Joel Berg was named Director of Dental Initiatives at FAU in November of 2022. In that role, he will serve as the program administrator who meets discipline-specific standards to assist in seeking programmatic accreditation. We have had tremendous CODA guidance from Dr. Berg in planning the curricular framework, setting core competencies, student learning outcomes, admission standards and graduation requirements.

## Planning Process

Date	Participants	Planning Activity Description
Spring-Summer 2022	FAU BOT Chair Levine, FAU BOT Members, FAU President, Legislators, South Florida Health Leaders	Meetings/Summits on the FAU Health Initiative and its Network
August 4-10, 2022	Rebecca Napier, Senior Associate Dean College of Medicine, as well as Deans, Associate Deans and Finance Directors from the University of Pittsburg MC, University of North Carolina-Chapel Hill, University of Texas (Houston and San Antonio), University of Tennessee, University of Kentucky, University of California-San Francisco and the University of Utah	Discussions included faculty-size, faculty-student ratios, start-up capital needs and annual operations projections
Mid to Late August 2022	Vice Provost Russ Ivy, BOG Office Staff: Disraelly Cruz, Dr. Christy England	Communications with BOG staff about process and timeline for submission for BOG approval.
August 23, 2022	FAU Board of Trustees	Vote by FAU BOT to revise accountability plan to include DMD Dentistry
August 23, 2022	FAU Provost Office/BOG Staff	Resubmission of FAU Accountability Plan through DRS
August 23-September 7, 2022	Hanover Research	Program Feasibility Assessment Broad Overview
August 23-September 7 2022	ECGMC Research	Demand Research for DMD in Florida
August 24, 2022	Vice Provost Russ Ivy	Submitted Pre-proposal for DMD Dentistry in ARTS
August 29-September 14, 2022	Vice Provost Russ Ivy, Rebecca Napier, College of Medicine Senior Associate Dean, Dr. Joel Berg (Execudent)	Preparation of Request to offer a New Degree Program proposal packet.
September 7, 2022	Vice Provost Russ Ivy, CAVP Academic Coordinating Group	Presentation and Discussion of Pre-proposal
September 13, 2022	Board of Governors	Consideration of FAU revised Accountability Plan
September 13, 2022	Vice Provost Russ Ivy, Dr. Geoffrey Klein (SACSCOC)	Initial Consult with SACSCOC VP about plans to work on DMD proposal (Appendix D)
Mid September,	External Consultant, Dr. Bruce Rotter	Review of proposal draft and creation of the consultant report

2022		(Appendix O). Exit Interview for deeper discussion on findings in the report.
September 14, 2022	Vice Provost Russ Ivy, Faculty Senate President Kim Dunn	Submit Proposal packet to Graduate Programs Committees, Academic Budget and Planning, Faculty Senate Steering, Faculty Senate Members, FAU BOT Members for perusal.
September 19, 2022	FAU Board of Trustees	LBR discussion and vote
September 19, 2022	FAU Board of Trustees	Capital Improvement Plan Discussion and Vote
September 19, 2022	FAU Board of Trustees	Discussion and vote on the degree program proposal. Motion stated as contingent on Faculty Senate approval.
September 21, 2022	FAU Graduate Programs Committee	Proposal packet review/vote
September 21, 2022	FAU Graduate Council	Proposal Packet review/vote
September 22, 2022	Academic Budget and Planning	Proposal Packet review/vote
September 22, 2022	Faculty Senate Steering	Proposal Packet review/vote
September 23, 2022	Faculty Senate	Proposal Packet review/vote
September 23, 2022	Vice Provost Russ Ivy	Review proposal packet for formatting and inclusion of all feedback.
September 26, 2022	Vice Provost Russ Ivy	Submission of Packet to BOG staff
October 2022-Ongoing	Rebecca Napier, Senior Associate Dean College of Medicine, Heartland Rural Health Network, We Care of Central Florida, etc.	Discuss Clinical Partnerships Around the State
October 2022	Vice Provost Russ Ivy, College of Medicine Senior Associate Dean Rebecca Napier	Respond to BOG staff critiques of proposal, prepare documents for 11/9 BOG presentation
November 2022	Dr. Joel Berg, Stacy Volnick, COO and VP for Administrative Affairs	Dr. Berg appointed Director of Dental Program Initiatives at FAU
November 2022	Dr. Wendi Woodall, Associate Academic Dean of the Woody L. Hunt School of Dental Medicine at the Texas Tech University Health Sciences Center in El Paso, TX, Vice Provost Russ Ivy, Senior	Mentoring Sessions with Texas Tech Dental Program. BOG staff requested that FAU connect with this program as they are the most recent public dental school formed in the U.S.



	Associate Dean of COM Rebecca Napier, Dr. Joel Berg, Director of Dental Program Initiatives	
November 9-10, 2022	Board of Governors	Discussion and vote on approval of DMD.
November 16, 2022	Interim Provost Michele Hawkins, Vice Provost Russ Ivy, Vice Chancellor Christy England, BOG Staff: Emily Sikes and Lynn Nelson	Discussion of Major Points the Proposal Must Address to get on the BOG agenda.
November 18, 2022	Florida Dental Association— Joe Anne Hart conversation with Vice Provost Russ Ivy	Initial Discussion with Florida Dental Association about Need/Demand in Florida and Presentation to Board in Dec 2022.
November 22, 2022	Vice Provost Russ Ivy and Dr. Sherin Took (COA)	Initial Contact with CODA about process and timeline to seek accreditation.
December 1, 2022	Vice Provost Russ Ivy	Resubmission of proposal to BOG staff.
December 2022	FAU Board of Trustees	Approval of Revised Proposal after Green Light from BOG staff.
January 24-25, 2023	FAU Interim President, BOG	Present proposal to and seek approval from the BOG.

**E. Provide a timetable of key events necessary for the implementation of the proposed program following approval of the program by the Board office or the Board of Governors, as appropriate, and the program has been added to the State University System Academic Degree Program Inventory.**

**Events Leading to Implementation**

Following approval of the DMD and approval of the LBR and Capital Improvement Plan, FAU will go through the process of preparing for the first incoming class. We will spend approximately 42 months after BOG degree program approval going through the process of hiring faculty and administrators, planning, designing and constructing space to accommodate the start of the program, creating the curriculum and taking it through the FAU approval process, going through the accreditation process, marketing and recruiting the inaugural class, creating the administrative policies and governance structure of the management of the program and getting approval for the creation and naming of the College.

For the hiring of the faculty, we have looked to the recent experience of Texas Tech in staffing the inaugural instructors and administrators for their Fall 2021 start. The program began posting positions in January 2020 for the proposed start date. Their preliminary research indicated that there was tremendous competition for dental faculty across the nation. Texas Tech had the additional problem of trying to staff during COVID. While COVID did impact their hiring

experience, it was for the interview phase (remote pieces of the interview that would normally have been conducted face-to-face) more so than an issue with the lack of supply of applicants. Dr. Woodall writes (Appendix D)

*“... We have been somewhat fortunate, in that some dentists were ready to move from private practice into academia as we opened. Others are wanting to return to El Paso, where they were raised, as they sell their practice. Finding faculty from other institutions, unless they are new graduates from specialty programs, is harder. Some are looking for a change, but most are wanting to stay put, especially now with rising prices. However, Texas and Florida may benefit from the lower taxes and sometimes, depending on location, the lower overall cost of living. Finally, younger graduates move more frequently, for a variety of reasons—parents, children, spouses, additional money or prestige/promotion....”*

The Texas Tech discussion coupled with a discussion with BOG staff led to an FAU consideration of the likelihood of success in hiring qualified faculty for the program. Dental faculty staffing is a challenge nowadays that requires proper management as discussed in a very recent paper by Sabato, et al (2022). <https://onlinelibrary.wiley.com/doi/full/10.1002/jdd.13118>. These authors imply that you can be successful in staying fully staffed even in this challenging environment of faculty shortages.

Sabato, et al (2022) describe strategies for success in retaining a full workforce, grouped into four domains. They reflect the organizational units that typically direct and initiate change within dental education. These units are (1) budget and finance, (2) human resources, (3) organizational structure, (4) and curricular structure. “Recommendations using a four-pronged approach based on these domains have been developed for remaining agile in the face of a faculty workforce shortage.” <https://onlinelibrary.wiley.com/doi/full/10.1002/jdd.13118>. Within human resources the recommendations from the authors include faculty identify and satisfaction, faculty mentorship and professional advancement and promotion opportunities. These are important to both recruit and retain faculty.

More pertinent to the topic at hand, Sabato, et al (2022) identify proven strategies for sustaining faculty numbers to support dental education, such as creating faculty pipeline programs as well as prudent succession planning which are both critical in the current competitive environment. They write...

*“Although half of dental graduates express interest in working in dental education, less than one percent intend to do so immediately following graduation. Concerns around income and indebtedness are two of the most important factors preventing new graduates from pursuing academic careers. However, programming devoted to exploration of academic career paths and financial support for education or loan repayment may increase the pool of potential dental educators. More schools are exploring a student to faculty pipeline in which dental students are exposed to elements of teaching, often through peer mentoring and career exploration in academic dentistry through involvement in the American Dental Education Association (ADEA) Academic Dental Careers Fellowship Program or student organizations focused on education.”*

Looking to dental colleges with such programs (Tufts University, New York University, University of Texas-San Antonio, University of Kentucky, University of Detroit-Mercy, Indiana University) as well as exploring the possibility of creating our own pipeline program could be just one important contributor to successful faculty recruitment and sustainability. John, et al (2011) write further

*“Dental schools must develop plans to start growing their own faculty. Implementation of programs focused on long-term development of future faculty members within our dental schools including mentoring programs will go a long way to help address and reduce faculty shortages.”*  
[Recruitment, Development, and Retention of Dental Faculty in a Changing Environment - John - 2011 - Journal of Dental Education - Wiley Online Library](#)

Execudent, Inc staff helped to identify some trends in current market landscape as follows:

- The largest trend in the dental profession is consolidation. Many practitioners, even in the early and mid-stages of their career, choose to sell their practices in part or in total to large DSO's (Dental Support Organizations). These groups, growing in number and accelerating the rate of the consolidation, are freeing up practitioners to extend their careers into other areas. We are already seeing a massive offload of dentists who previously only practiced dentistry in various particular specialties, and now are considering other career options - particularly academics. The pandemic has accelerated this trend.
- When one looks around the country at dental schools that are challenged to find faculty members, particularly when further focusing on the state-supported schools, these challenges are regionally specific. We have conducted a preliminary analysis and find that many dentists, through the process of leaving their practice or initiating their careers, are very interested in moving to Florida versus some states which are less desirable for relocation. Living in Florida appears to be a large draw which will mitigate concerns related to hiring faculty.
- There is competition amongst dental schools, yet again hiring faculty is a strategic effort. Given that we are years away from matriculating the first class and given that we intend to begin hiring administrators and faculty only two years in advance of that, we have significant time to continue developing our strategy for hiring, as well as to begin public relations related to the innovations that will be created at the FAU College of Dentistry. In addition, whereas it is likely that the Commission on Dental Accreditation (CODA) standards will undergo significant changes during the next 2-3 years, many faculty will be seeking to relocate to a FAU, which will kick off its efforts and its curriculum entirely under the new CODA standards and will need to make massive adjust. This will be very attractive to the new hiring efforts.

FAU will engage a different kind of effort to recruit faculty other than from the traditional executive search firms that dominate the industry. Such traditional firms tend to recruit *post-facto*. In other words, they seek a list of potential candidates once the position is opened. There are now often smaller firms with more innovate approaches (like Execudent, Inc.) that perform this recruitment in more novel ways. These firms maintain a much deeper database of vetted individuals who are looking for faculty positions. now or in the future. They have connections with hundreds of potential faculty members, including those that match the demographics of dental professionals leaving practice for academia, and can immediately ascertain the availability of individuals to fill open positions, and also to specify who in particular would be most appropriate to fill such positions on a discipline specific basis. Execudent, Inc (and others like them) can create a very custom-fit almost concierge recruiting service not available in traditional

firms. FAU's work together with Execudent in developing this type of strategy will further mitigate concerns related to attracting and recruiting faculty.

We believe that given the forces in the marketplace and the attractiveness of Florida within those trends, along with the efforts FAU will undertake as described above as "remaining agile", faculty recruitment to the level of 40 total full-time faculty (10 administrators and 30 other faculty) should not be an issue over the specified time. FAU will continue to monitor and tweak the recruiting process based on market changes. Note that FAU is already receiving inquiries from potential faculty members who have heard about our proposal (example in Appendix D).

The curriculum approval process at FAU requires routing through various faculty committees culminating in approval at Faculty Senate. Normally, once a course request enters the process and moves from one committee to another, final approval is usually obtained in approximately one semester, depending on the timing of the first committee submission (no curriculum committees meet in the summer). An entire slate of new courses, however, would need to be phased in to both accommodate for proper planning of curriculum and its content as well as meet CODA and SACSOC requirements and timelines. CODA requires that all courses are designed to the level of a detailed syllabus prior to final stages of seeking accreditation. Therefore, the development and design of the courses will take high priority. Once batches of course syllabi are completed, they will start through the FAU curriculum process...not waiting for the entire curriculum syllabi to be developed. We will begin to design courses/syllabi immediately after approval of the degree program using a few existing College of Medicine faculty as well as the network of dental faculty affiliated with Execudent, Inc (many are retired dental deans). Eventually, as FAU dental administrators and faculty are brought into fold, they will dominate the curriculum development process.

Note that in order to obtain a dental license and practice in Florida, one must graduate from a CODA accredited dental school and complete the licensure and licensure examination requirements of the Florida State Board of Dentistry (<https://floridasdentistry.gov/licensing/dentist/>). Completion of the CODA accreditation is tantamount to completion of requirements for licensure in Florida, along with taking the various examinations (ethics and clinical ADEX exams). Coursework in FAU's DMD program will be planned meticulously with CODA accreditation and Florida licensure in mind.

<b>Date</b>	<b>Implementation Activity</b>
January 2023	Establish College of Dentistry Advisory Board
January 2023	Establish Dental Education Leadership Committee.
January 2023	Resume Discussions with SACSCOC about timing of accreditation of the DMD.
January 2023- August 2026	Add to the Community partner network statewide for clinical sites, etc. To include site visits and focus meetings with FQHCs.
February 2023	Create College of Dentistry and secure naming of the College.
February 2023	Set Up ADEA-AADSAS Account as pre-cursor to CODA accreditation
February 2023	Resume Discussions with CODA about accreditation steps and work with the Dental Education Leadership Committee to begin accreditation paperwork.
February- August 2023	Dental Education Leadership Committee develops syllabi for new coursework for first 2 years of the program. Academic Dental Professionals from Execudent (many with CODA experience) will be pulled into the process as well as existing faculty in the College of Medicine. Director of Dental Program Initiatives will lead.
February- August 2023	Recruit Dean of the College.
August 2023	Dean Reviews the Syllabi for the First 2 Years of the Program Prior to Moving to Curriculum Committees.
September 2023- December 2023	First and Second Year coursework proposals will move through the University Graduate Programs Committee and Faculty Senate to seek final approval
September 2023- December 2023	Dental Education Leadership Committee with design third and fourth year coursework of the program for inaugural Dean to review and approve. Academic Dental Professionals from Execudent (many with CODA experience) will be pulled into the process as well as existing faculty in the College of Medicine and any administrative/faculty hires for the new College of Dentistry.
September 2023- December 2023	Identify Office/Space Needs and Work with Space Committee to identify areas within existing space for DMD to use for first 2 years of program prior to construction of new building.
September 2023-March 2024	Develop the CODA Application Packet
September 2023-June 2024	Recruit Leadership of the College: Associate Dean for Academic and Student Affairs, Director of Admissions, Associate Dean for Finance and Administration, Clerkship Director, Site Director
January 2024	Submit CODA Application and Prepare for Site Visit
January-March 2024	Minor Project Scope for Renovations to existing space needed to house early pieces of the College and development of budget
January 2024- May 2024	Seek approval of 3 <sup>rd</sup> and 4 <sup>th</sup> year coursework through University Graduate Programs Committee and Faculty Senate.

January 2024-September 2024	Recruit Remaining Leadership of College: Associate Dean for Research, Director of Student Engagement, Director of Assessment, Evaluation and Analytics and Department Chairs
March-May 2024	A/E *CM and Design Phase for Remodel of Secured Existing Space including IT Infrastructure
June-July 2024	Prepare and Submit SACSCOC Substantive Change Paperwork.
June 2024-August 2024	Construction Phase for Remodel of Secured Existing Space
June 2024-August 2026	Begin New Building Construction Process-A/E Selection, CM Selection, Design Phase
September 2024-June 2025	Create administrative and governance policies for the program and College.
September 2024-June 2025	Develop Marketing Strategies and Recruitment Plan for Students, Develop Admission Guidelines and Materials
September 2024-June 2025	Creative Financial Incentive Models for Scholarships, etc. Step up Philanthropic Efforts.
January 2025-July 2026	Recruit Initial Wave of Faculty (30) (Mirrors the Texas Tech Timeline)
January 2025-April 2026	Recruitment Activities and Effort for the Inaugural Class. This would include Pipeline discussions with SUS partners.
August 2026	First Day of Instruction with Inaugural Class

**Institutional and State Level Accountability**

**III. Need and Demand**

**A. Describe the workforce need for the proposed program. The response should, at a minimum, include the following:**

- **current state workforce data as provided by Florida’s Department of Economic Opportunity**
- **current national workforce data as provided by the U.S. Department of Labor’s Bureau of Labor Statistics**
- **requests for the proposed program from agencies or industries in your service area**
- **any specific needs for research and service that the program would fulfill**

Data from the U.S. Department of Labor’s Bureau of Labor Statistics and the Florida Department of Economic Opportunity indicate an expected growth in the number of dentist and dental surgeon jobs through the next 10 years both nationally and statewide (Pulled from the most current BOG-supplied CIP/SOC report on August 30<sup>th</sup> of 2022).

	Employment 2020	Employment 2030	Employment Change, 2020-30 Number	Employment Change, 2020-30 Percent	Occupational openings, 2020-30 annual average
Dentists, General Oral and Maxillofacial Surgeons	120,300	130,000	9,800	8.1	<b>4,300</b>
Orthodontists	5,200	5,600	400	7.7	<b>200</b>
Dentists, All Other Specialists	6,400	6,900	500	8.1	<b>200</b>
	6,800	7,100	300	5	<b>200</b>

	FL Employment 2021	FL Employment 2029	FL Employment Change, 2021-29 Number	FL Employment Change, 2021-29 Percent	FL Total Annual Average Job Openings
Dentists, General Oral and Maxillofacial Surgeons	<b>8,821</b>	<b>9,615</b>	<b>794</b>	<b>9</b>	<b>362</b>
Orthodontists	<b>310</b>	<b>340</b>	<b>30</b>	<b>9.7</b>	<b>13</b>
Dentists, All Other Specialists	<b>215</b>	<b>235</b>	<b>20</b>	<b>9.3</b>	<b>9</b>
	<b>302</b>	<b>322</b>	<b>20</b>	<b>6.6</b>	<b>11</b>

The American Dental Association, Health Policy Institute Analysis 2022 shows that the supply of practicing dentists in the U.S. has risen yearly from 163,409 in 2001 to 201,929 in 2021. The overall national accessibility to dentists in the same period has risen from 57.34 working dentists per 100,000 population in the U.S. in 2001 to 60.84 per 100,000 population in 2021. The ADA does not expect the supply to catch up to the desired ratio of 67 per 100,000 until 2040. (See also <https://policycommons.net/artifacts/1769953/adaorg/2501601/> and <https://www.ada.org/resources/research/health-policy-institute/dentist-workforce>)

Florida has made progress in increasing the supply of dentists in the state during the 2001 to 2021 period from 9,098 to 11,668, and in improving the working dentists per 100,000 population statistic from 49.25 in 2001 to 53.57 in 2021. **However, Florida still ranks 31<sup>st</sup> in the nation (50 states plus District of Columbia) by this measurement.** ([https://www.ada.org/-/media/project/ada-organization/ada/adaorg/files/resources/research/hpi/hpidata\\_supply\\_of\\_dentists\\_2021.xlsx?rev=5a77b55be401470483e65011fbca7c18&hash=791602EB2E5A91F065BBC975ACBCBDC2](https://www.ada.org/-/media/project/ada-organization/ada/adaorg/files/resources/research/hpi/hpidata_supply_of_dentists_2021.xlsx?rev=5a77b55be401470483e65011fbca7c18&hash=791602EB2E5A91F065BBC975ACBCBDC2))

This undersupply of dentists, particularly in rural areas, means that patients end up in the hospital emergency room, which are not staffed with dental experts and create unnecessarily high costs to the health care system. *“In 2019, Florida hospitals billed more than \$624 million dollars for preventable ER visits and hospital admissions associated with painful oral health conditions. Taxpayers bear the brunt of these high bills as Medicaid paid for 40% of the visits.”* (<https://www.gainesville.com/dental-care-barriers-florida>)

NOTE: The reliance on emergency room visits as a substitute for dental care in underserved areas was concurred in the interview with Joe Anne Hart from the Florida Dental Association (Teams Meeting, November 18, 2022).

It should be noted, however, that according to the Health Policy Institute, assessing the adequacy of the supply of dentists is a complex issue that is oversimplified by looking at raw supply-side numbers compared with population projections. “With any type of health care service, having a sufficient number of providers is critical to ensuring population access to needed care...The demand for dental care on the part of the population, the mix of patients in terms of payer type and geographic location, and a host of other factors determine whether the current and future dentist workforce is sufficient.” [https://www.ada.org/-/media/project/ada-organization/ada/ada-org/files/resources/research/hpi/hpibrief\\_0521\\_1.pdf](https://www.ada.org/-/media/project/ada-organization/ada/ada-org/files/resources/research/hpi/hpibrief_0521_1.pdf).

### **Initial Broad Sweep Analysis for Need of Dentists in Florida**

FAU first commissioned *Hanover Research* to conduct a very broad employment and student demand market feasibility study for the DMD and its future graduates. This was done to answer the question as to whether or not a deeper dive should be taken into exploring the DMD for FAU. Key findings from the *Academic Program Assessment* (Appendix I—where items are sourced) were as follows.

***--Degree conferral trends indicate above average demand for DMD programs in Florida.***

The number of relevant degree completions, in aggregate, increased at annualized rates of 1.7, 2.1 percent and 2.4 percent in the state, region, and nation between 2016 and 2020. There are only three institutions offering a DMD degree in Florida: Nova Southeastern University, the University of Florida, and the Lake Erie College of Osteopathic Medicine, though Lake Erie reported no conferrals last year. (Source IPEDS)

***--Labor market demand indicators are positive, and analysis of demographic changes reinforce the likelihood of future growth.***

Statewide employment of dentists is projected to increase by 9.9 percent through 2031 (Source JobsEQ). This rate is slightly below the average rate of growth for all occupations, but still significant. Further, this number varies by region of the state as below. As Baby Boomers age out of the working population, industry reports indicate that the number of retiring dentists will exceed the number of dentists graduating from dental school. ([pdf \(ibisworld.com\)](#))

	<b>Florida</b>	<b>Southeast</b>	<b>National</b>
Estimated Employment (2021)	9,093	31,475	129,871
Projected Employment (2031)	9,990	33,431	133,947
<b>Total Annual Openings, Observed Occupations</b>	<b>384</b>	<b>1,197</b>	<b>4,481</b>
<b>Employment Growth,</b>	<b>9.9%</b>	<b>6.2%</b>	<b>3.1%</b>



<b>Observed Occupations</b>			
<b>Employment Growth, All Occupations</b>	<b>12.6%</b>	<b>7.0%</b>	<b>4.3%</b>

Notably, the U.S. Bureau of Labor Statistics identifies Florida as one of the top five states in terms of need for number of dentists. They state that Florida, with its large and growing population of retirees, can expect to see demand for the dental industry services increase, as retirees tend to need more serious and more frequent dental care than members of the general population. Hanover concurs and states “Florida in particular is expected to need dentists with projected demand in Florida being double demand in the region and triple demand in the nation.” (Appendix I)

### **Mentor Discussions About Demand of Dentists**

FAU engaged in discussions with Texas Tech University in November 2022 at the recommendation of BOG staff as well as conducted a deep perusal of that institution’s initial feasibility plan (Appendix P). Texas Tech is the site of the newest public dental school admitting their first class in Fall of 2021. We have also had initial discussions with staff from the Florida Dental Association regarding demand of dentists in the state. Both sources discussed the need in rural areas and other areas concentrated with minority populations (focus of the Texas Tech program and of the FAU proposal). Both sources also indicated that there is not one definitive statistic or source to show demand for dentists as it is actually a very complex issue that must take many factors into account, but for this particular population, it is more appropriate to “layer” the story. Texas state legislators approved the Texas Tech program by focusing on the key demand items mentioned in their feasibility study (Appendix P).

- ✓ The targeted region was officially classified as a dental HPSA (Health Professional Shortage Area)..
- ✓ The targeted region has a dentists per 100,000 rate below both national and state averages
- ✓ The dental workforce has sizeable population at or near the retirement age
- ✓ There is a growing number of dental school applications with stable dental slots—in-state dental school admissions have not kept pace with student interest and applicant demand. Their study cites that, “While Texas dental schools rejected 603 students in 2016, 90 qualified Texas applicants enrolled in programs elsewhere, indicating a strong pool of qualified candidates for an additional dentistry program within the state.”

The discussion with the staff member from the Florida Dental Association (also at BOG staff recommendation) added that the Health Resources and Services Administration (HRSA) data and their discussion of HPSAs (Health Profession Shortage Areas) are the primary sources they

use to look at rural demand for dentists and dental services.

## **Some National and State Challenges for the Dental Industry**

There are a variety of sources that concur with the demand for dentists in the rural areas in particular. According to [Oral Health in Rural Communities Overview - Rural Health Information Hub](#), the lack of adequate accessibility of dental professionals is frequently cited as a cause of oral health disparities that exist in rural America. Contributing factors to the shortage include:

- Limited slots in dental schools
- The growing trend of specialization in dental care
- A large number of dentists retiring
- An unwillingness of providers to work in rural areas

### **--Limited Slots in Florida Dental Schools**

According to the American Dental Education Association 2021 annual report to program directors ([ADEA Trends in Dental Education, 2021–22](#)), the University of Florida (UF) has a current enrollment rate of 86% who qualify for in-state residency status. Further, UF is highly competitive, admitting only 5% of the students that apply to their program. More than 600 in state applicants are denied admission and are forced to either seek enrollment at a private institution in Florida or go out of state. Additionally, the average GPA of *all applicants* to UF is 3.6 with a DAT Academic Average of 20. This is compared to the national demographics for accepted students of 3.57 and a DAT of 18.5 based on the 2019 ADEA data. Obviously not all applicants to the UF dental program present credentials that warrant admission to UF or any other accredited dental program, however, an acceptance rate as low as mentioned above leaves room for other applicants to move on to Nova Southeastern, Lake Erie College of Osteopathic Medicine (with much higher rates of tuition) or out of state.

Similarly, Nova Southeastern University (NSU), a private university in Florida, has an acceptance rate of 5% for its DMD program. Lake Erie College of Osteopathic Medicine (LECOM) also has a private college of dentistry located in Florida (Bradenton) offering the DMD and has over 3,300 applicants and a 3% acceptance rate. Both NSU and LECOM accepted students notably outpace the national GPA/DAT scores. This indicates a window of qualified applicants who must seek slots out of state.

The unique acceptance rates of UF, NSU and LECOM are dramatic compared to a national average acceptance rate of 20% of applicants. The notable difference in acceptance rates demonstrates the ultra-competitive landscape due to the limited number of student spots offered within the state. UF is the only one that provides a financially viable option for many FL aspirants. Florida has an abundance of highly qualified applicants forced to receive their dental school education out of state—or not at all. Providing another in state option should be a welcomed harbor for aspiring dental health care providers.

Three institutions in Florida report dental student enrollment data to the ADA : Lake Erie College, Nova Southeastern University and the University of Florida. Below is application and enrollment information for 2021. <https://www.adea.org/data/students/>

	Lake Erie	Nova Southeastern	U. Florida
Applications	3599	2282	1553
Total In-State Applications	670	665	685
Total First Year Enrollment	105	126	93
Total In-state First Year Enrollment	27	81	89

The above shows that 108 in-state Florida students enrolled in one of the two private dental programs in Florida in 2021. That coupled with the number of students who leave the state for other dental programs indicates that the demand for dental seats in the state of Florida programs is much more than the seats provided by the University of Florida. According to the 2020-21 Survey of Dental Education - Academic Programs, Enrollment and Graduates. (May 2021). Commission on Dental Accreditation (CODA), between 2010 and 2020, 930 students graduated with the DMD from the University of Florida and 1388 from Nova Southeastern University.

A broader pattern is obtained by perusal of the *2020-21 Survey of Dental Education, American Dental Association, Health Policy Institute, Group 11, Question 13* (<https://coda.ada.org>). **58% of Florida's dental students leave the state for training. The outmigration of dental students from the state totaled 292 (out of 505 first year dental students from Florida) during the period of the survey.** The national average of outmigration of dental students (leaving their own state for training in another state) in the U.S. was 44% during the same time period, with important state comparisons of 42% for California, 36% for Texas and 20% for New York. Students who train in Florida are more likely to stay in Florida. (See also [Applicants, Enrollees and Graduates \(adea.org\)](#)).

The top 12 schools enrolling dental students from Florida are given below from the source above. Note there were 140 students who left Florida and were admitted to out-of-state-programs from this table alone.

### Top 12 Schools Training Students From Florida

University	Total Students From Florida
University of Florida	83
Nova Southeastern University	96
LECOM College of Dental Medicine	34
Tufts University	33
New York University	25
University of Pennsylvania	15
University of Louisville	13
University of Detroit Mercy	13
Howard University	11
University of Maryland	11
University of Alabama	10
Boston University	9

This trend has been identified previously as well. In 2017-2018, **57%** of practicing Florida dentists had graduated from an out-of- state school, suggesting that Florida is not training its own dentistry need.

[https://www.floridahealth.gov/programs-and-services/community-health/dental-health/reports/ documents/FloridaWorkforceSurveyReportofDentists2017-2018FINAL.pdf](https://www.floridahealth.gov/programs-and-services/community-health/dental-health/reports/documents/FloridaWorkforceSurveyReportofDentists2017-2018FINAL.pdf)

The survey mentioned earlier also indicates that 65% of Florida dental students receive their training at private institutions as compared to a national average of 49%. The cost of attendance at private institutions is usually considerably higher than public institutions. Note that within Florida, the current annual tuition and fee rate for the dental program at Lake Erie College is \$58,310 (<https://lecom.edu/dental/sdm-tuition-fees/>) and the annual tuition and fee rate for the dental program at Nova Southeastern is \$48, 215 (<https://dental.nova.edu/aegd/tuition.html>). This compares to a rate of \$41, 720 annual tuition and fees for the dental program at the University of Florida <https://admissions.dental.ufl.edu/financial-aid/d-m-d/budgets-cost-of-attendance-d-m-d/>. Thus, having another dental program at an SUS institution could save qualified students \$25,000-\$66,000 in earning their credentials to practice dentistry.

### --Specialization in Dental Care vs. General Dentistry

The ADEA published a study in 2019 that examined career paths of dental students. ([https://www.adea.org/uploadedFiles/ADEA/Content\\_Conversion\\_Final/deansbriefing/2019-20\\_ADEA\\_Snapshot\\_of\\_Dental\\_Education.pdf](https://www.adea.org/uploadedFiles/ADEA/Content_Conversion_Final/deansbriefing/2019-20_ADEA_Snapshot_of_Dental_Education.pdf)) While the majority of dental school graduates still pursue general dentistry, some argue that this is due to the limited number of specialty residency programs available to them in areas (e.g. orthodontics, endodontics)

Due to the high debt burden associated with dental schools, more students are likely to pursue specialty fields of dentistry with higher salaries, which will subsequently worsen the shortage of dentists. This is especially true of students who graduate from private schools with higher burden of debt.

## --Aging Dentist Population

The population of dentists in the U.S. is also aging. In 2001, 27% of the working dentists were 55 or older. By 2021 that percentage had risen to 36.1%. According to Hanover Research (Appendix I), nationally, the number of retiring dentists will exceed the number of dental school graduates [pdf \(ibisworld.com\)](https://www.ibisworld.com). There is some concern about not only replacing those dentists as they retire, but also that older dentists (like other health professionals) tend to reduce their weekly working hours as they age, therefore reducing the number of patients seen. [https://www.ada.org/-/media/project/ada-organization/ada/adaorg/files/resoures/research/hpigraphic\\_0421\\_1.pdf?rev=aa1f41177af94613a74a307adc11f2f0&hash=8F66BABF02828DB2E9A6D5D53908F2DD](https://www.ada.org/-/media/project/ada-organization/ada/adaorg/files/resoures/research/hpigraphic_0421_1.pdf?rev=aa1f41177af94613a74a307adc11f2f0&hash=8F66BABF02828DB2E9A6D5D53908F2DD)

According to the ADA, the number of dentists over age 55 who left the workforce increased sharply by **27%** from 2020 to 2021. [https://www.ada.org/-/media/project/ada-organization/ada/ada-organization/files/resources/research/hpi/hpigraphic\\_dentist\\_retirements\\_increase.pdf](https://www.ada.org/-/media/project/ada-organization/ada/ada-organization/files/resources/research/hpi/hpigraphic_dentist_retirements_increase.pdf)

In 2017-2018, **48%** of Florida dentists had practiced for more than 20 years, pointing to a growing supply of older dentists serving the population.

[https://www.floridahealth.gov/programs-and-services/community-health/dental-health/reports/ documents/FloridaWorkforceSurveyReportofDentists2017-2018FINAL.pdf](https://www.floridahealth.gov/programs-and-services/community-health/dental-health/reports/documents/FloridaWorkforceSurveyReportofDentists2017-2018FINAL.pdf)

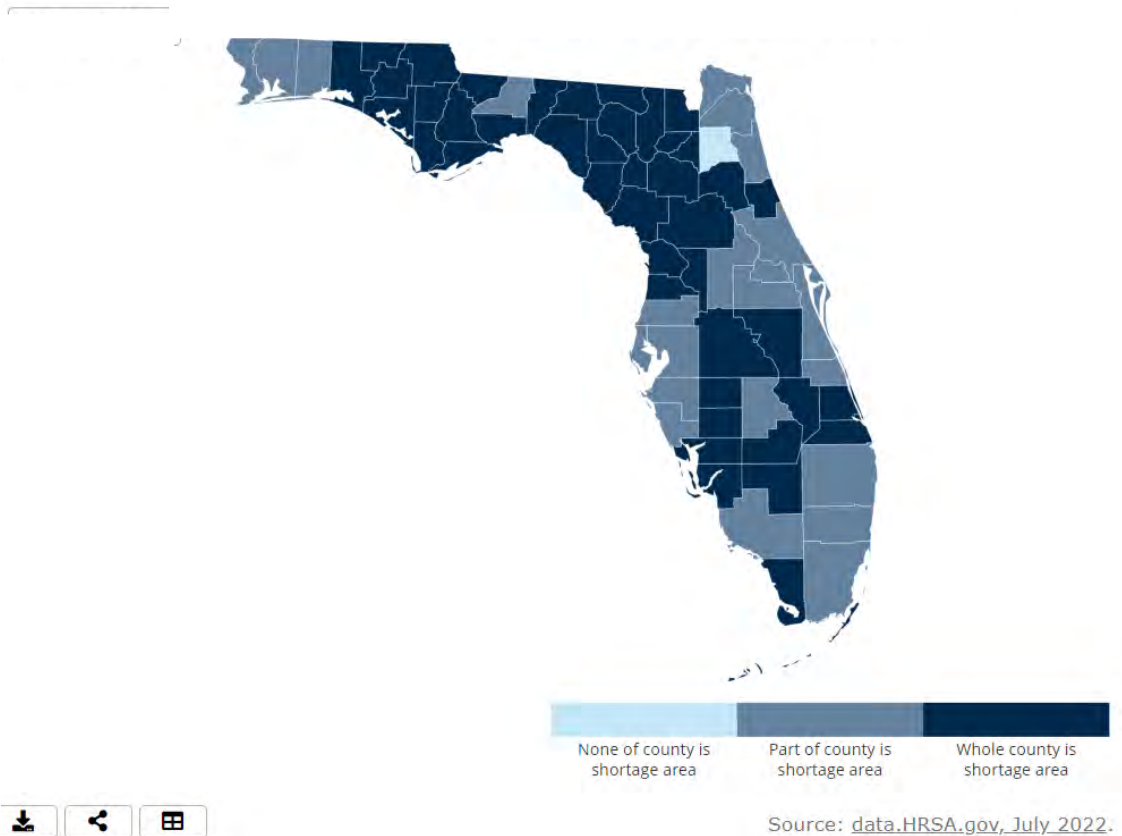
Further confounding the matter is the older population in Florida. Demand for industry services will come disproportionality from older adults, who tend to need more serious and more frequent dental care as they age.

## --Regional Disparity of Dental Services in Florida

The Rural Health Information Hub ( <https://www.ruralhealthinfo.org/> ) charts health care shortages in the U.S., including areas of low numbers of dental health providers. According to the Academy of General Dentistry, approximately 1,470 dentists provide care to about 1.5 million Americans in dental health professional shortage areas (HPSAs), or parts of the nation where dental care is hard to access. The need is most significant in rural HPSAs. The ADA echoes these findings. Indeed, middle and high income communities in urban and suburban settings are at or near saturation point. Future industry growth will occur in rural areas, inner cities, and lower income areas. The expansion of dental care through Medicaid will enable low-income adults to access the care they need in greater numbers and thus increase the burden of care.

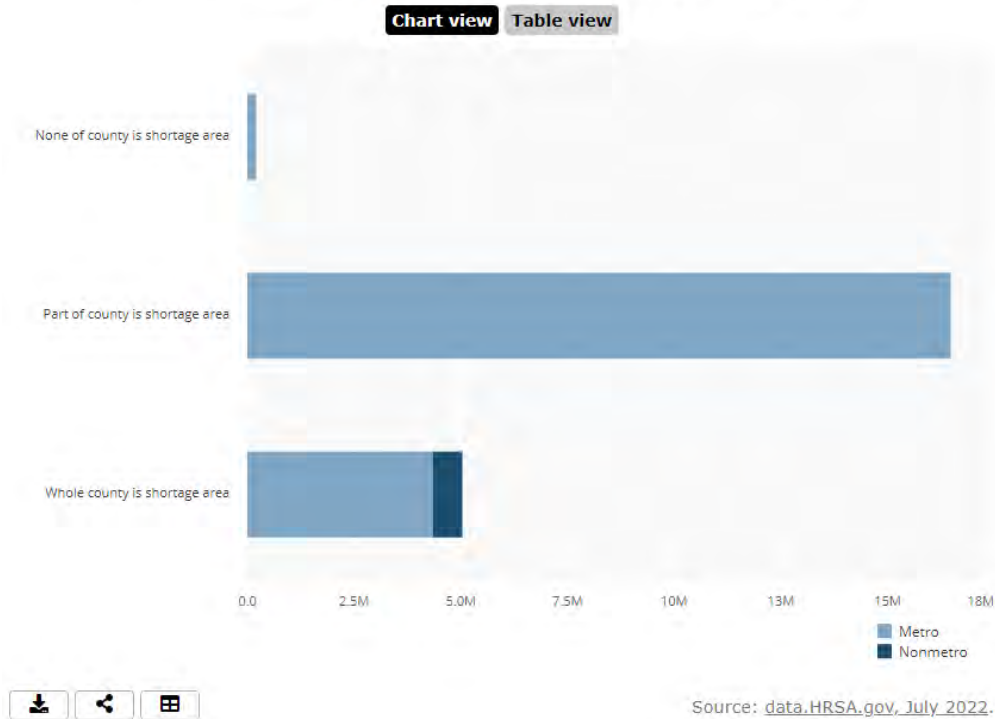
Below are graphics (<https://www.ruralhealthinfo.org/states/florida/charts>) that illustrate the *Dental Health HPSA* problem in the state of Florida. It is important to note that the definition from this source includes the dental workforce broadly (dentists, hygienists, etc).

## Health Professional Shortage Areas: Dental Care, by County, 2022 - Florida



The graphic below shows the population of Florida with respect to Dental HPSAs (Health Professional Shortage Areas). Again, this graphic is for dental health care professionals broadly. The majority of Floridians live in areas of shortage of dental care providers.

## Population in Dental Health HPSAs (Health Professional Shortage Area) for Metro and Nonmetro Counties, 2022 - Florida

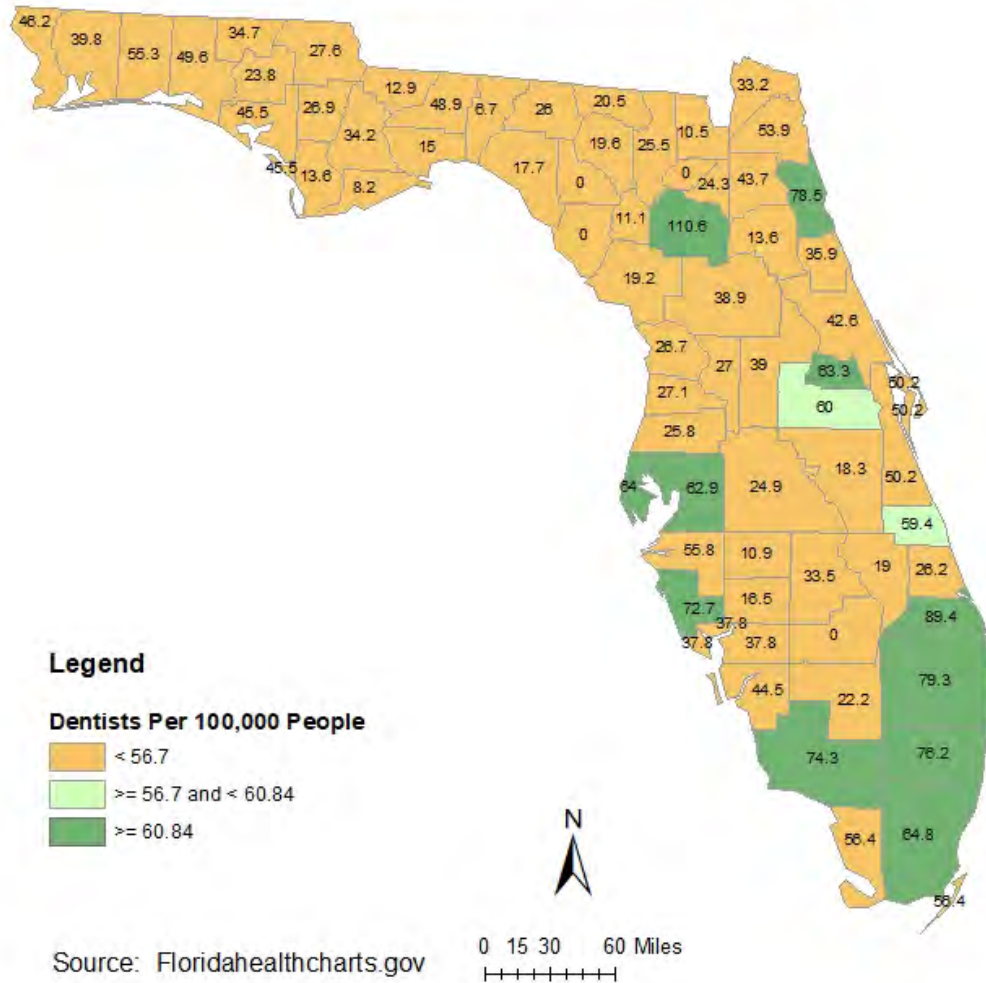


### Regional Disparity of Dentists

An examination of licensed Florida dentists per 100,000 population by county suggests problems in equity of access to dental care within the state.

<https://www.flhealthcharts.gov/ChartsReports/rdPage.aspx?rdReport=NonVitalIndNoGrp.DataViewer&cid=326> The map below generated by data from the above source indicates that only 11 of the 67 counties in Florida have rates at or above the U.S. average, while an additional 2 have rates at or above the Florida average. This leaves 54 counties in Florida with less than average access to dental care in the state.

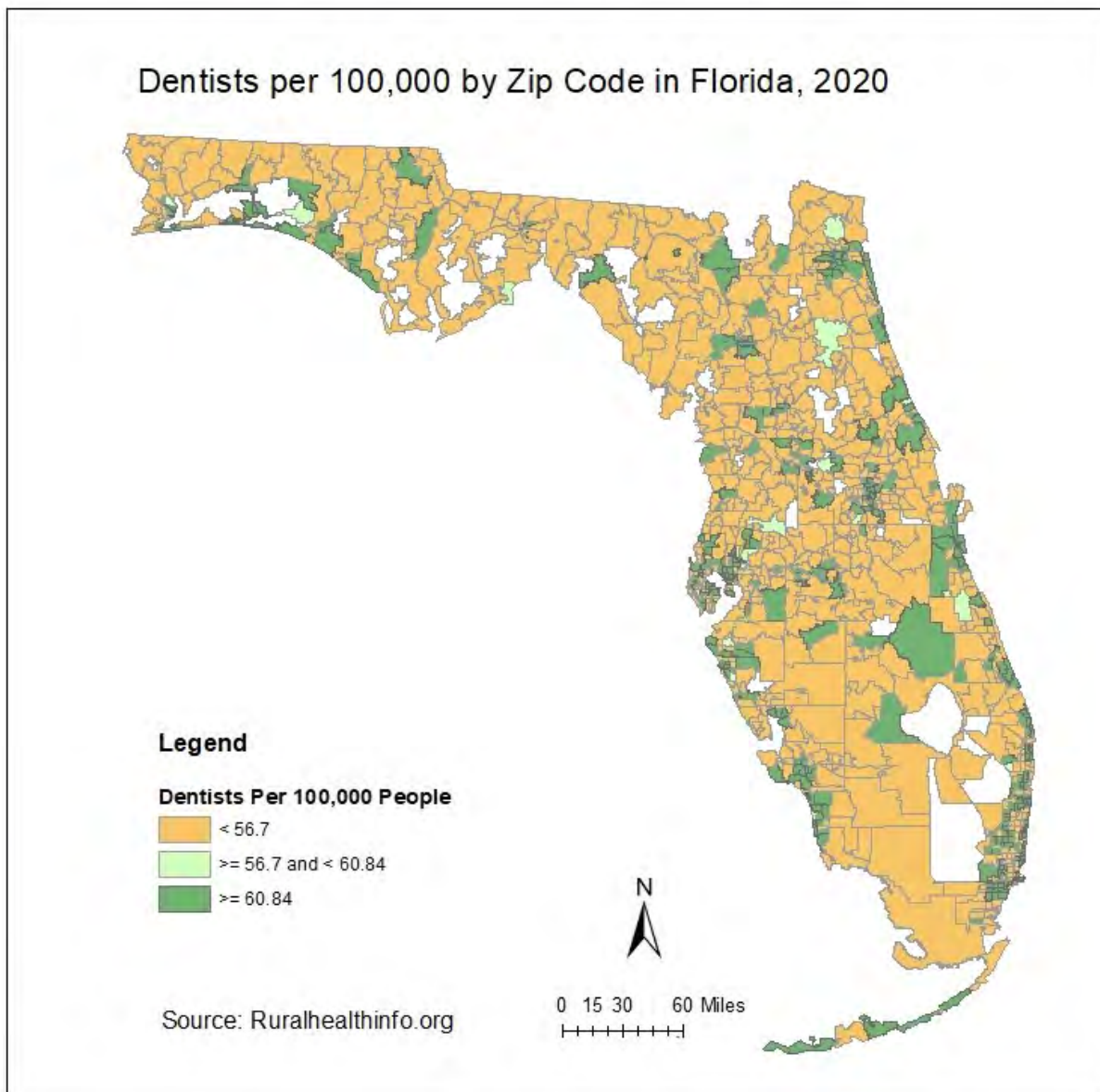
## Dentists per 100,000 by County in Florida, 2020-21



It is important to note that even looking at this data at the county level masks areas that are underserved. Counties with relatively higher numbers of dentists per 100,000 people may still have areas within them that are underserved. The map below (generated from data reported in the same source above) shows the same variable but at the zip code level. Some of these zip codes with lower values may of course simply be more residential, but it is important to remember that some of the zip code areas are concentrated in the poorer parts of the county with possible accessibility issues (transport or cultural) to other parts of the same urban area or county. For example, there are poor pockets of Miami-Dade that live in extreme poverty, and therefore, may not have transportation readily available for them to travel to other parts of the urban area for dental services, access to dentists who accept Medicaid or may have significant language barriers and may not be comfortable seeking dental care outside of their neighborhood. While **96%** of Florida dentists reported they were accepting new patients, but only **22%** were Medicaid providers.

<https://www.floridahealth.gov/programs-and-services/community-health/dental-health/reports/documents/FloridaWorkforceSurveyReportofDentists2017-2018FINAL.pdf>





The Health Policy Institute argues further that “the aggregate supply of dentists may be adequate in size when compared to the aggregate demand for dental care. However, there may be an insufficient number of dentists relative to need or demand for dental care among disadvantaged populations or in certain geographic areas.” [https://www.ada.org/-/media/project/ada-organization/ada/ada-org/files/resources/research/hpi/hpibrief\\_0521\\_1.pdf](https://www.ada.org/-/media/project/ada-organization/ada/ada-org/files/resources/research/hpi/hpibrief_0521_1.pdf)

To address the underserved, Florida has in the recent past (“Health Access Dental License” SB 1296/HB 1461) even allowed dentists licensed out of state to practice in settings for underserved populations in both urban and rural areas to help with the disparity in accessibility to dental care. In 2014, more than 163,000 Floridians visited the emergency department for a dental-related issue at a cost of more than \$234 million (<https://wusfnews.wusf.usf.edu/health-news-florida/2020-02-06/allowing-out-of-state-dentists-to-practice-in-florida-could-help-reach-more-in-need-dental-group>) and as was stated earlier, “In 2019, Florida hospitals billed more than \$624 million dollars for preventable ER visits and hospital admissions associated with painful oral health conditions. Taxpayers bear the brunt of these high bills as Medicaid paid for 40% of the visits.”

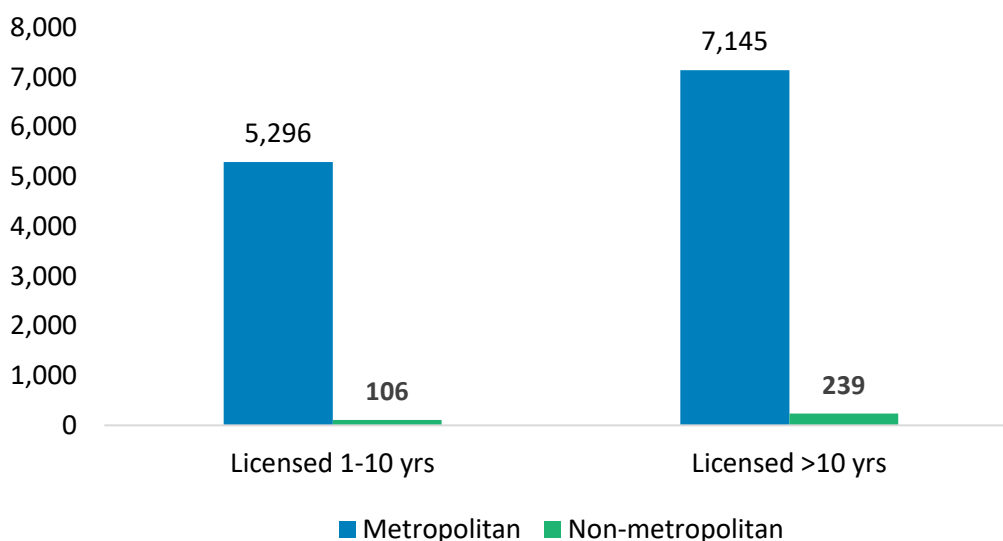
<https://www.gainesville.com/dental-care-barriers-florida>

Untreated dental problems have been documented to lead to a variety of serious health concerns such as cancer, diabetes, heart disease, lung disease and stroke, and in children malnutrition and poor school performance. <https://profiles.nlm.nih.gov/spotlight/nn/catalog.nlm.nlmuid-101584932X143-doc> and <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3482021/>.

The Florida Dental Association also requested \$773,000 from the state budget to fund Florida’s dental student loan repayment program ([Florida Statute 381.4019](#)), to help dentists practice in public health programs and serve low-income patients in designated rural and underserved areas. Governor DeSantis signed into law [HB 843](#) in support of the loan repayment program in 2019 (<https://wusfnews.wusf.usf.edu/health-news-florida/2019-06-26/dental-student-loan-repayment-program-signed-into-law> ). The program is in statute to support 10 new dentists each year for up to five years for \$50 thousand per year loan repayment (<https://www.floridatoday.com/story/opinion/2019/02/13/how-fix-floridas-shortage-dentists-poor-areas/2857754002/>). Yet in spite of all of these efforts, the disparity still exists, particularly rural vs. urban/suburban. In Florida, an additional layer to this problem is that the majority of our dental slots are in private institutions with higher tuition bills. Thus, the desire to practice in urban and suburban areas is even stronger for the private school graduates due to higher salaries in those areas that aid in tackling educational debt.

The majority of dentists in Florida with active licenses practice in urban areas as defined by the USDA’s urban classifications. Newly licensed practitioners, expressed as having an original license date between 2012-2022 largely practice in metropolitan areas, but are less likely to establish a primary practice location in a non-urban area than those licensed more than 10 years ago. Thus, the regional disparity of dentists in Florida could become greater in Florida as the non-urban dentists approach retirement.

Number of Licensed Dentists by Geographic Location in Florida  
(Metropolitan vs. Non-Metropolitan)



Source: 1) Health Care Practitioner Data Portal - Florida Department of Health, 2) USDA Economic Research Service – Urban Influence Codes.

One of the recommendations from the *Academic Program Assessment* (Appendix I) conducted for FAU by Hanover Research supports the main goal of the proposed program.

*“There is a growing need for dentists, but this does not occur evenly across the state. Middle and high -- income communities in urban and suburban settings are at or near saturation point. There is a need for qualified dentists in dental health professional shortage areas (HPSAs) across Florida. These areas are often rural and lower-income. FAU should partner with non-profits in underserved communities to enable students to conduct their clinical rotations in those communities. Doing so will yield many benefits, allowing FAU to serve the community, practice clinical skills, potentially draw outside funding, and encourage students to practice in rural Florida, where demand will be highest.”*

FAU has reached out to Melissa Thibodeau, Executive Director of the Heartland Rural Health Network. She writes (included in Appendix D)

*“Through our current Hardee DeSoto Community Health Worker Program, we are very aware of the great need for access to affordable and accessible dental care. Our prior work with Highlands County and a partnership with Samaritan’s Touch Care Center, the only free clinic in the Highlands, Hardee and DeSoto area, also allows us to speak to there being an echo of this need there as well.”*

### **Comment on Diversity of Dentists in the U.S.**

A search of the literature as well as our mentoring discussions with Texas Tech indicate a variety of strategies in place to increase the number of dental professionals and dentists in general who seek employment in these underserved areas and will be discussed later in this proposal. One problem identified early is the lack of diversity of dentists in the nation. Research has shown that health care providers, including dentists, from diverse backgrounds are more like to practice in underserved areas.

[https://jada.ada.org/article/S0002-8177\(21\)00095-7/fulltext?\\_ga=2.267235022.1584264463.1662221043-1405720035.1662221043](https://jada.ada.org/article/S0002-8177(21)00095-7/fulltext?_ga=2.267235022.1584264463.1662221043-1405720035.1662221043)

Diversity of dentists in the US. has improved over the past 15 years, but is still not reflective of the diversity in the U.S. population in general. In 2005, 79.8% of working dentists were white (67% of the U.S. population total was white at that time). By 2020, 70% of working dentists were white (60% of the U.S. population total was white at that time). The largest gain in dentist diversity was in the Asian population (11.8% in 2005 rising to 18% in 2020 with a corresponding change from 4.2% to 5.6% of the total U.S. population in general. The Hispanic plus African American population of dentists grew at a much smaller rate, from 7.9% in 2005 to 9.7% in 2020, while the total population of those groups summed rose from 26.6% to 30.8%. The African American dental population of dentists has remained relatively stagnant.

[https://www.ada.org/-/media/project/ada-organization/ada/ada-org/files/resources/research/hpi/hpigraphic\\_0421\\_1.pdf?rev=aa1f41177af94613a74a307adc11f2f0&hash=8F66BABF02828DB2E9A6D5D53908F2DD](https://www.ada.org/-/media/project/ada-organization/ada/ada-org/files/resources/research/hpi/hpigraphic_0421_1.pdf?rev=aa1f41177af94613a74a307adc11f2f0&hash=8F66BABF02828DB2E9A6D5D53908F2DD)

### **Comment on Addition of New Dentists to Florida Each Year**

According to the *Florida Department of Health Division of Medical Quality Assurance Annual*

*Report and Long-Range Plan for Fiscal Year 2021-2022,*

<https://www.floridahealth.gov/licensing-and-regulation/reports-and-publications/index.html>

at the end of fiscal year 2021-2022 there were 13, 113 dentists licensed as active in the state of Florida, with a total of 17,863 licensed adding inactive, out-of-state, military active and retired. Florida programs tend to graduate about 300-320 dentists per year, and of course, as Florida is a big state for in-migration, presumably some of those in-migrants would be dentists adding to the supply for the state.

Recall that Florida's population growth through the last decade was the 2<sup>nd</sup> highest of all states, growing by 14.6%. Population is projected to increase by 3.5 million (to 26 million) by 2030. <https://www.census.gov/library/stories/state-by-state/florida-population-change-between-census-decade.html>; <https://www.flchamber.com/>. Assuming a normal representation of the population is moving to Florida, the percentage of dentists in the mix would equate to .0006 of the total relocating. This is based on the population of the United States of 332,403,650 (<https://www.commerce.gov/news/blog/2022/01/us-population-estimated-332403650-jan-1-2022>) and the number of practicing dentist at 201,117 in the United States ([https://www.ada.org/-/media/project/ada-organization/ada/ada-org/files/resources/research/hpi/hpibrief\\_0521\\_1.pdf](https://www.ada.org/-/media/project/ada-organization/ada/ada-org/files/resources/research/hpi/hpibrief_0521_1.pdf)) or 61 dentists per 100,000 of the population. The resulting demonstrates that even if a normal distribution of dentists were moving to Florida, this would do little to address the already significant shortage—and relocates of non-dentists in-migrants would continue to exacerbate the problem.

Couple this with the consideration that the population relocating to Florida tends to be older, with Florida topping the statistics regarding the highest percentage of relocating retirees ([United Movers Study](#))—we further compound the shortage with individuals that are likely planning to no longer work, will work reduced schedules, and/or for an abbreviated period of time. With 39% of the inbound to the state falling into this demographic the incoming residents will likely add to the issue, not alleviate the burden.

Does in-migration of dentists into Florida (or current graduations within Florida programs) solve the rural shortage? Our mentoring discussion with Dr. Woodall (Texas Tech) supported the negligible impact of in-migration of dentists to the state for underserved areas. Dentists moving into the state are typically following the general population flows into a state, which favor urban and suburban areas. While in-migration of dentists may help in the overall state number of dentists per 100,000, perhaps even creating an oversupply in some areas, she felt it had very little to do with improving the ratio for areas populated with rural and minority inhabitants and in-migration was not an important part of their demand discussion with the state as the Texas Tech program was moving through the approval process.

Our interview with Joe Anne Hart at the Florida Dental Association (November 18, 2022), confirmed the above sentiment as she indicated that in-migration of dentists is unlikely to have impact on the shortage of dentists in underserved areas as these are not the geographic regions of Florida that are top choice of migrants, dental professionals or otherwise. More dentists moving to urban and suburban areas of Florida does not alleviate the dental HPSA problem in the state. As stated earlier, the Health Policy Institute argues that “the aggregate supply of dentists may be adequate in size when compared to the aggregate demand for dental care. However, there may be an insufficient number of dentists relative to need or demand for dental care among disadvantaged populations or in certain geographic areas.” [https://www.ada.org/-/media/project/ada-organization/ada/ada-org/files/resources/research/hpi/hpibrief\\_0521\\_1.pdf](https://www.ada.org/-/media/project/ada-organization/ada/ada-org/files/resources/research/hpi/hpibrief_0521_1.pdf)

Ms. Hart indicated that the question was not whether there was a need for dentists in rural and other parts of Florida populated by poorer and more culturally distanced groups. The big question from Florida Dental Association Staff is how can you attract dentists to those parts of the state.

Is the current and future demand for dentists in Florida as estimated by very broad projections from the U.S. Department of Labor's Bureau of Labor Statistics and the Florida Department of Economic Opportunity likely to be met or exceeded by new graduates of dentists from Florida programs coupled with in-migration of dentists from other states? Our research in putting together this proposal leads us to strongly believe that is not the whole story.

### **Matching Graduates with Dental HPSAs**

Again, the big question is how will FAU guarantee that its graduates will go into practice in underserved areas. Or taking a cue from Texas Tech (Appendix P), how do we generate a pool of students with the desire to practice dentistry in underserved areas, particularly more rural counties of Florida. While one cannot guarantee that graduates will choose that particular post-graduation path, Texas Tech took the approach of selecting students from the qualified pool who had the traits that were most likely to want to practice in underserved areas and creating experiences for them that will foster and even grow that desire. Our external consultant suggests that programs that combine incentives to graduates (such as tuition benefits, guaranteed employment offer contracts, funding for residency, etc) in exchange for a certain number of years of practice in underserved areas, coupled with an intentional recruitment plan of students who have a tie to these communities and are more likely to settle and practice in those communities, can see wins.

FAU philanthropic efforts for the College of Dentistry would eventually focus on raising funding to provide such incentives to enhance tuition revenues that would be utilized for the same purpose. Additionally, FAU would work to create rural training rotations so that there are clinical opportunities for dental students and dental residents to be exposed to underserved areas. CODA (the accrediting body for dental education) data suggests that for a class size of 80 to 100 students each year (our eventual target), the average number of patient visits annually would be in the range of 32000-39000. FAU would ensure that many of the clinical rotations would occur in underserved areas. As our external reviewer points out, if nothing else, the presence of the students serving clinical rotations will greatly add to the dental care in these areas.

We are learning from dental colleges around the U.S. that have set up rural clinics to aid in the geographic disparity of accessibility to dental services. We have analyzed successful programs at the University of New England, the University of Utah and the University of Washington and will design our rural clinical programs around facets of those successes that make sense for Florida's underserved communities. Upon approval of our program, site visits to some of the rural clinics of these institutions would be planned to find the model that we feel best fits FAU.

#### **-The University of New England**

The University of New England's College of Dental Medicine, the only dental school in Maine and in fact in Northern New England, offers opportunities for dental students to treat patients in the UNE Oral Health Center in Portland, ME during their first three years of the program and then at clinical sites throughout New England in their fourth year. The program acknowledges

that getting health practitioners to settle in rural areas is challenging.

Beginning in Summer of 2018, the university started an additional program sending 25 dental students to rural areas in Maine, Vermont and New Hampshire working under the supervision of licensed dentists. It is a 12-week program where students care for patients thus increasing service levels to the rural area while gaining practical experience of their own. The dentists also benefit as they are being exposed to the latest training and technology from the students themselves and are receiving this extra help and training at no charge.

<https://www.une.edu/news/2018/unes-efforts-address-shortage-dentists-rural-areas-featured-wcsh>

In 2019, the university expanded their initiatives to serve specifically elementary school children in rural communities in Maine in partnership with the Maine Area Health Education Center Network (AHEC), the Partnership for Children's Oral Health and the Opportunity Alliance.

<https://www.une.edu/news/2019/une-and-partners-collaborate-strategy-preventing-oral-disease-rural-communities>

According to the pieces cited above, some of these students from these programs at UNE do stay in the rural areas to practice after graduation.

### **-The University of Utah**

At the University of Utah, dental student residents perform clinical rotations that serve unique patient populations in community settings, thus providing students with experience in rural and underserved communities ( <https://dentistry.utah.edu/education/training-clinics> ). Students participate in multiple residency rotations for foundational clinical training. The University of Utah hospital provides the faster-paced and specialized training the students need, while opportunities to serve rural populations exist at the Greenwood Health Center in Midvale, UT (<https://dentistry.utah.edu/education/training-clinics/greenwood>), and through the Montezuma Community Health Center (<https://dentistry.utah.edu/education/training-clinics/montezuma-creek>) which networks throughout the state's Navajo community.

The latter is a [Federally Qualified Health Center \(FQHC\)](#) as part of a non-profit rural health system in southeastern Utah.

*“GPR [general practice residency] residents have the opportunity to work with a number of faculty dentists at Montezuma Creek Community Health Center, a clinic offering integrated medical and dental care alongside the Utah Navajo Health System (UNHS). The UNHS is a non-profit rural health system that provides medical and dental services to underserved communities in southeastern Utah, including the Navajo Nation. While residents primarily work in Montezuma Creek, they also have the occasional opportunity to work at UNHS clinics in Blanding and Monument Valley.”*

### **-The University of Washington**

The School of Dentistry at the University of Washington has become quite known for their RIDE program which graduated its first cohort of students in 2012. *“The UWSOD RIDE Program is a cost-effective, scalable model for increasing the number of dentists trained to meet the needs of rural and underserved populations. By building on the existing educational structure in Spokane*

*and the community health centers across the state, RIDE increases access to quality dental care in remote communities, enhances the diversity of state and regional healthcare workers, and improves the health care system by training team-oriented professionals.”*

<https://dental.washington.edu/ride/>

**--The RIDE Educational Model**

The RIDE curriculum includes a significant amount of training in rural and underserved areas to expand students’ familiarity and comfort in providing dental care for rural and underserved populations. This hands-on educational opportunity increases the likelihood that students will practice in these communities after graduation.

Phase	Description
ECI (Seattle)	RIDE students come to Seattle for a week-long Orientation followed by a 5-week Early Clinical Emersion (ECI) course. ECI is a great opportunity to explore the Seattle campus, connect with upper-level RIDE students, meet students from other RIDE cohorts, and learn the basics of clinical dentistry.
1st year (Spokane)	After ECI, RIDE students spend their first year of dental school at the EWU Spokane campus where UWSOD delivers high quality dental education. Using cutting-edge distance-learning technologies RIDE students are connected to the UWSOD campus and remotely attend many courses with their Seattle classmates. In addition, small group learning facilitated by EWU faculty enable an excellent student to faculty ratio while in Spokane.
RUOP	The summer after their first year, RIDE students spend 4-weeks rotating at an affiliated community health center in Central or Eastern Washington.
2nd and 3rd Year (Seattle)	Currently, students spend their 2nd and 3rd years of dental school at the UWSOD in Seattle and benefit from our robust clerkship and comprehensive care clinical training models. NOTE: The opportunity to spend the 2nd year at the EWU Spokane campus is in progress, pending funding.
4th Year (Seattle) + Extended Rotation	After completing their fall quarter at the UWSOD in Seattle, RIDE students spend their winter and spring quarters at an affiliated community health center in Central or Eastern Washington refining their clinical and professional skills under the supervision of UW affiliate faculty.

## Federally Qualified Health Centers (FQHC)

The examination of the programs above shows the importance of starting the clinical relationship through partnerships with several FQHCs (<https://www.fqhc.org/what-is-an-fqhc>). in order to train dental students in underserved areas lowering the start-up time and start-up costs of developing such rotations.

As listed by the [Health Resources and Services Administration \(HRSA\)](#), FQHCs:

- Qualify for funding under [Section 330 of the Public Health Service Act \(PHS\)](#).
- Qualify for enhanced reimbursement from Medicare and Medicaid\*, as well as other benefits
- Serve an underserved area or population
- Offer a sliding fee scale
- Provide comprehensive services (either on-site or by arrangement with another provider), including:
  - Preventive health services
  - Dental services
  - Mental health and substance abuse services
  - Transportation services necessary for adequate patient care
  - Hospital and specialty care
- Have an ongoing [quality assurance program](#)
- Have a [governing board of directors](#)

There are a large number of potential sites where FAU COD could engage in “service-learning rotations”, as have been successfully created with the intent of increasing the number of dentists working in underserved areas. There is good data to show success in these efforts over many years (<https://www.ruralhealthinfo.org/rural-monitor/uw-ride-dental-education/>).

These rotations will provide a month or longer experience wherein FAU COD students could temporarily relocate and undertake a significant portion of their clinical experience/training. During the next 2 years after approval of the degree program, FAU will engage in conversations with 8-10 or more FQHC that are currently active in providing dental services. We will seek arrangements whereby FAU students treat patients under the supervision of the FQHC attending doctors, who must be credentialed as outside faculty of FAU using CODA standards. Because the incremental encounters made by the FAU students are billable, the FQHCs would have, a small but significant incremental revenue in their clinic operations. This revenue will be used to cover the costs of students rotating into those faculties including their transportation and temporary housing costs. There would be no clinical/equipment or facilities costs with these rotations, as we would only partner with existing dental clinic operations initially, therefore clinical sites were not included in the LBR.



**B. Provide and describe data that support student demand for the proposed program. Include questions asked, results, and other communications with prospective students.**

Recall that in section 3A above, the shortage of dental school slots in Florida was discussed as hundreds of qualified dental students seek admission opportunities out-of-state. While some of these may not have wished to attend school in Florida in the first place, the fact remains that they were obviously qualified dental applicants as they were successful in gaining admission at reputable schools elsewhere.

FAU works with students who desire to apply for all professional health programs through the Pre-health Professions Office ([http://science.fau.edu/student\\_services/pre\\_health/index.php](http://science.fau.edu/student_services/pre_health/index.php)) housed within the Charles E. Schmidt College of Science. The primary mission of the office is to be a source of support and guidance for all undergraduate students, post-baccalaureate students and alumni of FAU interested in pursuing careers in the health professions. The office helps students prepare and submit their application packets. The numbers of students reaching out to the office have continued to grow during its 25+ years of existence (see table below).

Academic Year		Number of students with PRHP Attribute (GPA 3.0+)
2017-2018 <b>Total number 1175</b>	New PRHP Returning PRHP	666 509
2018-2019 <b>Total number 2693</b>	New PRHP Returning PRHP	989 1704
2019-2020 <b>Total number 3791</b>	New PRHP Returning PRHP	1593 2198
2020-2021 <b>Total number 4695</b>	New PRHP Returning PRHP	1693 3002
2021- 2022 <b>Total number 5347</b>	New PRHP Returning PRHP	1706 3641

Data provided by FAU's IEA

Pre-Health Professions advising and support staff serve a diverse group of students and majors within the university, and are located across the three major FAU campuses: Boca, Jupiter, and Davie. The Pre-Health Professions team is led by the Senior Associate Dean in the College of Science and the Director of Pre-Health Advising. Currently the Office includes five academic advisors in addition to one support staff member and work study student support. The Pre-Health Office works collaboratively with multiple FAU offices and departments to ensure a cohesive network of support for the Pre-Health and Pre-Dental student population, this network includes: admissions, registrar, first-generation office, University Advising Services, career services, multiple colleges, and other resources. Notably, the Pre-Health Professions Office advising staff work with and advise **twelve Pre-Health Student Organization** including the **Pre-Dental Student Organization** with a membership of ~200 students.

Pre-Health Professions students (including Pre-Dental students) are not required to major in science, hence the Pre-Health Professions team offers academic support that includes a parallel plan for undecided students and those who are part of the College of Science Career Changer Certificate pathway. Throughout each semester and the academic calendar, the Pre-Health Professions Office provides essential and critical information to Pre-Health Professions students

to ensure timely graduation and to enable them to be competitive applicants to medical and dental schools, etc. These concierge services include but are not limited to: the management of required courses for dental programs, leadership experience, shadowing placement, Pre-Health Professions week activities and networking events, continuing education, MCAT and DAT preparation and support, and certificate courses to give FAU students a competitive edge in each application cycle. The Pre-Health Professions Office provides workshops (the basics and beyond the basics) for all pre-health students, facilitates placement in summer enrichment programs, and helps connect students to research opportunities among faculty members throughout the university and across disciplines.

Since its inception over 25 years ago, the **College of Science Pre-Health Professions (PHP) Committee** has been successfully assisting students in gaining admission into medical and dental schools, etc., of their choice. The PHP Committee members include medical practitioners, faculty, and staff from across FAU. The principal aim of the PHP Committee is to help each FAU student develop a realistic view of their potential for a specific health professions career, and then to create a uniquely tailored preparation plan (for each student) that will lead to the successful attainment of their intended health career goals. To that end, the Director of the Pre-Health Professions Office, maintains a liaison with all Florida Health Profession Graduate Programs within the State of Florida, as well as many out-of-state programs, and is qualified to provide students with a clear insight into basic requirements and acceptance factors for entering a wide range of programs such as Pre-Dental programs.

Each year, from May through November, the Pre-Health Professions Office assists over 150 students through the application (to medical, dental schools, etc.) process. The Office offers multiple services for assisting students in terms of the application process: Committee Letter Packet, Individual Packet Upload, Mock and MMI interviews, personal statement and application preparations (APPS), and alumni & graduate assistance.

The Pre-Health Professions Office tracks data on FAU students who interview with the PHP Committee and are admitted into medical, dental, physician assistant, optometry, pharmacy, and veterinary programs each year. On average, the acceptance rate (to dental, medical, and veterinary programs, etc.) for students that interviewed with the PHP Committee is approximately 75%+. Note: the past two years were impacted due to the COVID-19 pandemic (see table below) and loss of staff.

<b>APPLICATION CYCLE</b>	<b>INTERVIEWED BY FAU's PHP COMMITTEE* (and applied)</b>	<b>ACCEPTED (medical, dental, PA, pharmacy, podiatry, optometry, and veterinary)</b>	<b>Percent</b>
<b>2022-2023</b>	N/A	N/A	N/A
<b>2021-2022</b>	32	27	85%
<b>2020-2021</b>	60	46	76%
<b>2019-2020</b>	55	42	76%
<b>2018-2019</b>	62	45	72%
<b>2017-2018</b>	63	46	73%
<b>2016-2017</b>	60	37	62%
<b>2015-2016</b>	81	53	65%
<b>2014-2015</b>	72	60	83%
<b>2013-2014</b>	47	32	68%

2012-2013	81	70	86%
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\*The above numbers of applicants do not include students who used Pre-Health Professions Office services to upload their applications packets but did not interview with the PHP Committee.

The creation of a College of Dentistry at FAU will bring new faculty research mentors to FAU who will partner with undergraduate research students in a similar way to the existing College of Medicine model. Dentistry is a service-focused profession, and dental school admits demonstrate a commitment to serving the community. This fits well with the established relationship with the College of Medicine model and the FAU Health Network ecosystem with affiliated professionals in the service area providing opportunities for shadowing, volunteering, and professional mentorship as well as partnerships to observe patients and provide care to underrepresented populations. The Pre-Health Professions Office offers a for credit **Medical Internship Course** that is already supporting such shadowing opportunities and placement to our Pre-Health students both in medical and dentistry fields, etc.

Additionally, with the creation of a dental program at FAU, the institution will expand our successful medical pipeline programs and education initiatives to include and stimulate interest in dentistry among the best and brightest students through our initiatives with the Wilkes Honors College, FAU High School, Star MD which is targeted to athlete/scholars and our Medical Scholars partnership with FAMU. We will be able to take advantage of the fact that FAU has the most diverse student body in the SUS to help add to the diversity of dentists in the state.

<http://med.fau.edu/newsandevents/CoM%20Medical%20Pipeline%20Programs%2012.6.16.pdf>

FAU’s Pre-Health Professions office will participate in as well as develop outreach pipeline programs in minority dominated high schools in the state and eventually develop a robust scholarship program for such through fundraising and use of tuition revenue in the program.

Data supplied by the office for the period of Fall 2015-Spring 2022 indicated that 58 FAU students used the services of the office to apply to dental programs throughout Florida and the U.S., and 39 of those students were accepted into dental programs. The school that accepted and enrolled most of the FAU applicants during the period was Nova Southeastern University (14), with the University of Florida a distant second (7 students). The remainder of the accepted students (18) enrolled at institutions in state at Lake Erie Dental College (3) or out of the state of

We expect sources of student applicants to come from a variety of institution both within and beyond our local area. Conversations with the University of West Florida and FAMU have been particularly positive about supplying a pipeline of students to the FAU program. As noted in their letters of support in Appendix D,

*“We would welcome the opportunity to work with FAU on potential pathways for students from UWF and this part of the state to prepare to meet the FAU program’s prerequisite requirement. We would also welcome the opportunity to assist FAU with recruiting students from the Usha Kundu MD College of Health at FAU...we would welcome further discussion of joint faculty and paths where FAU pre-dentistry students begin coursework at UWF and then move seamlessly into FAU’s dentistry program.”*

**C. Complete Appendix A – Table 1 (1-A for undergraduate and 1-B for graduate) with projected student headcount (HC) and full-time equivalents (FTE).**

- Undergraduate FTE must be calculated based on 30 credit hours per year
- Graduate FTE must be calculated based on 24 credit hours per year

**In the space below, provide an explanation for the enrollment projections. If students within the institution are expected to change academic programs to enroll in the proposed program, describe the anticipated enrollment shifts and impact on enrollment in other programs.**

FAU aims to create a new college of dentistry and to offer the DMD program starting in 2026. We plan to admit 45 students in year 1 and have a staggered increase to 90 students over 4 years with a total enrollment of 350 students once fully enrolled (assuming attrition). Once we achieve desired class size, we anticipate the majority of students will come from public colleges and universities within the state of Florida.

We originally looked at 65 admits per year, but when we saw the dearth of dentists and capacity (even with proposed expansions at Nova and UF), we knew our number was inadequate if Florida were to ever achieve ADA requirements. In reality, even at 90, we are still short, but starting a school with greater than 90 (achieved over a period of years) was as big of a reach as we thought appropriately manageable.

Based on Appendix A – Table 1-B, the projected distribution of 71% of all students in the DMD program will be Florida residents, with 61% graduating from a Florida public college or university. This data mirrors the FAU college of medicine enrollment distribution currently, with 75% of entering student identifying as residents of Florida. This number (once full enrollment was achieved) has increased slightly each year. We would expect a similar trend with the college of dentistry.

FAU is proudly recognized as a Hispanic-Serving Institution. Clearly demonstrated in other professional programs (college of medicine, engineering, and nursing notably), FAU not only attracts underrepresented members of the community into the health science and engineering programs, we have an outstanding record of retaining these individuals within our local community and state—with more than 50% of our professional program graduates remaining in Florida. We would endeavor in a similar manner with the College of Dentistry to ensure a comparable outcome.

*NOTE: BOG staff raised a question about the clarity of our student enrollment projections. The LBR projection of 350 represents the end target enrollment ( $90 \times 4 = 360$ ) goal minus some expected attrition. The 293 quoted in Appendix A, Table 1-B of the proposal represents the first 5-years of the program. We project the first cohort class to be 45 and will rise annually until we reach 90 cohort admits per year. As the 293 is a 5-year estimate, the first class of 45 will have graduated by then, and therefore are not in the 293 total.*

**D. Describe the anticipated benefit of the proposed program to the university, local community, and the state. Benefits of the program should be described both quantitatively and qualitatively.**

Qualitatively— The proposed program will benefit the university and local community by growing the reputation of Florida Atlantic University, also delivering returns on the state’s investments in FAU as a growing national university with a uniquely-competitive advantage as an institution that is incredibly diverse and also producing high levels of research activity. In recent years, FAU has become one of the nation’s highest ranked institutions for social mobility (No. 36 in *US News and World Report*), diversity (No. 12 in *Diverse: Issues in Higher Education* for degrees awarded to African Americans, and Top 50 in both *The Chronicle of Higher Education Almanac’s* Campus Diversity Index and *US News and World Report’s* Campus Ethnic Diversity Index), student success (Top 3 in Degree Completion from *Association of Public and Land-grant Universities* and Top 5 from *Eduventures*), and in overall national ranking (No. 72 in *Washington Monthly* among private and public institutions and No. 140 in *US News and World Report* among top public schools). These accolades will continue to grow in number and in impact with the establishment of a new dentistry program.

Quantitatively— The primary educational outcomes of the proposed programs include student enrollment and graduation numbers. The primary workforce outcomes include the number and percentage of students who successfully pass the National Board Dental Examination Boards (Part 1 and 2) and enter the dental workforce in the underserved areas of Florida. This program would increase the number of dental graduates and will recruit students likely to stay in the region and develop ties to the community that increases this likelihood. The expected returns on investment (ROI) include increases in the number and geographic distribution of health care employees added to the workforce, including the regional and state of Florida workforce.

**E. If other public or private institutions in Florida have similar programs that exist at the four- or six-digit CIP Code or in other CIP Codes where 60 percent of the coursework is comparable, identify the institution(s) and geographic location(s). Summarize the outcome(s) of communication with appropriate personnel (e.g., department chairs, program coordinators, deans) at those institutions regarding the potential impact on their enrollment and opportunities for possible collaboration in the areas of instruction and research.**

The proposed college of dentistry would confer a Doctor of Dental Medicine degree. The corresponding six-digit CIP Code for such programs (including Doctor of Dental Surgery) is 51.0401. The National Center for Education Statistics characterizes this instructional program as stated below:

**CIP Code 51.0401; Title: Dentistry (DDS, DMD).**

*A program that prepares individuals for the independent professional practice of dentistry/dental medicine, encompassing the evaluation, diagnosis, prevention, and treatment of diseases, disorders, and conditions of the oral cavity, maxillofacial area, and adjacent structures and their impact on the human body and health. Includes instruction in the basic biomedical sciences,*

*occlusion, dental health and prevention, oral pathology, cariology, operative dentistry, oral radiology, principles of the various dental specialties, pain management, oral medicine, clinic and health care management, patient counseling, and professional standards and ethics.*

There are only three institutions in the state of Florida that offer this degree program: the University of Florida (UF), Nova Southeastern University (NSU), and Lake Erie College of Osteopathic Medicine (LECOM). Only UF is a public school with its main campus in Gainesville and smaller instructional centers around the state—UF St. Petersburg Dental Center, UF Wildlight/JAX Center, UF NCEF Pediatric Dental Center and the UF Hialeah Dental Center. NSU in Davie and LECOM in Bradenton are both private institutions. Nova Southeastern has recently announced expansion of the NSU International Dental program in the Tampa Bay area. This three-year program provides a pathway for internationally trained dentists to practice in the USA.

As described in the enrollment projections (III. C.) very little to no impact is anticipated for the three organizations with regards to enrollment. Currently all three institutions have an extraordinarily high application rate, very low acceptance rate, and well above the national average applicant credentials. The abundance of supply and scarcity of availability will have very little to no impact to the overall demand for the programs within the state.

As for opportunities to collaborate, Nova Southeastern University, although a private institution, is the closest geographically at 45 minutes from the FAU main campus. FAU has contacted NSU's leadership (dean of the college of medicine) and would seek opportunities to provide joint educational opportunities as appropriate. These would include grand rounds, journal club, invited speakers and other non-classroom learning. A potential collaboration with research is also being explored.

As part of the SUS of Florida, FAU would seek a mentoring institution relationship with The University of Florida (UF). The UF college of dentistry is highly regarded due to its longstanding and preeminent dental sciences programs. Accordingly, FAU has requested and received a letter of support for this application. Geography will drive the focus on specific collaborations. As stated in II.C., research being the most likely.

Collaborations with LECOM would be most challenging. LECOM was originally chartered in Pennsylvania in 1992 and has an expansion campus in Bradenton, Florida that is located nearly 4 hours from the FAU campus in Boca Raton, Florida; however, LECOM's primary teaching site is in at their Lake Erie, Pennsylvania location. Given the differences in organizational structure and constraints, both NSU and UF seem more likely collaborators. However, FAU will continue to include LECOM in conversations to identify any opportunity to work together in the dental health professional community.

Note that in order to obtain a dental license and practice in Florida, one must graduate from a CODA accredited dental school and complete the licensure and licensure examination requirements of the Florida State Board of Dentistry (<https://floridasdentistry.gov/licensing/dentist/>). Completion of the CODA accreditation is tantamount to completion of requirements for licensure in Florida, along with taking the various examinations (ethics and clinical ADEX exams). Coursework in FAU's DMD program will be planned meticulously with CODA accreditation and Florida licensure in mind, and as a result will have a great deal of similarity with other programs in the state.

## Communications:

University of Florida—Email obtained from UF Provost showing no objection to the program (Appendix D).

Nova Southeastern University—Have reached out to discuss collaboration with the Nova Dean of the College of Dental Medicine. It was a welcomed conversation for collaboration (Appendix D).

Lake Erie College of Osteopathic Medicine—Have reached out, but not received a response. (See comments from FAU COM staff in Appendix D.)

**F. Describe the process for the recruitment and retention of a diverse student body in the proposed program. If the proposed program substantially duplicates a program at FAMU or FIU, provide a letter of support from the impacted institution(s) addressing how the program will impact the institution's ability to attract students of races different from that which is predominant on the FAMU or FIU campus. The institution's Equal Opportunity Officer shall review this Section of the proposal, sign, and date the additional signatures page to indicate that all requirements of this section have been completed.**

The College of Dentistry will contribute to FAU's strong tradition of promoting diversity and inclusion (highlighted in the FAU Strategic Plan for the Race to Excellence 2015-2025) by promoting diversity and inclusiveness in the curriculum and through our efforts to recruit a diverse and inclusive body of students, faculty, and staff.

Diversity among dental students: In order to achieve the COD's goal of admitting, training, and graduating a diverse student body, the COD admissions process will emphasize a holistic approach in evaluating dental school applicants. The totality of the applicant's academic and personal journey is reviewed and considered during the admissions process. The COD will track diversity outcomes for the race/ethnicity and socioeconomically disadvantaged backgrounds to monitor the success of our pathway programs.

It has been well documented in healthcare that groups historically underrepresented and/or for low-income backgrounds more often care for underserved populations .[\[1\]](#), [\[8\]](#), [\[15\]](#) Specifically, greater proportions of healthcare professional school graduates who are women and self-identify as underrepresented are more likely to practice in underserved regions. [\[17, 28, 41\]](#) . These considerations are thus essential as we serve the need for the State of Florida. To do this, the COD may emulate pathway programs established by the Schmidt College of Medicine (COM) at FAU.

COM has pipeline programs within the local community with Title 1 schools and with the FAMU – FAU MSP. The former focuses on the recruitment of socioeconomically disadvantaged middle and high school students (predominantly Hispanic and Black) into healthcare careers. This highly successful program has engaged more than 2,270 middle and high school students from 2015-2018, with all high school graduates pursuing higher education in the healthcare field. The latter, a partnership with FAMU, one of the largest Historically Black Colleges/Universities, focuses on the recruitment of high school seniors into an eight-year Bachelor of Science-MD program, where accepted students complete their bachelor's degree at FAMU and are provided a

conditional admission to the COM. Both programs have demonstrated success in increasing the number and diversity of individuals entering the healthcare workforce and both programs have had continuous and sufficient financial and personnel support. The programs are funded by the COM, the school district and philanthropic sources. The overall success of diversity initiatives and pipeline programs in the recruitment of medical students is reflected in the composition of the medical student body: 23 (9%) Black/AA; 35 (14%) Hispanic; 66 (26%) socioeconomically disadvantaged. We predict similar can be done in the COD.

The COD faculty and staff recruitment processes will comply with FAU guidelines for the achievement of a diverse university community, and the COD's recruitment practices will focus on attracting a qualified and diverse pool of candidates with particular attention to candidates from underrepresented racial and ethnic groups to serve as role models for similar students. The COD will strive to support the promotion of all faculty through academic ranks, tenure application and opportunities for growth and development as leaders at the College, University and national level. The COM and the COM's ODI will work closely with FAU's HR and OEIC to ensure that faculty and staff searches yield a diverse candidate pool who are treated equitably. FAU has a formal anti-discrimination/anti-harassment regulation, Regulation 5.010, in use and publicly available online. Faculty and staff are provided training on this regulation during their orientation process to FAU. Medical students receive information on this regulation and the processes.

## IV. Curriculum

**A. Describe all admission standards and all graduation requirements for the program. Hyperlinks to institutional websites may be used to supplement the information provided in this subsection; however, these links may not serve as a standalone response. For graduation requirements, please describe any additional requirements that do not appear in the program of study (e.g., milestones, academic engagement, publication requirements).**

### Admission Standards

Admission to the program is expected to be highly competitive, as at all US dental schools. Applications for admission would be made through the American Dental Education Association (ADEA) Associated American Dental Schools Application Service (ADEA AADSAS®), the centralized application service for all U.S. dental schools ([https://www.adea.org/GoDental/The\\_application\\_to\\_dental\\_school\\_ADEA\\_AADSAS.aspx](https://www.adea.org/GoDental/The_application_to_dental_school_ADEA_AADSAS.aspx))

Required prerequisites for a successful application would include:

- Dental Admission Test. Applicants must take the exam no later than September of the year preceding the one in which they hope to enter the College of Dental Medicine. Scores must be no more than three years old at the time of application.
- A bachelor's degree from a college or university located in the United States or Canada and accredited by a regional accrediting agency.
- The following prerequisite courses. All prerequisites must be graded credits earned at a college or university located in the United States or Canada and accredited by a regional accrediting agency.
  - Two semesters ((three quarters) of English, literature, or writing
  - Two semesters (three quarters) of biology with lab,



- Two semesters (three quarters) of general chemistry with lab,
- Two semesters (three quarters) of organic chemistry with lab and
- Two semesters (three quarters) of physics with lab.
- Credits earned in Study Abroad programs are acceptable if they appear on the transcript of a regionally accredited college or university along with the number of credits awarded for each course.
- AP credit may be used for some of the requirements but in those cases, it is expected that the student will take higher-level courses in that discipline.
- Online courses will be considered on a case-by-case basis and preference will be given to applicants who have done the majority of their preparation at the senior college level.
- Courses that are recommended but not required for admission include mathematics, biochemistry, cell and molecular biology, genetics and statistics.
- At least 6 cumulative months of full-time employment in any field
- At least 100 cumulative hours of meaningful community service
- A demonstrated interest in, and knowledge of, oral health care
- Letters of reference: either one composite letter of evaluation written by the pre dental/premedical advisory committee at the applicant's school, or three individual letters from faculty members who have taught the applicant. At least two of the letters should be from a professor that has taught the applicant in the sciences, and one from a non-science professor who has taught the applicant and can adequately speak to both their academic readiness and personal suitability for the pursuit and practice of dentistry.
- A background security check that reveals no felony record.
- US citizenship or permanent residency of the United States
- Favorable interview

Important experiences and attributes in an applicant include:

- Evidence of
  - perseverance and resilience
  - high ethical standards
  - maturity and the ability to self-assess
  - good organizational skills
  - leadership skills
  - manual dexterity skills, through hobbies or other activities
- Broad life experiences
- A demonstrated commitment to public service and underserved communities, including rural populations
- Experiences working in teams and embracing diversity of thought
- Participation in fieldwork and community outreach programs

Other experiences and attributes that may be considered include:

- A record of shadowing oral health care professionals
- Research experience
- Participation in public health programs that support healthier behaviors and neighborhoods, and better access to healthcare services
- Scholarships and Service Awards
- Other achievements such as participation in organized sports, music, etc.
- A record of overcoming significant life challenges
- Participation in enrichment programs, post-baccalaureate programs, summer health

professions educations programs, etc.

## Requirements for Graduation

To graduate with a DMD, students at the FAU College of Dental Medicine must satisfactorily complete all of the following:

1. All required courses in the predoctoral curriculum.
2. All required clinical rotations in the predoctoral curriculum.
3. The U.S. Integrated National Dental Board Examination (INDBE)
4. All required Entrustable Professional Activity and competency assessments of the FAU College of Dental Medicine. In case of failure, no more than 3 attempts of any of these assessments will be permitted during any academic year.
5. A global assessment of clinical professional activities and judgement requiring an in-house cumulative OSCE, the DL-OSCE, or a 3-month rotation in a community clinic performing dental care in a competent manner. In case of failure, no more than 3 attempts will be permitted during the academic year of graduation.

### **DLOSCE COMPOSITION IS**

- Restorative 24%
- Prosthodontics 19%
- Oral Path, pain mgt, TMD 13%
- Medical emergencies and Rx 11%
- Perio 10%
- Oral Surg 9%
- Endo 8%
- Ortho 6%
- Dx and Tx planning are in all topics
- All topics must also include patients of all ages + medically complex + with disabilities

The exam is all about clinical decision-making in “the tasks of dentistry”, applying the factual knowledge from dental education to patient care, but does not ask questions directly about the recall of facts.

The tasks of dentistry and how they were derived are described in the ***DLOSCE Technical Report*** of the JCNDE at [https://jcnde.ada.org/~media/JCNDE/pdfs/DLOSCE\\_Technical\\_Report.pdf?la=en](https://jcnde.ada.org/~media/JCNDE/pdfs/DLOSCE_Technical_Report.pdf?la=en).

**B. Describe the specific expected student learning outcomes associated with the proposed program and include strategies for assessing the proposed program's learning outcomes. If the proposed program is a baccalaureate degree, include a hyperlink to the published Academic Learning Compact and the document itself as Appendix C.**

### **Required Entrustable Professional Activity assessments of the College of Dentistry**

Graduates of the College of Dentistry must demonstrate their ability to independently perform the following professional activities to community standards at the level of a beginning general dentist, before graduation. These professional activity assessments include all the competency assessments required by the Commission on Dental Accreditation (CODA).

## **Expected Learning Outcomes for Dental Medicine**

	Description of Learning Outcome	Assessment Method(s)
<p><b>EPA 1:</b></p>	<p><b>Gather a history and perform a physical examination</b></p> <p>1.1 Identify the patient’s chief complaint and its associated signs and symptoms.</p> <p>1.2 <b>Collect</b>, assess, and interpret the patient’s medical, dental, medication, and psychosocial history, and other relevant records.</p> <p>1.3 Examine and assess the patient, including the head, neck, oral cavity, accessible oropharynx, visible skin, and other relevant and appropriate areas, and the patient’s vital signs.</p> <p>1.4 Interpret the clinical findings, distinguishing abnormal findings that require follow-up from those within the range of normal findings.</p>	<ul style="list-style-type: none"> <li>• OSCE = OSCE</li> <li>• Portfolio = PFO</li> <li>• Multiple choice exam = MCQ</li> <li>• Patient-based assessment = PAT*</li> <li>• Simulated patient-based assessment = SIM*</li> </ul> <p><i>*These may be Entrustable Professional Activities (EPA) Assessments or conventional competency assessments.</i></p> <p><b>OSCE, PFO, MCQ, PAT</b> <b>OSCE, PFO, MCQ, PAT</b></p> <p><b>OSCE, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p>
<p><b>EPA 2:</b></p>	<p><b>Formulate and prioritize a differential diagnosis</b></p> <p>2.1 Estimate the most likely disease process and tissue of origin for the condition</p> <p>2.2 Develop a prioritized differential diagnosis</p> <p>2.3 Select a working diagnosis</p>	<p><b>OSCE, PFO, MCQ, PAT, SIM</b> <b>OSCE, PFO, PAT, SIM</b> <b>OSCE, PFO, MCQ, PAT, SIM</b></p>

<p><b>EPA 3:</b></p>	<p><b>Recommend and interpret common diagnostic and screening tests</b></p> <p>3.1 Order appropriate diagnostic tests and imaging based on the differential and working diagnosis.</p> <p>3.2 Interpret the results of the diagnostic tests and imaging to select the most likely diagnosis, and if necessary order further appropriate diagnostic tests and imaging.</p> <p>3.3 Use the results of the tests to decide the most likely diagnosis and whether this is a final diagnosis.</p>	<p><b>OSCE, PFO, MCQ, PAT, SIM</b> <b>OSCE, PFO, PAT</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p>
<p><b>EPA 4:</b></p>	<p><b>Formulate a comprehensive or problem-oriented treatment plan</b></p> <p>4.1 Diagnose and establish a prognosis for oral and maxillofacial diseases and conditions.</p> <p>4.2 Identify the rationale for and select appropriate clinical procedures</p> <p>4.3 Establish a comprehensive person-centered treatment plan for the management of dental findings</p> <p>4.4 Perform an assessment of the outcome of a comprehensive treatment plan and establish an appropriate plan for the maintenance of the patient's oral condition.</p>	<p><b>OSCE, PFO, MCQ, PAT, SIM</b> <b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>PFO, PAT, SIM</b></p> <p><b>OSCE, PAT, SIM</b></p>
<p><b>EPA 5:</b></p>	<p><b>Obtain informed consent for tests, procedures, or treatment plans</b></p> <p>5.1 Educate, counsel, and communicate effectively with the patient and/or their surrogate decision-maker using health literacy principles to facilitate the process of shared decision-making about treatment plans, health promotion, and disease prevention.</p> <p>5.2 Achieve informed consent for the test, treatment plan or procedure</p>	<p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>PAT, SIM</b></p>

<p><b>EPA 6:</b></p>	<p><b>Prescribe, administer, or recommend appropriate medications</b></p> <p>6.1 Prevent and alleviate patient fear, pain, or distress during dental procedures, using appropriate behavioral techniques, local anesthesia, and minimal-level conscious sedation.</p> <p>6.2 Assess risk for, prevent, detect, and manage substance abuse and dependency, including referral to other appropriate health care providers as appropriate.</p> <p>6.3 Assess risk for, prevent, and manage complications arising from the use of therapeutic and pharmacological agents in patient care.</p> <p>6.4 Choose appropriate pharmacological agents to treat oral and maxillofacial conditions and pain, exhibiting vigilance about the possibility of future dependency.</p> <p>6.5 Prescribe or administer appropriate medications</p>	<p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PAT, SIM</b></p>
<p><b>EPA 7:</b></p>	<p><b>Document a clinical encounter in the patient record</b></p> <p>7.1 Write a clinical note in SOAP format.</p> <p>7.2 Maintain patient records in accordance with jurisprudence and ethical requirements</p> <p>7.3 Use current information technology methods to identify, record, store, and transmit patient information in a secure and private manner</p>	<p><b>OSCE, PAT, SIM</b></p> <p><b>OSCE, PAT, SIM</b></p> <p><b>OSCE, PFO, PAT, SIM</b></p>
<p><b>EPA 8:</b></p>	<p><b>Form clinical questions and retrieve evidence to advance patient care</b></p> <p>8.1 Use critical thinking and problem-solving skills to assess and communicate the validity of lay health-related literature</p> <p>8.2 Locate and critically assess new advancements in research, technology and treatment with regard to their use in evidence-based patient care.</p>	<p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ</b></p> <p><b>OSCE, PFO, MCQ</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p>

	<p>8.3 Critically assess emerging trends in economics, society, and health care to anticipate and accommodate their impact on the provision of oral health care.</p> <p>8.4 Evaluate and utilize available and emerging laboratory, clinical, informational and other resources to facilitate patient care, practice management, and professional development.</p> <p>8.5 Evaluate literature and the conduct of research for consideration of sex and gender</p> <p>8.5 Integrate and apply basic science concepts and current medical knowledge to patient care through critical thinking and clinical problem solving.</p>	<p><b>OSCE, PFO, MCQ</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p>
<p><b>EPA 9:</b></p>	<p><b>Send or receive a patient consultation or referral.</b></p> <p>9.1 Recognize and acknowledge one’s own scope of competent and licensed oral health care practice, and refer patients as needed to other health professionals for care that falls outside this scope.</p> <p>9.2 Identify when a patient requires consultation with or referral to a member of a different health profession.</p> <p>9.3 Perform and document effective referrals and consultations to other health professionals, and follow up in a timely manner</p>	<p><b>PFO, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, PAT, SIM</b></p>
<p><b>EPA 10:</b></p>	<p><b>Recognize and manage urgent or emergent oral and medical conditions</b></p> <p>10.1 Recognize urgent or emergent medical problems and initiate evaluation and management.</p> <p>10.2 Recognize urgent or emergent dental problems, including but not limited to acute pain, hemorrhage, trauma, and infection of the oral and maxillofacial complex, and initiate evaluation and management.</p>	<p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p>
<p><b>EPA</b></p>	<p><b>Perform general procedures of a dentist.</b></p>	

<p><b>11:</b></p>	<p>11.1 Use an effective person-based interprofessional health care team approach to promote, maintain, and maximize the patient’s oral and systemic health, including the prevention and treatment of disease.</p> <p>11.2 Assess risk for, prevent, diagnose, and manage the following diseases and conditions at the level of a general dentist by surgical, medical, or minimally invasive techniques, preventive appliances or techniques, direct or indirect restorations, partial or complete removable prostheses, implant-retained crowns or implant-retained prostheses as appropriate, including delegation to other appropriate health care providers, consultation or referral to specialists as appropriate:</p> <ul style="list-style-type: none"> <li>A.     pulpal and peri radicular diseases</li> <li>B.     diseases and conditions of dental hard tissues, including dental caries</li> <li>C.     periodontal diseases and conditions</li> <li>D.     oral mucosal diseases and conditions</li> <li>E.     oral soft tissue diseases and conditions</li> <li>F.     salivary gland diseases and conditions</li> <li>G.     diseases and conditions of the jaws, including their hard and soft tissues</li> <li>H.     diseases and conditions of the masticatory muscles</li> <li>I.     diseases and conditions of the TMJ and masticatory muscles</li> <li>J.     pain conditions of the oral and maxillofacial region</li> <li>K.     occlusal conditions</li> <li>L.     complete edentulism</li> <li>M.     partial edentulism</li> <li>N.     esthetic concerns related to dentition, jaws, and supporting tissues</li> <li>O.     oral manifestations of systemic disease</li> </ul> <p>11.3 Assess risk for, prevent, detect, and manage patient abuse and neglect, including notification of authorities.</p> <p>11.4 Assess risk for, prevent, detect, and manage nutritional deficiencies or excesses that affect the oral and maxillofacial region, including referral to other appropriate health care providers as</p>	<p><b>OSCE, PFO, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p>
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	<p>appropriate.</p> <p>11.5 Communicate with insurers about procedures using procedure codes and diagnosis codes</p> <p>11.6 Conduct the practice of dentistry in accordance with the ethical and legal requirements and standards of the profession and the jurisdiction.</p> <p>11.7 Adhere to standard precautions for infection control for all clinical procedures.</p> <p>11.8 Communicate case design to laboratory technicians and evaluate the resultant restoration or prosthesis.</p> <p>11.9 Screen patients for systemic and psychiatric diseases and appropriately manage their care, including referral to other members of the health care team.</p> <p>11.10 Treat patients at all stages of life, including children and geriatric patients.</p> <p>11.11 Assess and manage the oral health care of patients with special needs.</p> <p>11.12 Incorporate consideration of sex and gender into decision making</p> <p>11.13 Assess and manage the oral health care of patients with medically complex conditions.</p>	
<p><b>EPA 12:</b></p>	<p><b>Collaborate as a member of an interprofessional team</b></p> <p>12.1 Provide care in an interprofessional team, delegating professional responsibilities according to each team member's individual competency and licensure</p> <p>12.2 Provide oral healthcare in multiple models of oral health care delivery.</p> <p>12.3 Communicate medical information clearly and effectively in both written and oral form to other members of the healthcare team.</p> <p>12.4 Identify and address ethical and legal concerns in clinical practice and in research, recognizing different value systems while adhering</p>	<p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>PAT</b></p> <p><b>OSCE, PFO, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p>



	to ethical standards.	
<b>EPA 13:</b>	<p><b>Lead the oral health team</b></p> <p>13.1 Organize and prioritize tasks and effectively manage time in a clinical setting.</p> <p>13.2 Demonstrate leadership skills that enhance team functioning, the learning environment, education, research and patient care.</p> <p>13.3 Demonstrate professional behaviors toward patients, families, and members of healthcare teams.</p> <p>13.4 Apply the basic principles and philosophies of practice management to oral healthcare</p> <p>13.5 Lead the oral health care team, delegating professional responsibilities according to each team member’s individual competency and licensure.</p> <p>13.6 Manage, coordinate and supervise the activity of allied dental health personnel.</p> <p>13.7 Use information technology to optimize teaching, learning, research and patient care.</p> <p>13.8 Conduct practice related business activities and financial operations in accordance with sound business practices and jurisprudence (e.g., OSHA and HIPAA)</p> <p>13.9 Demonstrate knowledge of the basic principles of organization and finance for a variety of healthcare delivery systems</p>	<p><b>PAT</b></p> <p><b>PAT</b></p> <p><b>PAT</b></p> <p><b>PAT</b></p> <p><b>PAT</b></p> <p><b>PAT</b></p> <p><b>OSCE, PFO, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p>
<b>EPA 14:</b>	<p><b>Encourage a team culture of safety and improvement, and identify-system failures.</b></p> <p>14.1 Lead critical discussions of issues related to oral and general health with clinical teams.</p> <p>14.2 Use the principles of continuous process improvement to self-assess and continuously improve one’s own clinical abilities in oral health care and in interprofessional practice.</p> <p>14.3 Demonstrate a commitment to life-long learning including developing reflective practices, recognizing personal limitations, and giving and responding to feedback to improve performance.</p>	<p><b>PAT, SIM</b></p> <p><b>PFO, PAT</b></p> <p><b>PFO, PAT</b></p> <p><b>PAT</b></p> <p><b>PFO, PAT</b></p>

	<p>14.4 Use the principles of continuous process improvement to assess and continuously improve clinical operations and procedures.</p> <p>14.5 Prioritize personal health and wellness practices and develop effective coping strategies to maintain physical and mental health, seeking assistance as needed.</p> <p>14.6 Recognize and respond to situations involving ethical and jurisprudence considerations</p> <p>14.7 Develop a catastrophe preparedness plan for the dental practice.</p> <p>14.8 Apply quality assurance, assessment and improvement concepts to improve outcomes.</p> <p>14.9 Identify, correct, and report common sources of medical errors and apply models for quality improvement.</p>	<p><b>OSCE, PFO, PAT, SIM</b></p> <p><b>PFO, PAT, SIM</b></p> <p><b>OSCE, PFO, PAT, SIM</b></p> <p><b>OSCE, PFO, MCQ, PAT, SIM</b></p>
<p><b>EPA 15:</b></p>	<p><b>Work collaboratively to improve public health.</b></p> <p>15.1 Collaborate with dental team members and other health care professionals to improve health literacy, promote health, and manage disease in communities.</p> <p>15.2 Model service to patients and communities to enhance the well-being of others and to advocate for vulnerable groups and those with limited access to healthcare.</p> <p>15.3 Evaluate and implement systems of oral health care management and delivery that will address the needs of patient populations served.</p>	<p><b>PFO, PAT</b></p> <p><b>PFO, PAT</b></p> <p><b>OSCE, PFO, PAT, SIM</b></p>
<p><b>EPA 16:</b></p>	<p><b>Provide culturally competent and culturally safe health care</b></p> <p>16.1 Cooperate with patients, communities, and colleagues from diverse backgrounds</p> <p>16.2 Foster a clinical atmosphere that welcomes diversity</p>	<p><b>OSCE, PFO, PAT, SIM</b></p> <p><b>PFO, PAT</b></p> <p><b>PFO, PAT</b></p> <p><b>PFO, PAT</b></p>

	<p>16.3 Demonstrate an awareness of how personal beliefs, values, emotions and tolerance of ambiguity influence behaviors with others and responses to difficult situations</p> <p>16.4 Demonstrate effective adaptation of communication skills to the needs of the patient, the sensitivity of the information discussed, and the nature of the situation.</p> <p>16.5 Establish appropriate relationships with patients, respecting their values, privacy and dignity.</p> <p>16.6 Demonstrate patient advocacy with respect to sex and gender</p>	<p>PAT</p> <p>PFO, PAT</p>
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**Pre-clinical Curricular Goals:**

1. Describe the normal structure and function of the human body
2. Describe in detail the normal structure and function of head and neck.
3. Draw the detailed anatomy of each deciduous and permanent tooth.
4. Explain the three-dimensional movements and interrelationships of the teeth, jaws, and TMJ during normal mastication and occlusion.
5. Explain the various causes of disease states, and describe the molecular, structural, and physiological alterations that underlie these states, with special attention to dental caries and periodontal disease.
6. Explain the molecular basis of cancer and the major events that occur from tumor initiation to metastasis.
7. Describe the changes that occur to organs and organ systems throughout development and aging.
8. Demonstrate knowledge of the principles underlying normal behavior and psychopathologic disorders.
9. Demonstrate knowledge of sex and gender specific health
10. Describe the mechanisms of action, side effects, and interactions of major therapeutic agents.
11. Describe the principles of prevention and the non- pharmacological approaches to disease and symptom management.
12. Describe population specific factors that affect disease prevention, incidence, treatment, and outcomes, and apply this information to patient care.

**C. If the proposed program is an AS-to-BS capstone, provide evidence that it adheres to the guidelines approved by the Articulation Coordinating Committee for such programs, as outlined in [State Board of Education Rule 6A-10.024](#). Additionally, please list the prerequisites, if any, and identify the specific AS degrees that may transfer into the proposed program.**

☒ **Not applicable to this program because it is not an AS-to-BS Capstone.**

**D. Describe the curricular framework for the proposed program, including the following information where applicable:**

- **total numbers of semester credit hours for the degree**
- **number of credit hours for each course**
- **required courses, restricted electives, and unrestricted electives**
- **a sequenced course of study for all majors, concentrations, tracks, or areas of emphasis**

The Integrated Patient-Focused Curriculum is based on the principle that oral healthcare skills and knowledge are acquired best in a setting that simulates their use in future practice as closely as possible. Therefore, this curriculum is founded in the context of patient care through patient case studies that bring theory to life, and the early introduction of clinical skills in authentic settings. We provide our students with a stimulating, supportive and collegial learning environment featuring:

- An early introduction to patient care
- Continuity relationships with patients and dental clinics
- Longitudinal integrated clerkship modules in the third year
- Entrustable Professional Activity (EPA) assessments to guide safe clinical progress and build student confidence
- Integrated competency assessments
- A small class size

The FAU College of Dentistry integrates the following threads throughout all years of the curriculum:

- Ethics, Professionalism and Professional Identity (EPP)
- Life-Long Learning and Discovery (LLD)
- Patients of All Ages and Abilities (PAAA)
- Communication, Compassion and Collaborative Care (CCC)
- Clinical Leadership and Safety (CLS)
- Skills For Health (SFH)

The foundational science curriculum integrates key disciplines like anatomy, physiology, pharmacology and pathology throughout the courses. Teaching methods include problem-based learning, with a balance of small group sessions and independent study, supplemented by labs, clinical correlations, simulations, and lectures focusing on core concepts rather than lists of facts.

The clinical curriculum in years 1 and 2, Foundations of Dental Medicine and Surgery, includes sessions that concentrate on professionalism skills as well as dental techniques. Aspects of professionalism include ethics, cultural competency, and communication skills. Head and neck anatomy, dental anatomy and occlusion are preparatory to beginning preclinical training. Patient history taking, interviewing, and examination are taught and practiced using standardized and simulated patients. Students begin to build their surgical skills in predental simulations using artificial teeth, simulation units, and virtual patients before beginning care of live patients.

In the second term of year 1, they start to learn about the specialized pathology of the hard and

soft tissues of the oral and maxillofacial region, and an evidence-based approach to choosing and performing specialized diagnostic procedures such as the head and neck exam, periodontal exam, oral cancer screening, and radiographs. They also learn to administer local anesthesia.

Starting in the summer semester in year 1, students develop doctor/patient relationships with patients under the supervision of their dentist preceptors in the dental school clinics that provide care to the under-served in Palm Beach County and our local region.

In year 3, students begin their intensive participation in longitudinally integrated clinical clerkships where they learn about and practice the major areas and specialties of dentistry under the close supervision of specialists. Small groups of students are assigned to work with selected specialists in interdisciplinary teams for an extended period, rather than completing short discipline-specific clerkships in random order, and then not practicing those clinical skills again in 3rd year. In this way they glean some of the most important benefits of regular clerkships - small group size, close interpersonal interactions between classmates and faculty, concentrated attention to a dental specialty, and first-hand experience of clinical teamwork.

Throughout year 3, students are provided with opportunities to participate in community health projects, research, and to take elective courses. They have the opportunity to begin preparing for two important national exams, the Integrated National Dental Board Examination and the Dental Licensure OSCE. This is also the period in which students begin applying for specialty programs, and they may choose to complete a limited number of externships in their chosen specialty.

At the end of year 3, students have completed core clerkships practicing clinical skills on assigned patients in Oral & Maxillofacial Surgery, Oral Medicine, Periodontics, Endodontics, Prosthodontics, Pediatric Dentistry, and Restorative Dentistry, and also practiced their clinical skills in dental informatics, dental emergencies, implant dentistry, Oral & Maxillofacial Radiology, Oral & Maxillofacial Pathology, oral diagnosis, treatment planning, geriatric dentistry, and care of patients with special needs

During year 4, students make a major transition. So far, they have worked on their patients under the supervision of dental specialists in the clinics of the College of Dentistry. Now they shift to working with general dentists and interprofessional health care teams in community health clinics in the region, which can involve travel and extended periods away from the main campus. These service-learning rotations form the bulk of their senior dental experience, giving them real-life experience in the authentic settings they are being prepared for. They spend time working closely with and assisting the MDs and nurses to learn limited primary care skills, and the rest of the time providing general dentistry care to their own roster of patients under the supervision of preceptor dentists at the site. Their patient experiences are monitored and if there is not a sufficient number of more sophisticated and demanding procedures at their site, they are brought back to the main campus site periodically to work with in the school clinics, where they are assigned more advanced cases to round out their clinical experiences.

By the time of graduation, students have a balance of specialist-driven and community-based clinical experiences, a broad range of dental skills, basic primary care skills, and extended experiences working with underserved communities. They will have demonstrated their competency in all required aspects of dentistry and graduate ready to serve diverse communities and people in under-served regions of Florida.

Note that in order to obtain a dental license and practice in Florida, one must graduate from a CODA accredited dental school and complete the licensure and licensure examination requirements of the Florida State Board of Dentistry (<https://floridasdentistry.gov/licensing/dentist/>). Completion of the CODA accreditation is

tantamount to completion of requirements for licensure in Florida, along with taking the various examinations (ethics and clinical ADEX exams). Coursework in FAU's DMD program will be planned meticulously with CODA accreditation and Florida licensure in mind.

**The total number of credits required in the program is 198. A sequenced course of study is provided in Appendix L.**

## **E. Provide a brief description for each course in the proposed curriculum.**

### **Year 1: Semester 1 – Fall**

#### **DEN5010 – Interdisciplinary Service Learning I (0)**

This course will provide student experience in an integrated service-learning framework. Students will be expected to demonstrate the ability to: work with an interdisciplinary team, communicate effectively, understand social and cultural factors that influence patients, function as a health information resource and work effectively within community service organizations.

#### **DEN5013 – Foundations of Professionalism (2)**

This course provides an orientation to the new dental student and establishes the foundation for the development of an emotionally healthy and ethically competent general dentist. The new student is oriented to a variety of studying and coping skills to maintain emotional health and productive learning and also learns the rules and regulations governing academic and professional behavior. The student will also learn about the ethical principles impacting the dental profession and how to apply these principles to ethical dilemmas.

#### **DEN5100C – Gross Anatomy (4)**

Basic macroscopic anatomical structure and functions of the human body, with emphasis on the head and neck will be presented through lectures, laboratory dissections and discussion sessions. This information serves as the foundation for understanding normal functions of the head, neck and oral structures as well as disorders related to those structures.

#### **DEN5121 – Biochemistry, Molecular & Cellular Biology (4)**

Topics including structural biology, cellular organization and communication cell division, regulation of metabolic processes and gene structure and function will introduce students to aspects of advanced molecular and cellular biology and associated biochemical processes. These topics are designed to serve as foundation knowledge for course to follow in later semesters in tissue and organ structure and function, and general pathology.

#### **DEN5210 – Developmental Biology and Psychosocial Issues over the Lifespan (3)**

Developmental biological and psychosocial foundation knowledge across the life span will be presented in this course. Focus will be placed on the basic biology of normal growth and development of the head, neck and oral tissue as well as the relevant biological and psychosocial issues associated with normal changes over the life-span that are relevant to oral health and the

practice of dentistry. This course is a pre-requisite for DEN 5221C, Oral Health Management and Psychosocial Issues Over the Lifespan in semester two.

### **DEN5404C – Dental Anatomy and Stomatognathics (2)**

This course acquaints the student with morphologic components of the natural dentition including essential vocabulary and details of the anatomy of teeth and the relationship of anatomic structures to caries formation and tooth restoration.

### **DEN5505C – Introduction to Clinical Care (1)**

This course is designed to provide foundational information in clinical care for novice dental students. Areas of patient safety, risk management, infection prevention, standardized clinical practices, information security, and emergency preparedness are applied by students to prepare them for clinical person-centered care.

### **DEN6301C – Fundamentals of Oral & Maxillofacial Radiology (2)**

The biology of radiation and radiation safety in dentistry along with radiologic techniques for procuring, exposing and developing dental films.

## **Year 1: Semester 2 – Spring**

### **DEN5010 – Interdisciplinary Service Learning I (1)**

This course will provide student experience in an integrated service-learning framework. Students will be expected to demonstrate the ability to: work with an interdisciplinary team, communicate effectively, understand social and cultural factors that influence patients, function as a health information resource and work effectively within community service organizations.

### **DEN5120C – Physiology (5)**

This course provides foundation knowledge on the structure and normal function of the major body systems including the cardiovascular, pulmonary, renal, gastro-intestinal, endocrine and neurological systems. The relationship of structure to normal function is presented with emphasis on components important to a dentist as a dental patient's case manager and to the prevention, diagnosis, and treatment of oral diseases. In addition, this course will provide the fundamental knowledge to support the understanding and appreciation of the interrelationships of systemic and oral health.

### **DEN5126C – Histology (2)**

Basic microscopic anatomical structure and functions of the head, neck, teeth and various organ systems will be presented in lectures, microscope work, and discussion sessions. This information serves as the foundation for understanding normal structure and functions provided in physiology as well as disorders related to those structures provided in pathology.

### **DEN5127 – Infectious Diseases (4)**

Providing the foundation knowledge of etiologic agents responsible for infectious diseases important to the general practice of dentistry. Oral infectious diseases are emphasized. The course includes content on microbiology, virology, periodontology, and cariology, as well as systemic and oral diseases with both classical descriptive content and modern molecular biological aspects such as recombinant technology to create new vaccines.

### **DEN5221 – Oral Health Management and Psychosocial Issues over the Lifespan (2)**

This course emphasizes the management of a patient's oral health focusing on behavioral and sociological issues across the lifespan. It builds on previous biological and psychosocial foundation knowledge that directly impacts the practice of dentistry and the achievement and maintenance of oral health in patients. The course includes an overview of the principles of gerontology including the biological, sociological, and psychological aspects of aging; the changing demographics in the U.S. society; and their implications for the dental profession.

### **DEN5405C – Preclinical Operative Dentistry I/Biomaterials (4)**

This course introduces fundamental concepts related to dental caries, its prevention, diagnosis and appropriate management. Emphasis is also placed on the biomaterial science and clinical application of composite resin restorative materials. Minimally invasive dentistry will be stressed, and principles of ergonomics and infection control as it relates to clinical dentistry will be introduced. The course is based on lectures and laboratory exercises in order to support the development of motor skills, self-evaluation and clinical judgment using a rational scientific basis.

### **DEN5502C – Cariology and Preventive Dentistry (2)**

This course introduces fundamental concepts related to dental caries, its prevention, diagnosis and appropriate management. Emphasis is also placed on the preventive aspects of other oral diseases as well as on dental public health and nutritional sciences.

### **DEN6015 – Professionalism In Patient Care and Practice Management I (0)**

This course is the third in a series of courses designed to provide instruction, coach and mentor students in professionalism as they attain competency in patient care. This course spans semesters 2 – 5 and supports the student's progressive development in appropriate patient management skills, professionalism and integrity in the delivery of dental care, and critical thinking necessary for life-long learning.

## **Year 2: Semester 3 – Summer**

### **DEN6001 – Introduction to Evidence-based Dental Practice (1)**

This course introduces the student to evidence-based dentistry (EBD), which is the process of integration of the best research evidence with clinical expertise and patient values.

### **DEN6011 – Interdisciplinary Service Learning II (0)**

This course will provide student experience in an integrated service-learning framework. Students will be expected to demonstrate the ability to: work with an



interdisciplinary team, communicate effectively, understand social and cultural factors that influence patients, recognize ethical dilemmas one faces as a dental health professional, and work effectively within community service organizations.

### **DEN6015 – Professionalism In Patient Care and Practice Management I (0)**

This course is the third in a series of courses designed to provide instruction, coach and mentor students in professionalism as they attain competency in patient care. This course spans semesters 2 – 5 and supports the student’s progressive development in appropriate patient management skills, professionalism and integrity in the delivery of dental care, and critical thinking necessary for life-long learning.

### **DEN6128 – Host Defense (3)**

This course covers the structure and normal function of the major body systems with emphasis on components important to a dentist as a dental patient’s case manager and to the prevention, diagnosis, and treatment of oral diseases. It also continues with the knowledge necessary to understand and appreciate the interrelationships of systemic and oral health.

### **DEN6213C – Fundamentals of Occlusion (3)**

This course covers topics related to the knowledge of dental materials used for impression making, cast making and basic concepts of dental occlusion. The student will develop an understanding of ideal occlusion form and function.

### **DEN6350 – General Pathology (4)**

General Pathology is a course that concerns the cause and the manifestations of diseases that affect the human body of relevance to dentistry.

### **DEN6407C – Preclinical Operative Dentistry II (3)**

This course will involve the use of silver amalgam to treat teeth injured by decay from simple, single surface lesions to extensive lesions.

### **DEN6705L – Public Health Rotation (0)**

This course utilizes experiential service learning in schools to expand students’ understanding of the scientific and theoretical basis and practical application of clinical and population-based oral health surveillance, oral health promotion, and oral disease prevention.

## **Year 2: Semester 4 – Fall**

### **DEN6011 – Interdisciplinary Service Learning II (0)**

This course will provide student experience in an integrated service-learning framework. Students will be expected to demonstrate the ability to: work with an interdisciplinary team, communicate effectively, understand social and cultural factors that influence patients, recognize ethical dilemmas one faces as a dental health professional, and work effectively within community service organizations.

### **DEN6015 – Professionalism In Patient Care and Practice Management I (0)**

This course is the third in a series of courses designed to provide instruction, coach and mentor students in professionalism as they attain competency in patient care. This course spans semesters 2 – 5 and supports the student’s progressive development in appropriate patient management skills, professionalism and integrity in the delivery of dental care, and critical thinking necessary for life-long learning.

### **DEN6251 – Science and Clinical Management of Dental Pain (2)**

This course provides understanding of orofacial dental pain and integrates knowledge concerning the nature, mechanisms, and pharmacological treatment of pain.

### **DEN6351 – Oral Pathology (3)**

Fundamentals of basic disease processes affecting the head and neck regions; classification of disease of the oral and perioral regions according to clinical or radiographic appearance.

### **DEN6408C – Preclinical Operative Dentistry III (3)**

This course focuses primarily on esthetic materials and methods of tooth restoration, direct and indirect. This course also reviews the preparation and restoration of Class II amalgams.

### **DEN6412C – Preclinical Fixed Prosthodontics I (2)**

To lay the foundation for fixed prosthodontics by using the knowledge of dental materials, jaw motion, anatomy and physiology along with the correlation and coordination of knowledge and skills from every area of dentistry.

### **DEN6421C – Periodontic Treatment Planning and Disease Control (2)**

Review of the information on etiology and pathogenesis of periodontal disease. Students will be introduced to data gathering, diagnosis of periodontal diseases, establishing prognoses, treatment planning and the steps in the first phase of periodontal therapy. Skill development laboratory sessions will focus on oral hygiene skills and motivation of patients, root preparation procedures, and evaluation of phase 1 treatment.

### **DEN6430C – Principles of Endodontics (1)**

This course is designed to teach pulp and periapical pathology, endodontic diagnosis, the treatment of teeth with various levels of pulpal involvement and the principles of non-surgical endodontic therapy.

### **DEN6460C – Prosthodontic Treatment of the Edentulous Patient (2)**

Art and science of the treatment of edentulous patients. Knowledge and techniques required to treat patients with a minimum of complications both physiological and psychological. Knowledge and technical skills (clinical and laboratory) required in the diagnosis and treatment of edentulous patients.

### **DEN6705L – Public Health Rotation (0)**

This course utilizes experiential service learning in schools to expand students' understanding of the scientific and theoretical basis and practical application of clinical and population-based oral health surveillance, oral health promotion, and oral disease prevention.

### **Year 2: Semester 5 – Spring**

### **DEN6011 – Interdisciplinary Service Learning II (1)**

This course will provide student experience in an integrated service-learning framework. Students will be expected to demonstrate the ability to: work with an interdisciplinary team, communicate effectively, understand social and cultural factors that influence patients, recognize ethical dilemmas one faces as a dental health professional, and work effectively within community service organizations.

### **DEN6015 – Professionalism In Patient Care and Practice Management I (1)**

This course is the third in a series of courses designed to provide instruction, coach and mentor students in professionalism as they attain competency in patient care. This course spans semesters 2 – 5 and supports the student's progressive development in appropriate patient management skills, professionalism and integrity in the delivery of dental care, and critical thinking necessary for life-long learning.

### **DEN6250C – Pain and Anxiety Control in Dental Patients (1)**

This course acquaints the undergraduate with the academic aspects of administration of local anesthetics, inhalation analgesia, and anxiety control.

### **DEN6260 – Oral Medicine and Pharmacotherapeutics (2)**

This course describes the diseases of the organ-systems that have an impact on dental therapy, the clinical pharmacology of physician prescribed drugs and drug interactions, and the clinical therapeutics for treatment of oral region disease processes.

### **DEN6262 – Principles of Pharmacology (2)**

This course describes the basic principles of pharmacokinetics and pharmacodynamics, with an emphasis on dental applications. Several clinical correlations are also included.

### **DEN6302C – Introduction to Clinical Diagnosis and Treatment Planning (3)**

This course prepares the student to conduct a thorough history and appropriate clinical examination of an adult dental patient, make diagnostic decisions based on collected data, formulate a problem list and properly sequence treatment modalities. The didactic and clinical components are designed to increase the integration of foundation knowledge, improve clinical thinking skills, and encourage decisions based on evidence-based principles.

### **DEN6415C – Preclinical Fixed Prosthodontics II (2)**

A laboratory and lecture course covering topics related to patient treatment with fixed ceramonmetal restorations.

### **DEN6432C – Basic Endodontic Therapy (2)**

This course is designed to teach basic non-surgical endodontic procedures (access, biomechanical preparation and obturation) on extracted human teeth.

### **DEN6440 – Introduction to Oral Surgery (Part I) (1)**

This course introduces the student to general principles and specific information which must be mastered in order to treat persons requiring dentoalveolar surgery.

### **DEN6705L – Public Health Rotation (1)**

This course utilizes experiential service learning in schools to expand students' understanding of the scientific and theoretical basis and practical application of clinical and population-based oral health surveillance, oral health promotion, and oral disease prevention.

## **Year 3: Semester 6 – Summer**

### **DEN6508C – Essentials of Clinical Care (1)**

This course is designed to review, reinforce and prepare students for entry into clinical patient care in the FAU-COD TEAMs Clinics. Essential foundational concepts and skills in dentistry will be reviewed. Clinic procedures and protocols including emergency preparedness, associate group dynamics, and patient assignment as they relate to patient management and care will also be emphasized in this course.

### **DEN7012 – Interdisciplinary Service Learning III (0)**

This course will provide student experience in an integrated service-learning framework. Students will be expected to demonstrate the ability to: work with an interdisciplinary team, communicate effectively, understand social and cultural factors that influence patients, recognize ethical dilemmas one faces as a dental health professional, and work effectively within community service organizations.

### **DEN7016 – Professionalism In Patient Care and Practice Management II (0)**

The course introduces student dentists to basic concepts of clinical patient care. This includes didactic material, clinical rotations, and integration into the FAU-COD Philosophy of Patient Care and the mechanics of patient management. Successful completion is required before advancement to the patient care portion of the program. The goal of the course is to assist in the transition from the didactic and preclinical portion of the curriculum with the ultimate goal of developing competent dentists. Competent dentists demonstrate appropriate patient management skills, professionalism and integrity in the delivery of dental care, and critical thinking necessary for life-long learning.

### **DEN7413C – Removable Partial Prosthodontics: Principles & Techniques (2)**

Basic principles in treating the partially edentulous patient with removable restorations. Students will learn the physical and biomechanical characteristics of removable partial denture components, formulate designs of these restorations, materials involved in fabricating a RPD and the skills to fabricate.

#### **DEN7417C – Orofacial Pain (1)**

This course will provide the student with a review of functional anatomy related to the differential diagnosis of orofacial pain conditions. Clinical correlation and application will be achieved through lecture, laboratory, and clinical exposure regarding the diagnosis and management of temporomandibular disorders and orofacial pain.

#### **DEN7450C – Orthodontics for the General Practitioner (1)**

This course is designed to teach the dental student how to identify orthodontic problems in children and adults, and how to appropriately manage these problems by referral, observation or treatment. The laboratory component of this course will prepare the student to fabricate and activate specific types of orthodontic appliances which are suitable for use in the general practice.

#### **DEN7452C – Fundamentals of Pediatric Dentistry (3)**

Treatment of the child patient as it relates to treatment planning, soft tissue evaluation, preventive dentistry, behavior management, treatment of the handicapped, child abuse, pulp treatment, trauma, oral surgery, and restorative techniques.

#### **DEN7744L – Clinical Operative Dentistry 1 (2)**

This course applies the foundation knowledge learned in the operative dentistry preclinical curriculum by introducing the beginning student to the prevention, management and restoration of dental caries on assigned patients.

#### **DEN7761L – Oral Diagnosis/Medicine & Treatment Planning I (0)**

This course provides the clinical opportunity for student dentists to develop interviewing, diagnosis and basic treatment planning skills on assigned patients.

#### **DEN7762L – Clinical Radiology 1: Radiographic Technique (0)**

The student will expose, mount, and critique radiographic surveys for assigned patients; develop appropriate judgment and reasoning to declare a radiograph clinically acceptable as outlined by “criteria of radiographic acceptability”; and demonstrate proper radiation hygiene, infection control techniques, and appropriate patient management.

#### **DEN7805L – Clinical Oral Surgery I (0)**

This course brings together the knowledge gained from previous oral surgery courses. The student will assume a participatory assistant role in clinical oral surgery procedures and will attain competence in specific peri-operative procedures.

## **DEN7834L – Comprehensive Periodontal Treatment 1 (2)**

This course applies the foundation knowledge learned in the periodontic preclinical curriculum by introducing the beginning student to diagnosis and treatment of gingival and periodontal diseases and the evaluation of initial therapy and continuing supportive periodontal therapy on assigned patients.

### **Year 3: Semester 7 – Fall**

## **DEN7012 – Interdisciplinary Service Learning III (0)**

This course will provide student experience in an integrated service-learning framework. Students will be expected to demonstrate the ability to: work with an interdisciplinary team, communicate effectively, understand social and cultural factors that influence patients, recognize ethical dilemmas one faces as a dental health professional, and work effectively within community service organizations.

## **DEN7016 – Professionalism In Patient Care and Practice Management II (1)**

The course introduces student dentists to basic concepts of clinical patient care. This includes didactic material, clinical rotations, and integration into the FAU-COD Philosophy of Patient Care and the mechanics of patient management. Successful completion is required before advancement to the patient care portion of the program. The goal of the course is to assist in the transition from the didactic and preclinical portion of the curriculum with the ultimate goal of developing competent dentists. Competent dentists demonstrate appropriate patient management skills, professionalism and integrity in the delivery of dental care, and critical thinking necessary for life-long learning.

## **DEN7319 – Dental Care for the Geriatric Patient (1)**

This course will examine clinical topics in geriatric oral medicine, focusing on disease patterns in the elderly, and the interrelationship of multiple diseases in individual older patients. Comprehensive patient assessment, changes in pharmacokinetics and pharmacodynamics with age will be discussed and how these factors impact your dental care for the geriatric patient.

## **DEN7411C – Overview of Implant Dentistry (2)**

Curriculum provides basic knowledge concerning biological and scientific basis for implant treatment, including patient evaluation, diagnosis, treatment planning, implant selection, implant surgery, post-surgical care, implant prosthodontic procedures and maintenance protocols. Course goals include development and understanding of the history and past status of implant dentistry, scientific basis of implant-host relations, and diagnosis, treatment planning, and treatment along with maintenance procedures.

## **DEN7422C – Periodontal Surgery for the General Practitioner (1)**

Objective of the course is to define the role of the contemporary general dentist in the treatment or referral or postoperative care of the periodontal patient who requires surgical therapy.

### **DEN7441 – Introduction to Oral Surgery (Part II) (1)**

This course introduces the student to assessment of surgery for impacted teeth, preprosthetic surgery, biopsies, and the diagnosis and treatment of odontogenic infections.

### **DEN7443L – Hospital Dentistry (1 for students on rotation)**

A four-day hospital rotation designed to orient the dental student to procedures and protocol related to hospital dentistry.

### **DEN7735L – Clinical Endodontics 1 (1)**

The endodontic clinical curriculum is designed to create a clinician skilled with the scientific knowledge and current, state-of-the-art, techniques to adequately perform endodontic therapy in the twenty-first century.

### **DEN7745L – Clinical Operative Dentistry 2 (3)**

This course applies the foundation knowledge learned in the operative dentistry preclinical curriculum by introducing the beginning student to the prevention, management and restoration of dental caries on assigned patients.

### **DEN7761L – Oral Diagnosis/Medicine & Treatment Planning I (1)**

This course provides the clinical opportunity for student dentists to develop interviewing, diagnosis and basic treatment planning skills on assigned patients.

### **DEN7762L – Clinical Radiology 1: Radiographic Technique (1)**

The student will expose, mount, and critique radiographic surveys for assigned patients; develop appropriate judgment and reasoning to declare a radiograph clinically acceptable as outlined by “criteria of radiographic acceptability”; and demonstrate proper radiation hygiene, infection control techniques, and appropriate patient management.

### **DEN7805L – Clinical Oral Surgery I (1)**

This course brings together the knowledge gained from previous oral surgery courses. The student will assume a participatory assistant role in clinical oral surgery procedures and will attain competence in specific peri-operative procedures.

### **DEN7819L – Clinical Orthodontics 3 (1)**

Evaluation of orthodontic needs and treatment planning strategies for the treatment of mixed and adult dentitions will be discussed in an interactive forum.

### **DEN7825L – Clinical Pediatric Dentistry 1 (1)**

Introductory comprehensive dental care of the pediatric dental patient.

### **DEN7835L – Comprehensive Periodontal Treatment 2 (3)**

This course applies the foundation knowledge learned in the periodontic preclinical curriculum by introducing the beginning student to diagnosis and treatment of gingival and periodontal diseases and the evaluation of initial therapy and continuing supportive periodontal therapy on assigned patients. DEN 7834 is a prerequisite course.

### **DEN7845L – Clinical Prosthodontics 1 (3)**

This course applies the foundation knowledge learned in the prosthodontic preclinical curriculum by introducing the beginning student to the restoration and replacement of missing teeth by prosthodontic techniques . DEN 7845 is a prerequisite course.

### **Year 3: Semester 8 – Spring**

### **DEN6416C – Basic Sciences Review (2)**

This course provides a systematic approach to the review of the basic biomedical and anatomical sciences in preparation for entrance into the clinical education program.

### **DEN7012 – Interdisciplinary Service Learning III (1)**

This course will provide student experience in an integrated service-learning framework. Students will be expected to demonstrate the ability to: work with an interdisciplinary team, communicate effectively, understand social and cultural factors that influence patients, recognize ethical dilemmas one faces as a dental health professional, and work effectively within community service organizations.

### **DEN7017 – Professionalism In Patient Care and Practice Management III (0)**

The course introduces student dentists to basic concepts of clinical patient care. This includes didactic material, clinical rotations, and integration into the FAU-COD Philosophy of Patient Care and the mechanics of patient management. Successful completion is required before advancement to the patient care portion of the program. The goal of the course is to assist in the transition from the didactic and preclinical portion of the curriculum with the ultimate goal of developing competent dentists. Competent dentists demonstrate appropriate patient management skills, professionalism and integrity in the delivery of dental care, and critical thinking necessary for life-long learning.

### **DEN7433 – Evidence-based Endodontics (1)**

This course brings together the knowledge gained from previous endodontic courses. This will broaden the ability to analyze diagnostic data, identify and plan a broad scope of endodontic treatment and to relate this treatment to other disciplines utilizing an evidence-based approach utilizing critical thinking to facilitate clinical decision making.

### **DEN7442 – Overview of Advanced Oral and Maxillofacial Surgery (1)**

This course familiarizes the student with the procedures most commonly provided by oral and maxillofacial surgeons. Technique is not taught; the student is made aware of procedures available to patients through referral.



### **DEN7443L – Hospital Dentistry (1 for those on rotation)**

A four-day hospital rotation designed to orient the dental student to procedures and protocol related to hospital dentistry.

### **DEN7717C – Clinical Use of Dental Materials (1)**

This course focuses on the development of the relationships between properties and composition of six categories of dental materials which are most often used in dental practice. Each sub-objective will allow the student to describe the effect of variations in the manufacturer's recommended manipulation procedures for a given material system on potential clinical outcome, basing the decision on the fundamental physical, chemical and mechanical properties of each specific material.

### **DEN7736L – Clinical Endodontics 2 (1)**

The endodontic clinical curriculum is designed to create a clinician skilled with the scientific knowledge and current, state-of-the-art, techniques to adequately perform endodontic therapy in the twenty-first century.

### **DEN7746L – Clinical Operative Dentistry 3 (3)**

This course applies the foundation knowledge learned in the operative dentistry preclinical curriculum by introducing the beginning student to the prevention, management and restoration of dental caries on assigned patients.

### **DEN7762L – Clinical Radiology 1: Radiographic Technique- Class of 2014 (1)**

The student will expose, mount, and critique radiographic surveys for assigned patients; develop appropriate judgment and reasoning to declare a radiograph clinically acceptable as outlined by "criteria of radiographic acceptability"; and demonstrate proper radiation hygiene, infection control techniques, and appropriate patient management.

### **DEN7766L – Oral Diagnosis/Medicine & Treatment Planning 2 (0)**

This course provides the clinical opportunity for student dentists to develop interviewing, diagnosis and basic treatment planning skills on assigned patients.

### **DEN7805L – Clinical Oral Surgery I (1)**

This course brings together the knowledge gained from previous oral surgery courses. The student will assume a participatory assistant role in clinical oral surgery procedures and will attain competence in specific peri-operative procedures.

### **DEN7826L – Clinical Pediatric Dentistry Grad. (1 for students on rotation)**

Observation of and assistance in advanced pediatric dental care in unique clinical environments.

### **DEN7836L – Comprehensive Periodontic Treatment (3)**

This course applies the foundational knowledge learned in the periodontics preclinical curriculum by introducing the beginning student to diagnosis and treatment of gingival and periodontal diseases and the evaluation of initial therapy and continuing supportive periodontal therapy on assigned patients. DEN 7835L is a prerequisite course.

#### **DEN7846L – Clinical Prosthodontics 2 (3)**

This course applies the foundation knowledge learned in the prosthodontic preclinical curriculum by introducing the beginning student to the restoration and replacement of missing teeth by prosthodontic techniques . DEN 7845 is a prerequisite course.

#### **DEN8263 – Advanced Oral Medicine and Clinical Pharmacology (1)**

This course is designed to enhance students' competency in assessment and management of medically complex patients. Using a case-based approach, student will independently assess the medical and dental aspects of selected patients, review medications, potential drug interactions and generate mock prescriptions. Competency assessment will include student presentations of case reviews to peers and faculty group leaders. This advanced course builds on foundation knowledge gained from courses DEN6262, Principles of Pharmacology, and DEN6260, Oral Medicine.

#### **DEN8303 – Advanced Radiologic Interpretation (1)**

The series of topics on radiographic diagnosis is designed to reinforce the concept that radiographic data assists in the assignment of patient abnormalities into general categories of conditions: developmental, trauma, inflammation, and neoplasia. This method should help you develop differential diagnostic impressions when conditions other than caries and periodontitis are present.

#### **Year 4: Semester 9 – Summer**

#### **DEN7017 – Professionalism In Patient Care and Practice Management III (1)**

The course introduces student dentists to basic concepts of clinical patient care. This includes didactic material, clinical rotations, and integration into the FAU-COD Philosophy of Patient Care and the mechanics of patient management. Successful completion is required before advancement to the patient care portion of the program. The goal of the course is to assist in the transition from the didactic and preclinical portion of the curriculum with the ultimate goal of developing competent dentists. Competent dentists demonstrate appropriate patient management skills, professionalism and integrity in the delivery of dental care, and critical thinking necessary for life-long learning.

#### **DEN7443L – Hospital Dentistry (1 for students on rotation)**

A four-day hospital rotation designed to orient the dental student to procedures and protocol related to hospital dentistry.

#### **DEN7766L – Oral Diagnosis/Medicine & Treatment Planning 2 (1)**

This course provides the clinical opportunity for student dentists to develop interviewing,

diagnosis and basic treatment planning skills on assigned patients.

**DEN7826L – Clinical Pediatric Dentistry Grad. (1 for students on rotation)**

Observation of and assistance in advanced pediatric dental care in unique clinical environments.

**DEN8019 – Interdisciplinary Service Learning IV (0)**

This course will provide student experience in an integrated service-learning framework. Students will be expected to demonstrate the ability to: work with an interdisciplinary team, communicate effectively, understand social and cultural factors that influence patients, recognize ethical dilemmas one faces as a dental health professional, and work effectively within community service organizations.

**DEN8352 – Advanced Differential Diagnosis (1)**

Comprehensive oral diagnostic science subject matter requiring problem-solving strategies; integration of oral medicine, oral pathology and oral radiology disciplines.

**DEN8423 – Periodontics in General Practice (1)**

Objective of the course is to provide the student with a comprehensive approach to the practice of periodontics as a general practitioner, stressing inter- and multidisciplinary treatment of complex cases.

**DEN8708L – Community Dentistry I (2)**

Application of principles of community dentistry, management, interpersonal relations, communications, prevention, professionalism, and decision making in the clinical care of patients at both the parent institutions and extramural sites. This clinical course emphasizes the integration of knowledge and skills necessary to practice dentistry effectively and efficiently.

**DEN8719C – Selection of Clinical Dental Materials (1)**

This course entails small group discussions with a faculty member on biomaterial science concepts. Faculty-student interactions are designed to answer clinical-relevant questions regarding product selection and use. The seminars provide opportunities for students to review current evidence and to raise questions on product use, efficacy and sustainability.

**DEN8737L – Clinical Endodontics 3 (1)**

The endodontic clinical curriculum is designed to create a clinician skilled with the scientific knowledge and current, state-of-the-art, techniques to adequately perform endodontic therapy in the twenty-first century.

**DEN8747L – Clinical Operative Dentistry 4 (3)**

This course builds upon the application of foundation knowledge in operative dentistry to a more advanced student and enhances performance skills in the continuing development and demonstration of competency in this discipline.

### **DEN8765L – Clinical Radiology 2: Radiographic Interpretation (0)**

The student will demonstrate a thorough knowledge of radiologic normal anatomy; complete a radiologic interpretation/consult on all baseline radiologic surveys including a description of any observed abnormality(s) of the dentition, supporting structures, the temporomandibular joints, and the paranasal sinuses concluding with a differential diagnosis/impression when appropriate.

### **DEN8767L – Clinical Oncology and Oral Pathology (1 for students on rotation)**

The student will become familiar with specialized oral care for cancer patients, attend head and neck tumor conferences and demonstrate recognition and management of oral pathologic diseases.

### **DEN8809L – Advanced Oral Surgery (0)**

This course applies the knowledge gained from previous clinical and didactic courses. The student will learn to perform oral surgery within the scope of general dental practice, obtain hospital orientation, and manage dental emergencies.

### **DEN8827L – Clinical Pediatric Dentistry 2 (1)**

Intermediate comprehensive dental care of the pediatric dental patient.

### **DEN8837L – Comprehensive Periodontal Treatment 4 (3)**

This course builds upon the application of foundation knowledge in periodontics to a more advanced student and enhances performance skills in the continuing development and demonstration of competency in this discipline.

### **DEN8857L – Clinical Prosthodontics 3 (3)**

This course applies the foundation knowledge learned in the prosthodontic preclinical curriculum by introducing the beginning student to the restoration and replacement of missing teeth by prosthodontic techniques . DEN 7845 is a prerequisite course.

### **Year 4: Semester 10 – Fall**

### **DEN7826L – Clinical Pediatric Dentistry 2 (1 for students on rotation)**

Observation of and assistance in advanced pediatric dental care in unique clinical environments.

### **DEN8018 – Professionalism In Patient Care and Practice Management IV (0)**

The course introduces student dentists to basic concepts of clinical patient care. This includes didactic material, clinical rotations, and integration into the FAU-COD Philosophy of Patient Care and the mechanics of patient management. Successful completion is required before advancement to the patient care portion of the program. The goal of the course is to assist in the transition from the didactic and preclinical portion of the curriculum with the ultimate goal of developing competent dentists. Competent dentists demonstrate appropriate patient management skills, professionalism and integrity in the delivery of dental care, and critical thinking necessary

for life-long learning.

### **DEN8019 – Interdisciplinary Service Learning IV (0)**

This course will provide student experience in an integrated service-learning framework. Students will be expected to demonstrate the ability to: work with an interdisciplinary team, communicate effectively, understand social and cultural factors that influence patients, recognize ethical dilemmas one faces as a dental health professional, and work effectively within community service organizations.

### **DEN8321 – Dental Practice Management (2)**

Changes in economic factors, the delivery system, payment processes and the demand for dental care within different segments of the population require future dentists to develop effective management and business skills. This course focuses on six fundamental areas of management necessary for successful dental practice.

### **DEN8709L – Community Dentistry II (2)**

Application of principles of community dentistry, management, interpersonal relations, communications, prevention, professionalism, and decision making in the clinical care of patients at both the parent institutions and extramural sites. This clinical course emphasizes the integration of knowledge and skills necessary to practice dentistry effectively and efficiently.

### **DEN8738L – Clinical Endodontics 4 (1)**

The endodontic clinical curriculum is designed to create a clinician skilled with the scientific knowledge and current, state-of-the-art, techniques to adequately perform endodontic therapy in the twenty-first century.

### **DEN8748L – Clinical Operative Dentistry 5 (3)**

This course builds upon the application of foundation knowledge in operative dentistry to a more advanced student and enhances performance skills in the continuing development and demonstration of competency in this discipline.

### **DEN8765L – Clinical Radiology 2: Radiographic Interpretation (1)**

The student will demonstrate a thorough knowledge of radiologic normal anatomy; complete a radiologic interpretation/consult on all baseline radiologic surveys including a description of any observed abnormality(s) of the dentition, supporting structures, the temporomandibular joints, and the paranasal sinuses concluding with a differential diagnosis/impression when appropriate.

### **DEN8767L – Clinical Oncology and Oral Pathology (1 for students on rotation)**

The student will become familiar with specialized oral care for cancer patients, attend head and neck tumor conferences and demonstrate recognition and management of oral pathologic diseases.

### **DEN8768L – Oral Diagnosis/Medicine & Treatment Planning 3 (0)**

This course provides the clinical opportunity for student dentists to develop interviewing, diagnosis and basic treatment planning skills on assigned patients.

#### **DEN8809L – Advanced Oral Surgery (1)**

This course applies the knowledge gained from previous clinical and didactic courses. The student will learn to perform oral surgery within the scope of general dental practice, obtain hospital orientation, and manage dental emergencies.

#### **DEN8828L – Clinical Pediatric Dentistry 3 (1)**

Advanced comprehensive dental care of the pediatric dental patient.

#### **DEN8838L – Comprehensive Periodontial Treatment 5 (3)**

This course builds upon the application of foundation knowledge in periodontics to a more advanced student and enhances performance skills in the continuing development and demonstration of competency in this discipline. DEN 8837 is a prerequisite course.

#### **DEN8858L – Clinical Prosthodontics 4 (4)**

This course applies the foundation knowledge learned in the prosthodontic preclinical curriculum by introducing the beginning student to the restoration and replacement of missing teeth by prosthodontic techniques . DEN 7845 is a prerequisite course.

#### **DEN8960L – Clinical Examination 2 (0)**

This examination is a 2.5-day written, laboratory and clinical examination involving laboratory and patient examinations and a written examination of the Florida State dental laws and rules.

#### **Year 4: Semester 11 – Spring**

#### **DEN8018 – Professionalism In Patient Care and Practice Management IV (1)**

The course introduces student dentists to basic concepts of clinical patient care. This includes didactic material, clinical rotations, and integration into the FAU-COD Philosophy of Patient Care and the mechanics of patient management. Successful completion is required before advancement to the patient care portion of the program. The goal of the course is to assist in the transition from the didactic and preclinical portion of the curriculum with the ultimate goal of developing competent dentists. Competent dentists demonstrate appropriate patient management skills, professionalism and integrity in the delivery of dental care, and critical thinking necessary for life-long learning.

#### **DEN8019 – Interdisciplinary Service Learning IV (1)**

This course will provide student experience in an integrated service-learning framework. Students will be expected to demonstrate the ability to: work with an interdisciplinary team, communicate effectively, understand social and cultural factors that influence patients, recognize ethical dilemmas one faces as a dental health professional, and work effectively within community service organizations.

### **DEN8462 – Advanced Topics in Prosthodontics (1)**

Advanced information and treatment modalities for complete and partially edentulous patients with special problems. Concepts and theories such as resilient liners, implants, cast gold occlusal surfaces, cast metal base dentures; also an introduction to maxillofacial prosthetics and management of patients with palatal anomalies.

### **DEN8710L – Community Dentistry III (2)**

Application of principles of community dentistry, management, interpersonal relations, communications, prevention, professionalism, and decision making in the clinical care of patients at both the parent institutions and extramural sites. This clinical course emphasizes the integration of knowledge and skills necessary to practice dentistry effectively and efficiently.

### **DEN8739L – Clinical Endodontics 5 (1)**

The endodontic clinical curriculum is designed to create a clinician skilled with the scientific knowledge and current, state-of-the-art, techniques to adequately perform endodontic therapy in the twenty-first century.

### **DEN8749L – Clinical Operative Dentistry 6 (2)**

This course builds upon the application of foundation knowledge in operative dentistry to a more advanced student and enhances performance skills in the continuing development and demonstration of competency in this discipline.

### **DEN8767L – Clinical Oncology and Oral Pathology (1 for students on rotation)**

The student will become familiar with specialized oral care for cancer patients, attend head and neck tumor conferences and demonstrate recognition and management of oral pathologic diseases.

### **DEN8768L – Oral Diagnosis/Medicine & Treatment Planning 3 (1)**

This course provides the clinical opportunity for student dentists to develop interviewing, diagnosis and basic treatment planning skills on assigned patients.

### **DEN8809L – Advanced Oral Surgery (1)**

This course applies the knowledge gained from previous clinical and didactic courses. The student will learn to perform oral surgery within the scope of general dental practice, obtain hospital orientation, and manage dental emergencies.

### **DEN8839L – Comprehensive Periodontal Treatment 6 (2)**

This course builds upon the application of foundation knowledge in periodontics to a more advanced student and enhances performance skills in the continuing development and demonstration of competency in this discipline. DEN 8838 is a prerequisite course. Upon completion of this course, all required clinical competencies will be successfully completed in periodontics.

## DEN8859L – Clinical Prosthodontics 5 (3)

This course applies the foundation knowledge learned in the prosthodontic preclinical curriculum by introducing the beginning student to the restoration and replacement of missing teeth by prosthodontic techniques . DEN 7845 is a prerequisite course.

## DEN8960L – Clinical Examination 2 (1)

This examination is a 2.5-day written, laboratory and clinical examination involving laboratory and patient examinations and a written examination of the Florida State dental laws and rules.

### Electives

*Electives are courses designed to allow dental students the opportunity to vary their curriculum according to individual interests. Electives are intended to supplement, not to replace any part of, the core curriculum.*

### Requirements

*Each student is required to complete a minimum of 60 clock hours (6 credit hours) of approved elective courses.*

AVAILABLE TO COHORT	COURSE TITLE	CREDITS	SCHEDULE, ROTATION, INDEPENDENT STUDY
2DN, 3DN and 4DN	Using Tech to Support Teaching	1-3 (variable)	Independent Study
2DN, 3DN and 4DN	Oral Surgery Interest Group	1	Scheduled
2DN, 3DN and 4DN	Evidence Based Dentistry	1	Scheduled
2DN, 3DN and 4DN	Mentored Research in Community Dentistry	1	Independent Study
2DN, 3DN and 4DN	Mentored Research in Oral Biology	1	Independent Study
3DN and 4DN	Mentored Research in Orthodontics	1	Independent Study
3DN and 4DN	Mentored Research in Operative Dentistry	1	Independent Study
3DN and 4DN	Mentored Research in Oral Medicine	1	Independent Study
3DN and 4DN	Mentored Research in Periodontics	1	Independent Study
3DN and 4DN	Mentored Research in Prosthodontics	1	Independent Study
3DN and 4DN	Spanish in Dentistry	1	Scheduled
3DN and 4DN	Topics in General Dentistry	1	Scheduled
3DN and 4DN	Dental Extramural Elective	1	Independent Study
3DN and 4DN	Private Practice Experience	1	Independent Study
4DN	Dental Emergency Management	1	Rotation
4DN	Oral Medicine/ Pathology Clinic Observation	1	Independent Study
4DN	Digital Dentures	1	Independent Study
4DN	Clinical Orthodontics	3	Scheduled
4DN	Integrating Digital workflow in Implant Dentistry	1	Rotation
4DN	Advanced Digital Dental Photography	1	Scheduled



**F. For degree programs in medicine, nursing, and/or allied health sciences, please identify the courses that contain the competencies necessary to meet the requirements identified in [Section 1004.08, Florida Statutes](#). For teacher preparation programs, identify the courses that contain the competencies necessary to meet the requirements outlined in [Section 1004.04, Florida Statutes](#).**

**Not applicable to this program because the program is not a medicine, nursing, allied health sciences, or teacher preparation program.**

**1004.08 Patient safety instructional requirements.** Each public school, college, and university that offers degrees in medicine, nursing, or allied health shall include in the curricula applicable to such degrees material on patient safety, including patient safety improvement. Materials shall include, but need not be limited to, effective communication and teamwork; epidemiology of patient injuries and medical errors; medical injuries; vigilance, attention, and fatigue; checklists and inspections; automation, technological, and computer support; psychological factors in human error; and reporting systems.

Although woven throughout FAU's proposed curriculum, patient safety is an overt component of the student's education right from the start. Beginning with the Interdisciplinary Service Learning where students expected to demonstrate the ability to work with an interdisciplinary team. They learn how to communicate effectively in a clinical environment while developing an understanding of social and cultural factors that influence patients. They also learn how to function as a health information resource and work effectively within community service organizations—affecting public safety, not just individual.

Moving into Foundations of Professionalism, provides an orientation to the new dental student and establishes the foundation for the development of an emotionally healthy and ethically competent general dentist. Learning the rules and regulations governing academic and professional behavior are essential for patient safety. The new student is oriented to a variety of studying and coping skills to maintain emotional health and productive learning promoting an awareness of vigilance, attention and fatigue. The student will also learn about the ethical principles impacting the dental profession and how to apply these principles to ethical dilemmas. Again, ensuring the wellness of the patient, their and their team's safety.

In curriculum such as Introduction to Clinical Care students are provided foundational instruction in clinical care focused in the areas of patient safety, risk management, infection prevention, standardized clinical practices, information security, and emergency preparedness are applied by students to prepare them for clinical person-centered care. This early introduction to checklists, automation, technological challenges and reporting system is repeated each year throughout the learner's dental school experience, building and expanding the knowledge. These pillar items are recurring through the student's four years of school as cumulative coursework. Additionally, as each clinical subtopic is taught, a construct occurs regarding effective communication and teamwork, patient care technology, standardization of care to minimize patient errors, and maximizing the care delivery to the patient. Furthermore, in meeting CODA guidelines we will exceed the state expectations set forth in Section 1004.08 of the Florida Statutes.

**G. Describe any potential impact on related academic programs or departments,**

**such as an increased need for general education or common prerequisite courses or increased need for required or elective courses outside of the proposed academic program. If the proposed program is a collaborative effort between multiple academic departments, colleges, or schools within the institution, provide letters of support or MOUs from each department, college, or school in Appendix D.**

Much of the coursework in the program will be newly developed. Utilizing the FAU medicine faculty for common course work between COD and COM students, however, will be essential for years one and two. Specifically, faculty in the college of medicine are well equipped and able to provide instruction in the following:

Foundations of Professionalism Gross Anatomy Biochemistry, Molecular and Cellular Biology  
Developmental Biology and Psychosocial Issues Physiology Histology Infectious Diseases

The addition to the faculty course assignments will require expanding the faculty full time equivalent (FTE) with appropriate remuneration or adding incremental personnel. FAU will monitor enrollment to ensure sufficient section offerings are available. **A letter of support from the Dean of the College of Medicine at FAU is included in Appendix D.**

**H. Identify any established or planned educational sites where the program will be offered or administered. If the proposed program will only be offered or administered at a site(s) other than the main campus, provide a rationale.**

The degree program will be offered on the Boca Raton campus only other than clinical rotation sites which are discussed in section K below.

**I. Describe the anticipated mode of delivery for the proposed program (e.g., face-to-face, distance learning, hybrid). If the mode(s) of delivery will require specialized services or additional financial support, please describe the projected costs below and discuss how they are reflected in Appendix A – Table 3A or 3B.**

The degree program will be offered almost exclusively by face-to-face instruction. Hybrid instruction may be necessary in the 4<sup>th</sup> year for students spending clinical time in distant or rural parts of the state.

**J. Provide a narrative addressing the feasibility of delivering the proposed program through collaboration with other institutions, both public and private. Cite any specific queries made of other institutions with respect to shared courses, distance/distributed learning technologies, and joint-use facilities for research or internships.**

Over the past 6 months FAU Health leadership has met with over 350 institutions, spanning healthcare entities and community partners in the area for the purpose of integration and collaboration. The College of Dentistry has been a foundational component of these plans. Specifically, the following institutions already have an existing collaboration that will be expanded to include the College of Dentistry.

- Palm Beach Atlantic University
- Broward College
- Palm Beach State College

Additionally, FAU recognizes that Nova Southeastern University in Broward County was formed over 25 years ago. Although a private institution, FAU has reached out to their leadership and would seek opportunities to provide joint educational ventures as appropriate. These would include grand rounds, journal club, invited speakers and other non-classroom learning. A potential collaboration with research is also being explored. This would lean toward a basic science focus in the first 5 years, but evolve to a translation scope as well. An initial positive response has been received (Appendix D).

Due to geography, such collaborations with UF will be evaluated, but due to the distance will necessitate strategic partnerships in niche areas to ensure that it is sustainable and useful for both parties. As part of the SUS of Florida, FAU would seek more of a mentoring institution relationship with UF, as their college of dentistry is highly regarded due to its longstanding and preeminent dental sciences programs. Furthermore, UF is ranked number 5 nationally for research. The nature of research from an operational, financial and organizational perspective offers the most likely opportunities to work in both parallel and tandem, making research an obvious area for an integrated collaboration. FAU has a diverse catchment area, providing opportunity to expand the patient demographic and enrollment opportunities for new and existing UF studies.

Initial discussions have begun with other SUS intuitions regarding a pipeline program for their students. As part of the CAVP ACG pre-proposal discussion on September 7, 2022, UWF and FAMU (See Appendix D for formal letters of support) as well as UCF (verbal for student pipeline) all expressed interest in a partnership with the FAU COD. A pipeline program would include pre-dentistry student workshops, research opportunities, mentoring relationships and the opportunity to do a visiting internship. This would enhance the offerings for students within the SUS, provide an opportunity for students to have meaningful exposure to a diversified portfolio of health career opportunities, and position them well to be a highly desired candidate for dental school in what is a very competitive.

Lastly, in partnership with Harbor Branch Oceanographic Institute (HBOI), FAU would develop a combined FAU/HBOI program for oral health cancer research. This work would specifically function in collaboration with Esther Guzmán, PhD, Research Professor for Cancer Cell Biology at HBOI. This alignment of common interests allows the two programs to exponentially amplify their work and efforts toward addressing a need of the community. Additionally, at HBOI, Amy Wright, PhD, Research Professor for Natural Products Chemistry, leads nationally recognized and extramurally funded novel research utilizing natural oceanic products for a variety of healthcare conditions. Working together, we would expand the program through aligning resources to provide strategic dental science research. Building on the tremendous success of HBOI, the College of Dentistry would significantly shorten their path to providing a meaningful research experience for their students.

**K. Describe any currently available sites for internship and/or practicum experiences. Describe any plans to seek additional sites in Years 1 through 5.**

**Not applicable to this program because the program does not require internships or practicums.**

Leveraging the FAU existing Undergraduate and Graduate Medical Education consortium partners as it relates to clinical rotations for the College of Medicine, the College of Dentistry will be well equipped to provide substantial practicum experiences. By tacking on to these agreements, the college of dentistry could provide rotations for:

- Caridad Center
- Cleveland Clinic Florida
- Jupiter Medical Center
- Tenet Healthcare
- West Palm Beach Veterans Affairs Healthcare System
- Memorial Healthcare System
- Health Care District of Palm Beach County
- Broward Health
- Baptist Health South Florida (including Bethesda Hospital and Boca Raton Regional Hospital)

Notably, the Caridad Center, the Health Care District of Palm Beach County and the West Palm Beach Veterans Affairs Healthcare System provide substantial ambulatory oral health care for both routine and complex dentistry. These rotations would well sustain the program in the initial two years of implementation as FAU completes its clinical build out. As mentioned earlier in this proposal, FAU will work to expand clinical rotation sites into rural and underserved communities statewide to address the regional disparity of accessibility to dentists in the state. By year three of the program, the college of dentistry could also provide rotations within its own clinical structure—but continuing to maintain the affiliations as stated before. Other targeted rotations (pediatric, oral and maxillofacial surgery, orthodontics, etc.) could be supplemented through strategic relationships with community providers. This will allow FAU to rapidly expand to the full complement of dental students and quickly build clinical volume to ensure a meaningful educational opportunity.

To meet the broader goal of solving the problem of geographic disparity of dentists in the state, FAU is working to expand clinical rotation sites to rural and other underserved areas of Florida. A letter of support from UWF (Appendix D) indicates a willingness to facilitate

*“...clinical placements in the region by leveraging our alumni network to connect dental students in ways that may increase the likelihood that they practice in the local area. Additionally, partnerships with organizations offering dental care for the uninsured or underserved would be possible.”*

We have also had very positive conversations with the Heartland Rural Health Network ([www.hrhn.org](http://www.hrhn.org)) which works to serve the health needs of Hardee, DeSoto, Highlands, Polk and Charlotte counties in Florida (see letter of support in Appendix D). The Executive Director, Melissa Thibodeau, states that

*“HRHN is committed to increasing access to care to our communities. We also are pushing for more opportunities for our residents to be able to continue their educational goals where they live, being able to see opportunities, live them out, and continue to serve their community as they have seen their community serve them.”*

We will expand these clinical rotation site conversations with FQHCs as we move throughout the timeline to implementation. As a reminder, our analysis has shown the importance of starting

the clinical relationship through partnerships with several FQHCs (<https://www.fqhc.org/what-is-an-fqhc> ). in order to train dental students in underserved areas lowering the start-up time and start-up costs of developing such rotations.

There are 310 FQHCs in Florida. 31.2 % of FQHC providers offer dental services (including satellite and mobile units). This provides a large number of potential sites where FAU COD could engage in “service-learning rotations”, as have been successfully created with the intent of increasing the number of dentists working in underserved areas. There is good data to show success in these efforts over many years (<https://www.ruralhealthinfo.org/rural-monitor/uw-ride-dental-education/>).

These rotations will provide a month or longer experience wherein FAU COD students could temporarily relocate and undertake a significant portion of their clinical experience/training. During the next 2 years after approval of the degree program, FAU will engage in conversations with 8-10 or more FQHC that are currently active in providing dental services. We will seek arrangements whereby FAU students treat patients under the supervision of the FQHC attending doctors, who must be credentialed as outside faculty of FAU using CODA standards. Because the incremental encounters made by the FAU students are billable, the FQHCs would have, a small but significant incremental revenue in their clinic operations. This revenue will be used to cover the costs of students rotating into those faculties including their transportation and temporary housing costs. There would be no clinical/equipment or facilities costs with these rotations, as we would only partner with existing dental clinic operations initially.

## V. Program Quality Indicators - Reviews and Accreditation

**A. List all accreditation agencies and learned societies that would be concerned with the proposed program. If the institution intends to seek specialized accreditation for the proposed program, as described in [Board of Governors Regulation 3.006](#), provide a timeline for seeking specialized accreditation. If specialized accreditation will not be sought, please provide an explanation.**

Dental schools operating within the United States utilize CODA as their regulating agency for accreditation. CODA has two application processes, one for programs that are fully operational with enrollment and the other for programs that are developing and do not currently have enrolled students. Fully operational programs seeking CODA accreditation are generally schools that were previously accredited and have lost their accreditation. With an overwhelming prevalence dental schools seek initial accreditation prior to enrolling their first student. Likewise, FAU would seek accreditation before enrollment as a program without enrolled students.

This accreditation classification provides evidence to educational institutions, licensing bodies, government or other granting agencies that, at the time of initial evaluation(s), the developing education program has the potential for meeting the standards set forth in the requirements for an accredited educational program for the specific occupational area. The classification "initial accreditation" is granted based upon one or more site evaluation visit(s).

The accreditation process for FAU would require notification of our intent to seek accreditation.

Prior to that notification, we would need to set up an ADEA AADSAS account (at least one year before, but not more than 3 years before applying for accreditation). In parallel, we would provide notification to SACSCOC for a Substantive Change. SACSCOC accreditation maintenance is essential to FAU.

Once FAU has established the ADEA account, we would then request and complete the CODA application and gather essential documents for Initial Accreditation. As stated above, Initial Accreditation Awarded (or follow up visit scheduled) must occur before inaugural class commences in order for graduates to matriculate from an accredited program. Otherwise, graduates would be required to apply for an advanced standing dental education program at an accredited school before being license eligible by all states except Minnesota, Maine, Ohio and South Dakota as indicated via the ADA's detailed [licensure requirements by state](#).

The application for initial accreditation of a dental or dental-related program is considered complete when the program has demonstrated the potential to meet the Accreditation Standards and when the required criteria, as applicable, have been adequately addressed and documented in the application.

FAU would be required to appoint a dean/program director/program administrator, as applicable, who meets the requirements of the discipline-specific standards, by the time the application is submitted and at least six (6) months prior to a projected accreditation site visit. Should the dean/program director/program administrator change during the application review, FAU must notify the Commission immediately and a delay of six (6) months for a projected site visit (should one have been directed) will be applied.

FAU must demonstrate an ability at the time of application to comply with the discipline-specific accreditation standards related to institutional accreditation. A strategic plan and outcomes assessment process, which will regularly evaluate the degree to which the program's stated goals and objectives are being met, must be developed and documented, including the program's expected measures for student/resident/fellow achievement and schedule for ongoing program review.

Long and short-term financial commitment of FAU to the program must be documented and is sufficient to support the program's stated goals and objectives during development and long-term. Letter of support from FAU must be included with application for accreditation. For any support from entities or affiliates outside of FAU, contractual agreements should be drafted and signed providing assurance that a program dependent upon the resources of a variety of institutions and/or extramural clinics and/or other entities has adequate support. FAU must document that support from outside entities does not compromise its authority as the sponsor of the program and submit with accreditation application.

Policies related to student/resident/fellow admission process and due process procedures are developed and documented prior to initial accreditation visit. Application must also include FAU's explanation of how the curriculum was developed including who developed the curriculum and the philosophy underlying the curriculum. The curriculum must be mapped for all years of the program, including documentation of all competencies that will be required in each course. Curriculum materials for each course in all years of the program must be presented and include general and specific course and instructional objectives, learning activities, evaluation instruments (including, as applicable, sample tests, quizzes, and grading criteria). All evaluation instruments for laboratory, pre-clinical, clinical, and clinical enrichment experiences are developed and included.

In addition, CODA will require FAU to provide a projection of the number, qualifications, assignments. Appointment dates of faculty must be developed and demonstrate sufficiency to support the program during both the development and long-term. The program must provide evidence of availability of adequate faculty and a hiring plan.

FAU's initial accreditation application must also include a class schedule(s) for all years noting how each class will utilize the facility are developed and provided, including a mapping of facility utilization when the program is in full operation must be completed before accreditation. If the capacity of the facility does not allow all students/residents/fellows to be in laboratory, pre-clinical laboratory and/or clinic at the same time, a plan documenting how students/residents/fellows will spend laboratory, pre-clinical and/or clinical education sessions has been developed and must be shared prior to initial accreditation visit.

As applicable, formal diagrams or blueprints of the didactic, laboratory, pre-clinical laboratory and clinical facilities, and equipment needs are to be developed in support the anticipated enrollment date and provided by FAU along with its application for accreditation. An equipment procurement timeline and/or construction timeline must be developed and documented to support the anticipated enrollment date prior to initial accreditation visit.

Upon completion of this comprehensive process, FAU will submit initial application to CODA. This will trigger a site visit. Following completion of the visit FAU will be notified in writing regarding the outcome. Failure to meet accreditation status before enrolling the first student is important, but not essential. CODA will revisit the program in 6-12 months, depending on the findings and can then issue initial accreditation. This does impact the ability to recruit the most competitive students should accreditation not be achieved—however, does not preclude FAU from beginning its college of dentistry and obtaining full accreditation status. **Appendix P, page 31 shows the timeline that was compiled for the Texas Tech dental program accreditation. FAU has studied the timeline carefully to plan our path to accreditation.**

**B. Identify all internal or external academic program reviews and/or accreditation visits for any degree programs related to the proposed program at the institution, including but not limited to programs within academic unit(s) associated with the proposed degree program. List all recommendations emanating from the reviews and summarize the institution's progress in implementing those recommendations.**

The FAU Schmidt College of Medicine would be the most closely (and only) related academic program to the proposed College of Dentistry. Accordingly, we anticipate similar successes due to this alignment. Of course, we also expect similar challenges; however, having a collaborating partner unit to work with in addressing these items is a significant benefit.

Below is a screenshot of the actual LCME determination of compliance with accreditation standards based on the February 16-19, 2020 site visit (full report also attached as Appendix K). As demonstrated by the below, FAU Schmidt College of Medicine was in compliance with all standards with the exception of Standard 10 (item 5 is in compliance, with monitoring).

**I. LCME DETERMINATIONS OF COMPLIANCE WITH ACCREDITATION STANDARDS**

Standard	LCME Determination
Standard 1: Mission, Planning, Organization, and Integrity	C
Standard 2: Leadership and Administration	C
Standard 3: Academic and Learning Environments	C
Standard 4: Faculty Preparation, Productivity, Participation, and Policies	C
Standard 5: Educational Resources and Infrastructure	CM
Standard 6: Competencies, Curricular Objectives, and Curricular Design	C
Standard 7: Curricular Content	C
Standard 8: Curricular Management, Evaluation, and Enhancement	C
Standard 9: Teaching, Supervision, Assessment, and Student and Patient Safety	C
Standard 10: Medical Student Selection, Assignment, and Progress	NC
Standard 11: Medical Student Academic Support, Career Advising, and Educational Records	C
Standard 12: Medical Student Health Services, Personal Counseling, and Financial Aid Services	C

C = Compliance, CM = Compliance with a Need for Monitoring, NC = Noncompliance

Below indicates the only unsatisfactory elements driving the Noncompliance rating. Specifically to the NC rated elements, the initial screening process for applicant review and the failure of the college of medicine to specify the tuition policy as it pertains to refunds of payment for health or disability insurance were the items cited.

**III. ACCREDITATION ELEMENTS IN WHICH THE PROGRAM'S PERFORMANCE IS UNSATISFACTORY**

Element	LCME Finding
Element 10.2 (final authority of admission committee)	The initial screening of applicants is performed by a single staff member in the Office of Admissions without faculty involvement. This screening is reported to be holistic but is performed without clear criteria, charge, and oversight from the Admissions Committee.
Element 12.2 (tuition refund policy)	The tuition refund policy does not include information about refunds of payments for health or disability insurance.

These items have been fully addressed as to the LCME's satisfaction and no longer requires monitoring. Both the remediation and the LCME's response are represented below (fully documents are also attached).

On October 12-14, 2021 the LCME reviewed the status report of FAU's Schmidt College of Medicine (response attached) and determined compliance with all 12 standards.



Standard	LCME Determination
Standard 1: Mission, Planning, Organization, and Integrity	C
Standard 2: Leadership and Administration	C
Standard 3: Academic and Learning Environments	C
Standard 4: Faculty Preparation, Productivity, Participation, and Policies	C
Standard 5: Educational Resources and Infrastructure	C
Standard 6: Competencies, Curricular Objectives, and Curricular Design	C
Standard 7: Curricular Content	C
Standard 8: Curricular Management, Evaluation, and Enhancement	C
Standard 9: Teaching, Supervision, Assessment, and Student and Patient Safety	C
Standard 10: Medical Student Selection, Assignment, and Progress	C
Standard 11: Medical Student Academic Support, Career Advising, and Educational Records	C
Standard 12: Medical Student Health Services, Personal Counseling, and Financial Aid Services	C

C = Compliance, CM = Compliance with a Need for Monitoring, NC = Noncompliance

Standards all received rating of Compliance. LCME and FAU are continuing to monitor Element 3.3, which relates to diversity/pipeline programs and partnerships. Also attached is the most recent status report detailing the current and ongoing actions of FAU as related to Element 3.3 demonstrating progress towards Compliance status.

**C. For all degree programs, discuss how employer-driven or industry-driven competencies were identified and incorporated into the curriculum. Additionally, indicate whether an industry or employer advisory council exists to provide input for curriculum development, student assessment, and academic-force alignment. If an advisory council is not already in place, describe any plans to develop one or other plans to ensure academic-workforce alignment.**

To date, the proposal has largely been driven by directives from the accrediting body CODA. An Advisory Board (AB) will be formed immediately after degree program approval to guide the FAU leadership in the short run (in the formative phases of the COD), and the COD leadership once they are put in place, in perpetuity.

The AB will serve to advise on various State of Florida constituent interests in the FAU COD. Composition on the Board will include:

- **Leadership of Organized Dentistry (Florida Dental Association, Local Dental Society, etc.)**
- **Florida Dental Business Executive**
- **Underrepresented Minority Pre-Dentistry Study from FAU (TBD)**
- **Practicing Dentist in Florida**
- **Leadership of an FQHC in Florida**
- **A Florida resident dental patient who resides locally and may benefit from the FAU COD**
- **A current Dental Student from FAU COD, once the program begins**

The AB will advisory FAU leadership on many aspects of the COD program that will improve quality, including, but not limited to:

- **Curriculum**
- **Admissions process and standards**
- **Recruitment of URM**
- **Community engagement and service**
- **Clinical management and Faculty practice**
- **Development and Alumni Affairs**

The FAU leadership initially will convene the AB and hold meetings as needed, but not less than once per year. Once a Founding Dean is named for the FAU COD, the AB should convene at the request of the Dean and should meet no less than twice annually.

## **VI. Faculty Participation**

**A. Use Appendix A – Table 2 to identify existing and anticipated full-time faculty who will participate in the proposed program through Year 5, excluding visiting or adjunct faculty. Include the following information for each faculty member or position in Appendix A – Table 2:**

- **the faculty code associated with the source of funding for the position**
- **faculty member's name**
- **highest degree held**
- **academic discipline or specialization**
- **anticipated participation start date in the proposed program**
- **contract status (e.g., tenure, tenure-earning, or multi-year annual [MYA])**
- **contract length in months**
- **percent of annual effort that will support the proposed program (e.g., instruction, advising, supervising)**

**This information should be summarized below in narrative form. Additionally, please provide the curriculum vitae (CV) for each identified faculty member in Appendix E.**

As we plan to admit 45 students in year 1, FAU is projecting a staggered increase to 90 students over 4 years with a total enrollment of 350 students once fully enrolled (assuming attrition). Accordingly, it will be essential for us to recruit and hire faculty. We anticipate needing 30 additional faculty in year 1, with the expectation of expanding to 40 full time equivalent faculty by year 5.

The number of proposed faculty positions was determined by using both benchmarked data from peer institutions (see section 2D of this proposal for full details) as well as encompassing the criteria set forth by CODA. The proposed faculty will allow us to achieve the criteria set forth by CODA for full-time, qualified “core faculty” as described by the accreditation standards, as well as leadership to develop and deliver a high quality DMD curriculum in accordance with CODA specifications. Using the CODA definition of an FTE, the prescribed student-faculty ratio for instruction preclinically and clinically in the predoctoral program—subtracting out administrators, biomedical scientists, and those who have other teaching responsibilities such as shared responsibilities with the college of medicine (e.g. anatomy), is not to exceed 10:1 and

should accommodate the requirements of clinical instruction (70 percent or more by core faculty).

Utilizing 30 full time faculty and 10 (FTE) for adjunct faculty, the college of dentistry as proposed exceeds the CODA requirement of 10:1 student to faculty ratio (360 students when class size reaches full capacity, with 40 teaching faculty for a ratio of 9:1). Additionally, the anticipated core faculty exceed the requirement of a minimum of 70 percent of the total teaching faculty. As stated, core faculty make up 75% of the teaching faculty represented.

In similar fashion as the proposed program at FAU, University of Detroit Mercy's School of Dentistry combined with their colleagues at the Oakland University William Beaumont School of Medicine have launched an interprofessional program to leverage potentially redundant resources of the college of medicine and college of dentistry (two separate organizations). Accordingly, this allows for a higher dental school faculty to student ration, without compromising educational quality. According to Juliette Daniels, Ed.D at Mercy, via telephone conversation on November 30, 2022 with FAU, the school meets the minimum threshold of 10:1 faculty and maintains high student satisfaction scores and comparable national board pass rates.

Although not studied exclusively, we see similar trends at dental schools that have corresponding medical schools. Universities with both colleges (or schools) of medicine and dentistry tend to have a slightly higher student to faculty ratio. The logical inference is certain roles are fulfilled with a single individual, but utilized by both schools of medicine and dentistry (e.g. anatomy instruction, public/population health and other research faculty). Dolf Dawson, DMD at the University of Kentucky (UK) and Chair of Oral Health Practice noted that biology, anatomy, physiology and pharmacology are certainly areas where UK utilizes faculty across both professional schools to avoid higher costs of cross-disciplinary faculty. FAU, with an established medical school, would align in this capacity.

Lastly, newer schools utilize technology to amplify the impact of direct faculty interactions with students. According to a study conducted at the University of Colorado, this use of technology is not only accepted by students, but expected and allows for multimodal learning. "...students added the following responses to characterize how technology enhances their learning. 'Technology is just part of the world we live in and how we access information and learning. It makes some processes more efficient.'" <https://files.eric.ed.gov/fulltext/EJ1277091.pdf> The use of technology provides an excellent, consistent delivery mechanism for educational content both efficiently and remotely, which will be essential for our community facing programs. Accordingly, this permits faculty to focus their time on the most meaningful interpersonal activities for maximum benefit. The technology costs have been incorporated in the LBR start up and ongoing costs.

Noted by the outside reviewer as an area for consideration (student to faculty ratio), it may be relevant that the perspective of this individual may be influenced by their experience at a dental school without a corresponding medical school.

Based on other colleges of dentistry and the local market we expect that in total approximately 50% of the new faculty will be assistant professors, 30% will be associate professors and 20% will be full professors. We assume that several of the assistant professors may have outstanding clinical practice experience, but may be new to academics. Accordingly, their academic rank may not be fully reflective of the considerable value they will bring to our students. Associate professor level and above will be more aligned with the traditional pathway for an academic

educator. All will have obtained the minimum credential of DMD or DDS, possess a Florida dental license without restrictions, and meet the requirements of participation set forth by the Department of Health and Human services as it relates to the Centers for Medicare and Medicaid Services (CMS).

Of the distribution offered by rank, we anticipate 20% of the total faculty (10) will have administrative responsibilities. Included in the breakdown are the Dean of the College of Dentistry in the calculation, as well as, Associate Dean for Research, Director of Student Engagement, Director of Assessment, Evaluation and Analytics and Department Chairs. This would also encompass effort assigned to other clinical leaders for the purpose of administrative roles such as Clerkship Directors, Site Directors and the like. Not requiring a full-time equivalent (FTE) for many of these positions, individuals may also incorporate teaching, research and/or clinical care as part of their distribution.

Utilizing FTE data from [MGMA Data Dive](#), the average dental faculty member has roughly 15% of their effort designated for research activities. Accordingly, we anticipate the same over time. However in speaking with emerging colleges of dentistry, the first 3-4 years tends to focus less on research and more on setting up the clinical and academic programs for a recommended research protected time of 5-10% per FTE. Understanding that most likely the research FTE is not distributed evenly across all faculty. Some individuals may have more or less protected time for this part of the tripartite mission. However, it will be substituted for either clinical, education or administration for the composite FTE.

Lastly, as clinical service and educational activities are so intertwined, it is important to note that these are not binary activities, and often occur in tandem. As based on the industry's tradition of reporting educational service in the act of clinical work as clinical time, it may to the outsider appear that educational support is under represented. However, there are didactic lectures that will occur outside of the clinical environment that are reported as education. This would amount on average to no more than 20% of a faculty members FTE. Again, this may not be evenly distributed across faculty. The majority of faculty effort will be calculated as part of their clinical FTE, with an overall estimation exceeding slightly more than 50% of their overall FTE.

Budgetary considerations for these positions are based on market analysis by a blending of MGMA salary data obtained from the [MGMA Data Dive](#) database, [Dental Economics Survey](#), and the [ADEA Faculty Salary Data](#). We worked with finance leaders at 8 different colleges of dentistry across the country to reason check and validate our compilation to determine the most realistic benchmark given recent economic changes (see discussion of benchmarking exercise in section 2D of this proposal). We assumed that all faculty would be a 1.0 FTE. If individuals are employed with less than a full time equivalent, the equivalent should equal the proposed.

In addition to the recruited faculty, we anticipate collaboration with the college of medicine to support common elements between the programs, including instruction and research. These faculty members will provide both a functional role as well as mentoring to the new college's faculty and leadership. By establishing a partnership relationship from the beginning sets the expectation for the two colleges to work in tandem, sharing space and other resources. This allows the college of dentistry and medicine a unique opportunity to providing a comprehensive education for all learners.

As the college of dentistry begins, we anticipate it will take more effort from existing faculty within the college of medicine. (Support letter in Appendix D) Although much of the material, programs and infrastructure exist, modifications will be essential for a dental medicine

focus. Accordingly, we anticipate utilizing 50% FTE of the college of medicine faculty proposed in year 1, with the expectation this will reduce slightly by year 5 to roughly 40%. This work will require both hands-on faculty interaction, as well as the development of asynchronous instructional material, again allowing for a reduced load over time.

The proposed faculty complement will allow us to achieve the criteria set forth by CODA for full-time, qualified “core faculty” as described by the accreditation standards, as well as leadership to develop and deliver a high quality DMD curriculum in accordance with CODA specifications. Using the CODA definition of an FTE, the prescribed student-faculty ratio for instruction preclinically and clinically in the predoctoral program—subtracting out administrators, biomedical scientists, and those who have other teaching responsibilities such as shared responsibilities with the college of medicine (e.g. anatomy), is not to exceed 10:1 and should accommodate the requirements of clinical instruction (70 percent or more by core faculty).

We are also proposing a staggered start of faculty; however, we have “front-loaded” the hiring due to the enormous work it will take to set up the program. Accordingly, the increase in faculty is not linear. It is also important to note that year 5 (the last in the data associated with the proposal) is the first year full enrollment capacity would be recognized. As the program progresses, it will be important to reevaluate the student to faculty ratio, respective of their roles, to ensure adherence to CODA requirements. As proposed, it would meet the standard, but if roles shift, this may require additional consideration.

All faculty will be appointed for 12 months, following the segment requirements of the program. Their effort, other than for crossdisciplinarity purposes will be singularly focused on the programs within the college of dentistry. As previously indicated, an inaugural dean will be hired first as part of the administrative leadership. Other faculty leadership roles will be in addition to their academic and clinical assignments and are included in Table 2 Faculty Participation. Their rank may vary based on the market; however, they are accounted for in the overall number of faculty and salary expense with the methodology described herein.

**B. Provide specific evidence demonstrating that the academic unit(s) associated with the proposed program have been productive in teaching, research, and service. Such evidence may include trends over time for average course load, FTE productivity, student HC in major or service courses, degrees granted, external funding attracted, and other qualitative indicators of excellence (e.g., thesis, dissertation, or research supervision).**

Most similar to and will be closely linked to the College of Dentistry, the COM clearly demonstrates the productive academic environment facilitated at FAU. We would envision the college of medicine’s faculty and operational structure to mimic and be intertwined with the college of dentistry through various means including an advisory role as it is formed, a collaborator for interdisciplinary research and academics, as well as a permanent partner for health sciences learning far beyond that benefits both medical and dental school students. Accordingly, to provide evidence demonstrating that this unit has indeed been productive in teaching, research and service we first outline the structure set forth in the COM to provide a scholarly environment for faculty. At the department level, the Chairs commit effort for each faculty member to engage in research/scholarship as designated in his/her effort allocation, setting the expectation at the onset of employment.

The biomedical science (BMS) department, which represents the COM's largest research division, has formal mentoring programs to support faculty development in research. The Mentoring Program is mandatory and is designed to align faculty development with the Promotion and Tenure policy. The Advisory Program is optional and is designed to sustain faculty performance to meet the ever-evolving nature of science. The BMS department provides opportunities for faculty to obtain bridge and pilot funding during a gap in funding or to collect preliminary data to enhance extramural grant applications. At the college level, the COM hosts a Medical Education Scholarship Workgroup monthly, which focuses on developing our faculty as medical education scholars and researchers, along with offering collaborative mentorship opportunities from study design through publication.

At the university level, FAU supports all colleges with the Division of Research (DOR). This group has sponsored workshops from the AAMC MERC Program for all interested faculty. Collectively, these efforts are increasing the pool of highly qualified faculty mentors while garnering a 2.85 fold increase in extramural research funding awarded in the last three years. The COM provides a supportive environment for research and scholarly work for students that has been steadily improving since the College's inception. In response to student feedback and AAMC GQ data, the COM established a Research and Scholarship Committee that represents the driving force behind the growth of student research activities using three modalities (i.e., workshops, summer research platforms, and online courses).

The Office of Research recruits highly qualified faculty members to serve as mentors and solicits involvement from our affiliate faculty members and local community of physicians. A series of 3 workshops is offered to introduce Year 1 students to research and to prepare them for summer research experiences. In addition, three research platforms were established to organize and facilitate student participation in research activities. The "Fast Track" platform allows students to join an existing research project that has regulatory approval already in place. The "Specialty Track" platform offers students an opportunity to develop their own project in collaboration with a qualified faculty mentor. The "External Track" platform permits students to participate in research activities at other institutions. The

Office of Research and OSA work collaboratively to collect and distribute information regarding both internal and external research opportunities and information regarding available funding sources. As a result of these efforts, COM students reported an increase in research participation on the AAMC GQ that is approaching the national average: 2016 (66.7% vs. 74.1%), 2017 (64.2% vs. 77.3%), 2018 (71.0% vs. 78.8%) and 2019 (75.9% vs. 80.9%). Additionally, the ISA revealed satisfaction for students in Years 1-3 who have experienced the increased research opportunities (97%, 85%, 92%), versus Year 4 students (72%). Further evidence of growing student participation in research include: 1) a 40.5% increase in the number of research abstract submissions for the Annual FAU Medical Student Research and Scholarship Day between AY2015-16 and 2018-19, and 2) 95% of Year 1 students participated in summer research in AY2019-20.

Scholarly productivity among faculty in the COM continues to increase in quality and quantity. All faculty above 0.5 FTE have the expectation to participate in research or scholarly activities, with dedicated time and goals outlined in their annual assignment. These activities are tracked and considered as part of the annual evaluation process. Faculty who struggle to achieve this expectation receive a formative performance improvement plan, with additional mentoring from their Department Chair and the OFA. The COM offers all faculty participation in a Medical

Education Scholarship Workgroup, mentoring programs, and faculty development specific to research and scholarship to help faculty meet, and often exceed set expectations. Collaborative efforts among faculty continue to provide opportunities for junior faculty to develop research and scholarship skills. Faculty have increased the number of peer-reviewed publications achieved by the COM each year, while growing its presence and reputation at national meetings. The most significant research advances have been among faculty in the BMS Department, where there has been a 2.85-fold increase in extramural research funding to support their efforts, and increasing output of peer-reviewed manuscripts and presentations.

The COMCC is the central curriculum committee charged with the responsibility for the curricular CQI process including reviewing, evaluating, and making policy recommendations for the medical education program as a whole, including curricular design and development, methods of pedagogy, methods of student assessment, and setting standards for student academic and professional achievement, based on the medical education mission of the COM. We would design a similar structure for the college of dentistry.

The COMCC works in coordination with (2) subcommittees, the CIPEC and LRC who report to the COMCC to meet its charge. The CIPEC facilitates the review of the curriculum as a whole, including 1) monitoring curriculum content to identify gaps, redundancies, and appropriate sequencing, 2) ensuring integration of content within periods of study (horizontal integration) and across years (vertical integration), 3) monitoring student learning outcomes and approaches to student assessment, and 4) monitoring program evaluation data.

The LRC provides input and feedback on library collections, technology services, and policies that facilitate utilization of technology in teaching, learning, and scholarship. COMCC and CIPEC meet monthly and are comprised of ex-officio, appointed (based on role), and elected faculty members. The LRC meets quarterly and is comprised of ex-officio, appointed (based on role) and, faculty/staff members as codified in the COM bylaws. The COMCC votes and approves all changes to the curriculum based on the ongoing, pre-scheduled, comprehensive review of curriculum, data, and outcome reports in order to continually and effectively manage and enhance the curriculum. Multiple examples in the committee minutes provide evidence that the final authority of the COMCC is being appropriately and successfully exercised including the development and launch of small group Diagnosis and Reasoning Rounds during Year 3 Academic Half Day and revision of the biostatistics component of our curriculum. AAMC GQ is at or above the national average for overall student satisfaction with the quality of their medical education: 2016 (93.3% vs. 90.1%), 2017 (90.9% vs. 89.9%), 2018 (88.9% vs. 89.3%) and 2019 (96.1% vs. 89.2%).

The COM educational program objectives have been linked to course and clerkship learning objectives and are used to guide curriculum planning, select and apportion curriculum content, review and revise the curriculum, evaluate curricular outcomes and guide program evaluation. The COM purchased an AAMC compatible LMS/mapping software (DaVinci Education/LEO) for its enhanced ability to serve as both a scheduling and mapping system for our curriculum and to ensure every teaching session would be captured. The COM developed a systematic, ongoing CQI process for the curriculum which includes an annual review of the education program objectives, mapping every session, course/clerkship, and program objective in our curricular map and reviewing all student outcomes and evaluation data for every course, clerkship, year, and phase. This annual review and revision process is designed to ensure alignment, vertical and horizontal integration and identify gaps and redundancies in the curriculum. Program, course and

clerkship evaluations are also reviewed and revised annually. Again, this methodology for evaluation, focusing on a CQI process would be well aligned with the structure and requirement for accreditation, student success and dental education overall.

The faculty directors of courses, clerkships, and threads with content expertise develop course, clerkship, and thread objectives and individual session objectives and assessments which must be reviewed and approved by the COMCC. The COMCC, in coordination with its subcommittee CIPEC, reviews units and phases of the curriculum, the curriculum as a whole and identified interrelated LCME elements according to a predetermined schedule. For the college of dentistry, similar processes could occur with CODA as the foundation for determining the essential elements.

The curriculum review process includes an annual review of the medical education program objectives and outcomes, and annual reports of each required course, clerkship and thread. Beginning in January 2020, a revised LCME element and triennial phase review process will begin for the pre-clerkship (Years 1 and 2), clerkship (Year 3), and post-clerkship (Year 4) phases of the curriculum. This scheduled curricular review process allows for a comprehensive review of the entire curriculum as a whole to be performed continuously over a 3-year cycle. In addition, the COMCC and CIPEC may assign an Ad Hoc workgroup to work on topics/issues/concerns/innovations. The workgroup will then conduct their research and analysis, develop proposals and report back to the COMCC for discussion and approval of any proposed curricular changes.

Curriculum committees and workgroups have use of the full four-year curriculum map. They review the education program objectives, outcomes and student evaluation data as part of the annual review and revision process to ensure alignment, vertical and horizontal integration and to identify gaps and redundancies in courses/clerkships and in years/phases of the curriculum. The results are used by the COMCC and course/clerkship leadership to inform needed change. The OPEA provides data, tools and resources to support the reviews. The Education Technology office provides reports and assistance to query our curriculum map/inventory. Best practices, as well as opportunities for improvement and better alignment, are shared in the curriculum committees where faculty, staff, and students from all phases of the curriculum meet monthly. Examples of results from past reviews that have resulted in innovative curriculum changes are: integrating anatomy education with clinical skills and bedside ultrasound; transforming pathology lab lectures into small group, case-based, interactive sessions; enhancing pharmacology integration throughout the curriculum; and reorganizing our Science of Clinical Practice curriculum to better incorporate cultural competency, end-of-life, and enhanced communication skills training through arts/humanities and reflection sessions. As a new medical school with a focus on innovation and humanistic person-centered care, the COM prides itself on being very responsive to outcomes data, student and faculty feedback, national/international trends in medical education and ongoing continuous quality improvement of our educational program. We would adhere to similar standards and expectations for the college of dentistry.

The COM uses a comprehensive and integrated system of program evaluation to judge whether educational program objectives are being met and desired program outcomes are being achieved. Depending on the course, clerkship, thread, or phase of the curriculum, in-house assessment data is collected through summative quizzes, examinations, narrative facilitator observations, small group and peer observation feedback, preceptor and clerkship evaluations, institutional competency assessments (ICAs), and OSCEs. In our foundational science courses we utilize customized integrated in-house



examinations for the first semester, and for the rest of the pre-clinical phase we use NBME exams. Further, validated external assessment measures such as NBME subject examinations, AAMC Y2Q/GQ, USMLE Step 1, USMLE Step 2 CK/CS, and USMLE Step 3 data are reviewed. For the college of dentistry, the NBDE and INDBE would be used in similar regard.

Additionally, the students complete evaluations on the quality of teaching, course administration, and educational program experience following a thoughtful and comprehensive schedule throughout all phases of the curriculum. In addition, surveys are sent to graduates and residency program directors to gauge perceptions of educational experience and preparation around EPAs. The OPEA manages the evaluation data for all but the in-house quizzes and examinations (delivered on Examssoft platform to be compatible with student iPads) and provides data/reports for each course to the course, clerkship, and year/phase directors. Data for each course, clerkship, and thread is presented annually to CIPEC and COMCC. Student performance on nationally normed assessments that are not tied to specific courses or clerkships are presented annually to CIPEC, COMCC, and at the annual curriculum retreat. Beginning in AY2020-21, an updated triennial phase review process will begin for the pre-clerkship (Years 1 and 2), clerkship (Year 3), and post-clerkship (Year 4) phases.

MyEvaluations, the COM electronic evaluation management system, is adequate to collect student feedback on courses, clerkships, faculty, residents, and others who teach, supervise, and assess medical students. In all years, anonymous evaluations allow students to provide valid and reliable quantitative and qualitative feedback online via their iPads or other devices. Participating in the evaluative process is required and considered a professionalism attribute so the response rate is 100%. In addition to standardized questions, course, clerkship, and curriculum directors are given the opportunity annually to add specific questions to assess any newly implemented curriculum content or unique educational objectives. Evaluations are reviewed annually.

Changes proposed by course/clerkship directors to evaluation instruments must be approved by the Director of OPEA, SADME, and Year/Phase Director. Further, student input is provided on the evaluation process via student curriculum representatives on the COMCC. Evaluation data is managed by a full-time faculty director of OPEA, two full-time program evaluation coordinators, and a three full-time associated curriculum coordinators dedicated to Years 3 and 4. Due to our small class size, evaluations of students by faculty, residents, and others who teach, supervise, and assess medical students and evaluations by students of faculty, residents, and others who teach, supervise, and assess them are embargoed until all evaluations have been submitted and all grades have been assigned. Individual faculty receive “batched” personal evaluation data to protect the anonymity of the students. Evaluations of core and affiliate faculty members’ teaching are reviewed by course directors and their respective department chair during core faculty’s annual review.

Program evaluation data is reviewed annually via course and thread reports, which collectively drive proposed changes to curriculum, pedagogy and assessment in response to student performance and feedback. ISA respondents show an increase in satisfaction of medical school responsiveness to student feedback on courses/clerkships in Years 1-3 as compared to Year 4 (99%, 100%, 92% and 84%) Beginning in. AY2020-21, with our updated pre-clerkship, clerkship, and post-clerkship phase review process, a review of the efficacy and timing of all evaluations will be incorporated into the review process to ensure they are collecting the necessary information to improve upon student experiences and performance in each course and clerkship. Any proposed changes to evaluations resulting from the phase reviews will be presented for approval to the COMCC.

Processes for monitoring clinical encounters is adequate throughout the curriculum. Students use our LMS to complete patient encounter tracking (PET) logs during their required clinical experiences for all clerkships, as well during their preceptor experiences in Years 1 and 2. The Surgery Clerkship additionally requires and monitors the completion of surgical case logs for use during the clerkship's required oral examination. Students are expected to keep their PET logs up to date on a weekly basis; compliance is monitored by the Year 3 Coordinator on a monthly basis and reports are sent to Clerkship Directors, students, and each student's assigned Year 3 Feedback Facilitator to ensure that requirements are being fulfilled. Feedback facilitators are core clerkship faculty who review the PET logs during their 1:1 mid-clerkship feedback meetings with students every two months during the 6-month LIC in order to review performance, identify gaps in skills/experiences and empower/guide students to remedy the gaps.

The above process allows feedback facilitators and clerkship directors to identify early-on any students in their respective clerkship who may not be on track to meet the clinical experience requirements during the 6-month LIC. Because each discipline is integrated across 6 months or a full year, the ability for students to remedy gaps via patient experiences is greater (100% in AY2018-19) than it would be in shorter, discipline-specific clerkships. The use of identified alternatives to complete required clinical experiences is rare, but we have online Aquifer cases available should remediation need to be assigned. Clerkship PET completion data collected is monitored centrally by the Year 3 Coordinator and reviewed annually by the Director of Year 3, the Clerkship Director Workgroup, and the COMCC.

There are effective processes in place to monitor and ensure comparability and identify any inconsistencies in education/assessment across all locations for all clerkships. This is essential for the college of medicine, and likewise will be necessary for the college of dentistry specifically as it relates to the various affiliate rotations. Student feedback is obtained through end-of-rotation/end-of-LIC evaluations which are disseminated to the clerkship directors and reviewed with the Director of Year 3 and at the monthly Clerkship Director Workgroup. At the end of every 6-month LIC, data from student evaluations, patient encounter tracking, grade distributions, NBME subject exam performance, and performance on discipline specific assignments are compiled on written Clerkship Report Forms, in order to assess any trends over time and demonstrate the comparability across sites, by each clerkship and cross-discipline director.

The clerkship and cross-discipline directors present the highlights of their individual reports every 6 months at the Clerkship Director Workgroup meetings, where comparability across instructional sites is reviewed for each clerkship, and any proposals for changes/improvements to the clerkships are developed. Clerkship directors are required to distribute batched, anonymized student feedback to their clinical site directors and clerkship faculty via face-to-face faculty development meetings and/or via email. At biannual hospital leadership meetings student clerkship feedback reports are printed and distributed to each hospital's CMO for review of all clerkships and rotations held at their hospital site. In addition, student clerkship feedback is distributed to Residency Program Directors so they have the opportunity to provide feedback to their faculty and residents. The year-end performance and evaluation data of all LIC experiences are compiled into a multi-year comparative End-of-Year 3 Report, separated by North/South students, and presented by the Director of Year 3 to the COMCC/CIPEC for review and approval of any changes, if required, to the Year 3 curriculum for the next academic year.

There are effective systems in place to ensure dissemination, access and review of course and

clerkship objectives, required patient encounters, and preparation for teaching and formative assessment roles. Residents do not currently provide summative evaluations for students. All FAU and non-FAU incoming residents are required to attend a mandatory orientation that includes a presentation by the Director of Year 3 and/or the ADME that reviews the Year 3 and 4 FAU clerkship-specific objectives, provides the list of required patient encounters (PET), and prepares them for their role as clinical educators including feedback/assessment. In addition, FAU and non-FAU residents participate in a mix of live and online Resident as Teachers modules/programming. FAU-related educational materials (e.g., presentation slides, Curriculum Guides, Student Handbook, Policies, PET, etc.) are provided to all GME programs for upload to their LMS (e.g., MedHub) for easy access and reference. Clerkship and Year 4 Directors further review and reinforce expectations and the role of residents in education during site visits. There is variability in the documentation of receipt, dissemination and participation (e.g., electronic or paper sign-in sheet confirmation) at both FAU and non-FAU GME programs but these activities do occur and are monitored centrally by the Year 3 Coordinator and reported to the Director of Year 3.

There is an effective system in place to ensure that medical student learning experiences are provided by faculty members under appropriate supervision. The COM provides faculty appointments to all community-based physicians who serve as clinical supervisors. Course/Clerkship Directors verify that all physicians who are engaged in medical student teaching hold current appointments. The COM Committee on Appointments and Promotion (CAP) oversees appointments for affiliate faculty in clinical roles; appointments are recommended after review by the CAP, based on the recommendation and support of a Course/Clerkship Director who has a specific role designated for them within the curriculum. Specific appointment and promotions criteria exists for affiliate faculty. Affiliate faculty appointments are for a 3-year term, at which point a reassessment of the faculty member's role, contributions and performance determines renewal. The IMS, BMS and Surgery Departments each maintain a database with the names and appointment status of all affiliate faculty.

The Medical Student Roles and Supervision Policy is in effect and outlines the roles and responsibilities related to appropriate supervision of medical students during clinical experiences to ensure student and patient safety. This policy outlines the degree of involvement/participation of students when providing patient care, the different levels of supervision (Direct, Indirect Supervision with Direct Supervision Immediately Available, and Oversight), and the roles of a medical student at each level of training. This policy is provided and reviewed with students during orientation week at the beginning of each academic year and is in the Medical Student Handbook. Faculty, including Site Directors at each hospital, receive the policy as part of the education materials provided by the COM prior to the start of every academic year. The Clerkship Directors are responsible for promulgating and ensuring the policy is being followed by faculty, residents and students. ISA data shows Year 3 and 4 student satisfaction with supervision in Year 3 clerkships (86% and 89%).

Students are rigorously assessed as they progress through the curriculum on knowledge, cognitive and clinical skills, attitudes, and behaviors specified in the educational program objectives. Establishing benchmarked performance criteria for the college of dentistry can be modeled similar to what has been achieved within the COM using relevant disciplinary assessments and tools. Demonstrating success with utilizing such data within the COM is evident of the successful program management and ability to trend over time for effective academic rigor.

Knowledge/cognitive skills are assessed in Years 1-4 through multiple MCQ and oral exams, quizzes, lab/practical exams as well as on national medical licensing examinations. Students are provided adequate formative feedback and narrative assessment on performance. Attainment of knowledge/cognitive skills is validated by FAU student performance on USMLE Step 1 scores above the national average: 2016 (232 vs. 228), 2017 (233 vs. 229) and 2018 (234 vs. 230). NBME shelf examinations are administered at the end of each LIC and attainment of knowledge/cognitive skills is further validated by FAU student performance on USMLE Step 2 CK scores above the national average: 2016 (246 vs. 242), 2017 (249 vs. 243) and 2018 (249 vs. 243).

Clinical skills, attitudes and behaviors are assessed in Years 1-4 through OSCEs, faculty ratings, narrative assessment and students are provided adequate formative feedback on performance. Attainment of clinical skills, attitudes and behaviors are validated by FAU student performance on USMLE Step 2 CS pass rates above the national average: 2015 (100% vs. 96%), 2016 (97% vs. 96%) and 2017 (96% vs. 95%), In addition, AAMC GQ data shows a 3-year trend that students agree/strongly agree that they have acquired the clinical skills required to begin a residency program above the national average: 2017 (92.5% vs. 90.1%), 2018 (93.6% vs. 90.7%) and 2019 (92.6% vs. 90.6%).

Essential H&P skills are assessed with direct observation via multiple formative and summative OSCEs as well as on preceptor evaluations and Direct Observation of Clinical Skills (DOCS) cards during clinical rotations in Year 3. The 2019 AAMC GQ data shows that observation of history taking was above the national average for all six core clerkships but psychiatry (87% vs. 93.8%) and for physical examination for all but internal medicine (94.4% vs. 95.0%) and psychiatry (83.3% vs. 92.6%). In order to address these few outliers, in AY 2019-20 students are required to submit (1) history and (1) physical examination DOCS cards from each of the six core clerkships (psychiatry alternatively requires 2 history/mental status cards) as an additional way to ensure direct observation of H&Ps. DOCS cards had been used previously; however, the expectation was not per clerkship but overall during the year which allowed students to complete them all in one specialty. Limitations to the ability to ensure that clinical skills are appropriately assessed have not been identified.

There are effective processes and systems to ensure that students receive useful, comprehensive and timely formative and summative assessment throughout the curriculum. The COM uses a competency-based grading system in Years 1-4 and formative, summative and narrative feedback is included in every phase. In the first three foundational science courses in Year 1, students receive a mid-point formative narrative assessment and an end-point summative narrative assessment. In a fourth course in Year 2, students receive an end-point summative narrative assessments due to its short length.

Other formative feedback in the foundational science courses include oral feedback at the end of each PBL session and formative weekly quizzes on medical knowledge. Summative assessments in the foundational science courses include in-house and NBME customized exams and quizzes, anatomy practical exams, and a variety of projects, case write-ups, and other assessments. Respondents to the ISA for Year 1-4 reported satisfaction with the amount (100%, 100%, 97% and 98%) and quality of the formative feedback (100%, 98%, 95% and 93%), in the pre-clinical years.

In the required LICs, students are provided mid-clerkship feedback through regularly scheduled

meetings with their feedback facilitators. These meetings are scheduled every two months during the 6-month LIC to review the student's feedback/evaluations, PET logs, clerkship assignments, and student EPA-based self-evaluation forms. Students and faculty sign-off on a mid-clerkship feedback form after their meetings so the Year 3 Coordinator/OME can confirm that 100% of students receive mid-clerkship feedback. The 2019 AAMC GQ mid-clerkship feedback data ranges from (94.4% -100%) across clerkships and ISA respondents for Year 3-4 reported satisfaction with the amount (93% and 92%) and quality of the formative feedback (89% and 86%), in the clinical years.

To further align student perception of amount and quality of feedback, all Year 3 students are required to complete six DOCS (Direct Observation of Clinical Skills) cards per LIC which are due every two months for formative assessment and to ensure direct observation and formative feedback of H&Ps. Clerkship summative grades consist of a Patient Care and a Medical Knowledge grade for each clerkship, as well as an overall LIC grade. The Director of OME tracks grade submission and for AY2016-17, 2017-18 and 2018-19 compliance with grade release was 100% and between 2.5–3.0 weeks from the end of the LIC. ISA satisfaction for Year 3/4 students with the fairness of the grading in clerkships was (89% and 81%). To help improve student perception of fairness, the COM implemented a more robust orientation that transparently describes the process of how grades are determined by grading committees that include members across all sites and that use standardized rubrics/processes to assign clerkship grades. All required clerkships incorporate narrative feedback in final summative assessments.

Standards of achievement for courses and clerkships are set by faculty directors selected for their roles because of their knowledge and expertise in a discipline. Those standards are approved by the COMCC. Course/Clerkship Directors and teaching faculty are supported and encouraged to stay up to date through attendance at relevant seminars, grand rounds, regional and national education and specialty meetings. With current requirements for maintenance of certification, all clinical faculty remain up to date on content. Foundational science and clinical faculty members consult relevant journals, texts, and resources to continuously revise and update teaching materials. Course and Clerkship Directors are expected to consult with and have knowledge of national recommendations regarding curriculum content in their respective area of expertise, and are funded to go to their national clerkship education meetings annually. The criteria for passing all examinations receives final approval from the COMCC.

The rigorous efforts to establish, develop and hone the COM's effectiveness in teaching, research and service, as well as devise qualitative indicators for excellence, provide a beginning roadmap for the college of dentistry. The COM's success in this matter also reflect the FAU collective expectation and support of such evaluation. The college of dentistry will have adequate resources provided as well as an expectation for building a program geared to academic enrichment for both faculty and learner.

## VII. Budget

**A. Use Appendix A – Table 3A or 3B to provide projected costs and associated funding sources for Year 1 and Year 5 of program operation. In narrative form, describe all projected costs and funding sources for the proposed program(s). Data for Year 1 and Year 5 should reflect snapshots in time rather than cumulative costs.**

Budget for the College of Dentistry was derived in the following format:

1. Once a determination regarding the number and types of positions (faculty and staff) were needed (see VI A) , the appropriate benchmarks and reference data was utilized to determine market rate.
  - a. Faculty – Budgetary considerations for these positions are based on market analysis by a blending of MGMA salary data obtained from the MGMA Data Dive database, Dental Economics Survey, and the ADEA Faculty Salary Data.
  - b. We also worked with finance leaders at 8 different colleges of dentistry across the country to reason check and validate our compilation to determine the most realistic benchmark given recent economic changes (See section 2D of this proposal for details).
  - c. We assumed that all faculty would be a 1.0 FTE. If individuals are employed with less than a full time equivalent, the equivalent should equal the proposed.
  - d. We utilized a blended model to account for specialty (general dentistry, perio, ortho, endo, OMFS).
  - e. Leadership – Association of Dental Education data for dean and assistant/associate deans (again blended with specialty data).
  - f. Staff – utilizing market data available for peer institutions based on current position postings for various roles
    - i. Cross-referenced with the US Bureau of Labor Statistics for specialty positions (dental hygienists, dental assistant)
    - ii. Institutional benchmarks for similar positions or roles within the college of medicine and nursing.

The number of proposed faculty positions was determined by using both benchmarked data from peer institutions (See section 2D of this proposal for discussion), but also encompassing the criteria set forth by CODA for the number of full-time, qualified “core faculty” as described by the accreditation standards, as well as their required leadership to develop and deliver a high quality DMD curriculum in accordance with CODA specifications. This is depicted in much greater detail in section 6. *Faculty Participation*, A. Faculty costs to initiate the program in Year 1 total \$10, 665,000, reaching \$14,850,000 by Year 5. Please note that the 4 College of Medicine faculty that are already at FAU, will be paid as an additional assignment out of the LBR money that will fund the program. As these faculty already have full loads, and the LCME (College of Medicine accrediting body) has restrictions about mixing medicine students with

others such as dental students, these 4 faculty will be paid for overload instruction to properly compensate them for offering additional sections that will support the dental program. Therefore, no dollars will be reallocated from existing E&G funding to support the DMD.

Staffing levels were determined based on a combination of factors to calculate appropriate number and roles. Relative to patient care, the college will employ a variety of dental care support team members. Included in our calculation is dental hygienists, dental assistants and nursing personnel. This complement of staff accounts for 40% of the personnel costs and is the bulk of the OPS positions. The remaining 60% are a blend of administrative, finance, and education support. This includes an Assistant Dean of Finance (or Director), Registrar, Patient Advocate, Operations Manager, Administrative Assistants, and various Education Specialists roles. Outside of the daily operations and administration of the college, we will also employ staff that provide direct support and function as advisors to the DMD pipeline program. These roles will be similar to those in the existing pipeline program within the COM and accordingly we have budgeted the roles in a comparable manner as based on program size.

Again, using peer benchmarked data (see section 2D for discussion of benchmarking activity) to align staff support in number to the faculty and adjusting to ensure that CODA standards are met, we are confident that the budget for staff has been right-sized for the number of students we are projecting. Similar to the faculty, we did front load the (administrative) staff to allow sufficient resources as we stand up the program. Clinical staff are more evenly titrated in their increase due to the more direct relational aspect of their work to student volume. Small front-end weighting is recognized to ensure procedures and flow are optimized, but again, not to the degree of administrative staff or faculty.

For budgetary purposes, we inferred that the College of Dentistry will utilize library services similarly to the College of Medicine. Accordingly, we are estimating salaries and benefits for two library positions, one of which will be completely funded in the DDM program budget and one of which will only be partially funded in the budget as recommended by FAU's central library services. Both allocations have been included in the Professional Staff Salaries and Benefits category.

Professional staff salary and benefits combined with OPS salary costs for Year 1 are \$4,677,750 rising to \$6,237,000 by year 5.

2. Utilized data from an informal consortium of leaders from colleges of dentistry from across the country to incorporate both the startup (non-reoccurring) and the ongoing needs.
  - a. Group included deans, associate deans or finance directors from University of Pittsburg Medical Group, University of North Carolina, University of Texas (both San Antonio and Houston), University of Tennessee, University of Kentucky, University of California, San Francisco and the University of Utah.
  - b. Validated data with ECG Management Consultants as part of contracted engagement with FAU.
  - c. Projected annual expenses are derived (for variable expenses) based on number of students. Fixed is a component of square footage for the building.

Annual CODA/other fees/permits	\$1,000,000	Most variability between organizations -- ranged \$1M-1.8M
General expenses	\$8,200,000	Blended approach to incorporate size of bld and projected class
Fees, license, malpractice, professional dev, other...	\$400,000	Based on # of faculty; but would also cover staff
Variable expenses 15K/student per year @ 360 total students	\$5,400,000	Lower estimate (lowest was \$14K, but larger school/highest was \$21K

Startup equipment; 60K sq feet @200sqft	\$12,000,000	<i>(most schools were more than 60K sq feet so this number may be understated due to size... e.g. dx equipment most costly, but a minimum requirement essential for functionality); larger than 60K sqft schools \$/sq ft was lower than smaller.</i>
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For non-reoccurring start-up, consultants (mentioned in section 2D) provided a benchmark of two times annual reoccurring expenses, salaries and benefits. This aligned with the informal consortium recommendation.

*Section VII. D.* details much of the start-up equipment that is incorporated within the budgets above. This was calculated first by determining the core needs for equipment, essential regardless of school size. We then adjusted to student size and associated patient volumes to ensure that the program could accommodate what was essential for a student’s educational experience. The equipment ranges from radiologic imaging systems, to individual operatories (and the multitude of items within). We worked with 8 different institutions (listed above) to validate the needs and ensure we had not omitted essential items and their associated costs. As the budget currently stands, we are confident that the program has all the key foundational items accounted for, but not excessively resourced.

Additionally, we provided additional detail to demonstrate the annual variable expenses (instrumentation, cassettes, personalized software) that encompass a variety of student facing, non-capital needs to collectively account for the \$15K per student, per year expense associated with the budget. Again, utilizing peer institution benchmarks (discussed in section 2D), we believe this number to be appropriate for the scale and size of the proposed program. We also included other variable, but required expenses related to providing patient care such as malpractice coverage, dental license, DEA license and other associated costs.

Significant in the non-salary expense category are library resources essential to support the educational curriculum. Accordingly, the library will need to purchase 100 E-Books and/or other periodicals per year as detailed in *Appendix J*. This annually reoccurring amount was included in both the startup as well as reoccurring budgets.

There are also other fixed costs associated with operating a college of dentistry. Achieving and maintaining accreditation is essential. Likewise with building and equipment management. As the mechanism of delivering outstanding dental education now relies heavily on technology, and technology is constantly evolving, there is no longer a 10-20 year shelf life on equipment as may have been true in the past. This additional expenses will continue to occur on a reoccurring basis’s and have been appropriately incorporated within the proposed budget. Again, more detail



regarding these items is within *Section VII. D*. The total of general programmatic expenses in Year 1 are \$101, 214, 000 dropping to \$16, 500, 000 due to the largest percentage of the expenses in this category being non-recurring items needed to start the program.

**B. Use Appendix A – Table 4 to show how existing Education & General (E&G) funds will be reallocated to support the proposed program in Year 1. Describe each funding source identified in Appendix A – Table 4, and provide a justification below for the reallocation of resources. Describe the impact the reallocation of financial resources will have on existing programs, including any possible financial impact of a shift in faculty effort, reallocation of instructional resources, greater use of adjunct faculty and teaching assistants, and explain what steps will be taken to mitigate such impacts.**

No funding to support the program will be reallocated from existing E&G accounts.

**C. If the institution intends to operate the program through continuing education, seek approval for market tuition rate, or establish a differentiated graduate-level tuition, as described in [Board of Governors Regulation 8.002](#), provide a rationale and a timeline for seeking Board of Governors' approval.**

**Not applicable to this program because the program will not operate through continuing education, seek approval for market tuition rate, or establish a differentiated graduate-level tuition**

**D. Provide the expected resident and non-resident tuition rate for the proposed program for both resident and non-resident students. The tuition rates should be reported on a per credit hour basis, unless the institution has received approval for a different tuition structure. If the proposed program will operate as a continuing education program per [Board of Governors Regulation 8.002](#), please describe how the tuition amount was calculated and how it is reflected in Appendix A – Table 3B.**

The College of Dentistry will follow a similar tuition and fees model as applied to our approved structure for the Charles E. Schmidt College of Medicine.

In-state tuition will be \$37, 566 per year for the 4 years of the program with annual student fees of \$4154. Out-of-state students will pay an additional \$26, 480 per year.

**E. Describe external resources, both financial and in-kind support, that are available to support the proposed program, and explain how this amount is reflected in Appendix A – Table 3A or 3B.**

As we have outlined in the comprehensive Legislative Budget Request (LBR) we submitted to the Board of Governors and given here as Appendix M, Florida Atlantic intends to seek legislative support and state appropriations to establish the College of Dentistry. The university will seek both operational and capital funding to hire the faculty and staff (110 FTE) necessary to run the college (360 total enrollment target goal once the program ramps up) and house them in a

new state-of-the-art dental education facility (93,750 GSF). In the event that we do not receive the full amount of appropriations requested, we plan on continuing to petition the state in subsequent years until we have reached the full level of funding we articulated in our LBR. In addition to seeking state support, Florida Atlantic also is committed to seeking support from the philanthropic community. The local community's desire to assist the state is already reflected in an incredibly generous philanthropic commitment that would seed this college and seek to name it. Regardless of the level of state funding that is received, the university remains committed to pursuing philanthropic and local community support to ensure that the College of Dentistry is able to provide high quality education to the full complement of students enrolled. **The LBR draft was approved by the FAU Board of Trustees on September 19, 2022.**

As gleaned from their annual report, 2020-2021, similar to the University of Florida (UF), a sustainable funding model for the Florida Atlantic University College of Dentistry will require a commitment of recurring state funds as proposed in the Legislative Budget Request. Given the planned size of program and anticipated ramp up period to develop margin producing, revenue generating clinical programs, we anticipate the funding model proposed will be appropriate for the next 10 years.

Beyond the 10-year mark (assuming the first class enters 2026, and the first-class graduates in 2030), there will be planned incremental revenue sources to allow growth of institutional functionality, additional faculty recruiting, additional health services and programs as part of the greater FAU community.

Correlating data publicly available for UF, incremental revenue (beyond startup funds, recurring funds, and tuition) will be utilized to sustain the organization, adjust for increased market costs, and provide funding for strategic program investments. UF continues to receive annual reoccurring state general revenue as nearly a third of their budget. UF generates nearly \$20M in revenue support GME and faculty practice. Although this increases the budgetary total to an all funds of approximately \$75M, it does not factor in the limited margin (or deficit) these programs create. Additionally, the state periodically provides substantial appropriations to UF to allow for program adequacy and contributed directly to the growth of the research and clinical programs—allowing them to achieve great success.

Accordingly, even a well-developed, well-established program such as UF continues to require ongoing support. The proposal submitted by FAU related to sustainability is on par with the only other state college of dentistry. As a community facing dental program, the appropriated funding necessary over time should be considerably less per student than at our peer institution. Both organizations will fulfill an incredible need for the state in a way that is appropriate for the geographic areas and purposes they meet.

### **Clinic Revenue (students)**

When fully realized after 5-7 years of operation and based on comparable institutions, it is anticipated that the student clinic revenues will reside in the \$1-2.5M range. However, the growing costs of clinic operations as well as additional staff support essential for support will offset this revenue. The total operational budget will increase, but do not anticipate that student clinic revenue will provide notable margin for the college.

### **Faculty/Resident Practice**

Comparable institutions have developed large revenue producing faculty practices, typically connected to residency programs, using the “medical model” of teaching while training residents in the course of faculty practicing. This is particularly lucrative in specific disciplines where

much of the care is provided under the auspices of hospitals and their outpatient clinics. Oral and Maxillofacial Surgery, Pediatric Dentistry as well as General Practice residencies are the most connected with hospitals. There is adequate GME revenue available to create such programs, yet this will take at least 6-8 years to establish. Similar to student clinic revenue, the funds generated should adequately support the expansion of these programs. It is anticipated that when a faculty practice (developed in one of various forms) is fully operational, it can provide an additional \$5-7M of revenue, which can support the growth of recruiting and retention of the best faculty. The value of the faculty practice is not the enhancement of margin, but instead a mechanism to attract high-quality educators who also want to maintain a clinical practice—essential for educators to maintain best-practice and adept with advancing clinical treatments or technology.

### **Gifts/Endowments**

Beyond the lead gift identified as a core component of the facility costs, it is assumed that additional core gifts will be sought in the early stages of the planning and development, in the years 2022-2026. It is reasonable that there will be an initial slow growth of endowments to support chairs and research activities will take time and will begin to traction in 2025 and beyond. It is reasonable to expect that several endowed chairs/professors can be in hand by 2028. The endowments will provide additional revenue sources and will significantly aid in getting the top leaders and faculty in the most important areas of activity. This cost savings can also support necessary scholarships.

### **Research revenue**

The average medical school (correlating to dental medicine) investment applied to externally supported research projects was **an additional \$0.53 for each dollar of sponsored research received**. This amounted to an average investment of \$111 million with a 95% confidence interval between \$90 million and \$132 million per medical school.” Source: *AAMC Academic Medicine Investment in Medical Research*.

Even when achieved most research awards are at best cost neutral. As a result, for the first several years the FAU COD will not deliberately attempt to build a faculty research infrastructure in isolation at the FAU COD. Rather, we will build a teaching faculty infrastructure, and allow faculty of the FAU COD to engage in their research interests by building partnerships across campus, particularly at the COM. This model of creating these partnerships will deliver the focus on COD faculty seeing their primary roles as teaching, while offering the opportunity to build their careers, as well as the reputation of the institution as a player in the dental research community.

### **Tuition Revenue**

Similar to medical school programs, a component of tuition revenue will be utilized to fund scholarship and other student incentives, especially as the FAU program seeks to establish itself in the dental medicine community. It is anticipated as the cost of providing materials and supplies increases with inflation, any incremental tuition excess will be utilized to absorb these costs since no inflationary factors have been included in the state funds budget.

## **VIII. Non-Faculty Resources**

### **A. Describe library resources currently available to implement and/or sustain the proposed program through Year 5 below, including but not limited to the**

**following:**

- **the total number of volumes and serials available in the discipline and related disciplines**
- **all major journals that are available to the university's students**

**The Library Director must sign the additional signatures page to indicate that they have review Sections VIII.A. and VIII.B.**

The total number of volumes and serials available in this discipline and related fields is 16,332 monograph volumes and 399 journal titles.

A list major journals that are available to the university's students is as follows:

Journal of Dental Research  
International Endodontic Journal  
Journal of Endodontics  
Dental materials  
Clinical Implant Dentistry and Related Research  
Journal of Prosthodontic Research  
Journal of Dentistry (Elsevier)  
Caries Research  
Molecular Oral Microbiology  
Journal of Oral Rehabilitation  
Clinical Oral Investigations  
Journal of Prosthodontics  
International Journal of Paediatric Dentistry  
Community Dentistry and Oral Epidemiology  
Journal of Esthetic and Restorative Dentistry  
DentoMaxilloFacial Radiology  
Oral Diseases  
Dental Clinics of North America  
Gerodontology

### **Full detailed List of Library Resources found in Appendix J.**

**B. Discuss any additional library resources that are needed to implement and/or sustain the program through Year 5. Describe how those costs are reflected in Appendix A – Table 3A or 3B.**

**Not applicable to this program because no additional library resources are needed to implement or sustain the proposed program.**

Additional Library resources needed to implement and/or sustain the program on an ongoing basis (Appendix J)

#### **Databases**

BoardVitals database

DOSS – Dentistry and Oral Sciences Source database

LexiComp Dentistry database  
 STAT!Ref database - Core Resources Collection for Dentistry and Dental Hygiene

**E-Books for Opening Day Collection**

E-Book Collection in GOBI (Spotlight Titles in Dentistry from GOBI (17 e-book titles)  
 Dentistry and Oral Sciences Collection 2022 from EBSCO (50 e-book titles)  
 Doody’s Core Titles Essential Purchases 2022 from EBSCO (85 e-book titles)  
 Wiley-Blackwell Dentistry / oral & maxillofacial medicine 2022 (10 e-book titles)

Library Will Need Funding for Annual Purchasing of approximately 100 E-Books per year

**Estimated Annual Funds Needed to Acquire Library Resources listed above for the DMD:**

**(Databases: \$100,000; E-Books: \$75,000; E-Journals: \$40,000) Average estimate \$215,000.**

We expect that the College of Dentistry will not need the same amount of professional library services. We are estimating salaries and benefits for two library positions, one of which will be completely funded in the DDM budget and one of which will be partially funded in the COM budget, have included in the Professional Staff Salaries and Benefits category.

	<b>Salary</b>	<b>Benefits</b>	<b>Total</b>
<b>Senior Medical Librarian for College of Dentistry</b>	\$51,736.48	\$15,520.94	\$57,257.24
<b>Library Processing/Resource Licensing</b>	\$16,058.24	\$4,817.46	\$20,875.7

**More information about Library Resources is found in Appendix J.**

**C. Describe any specialized equipment and space currently available to implement and/or sustain the proposed program through Year 5.**

Short term space will be identified for program year 1 and 2 with facilities (see implementation timeline). As it relates to college of medicine faculty interaction, space accommodations as part of that unit are planned within existing footprint. Didactic space for years 1 and 2 can be absorbed within existing un/underutilized space currently on campus.

Additionally, cadaver lab and simulation space (general) can be shared. Unique simulation needs will necessitate other designated space. Current considerations on campus (tech runway) will also accommodate other facility needs if necessary.

Building plans will begin if/when all approvals for the college of dentistry are achieved. This will alleviate any additional space issues and provide a long-term solution. We anticipate this space to be available for occupancy prior to the first class matriculating to their third year.

Equipment not currently available at FAU includes the items stated below, high level, but not exhaustive. However, a comprehensive calculation of all equipment and facility needs have been incorporated with the budget.

Specialized equipment needs:

**Simulation units**

45 units in year 1 and 90 units in year 4

**Student Instructional Clinics**

100 clinic operatories in year 4 (beginning year 3, full scale year 4)

Specialized equipment for general use:

- Sterilization
- Handpieces
- Instruments
- Instrument management systems

**Imaging Equipment for clinics**

- Cone Beam CT devices
- Panoramic/Cephalometric Radiograph Devices
- Periapical/Intraoral Radiograph Machines Fixed Mounted
- Periapical/Intraoral Radiographic Devices Handheld
- Intraoral Sensors for radiography

**D. Describe any additional specialized equipment or space that will be needed to implement and/or sustain the proposed program through Year 5. Include any projected Instruction and Research (I&R) costs of additional space in Appendix A – Table 3A or 3B. Costs for new construction should be provided in response to Section X.E. below.**

**Not applicable to this program because no new I&R costs are needed to implement or sustain the program through Year 5**

Dental School Facility is 60,000 sq ft, in addition to shared space within existing medical school facilities

- **12,000 sq ft for simulation lab**
- **20,000 sq ft for clinics**
- **10,000 sq ft for admin and infrastructure space**
- **10,000 sq ft for faculty and staff offices**
- **8,000 sq ft for support services**

Specialized equipment needs:

**Simulation units**

45 units in year 1 and 90 units in year 4

35,000/unit = \$1,600,000 year 1 plus \$1,600,000 in year 4

**Clinics**

100 clinic operatories in year 4 (year 3)

\$50,000 per operatory = \$5,000,000

\$3,000,000 of specialized equipment for general use:

- **Sterilization**
- **Handpieces**
- **Instruments**
- **Instrument management systems**

**Imaging Equipment for clinics**

**Cone Beam CT devices**

3 @ \$100,000 = \$300,000

**Panoramic/Cephalometric Radiograph Devices**

6 @ \$50,000 = \$300,000

**Periapical/Intraoral Radiograph Machines Fixed Mounted**

20 @ \$4,000 = \$80,000

**Periapical/Intraoral Radiographic Devices Handheld**

6 @ \$8,000 = \$48,000

**Intraoral Sensors for radiography**

40 @ \$10,000 = \$400,000

**Total Imaging Equipment:**

\$1,200,000

- **Total Specialized Equipment specified = \$10,800,000**
- **Miscellaneous Special equipment = \$1,200,000**
- **Total Specialized equipment = \$12,000,000**

**E. If a new capital expenditure for instructional or research space is required, indicate where this item appears on the university's fixed capital outlay priority list. Appendix A – Table 3A or 3B includes only I&R costs. If non-I&R costs, such as indirect costs affecting libraries and student services, are expected to increase as a result of the program, describe and estimate those expenses in narrative form below. It is expected that high enrollment programs, in particular, would necessitate increased costs in non-I&R**

## activities.

**Not applicable to this program because no new capital expenditures are needed to implement or sustain the program through Year 5.**

On September 19, 2022, the Florida Atlantic University Board of Trustees revised the 2023-24 Five Year Capital Improvement Plan - Fixed Capital Outlay Legislative Budget Request to include the new College of Dentistry project as a Back of Bill (BOB) Project (Appendix N). Accordingly, the BOT approved the addition of the College of Dentistry on the CIP2C in order for the Board of Governors to seek legislative approval for FAU to construct the new dental facility.

BOG staff asked for FAU to validate our building plan against a recent UF request for a new dental building. Per the LBR PECO selection group documentation as provided by the BOG (Appendix Q), the UF project consists of a 163,900 net assignable square footage (NASF) building (estimated GSF around 256,000) with a total project cost of \$235 M. This equates to around \$904/sq. ft. Comparatively, FAU has submitted a request for a 60,000 NASF bldg.. (93,750 GSF) at a total project cost of \$84,695,700 - \$903/sq. ft. Thus, FAU's initial calculations for our CIP2C was very much in line with projections from UF. Construction cost per square foot is consistent between the two projects; the major difference is the building size.

In determining the square footage for the FAU College of Dentistry, we evaluated several programs. With a focus toward newer schools for parity, the University of Utah stood out. The University of Utah's School of Dentistry was founded in 2012. It is currently home to more than 250 dental students and an 85,000 GSF building (constructed in 2015) that houses a 62-chair main clinic, an ADA-approved dental residency program, offices, and more. The building accommodates their current practices with sufficient room for growth, partially as a result of their community facing integrated programs. This is similar to the vision and mission of FAU's program, providing a great roadmap. Likewise, the University of Utah prides itself on setting up programs locally facing, specifically rural communities, where the patient need is greatest. With the FAU College of Dentistry's mission to provide care to the underserved in Florida, this certainly resonates.

Correspondingly, the University of Tennessee retains similar square footage for their new addition that houses the majority of their dental education programs. In a building with a NASF of 68,000 square feet, accommodating 320 students per year, UT manages a large educational program in a space efficient manner. The College of Dentistry does have an additional facility on campus for shared usage program, but these functions are far beyond the primary dental school focus and include a substantial dental hygiene program, plus a faculty practice with greater than 100K patients per year. Again, as a community facing school with significant outposts within the rural underserved communities of Tennessee, the footprint on campus is sufficient.

Conversely, the University of Florida dental program is primarily centralized in Gainesville and is a flagship program for the campus and local community. UF touts long-developed, comprehensive graduate medical programs, research programs that have developed over decades (earning substantial lab space needs), and a robust faculty practice accounting for the additional square footage required. Although FAU aspires to have comprehensive dental, graduate medical and research programs, the desire of FAU is to provide the clinical care in the local area decreases the need for a mega-facility. Having adequately accommodated the



programmatic needs for the next 10-20 years in our plans, FAU is confident in the facility estimation for the program being developed. Likewise, the highly-qualified external reviewer had no concerns with the facility size proposed.

FAU has already begun discussions for setting up clinical sites for care deliver in these underserved communities. We anticipate setting these local-facing practices in collaboration with FQHCs (Federally Qualified Health Center) and other rural programs. Not only does this model limit the space requirements on the primary campus and provide care in the communities that need it most, community facing programs that provide “rural exposure during medical education (and assuming similar for dental) increased the likelihood of later rural practice by more than four times (4.2) on average.” This space management strategy actually is a twofold-plan for success. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7503328/>

**F. Describe any additional special categories of resources needed to operate the proposed program through Year 5, such as access to proprietary research facilities, specialized services, or extended travel, and explain how those projected costs of special resources are reflected in Appendix A – Table 3A or 3B.**

**Not applicable to this program because no additional special categories of resources are needed to implement or sustain the program through Year 5.**

**G. Describe fellowships, scholarships, and graduate assistantships to be allocated to the proposed program through Year 5, and explain how those are reflected in Appendix A – Table 3A or 3B.**

**Not applicable to this program because no fellowships, scholarships and/or graduate assistantships will be allocated to the proposed program through Year 5.**

## IX. Required Appendices

The appendices listed in tables 1 & 2 below are required for all proposed degree programs except where specifically noted. Institutions should check the appropriate box to indicate if a particular appendix is included to ensure all program-specific requirements are met. Institutions may provide additional appendices to supplement the information provided in the proposal and list them in Table 4 below.

**Table 1. Required Appendices by Degree Level**

Appendix	Appendix Title	Supplemental Instructions	Included? Yes/No	Required for Degree Program Level		
				Bachelors	Masters/ Specialist	Doctoral/ Professional
A	Tables 1-4			X	X	X
B	Consultant's Report and Institutional Response					X
C	Academic Learning Compacts	Include a copy of the approved or proposed Academic Learning Compacts for the program		X		
D	Letters of Support or MOU from Other Academic Units	Required only for programs offered in collaboration with multiple academic units within the institution		X	X	X
E	Faculty Curriculum Vitae			X	X	X
F	Common Prerequisite Request Form	This form should also be emailed directly to the BOG Director of Articulation prior to submitting the program proposal to the Board office for review.		X		
G	Request for Exemption to the 120 Credit Hour Requirement	Required only for baccalaureate degree programs seeking approval to exceed the 120 credit hour requirement		X		
H	Request for Limited Access Status	Required only for baccalaureate degree programs seeking approval for limited access status		X		

**Table 2. Additional Appendices**

<b>Appendix</b>	<b>Appendix Title</b>	<b>Description</b>
I	Summary of Market Demand Feasibility	Hanover Research Report
J	Library Holdings to Support DMD	Library Resources for DMD Education/Research
K	LCME Accreditation Documents	LCME Accreditation Documents
L	Sequenced Course of Study for DMD	Term Layout of Coursework
M	LBR Request	Proposal for LBR to Fund DMD
N	Capital Improvement Plan	Funding Request for New Building
O	External Consultant's Report	Full report from Dr. Rotter
P	Texas Tech Report on the Feasibility of a School of Dental Medicine	Dental Program Feasibility and Planning Document from Texas Tech
Q	UF Dental Building Request	PECO detail on Building Request

**APPENDIX A**  
**TABLE 1-A**  
**PROJECTED HEADCOUNT FROM POTENTIAL SOURCES**  
**(Baccalaureate Degree Program)**

Source of Students (Non-duplicated headcount in any given year)*	Year 1 HC	Year 1 FTE	Year 2 HC	Year 2 FTE	Year 3 HC	Year 3 FTE	Year 4 HC	Year 4 FTE	Year 5 HC	Year 5 FTE
Upper-level students who are transferring from other majors within the university**	0	0	0	0	0	0	0	0	0	0
Students who initially entered the university as FTIC students and who are progressing from the lower to the upper level***	0	0	0	0	0	0	0	0	0	0
Florida College System transfers to the upper level***	0	0	0	0	0	0	0	0	0	0
Transfers to the upper level from other Florida colleges and universities***	0	0	0	0	0	0	0	0	0	0
Transfers from out of state colleges and universities***	0	0	0	0	0	0	0	0	0	0
Other (Explain)***	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

\* List projected annual headcount of students enrolled in the degree program. List projected yearly cumulative ENROLLMENTS instead of admissions.

\*\* If numbers appear in this category, they should go DOWN in later years.

\*\*\* Do not include individuals counted in any PRIOR CATEGORY in a given COLUMN.

**APPENDIX A**  
**TABLE 1-B**  
**PROJECTED HEADCOUNT FROM POTENTIAL SOURCES**  
**(Graduate Degree Program)**

Source of Students (Non-duplicated headcount in any given year)*	Year 1 HC	Year 1 FTE	Year 2 HC	Year 2 FTE	Year 3 HC	Year 3 FTE	Year 4 HC	Year 4 FTE	Year 5 HC	Year 5 FTE
Individuals drawn from agencies/industries in your service area (e.g., older returning students)	0	0	0	0	0	0	0	0	0	0
Students who transfer from other graduate programs within the university**	0	0	0	0	0	0	0	0	0	0
Individuals who have recently graduated from preceding degree programs at this university	7	7	7	14	11	25	14	39	14	46
Individuals who graduated from preceding degree programs at other Florida public universities	23	23	23	45	34	79	45	124	45	146
Individuals who graduated from preceding degree programs at non-public Florida institutions	3	3	3	5	4	9	5	14	5	16
Additional in-state residents***	3	3	3	6	5	11	6	17	6	20
Additional out-of-state residents***	10	10	10	20	15	35	20	55	20	65
Additional foreign residents***	0	0	0	0	0	0	0	0	0	0
Other (Explain)***	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>45</b>	<b>45</b>	<b>90</b>	<b>90</b>	<b>158</b>	<b>158</b>	<b>248</b>	<b>248</b>	<b>293</b>	<b>293</b>

\* List projected annual headcount of students enrolled in the degree program. List projected yearly cumulative ENROLLMENTS instead of admissions.

\*\* If numbers appear in this category, they should go DOWN in later years.

\*\*\* Do not include individuals counted in any PRIOR category in a given COLUMN.

**APPENDIX A**  
**Table 2**  
**Anticipated Faculty Participation**

Faculty Code	Faculty Name or "New Hire" Highest Degree Held Academic Discipline or Specialty	Rank	Contract Status	Initial Date for Participation in Program	Mos. Contract Year 1	FTE Year 1	% Effort for Prg. Year 1	PY Year 1	Mos. Contract Year 5	FTE Year 5	% Effort for Prg. Year 5	PY Year 5
A	Janet Robishaw, Ph.D. Biomedical Science	Professor	Tenure	Fall 2025	12	1.00	0.50	0.50	12	1.00	0.40	0.40
A	Andrew Oleinikov, Ph.D. Biomedical Science	Associate Prof.	Tenure	Fall 2025	12	1.00	0.50	0.50	12	1.00	0.40	0.40
A	Marc Kantorow, Ph.D. Professor	Professor	Tenure	Fall 2025	12	1.00	0.50	0.50	12	1.00	0.40	0.40
A	Mario Jacomino, MD Integrated Medical Science	Associate Prof.	Non-Tenure	Fall 2025	12	1.00	0.50	0.50	12	1.00	0.40	0.40
C	New Hire Clerkship Director	Assistant Prof	Non-Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Site Director	Asst. Prof.	Non-Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Assistant Professor	Asst. Prof.	Non-Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Assistant Professor	Asst. Prof.	Non-Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Assistant Professor	Asst. Prof.	Non-Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Assistant Professor	Asst. Prof.	Non-Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Assistant Professor	Asst. Prof.	Non-Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Assistant Professor	Asst. Prof.	Non-Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Assistant Professor	Asst. Prof.	Non-Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Assistant Professor	Asst. Prof.	Non-Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Assistant Professor	Asst. Prof.	Non-Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Assistant Professor	Asst. Prof.	Non-Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Assistant Professor	Asst. Prof.	Non-Tenure	Fall 2025	0	0.00	0.00	0.00	12	1.00	1.00	1.00
C	New Hire Assistant Professor	Asst. Prof.	Non-Tenure	Fall 2025	0	0.00	0.00	0.00	12	1.00	1.00	1.00

**APPENDIX A**  
**Table 2**  
**Anticipated Faculty Participation**

C	New Hire Assistant Professor	Asst. Prof.	Non-Tenure	Fall 2025	0	0.00	0.00	0.00	12	1.00	1.00	1.00
C	New Hire Assistant Professor	Asst. Prof.	Non-Tenure	Fall 2025	0	0.00	0.00	0.00	12	1.00	1.00	1.00
C	New Hire Assistant Professor	Asst. Prof.	Non-Tenure	Fall 2025	0	0.00	0.00	0.00	12	1.00	1.00	1.00
C	New Hire Director of Student Engagement	Associate Prof.	Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Director of Assessment	Associate Prof.	Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Associate Professor	Associate Prof.	Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Associate Professor	Associate Prof.	Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Associate Professor	Associate Prof.	Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Associate Professor	Associate Prof.	Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Associate Professor	Associate Prof.	Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Associate Professor	Associate Prof.	Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Associate Professor	Associate Prof.	Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Associate Professor	Associate Prof.	Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Associate Professor	Associate Prof.	Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Associate Professor	Associate Prof.	Tenure	Fall 2025	0	0.00	0.00	0.00	12	1.00	1.00	1.00
C	New Hire Associate Professor	Associate Prof.	Tenure	Fall 2025	0	0.00	0.00	0.00	12	1.00	1.00	1.00
C	New Hire Associate Professor	Associate Prof.	Tenure	Fall 2025	0	0.00	0.00	0.00	12	1.00	1.00	1.00
C	New Hire Associate Professor	Associate Prof.	Tenure	Fall 2025	0	0.00	0.00	0.00	12	1.00	1.00	1.00
C	New Hire Chair	Chair (Professor)	Tenure	Fall 2025	12	1.00	1.00	1.00	0	1.00	1.00	1.00
C	New Hire Dean	Professor	Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Professor	Professor	Tenure	Fall 2025	12	1.00	1.00	1.00	12	1.00	1.00	1.00
C	New Hire Professor	Professor	Tenure	Fall 2025	0	0.00	0.00	0.00	12	1.00	1.00	1.00
C	New Hire Professor	Professor	Tenure	Fall 2025	0	0.00	0.00	0.00	12	1.00	1.00	1.00

**APPENDIX A**  
**Table 2**  
**Anticipated Faculty Participation**

Total Person-Years (PY)						32.00	32.00			42.60	
Faculty Code	Code Description	Source of Funding	PY Workload by Budget Classification								
			Year 1			Year 5					
A	Existing faculty on a regular line	Current Education & General Revenue	2.00							1.60	
B	New faculty to be hired on a vacant line	Current Education & General Revenue	30.00							40.00	
C	New faculty to be hired on a new line	New Education & General Revenue	0.00							0.00	
D	Existing faculty hired on contracts/grants	Contracts/Grants	0.00							0.00	
E	New faculty to be hired on contracts/grants	Contracts/Grants	0.00							0.00	
F	Existing faculty on endowed lines	Philanthropy & Endowments	0.00							0.00	
G	New faculty on endowed lines	Philanthropy & Endowments	0.00							0.00	
H	regular/tenure-track line course load	Enterprise Auxiliary Funds	0.00							0.00	
<b>Overall Totals for</b>							<b>32.00</b>				<b>42.60</b>



**APPENDIX A  
TABLE 3A  
ENROLLMENT AND GROWTH  
PROJECTED COSTS AND FUNDING SOURCES**

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Institutions should not edit the categories or budget lines in the table below. This table is specific to state-funded (E&G) programs, and institutions are expected to explain all costs and funding sources in Section VII.A. of the proposal. Detailed definitions for each funding category are located at the bottom of the table.															
2	Budget Line Item	Reallocated Base* (E&G) Year 1	Enrollment Growth (E&G) Year 1	New Recurring (E&G) Year 1	New Non-Recurring (E&G) Year 1	Contracts & Grants (C&G) Year 1	Philanthropy/ Endowments Year 1	Other Funding Year 1 - Please Explain in Section VII.A. of the Proposal	Subtotal Year 1	Continuing Base** (E&G) Year 5	New Enrollment Growth (E&G) Year 5	Other*** (E&G) Year 5	Contracts & Grants (C&G) Year 5	Philanthropy/ Endowments Year 5	Other Funding Year 5 - Please Explain in Section VII.A. of the Proposal	Subtotal Year 5
3	Salaries and Benefits (Faculty)	0	0	10,665,000	0	0	0	0	\$10,665,000	0	14,850,000	0	0	0	0	\$14,850,000
4	Salaries and Benefits (A&P and USPS)	0	0	3,118,500	0	0	0	0	\$3,118,500	0	3,742,200	0	0	0	0	\$3,742,200
5	OPS (including assistantships & fellowships)	0	0	1,559,250	0	0	0	0	\$1,559,250	0	2,494,800	0	0	0	0	\$2,494,800
6	Programmatic Expenses****	0	0	16,500,000	84,714,000	0	0	0	\$101,214,000	0	16,500,000	0	0	0	0	\$16,500,000
7	<b>Total Costs</b>	<b>\$0</b>	<b>\$0</b>	<b>\$31,842,750</b>	<b>\$84,714,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$116,556,750</b>	<b>\$0</b>	<b>\$37,587,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$37,587,000</b>

8 \*Identify reallocation sources in Table 4.  
9 \*\*Includes recurring E&G funded costs ("reallocated base," "enrollment growth," and "new recurring") from Years 1-4 that continue into Year 5.  
10 \*\*\*Identify if non-recurring.  
11 \*\*\*\*include library costs, expenses, OCO, special categories, etc.

**Faculty and Staff Summary**

Total Positions	Year 1	Year 5
Faculty (person-years)	32.00	42.60
FTE (A&P and USPS)	52	70

**Calculated Cost per Student FTE**

	Year 1	Year 5
Total E&G Funding	\$116,556,750	\$37,587,000
Annual Student FTE	45	293
E&G Cost per FTE	\$ 2,590,150.00	\$ 128,283.28

Table 3 Column Explanations		
19	Reallocated Base* (E&G)	1 E&G funds that are already available in the university's budget and will be reallocated to support the new program. Please include these funds in the Table 4 – Anticipated reallocation of E&G funds and indicate their source.
20	Enrollment Growth (E&G)	2 Additional E&G funds allocated from the "Student and Other fees Trust Fund" contingent on enrollment increases.
21	New Recurring (E&G)	3 Recurring funds appropriated by the Legislature to support implementation of the program.
22	New Non-Recurring (E&G)	4 Non-recurring funds appropriated by the Legislature to support implementation of the program. Please provide an explanation of the source of these funds in the budget section (section VII.A.) of the proposal. These funds can include initial investments, such as infrastructure.
23	Contracts & Grants (C&G)	5 Contracts and grants funding available for the program.
24	Philanthropy Endowments	6 Funds provided through the foundation or other Direct Support Organizations (DSO) to support the program.
25	Continuing Base** (E&G)	7 Includes the sum of columns 1, 2, and 3 over time.
26	New Enrollment Growth (E&G)	8 See explanation provided for column 2.
27	Other*** (E&G)	9 These are specific funds provided by the Legislature to support implementation of the program.
28	Contracts & Grants (C&G)	10 See explanation provided for column 5.
29	Philanthropy Endowments	11 See explanation provided for column 6.
30	Other Funding	12 Any funding sources not already covered in any other column of the table. Please provide an explanation for any funds listed in these columns in the narrative for Section VII.A. of the proposal.

**APPENDIX A  
TABLE 3B  
CONTINUING EDUCATION, SELF-SUPPORTING  
AND MARKET RATE PROGRAM BUDGET**

Institutions may edit the table below as applicable to their specific program and circumstances. The general headings (in bold) should serve as a guide, but institutions may edit the information below the headings as needed or desired. Detailed definitions are located at the bottom of the table. The Description or Explanation column is optional and should not replace the narratives required in the new degree program proposal.

Category	Year 1	Year 5	Description or Explanation - If Needed
<b>Tuition</b>			
Program Tuition (Full Cost to the Student)	\$0.00	\$0.00	
Program Tuition (Per Credit Hour)	\$0.00	\$0.00	
Headcount	-	-	
<b>Total Tuition Revenue</b>	\$0.00	\$0.00	
<b>Faculty Salaries and Benefits</b>			
Faculty Salaries	\$0.00	\$0.00	
Program Director/Department Chair	\$0.00	\$0.00	
<b>Total Faculty Salaries</b>	-	-	
<b>Staff and Administrative Support</b>			
USPS Staff	\$0.00	\$0.00	
A&P Staff	\$0.00	\$0.00	
OPS Staff	\$0.00	\$0.00	
Assistantships and Fellowships	\$0.00	\$0.00	
<b>Total Staff and Administrative Support Costs</b>	-	-	
<b>Programmatic Expenses</b>			
Equipment - Purchase and Servicing	\$0.00	\$0.00	
Materials and Supplies	\$0.00	\$0.00	
Other Programmatic Expenses - Please Explain	\$0.00	\$0.00	
<b>Total Programmatic Expenses</b>	-	-	
<b>Overhead Costs</b>			
<i>See definitions below</i>			
<b>Total Overhead Costs</b>	\$ -	\$ -	
<b>Total Program Costs</b>	<b>\$0.00</b>	<b>\$0.00</b>	

Definitions	
<b>Faculty Salaries and Benefits</b>	The total amount of faculty salaries and benefits that will be attributed to this program. Because the program is funded through an auxiliary budget source. A separate line was added to reflect the portion of the Program Director/Department Chair's salary and benefits that are funded through this program. Institutions may further edit the expenses as needed to reflect the unique nature of their program.
<b>Staff and Administrative Support Costs</b>	Includes all non-faculty personnel costs, including benefits, that will be directly and indirectly attributed to this program. Not all categories may be applicable to every program.
<b>Programmatic Expenses</b>	Includes all non-personnel costs that will be directly and indirectly attributed to this program. Institutions may edit the categories in the template to best reflect the programmatic expenses for each program.
<b>Overhead Costs</b>	Any institutional overhead costs associated with the program should be reflected in the table. This can include startup costs, program administration fees, or other fees not represented elsewhere in the table that are attributed to the program from other units within the institution.

**APPENDIX A**  
**TABLE 4**  
**ANTICIPATED REALLOCATION OF EDUCATION GENERAL FUNDS\***

<b>Program and/or E&amp;G account from which current funds will be reallocated during Year 1</b>	<b>Base before reallocation</b>	<b>Amount to be reallocated</b>	<b>Base after reallocation</b>
No reallocation from current E&G funds will be used.	0	0	\$0
	0	0	\$0
	0	0	\$0
	0	0	\$0
	0	0	\$0
	0	0	\$0
	0	0	\$0
	0	0	\$0
<b>Totals</b>	\$0	\$0	\$0

\* If not reallocating E&G funds, please submit a zeroed Table 4



# STATE UNIVERSITY SYSTEM OF FLORIDA

## Appendix B – Doctoral Program Proposal Consultant’s Report and Response

**Instructions:** Pursuant to Board of Governors Regulation 8.011, all institutions requesting Board of Governor’s approval for a new doctoral-level program are required to submit a formal written review of the proposal by a qualified external academic consultant or, for newly emergent fields where there are limited qualified experts, a cross-section of visiting experts. Institutions must submit a copy of the written review and a summary document describing how feedback was incorporated into the proposal or why feedback was not addressed. The format for the consultant’s report and institutional response shall be determined by the individual institution submitting the proposal; however, both the review and the institutional response must be present and clearly identified.

<b>Name of Consultant:</b>	Dr. Bruce Rotter
<b>Affiliation:</b>	Retired
<b>Qualification/Area of Expertise:</b>	Former Dean of Southern Illinois University College of Dental Medicine
<b>Date of Review:</b>	September 22, 2022

### **The Full External Consultant Report is given as Appendix O.**

**In the space provided below, please list the recommendations provided by the external consultant, and fully explain how those recommendations were or were not incorporated into the full proposal. For recommendations that were not incorporated, please provide an explanation.**

We greatly appreciated our interaction with Dr. Rotter and certainly learned a great deal both from his written report (Appendix O) and from an exit interview we conducted with him following the receipt of the report. Overall he was very supportive of the proposed degree program and FAU’s ability to be successful in initiating and sustaining it. Below I discuss 2 main areas of challenges that he observed and our response to those observations.

- 1) Dr. Rotter seemed most concerned about our timeline between the point of approval and admission of the inaugural class. First, he offered that the Dean needed to be hired much earlier than we had proposed because the Dean should be involved in curriculum,

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November 30, 2022

Page 2 of 4

space and accreditation matters very early in the game. Also, he indicated that a big part of the success of the program will depend on strong and geographically varied community partnerships, and indicated that those take a great deal of time to develop properly and nurture. The Dean must be part of the development of those partnerships and therefore must be in the game early. We had originally set aside 1 year to develop these relationships and were told it would likely be 2+ years.

***RESPONSE: We worked with Dr. Rotter to develop a new, rearranged sequence of the necessary activities to implement the program. This timeline is shown in section 2E.***

Secondly, Dr. Rotter felt that our goal of admitting the first class for Fall 2025 was too aggressive, and recommended a more comfortable Fall 2027 opening. This comment was based on the time estimates he associated with curriculum development, CODA accreditation, the amount of time it takes to hire so many faculty in a highly competitive environment, etc.

***RESPONSE: We concede that our initial request for a Fall 2025 start is too aggressive. This decision was largely based on a re-examination of CODA accreditation processes and discussion with Texas Tech—the most recent public dental school start-up in the U.S.***

***Note that Texas Tech was successful with a 3-year CODA timeline, from initial application preparation and submission until CODA granting "Initial Accreditation". In discussing with others (CODA colleagues of Dr. Berg), a start date of Fall 2026 should allow reasonable time to earn the CODA nod prior to the inaugural class enrollment. Our external reviewer stated a 5-year timeline for a Fall 2027 start, which we still believe is overly-conservative. Other developmental tasks, such as development of curriculum, faculty hiring and developing the relationships with clinical rotations at FQHCs, etc. can be done in parallel with the CODA work.***

- 2) Dr. Rotter's other major area of concern was our projected faculty size by year 5 (40) in relation to our enrollment goals. This comment was in his observation of the various faculty assignment categories that are important and may necessarily reduce teaching loads as well as required faculty/student ratios by CODA. When queried further in the exit interview, it was gleaned that different Deans may have different assignment priorities.

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November 30, 2022

Page 3 of 4

**RESPONSE:** *The number of proposed faculty positions was determined by using both benchmarked data from peer institutions (see section 2D of this proposal for full details) as well as encompassing the criteria set forth by CODA. The proposed faculty will allow us to achieve the criteria set forth by CODA for full-time, qualified “core faculty” as described by the accreditation standards, as well as leadership to develop and deliver a high quality DMD curriculum in accordance with CODA specifications. Using the CODA definition of an FTE, the prescribed student-faculty ratio for instruction preclinically and clinically in the predoctoral program—subtracting out administrators, biomedical scientists, and those who have other teaching responsibilities such as shared responsibilities with the college of medicine (e.g. anatomy), is not to exceed 10:1 and should accommodate the requirements of clinical instruction (70 percent or more by core faculty).*

*Utilizing 30 full time faculty and 10 (FTE) for adjunct faculty, the college of dentistry as proposed exceeds the CODA requirement of 10:1 student to faculty ratio (360 students when class size reaches full capacity, with 40 teaching faculty for a ratio of 9:1). Additionally, the anticipated core faculty exceed the requirement of a minimum of 70 percent of the total teaching faculty. As stated, core faculty make up 75% of the teaching faculty represented.*

*In similar fashion as the proposed program at FAU, University of Detroit Mercy’s School of Dentistry combined with their colleagues at the Oakland University William Beaumont School of Medicine have launched an interprofessional program to leverage potentially redundant resources of the college of medicine and college of dentistry (two separate organizations). Accordingly, this allows for a higher dental school faculty to student ratio, without compromising educational quality. According to Juliette Daniels, Ed.D at Mercy, via telephone conversation on November 30, 2022 with FAU, the school meets the minimum threshold of 10:1 faculty and maintains high student satisfaction scores and comparable national board pass rates.*

*Although not studied exclusively, we see similar trends at dental schools that have corresponding medical schools. Universities with both colleges (or schools) of medicine and dentistry tend to have a slightly higher student to faculty ratio. The logical inference is certain roles are fulfilled with a single individual, but utilized by both schools of medicine and dentistry (e.g. anatomy instruction, public/population health and other research faculty). Dolf Dawson, DMD at the University of Kentucky (UK) and Chair of Oral Health Practice noted that biology, anatomy, physiology and pharmacology are certainly areas where UK utilizes faculty across both professional schools to avoid higher costs of cross-disciplinary faculty. FAU, with an established medical school, would align in this capacity.*

*Lastly, newer schools utilize technology to amplify the impact of direct faculty interactions with students. According to a study conducted at the University of Colorado, this use of technology is not only accepted by students, but expected and*

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November 30, 2022

Page 4 of 4

***allows for multimodal learning. "...students added the following responses to characterize how technology enhances their learning. 'Technology is just part of the world we live in and how we access information and learning. It makes some processes more efficient.'" <https://files.eric.ed.gov/fulltext/EJ1277091.pdf> The use of technology provides an excellent, consistent delivery mechanism for educational content both efficiently and remotely, which will be essential for our community facing programs. Accordingly, this permits faculty to focus their time on the most meaningful interpersonal activities for maximum benefit. The technology costs have been incorporated in the LBR start up and ongoing costs.***

***Noted by the outside reviewer as an area for consideration (student to faculty ratio), it may be relevant that the perspective of this individual may be influenced by their experience at a dental school without a corresponding medical school.***



Oct 11, 2022

Dear Senior Associate Dean Napier,

Thank you for reaching out recently to discuss Florida Atlantic University's (FAU) plans to develop a College of Dentistry offering a Doctor of Dental Medicine (DDM) degree. At UWF, we are pleased to see this program emerge and recognize Florida's workforce need for dentists at the state, regional and local levels, as we rank 31st in the nation presently for the number of dentists per capita. While this fact alone suggests that additional capacity in Dental education is needed, the most significant shortages in Dentists per capita are noted in the rural areas, particularly those in the Florida Panhandle.

UWF is interested in continuing to explore potential collaborations between our two institutions in support of FAU's program. Given our location, the regional demographics and demonstrated need across the Florida panhandle, we believe it is well within our mission as an institution to support dentists who may be more likely to practice in the rural areas surrounding the University of West Florida, as this may reduce ER visits and costs and serve the need in this region. We would welcome the opportunity to work with FAU on potential pathways for students from UWF and this part of the state to prepare to meet the FAU program's prerequisites requirements. We would also welcome the opportunity to assist FAU with recruiting students from the Usha Kundu, MD College of Health at UWF.

Beyond student pipeline initiatives, we would welcome continuing discussions regarding an FAU College of Dentistry presence at the University of West Florida that could lead to increased research and community engagement. Opportunities for collaborative interdisciplinary research are certain, and we would welcome further discussion of joint faculty and paths where FAU pre-dentistry students begin coursework at UWF and then move seamlessly into FAU's dentistry program. We certainly see potential for clinical placements in the region by leveraging our alumni network to connect dental students in ways that may increase the likelihood that they practice in the local area. Additionally, partnerships with organizations offering dental care for the uninsured or underserved would be possible.

In summary, the University of West Florida supports FAU's new Doctor of Dental Medicine (DDM) degree and welcomes collaborative discussion to gauge if we can support the goal of providing opportunities for UWF students and producing dentists who will work in underserved and rural parts of the state upon degree completion.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. Bellar".

David Bellar, Ph.D.  
Dean, Usha Kundu, MD College of Health  
University of West Florida  
[dbellar@uwf.edu](mailto:dbellar@uwf.edu)

office 850.474.2563

[uwf.edu/coh](http://uwf.edu/coh)





# Florida Agricultural and Mechanical University

TALLAHASSEE, FLORIDA 32307-3100

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OFFICE OF THE PROVOST AND  
VICE PRESIDENT OF ACADEMIC AFFAIRS

TELEPHONE: (850) 599-82766  
FAX: (850) 561-2551

November 6, 2022

Dr. Michele Hawkins  
Interim Provost and Vice President for Academic Affairs  
Florida Atlantic University  
777 Glades Road  
Boca Raton, FL 33431

Dear Dr. Hawkins:

Thank you for the opportunity to review the preliminary proposal for a dental school at Florida Atlantic University (FAU). We would like to note that Florida A&M University (FAMU) has pursued development of a second dental school within the State University System in the past. However, it is not currently within our 2022-2027 strategic plan. As such, FAMU recognizes the need for another dental school within the SUS, particularly as it relates to increasing the number of minority-trained dentist and graduates trained to serve rural areas as mentioned in your proposal. We support FAU's initiative to create a dental school and welcome the opportunity to collaborate on this initiative.

FAU's proposal is timely and does not present any concerns or potential negative impact for FAMU. Our faculty are very supportive of the proposed dental school and believe that the program is a welcomed addition to the offerings within the State University System (SUS).

Best wishes to your team as they move forward in developing a new dental school.

Sincerely,

Allyson L. Watson, Ph.D.  
Interim Provost and Vice President of Academic Affairs



435 S. Pine Street  
Sebring, FL 33870  
Phone: 863-452-6530  
Cell: 863-368-9473  
Email: [support@hrhn.org](mailto:support@hrhn.org)  
Web: [www.hrhn.org](http://www.hrhn.org)

November 16, 2022

Rebecca Napier  
Chief Operating Officer CPO  
Senior Associate Dean for Finance and Administration  
777 Glades Road  
Boca Raton, FL 33431

Dear Ms. Napier:

As Executive Director of Heartland Rural Health Network, I am pleased to write this letter of support for Florida Atlantic University's (FAU) pursuit of the creation of a College of Dentistry.

Since the creation of Heartland Rural Health Network (HRHN) in 1993, we have been serving the needs of Hardee, DeSoto, Highlands, Polk and Charlotte Counties, FL. These counties, most of which are designated rural, often have challenges accessing basic health care services including dental. In fact, Hardee and DeSoto Counties are both designated High Needs Geographic Health Professional Shortage Areas (HPSA) and Medically Underserved Communities/Populations (MUP). Through our current Hardee DeSoto Community Health Worker Program, we are very aware of the great need for access to affordable and accessible dental care. Our prior work within Highlands County and a partnership with Samaritan's Touch Care Center, the only free clinic in the Highlands, Hardee, and DeSoto area, also allows us to speak to their being an echo of this need there as well. Finally, our partnership with Central Florida Health Care, the FQHC that serves the majority of the population in Polk County that we serve; as well as We Care of Central Florida, a provider of free specialty care to low-income, uninsured residents of Polk County; we know that there is more need than resources in Polk as well for dental care that is accessible and affordable. These partners have committed to support the FAU College of Dentistry as well, as they see, as do we, the importance of this program.

HRHN is committed to increasing access to care to our communities. We also are pushing for more opportunities for our residents to be able to continue their educational goals where they live, being able to see opportunities, live them out, and continue to serve their community as they have seen their community serve them. HRHN believes that the program FAU is proposing will immediately fill a void in the availability of dental care in our neediest areas and, in the long-term, provide an opportunity for residents of these counties to attend a program that would allow them to serve members of their community while continuing their education.

It is for all these reasons that HRHN fully supports Florida Atlantic University's application for a College of Dentistry, and wish to assure you of HRHN's full commitment to assist you in your efforts.

Best Regards,

A handwritten signature in black ink, appearing to read "Melissa M. Thibodeau", with a stylized flourish at the end.

Melissa M. Thibodeau  
Executive Director  
Heartland Rural Health Network

To ✔ Russ Ivy ✕

Bcc

Cc

Fw: We Care of Central Florida potential partner re: FAU College of Dentistry

**From:** Rebecca Napier <napierr@health.fau.edu>

**Sent:** Friday, November 4, 2022 11:49 AM

**To:** Russ Ivy <IVY@fau.edu>

**Subject:** FW: We Care of Central Florida potential partner re: FAU College of Dentistry

**From:** Melissa Thibodeau <melissa.thibodeau@hrhn.org>

**Sent:** Friday, November 4, 2022 11:10 AM

**To:** Rebecca Napier <napierr@health.fau.edu>

**Cc:** Heather Stephenson <heather@wecarecentralflorida.org>

**Subject:** We Care of Central Florida potential partner re: FAU College of Dentistry

Hi, Rebecca –

I heard back from another of our partners this morning, Heather Stephenson at We Care of Central Florida. You can look into more about We Care by visiting this website: <https://wecarecentralflorida.org/>. Heather is very interested in hearing more about a potential partnership. I have shared only some of what we have talked about and she requested I give you her contact information so that you could reach out to her directly to set up a conversation. Her email is [heather@wecarecentralflorida.org](mailto:heather@wecarecentralflorida.org) and I have cc:ed her on this email. I know We Care serves a population that dentistry is a huge need, so I feel this would be an amazing partnership.

I have a couple more people I am following up with and will update you as I hear back. However, as promised, I will be working on our Letter of Commitment to be submitted prior to November 17<sup>th</sup>. If I can be of any other assistance, please let me know.

Best,  
Melissa

**Melissa M Thibodeau**  
Executive Director



Send

Discard



Draft saved at 11:08 AM

**Russ Ivy**

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**From:** Glover, Joseph <jglover@aa.ufl.edu>  
**Sent:** Thursday, September 8, 2022 2:52 PM  
**To:** Russ Ivy  
**Cc:** Glover, Joseph  
**Subject:** DMD in Dentistry

**EXTERNAL EMAIL** : Exercise caution when responding, opening links, or opening attachments.

Dr. Russell L. Ivy  
Vice Provost for Academic Affairs  
Florida Atlantic University  
777 Glades Road, ADM 309  
Boca Raton, FL 33431

Dear Dr. Ivy:

Thank you for the opportunity to review the FAU pre-proposal to develop a DMD in Dentistry. UF has no objection to FAU and BOG exploring the viability of this new degree program.

Sincerely yours,

Joseph Glover  
Provost  
UF

**From:** Steven Kaltman <[skaltman@nova.edu](mailto:skaltman@nova.edu)>  
**Sent:** Saturday, September 24, 2022 10:51 AM  
**To:** Rebecca Napier <[napierr@health.fau.edu](mailto:napierr@health.fau.edu)>  
**Subject:** RE: Thank you...

Look forward to synergistically advancing Healthcare in South Florida! Pleasure speaking with you yesterday.

Regards

## Steven Kaltman DMD MD FACS

*Dean and Professor College of Dental Medicine*

Chair, Department of Oral and Maxillofacial Surgery

Office (954) 262-7311

[skaltman@nova.edu](mailto:skaltman@nova.edu) | [nova.edu](http://nova.edu)

# NSU Florida



**Be a Smart Shark. [nova.edu/cv19](http://nova.edu/cv19)**

**From:** Rebecca Napier <[napierr@health.fau.edu](mailto:napierr@health.fau.edu)>  
**Sent:** Saturday, September 24, 2022 10:46 AM  
**To:** Steven Kaltman <[skaltman@nova.edu](mailto:skaltman@nova.edu)>  
**Cc:** [bsookdeo@nova.edu](mailto:bsookdeo@nova.edu)  
**Subject:** Thank you...

**NSU Security WARNING:** This is an external email. Do not click links or open attachments unless you recognize the sender and know that the content is safe.

Hi Dr. Kaltman—

I really enjoyed meeting with you (virtually) yesterday. Your insights regarding building a dental medicine program were incredibly helpful. The work you've done at Nova is impressive! Additionally, I appreciate the collaborative environment you've created in the community and the warm welcome you offer us. I look forward to coming on to your campus and working together as we support south

Florida! As we discussed, the relationship between private and public institutions allows us to both amplify successes! I also appreciate your thoughts on the medical school and providing the duality with the dental school—thank you for the offer to connect us in that domain as well.

What a great start to a collaborative relationship!

Warmest Florida regards,  
Rebecca



**Rebecca H. Napier, MBA, SHRM-SCP**  
*Chief Operating Officer CPO*  
*Senior Associate Dean for Finance and Administration*  
777 Glades Road  
Boca Raton, Florida 33431  
Office: +1 (561) 297-4974  
**Mobile: +1 (859) 576-0151**  
[www.fau.edu/medicine](http://www.fau.edu/medicine)  
[www.faumedicine.org](http://www.faumedicine.org)

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## Russ Ivy

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**From:** Rebecca Napier  
**Sent:** Wednesday, November 30, 2022 8:49 PM  
**To:** Russ Ivy  
**Subject:** LECOM

Neither had email addresses available on line. We (Michael Turtz and I) called the number for the dean and vice dean (below) and left multiple messages for both w admin over a two week period from the middle to end of September. No return call. Same time period for Kaltman at Nova—received response, scheduled call and garnered support.

Phone: (941) 405-1506

Thomas Yoon, D.D.S  
Dean, School of Dental Medicine

Katie Dinh, D.M.D  
Vice Dean, School of Dental Medicine



**Rebecca H. Napier, MBA, SHRM-SCP**  
*Chief Operating Officer CPO*  
*Senior Associate Dean for Finance and Administration*  
777 Glades Road  
Boca Raton, Florida 33431  
Office: +1 (561) 297-4974  
**Mobile: +1 (859) 576-0151**  
[www.fau.edu/medicine](http://www.fau.edu/medicine)  
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Charles E. Schmidt College of Medicine  
777 Glades Road, BC-71 Boca Raton, FL  
33431 tel: 561.297.3938  
[www.med.fau.edu](http://www.med.fau.edu)

September 8, 2022

Russell L. Ivy, Ph.D.  
Senior Associate Provost  
Florida Atlantic University  
Boca Raton, FL 33431

Dear Dr. Ivy:

On behalf of the Florida Atlantic University, Schmidt College of Medicine, I am pleased to offer my unequivocal support for university's development of a college of dentistry. This program will enhance the science-oriented career pathways for our graduates. In turn, this strengthens the university broadly, the health programs and curriculum offerings specifically.

We anticipate an outstanding partnership and collaboration between the colleges of medicine and dentistry, with obvious traditional crossovers in overlapping instruction and research. This will allow an accelerated setup for the new college and shorten time necessary to achieve program efficiency. Furthermore, FAU prides itself on a synergistic and holistic approach to both education and healthcare. We view this as an opportunity to have a novel and cross-supportive environment that stems beyond the traditional realm, allowing our students to have a truly comprehensive approach to delivering care to the community.

Looking forward, we are excited about the opportunity to jointly recruitment of faculty, share infrastructure to minimize the cost of overhead, as well as the opportunity to teach and learn in the collaborative facility space. These enhancements will allow both programs to flourish in an academic environment where resource scarcity often undercuts professional programs. With an established history of cross supportive programs, FAU is well equipped to maximize the value each brings, while enhancing the collective.

Again, without hesitation or reservation, I offer my full support for the college of dentistry.

Sincerely,

A handwritten signature in black ink that reads 'Julie G. Pilitsis'.

Julie Pilitsis, M.D., Ph.D., M.B.A.  
Dean and Vice President for Medical  
Affairs Professor of Neurosurgery  
Charles E. Schmidt College of Medicine



## Russ Ivy

---

**From:** Woodall, Wendy <Wendy.Woodall@ttuhsc.edu>  
**Sent:** Monday, November 28, 2022 10:52 AM  
**To:** Russ Ivy  
**Subject:** RE: Faculty Recruitment Question  
**Attachments:** WLHSDM Timeline 11.1.2019.xlsx

**EXTERNAL EMAIL** : Exercise caution when responding, opening links, or opening attachments.

Russ,  
So sorry it has taken awhile to find the timeline you asked about. But I have attached it here. Of course, you can see that it was a fluid process, once COVID hit.

As to your newest question, I am sorry to say that there are more positions posted than faculty at this time. We initially had a problem due to interviewing, as you commented. So we modified our search process to utilize online interviews until the final one, where we wanted the candidate to see the area, the school, and give a presentation. We have been somewhat fortunate, in that some dentists were ready to move from private practice into academia as we opened. Others are wanting to return to El Paso, where they were raised, as they sell their practice. Finding faculty from other institution, unless they are new graduates from specialty programs, is harder. Some are looking for a change, but most are wanting to stay put, especially now with rising prices. However, Texas and Florida may benefit from the lower taxes and sometimes, depending on location, the lower overall cost of living. Finally, younger graduates move more frequently, for a variety of reasons—parents, children, spouses, additional money or prestige/promotion. We all need to find a way for people to move upward in their career without having to jump to another institution. My sense is that we have a pathway, but it is too slow for the newer generation.

Hope all of this helps,

Wendy

**From:** Russ Ivy <IVY@fau.edu>  
**Sent:** Monday, November 28, 2022 7:07 AM  
**To:** Woodall, Wendy <Wendy.Woodall@ttuhsc.edu>  
**Subject:** Faculty Recruitment Question

**CAUTION:** This email originated from outside of TTUHSC. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Morning, Wendy!

Hope you had a relaxing Thanksgiving. Our Board of Governors office is asking us to make sure that your program did not have difficulty hiring faculty. I know you mentioned it was a challenge during COVID, but I assumed you meant interviewing remotely, etc. I did not assume that you meant adequate supply of faculty candidates. Could you please give me your timeline for hiring of faculty and comment on the supply difficulty?

Thanks so much!

Russ

Russell L. Ivy, Ph.D.

Vice Provost

Florida Atlantic University

Boca Raton, FL 33431

561-297-2353

Email: [ivy@fau.edu](mailto:ivy@fau.edu)

	Faculty	Facilities	Funding	Practice	Recruiting	
<b>2019</b>			State Funds (8 Million) Disburse September 2019			<b>2019</b>
September						September
November			Paso Del Norte Grant Disbursement November 2019			November
<b>2020</b>			★ Hunt Funding Begins January 2020 ★			<b>2020</b>
January/February	Post Clinical Dean Position January 2020 Posting Medical Education Positions January/February 2020			Faculty Community Service Start 2020	Texas Southern Swing February 2020 TMSAS - Spring Meeting Dallas Swing April 2020 TMSAS - WLHSDM Student Applications Open May 1, 2020	January/ February
May	★ Hire Clinical Dean May 2020 ★	★ Dental Learning Center (DLC) Open May 1, 2020 ★ Oral Health Clinic (OHC) Construction Begins May 2020		WLHSDM Locomotives 2020		May
June	Post Asst. Dean of Student Affairs & Asst. Dean of Research June 2020					June
July	Post Clinical Dentist Positions July					July
September	Hire Medical Education Positions September 2020	Dental Learning Center (DLC) Tours Begin August 2020	State Funds (10 Million) Disburse September 2020	Oral Surgeon Practicing 2020	★ WLHSDM - Student Interviews Begin August 2020 ★ TMSAS - Fall Meeting	September
November	★ Hire Asst. Dean of Student Affairs & Asst. Dean of Research November 2020 ★		Paso Del Norte Grant Disbursement November 2020	Approve Oral Health Clinic (OHC) Website November 2020	WLHSDM - Student Interviews End November 2020 Dental Student Acceptances Begin December 1, 2020	November
December						December
<b>2021</b>	Hire Clinical Dentists January 2021			Launch Oral Health Clinic (OHC) Website January 2021		<b>2021</b>
January						January
June		★ Oral Health Clinic (OHC) Opens to Public June 1, 2021 ★		★ Oral Health Clinic (OHC) Opens to Public June 1, 2021 ★		June
July		Oral Health Clinic (OHC) Open House July 2021			★ WLHSDM First Class Starts July 2021 ★	July
November			State Funds (10 Million) Disburse September 2020 ★ Paso Del Norte Grant Final Disbursement November 2021 ★			November
<b>2022</b>						<b>2022</b>



October 11, 2022

John W. Kelly, Ph.D.  
President  
Florida Atlantic University  
Administration Building, Room 339  
777 Glades Road  
Boca Raton, FL 33431

Dear President Kelly:

It has come to the attention of the Florida Dental Association (FDA) that Florida Atlantic University (FAU) is proposing the creation of a new dental school and that the FAU Board of Trustees, during its September 19 meeting, approved a proposal to move forward with this initiative.

The FDA has built great working relationships with the current dental schools in Florida; the University of Florida College of Dentistry, Nova Southeastern University College of Dental Medicine and LECOM College of Dental Medicine. Our role, for many years, has been to help prepare dental students for their next steps as they transition from student to licensed practitioner. Additionally, the FDA works closely with dental faculty as a valuable resource to help provide timely information for dental students as they prepare for licensure or other areas of their career.

To help the FDA understand the desired role of FAU and the pursuit of a dental school, we would like to invite you (or a designee) to share your dental school proposal with the FDA's Board of Trustees. Our next meeting is scheduled for December in Tallahassee. Please let us know if you (or a designee) could join us on Friday, December 2, at 4pm or on Saturday, December 3, sometime between 9am – 2pm. This would be a great opportunity for our Board to ask questions and get a better understanding of FAU's dental school proposal. The FDA did receive a request for information from FAU back in August and extended an opportunity to hear the purpose behind the request, but no additional information was provided (see attachment).

Please let Joe Anne Hart, FDA's Chief Legislative Officer, know if you (or a designee) will be available to meet in December. You can reach her at [jahart@floridadental.org](mailto:jahart@floridadental.org) or at 850.224.1089.

Sincerely,

Gerald W. Bird, DMD  
FDA President

Drew Eason  
FDA Executive Director

cc: Dr. Julie Pilitsis, Dean, Charles E. Schmidt College of Medicine, FAU  
Mr. Ryan Britton, Executive Director of Government Relations, FAU  
FDA Board of Trustees  
FDA Governmental Action Committee  
Joe Anne Hart, FDA Chief Legislative Officer

## Russ Ivy

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**From:** Tooks, Sherin <tookss@ada.org>  
**Sent:** Monday, November 28, 2022 10:27 AM  
**To:** Russ Ivy  
**Cc:** Rebecca Napier; Stapleton, Kelly  
**Subject:** RE: ATTN: Sherin Tooks, CODA Director

**EXTERNAL EMAIL** : Exercise caution when responding, opening links, or opening attachments.

Hello Dr. Ivy,

Thank you for reaching out to the Commission on Dental Accreditation. Ms. Kelly Stapleton, manager, Predoctoral Dental Education, and I would be pleased to speak with you about the CODA application process.

By copy, I will ask Kelly to set up a Zoom call the week of December 5<sup>th</sup>. Unfortunately, Kelly and I are in CODA meetings this week.

In the meantime, you may review our application process through CODA's website at <https://coda.ada.org/accreditation/apply-for-accreditation>

Regards,

**Sherin Tooks, Ed.D., M.S.** [tookss@ada.org](mailto:tookss@ada.org)  
Director  
Commission on Dental Accreditation (CODA)  
312-440-2940 office

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Commission on Dental Accreditation 211 E. Chicago Ave. Chicago, IL 60611 <https://coda.ada.org>

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**From:** Russ Ivy <IVY@fau.edu>  
**Sent:** Tuesday, November 22, 2022 9:07 AM  
**To:** CODA <CODA@ada.org>  
**Cc:** Rebecca Napier <napierr@health.fau.edu>  
**Subject:** ATTN: Sherin Tooks, CODA Director

Dear Dr. Tooks,

Florida Atlantic University is proposing to our Board of Governors of the State University System to offer the Doctor of Dental Medicine (DMD). While the proposal will not officially go up for approval until sometime in 2023, we would like to start a conversation with CODA staff to make sure we understand the application process and timeline. Could we schedule a ZOOM meeting soon with someone in your shop?

Russ

Russell L. Ivy, Ph.D.

Vice Provost

Florida Atlantic University

Boca Raton, FL 33431

561-297-2353

Email: [ivy@fau.edu](mailto:ivy@fau.edu)

**Russ Ivy**

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**From:** Geoffrey C. Klein <gklein@sacscoc.org>  
**Sent:** Tuesday, September 13, 2022 2:05 PM  
**To:** Russ Ivy  
**Subject:** RE: Question about timing of a sub change

**EXTERNAL EMAIL :** Exercise caution when responding, opening links, or opening attachments.

Good afternoon, Russ,

It is great to hear from you, and I greatly appreciate your warm wishes. I can't say I'm entirely adjusted yet, but I'm feeling much more comfortable in my new position and immensely enjoy the work. I hope the same for your loved ones and that the start of the fall semester has been smooth for you and Florida Atlantic University.

Based on your information, I don't see this substantive change (new doctoral program) impacting FAU's reaffirmation process from a logistical perspective. This type of program likely requires SACSCOC approval since more than 50% of the program content will be new for FAU. However, the prospectus will be reviewed and approved by the Executive Council of the SACSCOC Board of Trustees. The key will be communicating to review committees where the institution is in the process of approval. In other words, the new program would not be included in your education program inventory until approved but might be a part of your documentation associated with substantive changes.

FAU will need to determine if it has the resources to navigate the reaffirmation process (e.g., produce CCR, Focused Report, QEP, and host On-Site Reaffirmation Visit) and the new program prospectus. Please see the due dates for any new program prospectus based on the desired implementation date:

<b>Implementation Date</b>	<b>New Program Prospectus Due Date</b>
Fall 2023 (July 1, 2023)	January 1, 2023
Spring 2024 (January 1, 2024)	July 1, 2023
Fall 2024 (July 1, 2024)	January 1, 2024
Spring 2025 (January 1, 2025)	July 1, 2024
Fall 2025 (July 1, 2025)	January 1, 2025

I never like to encourage an institution to stall or delay innovation because of its accreditation cycle, but I encourage institutions to consider available resources when making decisions regarding accreditation-related activities, such as implementing new programs.

I hope this helps, and if you'd like, I'm happy to jump on a call to discuss this further. I wish you all the best, and I look forward to continuing our work as FAU navigates its reaffirmation process. Best and healthy wishes,

Geoffrey



Geoffrey Klein, PhD ([he/him/his](#))  
Vice President  
SACS Commission on Colleges  
Office: 404-994-6608  
Fax: 404-994-6609

**FAU External Consultant Report**  
**Bruce E. Rotter, DMD, MS**  
**Dean Emeritus**  
**Southern Illinois University**  
**School of Dental Medicine**

1. **In your professional opinion, please comment on perceived student demand for the proposed program. What type of student would be interested in this program? What type of employment would be available to the student following graduation? Is both the student demand for the program and potential job market sustainable for this degree program into the foreseeable future?**

Student demand for dental education has been historically strong. Even during an application downturn in the 1980's, applications far outweighed the number of open positions. Observing predictions for future retirements coupled with the increasing demand for dental services, the need for an increasing dental workforce is predicted to continue to be strong. Based on the reviewed documents, I believe that FAU would be in a strong position to capture this student demand. My reasoning is based on several observations:

1. The Pre-Health Professions Office appears to be effective in counseling and placing professional students. The number of overall applications processed as well as the number of minority applications processed by this office is exemplary. This activity could easily be translated to the dental education program. Many pre-professional applicants aren't keenly aware of the opportunities in dental education. An in-house Pre-Health Professions Office would have a strategic advantage in guiding these potential applicants.
2. Operating as a state vs. private entity gives the university a potential fiscal advantage, which can be translated into lower tuition.
3. FAU appears to have a strong sense of diversity and a good diversity plan. The stated holistic application and review process will allow for a broader group of applicants that have an appropriate fit to the School of Dental Medicine's ultimate strategy

Employment opportunities for dental school graduates are diverse and plentiful, including private practice, corporate practice, public health, industry, military, etc. It would be a rare occurrence for a graduate dentist to not find appropriate employment. The dental industry sees no change in the future so, as stated above, I believe that FAU's current plan is certainly sustainable.



- 2. Is the proposed body of curriculum appropriate for the job skills needed for the professions referenced above? What unfilled need or gap would the degree program fill in the workforce?**

The proposed curriculum plan appears adequate to successfully train dental students to safely and effectively treat patients in the general practice of dentistry. The proposed curriculum plan also demonstrates conformity to the required standards of the Commission on Dental Accreditation (CODA) and allows for students to be adequately trained to successfully sit for both national and regional/state licensing exams. Obviously, the current stated plan is a roadmap and must undergo considerable further construction and revision prior to accreditor approval and program utilization.

- 3. Does the proposed degree program seem to fit with the institutional goals and mission (strategic plan) of the institution?**

The proposed program does indeed fit with the stated institutional goals and strategic plan of the University. The University already has demonstrated a strong commitment to health care education and including a dental education program only makes good sense in creating a well-rounded health education strategy. Dental education will not only augment the level of health care education in general, but will provide avenues of interprofessional health care, research, access to care, etc. that the University has not employed to date.

FAU has a stated strategy to help populate Health Professions Shortage areas (HPSAs). Although there is never a guarantee that graduates will populate HPSA's, FAU's strategy has addressed this appropriately. The primary steps in this strategy are the recruitment of applicants from underserved areas and the financial remuneration through loan forgiveness (typically paid through the FQHC/Community Clinic via government grants) for those who populate these regions.

I would also emphasize that the proposed dental education program itself will help to reduce disparities by increasing available treatment in the community clinics that the students populate. Incentivizing alumni with faculty appointments within these clinics is also strategic. It is important that appropriate time and consideration be given when choosing the appropriate clinics/locations for affiliation agreements.

4. **Does FAU have adequate faculty numbers and expertise/credentials to successfully implement the program? Is the faculty research active enough to successfully mentor doctoral students?**

FAU does not currently have adequate faculty to successfully implement the program but the proposed plan accounts for a budget and timeline to adequately prepare a faculty with the credentials/expertise to do so. I do have some concerns regarding both the proposed timeline and the faculty numbers (faculty/student ratios). I will address this under #8, major challenges.

I am a strong proponent that a faculty member must be a scholar to be a successful teacher. Having said that, I believe that the hiring proposal, along with the proposal for shared services with the medical school will provide the expertise necessary to fulfill this goal.

5. **Are the institutional, College, and Department resources adequate to support the degree program? (i.e., Library, funding for students, research labs and equipment, etc.)**

As stated in #4 above, not all of these resources are in place, but have been accounted for within the proposal. The University has proposed an appropriate funding plan for tuition and fees, shared services and facilities construction.

6. **Do you feel strong support for the degree program from the College and upper-level administration?**

Based on the proposal, as well as the included letters of endorsement and program support, I am confident that there is a strong level of support for this developing program.

7. **What are the major strengths of FAU to successfully offer this degree program?**

Overall strengths:

1. Continued strong need for dental professionals
2. History of successful medical education
  - a. Ability to draw on the experience/expertise of medical school
3. Pre-Health Professions Office
  - a. This office appears to be a shining star within your university system. You might want to package this and market it to other institutions.
4. Strong proposal with good system support

- a. State University system
  - b. Upper administration involvement and support
5. Strong sense of campus diversity

**8. What will be the major challenges of FAU to successfully offer this degree program?**

Major challenges:

1. The timeline for implementation appears too aggressive; much thought has gone into what is a very feasible proposal, don't set it up for failure by rushing the process.
  - a. My first thought would be that the stated timeline should be reordered
    - i. Recruit the inaugural Dean and other key leadership earlier in the process. Administrators who will be responsible for operationalizing the program should anchor curriculum design, the design of space needs and the CODA application for "initial accreditation".
  - b. The plan for Year IV service learning is important, yet very complex to negotiate with the many outside clinics. More time should be allotted to this process.
    - i. Clinics must have dental facilities or be willing to construct such facilities as to have enough available space for their staff and rotating students
    - ii. Each facility must have at least one dentist who is trained, calibrated and willing to mentor students. These dentists should have adjunct faculty appointments.
    - iii. Each clinic should have a patient population that allows every student to have experience in all aspects of dental care, or alternate arrangements must be made.
  - c. The CODA accreditation process can be 18-24 months alone. Based on CODA policy, a program must not enroll students/residents until "initial accreditation" status has been obtained. If a program enrolls students/residents without first having been granted "initial accreditation" status, the Commission will not accept the application for accreditation until after the first enrolled class has graduated. In addition, the Commission expects that the program will notify all students/residents enrolled of the possible ramifications of enrollment in a program operating without accreditation. The Commission will also notify the applicable state board of dentistry.
  - d. Based on the above information, I would recommend a program start date of 2027.
2. Current challenges in hiring faculty/staff
  - a. This is a nationwide problem; expect similar issues
  - b. I would recommend a strategic yet aggressive hiring plan
  - c. Determination of the proposed number of faculty was, in part, dependent on the budgetary structure that was proposed. Based on the proposed

student numbers, faculty schedules and faculty:student ratios I don't believe these numbers (40 FTE by year 5) are adequate. My rationale follows:

- i. Must account for faculty research time, service work, practice day
- ii. Where a faculty:student ratio of 1:10 may be adequate for other categories of professional education, it is typically not a standard for dentistry.
  1. Dental students must be practice ready at the time of graduation; therefore, they are performing progressively more complex, irreversible procedures on their patients beginning early in their training. Immediate availability of faculty is necessary for evaluation, direction or intervention. Typically, an acceptable faculty:student ratio in the general treatment areas is 1:6 and in the surgical specialties is 1:4.
- d. The number of 40 proposed faculty would be more comfortably in line with the original class size of 45 students/class. Therefore, I would recommend considering keeping class size at 45 instead of aggressively increasing to 90 students. As the initial operations of the dental school work out and the budgetary needs of the school become clear, CODA could be petitioned for an increase in class size to meet future expectations.

Dental Implant Surgery

Practice Limited to Prosthodontics

Reconstructive Dentistry

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**JACK PIERMATTI, DMD, FACP**  
*Diplomate, American Board of Prosthodontics*  
*Diplomate, American Board of Oral Implantology*

8660 Lakeside Bend  
Parkland, FL 33076  
609-314-1649  
[jpiermatti@yahoo.com](mailto:jpiermatti@yahoo.com)

10/22/2022

Russel L. Ivy, Ph.D.  
Vice Provost for Academic Affairs  
Florida Atlantic University  
777 Glades Road, ADM 309  
Boca Raton, FL 33431

Dear Dr. Ivy,

It is my understanding that Florida Atlantic University has approved a plan for the development of a College of Dental Medicine with an anticipated opening of 2025. I am quite interested in the prospects of this project.

My background in dentistry is quite comprehensive. Originally from New Jersey, I have extensive training and experience in the dental specialty of Prosthodontics and dental implant surgery. I practiced for 42 years in New Jersey, developing a multi-specialty 9 doctor, 30 operatory practice from inception to one of the largest group practices in New Jersey.

After retiring from private practice, I moved to Florida and accepted a full-time faculty position at Nova Southeastern University College of Dental Medicine. I am Director of Dental Implant Surgery and served as Interim Director of the Post-Graduate Prosthodontics Residency Program. As Director, I brought our Program through CODA accreditation, receiving full accreditation with no comments. I also am the Director of the Dental Implant Maxicourse, an education continuum at Nova Southeastern, and Director of the Maxicourse at Rutgers University School of Dental Medicine where I am also a clinical faculty member.

I have included my Curriculum Vitae for your review. As you continue your development of the new school of dentistry, I would be happy to meet and discuss your future plans. I believe I have much to offer.

Sincerely,



Jack Piermatti, DMD, FACP

## CURRICULUM VITAE

**Jack Piermatti, DMD, FACP**

### I. PERSONAL INFORMATION

**Academic Office:** Nova Southeastern University College of Dental Medicine  
Department of Prosthodontics  
3200 S University Dr Ste 7372  
Davie, FL 33328

**Private Office:** 10150 Hagen Ranch Road  
Suite 202-B  
Boynton Beach, FL 33437  
561-767-9595

**Home Address:** 8660 Lakeside Bend  
Parkland, FL 33076  
609-314-1649

### II. EDUCATION

Predoctoral **B.S.** Fairleigh Dickinson University, Cum Laude 1975  
Doctoral **D.M.D.** Fairleigh Dickinson University School of Dentistry, 1979  
Department of Endodontics Award  
Postdoctoral **Certificate, General Practice Residency Program,** St. Joseph's  
Hospital & Medical Center, Paterson, NJ, 1980  
**Certificate, Implantology Maxicourse Program,** New York University  
College of Dentistry, and Brookdale Hospital, 1996  
**Certificate, Postgraduate Prosthodontics Specialty Program,**  
UMDNJ-New Jersey Dental School, 2004

**Licensure** New Jersey License # 12118  
New Jersey Specialty Permit #5575  
Florida License #DN20964

### III. EMPLOYMENT HISTORY

**Private Practice** 1980-present

### Hospital Appointments

- 1979-1980 St. Joseph's Hospital & Medical Center  
House Staff – Dental Resident  
703 Main Street  
Paterson, NJ
- 1980-1985 Attending Dental Staff, Family Health Center  
St. Joseph's Hospital & Medical Center  
703 Main Street  
Paterson, NJ

### IV. PROFESSIONAL ACTIVITIES

#### Teaching

- 2022-present **Interim Program Director**, Nova Southeastern University College of Dental Medicine / Post-graduate Prosthodontics Residency Program
- 2019-present **Assistant Professor**, Nova Southeastern University College of Dental Medicine / Post-graduate Prosthodontics Program
- 2019-present **Director**, Dental Implant Surgery/Post-graduate Prosthodontics Program
- 2018-2021 **Director**, Dental Implant Surgical Training, Miami Anatomical Research Center, Doral, FL
- 2018-2020 **Director**, Board Review Course, American Board of Oral Implantology/Implant Dentistry
- 2010-present **Director**, Rutgers University School of Dental Medicine Implant Maxicourse
- 2004-present **Assistant Clinical Professor**, Rutgers University School of Dental Medicine, Department of Restorative Dentistry / Post-graduate Prosthodontics program
- 2017-present **Director**, Nova Southeastern University College of Dental Medicine Implant Maxicourse
- 2017-2019 **Adjunct Professor**, Nova Southeastern University College of Dental Medicine / Post-graduate Prosthodontics program
- 1998-2004 **Director**, Surgical and Restorative Implant Dentistry - Basic Course - Centerpulse/Zimmer Dental, Sponsor
- 2004-2009 **Director**, Surgical and Restorative Implant Dentistry - Basic Course – Nobel Biocare, Sponsor

#### Research Activities

- 2014 **Researcher**, “*Clinical Trials/Beta Testing prior to company distribution*”, Nobel Active Wide Platform Implant – Sponsor, Nobel Biocare. Responsible for evaluation prior to company product launch.

- 2011-2013 **Researcher, “Subjective Satisfaction of Dental Implant Treatment”,**  
Pearl Network-New York University College of Dental Medicine –  
Sponsor.
- 2008 **Researcher, “Clinical Trials/Beta Testing prior to company  
distribution”,** Nobel Active Implant – Sponsor, Nobel Biocare.  
Responsible for training clinicians prior to sale.
- 2006-2011 **Researcher, “Five-year Study of Zirconium Dioxide-based Fixed  
Restorations”,** Nobel Biocare sponsored Multi-Center Study.
- 2001-2004 **Lead Researcher, “Comparing Preload Maintenance of External and  
Internal Connections in the Single Tooth Implant Restoration”,**  
UMDNJ– New Jersey Dental School - Sponsor

### Service, Organized Dentistry

#### Prosthodontics

- 2014-2016 **Member, Post-Graduate Education Committee** for Modification of  
Standards in Post-Graduate Residency Programs in Prosthodontics-  
American College of Prosthodontists
- 2011-2013 **Vice-President,** New Jersey Section, American College of Prosthodontists
- 2010 **Secretary,** New Jersey Section, American College of Prosthodontists
- 2009-2014 **Member, Board of Directors,** New Jersey Section, American College of  
Prosthodontists
- 2008-2017 **Peer Review Committee for Prosthodontics** – New Jersey Dental  
Association
- 2008 **Member, Committee for Revision,** American College of Prosthodontists  
*Private Practice Manual*
- 2003 **Consulting Member from American Academy of Implant Dentistry,  
Committee for Revision,** American College of Prosthodontists-*Glossary  
of Prosthodontic Terms*

#### Implantology

- 2016-2017 **Immediate Past-President,** American Board of Oral  
Implantology/Implant Dentistry
- 2015-2016 **President,** American Board of Oral Implantology/Implant Dentistry
- 2014-2015 **Vice-President,** American Board of Oral Implantology/Implant Dentistry
- 2012-2014 **Chairman,** Part 1 - Test Construction Committee, American Board of  
Oral Implantology/Implant Dentistry
- 2013-2014 **Secretary,** American Board of Oral Implantology/Implant Dentistry
- 2012-2013 **Treasurer,** American Board of Oral Implantology/Implant Dentistry
- 2010-2017 **Member, Board of Directors,** American Board of Oral  
Implantology/Implant Dentistry
- 2010-2014 **Member, Part 1- Written Test Construction Committee,** American  
Board of Oral Implantology/Implant Dentistry



- 2009-2016 **Member, Part 2- Oral Test Construction Committee**, American Board of Oral Implantology/Implant Dentistry
- 2009-present **Board Examiner**, American Board of Oral Implantology/Implant Dentistry
- 1998-2001 **Member, Board of Directors**, American Academy of Implant Prosthodontics

### **Consulting**

- 1990-1995 Consultant, Insurance utilization and appropriateness of care, Laurel Rehabilitation Co. Inc., Blackwood, NJ
- 1990-1995 Consultant, Insurance utilization and appropriateness of care, Consolidated Rehabilitation Co. Inc., Laurel Springs, NJ

### **Journal Editorial Boards**

- 2022-present *Journal of Prosthodontics*
- 2000-present *The Journal of Oral Implantology*
- 2008-2017 *The Journal of General Dentistry*, Prosthodontics Section
- 2015-present *Dentistry Today*, Implantology Section

### **Special Awards**

- 2014 **Private Practice Award for Outstanding Contributions to Prosthodontics**, American College of Prosthodontists
- 2016, 2015, 2014 *One of the Best Dentists in New Jersey, "as selected by his peers"*. New Jersey Monthly Magazine
- 2014, 2013, 2012  
2011, 2010, 2009  
2008, 2007 *Top Dentist*, South Jersey Magazine
- 2010, 2008, 2003  
1999, 1998, 1997  
1995, 1994, 1993 *Best Dentist in South Jersey*, Courier-Post Newspaper
- 2001, 1996  
2007, 2004  
2002-2004 *One of the Best Dentists in South Jersey*, Courier-Post Newspaper  
*America's Top Dentists*, Consumer Research Council of America  
*Who's Who in America*, Marquis Publications

### **Professional Membership**

- 2005 **Diplomate**, American Board of Prosthodontics
- 1999 **Diplomate**, American Board of Oral Implantology/Implant Dentistry
- 1997 **Diplomate**, International Congress of Oral Implantologists

2005	<b>Fellow</b> , American College of Prosthodontists
2000	<b>Fellow</b> , American Academy of Implant Dentistry
2011	<b>Honored Fellow</b> , American Academy of Implant Dentistry
1997	<b>Fellow</b> , Academy of General Dentistry
1991	<b>Fellow</b> , American Academy of Implant Prosthodontics
2010	<b>Fellow</b> , International College of Dentists
1998-2015	<b>Member</b> , Academy of Osseointegration
1992-present	<b>Member</b> , American Dental Association
1992-2019	<b>Member</b> , New Jersey Dental Association
1992-2019	<b>Member</b> , Southern Dental Society
2019-present	<b>Member</b> , Florida Dental Association

## **V. PUBLICATIONS**

### **Textbooks**

1. Winkler S, Piermatti J. **Essentials of Complete Denture Prosthodontics**. 3rd ed. Delhi: AITBS Publishers; 2009: chap 30, "The O-Ring Implant Overdenture Attachment: Clinical Reports".

### **Journals**

1. Frictional wear of stud implant overdenture abutments after 2 years of in vitro simulated function. Castrillon JM, Piermatti J, Achong-Bowe R, Hardigan P, Thompson J. *General Dentistry*, 2022 Sep-Oct;70(5):54-57.
2. Emadi T, Piermatti J, Rodriguez J. Implant Rehabilitation After a Partial Resection of the Mandible Resulting from Submandibular Gland Malignancy-A Case Report. *J Oral Implantol*. 2022 Jun 1;48(3):220-225
3. Joshi N, Piermatti J, Nahon M, Balshi T. Management of Biotechnical Complications Associated with a Full-Arch Implant Restoration Using Digital and Conventional Workflows: A Clinical Report. *J Prosthodontics*. 2019;28: 483-487.
4. Mathur R, Piermatti J, Hsu C, Nahon M, Balshi T. Revision Treatment of Failed Iliac Crest Grafts with a Small Diameter Dental Implant: A Case Report. *J Implant and Adv Clin Dent*. 2019: 11(2): 34-40.
5. Piermatti J. The Two-Implant Overdenture. *Dentistry Today*. 2019;38(1):44-46.
6. Piermatti J. Considerations in Abutment Selection. *Dentistry Today*. 2017;36(3):74-75.

7. Piermatti J, Barndt P, Thalji G. Maintenance of full-arch implant restorations. **Position Statement for the American College of Prosthodontists**. Approved, Oct. 2016.
8. Piermatti J. Full-Arch, Fixed, Screw-Retained, PFM Implant Restoration. A New Look at a Proven Technology.  
*Dentistry Today*. 2016: 35(6):72-76.
9. Taylor T, Bergen S, Conrad H, Goodacre C, Piermatti J. What is a Prosthodontist and the Dental Specialty of Prosthodontics? **Position Statement for the American College of Prosthodontists**. Approved, Nov. 2014.
10. Piermatti J. Rehabilitation of the edentulous maxilla complicated by combination syndrome with an implant overdenture: a case report.  
*General Dentistry*. 2013: 61(5):64-69.
11. Piermatti J, Nikas J, Winkler S. The Use of Root Form Implants in Overdenture Treatment for the Atrophic Mandible: A Clinical Report.  
*J Oral Implantology*. 2011;37(6):723-726.
12. Piermatti J, Winkler S.  
Metal Bases for Implant Overdentures.  
*General Dentistry*. 2010;58(5):400-403.
13. Piermatti J.  
Using CAD-CAM Technology for the Full-Mouth, Fixed, Retrieveable Implant Restoration: A Clinical Report.  
*J Oral Implantol*. 2007;32(6):23-7.
14. Piermatti J, Yousef H, Luke A, Mahevich R, Weiner S.  
An *In Vitro* Analysis of Implant Screw Torque Loss with External Hex and Internal Connection Implant Systems.  
*Implant Dentistry*. 2006;15(4):427-432.
15. Piermatti J.  
Tooth position in full-mouth implant restorations  
*General Dentistry*. 2006;54(3):209-213.
16. Borguet M, Piermatti J.  
Prevention of mucogingival defects around dental implants: A review.  
*Compendium*. 2006;27(4):224-229.
17. Aboyoussef H, Piermatti J.  
Screw-torque analysis of the implant-abutment screw  
*J Prosthodontics*. 2002;11(4):338(1)

18. Winkler S, Piermatti J, Rothman A, Siamos G.  
An overview of the O-ring implant overdenture attachment: clinical reports.  
*J Oral Implantology*. 2002;28(2):82-6.

**VI. PRESENTATIONS (past 8 years)**

- 09-21-22 Prosthodontic Considerations in the Full-Arch Implant Restoration.  
American Academy of Implant Dentistry – Annual Meeting  
Dallas, Tx
- 03-26-22 Prosthodontics Section – American Board of Oral Implantology Review Course  
American Board of Oral Implantology  
Virtual Format
- 03-19-22 Prosthodontic Principles for Dental Implantology  
Roseman University of Health Sciences College of Dental Medicine  
Jordan, UT – Virtual Format
- 03-12-22 Dental Implant Surgery – Cadaver Course Training  
Nova Southeastern University College of Dental Medicine  
Davie, FL
- 05-20-21 Prosthodontics Section – American Board of Oral Implantology Review Course  
American Board of Oral Implantology  
Virtual Format
- 04-20-21 Dental Implant Surgical Training  
Miami Anatomical Research Center  
Miami, FL
- 09-21-20 Prosthodontic Principles for Rehabilitation of Fixed Cases  
Webinar Format to Multiple Maxicourses  
05-01-2020
- 03-10-20 Clinical Considerations in the Full-Arch Implant Restoration  
Webinar Format  
Transmitted to USA, Asia, India, Pakistan, and Australia
- 10-25-19 Prosthodontic Principles Essential for Successful Complex Reconstruction of  
Natural Teeth and Dental Implants.  
American Academy of Implant Dentistry - Annual Meeting  
Las Vegas, NV
- 05-22-19 Prosthodontic Principles for Dental Implantology  
University of Nevada Las Vegas, School of Dental Medicine

Las Vegas, NV

- 06-15-19  
to  
06-22-19     Dental Implants – An Integral Component of the Comprehensive Dental Practice  
                  On Board the Celebrity Cruise Ship, “*Celebrity Edge*”.  
                  Mediterranean Cruise
- 01-25-19     A Review of Dental Implant Surgery and Site Development  
                  American Board of Oral Implantology - Board Review Course  
                  Orlando, FL
- 07-19-18     The Full-Arch Implant Restoration  
                  South Florida Study Group  
                  Ft. Lauderdale, FL
- 03-16-18     Dental Implant Surgery – Cadaver Training – Nobel Biocare, Sponsor  
                  Miami Anatomical Research Center  
                  Miami, FL
- 02-17-18     Dental Implant Surgery Live Demonstration  
                  Nova Southeastern University College of Dental Medicine  
                  Ft. Lauderdale, FL
- 02-02-18     Board Review Course, Dental Implant Surgery Module  
                  American Board of Oral Implantology/Implant Dentistry  
                  Chicago, IL
- 06-02-17  
to  
06-10-17     Dental Implants - An Integral Component of the Comprehensive Dental Practice  
                  on board The Holland American Cruise Ship, “*Eurodam*”  
                  Alaskan Cruise
- 02-11-17     Implant-Assisted Removable Prosthodontics  
                  Rutgers University School of Dental Medicine  
                  Newark, NJ
- 10-15-16  
to  
10-22-16     Implants and Restorative Dentistry  
                  on board The Norwegian Cruise Ship, “*Norwegian Gem*”  
                  Caribbean Cruise
- 11-30-15     The Full-Arch, Fixed, Screw-Retained PFM Implant Restoration  
                  Greater New York Dental Meeting  
                  New York, NY
- 04-17-15     Surgical Implant Placement  
                  Rutgers University School of Dental Medicine  
                  Newark, NJ

**Janet Robishaw, PhD**

Professor and Chair, Biomedical Science Department  
Senior Associate Dean for Research and Graduate Programs, Charles E. Schmidt College of Medicine  
Abbreviated CV for FAU Researcher of the Year Award

**Previous Position before joining FAU**

2000-2016 Senior Scientist and Associate Director, Weis Center for Research, Geisinger Health System, Danville, PA

**Education**

1979 BS, Chemistry and Biology, Central Michigan University, Mt. Pleasant, MI  
*Summa Cum Laude*

1983 PhD, Cellular and Molecular Physiology, Pennsylvania State University College of Medicine, Hershey, PA

1987 Post-doctoral Fellowship, Molecular Pharmacology, University of Texas Health Science Center, Dallas, TX  
*Supervisor, Dr. Alfred G. Gilman, 1994 Nobel Prize in Physiology and Medicine*

**Contracts and Grants Received-last 5 years**

Currently, I am PI, MPI, or CoPI on several federal, state, and foundation awards totaling more than \$17,005,988 to support innovative research at the forefront of precision medicine.

**ACTIVE**

NIH R01GM114665 4/1/15-3/31/21 PI: Robishaw

**NOVEL ASPECTS OF G<sub>OLF</sub> SIGNALING**

The major goals of this project revolve around understanding the G-olf signaling pathways that normally control locomotion, motivation, and reward, but when dysfunctional, contribute to Parkinson's, Huntington's, and addictive disorders.

Total costs: \$2,099,379

NIH R01GM111913 4/1/15-4/30/21 MPIs: Robishaw/Mirshahi

**AN INTEGRATED APPROACH TO STUDY GPCR VARIANTS ASSOCIATED WITH COMPLEX DISEASES**

The major goals of this project combine a disease-based filtering algorithm with a functional testing platform to rapidly identify G protein-coupled receptor variants producing functional defects that could contribute to disease pathology or treatment response.

Total costs: \$2,083,322

NIH R01HL134015 12/01/16-4/30/21 MPIs: Robishaw/Pack

**APPROACHES TO GENETIC HETEROGENEITY OF OBSTRUCTIVE SLEEP APNEA**

The major goal of this project is to use state of the art approaches to identifying relevant genes based on a very large sample of patients with obstructive sleep apnea (OSA) obtained from multiple institutions in the United States.

Total costs: \$3,151,287

NIH 3R01HL134015-04S1 9/6/19-4/30/21 MPIs: Robishaw/Pack

**APPROACHES TO GENETIC HETEROGENEITY OF OBSTRUCTIVE SLEEP APNEA**

The major goal of this project is to assess the relationship between sleep disorders and neurocognitive diseases, including mild cognitive impairment, dementia, and Alzheimer's disease.

Total Costs: \$342,266

NIH R01DA044015 & NIH R01DA044015-02S1 9/1/17-5/31/22 MPIs: Robishaw/Troiani/Berrentini  
CLINICAL AND GENETIC STUDY OF PRESCRIPTION OPIOID ADDICTION

The major goal of this project is to assess clinical and genetic characteristics of thousands of persons who have developed opioid addiction after long-term ingestion of opioids for chronic pain.

Total Costs: \$3,680,015

Harry T. Mangurian, Jr. Foundation, Inc. 5/1/2020-4/30/2023  
NEW FRONTIERS IN THE PREVENTION OF DEMENTIA

PI: Robishaw

This project will utilize precision-medicine approaches to characterize individuals with Alzheimer's disease and related dementias with the goal of stratifying and developing individualized treatment plans. This award provides funding for research, education, and dissemination.

Total: \$3,000,000

Florida Blue/Blue Cross Blue Shield (BCBS) 6/1/2020-5/31/2021  
DEVELOPING PREDICTIVE ALGORITHMS FOR COVID-19 INFECTION IN FAU HEALTHCARE WORKERS

PI: Robishaw

This study aims to develop a data-driven algorithm to identify patterns of onset, detection, progression, and recovery from COVID-19 in a targeted population of FAU College of Medicine healthcare providers.

Total: \$50,000

National Science Foundation (NSF) 9/1/20-8/31/25  
NSF RESEARCH TRAINEESHIP (NRT) PROGRAM, HARNESSING THE DATA REVOLUTION (HDR): A GRADUATE TRAINEESHIP IN DATA SCIENCE TECHNOLOGIES AND APPLICATIONS

Co-PI: Robishaw

We expect the NRT program will drive graduate education in data science and analytics nationwide. The plan includes the development of an innovative training program for Master and PhD students from various departments, which will consist of normalization courses, in depth elective courses, transdisciplinary research activities, professional development workshops, and hands-on, testbed-driven education.

Total: \$2,400,000

Cantor Gift Agreement 12/1/2020  
PRECISION ONCOLOGY INITIATIVE

PI: Robishaw

This study aims to identify and exploit human genetic variants associated with various cancer types to drive more accurate diagnoses and treatments.

Total: \$200,000

#### Peer-Reviewed Publications-last 5 years

*Complete List of Published Work:* <https://www.ncbi.nlm.nih.gov/myncbi/1t3-9mx25aTkp/bibliography/public/>

- Mi W, Lin Q, Childress C, Sudol M, **Robishaw J**, Berlot CH, Shabahana M, Yang W. Geranylgeranylation signals to the Hippo pathway for breast cancer cell proliferation and migration. *Oncology*. 2015 Jun 11;34(24):3095-106. PMID: 25109332
- O'Hare EA, Yang R, Yerges-Armstrong LM, Sreenivasan U, McFarland R, Leitch CC, Wilson MH, Narina S, Gorden A, Ryan KA, Shuldiner AR, Farber SA, Wood GC, Still CD, Gerhard GS, **Robishaw JD**, Sztalryd C, Zaghoul NA. TM6SF2 rs58542926 impacts lipid processing in liver and small intestine. *Hepatology*. 2017 May;65(5):1526-1542. PMID: 28027591
- Pung M, **Robishaw J**, Pfeiffer MA, Hennekens CH. Prescription of Statins to Women Poses New Clinical Challenges. *Am J Med*. 2018 Oct;131(10):1139-1140. PMID: 29679537
- **Robishaw J**, Caceres J, Hennekens CH. Genomics and Precision Medicine to Combat Opioid Use Disorder. *Am J Med*. 2019 Apr;132(4):395-396. PMID: 30940352

- **Robishaw JD**, DeMets DL, Wood SK, Boiselle PM, Hennekens CH. Establishing and Maintaining Research Integrity at Academic Institutions: Challenges and Opportunities. Am J Med. 2019 Sep 12. pii: S0002-9343(19)30759-4. PMID: 31520622
- Dershem R, Metpally RPR, Jeffreys K, Krishnamurthy S, Smelser DT, Hershinkel M; Regeneron Genetics Center, Carey DJ, **Robishaw JD**, Breitwieser GE. Rare-variant pathogenicity triage and inclusion of synonymous variants improves analysis of disease associations of orphan G protein-coupled receptors. J Biol Chem. 2019 Nov 29;294 (48):18109-18121. PMID: 3162819.
- Keenan, BT, Kirchner, HL, Veatch OJ, Borthwick KM, Davenport, VA, Feemster, JC, Gendy, M, Gossard, TR, Pack, FM, Sirikulvadhana, L, Teigen, LN, Timm, PC, Malow, BA, Morgenthaler, TI, Zee, PC, Pack, AI, **Robishaw, JD**, Derose, SF. (2020) Multi-Site Validation of a Simple Electronic Health Record Algorithm for Identifying Diagnosed Obstructive Sleep Apnea, J Clinical Sleep Med. 2020 Jan 13; 16(2).
- Palumbo SA, Hennekens CH, **Robishaw, JD**, Levine RS. Temporal Trends and Geographic Variations in Mortality Rates from Prescription Opioids: Lessons from Florida and West Virginia. Southern Medical Journal (2020) Mar;113(3):140-145. PMID: 32123930.
- Veatch OJ, Bauer CR, Keenan BT, Josyula NS, Mazzotti DR, Bagai K, Malow BA, **Robishaw JD**, Pack AI, Pendergrass SA. Characterization of genetic and phenotype heterogeneity of obstructive sleep apnea using electronic health records. BMC Med Genomics (2020) Jul 25;13(1):105. PMID: 32711518.
- Palumbo SA, Adamson KM, Krishnamurthy S, Manoharan S, Beiler D, Seiwel A, Young C, Metpally R, Crist RC, Doyle GA, Ferraro TN, Li M, Berrettini WH, **Robishaw JD**, Troiani V. Assessment of Probable Opioid Use Disorder Using Electronic Health Record Documentation. JAMA Netw Open (2020) Sep 1;3(9):e2015909. PMID: 32886123.
- Paz S, Mauer C, Ritchie A, **Robishaw JD**, Caputi M. A simplified SARS-CoV-2 detection protocol for research laboratories. PLoS One (2020) Dec 18;15(12):e0244271 PMID: 33338082.

#### Invited Lectures / Conferences-selected from last 3 years

- October 12, 2017 Invited Speaker, Future of Medicine Conference, West Palm Beach, FL
- June 27, 2017 Invited Speaker, Cardiomyopathies Meeting, Fudan University, Shanghai, China
- July 1, 2017 Keynote Speaker, Postdoctoral Innovation Forum, Chongqing, China
- October 19-21, 2017 Invited Speaker, International GPCR Meeting, Ottawa, ON, Canada
- March 19, 2018 Invited Speaker, Brainy Days, FAU Brain Institute, Boca Raton, FL
- April 7, 2018 Keynote Speaker, SUD Talks, FAU School of Social Work, Boca Raton, FL
- August 18, 2018 Invited Speaker, Opioid Healthcare Response Meeting, Healthcare Emergency Response Coalition, West Palm Beach, FL
- September 8-16, 2017 Poster Presenter, Genetics of Addiction Conference, Jackson Laboratory, Bar Harbor, ME
- September 19, 2018 Invited Speaker, FAU Research Showcase, Boca Raton, FL
- October 22, 2018 Invited Speaker, Opioids & Florida: The Collaboration Imperative, GuideWell Innovation, Orlando, FL
- September 1, 2018 Invited Speaker, Opioid Forum, Palm Beach County Medical Society, West Palm Beach, FL
- November 2, 2018 Invited Speaker, VA Clinical Conference on Pain Management, Palm Beach, FL
- January 13-15, 2019 Invited Speaker, NIDA Genetics Conference, Washington, DC
- Feb/Mar 2019 Keynote Speaker, Medical and Resident Research Days, FAU Boca Raton, FL
- June 8-12, 2019 Poster Presenter, 2019 Sleep Conference, San Antonio, TX
- September 27, 2019 Invited Speaker, FAU Research Showcase, Boca Raton, FL
- January 16, 2020 Keynote Speaker, Better Brain Health, Palm Health Foundation, West Palm Beach, FL
- *March 2020-present Speaking engagements were cancelled due to COVID-19 Pandemic*



### **Teaching Activity**

- November 9-14, 2017      Lecturer, Fundamental Topics in Human Health, IBBS Grad Program
- October 12, 2018      Lecturer, Responsible Conduct in Research
- November 1, 2018      Lecturer, Biomedical Concepts/Translational Applications, IBBS Grad Program
- April 1, 2019      Lecturer, Pre-Professional Track, College of Science
- October 24, 2019      Lecturer, Biomedical Concepts/Translational Applications IBBS Grad Program
- October 25, 2019      Lecturer, Pre-Professional Track, College of Science
- Jan-May 2020      Co-Developer and Course Director, “Genomics and Predictive Health” Capstone Course, In Genomics and Predictive Health Certificate, IBBS Graduate Program
- Aug-Dec 2020      Course Director, “Genomics and Predictive Health” Capstone Course, In Genomics and Predictive Health Certificate, IBBS Graduate Program
- Jan-April 2021      Co-Developer and Course Director, “Emerging Applications in Oncology and Pharmacogenomics, In Genomics and Predictive Health Certificate, IBBS Graduate Program

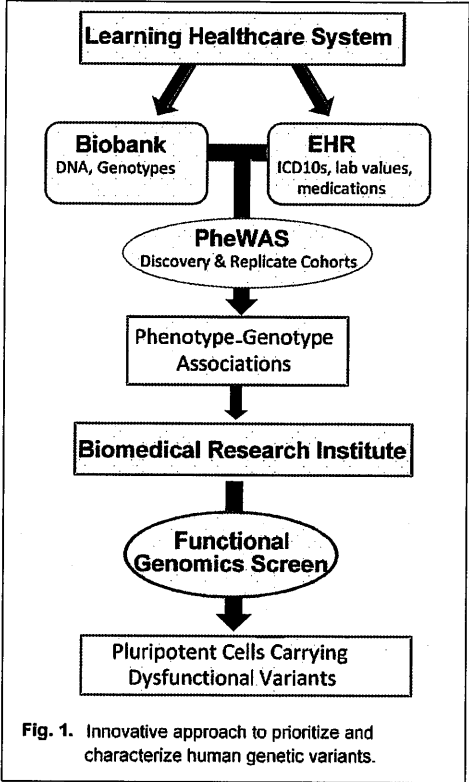
### **Research Achievements-last five years**

As Professor, I am the PI or Multi-PI (MPI) on four NIH grants and two NIH supplement awards that support my research programs on identifying genetic factors contributing to the most burdensome diseases. In addition, I am the PI on three new research awards in the last 6 months: 1) NEW FRONTIERS IN THE PREVENTION OF DEMENTIA, a clinical research project supported by the Harry T. Mangurian Jr, Foundation; 2) DEVELOPING PREDICTIVE ALGORITHMS FOR COVID-19 INFECTION IN FAU HEALTHCARE WORKERS, a clinical research project to develop a data-driven algorithm to detect COVID-19 infection in FAU front-line healthcare providers that is funded by Florida Blue Cross/Blue Shield; and 3) PRECISION ONCOLOGY INITIATIVE, a translational research project to identify genetic drivers of various types of cancer to allow targeted approaches to diagnoses and treatments. For a full description of my research program that spans the “bedside to bench” spectrum, please refer to my “Statement of Qualifications”. Finally, I have also been working with other colleges on interdisciplinary, graduate student training grants, including as co-PI on a recently-awarded NSF-NRT graduate training grant with Dr. Furht in COCSE.

As Chair of Biomedical Science (BMS), I am implementing numerous strategies to increase the research productivity of this department. These include: setting clear expectations for faculty with 25% dedicated research effort, formalizing mentoring and sabbatical programs; establishing pilot and bridge funding processes; conducting peer review of grant submissions; fostering transdisciplinary research approaches; and requiring accountability for research effort by tracking grant submissions and success rates. In response, the faculty have met and surpassed any and all expectations of them. Key performance metrics include receipt of external funding for >80% of faculty through some combination of federal, state, and industry funding, increasing success in converting NIH R15 into F21/R01 grants, and awarding of 23 new NIH grants in 3 years.

I am also devoting substantial efforts to educating and training the next generation of basic scientists as well as physician-researchers by creating experiential learning opportunities in undergraduate and graduate education. Working with the Associate Dean for Graduate Education, we have implemented a new PhD curriculum, developed a new “Genomics and Predictive Health” graduate certificate program, and doubled the number of graduate trainees over the last 4 years despite the COVID-19 crisis. In addition, we have established a platform of summer research training experiences for medical students that contributed to our re-accreditation in 2020 for the full 8 years by the LCME. Finally, I have sought to instill a spirit of lifelong learning and discovery by undertaking several school and community-based initiatives supported through philanthropic donations. I have also been working with other colleges on interdisciplinary, graduate student training grants, including as co-PI on a recently-awarded NSF training grant with Dr. Furht in COCSE, and as MPI on a pending NIH training grant application with Drs. Keene and Murphey from COS.

As Senior Associate Dean for Research, I am building the research infrastructure to tackle the conceptual and technical challenges required for a comprehensive understanding and approach to human health and disease. In the pre-genomics era, researchers relied on traditional methodologies to study the function of living organisms from the systems levels down to their component parts (*i.e.*, proteins). In the post-genomics era, we must now incorporate newer genomic strategies to understand how the component parts (*i.e.*, genes) integrate and function in the context of the living organism. In this regard, next generation sequencing efforts have captured the enormous extent of genetic variation across the human population. However, identifying which combination of human genetic variants contributes to even the most common diseases remains an enormous obstacle. Addressing this bottleneck will require innovative approaches carried out by interdisciplinary teams to tackle the complex clinical problems of patients. As one example, the College of Medicine has recently launched a novel “Genomics and Predictive Health” Initiative that is based on the creation of linkable databases for biobanking and clinical phenotyping (Fig. 1). This approach utilizes a phenome-wide association scan (PheWAS) to rapidly determine which clinical phenotypes (*i.e.*, ICD10 codes, lab values, medications) are associated with a given gene variant (*i.e.*, genotype). By binning patients into “case” status if they have the clinical phenotype, or “control” status if they do not, this analysis identifies those genetic variants that are statistically associated with a particular disease trait. Since associations do not prove causality, the highest value gene targets will then be fed into a pipeline for functional validation by a team of physiologists with complementary expertise in genetically manipulated model systems (*e.g.*, cells, zebrafish, mice) and phenotyping approaches (*e.g.*, whole animal, biochemical, electro-physiological, biophysical, and molecular). From this functional screen, those genetic variants exhibiting altered functional properties that may contribute to the associated clinical phenotype(s) will be identified. Finally, pluripotent stem cells will be isolated from patients carrying these dysfunctional genetic variants and used to study the functional impact of a given genetic variant in a particular pathologic context. Ultimately, the knowledge to be gained from this approach will bring the research community one step closer to accomplishing NIH’s long-range goal of “personalized medicine”. Notably, this approach is readily applicable to all areas of human health (*e.g.*, *exercise science, nutrition, preventive/regenerative medicine*) and disease (*e.g.*, *cardiovascular, bone, cancer*) that could drive new research collaborations and additional funding opportunities both within and between FAU colleges, pillars, and platforms, along with other strategic partners that include, but are not limited to Scripps Florida, Max Planck, and the FAU Research Park/Tech Runway.



Implementing this vision requires a phased approach from developing a strategic research plan, to staffing a research office, to renovating laboratory space, to establishing shared equipment facilities, to recruiting new faculty in key niche areas, to developing a research culture and monitoring regulatory compliance. Demonstrating the pay-off of these initiatives, some key performance metrics include: a 35% increase in NIH research funding, along with \$8 million in philanthropic education and research funding. In addition, by advancing the research mission, these efforts are enhancing the reputation and visibility of COM in particular and FAU in general. This is evidenced by our rapid rise on the US News and World Report of Medical Schools for 2020, from unranked to #97 in only three years, with NIH funding driving 40% of the ranking.

## **Graduate Student and Post-Doctoral Guidance**

I am proud of the success of my trainees and their collective contributions to science.

### **Post-doctoral Fellows, Research Assistant Professors Directed in last 5 years:**

2014-2016	Dr. Misha Chernovski	Post-Doctoral Fellow
2016-2017	Dr. Abhi Tripathi	Research Assistant Professor
2017-present	Dr. Gloria Brunori	Post-Doctoral Fellow
2019-present	Dr. Yingcai Wang	Research Assistant Professor

### **PhD and MS Students Directed in last 3 years:**

2019-present	Oliver Pelletier	PhD candidate, FAU
2020-present	Nicholas Toll	MS candidate, FAU

### **Medical Students Directed in last 3 years:**

2017-present	Sarah Palumbo	Henderson High, FAU
2018	Bailey Pierce	FAU
2019	Jonathan Freeman	FAU
2020	Sarah Palumbo	FAU
	Caroline Temple	FAU
	Steven Shiba	FAU

### **Undergraduate Students Directed in last 5 years:**

2015	Lilian McKinley	University of Pennsylvania
2015	Laura Sprunt	Case Western
2016-2018	Alek Keller	University of Pittsburg
2016	Dillon Warr	Susquehana University
2017-2019	Alex Gitin	FAU
2017-2018	Ty Roachford	FAU
2017-2019	Ajay Desai	Henderson High, FAU
2019	Sanjana Chandran	Henderson High, FAU

2020            *Undergraduate training was prohibited due to COVID-19 pandemic restrictions.*

**High School Students Directed in last 3 years:**

2019            Sophie Gorup            St. Andrew's School, Boca Raton, FL

2020            Marlie Kahn            PineCrest School, Boca Raton, FL

## **Memberships and Service to Profession**

### Professional Societies

American Society for Biochemistry and Molecular Biology

American Association for Advancement of Science

American Society for Pharmacology and Experimental Therapeutics

Association of American Medical Colleges

Association of Professors of Human and Medical Genetics

### Institutional Responsibilities

2005-2016	Associate Director Weis Center for Research, Geisinger
2003-2016	Director, Research Education Weis Center for Research, Geisinger
1997- 2016	Chair, IACUC Weis Center for Research, Geisinger
2003-2016	Promotion Committee Weis Center for Research, Geisinger
2014-2016	Head, Translational Division Weis Center for Research, Geisinger
2015	Member, Geisinger-Regeneron Advisory Panel
2016-2018	Member, Admissions Committee FAU Schmidt College of Medicine
2017	Co-Chair, Strategic Vision Committee FAU Schmidt College of Medicine
2017	Member, CFO Search Committee (1) FAU Schmidt College of Medicine
2017-present	Member, Research Core Committee FAU Division of Research
2018	Member, Faculty Search Committee (3) FAU Schmidt College of Medicine
2019	Member, Faculty Search Committee (4)

FAU Schmidt College of Medicine

- 2020 Member, Vivarium Task Force  
FAU Division of Research
- 2020 Member, Faculty Search Committee (1)  
FAU College of Arts and Letters

National Responsibilities

- 2015-present Referee for following journals: American Journal of Physiology, Biochemistry
- 2016 Reviewer, Hypertension Study Section, NIH
- 2019 Reviewer, iHEAL Study Section, NIH

Memberships

- 1988-89 Member, Biochemistry Study Section, American Cancer Society
- 1990 Member, SCOR Review Committee, National Institutes of Health
- 1989-1994 Established Investigator Award, American Heart Association
- 1991-1995 Member, Pharmacology Study Section, National Institutes of Health
- 1993 Advisory Panel Member, "Future Directions in Neuroscience Research",  
National Institutes of Health
- 1993-1998 Editorial Board Member, Journal of Biological Chemistry
- 1996 Chairperson for ASPET Symposium on "Role of  $\alpha\beta$  subunits in G protein-mediated signaling", Experimental Biology '96 Meeting.
- 1996-2000 Co-Chair, Molecular Signaling I Study Section, American Heart Association
- 1998-2002 Member, Pharmacology Study Section, National Institutes of Health
- 2002-2005 Member, Executive Committee, American Society of Pharmacology and Therapeutics
- 2009 Reviewer, Glue Grant, National Institutes of Health
- 2007-2012 Regular Member of Molecular and Integrative Signal Transduction, National Institutes of Health
- 2016 Member, Vascular Biology, National Institutes of Health
- 2019 Member, HEAL Initiative, National Institute of Health

## **CURRICULUM VITAE**

Mario Jacomino, MD, MPH  
Associate Professor of Integrated Medical Science  
Florida Atlantic University Charles E. Schmidt College of Medicine  
777 Glades Rd, BC-71, Boca Raton, FL 33431  
Phone (561) 297-0723  
Email: mjacomin@health.fau.edu

### **Education:**

MPH	University of South Florida, Tampa, FL	December, 1999
MD	Ponce School of Medicine, Ponce, PR	May, 1988
BS	University of Puerto Rico, San Juan, PR	May, 1984

### **Post-Graduate Education:**

Public Health Leadership Institute of Florida University of South Florida, Tampa, FL	June 2006- July 2007
Public Health/Preventive Medicine Residency Palm Beach County Health Department, West Palm Beach, FL	July 1, 1999 - June 30, 2000
Pediatric Gastroenterology and Nutrition Fellowship Baylor College of Medicine, Houston, TX	July 1, 1992 - June 30, 1995
General Pediatrics Residency University of Florida, Jacksonville, FL	July 1, 1989 - June 30, 1992
Surgical and Anatomical Pathology Internship University of Florida, Jacksonville, FL	July 1, 1988 - June 30, 1989

### **Medical License:**

Florida, expires January 31, 2024

### **Work Experience:**

Associate Professor of Integrated Medical Science	Florida Atlantic University Charles E. Schmidt College of Medicine July 2016 - present
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Clinical Assistant Professor of Integrated Medical Science	Florida Atlantic University Charles E. Schmidt College of Medicine November 1, 2010-June 2016
Center Medical Director	Florida Department of Health Palm Beach County Health Department Lantana and Delray Beach, FL September 29, 2000 – October 31, 2010
Senior Physician	Florida Department of Health Palm Beach County Health Department West Palm Beach, FL January 16, 1996 - September 28, 2000
Instructor	Baylor College of Medicine Houston, TX Department of Pediatrics July 1995 - December 1995

**Additional Professional Experience:**

Clinical Assistant Professor	Nova-Southeastern University School of Osteopathic Medicine, Davie, FL Department of Pediatrics January 2004 - December 2010
Consultant	Pan American Health/ World Health Organization Washington DC October 1999 – November 2010
Pediatrician/Volunteer	Caridad Health Clinic Boynton Beach, FL January 1999 - present
Clinical Assistant Professor	Nova-Southeastern University School of Osteopathic Medicine, Davie, FL Department of Pediatrics June 1996 - June 1999
Chief Resident	University of Florida, Jacksonville, FL Department of Pediatrics January 1, 1992 - June 30, 1992

**Grants and Contracts:**



- Florida Blue Foundation, Build Healthy, Strong Communities Project/Program Grant - \$10,000 (January 2017- May 2017)
- Quantum Foundation, Community Health Center Research and Service Partnership - \$500,000.00 for 2 years (November 2013 - October 2015)
- Quantum Foundation, Community Health Center Research and Service Partnership - \$150,000.00 for 2 years (October 1, 2011 – December 31/2012)
- National Health Service Corps, Loan Repayment Program (February 21, 1996 - February 20, 1998)
- NIH Training Grant T32 DK 07664-03(04) (July 1, 1993 - June 30, 1995)

**Additional Skills:**

Fluent in both English and Spanish

**Editorial Board Appointments**

- Cureus Journal of Medical Science 2020-Present
- American Association of Medical Colleges: MedEd Portal – Peer Reviewer 2017 - Present

**Committee Assignments and Administrative Services**

- Senior Director for the Pathway Programs (JEDI Office), 2022- present
- Medical Spanish Standardized Curriculum Study. As part of the national study, a research team is currently developing and investigating medical Spanish proficiency assessment. As a recognized Medical Spanish faculty educator at the national level, I was invited to participate for the assessment exam, 2021-2022
- Member, Florida Clinical Skills Collaborative (FCSC) Consortium. Representatives from all 10 medical schools (8 MD and 2 DO medical schools) have come together to chart a common regional path forward after the discontinuation of the USMLE Step 2 Clinical Skills exam. 2021- present
- Diversity, Inclusion, Equity, and Culture (DICE) Inventory 2022
- Director of BS/MD at FAU-COM, 2021- present
- Faculty Director, The Marcus Integrative Health Educational Initiative Health Fairs 2020-present
- IMSD Search Committees (FOM Course Director, Pharmacologist, CPM Clerkship Director, Health Equity Thread Director) 2021-22
- IMSD Promotions & Tenure Guidelines – 2020 - present
- College of Medicine Admissions Committee 2020- present
- IMSD Search Committees (FOM Course Director, Pharmacologist, CPM Clerkship Director, Health Equity Thread Director) 2021-22

- Workgroup for Year 3 S&T transition for 2021-2022
- FOM 1, FOM 2, FOM 3 and FOM 4 grading committees 2018- present
- Year 3 Ob/Gyn grading committee 2018-present
- IMSD Search Committees (Assistant Dean for Medical Education, Medical Educator/Communication Thread Director) 2019-2020
- Council of Florida Medical Schools Deans (CFMSD) Pain Management Group  
<https://com-jax-emergency-pami.sites.medinfo.ufl.edu/wordpress/files/2019/01/Medical-School-Pain-and-Opioid-Curriculum-Framework-8-31-18.pdf>
  - Competency Director for Patient Care competency supporting medical students that have deficiencies in this competencies and provided practice sessions for medical students and reporting findings to SCRC to help students that need guidance/support and avoid further deficiencies and a referral to MSPPSC, 2016-present.
  - Student Competency Review Committee 2016- present
  - IMSD Faculty Review Advisory Committee 2016- present
  - FAU Office of Interprofessional Education and Practice, Associate Director 2011-present
  - LCME Steering Committee – Community Engagement subcommittee 2011-2012 (Provisional Accreditation), 2013-2014 (Full Accreditation); 2017-2018 (Reaccreditation)
  - Curriculum Integration and Program Evaluation Subcommittee (CIPEC) 2006 - present
  - Medical Student Promotions and Professional Standards Committee (MSPPSC) 2011-2019
  - College of Medicine Curriculum Committee (COMCC) 2010-present
  - Pediatric Interest group, faculty advisor 2011- present
  - Medical Spanish Interest group, faculty advisor 2011-present
  - Project RISHI (Rural India Social and Health Improvement), faculty advisor 2021- present

## **Educational Activities**

### **Teaching**

- Co-director Post- Baccalaureate program – 2020 - present.
- Developed and implemented two integrated sessions (Pediatric/Psychiatry and Pediatric/Ob-Gyn) for Year 3 students on Tuesday afternoon sessions called Doctors rounds during Academic Half Day. 2019 - present
- Master of Biomedical Science: Prepare three lectures/sessions as per the schedule of the Biomedical Concepts and Translation Application course (PCB6933) and score questions completed by the students in the open book exam that is part of the assessment of the course. 2019 - present
- Leadership role in the FAU Office of IPE and Practice planning, preparing and implementing new IPE activities from Year 1 to 4 and including Year 3 IPE Sim Center (16 sessions) with the introduction of telehealth and Year 4 Mock page activity in TTR course (1 session). The activities were moved to an online format

due to COVID-19. I am also in the process of developing an international Interprofessional Service Learning Project with faculty from FAU Nursing and Social Work to have students for the three professions attend the activity in conjunction with their counterpart students at the University of Quindio in Quindio, Colombia in the summer of 2023. 2011- Present.

- Since I was hired at FAU- COM, I was involved in developing the curriculum for the Foundations of Medicine (FOM) courses. I was one of two course directors for the FOM courses, which are clinical course given to medical students in Year 1 and 2 of medical school. The goal of the courses is to teach the medical students the skills, behaviors, knowledge and attitudes to prepare them to be a competent and compassionate physician. During my time as a co-course director of the FOM courses, I prepared and gave many lectures, facilitated many small group sessions and multiple Simulation Center activities/discussions. Since 2014, I also organize/oversee the standardized patient at FAU-COM.
- Stop the Bleed was included as part of the orientation period of every medical student at FAU-COM, 2018 - present
- Facilitator, Synthesis and Transition Course: Inquiry Group (IQ), Charles E. Schmidt 2018-present
- Immunization Lecture in PT4 2013- present
- In the GI module course, 2012-present:
  - Embryology of the GI tract
  - Child Nutrition
- CNS Infections in Neuro-Science and Behavior course, 2012-present
- Foundations of Medicine course lectures and Small group discussion, 2015 - present:
  - “Working with Interpreters”
  - “Environmental Health”
  - “Communicating with Pediatric patients and their caretakers”
  - “Discussing Abuse”
  - “Abdominal exam”
  - “Child Development”

#### **Curriculum and Educational Materials**

- Researched, developed, implemented, and led many activities in the FOM courses and Simulations Center including syllabus, schedule, session plans, benchmarks, 2011 - present
- Educational materials that I developed in the FOM courses were utilized by Dr. Joanna Drowos when she went to Capital Medical University in Beijing, China in spring 2017 to provide continuing education for the country's best 40 general practice doctors.

#### **Mentoring and recommendations:**

Guided/mentored and nominated faculty and students to receive awards and recognition for their work and to increase FAU-COM visibility and reputation.

- Zaimary Meneses, MS3 - received the FAU Graduate Diversity Fellowship, 2021

- Monica Espinosa, MS3 - Delores A. Auzenne Fellowship from FAU, 2021.
- Michelly Gonzales, MS3 – The Dr. Daniel B. Newell & Aurel B. Newell Doctoral Fellowship from FAU, 2021
- Stephanie Byun, MS3 – FAU Graduate Fellowship of Academic Excellence, 2021
- From 2021 AMA Physicians of Tomorrow Scholarship
  - Christopher Galvin – David Jones Peck, MD Scholarship for Health Equity
  - Tofunmi Oshodi – Underrepresented in Medicine category
  - Brooke Rothberg – AMA Alliance Grassroots Physicians of Tomorrow Scholarship
  - Laritza Diaz – Dream MD Equity Scholarship
- Sa’Rah McNeely, MS3 - 2021 United Health Louis Stokes Health Scholarship
- Sa’Rah McNeely, MS3 – National Health Service Corps, 2021
- Dalina Lafitta, MS2 – Paul and Daisy Soros Fellowship for New Americans 2021
- Whitney Winslow, MS3 nominated and received the 2020 Vertical Bridge Charitable Network Scholarship.
- Tofunmi Oshodi, MS3 nominated and received the FAU Graduate Diversity Fellowship, 2020.
- Corina Lopez, MS4 nominated to the prominent National Alumni Council Scholarship from the National Medical Fellowship (NMF), 2020.
- Hanna Mielke-Maday, MS3 was awarded 2nd place in the Arts, Education, and Social Sciences Division and a \$500 dollars scholarship for her poster titled “Medical Student Attitudes Toward Substance Use Disorder Across The Undergraduate Medical Education” that was submitted to FAU’s 11th Annual Graduate and Professional Student Association (GPSA) Research Day, 2020
- Jay Meyer, MD, Affiliate Clinical Instructor at FAU Clinical Skills Simulation Center, 2020
- Tofunmi Oshodi, MS3 – nominated to NMF Emerging Scholars Award for 2020-2021.
- Christine Adams, MS4 – nominated to Dr. William Lascheid Memorial Medical School Scholarship, 2020.
- Bianca Biglione, MS3 - nominated and received the Delores A. Auzenne Fellowship, 2020.
- Zaimary Meneses, MS2 – nominated to Paul and Daisy Soros Fellowship for New Americans, 2020
- Tofunmi Oshodi, MS3 – Josiah Macy, Jr. Foundation Fellowship, 2020
- Laritza Diaz, MS3 – nominated to Josiah Macy Jr. Foundation Fellowship in 2020 and also nominated to Dr. Prentiss Taylor Scholarship, 2020
- Sabina Fridman, MS2 – Kaiser Southern Ca Oliver Goldsmith, MD, 2020
- From Palm Beach County Heroes in Medicine Awards 2020:
  - Alicia Rootes, MBA – Bruce Rendina Professional Hero
  - Jennifer Caceres, MD – Tulisa Larocca, MD Leadership Hero
  - Joseph Ouslander, MD – Health Care Innovation Hero
  - Bianca Biglione, MS3 – Medical Student Community Hero

- From 2020- 2021 AMA Physicians of Tomorrow Scholarship
  - Christopher Galvin, MS3 – David Jones Peck, MD Scholarship for Health Equity category
  - Tofunmi Oshodi, MS3 – Underrepresented in Medicine category
  - Brooke Rothberg, MS3 – AMA Alliance Grassroots Physicians of Tomorrow Scholarship category
  - Laritza Diaz, MS3 – Dream MD Equity Scholarship category
- Whitney Winslow, MS3 - 2019 Vertical Bridge Charitable Network Scholarship.
- Anthony Campbell, MS4 received the prominent National Alumni Council Scholarship from the National Medical Fellowship (NMF), 2019.
- Sa’Rah McNeely, MS3, was selected to participate in the American Society of Hematology (ASH) Minority Medical Student Award Program (MMSAP), 2020
- Erinn J. Afflick, MD, Affiliate Instructor at FAU Clinical Skills Simulation Center. Dr. Afflick was accepted to pursue a residency in Family Medicine at Tidelands Health Clinic in Myrtle Beach, South Carolina starting July 1, 2020.

**Awards:**

- University Faculty Service Award 2020-2021. This award is given to a Florida Atlantic University faculty in Recognition for Outstanding Service to the Community, April 2021
- Michael L. Friedland, MD Educational Award. The award is presented to a FAU Charles E. Schmidt College of Medicine faculty who epitomizes the attributes of Dr. Friedland: **Integrity, Vision, Leadership and Dedication**, February 2020
- Outstanding Simulation Center Instructor  
FAU Charles E. Schmidt College of Medicine, October 2019
- Heroes in Medicine, Community Outreach Wellness Prevention Hero Award  
Palm Beach County Medical Society, May 2019
- C.L. Brumback Award to Pediatric Interest Group  
Florida Department of Health Palm Beach County, April 2016
- Gold Humanism Honor Society  
FAU Charles E. Schmidt College of Medicine, May 2014
- Heroes in Medicine, Health Care Educator  
Palm Beach County Medical Society, May 2014
- 2013 Outstanding Course Director  
FAU Charles E. Schmidt University College of Medicine, February 2014

- Outstanding Contribution to Community Service Award, Pediatric Interest Group, FAU Charles E. Schmidt College of Medicine, August 2013
- Graduate Professional Student Association, Organization Advisor of the year, Florida Atlantic University, November 2012
- Outstanding Contribution to Community Service Award, Pediatric Interest Group, Florida Atlantic University College of Medicine, May 2012
- The President's Outstanding Service Award  
Caridad Clinic, Boynton Beach, FL, March 2009
- One Child at a Time Award, West Palm Beach, FL, March 2008
- Employee of the Quarter, Delray Beach, FL, March 2006
- Richard G. Skinner, Jr. Award, Jacksonville, FL, June 1992
- Emergency Department Award, Jacksonville, FL, June 1991
- Most Outstanding First Year Pediatric Resident Award  
Jacksonville, FL, June 1990

### **Publications:**

1. Jo Ann M. Bamdas, Peter Averkiou, **Mario Jacomino**. Service-Learning Programs and Projects for Medical Students Engaged with the Community. *Cureus* 14(6): e26279 (June 2022) <https://doi.org/10.7759/cureus.26279>
2. Nadia K. Sial, **Mario Jacomino**, Hila Miskin, Katherine Freeman, Todd Blum, Carly Blum, Alan Whiteman, Kevin Root, Alana Kosches, and George R. Luck. The Impact of COVID-19 on Completion of Advance Directives in Healthcare Workers in the United States. *The Journal of Medical Practice Management*. [www.physicianleaders.org](http://www.physicianleaders.org) January/February 2022.
  - a. [http://digitaleditions.sheridan.com/publication/?m=63524&i=736391&view=articleBrowser&article\\_id=4202268&ver=html5](http://digitaleditions.sheridan.com/publication/?m=63524&i=736391&view=articleBrowser&article_id=4202268&ver=html5)
3. Jennifer Attonito, Whitney Van Arsdale, Keren Fishman, Maral Darya, **Mario Jacomino**, and George Luck. Sociodemographic Disparities in Access to COVID-19 vaccines Upon Initial Rollout in Florida. *Health Affairs* 2021, Vol. 40, No. 12 <https://doi.org/10.1377/hlthaff.2021.01055>
4. Amanda M. Marsh, Whitney Winslow, Jordyn Cohen, Slee Yi, **Mario Jacomino**, George R. Luck, Robert Moreland, and Lawrence Lottenberg. Student

- Perspectives on Implementing Stop the Bleed Training into Medical School Curriculum. *The American Surgeon* (2021): p.313482110508–31348211050829  
 a. <https://doi.org/10.1177/00031348211050829>
5. Nadia Sial, **Mario Jacomino**, Todd Blum, Carly Blum, Alan Whiteman, Deirdre Sommerlad-Rogers, and George Luck. COVID-19 Vaccine Acceptance Among the General Public in the United States. *The Journal of Medical Practice Management*. [www.physicianleaders.org](http://www.physicianleaders.org) September/October 2021.  
 a. [http://digitaleditions.sheridan.com/publication/?m=63524&i=722377&view=articleBrowser&article\\_id=4119998&ver=html5](http://digitaleditions.sheridan.com/publication/?m=63524&i=722377&view=articleBrowser&article_id=4119998&ver=html5)
  6. Amanda M. Marsh, Whitney Winslow, Jordyn Cohen, Slee Yi, **Mario Jacomino**, George R. Luck, Robert Moreland, and Lawrence Lottenberg. Student Perspectives on Implementing Stop the Bleed Training into Medical School Curriculum. *THE AMERICAN SURGEON*, 2021, Vol. 0(0) 1–5  
 a. <https://DOI:10.1177/00031348211050829>
  7. Lisa C. Martinez, **Mario Jacomino**, and Peter Averkiou. Introduction to Telemedicine for Pre-Clerkship Students Using Standardized Patients. Association of American Medical College. i Collaborative. April 3, 2020  
<https://icollaborative.aamc.org/resource/5059/>
  8. Joanna Drowos, **Mario Jacomino**, Mark J. Di Corcia, Lee A. Learman. Using a Donor-Centered Development Model to Engage Community Preceptors. *SOCIETY OF TEACHERS OF FAMILY MEDICINE MESSENGER: Education Column*, August 2016.  
<https://www.stfm.org/publicationsresearch/publications/educationcolumns/2016/august/>
  9. **Mario Jacomino**, Jo Ann M. Bamdas, Kathryn Keller, Elwood Hamlin, Michele Hawkins, Shirley Gordon: An Innovative Approach to a 4-year Interprofessional Education Program with University Students and Geriatric Mentors. *Journal of Interprofessional Education and Practice*. 100-103 (2015).  
 DOI: [10.1016/j.xjep.2015.10.003](https://doi.org/10.1016/j.xjep.2015.10.003)
  10. **Mario Jacomino**, Pramila Shukla and Susan J. Henning: Use of amphotropic vectors for gene transfer in human colon carcinoma cells. *Human Gene Therapy*. 8: 835 – 841 (May 1997).  
 a. Published Online: 20 Mar 2008 <https://doi.org/10.1089/hum.1997.8.7-835>
  11. **Mario Jacomino**, Chantal Lau, Sylvia Z. James, Pramila Shukla and Susan J Henning: Gene transfer into fetal rat intestine. *Human Gene Therapy*. 7: 1757 - 1762 (September 1996)  
 a. Published Online: 20 Mar 2008 <https://doi.org/10.1089/hum.1996.7.14-1757>
  12. James W. Sandberg, Chantal Lau, **Mario Jacomino**, Milton Finegold and Susan

J. Henning: Improving access to intestinal stem cells as a step toward intestinal gene transfer. *Human Gene Therapy*. 5: 323 - 329 (March 1994)

a. Published Online: 19 Mar 2008 <https://doi.org/10.1089/hum.1994.5.3-323>

**Abstracts:**

Savita Kumar, Mario Jacomino: Varicella Surveillance/Control for Palm Beach County, FL 1999-2000. 34th National Immunization Conference, Washington, DC (2000)

Mario Jacomino, Chantal Lau, Pramila Shukla, Sylvia Z. James and Susan J. Henning: Gene transfer into fetal rat intestine using a grafting strategy. *JOURNAL OF PEDIATRIC GASTROENTEROLOGY AND NUTRITION* vol. 21 No 3: A82 p 344 (1995)

Mario Jacomino, Pramila Shukla and Susan J. Henning: A human in vitro model for intestinal gene transfer. *GASTROENTEROLOGY* Vol. 108: A293 (1995)

**Presentations at Meetings:**

- Winning the Ventilator Lottery: Analyzing the variability in scarce resource allocation protocols through a COVID-19 simulation. Sabina Fridman, MS3 BS, Victoria Danan, MS3 BA, Jordyn Lee, MS2 BS, Alana Kosches, BA, Mario Jacomino, MD MPH, George R. Luck, MD FAAHPM. Scholar Poster presentation at the 2022 Annual Assembly of Hospice and Palliative Care, taking place February 9-12, 2022 in Nashville, TN
- Middle and High School Students as Standardized Patients: A Pediatric Standardized Patient Case for Pre-clerkship Students. Peter Averkiou, Lisa Martinez and Mario Jacomino. Virtual 2021 GEA Regional Spring Conference from April 20-22, 2021.
- Population Characteristics of Florida Zip Codes Offering COVID-19 Vaccines in Publix Pharmacies as of January 2021. Maral Darya, MS1, Keren Fishman, MS1, Alana Kosches, Carly Green, Mario Jacomino, MD, MPH, Jennifer Attonito, PhD and George Luck, MD, FAAHPM received the 1st place in the Health and Life Sciences category at The FAU's Graduate and Professional Student Association (GPSA) 12th Annual Graduate Research Day virtually on April 15-18, 2021.
- Breathing for Two: An Analysis of Pregnancy and Scarce Ventilator Allocation in the COVID-19 Pandemic. Sabina Fridman, MS2; Victoria Danan, MS2; Sara Twadell, MS3; Jordy Godinez, MD; Mario Jacomino, MD, MPH and George Luck, MD, FAAHPM received the 2nd place in the Health and Life Sciences category at The FAU's Graduate and Professional Student Association (GPSA) 12th Annual Graduate Research Day virtually on April 15-18, 2021.
- At FAU COM Medical Student Research and Scholarship Day held on 2/29/2021:



1. Evaluating the effect of exercise videos on medical student satisfaction and knowledge of human anatomy. Ashley Gureck, MS4; Danielle Steinberg, MS4; David Jooryabi, MS1; Veronica Hagan, MS1; Samantha Matott, MS1; Daniel Jacobs, MS1; Debra Weiss, DO; Mario Jacomino, MD; Darin Trelka, M.D; George Luck, M.D.
  2. Planning in a Pandemic: The Impact of COVID-19 on Completion of Advance Directives in Healthcare Workers. Nadia Sial, MS2; Hila Miskin, DO; Katherine Freeman-Costin, DrPH; Mario Jacomino, MD, MPH; George Luck, MD, FAAHPM.
  3. Deprioritization of Vaccinating Children below 18 years of Age: A closer look. Brooke Rothberg, MS3; Christina Stamatiou, MS3; Nadia Sial, MS2; Katherine Freeman PhD; Mario Jacomino, MD, MPH; George Luck MD, FAAHPM.
  4. COVID-19 Vaccine Hesitancy: A closer look. Christina Stamatiou, MS3, Nadia Sial, MS2; Katherine Freeman PhD; Mario Jacomino, MD, MPH; George Luck, MD, FAAHPM.
  5. COVID-19 Vaccine Acceptance among the General Public. Nadia Sial, MS2; Mario Jacomino, MD, MPH; Todd Blum, PhD, MBA; Deirdre Sommerlad-Rogers, PhD; George Luck, MD,FAAHPM.
  6. Controversy in the Public Health Sphere: Is there a Relationship between Belief in the Effectiveness of Face Masks and Acceptance of a COVID-19 Vaccine? Giovanna Pires, MS3; Nadia Sial, MS2; Hila Miskin, DO; Katherine Freeman-Costin, DrPH; Mario Jacomino, MD, MPH; George Luck, MD,FAAHPM .
  7. Use of exclusion criteria for ventilator allocation: How Florida can minimize racial disparities amidst a pandemic. Sara Twadell, MS3; Sabina Fridman, MS2; Victoria Danan, MS2; Mario Jacomino, MD, MPH and George Luck, MD, FAAHPM.
  8. Breathing for Two: An analysis of pregnancy and scarce ventilator allocation in the COVID-19 pandemic. Sabina Fridman, MS2; Victoria Danan, MS2; Sara Twadell, MS3; Jordy Godinez, MD; Mario Jacomino, MD, MPH and George Luck, MD, FAAHPM.
- Advance Directives: Are There Too Many Options on the Menu? Christine A. Adams, MS3, Bailey Pierce, MS3, Adriana Bautista, BS, Samantha Kassner, MS2, Katherine Johnson, MS2, Ryan A. Witcher, BS, Sonya Chistov, MS2, Mario Jacomino, MD, MPH, and George R. Luck, MD. 2020 Conference on Medical Student Education held on 1/31/2020 in Portland, OR

- Should Stop the Bleed (STB) Training Be Integrated Into the Medical School Curriculum? Jordyn Cohen, MS3, Whitney Winslow, MS3, Mario Jacomino, MD, MPH, George R. Luck, MD. Palm Beach Medical Society State of Medicine Dinner Poster Symposium held at Airport Hilton Palm Beach in West Palm Beach, FL on January 30, 2020.
- Fearing Pain at the End of Life: An Unrecognized Deficit in Advance Directives. Hila Miskin, DO, Ross Mellman BA, Daniel Parker, MS2, Adriana Bautista, BA, Jordan Cohen, MS3, Mario Jacomino MD, MPH, George R. Luck MD. At Palm Beach Medical Society State of Medicine Dinner Poster Symposium held at Airport Hilton Palm Beach in West Palm Beach, FL on January 30, 2020.
- At FAU's 11<sup>th</sup> Annual Graduate and Professional Student Association (GPSA) Research Day, held on a virtual platform from 4/17/2020 to 4/20/2020.
  1. Should Stop the Bleed (STB) Training Be Integrated Into the Medical School Curriculum? Submitted by Whitney Winslow, MS3  
Jordyn Cohen, MS3, Whitney Winslow, MS3, Mario Jacomino, MD, MPH, George R. Luck, MD
  2. Medical Student Attitudes Toward Substance Use Disorder Across The Undergraduate Medical Education. Submitted by Hanna Mielke-Maday, MS3  
Sonya Chistov, MS2, Hanna Mielke-Maday, MS3, Riyana Lalani, MS3, Marjorie Kragel, MS3, Mario Jacomino MD, MPH, George R. Luck, MD  
\*\*\*Awarded 2<sup>nd</sup> place in the Arts, Education, and Social Sciences Division
- At FAU COM Medical Student Research & Scholarship Day held on 2/28/2020:
  1. Advance Directives: Are There Too Many Options on the Menu? Christine A. Adams, MS3, Bailey Pierce, MS3, Adriana Bautista, BS, Samantha Kassner, MS2, Katherine Johnson, MS2, Ryan A. Witcher, BS, Sonya Chistov, MS2, Mario Jacomino, MD, MPH, and George R. Luck, MD
  2. Advance Directives: The Barrier of Choice Overload. Sonya Chistov, MS2, Samantha Kassner, MS2, Katherine Johnson, MS2, Christine A. Adams, MS3, Ryan A. Witcher, BS, Mario Jacomino, MD, MPH and George R. Luck, MD
  3. Permission to Hasten Death: A Review of Advance Directives. Lauren Daley, MS3; Ross Mellman, BA; Jade Vorster, MS3; Mario Jacomino, MD, MPH; George R. Luck, MD
  4. I Have To Choose What I Want After I Die Too? A Review of Advance Directives. Sabina Fridman, MS1, Adriana Bautista, BS, Mario Jacomino, MD, MPH, George R. Luck, MD

5. Should Stop the Bleed (STB) Training Be Integrated Into the Medical School Curriculum? Jordyn Cohen, MS3, Whitney Winslow, MS3, Mario Jacomino, MD, MPH, George R. Luck, MD
  6. Assessing and Reforming Resident Attitudes Toward Addiction and Patients with Substance Use Disorders. Ashley Innis, MS3, Vihasa Govada, MS3, Sonya Chistov, MS2, Allison Ferris, MD, George R. Luck, MD, Mario Jacomino, MD, MPH
  7. Residents' Attitudes, Beliefs, and Knowledge of Opioids. Keshav Godha, MS3, Lynn Chi, MS3, Samuel Mansour, MS3, Whitney Winslow, MS3, Adrian Artiles, MD, Alexandra Gonzalez Velez, MD, Mario Jacomino, MD, MPH, Allison Ferris, MD, George R. Luck, MD
  8. Up in Smoke: Residents' Attitudes, Beliefs and Knowledge of Medical Marijuana. Vincenzo Giovinazzo MS2, Whitney Winslow, MS3, Sierra Conine, MS1, Kendall Johnson, MD (PGY2), Jared Kelly, MD (PGY2), George R. Luck, M.D., Allison Ferris, MD, Mario Jacomino, MD, MPH
  9. Medical Student Attitudes towards Substance Use Disorder Across The Undergraduate Medical Education. Sonya Chistov, MS2, Hanna Mielke-Maday, MS3, Riyana Lalani, MS3, Marjorie Kragel, MS3, Mario Jacomino MD, MPH, George R. Luck, MD
  10. Knowledge and Beliefs of Medical Students surrounding opioid use, opioid use disorder, and related medical education: A Preliminary Survey. Connor Montgomery, MS3, Jared Goldstein MS3, Whitney Winslow, MS3, Ned Shashoua, MS1, Jared Florio, Mario Jacomino, MD, George R. Luck, MD
  11. Medical Educator's Attitudes on Medical Marijuana and its place in Clinical Practice and Medical Education. Zachary Belnavis, MS3; Jade Vorster, MPH, MS3; Vincenzo Giovinazzo, MS2; Allison Ferris, MD; Mario Jacomino, MD; George R. Luck, MD
  12. The Blunt Truth: Medical Students' Attitudes, Beliefs and Knowledge of Medical Marijuana. Michelle Wilson MS3; Lauren Daley, MS3; Vincenzo Giovinazzo MS2; Jared Florio; Whitney Winslow MS3; Mario Jacomino, MD; Dr. Allison Ferris; George R. Luck, MD
- Jo Ann M. Bandas, Ph.D., Mario Jacomino, M.D., M.P.H., & Beth King, Ph.D., APRN, PMHNP-BC. What's the Value of Intergenerational, Interprofessional Mentoring Experiences for Seniors? Poster presented at SGEA 2019 – Orlando, FL, March 2019

- Martinez, L., Cualing, P., Jacomino, M., Weinert, D. Clinical Ultrasonography as part of clinical skills teaching. Conference on Medical Student Education in Jacksonville, FL, January 31-February 3, 2019.
- Chiplock, A., Gundersen, E., Jacomino, M., Sherling, D., & Caceres, J. *Developing a framework for competency integration across the curriculum*. Paper presented at the annual meeting of the Medical Library Association, Atlanta, GA. May 2018.
- Tiffany Moxham, James Cresanta, Mario Jacomino, Mira Sarsekeyeva: *Implementation and adaptation of an integrated Evidence-Based Medicine program across the first year curriculum in a new medical school*. Southern Group on Educational Affairs (SGEA), March 2014.
- Julie C. Servoss, MD, MPH; Gloria Zimmerman McAllister, PhD; Mark Goldstein, BS; Mira Sarsekeyeva, MD; Bruce Jones, PhD; and Mario Jacomino, MD, MPH: *Standardized Professional Patients, Simulation Center Experiences and Peer Teaching in Anatomy: Innovative Methods to Develop the Physician Professional Identity In Minority Middle and High School Students*. Southern Group on Educational Affairs (SGEA), March 2014.
- Mario Jacomino, MD, MPH; Mira Sarsekeyeva, MD; Michelle Duhaney, DO; Jo Ann Bamdas, Ph.D.; Michele Hawkins, PhD, MSW; Kathryn Keller, PhD, RN; Lindsey Henson, MD, PhD; and Joseph Ouslander, MD: *Interprofessional Education: Evaluation of a Pilot Program*. Southern Group on Educational Affairs (SGEA), March 2014.

Updated: 7/20/2022

CURRICULUM VITAE  
**Andrew V. Oleinikov****Institutional Affiliation**

Associate Professor, Department of Biomedical Science, Charles E. Schmidt College of Medicine, Florida Atlantic University

Email: [aoleinikov@health.fau.edu](mailto:aoleinikov@health.fau.edu)

**EDUCATION**

- Ph.D. (1989)**                    **Biology (Biochemistry/Molecular Biology)**  
(1985-1988)                    Moscow State University, Moscow, Russia
- M.S. (1977-1983)**           **Engineering Physics (specialization in Biophysics and Molecular Biology)**  
(HONORS)                    St. Petersburg Polytechnical University, Physical-Mechanical Faculty, Department of  
Biophysics, St. Petersburg, Russia

**EMPLOYMENT**

- 2013–**                    **Associate Professor**, Department of Biomedical Science, College of Medicine,  
Florida Atlantic University, Boca Raton, FL
- 2004-2013**           **Principal Scientist/Independent Lab**, Seattle Biomedical Research Institute, Seattle, WA
- 2000 - 2003**           **Principal Scientist and Group Leader**, CombiMatrix Corp., Mukilteo, WA
- 1997 - 2000**           **Research Assistant Professor**, Department of Pediatrics, Division of Nephrology School of  
Medicine, University of California, Davis
- 1995 - 1996**           **Postdoctoral Fellow with Prof. S.P. Makker**, Department of Pediatrics, Division of  
Nephrology, School of Medicine, University of California, Davis
- 1991 - 1995**           **Postdoctoral Fellow with Prof. R.R. Traut**, Department of Biological Chemistry, School of  
Medicine, University of California, Davis
- 1988 – 1991**           **Research Scientist**, Protein Chemistry Lab, Institute of Protein Research, Russian Academy of  
Science, Pushchino, Russia.
- 1985 - 1988**           **Graduate PhD Student with Prof. Yu.B. Alakhov (PhD Dissertation defended at Moscow  
State University in 1989)**, Protein Chemistry Lab, Institute of Protein Research, Russian  
Academy of Science, Pushchino, Russia.
- 1983 - 1985**           **Research Associate**, Protein Chemistry Lab, Institute of Protein Research, Russian Academy of  
Science, Pushchino, Russia.

**CREATIVE ACTIVITY****Patents**

- 1. Oleinikov AV.** “*In vitro* protein translation microarray device”, (2002) # 10/229714 and 2004/0043384 (filed with US Patent and Trademark Office and European Patent Office).
- 2. Oleinikov AV.** “Microarray synthesis and assembly of gene-length polynucleotides”. US Patents #7,323,320 (issued 01-29-2008), #7,563,600 B2 (issued 07-21-2009), # 8,058,004 (issued 11-15-2011), and #9,023,601 (issued 05-05-2015) by US Patent and Trademark Office, also filed with European Patent Office).
- 3. Fried M, Duffy PE, Francis S, Wendler JP, Mutabingwa TK, Oleinikov AV.** “Malaria vaccines” Patent #7,655,247 B2 (issued 02-02-2010) and #8,012,493 B2 (issued 09-06-2011) by US Patent and Trademark Office. Assignees: SBRI and USA by Secretary of Army.

**EXTERNAL GRANTS**

**Short summary.** Dr. Oleinikov has a substantial history of funding by various external agencies for the **total of more than 30 million dollars**. He was awarded more than **2.5 million dollars in direct cost** on external grants from NIH which he obtained as the *sole principal investigator*. In addition, he was a collaborator on two consortium grants from Bill and Melinda Gates Foundation, on which he has also served as the PI at the Seattle Biomedical Research Institute in 2011 – 2012 for the total amount of more than **28 million dollars**.

**External grants during last 5 years at FAU (resulted in total awarded funding of \$1,972,252)****ONGOING Research Support**

1R21AI105506-01A1 (Oleinikov, PI) 02/01/2016 – 01/31/2018 (NCE till 01/31/2019)  
NIH/NIAID Direct cost \$275,000; **Total cost: \$411,125**

**Mechanisms of placental dysfunction in pregnancy malaria**

The proposal will test our hypothesis about potential role of proteins of the megalin transporting/signaling system in the placental transfer of nutrients and regulatory molecules, and association of their abundance/distribution with placental malaria and/or with low birth weight. One paper has been published.

Role: PI

1R21HD092779-01 (Du and Oleinikov, MPIs) 07/01/2017 – 06/30/2019  
NIH/NICHD Direct cost \$275,000; **Total cost: \$400,154**

**Placenta-on-a-Chip Sensing Platform to Study Placental Malaria**

This project will apply microfluidic organ-on-a-chip technology and biosensing technologies to develop novel placenta-on-a-chip sensing platform and validate it using placental malaria as a model.

Role: MPI

1R41AI129130-01A1 (Oleinikov, PI) 08/01/2017 – 06/30/2018  
NIH/NIAID Direct cost \$125,000; **Total cost: \$150,000**

**Highly sensitive isothermal method and instrument for field diagnostics to facilitate malaria eradication**

This project will adapt a novel and highly sensitive DNA diagnostics technology for early detection of the most virulent form of malaria caused by Plasmodium falciparum.

Role: PI

**COMPLETED Research Support**

R01HD058005 (Oleinikov, PI) 12/18/2008 – 11/30/2014  
NIH/NICHD **Total cost at FAU only: \$309,238** (Total \$2,334,148)

**Pathways of Maternal Anemia**

The goal of this project is to identify potential immunological and transcriptional pathways and mediators that are pivotal in the pathogenesis of malaria associated maternal anemia. One published and two manuscripts are in preparation.

Role: PI

R01AI092120-01 (Oleinikov, PI) 03/01/2011 – 02/28/2016  
NIH/NIAID **Total cost at FAU only: \$701,735** (Total \$1,629,560)

**Identification of vaccine candidates against severe malaria**

The goal of this project is to better understand the protective humoral immune responses against PfEMP1 family of infected erythrocyte surface proteins in severe malaria in children and identify PfEMP1 domains as vaccine candidates against severe malaria syndromes. Four publications resulted from this work, and a number of manuscripts are currently in preparation.

Role: PI

**Other External Grants (pre-FAU time). Resulted in total awarded funding of > \$29,000,000**

R21AI064503-01 (Oleinikov, PI) 09/21/07-08/31/09  
NIH/NIAID Direct cost \$275,000

**High throughput analysis of malaria antigens**

Role: PI

- 1364 (Duffy, PI) 07/31/2005-12/31/2012  
 FNIH/Grand Challenges in Global Health Direct cost \$17,830,000  
**Protective immunity against severe malaria in young children** (Consortium grant)  
 Role: Collaborator (PI at SBRI 2/1/2011 – 12/31/2012)
- 47029 (Duffy, PI) 10/01/2007-10/01/2012  
 Bill and Melinda Gates Foundation Total cost \$8,998,623  
**Malaria Antigen Discovery Program - Pregnancy Malaria Initiative** (Consortium grant)  
 Role: Collaborator (PI at SBRI 2/1/2011 – 12/31/2012)
- R56AI083668 (Oleinikov, PI) 09/24/2010-02/29/2012  
 NIH/NIAID Direct cost \$250,000  
**High throughput screening for anti-adhesion drugs to treat severe malaria**  
 Role: PI
- 1R43-HG02461 (Oleinikov, PI) 2002  
 NIH/NIAID Direct cost: \$100,000  
**Self-assembling Protein Microchips**  
 Role: PI

**PUBLICATIONS (38 Journal articles and 3 chapters)****Hirsch index = 21**

Total number of citations of 38 journal publications (excluding 3 book chapters) &gt; 1100

Average citation for all papers including recently published = 29.5/publication

**Publications during last 5 years (while at FAU)****BOOK CHAPTERS**

1. Duffy PE, Acharya P., Oleinikov AV – Cytoadherence. (2015) in book **“Encyclopedia of Malaria”**, (in press) eds. M. Hommel and P.G. Kremsner, Springer Science and Business Media, Springer-Verlag GmbH, Heidelberg, Germany (Springer Science Business Media New York (outside the USA))

**PEER REVIEWED PAPERS IN PRINT**

1. Fried M, Avril M, Chaturvedi R, Fernandez P, Lograsso J, Narum D, Nielsen MA, Oleinikov AV, Salanti A, Saveria T, Williamson K, Dicko A, Scherf A, Smith JD, Theander TG, Duffy PE – Multilaboratory Approach to Preclinical Evaluation of Vaccine Immunogens for Placental Malaria (2013) **Infection & Immunity**, 81 (2), p. 487-495 (Cited by 28, Journal impact factor = 4.66)
2. Saveria T, Oleinikov AV, Williamson K, Chaturvedi R, Lograsso J, Keitany G, Fried M, Duffy PE – Antibodies to E.coli expressed C-terminal domains of Plasmodium falciparum VAR2CSA inhibit binding of CSA-adherent parasites to placental tissue. (2013) **Infection & Immunity**, V.81 (4), p. 1031-1039 (Cited by 10, Journal impact factor = 4.66)
3. Gullingsrud J, Saveria T, Amos E, Duffy PE, Oleinikov AV\* – Structure-function-immunogenicity studies of PfEMP1 domain DBL2βPF11\_0521, a malaria parasite ligand for ICAM-1. (2013) **PLoS One**, V. 8(4), p. e61323 (Cited by 12, Journal impact factor = 4.49)
4. Gullingsrud J, Milman N, Saveria T, Chesnokov O, Williamson K, Srivastava A, Gamain B, Duffy PE, Oleinikov AV\* – High throughput screening platform identifies small molecules that prevent sequestration of *Plasmodium falciparum*-infected erythrocytes. (2015) **J. Infect. Diseases** V. 211 (7): 1134-1143. doi: 10.1093/infdis/jiu589. (Cited by 2, Journal impact factor = 6.00)
5. Tcherniuk SO and Oleinikov AV – Pgp efflux pump decreases the cytostatic effect of CENP-E inhibitor GSK923295. (2015) **Cancer Letters** V. 361 (1), p. 97–103 (Cited by 8, Journal impact factor = 6.38)
6. Tcherniuk SO, Chesnokova O, Oleinikov IV, Potopalsky AI, Oleinikov AV – Anti-malarial effect of semi-synthetic drug Amitozyn. (2015) **Malaria J.** V. 14, p. 425-434 (Cited by 2, Journal impact factor = 3.34)
7. Lybbert, J. Gullingsrud J, Chesnokov O, Turyakira E, Dhorda M, Guerin PJ, Piola P, Muehlenbachs A, Oleinikov AV\*. Abundance of megalin and Dab2 is reduced in syncytiotrophoblast during placental malaria,

which may contribute to low birth weight. (2016) *Scientific Reports* 6, 24508; doi: 10.1038/srep24508. (Cited by 3, Journal impact factor = 5.47)

8. Therniuk SO, Chesnokova O, Oleinikov IV, Oleinikov AV – Nicotinamide inhibits the growth of *P. falciparum* and enhances the antimalarial effect of artemisinin, chloroquine and pyrimethamine. (2017) *Mol. Biochem. Parasitol.* V. 216, p. 14-20 (Recently published)

### CONFERENCE ABSTRACTS

During last 5 years my work was presented at 11 national and international conferences, including following conferences: Seattle Parasitology, Keystone Symposia, Conference of American Society of Tropical Medicine and Hygiene, Military Health System Research Symposium.

### NON-REFEREED PRESENTATIONS

I have made 6 presentations of my work at FAU, Scripps Institute, Torrey Pines Institute for Molecular Studies, and UCSF College of Public Health

### PATENTS

Oleinikov AV. "Microarray synthesis and assembly of gene-length polynucleotides". US Patent #9,023,601 (issued 05-05-2015) by US Patent and Trademark Office

### Previous (pre-FAU) publications

#### BOOK CHAPTERS

1. Traut RR, Oleinikov AV, Makarov E, Jokhadze G, Perroud B, Wang B - Structure and function of E.coli ribosomal protein L7/L12: effect of cross-links and deletions. (1994) in book "The translational apparatus", p.521-532, ed. K.H. Nierhaus et al., Plenum Press, New York, NY. (Cited by >14 (~20))

2. Oleinikov AV and Gray MD – RNA Interference: The Next Gene Targeted Medicine. (2007) in book "Handbook of Pharmaceutical Biotechnology", p. 1109 – 1148, ed. S.C. Gad, John Wiley & Sons, Inc., Hoboken, NJ (Cited by 22)

#### PEER REVIEWED PAPERS IN PRINT (selected due to page limitations, though numbering not changed)

1. Oleinikov AV\*, Jokhadze GG, Alakhov YuB - Primary structure of rat liver elongation factor 2 deduced from the cDNA sequence. (1989) *FEBS Lett.*, V.248, No.1/2, pp.131-136. (Cited by 28, Journal Impact factor (JIF) = 3.17)

4. Zecherle GN, Oleinikov A, Traut RR - The C-terminal domain of E.coli ribosomal protein L7/L12 can occupy a location near the Factor-binding domain of the 50S subunit as shown by cross-linking with N-[4-(p-Azidosilylamido)butyl]-3-(2'-pyridyldithio) propion-amide. (1992) *Biochemistry*, V.31, No.40, pp.9526-9532. (Cited by 21, JIF = 3.42)

5. Zecherle GN, Oleinikov A, Traut RR - The proximity of the C-terminal domain of E.coli ribosomal protein L7/L12 to L10 determined by Cysteine site-directed mutagenesis and protein-protein cross-linking. (1992) *J.Biol.Chem.*, V.267, No.9, pp.5889-5896. (Cited by 32, JIF = 4.57)

6. Oleinikov\* AV, Perroud B, Wang B, Traut RR - Structural and functional domains of E.Coli ribosomal protein L7/L12. The hinge region required for activity. (1993) *J.Biol.Chem.*, V.268, No.2, pp.917-922. (Cited by 36, JIF = 4.57)

7. Oleinikov AV, Jokhadze GG, Traut RR - Escherichia ribosomal protein L7/L12 dimers remain fully active after interchain crosslinking of the C-terminal domains in two orientations. (1993) *Proc. Nat. Acad. Sci. USA*, V.90, p.9828-9831. (Cited by 20, JIF = 9.42)

8. Makarov E, Oleinikov AV, Zecherle GN, Traut RR - Zero-length cross-linking of the C-terminal domain of *Escherichia coli* ribosomal protein L7/L12 to L10 in the ribosome and in the (L7/L12)4-L10 pentameric complex. (1993) *Biochimie*, V.75, p.963-969. (Cited by 9, JIF = 2.96)

9. Jokhadze GG, Oleinikov AV, Kanalas J, Makker SP - Different molecular forms of rat kidney gp330 - major autoantigen in active Heymann nephritis (1995) *The Biochem. J.*, V305, p.711-713. (Cited by 7, JIF = 4.40)

10. Dey D, Oleinikov AV, Traut RR. - The Hinge Region of *Escherichia coli* Ribosomal Protein L7/L12 Is Required for Factor Binding and GTP Hydrolysis (1995) *Biochimie*, V.77, p.925-930. (Cited by 39, JIF = 2.96)



11. Traut RR, Dey D, Bochkariov D, Oleinikov AV, Jokhadze GG, Hamman BD, Jameson DM – Location and domain structure of *Escherichia coli* ribosomal protein L7/L12: site-specific cystein crosslinking and attachment of fluorescent probes. (1995) **Biochem.Cell Biol.**, V. 73, p.949-958. (Cited by 62, JIF = 2.15)
12. Hamman BD, Oleinikov AV, Jokhadze GG, , D.E.Bochkariov, Traut RR, Jameson DM – Tetramethylrhodamine dimer formation as a spectroscopic probe of the conformation of *Escherichia coli* ribosomal protein L7/L12 dimers. (1996) **J.Biol.Chem.**, V.271, p.7568-7573. (Cited by 59, JIF = 4.57)
13. Hamman BD, Oleinikov AV, Jokhadze GG, Traut RR, Jameson DM – Dimer/Monomer equilibrium and domain separations of *Escherichia coli* ribosomal protein L7/L12. (1996) **Biochemistry**, V.35, p.16672-16679. (Cited by 58, JIF = 3.42)
14. Hamman BD, Oleinikov AV, Jokhadze GG, Traut RR, Jameson DM – Rotational and conformational dynamics of *Escherichia coli* ribosomal protein L7/L12. (1996) **Biochemistry**, V.35, p.16680-16686. (Cited by 48, JIF = 3.42)
16. Oleinikov AV\*, Jokhadze GG, Traut RR – A single-headed dimer of E coli ribosomal protein L7/L12 supports protein synthesis. (1998) **Proc. Nat. Acad. Sci. USA**, V.95, p.4215-4218. (Cited by 23, JIF = 9.42)
17. Oleinikov AV, Feliz BJ, Makker SP – A small 60 kDa fragment of gp600/megalin, major autoantigen of active Heymann nephritis of rat, can induce full-blown disease. (2000) **J.Am. Soc.Nephrol.**, V.11, p.57-64. (Cited by 31, JIF = 9.34)
19. Oleinikov AV\*, Zhao J, Makker SP – Cytosolic adaptor protein Dab2 is an intracellular ligand of endocytotic receptor megalin. (2000) **The Biochemical Journal**, V.247, p.613-621. (Cited by 163, JIF = 4.40)
21. Oleinikov AV\*, Gray MD, Zhao J, Montgomery DD, Ghindilis AL, Dill K – Self-assembling protein arrays using electronic semiconductor microchips and *in vitro* translation. (2003) **Journal of Proteome Research** V. 2, p.313-319. (Cited by 64, JIF = 4.17)
22. Gallagher H, Oleinikov AV, Fenske C, Newman DJ – The adaptor Disabled-2 binds to the third ΨxNPxY sequence on the cytoplasmic tail of Megalin. (2004) **Biochimie** V. 86, p.179-182. (Cited by 26, JIF = 2.96)
23. Dill K, Montgomery DD, Ghindilis AL, Schwarzkopf KR, Ragsdale SR, Oleinikov AV – Immunoassays Based on Electrochemical Detection Using Microelectrode Arrays. (2004) **Biosensors and Bioelectronics** V. 20, p.736-742. (Cited by 115, JIF = 7.47)
24. Oleinikov AV\*, Zhao J, Gray MD – RNA interference by mixtures of siRNAs prepared using custom oligonucleotide arrays. (2005) **Nucl. Acid Res.** V. 33, p. e92. (Cited by 15, JIF = 9.11)
25. Oleinikov AV\*, Rosnagle E, Francis SE, Mutabingwa TK, Fried M, Duffy PE – Effects of sex, parity, and sequence variation on seroreactivity to candidate pregnancy malaria vaccine antigens. (2007) **J. Infect. Diseases** V. 196, p.155-164. (Cited by 38, JIF = 6.00)
26. Francis SE, Malkov VA, Oleinikov AV, Rosnagle E, Wendler JP, Mutabigwa TK, Fried M, Duffy PE – Six genes are preferentially transcribed by the circulating and sequestered forms of *Plasmodium falciparum* parasites that infect pregnant women. (2007) **Infection & Immunity** V. 75, p. 4838-4850. (Cited by 53, JIF = 3.73)
27. Oleinikov AV\*, Francis SE, Dorfman JR , Rosnagle E, Balcitis S, Getz T, Avril M, Gose S, Smith JD, Fried M, and Duffy PE – VAR2CSA domains expressed in *E.coli* induce cross-reactive antibodies to native protein. (2008) **J. Infect. Diseases** V. 197, p. 1119-1123. (Cited by 27, JIF = 6.00)
29. Oleinikov AV\*, Amos E, Frey TI, Rosnagle E, Mutabingwa TK, Fried M, Duffy PE – High throughput functional assays of the variant antigen PfEMP1 reveal a single domain in the 3D7 *P. falciparum* genome that binds ICAM1 with high affinity and is targeted by naturally acquired neutralizing antibodies. (2009) **PLoS Pathogens**, V. 5, p. e1000386 (Cited by 46, JIF = 10.44)
30. Oleinikov AV\*, Voronkova V, Frey TI, Amos E, Morrison R, Fried M, Duffy PE – A Plasma Survey Using 38 PfEMP1 Domains Reveals Frequent Recognition of the Plasmodium falciparum Antigen VAR2CSA among Young Tanzanian Children (2012) **PLoS One**. V. 7, p.e31011. (Cited by 21, JIF = 4.82)

Link to all publications:

<http://www.ncbi.nlm.nih.gov/myncbi/browse/collection/41133417/?sort=date&direction=ascending>

#### CONFERENCE ABSTRACTS

Forty seven Abstracts for National and International meetings have been published in pre-FAU years

## Graduate student/Postdoc guidance (last 5 years only)

### COURSES TAUGHT AT FAU

2015 – present      **ADVANCED MOLECULAR AND CELLULAR BIOLOGY**

**Graduate** Required Core course # PCB 5532 – 3 credits

New course that Dr. Oleinikov has developed

2014 – present      **PROBLEM-BASED LEARNING IN FUNDAMENTALS OF BIOMEDICAL SCIENCE**

Course for 1st year **Medical** Students

### **SUPERVISION OF GRADUATE STUDENTS (newest to oldest)**

- 2017 – 2018      MS student (non-thesis) Alexander Beekharry performing DIS
- 2017 – 2018      MS student (non-thesis) Mariam Khachatryan performing DIS
- 2017 – 2018      MS student (non-thesis) Alexander Parashchuk performing DIS
- 2017 (summer)      First year medical student Giovanna Jaen. Her work was presented at FAU Medical Students Research Day in 2018. Giovanna is included in a manuscript in preparation.
- 2016 – 2017      MS student (non-thesis) Nicole Romero. Successfully completed DIS in Spring 2017
- 2016 (summer)      Medical student in FAU-FAMU program Michelle Wilson. **Awarded \$1,600** for research supply
- 2014 – present      PhD student Jordan Merritt. His work resulted in four GPSA Research Day presentations (in 2015, 2016, 2017, and 2018), one presentation at the National Meeting and two presentations at the International Meetings, and included in a number of manuscripts in preparation. **Jordan has won 1st place in 2018 in GPSA Research Day, 1st place in 2017 in COM Research Day**, obtained **Travel Award (\$600)** and **Student Research Award (\$5,000) in 2017**.
- 2014 – 2015      MS student Jared Lybbert, graduated in November 2015, thesis “Mechanisms of placental dysfunction in pregnancy malaria”. **Jared has won a GRIP award (\$1,500)**. A publication has resulted from this work as well as a GPSA Research Day presentation (in 2016). **Jared is the first author in these publications**.
- 2013 (summer)      First year medical student Tiffany Olier. Her work was presented at FAU Medical Students Research Day in 2014

## Service to professional research organizations (last 5 years only)

### MEMBERSHIP

2006-present American Society for Tropical Medicine and Hygiene

### PEER REVIEW ACTIVITIES

#### Ad Hoc reviewer for journals:

- Applied Biochemistry and Biotechnology
- BMC Microbiology
- eLife
- Infection and Immunity
- Journal of Biological Chemistry
- Journal of Infectious Diseases
- Journal of Leukocyte Biology
- Nature Structural and Molecular Biology
- Nature Communications
- PLoS One
- Scientific Reports

#### Member of Peer Review Board

- Journal of Visualized Experiments
- ISRN Parasitology

#### Reviewer for Natural Sciences and Engineering Research Council of Canada

- Discovery Grants Program (January 2016)

#### Ad Hoc NIH reviewer:

- ZRG1 BDCN-S(02) (**Panel reviewer**) (July 2017)
- PTHE (**Panel reviewer**) (February 2017)
- CNBT (**Panel reviewer**) (October 2015)
- ZRG1 BCMB-A (51) R (mail reviewer) (March 2015)
- IRAP (**Panel reviewer**) (September 2014)
- ZGM1-TWD-6 (SC) (**Panel reviewer**) (March 2014)
- ZRG1 IDM-U 56 R (Special Emphasis **Panel reviewer**) (November 2013)

### Special awards or citations (last 5 years)

**2015 Faculty Research Mentoring Program Award** shared with mentee Dr. E. Du.

Mentee is applying for the University Award with the Mentor. Includes a research program and obligation to submit a substantial Federal grant proposal within a year of Award. We have submitted several grant applications with Dr. Du as a result of this mentoring program. Some applications were scored high and are in pending or revision status. One NIH grant (R21) was awarded in 2017.

**2015** Nominee for the FAU *Distinguished Teacher of the Year Award*.

One person is nominated from the college by graduate students to compete at the University level. This nomination, though did not awarded the Distinguished Teacher of the Year Award resulted in awarding the next line Award:

**2015 “Degree of Difference” Award** by FAU alumni for teaching graduate students. This award was received at the University Honors Convocation

**2016 Faculty Research Mentoring Program Award** shared with mentee Dr. P. Yi

Similar award as with Dr. Du. As a result of this mentoring program we have submitted several application with Dr. Yi, some of which received a good score and are in revision stage.

### **MEDIA COVERAGE**

My recent work on placental malaria was widely covered in media and blogs at FAU, Popular Mechanics, Motherboard, C-Net, and University of Pennsylvania Department of Bioengineering. Below is an example of this coverage at FAU:

## **PLACENTA-ON-A-CHIP: MICROSENSOR MIMICS MALARIA IN THE WOMB**



Sarah Du, Ph.D., principal investigator of the grant and an assistant professor in the Department of Ocean and Mechanical Engineering in FAU’s College of Engineering and Computer Science, and Andrew Oleinikov, Ph.D., grant multi-principal investigator and associate professor of biomedical science in FAU’s Charles E. Schmidt College of Medicine, came up with the idea of developing a Placenta-on-a-Chip device using embedded microsensors.

BY GISELE GALOUSTIAN | 8/29/2017

Malaria, one of the most severe public health problems, affected 212 million people worldwide in 2015. This life-threatening disease is caused by parasites...

## **Scholarly citations**

Citations of my papers (indicated in my publication list in CV) might be found by searching Google with "Andrew Oleinikov citations" key words, or at the Science Citation Index (SCI originally produced by the Institute for Scientific Information (ISI). It is now owned by Clarivate Analytics (previously the Intellectual Property and Science business of Thomson Reuters). Number of citations using these two sites might be different, due to the specifics of their search engines.

Below is just an illustration of the Google search for one specific publication in my list, as it is not feasible to demonstrate >1100 citations to my works:

**Cytosolic adaptor protein Dab2 is an intracellular ligand of endocytic ...**

[www.biochemj.org/content/347/3/613](http://www.biochemj.org/content/347/3/613)

by AV OLEINIKOV - 2000 - Cited by 163 - Related articles

Cytosolic adaptor protein Dab2 is an intracellular ligand of endocytic receptor gp600/megalin. **Andrew V. OLEINIKOV**, Jun ZHAO, Sudesh P. MAKKER. *Biochemical Journal* May 01, 2000, 347 (3) 613-621; DOI: 10.1042/bj3470613. **Andrew V. OLEINIKOV**. Department of Pediatrics, Division of Nephrology, School of Medicine ...

Click on Cited by 163 link will retrieve the following pages providing list to all 163 citations:

## **Cytosolic adaptor protein Dab2 is an intracellular ligand of endocytic receptor gp600/megalin.**

### **Signals for sorting of transmembrane proteins to endosomes and lysosomes**

JS Bonifacino, LM Traub - Annual review of biochemistry, 2003 - annualreviews.org

▪ Abstract Sorting of transmembrane proteins to endosomes and lysosomes is mediated by signals present within the cytosolic domains of the proteins. Most signals consist of short, linear sequences of amino acid residues. Some signals are referred to as tyrosine-based  
[Cited by 1904](#) [Related articles](#) [All 13 versions](#) [Web of Science: 1340](#)

### **Megalin and cubilin: multifunctional endocytic receptors**

EI Christensen, H Birn - Nature reviews Molecular cell biology, 2002 - nature.com

Abstract The ability to take up substances from the surrounding environment not only provides cells with vital nutrients, but also enables the selective transport of substances from one compartment to another. Megalin and cubilin are two structurally different endocytic  
[Cited by 620](#) [Related articles](#) [All 10 versions](#) [Web of Science: 125](#)

### **[HTML] Clathrin-dependent endocytosis.**

SA Mousavi, L Malerød, T Berg, R Kjekken - Biochemical Journal, 2004 - ncbi.nlm.nih.gov

Abstract The process by which clathrin-coated vesicles are produced involves interactions of multifunctional adaptor proteins with the plasma membrane, as well as with clathrin and several accessory proteins and phosphoinositides. Here we review recent findings  
[Cited by 397](#) [Related articles](#) [All 11 versions](#) [Web of Science: 219](#)

**Marc Kantorow, Ph.D. FARVO Professor Biomedical Science, Assistant Dean Graduate Programs, Charles E. Schmidt College of Medicine**

**Abbreviated CV for Outstanding Researcher Award --5-years only**

**EDUCATION:**

1991 PhD GENETICS: The George Washington, University Washington DC;  
1985 BS BIOLOGY (*Cum Laude*) Towson State University, Towson Maryland

**GRANTS TO FAU (last 5 years):**

**NIH-National Eye Institute- R01- 2015-2019 : \$2,278,493.00 NIH RO1 EY 026478 (MPI)- role PI** with Dr. A. Sue Menko also as PI National Eye Institute, NIH “Repurposing classical death pathways for signalling roles in lens differentiation” at Florida Atlantic University. (\$900,000.00 to FAU.)

**NIH-National Eye Institute- R01- 2009-2014: \$1,752,000.00 NIH RO1 EY 13022 -role PI** National Eye Institute NIH “Molecular Analysis of Microdissected Human Lenses” at Florida Atlantic University

**The Rand Eye Institute, Fort Lauderdale, FL-2015-2016: \$50,000.00** “Engineering of Ocular Tissues”.

**FELLOWSHIPS, AWARDS and NOMINATIONS (last 5 years):**

- 2016** Distinguished Teacher of the Year, Charles E. Schmitt College of Medicine, FAU  
**2015** Certificate of Appreciation for Service on the Association for Research and Visual Science Members in Training Committee (2011-2014)  
**2014** Appointed Gold Fellow of the Association for Research in Vision and Ophthalmology

**PUBLICATIONS: (8 in the last 5 years) Out of 61 total publications -over 6000 citations.**

URL for published work: <http://www.ncbi.nlm.nih.gov/pubmed/?term=kantarow+m>:

1. *Parkin elimination of mitochondria is important for maintenance of lens cell ROS levels and survival upon oxidative stress exposure.* Lisa Brennan, Joseph Khoury and **Marc Kantorow**. *Biochimica Biophysica Acta (BBA) Molecular Basis of Disease*. 2017 1863(1) 21-32. doi: 10.1016/j.bbadis.2016.09.020.
2. *Identification and ultrastructural characterization of a novel nuclear degradation complex in differentiating lens fiber cells.* M. Joseph Costello, Lisa A. Brennan, Kurt O. Gilliland, Snoke Johnson, **Marc Kantorow**. *PLoS One*. 2017 11(8): e0160785. doi: 10.1371.
3. *Chromatin remodeling enzyme Snf2h/Smarca5 regulates embryonic lens differentiation and denucleation.* Shuying He, Saima Limi, Rebecca S. McGreal, Qing Xie, Lisa Ann Brennan, Wanda Kantorow, Juraj Kokavec, Romit Majumdar, Harry Hou, Winfried Edelmann, Wei Liu, Ruth Ashery-Padan, Jiri Zavadil, **Marc Kantorow**, Arthur Skoultchi, Tomas Stopka, Ales Cvekl. *Development*. 2016. 143(11):1937-47.
4. *Guidelines for the use and interpretation of assays for monitoring autophagy (3rd edition).* Daniel Klionsky.....**Marc Kantorow**.... et al., *Autophagy*. 2016. 12(1):1-222.
5. *Integrin  $\alpha V\beta 5$ -mediated Removal of Apoptotic Cell Debris by the Eye Lens and Its Inhibition by UV Light Exposure.* Dan Chauss, Lisa Brennan, Olga Bakina and **Marc Kantorow**. *Journal of Biological Chemistry (JBC)* 2015. 290(51):30253-66.

6. *Chromatin features, RNA polymerase II and the comparative expression of lens genes encoding crystallins, transcription factors, and autophagy mediators.* J Sun, S Rockowitz, Daniel Chauss, P Wang, **Marc Kantorow**, Deyou Zheng and Ales Cvekl. Molecular Vision. 2015. 21:955-73.
7. *Differentiation state-specific mitochondrial dynamic regulatory networks are revealed by global transcriptional analysis of the developing chicken lens.* Daniel Chauss, Subhasree Basu, Suren Rajakaruna, Z Ma, Victoria Gau, Sara Anastas, Lisa Brennan, J. Fielding Hejtmancik, A. Sue Menko and **Marc Kantorow**. Genes, Genomes and Genetics G3 (Bethesda). 2014. 13;4(8):1515-27.
8. *Chaperone-independent mitochondrial translocation and protection by  $\alpha$ B-crystallin in RPE cells.* Rebecca McGreal, Lisa Brennan, Wanda Lee Kantorow, Jeffrey Wilcox, Jianning Wei, Daniel Chauss and **Marc Kantorow**. Experimental Eye Research 2013. 110:10-7.

**INVITED PRESENTATIONS (11 in the last 5 years):**

**2017 International Conference on Lens Research**, Kona Hawaii, "Hypoxia controls lens fiber cell remodeling by regulating the elimination of mitochondria, endoplasmic reticulum and Golgi apparatus through HIF1a-directed transcriptional regulation of BNIP3L expression".

**2016 Oakland Eye Institute, Oakland University, Rochester MI** "Redox control of lens protection and remodeling".

**2016 XXII International Conference on Eye Research**, Tokyo, Japan, "Oxidative Stress Regulation of Organelle Function by  $\alpha$ -Crystallin".

**2016 International Conference on Lens Research**, Kona Hawaii, "alpha-crystallin prevents mitochondrial ROS release and apoptosis by protecting cytochrome c".

**2015 UCLA Medical School, Jules Stein Eye Institute**, Los Angeles, CA, "Mitochondrial Biology of the Eye Lens".

**2015 Association of Anatomy, Cell Biology and Neurobiology Chairpersons Meeting, San Juan Puerto Rico** "Mitochondrial Dynamics in the eye lens".

**2015 Association for Research in Vision and Ophthalmology**, Denver, CO, "BNIP3L mediates mitochondrial clearance in the developing eye lens".

**2014 Thomas Jefferson University Annual Research Symposium**. "Mitochondrial Regulation and Protection in the Eye".

**2014 XXI International Conference on Eye Research**, San Francisco, USA "Integrin  $\alpha$ V $\beta$ 5-mediated phagocytosis by lens epithelial cells increases cell survival under apoptotic conditions".

**2014 Association for Research in Vision and Ophthalmology**, Special Symposium on Autophagy in the Eye: "Mitophagy in lens protection and development". Orlando, FL

**2013 Association for Research in Vision and Ophthalmology**, "alpha-crystallin regulation of mitochondrial function", Seattle, WA

**CITABLE ABSTRACTS (14 in the last 5 years):**

1. \*Hypoxia controls lens fiber cell remodeling by regulating the elimination of mitochondria, endoplasmic reticulum and Golgi apparatus through HIF1-directed transcriptional regulation of BNIP3L expression. **Marc Kantorow**, Joshua Disatham, Rebecca McGreal, Caitlin Logan, Sue Menko, Ales Cvekl and Lisa Brennan, Conference on Lens Research 2017, Kona Hawaii
2. \*Elimination of Mitochondria, Endoplasmic Reticulum and Golgi during lens cell differentiation to form the lens organelle-free zone requires the mitophagy protein BNIP3L and is regulated by the transcription factor HIF1 $\alpha$ . Lisa Brennan, Rebecca

- McGreal, Caitlin Logan, Ales Cvekl, A. Sue Menko, and **Marc Kantorow**. Association for Research in Vision and Ophthalmology 2017, Baltimore, MD.
3. A role for the PI3K regulator PIK3IP1 in signaling the autophagy-dependent removal of organelles during lens development. Rifah Gheyas, Lisa A. Brennan, **Marc Kantorow**, A Sue Menko. Association for Research in Vision and Ophthalmology 2017, Baltimore, MD.
  4. \* $\alpha$ -crystallin prevents mitochondrial ROS release and apoptosis by protecting cytochrome c. **Marc Kantorow** and Lisa Brennan International Conference on Lens Research 2016, Kona Hawaii
  5. \*Oxidative Stress Regulation of Organelle Function by  $\alpha$ -Crystallin. Marc Kantorow, Lisa Brennan, Kyran Bharath, Josef Khoury. XXII International Conference on Eye Research, 2016, Tokyo, Japan
  6. \*Mitochondrial and Nuclear Translocation by  $\alpha$ -Crystallin and Protection of Lens Cells Against UV-light and Oxidative Exposures. Lisa Brennan, Rebecca McGreal, Dan Chauss, Josef Khoury, Larry David, Sue Menko and **Marc Kantorow**. Association for Research in Vision and Ophthalmology 2016, Seattle, WA.
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  9. \*Integrin  $\alpha$ V $\beta$ 5-mediated phagocytosis by lens epithelial cells increases cell survival under apoptotic condition. **Marc Kantorow**, Daniel Chauss, Lisa Brennan. XXI International Congress for Eye research, San Francisco, July 21st 2014.
  10. \*Parkin-directed mitophagy governs lens epithelial cell mitochondrial degradation under oxidative stress conditions. Lisa Brennan, Daniel Chauss, **Marc Kantorow**. XXI International Congress for Eye research, San Francisco, July 21st 2014.
  11. \*Mitochondrial dynamics in the eye lens from development through cataract formation. **Marc Kantorow** in Minisymposium: Autophagy and Proteolysis in Ocular Health and Disease. Wed 7th May 2014. Association for Research in Vision and Ophthalmology 2014, Orlando, FL
  12. \*Parkin regulates mitochondrial quality control in oxidative stress-treated lens epithelial cells through mitophagy. Lisa A. Brennan, Daniel Chauss, Subhasree Basu, A S. Menko and **Marc Kantorow**. Association for Research in Vision and Ophthalmology 2014, Orlando, FL
  13. \*Lens epithelial cells use phagocytosis as a mechanism to remove apoptotic cellular debris. Daniel Chauss, Lisa A. Brennan, Bettina Teng and **Marc Kantorow**. Association for Research in Vision and Ophthalmology 2014, Orlando, FL
  14. Chaperone-independent mitochondrial translocation, oxidative stress protection and prevention of apoptosis by  $\alpha$ B-crystallin. Bettina Teng, Rebecca S. McGreal, Daniel Chauss, Lisa A. Brennan and **Marc Kantorow**. Association for Research in Vision and Ophthalmology 2014, Orlando, FL



## **GRADUATE STUDENT AND POST-DOCTORAL TRAINEES**

**(15 in the last 5 years + 6 medical students and undergraduate research students):**

### ***Post-doctoral Fellows and Research Professors Directed (5 in the last 5 years):***

Lisa Brennan PhD	Associate Research Professor-2007-present
Yoni Hertz PhD	Assistant Research Professor 2014-2015
Wanda Lee PhD	Senior Post-doctoral Fellow 2007-2009
Maria Marchetti PhD	Assistant Research Professor-2004- 2006
Weiyan Zhang MD	Post-doctoral Fellow-1999-2001

### ***PhD and MS Students Directed (10 in the last 5 years):***

Joshua Disatham	Committee Chair, PhD Thesis Student 2017-present
Angie Posada	Committee Chair, MS Thesis Student 2016-present
Patrice Cherubin	Committee Chair, MS Thesis Student 2017-present
Kawther Elsouiri	Committee Chair, MS Thesis Student 2017-present
Daniel Chauss	Committee Chair, PhD Thesis Student Graduated 2016
Olga Bakina	Committee Chair, MS Thesis Student Graduated 2016
Josef Khoury	Committee Chair, MS Thesis Student, Graduated 2015
Alex Loumakis	Committee Chair, MS Thesis Student Graduated 2015
Karem Aktan	Committee Chair, MS Thesis Student Graduated 2015
Lyndzie Matucci	Committee Chair, MS Thesis Student Graduated 2013

### ***Medical, and Undergraduate Research Students Directed (6 in the last 5 years):***

Evan Dillican	Undergraduate Research Student 2015-present
Elisha Khambati	Undergraduate Research Student 2015-present
Daniel Daroszewski	Medical Research Student 2014-2015
Steven Freeland	Medical Research Student 2014-2015
J.D.Wilcox	Medical Research Student 2013-2014
Victoria Gau	Medical Research Student 2012-2013

## **SERVICE TO PROFESSION, MEMBERSHIPS and APPOINTMENTS:**

### ***Grant Reviews and Study Sections***

**2017** Chair and Grant Reviewer NIH, NEI Membrane Biology and Protein Processing Special Emphasis Panel.

**2017** Grant Reviewer ad hoc NIH, NEI Basic Visual Science Study Section

**2016** Grant Reviewer ad hoc NIH, NEI Basic Visual Science Study Section

**2015** Grant Reviewer ad hoc NIH, NEI Basic Visual Science Study Section

**2014** Grant Reviewer ad hoc NIH Cell Biology Special Emphasis Panel

**2014** Grant Reviewer ad hoc NIH Basic Visual Science Study Section

**2013** Chair and Grant Reviewer ad hoc NIH Cell Biology Special Emphasis Panel

**2013** Grant Reviewer ad hoc NIH, Basic Visual Science Study Section

**2013** Grant Reviewer ad hoc NIH Cell Biology Special Emphasis Study Section

### ***Editorial Board Memberships***

**2018-present:** Editorial Board Member -*Investigative Ophthalmology & Visual Science*

**2012-present:** Editorial Board Member-*Journal of Molecular Vision*

**Other Service to the Profession**

Association of American Medical Colleges (AAMC) Graduate Research, Education and Training (GREAT) Group Member

**Meeting and Conference Organization**

- 2017** Session Co-organizer and Chair- Redox Biology of the Eye Lens, International Society Eye Research, Belfast, Ireland.
- 2017** Meeting Co-organizer and Chair- International Conference on Lens Research, Kona, Hawaii
- 2017** Session Organizer and Chair, Lens Gene Expression, International Conference on Lens Research, Kona, Hawaii
- 2016** Session Moderator Cataractogenesis Association for Research in Vision and Ophthalmology Seattle Washington
- 2015** Program Committee International Conference on Lens Research, Kona Hawaii
- 2015** Session Moderator Cataract Mechanisms International Conference on Lens Research, Kona Hawaii
- 2015** Session Moderator Fiber cell biology Association for Research in Vision and Ophthalmology Denver CO
- 2014** Session Moderator Death and Differentiation: Novel Pathways in the lens. XXI International Congress for Eye Research, San Francisco, CA
- 2013** Panel Discussion Member Mitochondria in Ocular Health and Disease Symposium Jefferson University, Philadelphia, PA
- 2013** Session Moderator Cataract Mechanisms Association for Research in Vision and Ophthalmology, Seattle, WA 2013

**Memberships**

Association for Research in Vision and Ophthalmology.  
European Association for Vision and Eye Research.  
International Society for Eye Research

**Graduate Student Post-Doctoral Guidance  
(21 in the last five years)**

**I have trained over 21 graduate students and post-docs over the last 5 years. I am proud that many of the students I have trained are now scientists and professionals in their own rights including Dr. John Hawse (former PhD student) who is now an Associate Professor at Mayo Clinic, Dr. Rebecca McGreal (former PhD student) who is now an Assistant Professor at Einstein University and Dr. Dan Chauss (former PhD student) who is now fellow at the National Institutes of Health. Many others have gone on to careers in teaching, medicine, pharmacy and industry to name a few. The success of my students is a key in indicator of the impact of our research on the future research of the next generation of scientists.**

***Post-doctoral Fellows and Research Professors Directed (5 in the last 5 years):***

Lisa Brennan PhD	Associate Research Professor-2007-present
Yoni Hertz PhD	Assistant Research Professor 2014-2015
Wanda Lee PhD	Senior Post-doctoral Fellow 2007-2009
Maria Marchetti PhD	Assistant Research Professor-2004- 2006
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Alex Loumakis	Committee Chair, MS Thesis Student Graduated 2015
Karem Aktan	Committee Chair, MS Thesis Student Graduated 2015
Lyndzie Matucci	Committee Chair, MS Thesis Student Graduated 2013

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Elisha Khambati	Undergraduate Research Student 2015-present
Daniel Daroszewski	Medical Research Student 2014-2015
Steven Freeland	Medical Research Student 2014-2015
J.D.Wilcox	Medical Research Student 2013-2014
Victoria Gau	Medical Research Student 2012-2013

## Memberships and Service To Profession

### **Grant Reviews and Study Sections**

- 2017 Chair and Grant Reviewer NIH, NEI Membrane Biology and Protein Processing Special Emphasis Panel.
- 2017 Grant Reviewer ad hoc NIH, NEI Basic Visual Science Study Section
- 2016 Grant Reviewer ad hoc NIH, NEI Basic Visual Science Study Section
- 2015 Grant Reviewer ad hoc NIH, NEI Basic Visual Science Study Section
- 2014 Grant Reviewer ad hoc NIH Cell Biology Special Emphasis Panel
- 2014 Grant Reviewer ad hoc NIH Basic Visual Science Study Section
- 2013 Chair and Grant Reviewer ad hoc NIH Cell Biology Special Emphasis Panel
- 2013 Grant Reviewer ad hoc NIH, Basic Visual Science Study Section
- 2013 Grant Reviewer ad hoc NIH Cell Biology Special Emphasis Study Section

### **Editorial Board Memberships**

- 2018-present: Editorial Board Member -*Investigative Ophthalmology & Visual Science*
- 2012-present: Editorial Board Member-*Journal of Molecular Vision*

### **Other Service to the Profession**

Association of American Medical Colleges (AAMC) Graduate Research, Education and Training (GREAT) Group Member

### **Meeting and Conference Organization**

- 2017 Session Co-organizer and Chair- Redox Biology of the Eye Lens, International Society Eye Research, Belfast, Ireland.
- 2017 Meeting Co-organizer and Chair- International Conference on Lens Research, Kona, Hawaii
- 2017 Session Organizer and Chair, Lens Gene Expression, International Conference on Lens Research, Kona, Hawaii
- 2016 Session Moderator Cataractogenesis Association for Research in Vision and Ophthalmology Seattle Washington
- 2015 Program Committee International Conference on Lens Research, Kona Hawaii
- 2015 Session Moderator Cataract Mechanisms International Conference on Lens Research, Kona Hawaii
- 2015 Session Moderator Fiber cell biology Association for Research in Vision and Ophthalmology Denver CO
- 2014 Session Moderator Death and Differentiation: Novel Pathways in the lens. XXI International Congress for Eye Research, San Francisco, CA
- 2013 Panel Discussion Member Mitochondria in Ocular Health and Disease Symposium Jefferson University, Philadelphia, PA
- 2013 Session Moderator Cataract Mechanisms Association for Research in Vision and Ophthalmology, Seattle, WA 2013

### **Memberships**

Association for Research in Vision and Ophthalmology.  
European Association for Vision and Eye Research.  
International Society for Eye Research

## PUBLICATIONS

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25. Identification and functional gene clustering of global gene expression differences between age-related cataract and clear human lenses and aged clear human lenses. John R. Hawse, J. Fielding Hejtmancik, Joseph Horwitz and **Marc Kantorow**. Experimental Eye Research 2004, 79, 3-9. (Google Scholar-Cited 48 times)
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38. Young-Sheng Xu, **Marc Kantorow**, Janine Davis and Joram Piatigorsky. Evidence for Gelsolin as a corneal crystallin in zebrafish. Journal of Biological Chemistry 2000, **275**, 24645-24652. (Google Scholar-Cited 49 times)
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43. **Marc Kantorow**, Joseph Horwitz and Deborah Carper. Up-regulation of osteonectin/SPARC in age-related cataractous human lens epithelia. Molecular Vision, 1998;**4**,17-24. (Google Scholar-Cited 32 times)
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## REVIEWS AND BOOK CHAPTERS

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  2. Focus on Molecules: Methionine sulfoxide reductase A. **Marc Kantorow**, Wanda Lee, and Daniel Chauss. Exp. Eye Res., 2012. 100:110-1. (Google Scholar-Cited 7 times)
  3. Mitochondrial Function and redox control in the aging eye: Role of MsrA and other repair systems in cataract and macular degenerations. Lisa Brennan and **Marc Kantorow**. Exp. Eye Res., 2009. 88:195-203. (Google Scholar-Cited 130 times)
  4. Handbook of Models for the study of human aging: Age-related visual diseases. J. Fielding Hejtmancik, **Marc Kantorow**, Tekeshi Iwata. Cambridge University Press. 2006 (Google Scholar-Cited 55 times)
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# ACADEMIC PROGRAM ASSESSMENT

Doctor of Dental Medicine

Prepared for Florida Atlantic  
University

September 2022

In the following report, Hanover assesses demand for Doctor of Dental Medicine (DMD) programs, specifically highlighting demand trends within Florida. This report includes an examination of student and labor market demand.



# TABLE OF CONTENTS

- 3** / Executive Summary
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## RECOMMENDATIONS

Based on an analysis of degree completions and labor market demand, Hanover recommends that Florida Atlantic University:



### CREATE A DOCTOR IN DENTAL MEDICINE PROGRAM

There are only two Florida-based Doctor of Dental Medicine (DMD) programs that reported degree completions in 2020: Nova Southeastern University and the University of Florida. Student market indicators show that degree conferrals are above average in the state and that the number of programs has held steady between 2016 and 2020. External agencies, industry experts, and Hanover's analysis suggest that the field will experience growth. Hence, FAU should create a DMD program, guided by market research and other best practices.



### SET THE NEW PROGRAM UP FOR SUCCESS BY GATHERING ADDITIONAL DATA AND ANALYSIS

FAU should proceed maximize the success of the new program by conducting further research into dentistry programs. To further understand the potential appeal of this degree, FAU should use in-depth interviews to learn more about the motivations, goals, and decision-making processes of students considering careers in dentistry. In-depth interviews of mature professionals and prospective employers would also be instructive for curriculum building. On the quantitative side, FAU should examine more granular demographic and employment details such as county-level income and health access data. Finally, surveys of prospective students and other stakeholders would help to tailor programming and messaging to the wants and needs of prospective students.



### PARTNER WITH NON-PROFITS IN UNDERSERVED COMMUNITIES

There is a growing need for dentists, but this does not occur evenly across the state. Middle and high income communities in urban and suburban settings are at or near saturation point. There is a need for qualified dentists in dental health professional shortage areas (HSPAs) across Florida. These areas are often rural and lower-income. FAU should partner with non-profits in underserved communities to enable students to conduct their clinical rotations in those communities. Doing so will yield many benefits, allowing FAU to serve the community, practice clinical skills, potentially draw outside funding, and encourage students to practice in rural Florida, where demand will be highest.

# EXECUTIVE SUMMARY

## KEY FINDINGS

Degree conferral trends indicate above average demand for Doctor of Dental Medicine (DMD) programs in Florida.

The number of relevant degree completions, in aggregate, increased at annualized rates of 1.7 percent, 2.1 percent and 2.4 percent in the state, region, and nation between 2016 and 2020. There are three institutions offering a DMD degree in Florida: Nova Southeastern University, the University of Florida, and the Lake Erie College of Osteopathic Medicine, though Lake Erie reported no conferrals last year.

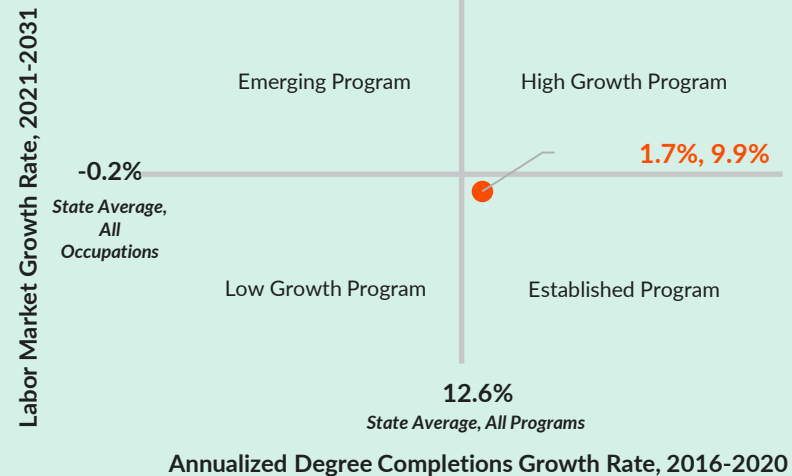
Labor market demand indicators are positive, and analysis of demographic changes reinforce the likelihood of future growth.

Statewide employment of dentists is projected to increase by 9.9 percent through 2031. (This rate is slightly below the average rate of growth for all occupations, but still significant). As Baby Boomers age out of the working population, industry reports indicate that the number of retiring dentists will exceed the number of dentists graduating from dental school.

Notably, the U.S. Bureau of Labor Statistics identifies Florida as one of the top five states in terms of number of dentists. Additionally, Florida, with its large and growing population of retirees, can expect to see demand for the dental industry services increase, as retirees tend to need more serious and more frequent dental care than members of the general population.

## STATE BENCHMARK ANALYSIS

Comparison of dental medicine completions and relevant labor market to all completions and all occupations in Florida



## FAST FACTS



60,000,000

Number of Americans living in areas where dental care is difficult to access



\$181.3 billion

Five-year industry revenue projection



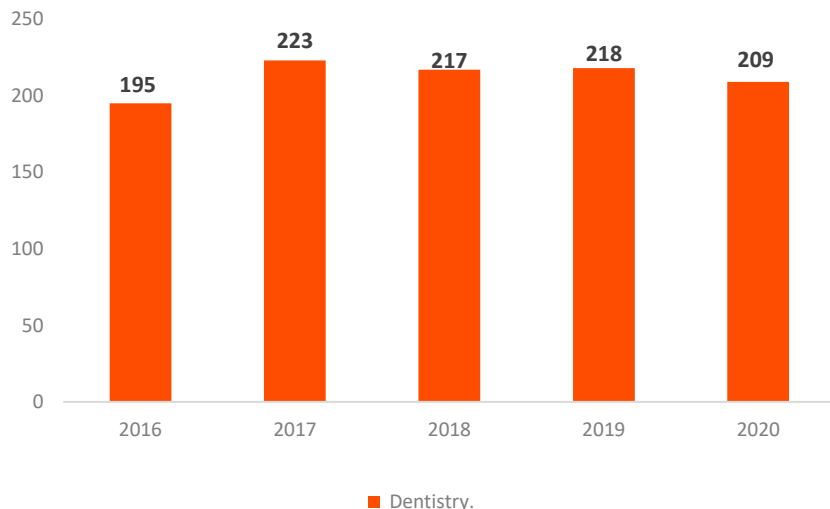
963

Number of dentist positions advertised in Florida over the past six months.

# STUDENT DEMAND ANALYSIS

## STATE DEGREE COMPLETIONS

*Degree completions in Florida from 2016 to 2020*



## TOTAL DEGREE COMPLETIONS

*Aggregate degree completions by geographic level (2020)*

	Florida	Southeast	National
Dentistry	209	1,178	6,591
Growth Rate, Observed Fields	1.7%	2.1%	2.4%
Growth Rate, All Fields	-0.2%	2.1%	1.5%

Source: [IPEDS](#)

Note – The Southeast region includes Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia.

## ANALYSIS

**General dentistry conferral trends reveal above-average growth rates at the state and national levels.**

Between 2016 and 2020, dentistry conferrals grew at an annualized rate of 1.7 percent in Florida, compared to an average rate of decline across all academic fields of 0.2 percent. A larger national sample echoes that trend with conferrals growing at 2.4 percent during this period at institutions across the United States. Notably, conferrals in the Southeast region were average during the same time period.

Additionally, the number of institutions reporting dentistry conferrals remained constant from 2016 to 2020. There are three institutions offering a Doctor of Dental Medicine program in Florida: [Nova Southeastern University](#) has a dental program, located in Fort Lauderdale and [University of Florida](#) is based in Gainesville. Additionally, [Lake Erie College of Osteopathic Medicine](#) also offers a program in Bradenton, but did not report conferrals in Florida.

**There is a growing need for dental professionals in rural areas and inner cities.**

According to the [Academy of General Dentistry](#), approximately 1,470 dentists provide care to about 1.5 million Americans in dental health professional shortage areas (HSPAs), or parts of the nation where dental care is hard to access. The need is more significant in rural HSPAs than other areas of the country. Indeed, middle and high income communities in urban and suburban settings are at or near saturation point. Future industry growth will occur in rural areas, inner cities, and lower income areas.

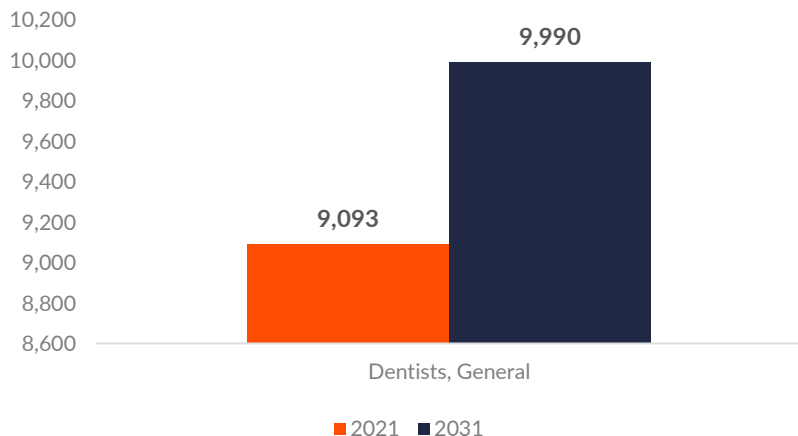
The ADA conducted a [study](#) on access to dental care. [Results](#) show that there continues to be a need for additional dentists in rural areas. The maldistribution of the current dental workforce poses a [significant challenge for access to care](#) and reinforces the need for additional dental practitioners in both inner cities and rural areas.



# LABOR MARKET ANALYSIS

## STATE CURRENT AND PROJECTED EMPLOYMENT

Doctor of Dental Medicine positions as of 2021 and 2031 (projected)



## TOTAL LABOR MARKET

Aggregate projected employment growth by geographic level

	Florida	Southeast	National
Estimated Employment (2021)	9,093	31,475	129,871
Projected Employment (2031)	9,990	33,431	133,947
Total Annual Openings, Observed Occupations	384	1,197	4,481
Employment Growth, Observed Occupations	9.9%	6.2%	3.1%
Employment Growth, All Occupations	12.6%	7.0%	4.3%

Source: [JobsEQ](#)

## ANALYSIS

Graduates of a DMD program will encounter a competitive but promising labor market.

Growth in dentist positions is projected to increase by 9.9 percent in Florida, 6.2 percent in the Southeast, and 3.1 percent nationally through 2031. These rates are lightly less than the projected growth rates for all professions, but still significant. Florida in particular expected to need dentists: Demand in Florida is double demand in the region and triple demand in the nation.

Due to the coronavirus pandemic and associated stay-at-home orders enacted across the country, most dental providers were forced to close temporarily.

Dental office closures due to the pandemic led to a [substantial loss of revenue](#) in 2020. However, as large portions of the populations have since been vaccinated, demand for dental care is slowly recovering and revenue is expected to increase 6.1 percent.

Nationally, the number of retiring dentists will exceed the number of dental school graduates.

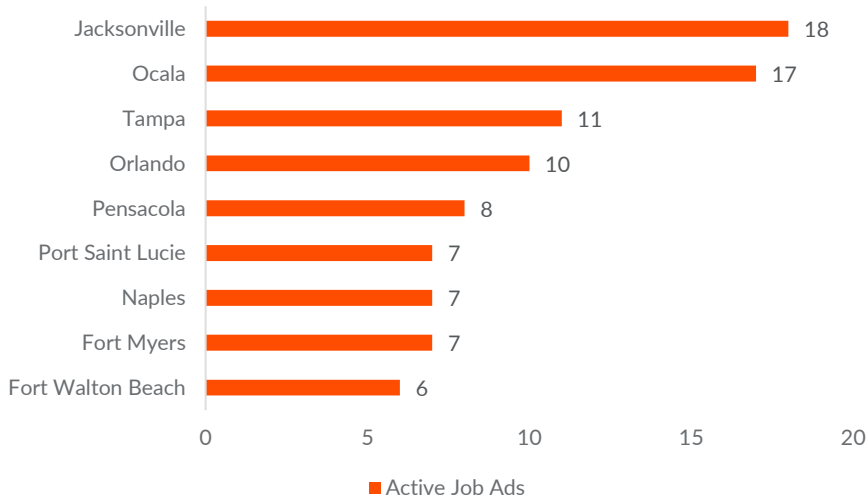
Industry reports [emphasize](#) that the impending wave of retirements will exacerbate the need for new dentists. Notably, Florida is among the [five states](#) with the highest employment of dentists. It is also one of the top states with the [highest concentration of jobs](#) for dentists.

In a recent [five-year projection](#), IBISWorld predicted that industry revenue will grow at an annualized rate of 2.3 percent to \$181.3 billion. Demand for industry services will come disproportionality from older adults, who tend to need more serious and more frequent dental care as they age. In addition, the expansion of dental care through Medicaid will enable low-income adults to access the care they need in greater numbers.



# REAL-TIME JOB POSTINGS ANALYSIS

## TOP JOB LOCATIONS IN FLORIDA



## TOP FLORIDA EMPLOYERS

- Pacific Dental Services
- Aspen Dental
- Dental Care Alliance
- State of Florida
- Coast Dental
- Great Expressions Dental Centers
- Smile Brands Inc
- Centurion
- Smile Design Dentistry

**Note:** For this analysis, Hanover retrieved job postings data for general dentistry-related positions in Florida from [JobsEQ](#), a proprietary database providing real-time job postings aggregated from thousands of websites. All data reflect the 180-day period ending September 2022.

## ANALYSIS

Local employers advertised a total of 963 relevant positions over the last six months.

Many of the postings highlight benefits that include paid malpractice coverage (or a contribution toward coverage), paid continuing education, mentorship by senior dentists, and future partner or ownership opportunities. Some employers also offer an additional sign-on bonus to attract prospective employees, a strong indication of labor demand.

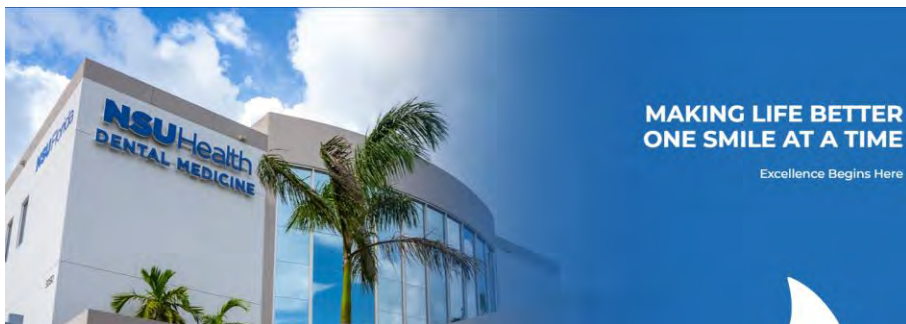
Dentistry settings vary and include private practice, the State of Florida, and some providers who are contracted to provide dental services at specific facilities including the Florida Department of Corrections.

## EXEMPLARY FLORIDA JOB POSTINGS

Position	Employer	Location	Skills and Requirements
<a href="#">Dentist</a>	Aspen Dental	Jacksonville, FL	<ul style="list-style-type: none"> <li>▪ DDS/DMD from an accredited school</li> </ul>
<a href="#">Dentist</a>	State of Florida	Ocala, FL	<ul style="list-style-type: none"> <li>▪ Florida dental license</li> <li>▪ DEA license</li> <li>▪ Two years of pediatric dentistry preferred</li> <li>▪ Bilingual candidates preferred</li> </ul>
<a href="#">General Dentist</a>	Smile Design Dentistry	Clermont, FL	<ul style="list-style-type: none"> <li>▪ Active Florida dental license</li> <li>▪ CPR certification</li> <li>▪ Prior experience working in a dental practice</li> <li>▪ Active DEA license</li> </ul>



# PROGRAM SPOTLIGHTS



Nova Southeastern University offers a DMD program in the Fort Lauderdale area.

- Accredited by the Commission on Dental Accreditation (CODA)
- Clinical rotations challenge students to help underserved and highly vulnerable populations – both on campus and in nearby communities
- Offers dual-degree options – bachelor's + DMD, DMD + Master of Business Administration, DMD + Master of Public Health
- Training program includes a high-tech simulation laboratory

"Our diverse student body trains in a challenging learning environment with a dedicated and caring faculty. Innovation is ongoing at the College of Dental Medicine—the teaching of dentistry's unprecedented new technologies is at the core of our progressive curriculum. NSU provides one of the best academic settings in which to pursue a dental education."

STEVEN I. KALTMAN, D.M.D., M.D., FACS | DEAN, COLLEGE OF DENTAL MEDICINE



The University of Florida offers a DMD program in Gainesville.

- Only publicly-funded dental school in Florida
- Accredited by the Commission on Dental Accreditation (CODA)
- Offers combined degree options – BS-DMD and DMD/PhD
- Offers eight ADA-recognized specialty programs to students
- Offers external clinical rotations throughout Florida
- Encourages co-curricular involvement in outreach efforts and student organizations
- Provides exposure to innovative dental technology

D.M.D. PROGRAM HIGHLIGHTS

The complex block features three program highlights. Each highlight includes a photograph and a text box with a "Read Story" link. The first highlight shows a large group of students in white coats, with the text "NBDE Pass rate - 97%". The second shows a student in a lab coat working in a dental lab, with the text "Top 5 Research Program". The third shows a diverse group of students in white coats, with the text "Commitment to Diversity".





## CONTACT

Geoffrey Gresk, MPH, PhD  
*Content Director, Higher Education*

E: [ggresk@hanoverresearch.com](mailto:ggresk@hanoverresearch.com)

P: (202) 559-0050

🌐 [hanoverresearch.com](http://hanoverresearch.com)



## Current Library Holdings Supporting DMD

### Monographs

Program Subjects	LC Ranges	Print Pub. 1842-2019	Ebook -2022
Dentistry (Library of Congress Range)	RK1-715 Dentistry	19	147
	RK280 Oral and dental anatomy and physiology	6	
	RK301-493 Oral and dental medicine. Pathology. Diseases	10	
	RK501-519 Operative dentistry. Restorative dentistry	2	
	RK520-528 Orthodontics	1	
	RK529-535 Oral surgery	0	
	RK58-59.3 Practice of dentistry. Dental economics	8	
	RK60.7-60.8 Preventive dentistry	0	
	RK641-667 Prosthetic dentistry. Prosthodontics	4	
<b>UF Courses:</b> <a href="https://dental.ufl.edu/education/dmd-program/curriculum-overview-2-0/curriculum-overview-1dn-year-1-semester-1/">https://dental.ufl.edu/education/dmd-program/curriculum-overview-2-0/curriculum-overview-1dn-year-1-semester-1/</a>			
DEN5505C – Introduction to Clinical Care (1) This course is designed to provide foundational information in clinical care for novice dental students. Areas of patient safety, risk management, infection prevention, <b>standardized clinical practices, information security</b> , and emergency preparedness are applied by students to prepare them for clinical person-centered care.	R728-733 Practice of medicine. Medical practice economics	87	
	R858-859.7 Computer applications to medicine. Medical informatics	43	
	R864 Medical records	15	
DEN5210 – <b>Developmental Biology</b> and <b>Psychosocial Issues</b> over the <b>Lifespan</b> (3) Developmental biological and psychosocial foundation knowledge across the life span will be presented in this course. Focus will be placed on the basic biology of normal growth and development of the head, neck and oral tissue as well as the	BF712-724.85 Developmental psychology Including infant	1157	

relevant biological and psychosocial issues associated with normal changes over the life-span that are relevant to oral health and the practice of dentistry. This course is a pre-requisite for DEN 5221C, Oral Health Management and Psychosocial Issues Over the Lifespan in semester two.			
DEN5121 – <b>Biochemistry, Molecular &amp; Cellular Biology</b> (4) Topics including structural biology, cellular organization and communication cell division, regulation of metabolic processes and gene structure and function will introduce students to aspects of advanced molecular and cellular biology and associated biochemical processes. These topics are designed to serve as foundation knowledge for course to follow in later semesters in tissue and organ structure and function, and general <b>pathology</b> .	QD241-441 Organic chemistry (includes QD415-436 Biochemistry)	2012	
	QH573-671 Cytology	916	
	QR1-502 Microbiology	1707	
	RB1-17 Pathology General works	2	
DEN5013 – Foundations Of <b>Professionalism</b> (2) This course provides an orientation to the new dental student and establishes the foundation for the development of an emotionally healthy and ethically competent general dentist. The new student is oriented to a variety of studying and coping skills to maintain emotional health and productive learning and also learns the rules and regulations governing academic and professional behavior. The student will also learn about the <b>ethical principles</b> impacting the dental profession and how to apply these principles to <b>ethical dilemmas</b> .	BJ1725 Ethics of social groups, classes, etc. Professional ethics	17	
	R690-697 Medicine as a profession. Physicians	83	
	R723-726 Medical philosophy. Medical ethics	403	
	R727-727.5 Medical personnel and the public. Physician and the public	55	
DEN5100C – <b>Gross Anatomy</b> (4) Basic macroscopic anatomical structure and functions of the human body, with emphasis on the head and neck will be presented thorough lectures, laboratory dissections and discussion sessions. This information serves as the foundation for understanding normal functions of the head, neck and oral structures as well as disorders related to those structures.	QM1-511 General Anatomy	285	
	QM531-549 Regional anatomy	29	
	QM550-577.8 Human and comparative histology	100	
DEN5120C – <b>Physiology</b> (5) This course provides foundation knowledge on the structure and normal function of the major body systems including the cardiovascular, pulmonary, renal, gastro-intestinal, endocrine and neurological systems. The	QP1-348 General Including influence of the environment	1970	
	QP351-495 Neurophysiology and neuropsychology	1334	

relationship of structure to normal function is presented with emphasis on components important to a dentist as a dental patient's case manager and to the prevention, diagnosis, and treatment of oral diseases. In addition, this course will provide the fundamental knowledge to support the understanding and appreciation of the interrelationships of systemic and oral health.	QP496-981 Physiology, Animal biochemistry, Experimental pharmacology	2036	
	RJ125-145 Physiology of children and adolescents	134	
DEN5126C – <b>Histology</b> (2) Basic microscopic anatomical structure and functions of the head, neck, teeth and various organ systems will be presented in lectures, microscope work, and discussion sessions. This information serves as the foundation for understanding normal structure and functions provided in physiology as well as disorders related to those structures provided in <b>pathology</b> .	RB24-33 Pathological anatomy and histology	13	
	RB37-56.5 Clinical pathology. Laboratory technique	130	
DEN5127 – <b>Infectious Diseases</b> (4) Providing the foundation knowledge of etiologic agents responsible for infectious diseases important to the general practice of dentistry. Oral infectious diseases are emphasized. The course includes content on microbiology, virology, periodontology, and cariology, as well as systemic and oral diseases with both classical descriptive content and modern molecular biological aspects such as recombinant technology to create new vaccines.	RA639-642 Transmission of disease	19	
	RA643-645 Disease (Communicable and noninfectious) and public health	409	
	RC109-216 Infectious and parasitic diseases	158	
DEN5221 – Oral Health Management and <b>Psychosocial Issues</b> over the <b>Lifespan</b> (2) This course emphasizes the management of a patient's oral health focusing on behavioral and sociological issues across the lifespan. It builds on previous biological and psychosocial foundation knowledge that directly impacts the practice of dentistry and the achievement and maintenance of oral health in patients. The course includes an overview of the principles of <b>gerontology</b> including the biological, sociological, and psychological aspects of aging; the changing demographics in the U.S. society; and their implications for the dental profession.	BF712-724.85 Developmental psychology Including infant psychology, child psychology, adolescence, adulthood COUNTED ABOVE	0	
	RC952-954.6 Geriatrics	86	

DEN5405C – Preclinical Operative Dentistry I/ <b>Biomaterials</b> (4) This course introduces fundamental concepts related to dental caries, its prevention, diagnosis and appropriate management. Emphasis is also placed on the biomaterial science and clinical application of composite resin restorative materials. Minimally invasive dentistry will be stressed, and principles of ergonomics and infection control as it relates to clinical dentistry will be introduced. The course is based on lectures and laboratory exercises in order to support the development of motor skills, self-evaluation and clinical judgment using a rational scientific basis.	R856-857 Biomedical engineering. Electronics. Instrumentation	134	
DEN6350 – <b>General Pathology</b> (4) General Pathology is a course that concerns the cause and the manifestations of diseases that affect the human body of relevance to dentistry.	RB37-56.5 Clinical pathology. Laboratory technique COUNTED ABOVE	0	
	RB127-150 Manifestations of disease	109	
	RB151-214 Theories of disease. Etiology. Pathogenesis	95	
DEN6421C – Periodontic Treatment Planning and <b>Disease Control</b> (2) Review of the information on <b>etiology and pathogenesis</b> of periodontal disease. Students will be introduced to data gathering, diagnosis of periodontal diseases, establishing prognoses, treatment planning and the steps in the first phase of periodontal therapy. Skill development laboratory sessions will focus on oral hygiene skills and motivation of patients, root preparation procedures, and evaluation of phase 1 treatment.	RB37-56.5 Clinical pathology. Laboratory technique COUNTED ABOVE	0	
	RB151-214 Theories of disease. Etiology. Pathogenesis COUNTED ABOVE	0	
DEN6250C – <b>Pain and Anxiety</b> Control in Dental Patients (1) This course acquaints the undergraduate with the academic aspects of administration of local anesthetics, inhalation analgesia, and anxiety control.	RK501-519 Operative dentistry. Restorative dentistry COUNTED ABOVE	0	
DEN6260 – Oral Medicine and <b>Pharmacotherapeutics</b> (2) This course describes the diseases of the organ-systems that have an impact on dental therapy, the clinical pharmacology of physician prescribed drugs and drug interactions, and the clinical therapeutics for treatment of oral region disease processes.	RM138 Drug prescribing	0	
	RM139 Prescription writing	1	
	RM146-146.7 Misuse of therapeutic drugs. Medication errors	5	
	RM147-180 Administration of drugs and other therapeutic agents	53	



DEN6262 – Principles of <b>Pharmacology</b> (2) This course describes the basic principles of pharmacokinetics and pharmacodynamics, with an emphasis on dental applications. Several clinical correlations are also included.	RM260-263 Chemotherapy	25	
	RM265-267 Antibiotic therapy. Antibiotics	14	
	RM270-282 Immunotherapy. Serotherapy	2	
	RM283-298 Endocrinotherapy. Organotherapy	11	
	RM300-666 Drugs and their actions	428	
	RM671-671.5 Nonprescription drugs. Patent medicines	3	
DEN6508C – Essentials of <b>Clinical Care</b> (1) This course is designed to review, reinforce and prepare students for entry into clinical patient care in the UFCO TEAMS Clinics. Essential foundational concepts and skills in dentistry will be reviewed. Clinic procedures and protocols including emergency preparedness, associate group dynamics, and patient assignment as they relate to patient management and care will also be emphasized in this course.	RA960-1000.5 Medical centers. Hospitals. Dispensaries. Clinics Including ambulance service, nursing homes, hospices	577	
DEN7762L – Clinical <b>Radiology</b> 1: Radiographic Technique (0) The student will expose, mount, and critique radiographic surveys for assigned patients; develop appropriate judgment and reasoning to declare a radiograph clinically acceptable as outlined by “criteria of radiographic acceptability”; and demonstrate proper radiation hygiene, infection control techniques, and appropriate patient management.	R895-920 Medical physics. Medical radiology. Nuclear medicine	22	
DEN6416C – Basic Sciences Review (2) This course provides a systematic approach to the review of the basic <b>biomedical and anatomical sciences</b> in preparation for entrance into the clinical education program.	QH426-470 Genetics	1011	
	QM1-511 General Anatomy COUNTED ABOVE	0	
	R856-857 Biomedical engineering COUNTED ABOVE	0	
DEN8767L – <b>Clinical Oncology</b> and Oral <b>Pathology</b> (1 for students on rotation) The student will become familiar with specialized oral care for cancer patients, attend head and neck tumor conferences and demonstrate recognition and management of oral pathologic diseases.	RB37-56.5 Clinical pathology. Laboratory technique COUNTED ABOVE	0	
	RC254-282 Neoplasms. Tumors. Oncology Including cancer and carcinogens	445	
	Total 16,332	16185	147

## Databases

AccessMedicine\*  
CINAHL Plus with Full Text  
Clinical Key\*  
Cochrane Library\*  
Dissertations and Theses Global  
Embase\*  
ERIC  
Health and Psychosocial Instruments (HaPI)  
Journal Citation Reports  
LWW Health Library\*  
LW W High Impact Journal Collection\*  
Natural Medicines  
PsycArticles  
PsycINFO  
PubMed/Medline  
SciFinder  
Thieme MedOne Education\*  
UpToDate\*  
Web of Science  
\*Funded by the FAU Schmidt College of Medicine

**Additional Library resources needed to implement and/or sustain the program on an ongoing basis  
Library will have to obtain a price quote**

**Databases**

- BoardVitals database
- DOSS – Dentistry and Oral Sciences Source database
- LexiComp Dentistry database
- STAT!Ref database - Core Resources Collection for Dentistry and Dental Hygiene

**E-Books for Opening Day Collection**

- E-Book Collection in GOBI (Spotlight Titles in Dentistry from GOBI (17 e-book titles)
- Dentistry and Oral Sciences Collection 2022 from EBSCO (50 e-book titles)
- Doody’s Core Titles Essential Purchases 2022 from EBSCO (85 e-book titles)
- Wiley-Blackwell Dentistry / oral & maxillofacial medicine 2022 (10 e-book titles)

**Library Will Need Funding for Annual Purchasing of approximately 100 E-Books per year**

**Estimated Annual Funds Needed to Acquire Library Resources listed above for the DMD: Minimum \$200,000 - \$250,000 (Databases: \$100,000; E-Books: \$75,000; E-Journals: \$40,000)**

**Florida Atlantic University Schmidt College of Medicine Library Resources Funding**

The following table lists the Budgeted Expenditures for the FAU Schmidt College of Medicine’s first five years of the MD degree program (2011-2016). This data was submitted to the LCME (Liaison Committee on Medical Education). We are expecting the College of Dentistry to be lower than the College of Medicine.

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
<b>Budgeted</b>	2011-12	2012-13	2013-14	2014-15	2015-16

<b>Expenditures</b>					
<b>Library Materials and Resources</b>	\$300,000	\$325,000	\$350,000	\$400,000	\$412,000

“Library Materials and Resources” includes funding to purchase additional hardcopy and electronic resources related to the FAU COM for the FAU Wimberly Library.

### **Florida Atlantic University Schmidt College of Medicine Library Faculty Personnel Funding**

Salaries and benefits for three library positions, two of which will be completely funded in the COM budget and one of which will be partially funded in the COM budget, are included in the Professional Staff Salaries and Benefits category.

	<b>Salary</b>	<b>Benefits</b>	<b>Total</b>
<b>Senior Medical Librarian for College of Medicine</b>	\$80,340	\$24,102	\$104,442
<b>Medical Liaison and Outreach Librarian</b>	\$51,736.48	\$15,520.94	\$57,257.24
<b>Library Processing/Resource Licensing</b>	\$32,116.44	\$9,634.93	\$41,751.37

We expect that the College of Dentistry will not need the same amount of professional library services. We are estimating salaries and benefits for two library positions, one of which will be completely funded in the DDM budget and one of which will be partially funded in the COM budget, have included in the Professional Staff Salaries and Benefits category.

	<b>Salary</b>	<b>Benefits</b>	<b>Total</b>
<b>Senior Medical Librarian for College of Dentistry</b>	\$51,736.48	\$15,520.94	\$57,257.24
<b>Library Processing/Resource Licensing</b>	\$16,058.24	\$4,817.46	\$20,875.7

## Statement from Dean of Libraries

The total number of volumes and serials available in this discipline and related fields is 16,332 monograph volumes and 399 journal titles.

A list major journals that are available to the university's students is as follows:

- Journal of Dental Research
- International Endodontic Journal
- Journal of Endodontics
- Dental materials
- Clinical Implant Dentistry and Related Research
- Journal of Prosthodontic Research
- Journal of Dentistry (Elsevier)
- Caries Research
- Molecular Oral Microbiology
- Journal of Oral Rehabilitation
- Clinical Oral Investigations
- Journal of Prosthodontics
- International Journal of Paediatric Dentistry
- Community Dentistry and Oral Epidemiology
- Journal of Esthetic and Restorative Dentistry
- DentoMaxilloFacial Radiology
- Oral Diseases
- Dental Clinics of North America
- Gerodontology

Barbara Barzansky, PhD, MHPE  
Co-Secretary  
Liaison Committee on Medical Education  
American Medical Association  
330 North Wabash Avenue, Suite 39300  
Chicago, IL 60611-5885  
Phone: 312-464-4933  
E-mail: barbara.barzansky@ama-assn.org



Veronica M. Catanese, MD, MBA  
Co-Secretary  
Liaison Committee on Medical Education  
Association of American Medical Colleges  
655 K Street, NW, Suite 100  
Washington, DC 20001-2339  
Phone: 202-828-0596  
E-mail: vcatanese@aamc.org

June 23, 2020

John W. Kelly, PhD  
President  
Florida Atlantic University  
Administration Building, Room 339  
777 Glades Road  
Boca Raton, FL 33431

RE: Survey visit for full accreditation on February 16-19, 2020

Dear President Kelly:

The purpose of this letter is to inform you of the decisions made by the Liaison Committee on Medical Education (LCME) at its June 16-17, 2020 meeting regarding the accreditation status of the medical education program leading to the MD degree at the Charles E. Schmidt College of Medicine at Florida Atlantic University. This letter also serves to transmit to you the determinations regarding compliance with accreditation standards and performance in accreditation elements on which those decisions were based.

After reviewing the survey report and survey team findings from the LCME survey team that conducted a survey visit for full accreditation on February 16-19, 2020, the LCME voted as follows:

<b>LCME Determination</b>	Continue full accreditation of the medical education program for an eight-year term
<b>Required Follow-Up for the School</b>	Status report due by August 2, 2021
<b>Next Full Survey Visit</b>	2027-28 academic year

The Medical School Directory on the LCME website, [lcme.org/directory](http://lcme.org/directory), will be updated to reflect this change in the next full survey date.

Section I of this letter summarizes the medical education program's compliance with each of the 12 LCME standards based on the program's performance in the elements that collectively constitute each standard. Sections II and III of this letter summarize the LCME's determinations for the medical education program's performance in accreditation elements requiring follow-up. Section IV of this letter summarizes the required follow-up. Section V of this letter contains additional information important for the medical education program. **Note especially information related to the LCME policy regarding timing for a program to achieve**

**satisfactory performance in accreditation elements and to achieve compliance with standards.**

## **I. LCME DETERMINATIONS OF COMPLIANCE WITH ACCREDITATION STANDARDS**

<b>Standard</b>	<b>LCME Determination</b>
Standard 1: Mission, Planning, Organization, and Integrity	C
Standard 2: Leadership and Administration	C
Standard 3: Academic and Learning Environments	C
Standard 4: Faculty Preparation, Productivity, Participation, and Policies	C
Standard 5: Educational Resources and Infrastructure	CM
Standard 6: Competencies, Curricular Objectives, and Curricular Design	C
Standard 7: Curricular Content	C
Standard 8: Curricular Management, Evaluation, and Enhancement	C
Standard 9: Teaching, Supervision, Assessment, and Student and Patient Safety	C
Standard 10: Medical Student Selection, Assignment, and Progress	NC
Standard 11: Medical Student Academic Support, Career Advising, and Educational Records	C
Standard 12: Medical Student Health Services, Personal Counseling, and Financial Aid Services	C

C = Compliance, CM = Compliance with a Need for Monitoring, NC = Noncompliance

## **II. ACCREDITATION ELEMENTS IN WHICH THE PROGRAM'S PERFORMANCE IS SATISFACTORY WITH A NEED FOR MONITORING**

<b>Element</b>	<b>LCME Finding</b>
Element 3.3 (diversity/pipeline programs and partnerships)	The college of medicine has implemented multiple approaches to promote diversity and inclusion and has recruited a diverse student body and has achieved diversity in senior leadership. The proportion of Black/African American and Hispanic/Latino employed/full-time faculty is low and recruitment efforts to increase faculty in these school-identified diversity categories have had limited success. A new diversity action plan currently is under development, but there are no data yet to determine the effectiveness of this plan.
Element 5.1 (adequacy of financial resources)	The medical school has adequate financial resources to support its current educational program operations. The school has a strategic plan to grow the research and clinical missions that is dependent upon increasing extramural research funding, increasing clinical revenue, and continued annual state appropriations. These dependencies have year-to-year variability that result in financial uncertainty over the long-term. The financial resources need monitoring.

**III. ACCREDITATION ELEMENTS IN WHICH THE PROGRAM’S PERFORMANCE IS UNSATISFACTORY**

<b>Element</b>	<b>LCME Finding</b>
Element 10.2 (final authority of admission committee)	The initial screening of applicants is performed by a single staff member in the Office of Admissions without faculty involvement. This screening is reported to be holistic but is performed without clear criteria, charge, and oversight from the Admissions Committee.
Element 12.2 (tuition refund policy)	The tuition refund policy does not include information about refunds of payments for health or disability insurance.

**IV. REQUIRED FOLLOW-UP FOR THE SCHOOL**

The LCME requests a status report by **August 2, 2021**, containing the information listed below. Include a dated and signed cover letter addressed to both LCME Co-Secretaries. Email the status report and cover letter to [lcmesubmissions@aamc.org](mailto:lcmesubmissions@aamc.org) as a single PDF file. Do not submit a scanned PDF file. Do not mail a paper copy of the status report nor include hyperlinks in the submitted document(s). If there is a need to reference a website, create an appendix with a table of contents and include (non-scanned) PDF files of the relevant webpages and/or screenshots; appendix documents should be placed at the end of a report, not embedded in each response. The dean should contact the LCME Co-Secretaries for clarification on a specific request. Email [lcmesubmissions@aamc.org](mailto:lcmesubmissions@aamc.org) for questions regarding the submission or formatting of materials.

*In the status report, specify the LCME’s determination of the program’s performance in each element (i.e., unsatisfactory or satisfactory with a need for monitoring) as listed in this letter.*

**Element 3.3 (diversity/pipeline programs and partnerships) – Satisfactory with a Need for Monitoring**

1. Provide a copy of the new diversity action plan, including timelines, that was under development at the time of the February 2020 full survey visit. Provide the date that the plan was formally approved and note by what individuals and groups the approvals were granted. Delineate those aspects of new plan that are specifically related to recruitment of faculty in each of the school’s identified diversity categories.
2. Complete the following table:

<b>Offers Made for Faculty Positions</b>						
Provide the total number of offers of faculty positions made to individuals in the school’s identified diversity categories. Add rows as needed for each diversity category.						
	AY 2019-20			AY 2020-21		
School-identified Diversity Category	# of Declined Offers	# of Faculty Hired	Total Offers	# of Declined Offers	# of Faculty Hired	Total Offers

3. Evaluate the effectiveness of the new diversity action plan in the context of the data presented in the “Offers Made for Faculty Positions” table above.



**Element 5.1 (adequacy of financial resources) – Satisfactory with a Need for Monitoring**

1. Provide a copy of the 2020 LCME Part I-A Annual Financial Questionnaire and the “Overview of Organization and Financial Characteristics Survey.”
2. Summarize trends in each of the funding sources available to the medical school, including their stability. Describe any substantive changes in the following areas during fiscal years 2019, 2020, 2021, and 2022 (based on current projections).
  - a. Total revenues
  - b. Operating margin
  - c. Revenue mix
  - d. Market value of endowments
  - e. Medical school reserves
  - f. Debt service
  - g. Outstanding debt
  - h. Departmental reserves
3. Evaluate the results of the school’s strategic plan in the areas of increasing extramural research funding, increasing clinical revenue, and continued annual state appropriations. Discuss the effects of COVID-19-induced reductions/variability in revenue streams on ongoing support of the medical education program.

**Element 10.2 (final authority of admission committee) – Unsatisfactory**

1. Provide a copy of the approved Admissions Committee policy and/or procedure manual that documents the process for initial screening of applicants. Describe the role of the Admissions Committee in developing the screening criteria, training the screener(s), and exercising oversight of this step in this admissions process. Note the roles of others, if any, who participated in these roles.

**Element 12.2 (tuition refund policy) – Unsatisfactory**

1. Provide a copy of the approved tuition refund policy that includes information about refunds to medical students for health and, if applicable, disability insurance. Describe how and when students are made aware of this policy.

**V. IMPORTANT INFORMATION FOR THE MEDICAL EDUCATION PROGRAM**

**NOTIFICATION TO THE U.S. DEPARTMENT OF EDUCATION OF ACCREDITATION STATUS**

The LCME is required to notify the United States Department of Education of all of its final accreditation determinations, including determinations of “accredited,” “accredited, with warning,” and “accredited, on probation.” The LCME is also required by the U.S. Department of Education to make available to the public all final determinations of “accredited” and “accredited, on probation.”

### **TIMING FOR A PROGRAM TO ACHIEVE SATISFACTORY PERFORMANCE IN ELEMENTS AND COMPLIANCE WITH STANDARDS**

If the LCME determines a program to be in noncompliance with a standard at the same time that the program's performance in an associated element is found to be unsatisfactory, the total time for correction of the deficiencies in compliance and performance will be two years. If the LCME determines a program to be in compliance or compliance with a need for monitoring with a standard but if the performance in an element within that standard is unsatisfactory, the program must achieve a status of satisfactory or satisfactory with a need for monitoring in that element within a maximum of two years; if that does not occur, the LCME will find the program to be in noncompliance with the relevant standard. The LCME requires that the LCME document compliance with all LCME accreditation standards within two years of the LCME meeting at which the noncompliance determination was made. For more details, refer to the most recent version of the LCME *Rules of Procedure*, available on the LCME website, [lcme.org/publications](http://lcme.org/publications).

### **ALIGNING FOLLOW-UP WITH THE APPROPRIATE ACCREDITATION ELEMENTS**

Programs that have status reports due to the LCME are responsible for aligning the follow-up items in the reports with the *Functions and Structure of a Medical School* document whose effective academic year corresponds with the academic year in which each status report is due. To review the current list of LCME accreditation standards and elements, refer to the most recent version of the *Functions and Structure of a Medical School* document, available on the LCME website, [lcme.org/publications](http://lcme.org/publications).

### **CHANGES THAT REQUIRE NOTIFICATION TO THE LCME**

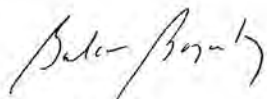
The LCME awards accreditation to a medical education program based on a judgment that there exists an appropriate balance between student enrollment and the total resources of the institution, including faculty, facilities, and operating budget. If there are plans to significantly modify the educational program, or if there is to be a substantial change in either student enrollment or in the resources of the institution such that the balance becomes distorted, the LCME requires advance notice of the proposed change. Substantial changes may lead the LCME to re-evaluate a program's accreditation status. All schools are responsible for keeping up to date on current LCME notification requirements detailed on the LCME website, [lcme.org/about/accreditation-process-overview/#maintaining-accreditation](http://lcme.org/about/accreditation-process-overview/#maintaining-accreditation).

John W. Kelly, PhD

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The Secretariat staff will provide information via email for accessing the survey report and survey report appendix electronically. The survey report is for the use of the Charles E. Schmidt College of Medicine at Florida Atlantic University and the university. Any public sharing of its contents is at the discretion of institutional officials.

Sincerely,



Barbara Barzansky, PhD, MHPE  
LCME Co-Secretary



Veronica M. Catanese, MD, MBA  
LCME Co-Secretary

CC: Phillip M. Boiselle, MD  
Dean, Charles E. Schmidt College of Medicine at Florida Atlantic University

Streams	Year 1		Year 2		
	Fall Semester 1	Spring Semester 2	Summer Semester 3	Fall Semester 4	Spring Semester 5
Stream 1 Structure and Function of Body Systems	5100C Gross Anatomy (4) 5121 Biochemical, Molecular and Cellular Biology (4)	5120C Physiology (5) 5127 Infectious Diseases(4) 5126C Histology (2)	6128 Host Defense (3)		
Stream 2 Developmental Biology, Diagnostic and Therapeutic Sciences	5210 Developmental Biology and Psychosocial Issues, Part 1 (3)	5221 Oral Health Management and Psychosocial Issues Over the Lifespan	6350 General Pathology (4)	6251 Science and Clinical Management of Dental Pain (2) 6351 Oral Pathology (3)	6260 Oral Medicine and Pharmacotherapeutics (2) 6262 Principles of Pharmacology (2) 6440 Intro to OMFS, Part 1 (1)
Stream 3 Principles of Professionalism and Oral Health Management	5013 Foundations of Professionalism (2)	5502C Cariology	6015 PPCPM I 6001 Evidence-based Dental Practice (1)	6015 PPCPM I Continued	6015 PPCPM I Continued
Stream 4 Foundations of Psychomotor Skills	5404C Dental Anatomy and Stomatognathics (2)	5405C Preclinical Operative Dentistry I (4)	6407C Preclinical Operative Dentistry II (3) 6213C Fundamentals of Occlusion (3) 6301C Fundamentals of Oral and Maxillofacial Radiology (2)	6421C Perio Treatment Plan and Disease Control (2) 6412C Preclinical Fixed Pros 1 (2) 6430C Principles of Endo (1)	Treatment Planning (3) 6460C Pros for Edentulous Patients (2) 6415C Preclinical Fixed Pros 2 (2) 6432C Basic Endo Therapy (2)
Stream 5 Clinical Practice (Comprehensive Patient Care)	DEN5505C Introduction to clinical Care (1)				
Stream 6 Rotations (Block Patient Care)			6705L Public Health (0)	6705L Public Health (0)	6705L Public Health (1)
Electives	Elective Course Offerings (6)				

Streams	Year 3			Year 4			
	Summer Semester 6	Fall Semester 7	Spring Semester 8	Summer Semester 9	Fall Semester 10	Spring Semester 11	
Stream 1 Structure and Function of Body Systems	6416C Basic Sciences Review (2)						
Stream 2 Developmental Biology, Diagnostic and Therapeutic Sciences	7417 Concepts in Orofacial Pain (1)	7441 Intro OMFS - Part II (1)	7319 Geriatric Dentistry (1) 7442 Overview Adv OMFS (1) 7433 Evidence-based Endo (1) 8263 Ad. OM continued (1) 8303 Ad Rad Interpretation (1)	8353 Ad Diff Diagnosis (1) 8423 Perio in GP (1) 8462 Ad Topics Pros (1)			
Stream 3 Principles of Professionalism and Oral Health Management	7012 ISL 3 (1) 7016 PPCPM II (0)	7012 ISL 3 cont (1) 7016 PPCPM II (1)	7012 ISL 3 cont (1) 7017 PPCPM II (1)	8019 ISL 4 cont (1) 7017 PPCPM III (1)	8019 ISL 4 cont (1) 8018 PPCPM IV (1) 8321 Practice Management (2)	8019 ISL 4 cont (1) 8018 PPCPM IV (1)	
Stream 4 Foundations of Psychomotor Skills	7450 Orthodontics (1) 7452C Ped Dentistry (3) 7413C Rem Part Pros (2)	7411C Overview Implant Dentistry (2) Perio Surgery (1)	7717 CI Use of Dental Materials (1)	9719 Selection of CI Dental Materials (1)			
Stream 5 Clinical Practice (Comprehensive Patient Care)	6508C Essentials of Clinical Care (1) 7761L Treatment Planning I (0) 7744L Operative Dentistry (2) 7834L Perio (2)	7761L Treatment Planning 1 (1) 7745L Operative Dentistry 2 (3) 7835L Perio (3) 7845L Prosth 1 (3) 7735L Endo 1 (1)	7761L Treatment Planning 2 (1) 7745L Operative Dentistry 3 (3) 7835L Perio 3 (3) 7845L Prosth 2 (3) 7735L Endo 2 (1)	7761L Treatment Planning 2 (1) 7745L Operative Dentistry 4 (3) 7835L Perio 4 (3) 7845L Prosth 3 (3) 7735L Endo 3 (1)	7761L Treatment Planning 3 (0) 7745L Operative Dentistry 5 (3) 7835L Perio 5 (3) 7845L Prosth 4 (4) 7735L Endo 4 (1)	7761L Treatment Planning 3 (1) 7745L Operative Dentistry 6 (2) 7835L Perio 6 (2) 7845L Prosth 5 (3) 7735L Endo 5 (1)	
Stream 6 Rotations (Block Patient Care)	7805L OMFS 1 (0) 7762L Radiology 1 (0)	7805L OMFS 1 (0) 7762L Radiology 1 (0) 7825L Ped Dentistry 1 (1) 7819L CI Ortho (1)	7805L OMFS 1 (0) 7762L Radiology 0 (1)	7805L OMFS 2 (0) 7762L Radiology 1 (1) 7825L Ped Dentistry 2 (1) 7819L Com Dentistry 1 (1)	7805L OMFS 2 (1) 7762L Radiology 2 (1)	7805L OMFS 2 (1) 7762L Radiology 2 (1)	
		7826L Ped Dental Grad (1)			Oncology/Oral Path (1)		
		7443L Hospital Dentistry (1)			8960L CI Exam 2 (1)		
Electives	Elective Course Offerings (6)						
Dental Board Examinations	NBDE Part 1			NBDE Part II			
				INBDE			

**State University System  
Education and General  
2023-2024 Legislative Budget Request  
Form I**

<b>University(s):</b>	<b>Florida Atlantic University</b>
<b>Request Title:</b>	<b>Enhancing and Expanding Florida's Dental Services</b>
<b>Date Request Approved by University Board of Trustees:</b>	<b>September 19, 2022 (pending)</b>
<b>Recurring Funds Requested:</b>	<b>\$37,857,000</b>
<b>Non-Recurring Funds Requested:</b>	<b>\$85,464,000</b>
<b>Total Funds Requested:</b>	<b>\$123,321,000</b>
<b>Please check the request type below:</b>	
<b>Shared Services/System-Wide Request</b>	<input type="checkbox"/>
<b>Unique Request</b>	<input checked="" type="checkbox"/>

**I. Purpose**

**In order to increase overall dental student enrollment and graduates that can best serve the needs of our growing population in Florida**, Florida Atlantic University is proposing the formation of the state's second public dental school.

Florida Atlantic University aims to create a new College of Dentistry and to offer the Doctor of Dental Medicine (D.M.D.) program starting in 2025. The College of Dentistry is aligned with the development of FAU Health Network. We plan to admit 45 students in year 1 and have a staggered increase to 90 students over 4 years with a total enrollment of 350 students once fully enrolled (assuming attrition). The College of Dentistry will be supported by a proposed \$30 million lead donation and will be housed in a new 94,000 gsf College of Dentistry facility that will be constructed on FAU's Boca Raton campus. In addition to the operational funding requested in this legislative budget request, the College of Dentistry facility will be a fixed capital outlay request that seeks state support during the upcoming legislative session. In addition to standardized patient clinical program requirements, dental care clinic experiences will be operationalized in Broward, Palm Beach, and Martin counties with full and affiliate faculty members, similar to the clinical rotations provided by our College of Medicine and College of Nursing. The College of Dentistry also will partner with public and private partners in the FAU Health Network. The College of Dentistry is an essential component of FAU Health Network's mission to best

serve the growing population of Florida. Further, the clinical, education and research opportunities will enhance Florida's life sciences sector, boosting its workforce and related economic impact.

The U.S. Bureau of Labor Statistics projects 19 percent job growth for dentists (from 2016 to 2026), which is much faster than average. The bureau cites an aging population and new research linking oral and overall health as reasons for the increased demand for dental care. A 2019 report from Health Resources and Services Administration shows that one in four Florida residents already live in areas with a shortage of dentists, more than any other state. Topping the list of states with "Dental Health Professional Shortage Areas," more than 5 million Floridians live in areas that have limited or no access to a dentist. In fact, 63 of 67 counties have a dental shortage. Data from Wellbeing Florida shows that in 2021 hospitals billed more than \$620 million in preventable ER visits and hospital admissions stemming from oral health issues. About half of that was billed through Medicaid, Medicare and other government programs.

The elderly community and children are the populations that most often have limited access to dental care. Among those over 65 years of age, one in three people have significant dental issues as a result of tooth decay or gum disease, and 14 percent of seniors ultimately have all their teeth extracted. Moreover, one in five children in Florida suffer from treatable dental problems. Almost a quarter of Florida's third-grade children suffer from untreated tooth decay. Correspondingly, Florida is ranked sixth in the nation for the highest percentage of third-grade children with unfilled cavities.

According to the Journal of the American Dental Association, as a result of the current dentist shortage, the United States is seeing more foreign-trained dentists in the United States. Dentists trained outside the US have increased from 4.3% to 6% from 2002-2016, and estimates place that rate as high as 8% currently. However, current immigration policies continue to impact the ability to recruit and retain foreign trained dentists. The impacts of these policies are likely to be felt hardest in rural areas – the places that prove most challenging when attempting to recruit practicing dentists.

Florida Atlantic's proposed College of Dentistry aligns with the overall FAU Strategic Plan, *The Race to Excellence*, which includes health as one of its academic pillars and community relationships as an essential element. Moreover, the programs also concur with FAU's annual Accountability Plan, which establishes targets to produce more degrees in areas of strategic emphases and to meet workforce needs in health fields.

According to the American Dental Education Association (ADEA), private dental schools on average burden a student with over \$500,000 in tuition, materials costs and administrative fees. These costs are projected to increase at a rate of 3-5 percent per year for the next 4 years. Currently, the state of Florida has only one publicly funded dental school to service a population of 22.2M residents.

The proposed FAU College of Dentistry would become the second public dental school in the state and would focus on recruiting students with a passion to work in underserved and rural areas.

Our goals are to:

1. Establish the infrastructure for the education mission of the school inclusive of an office of student affairs, accreditation and curriculum development, in accordance with the requirements of the Commission on Dental Accreditation (CODA).
  - a. CODA evaluates the educational quality of predoctoral, advanced, and allied dental education programs in the United States. All 50 states plus Puerto Rico and the District of Columbia recognize the Commission's authority to accredit predoctoral, advanced, and allied dental education programs in their respective disciplines.
  - b. The Commission also evaluates the educational quality of international dental education programs (see International Predoctoral Policies and Procedures). The Commission on Dental Accreditation has developed accreditation standards for each of the disciplines within its purview. The standards, which are the basis for accreditation actions, are reviewed periodically and revised as necessary (see CODA Policy and Procedures for Development and Revision of Accreditation Standards).
2. Recruit, hire and train an additional 30 teaching, clinical and research faculty and supporting staff to actualize the education, research and clinical curriculum.
3. Recruit, hire and train an additional 10 faculty to lead and manage the college's administrative operations from the tripartite mission perspective.
4. Partner with precepting faculty in underserved communities as well as with the state to advance loan repayment programs designed to incentivize graduates to serve in underserved areas

**Goal 1 Establish the infrastructure and facilities for the educational mission of the school inclusive of an office of student affairs, accreditation and curriculum development.**

- (1) Recruit, hire and retain a founding dean, associate dean for student affairs, assistant dean of curriculum, and senior faculty with expertise in accreditation. They will need legal, financial and human resources personnel in addition to support staff.
- (2) Hire a focused consulting firm to expedite the accreditation process.



- (3) Purchase learning tools and equipment .
- (4) Identify academic classrooms for didactic learning areas.
- (5) Build dedicated dental school facilities by year 3 that include:
  - a. Wet laboratory with online milling units, sintering oven, and intraoral scanners with learning software.
  - b. Preclinical spaces for simulation learning of basic skills of dentistry, as well as fixed and removable prosthodontics on mannequins.
  - c. Instructional clinical spaces with comprehensive dental operatories for standardized patient, student treatment clinics.

**Goal 2 & 3 Recruit, hire and train an additional 30 teaching, clinical and research faculty to actualize the education, research and clinical curriculum and an additional 10 faculty to lead and manage the college's administrative operations from the tripartite mission perspective.**

- (1) Will recruit 30 full-time, qualified "core faculty" as described by the CODA, as well as supporting staff to deliver a high quality DMD curriculum in accordance with CODA specifications.
  - a. The standards for accreditation curriculum must include at least four academic years of instruction or its equivalent.
  - b. 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.
  - c. Using the CODA definition of an FTE, the prescribed student-faculty ratio for instruction preclinically and clinically in the predoctoral program – subtracting out administrators, biomedical scientists, and those who have other teaching responsibilities such as shared responsibilities with the college of medicine (e.g. anatomy), is not to exceed 10:1 and should accommodate the requirements of clinical instruction (70 percent or more by core faculty).
- (2) We will hire key roles for implementation and execution of the curriculum including IT, library services, research services, simulation, and rural outreach.

- (3) We will hire administrative leadership that will oversee and ensure the delivery of a quality dental education program, meeting and exceeding CODA standards for education, and embracing the tripartite mission.

**Goal 4 Partner with the state moving forward on loan repayment programs designed to incentivize graduates to serve in underserved areas.**

- (1) We will establish clinical opportunities with qualified preceptors in our local and regional community.
  - a. Adjunct faculty are defined as dentists from the community that practice in a variety of clinical settings and commit to teaching one day a week for ten months a year.
- (2) Recruit an Asst Dean of Admissions and office staff to recruit students to achieve these goals. Work with state lawmakers to develop proposed legislation that would establish dental education reimbursement and loan repayment programs similar to the Medical Education Reimbursement and Loan Repayment Program referenced in § 1009.65 Fla. Stat.

## **II. Return on Investment**

### *Contributions*

FAU is making the following contributions to creation of its College of Dentistry:

- Leveraging existing resources within the University, including infrastructure surrounding finance, human resources, information technology, legal, marketing, registrar services.
- Maximizing opportunities for interprofessional learning in pre-clinical classes and in research programs.
- Shared use of existing simulation and anatomy labs with College of Medicine.
- Shared instructors with the College of Medicine in common or overlapping areas of training.
- Use of lecture halls and other spaces with other Colleges on FAU campuses.
- Use of simulation lab in the Medical Research space for basic science faculty.

### *Projected Return on Investment*

FAU Health Network aims to best serve the healthcare needs of the population of the region and of Florida through education, research integration and interprofessional practice. Florida Atlantic's Boca campus currently houses 7 colleges related to health sciences (e.g. biomedical engineering, medicine, nursing, psychology, social work).

The proposed College of Dentistry is the next natural progression of this coalition of collaboration. The College of Dentistry will be a key pillar in this foundation of

care delivery, providing a pipeline of highly trained dental professionals, well equipped to serve the community.

Population and economic growth are driving the demand for and the expansion of the life sciences sector in Southeast Florida. According to the Business Development Board of Palm Beach County, the county alone is home to 15 hospital and over 700 life sciences companies primarily engaged in medical services, as well as the research and development or manufacturing of biotechnologies, medical devices, pharmaceuticals, and biological sciences. The construction and operationalization of a new College of Dentistry would have a significant impact on the region's growing life sciences sector. The design and construction of a new 94,000 gsf College of Dentistry facility would result in approximately 1,500 direct, indirect and induced jobs. These numbers are over and above the 40 full-time faculty and 70 full-time support staff that will be employed once the College of Dentistry is fully operational. In addition to directly creating 110 high wage jobs and infusing tens of millions of dollar into the regional economy, the ongoing operations of the College of Dentistry will also have significant indirect impacts on job creation. It is estimated that an additional 540 indirect jobs will be created as a result of the College of Dentistry's annual operations.

In addition, FAU Health Network will work collaboratively with the region's 12 dental hygiene programs to provide additional clinical rotation opportunities – also impacted by the shortage of dentists in the region. The ability to find and retain adequate preceptors is becoming evermore challenging for the dental allied health providers. These programs directly benefit from connectivity to a dental school and will also help FAU reduce the cost of clinical support personnel.

Between 80-90% of the dental students that train in Florida remain in Florida, this will have a tremendous impact on the number of dentists available to serve. Focusing the curriculum on serving the underserved will benefit the 63 counties that have a shortage of dental providers.

The primary educational outcomes of the proposed programs include student enrollment and graduation numbers. The primary workforce outcomes include the number and percentage of students who successfully pass the National Board Dental Examination (Part 1 and 2) and enter the dental workforce in Florida, and specifically in underserved areas of the state. This program will increase the number of dental graduates, and will recruit students likely to stay in the region as they develop ties to the community that will further increase the likelihood of retention. The expected returns on investment (ROI) include increases in the number of dentists, as well as allied dental professionals, such as dental hygienists and assistants, that are added to Florida's workforce.

The funding for doctoral student stipends/scholarships will also allow us to attract and enroll additional students and will also contribute to the college and FAU's mission.

### **III. Personnel**

This legislative budget request contains a combination of both recurring operational and non-recurring startup funds that would support the creation and ongoing operations of the College of Dentistry.

The majority of costs associated with the program are recurring and are for personnel needed to support the college and for the annual, recurring expenses associated with the program for operations, equipment, supplies, mannequins, radiological software, and diagnostic tools.

A minimum of 40.0 total faculty FTEs, 70.0 staff FTEs, and 10 adjunct FTEs will be hired. Various faculty will be needed to represent expertise in administration, education and research.

Additionally, the remaining \$85.5M non-recurring request would fund the startup faculty and staff expenses, fees, infrastructure and equipment necessary to provide academic instruction in clinical settings and in campus simulation lab settings.

**IV. Facilities**

	<b>Facility Project Title</b>	<b>Fiscal Year</b>	<b>Amount Requested</b>	<b>Priority Number</b>
<b>1.</b>	College of Dentistry Facility	2024-2025	\$84,695,700	N/A
<b>2.</b>				



**2022-2023 Legislative Budget Request**  
**Education and General**  
**Position and Fiscal Summary**  
**Operating Budget Form II**  
 (to be completed for each issue)

**University:** Florida Atlantic University  
**Issue Title:** Enhancing and Expanding Florida's Dental Services

	<u>RECURRING</u>	<u>NON-RECURRING</u>	<u>TOTAL</u>
Faculty	40.00		40.00
Other (A&P/USPS)	70.00		70.00
 Total	 110.00		 110.00
	=====	=====	=====
	=====	=====	=====
Salaries and Benefits	\$21,357,000		\$21,357,000
Other Personal Services		\$750,000	\$750,000
Expenses	\$15,000,000	\$12,000,000	\$27,000,000
Operating Capital Outlay		\$72,714,000	\$72,714,000
Electronic Data Processing	\$450,000		\$450,000
Financial Aid	\$1,050,000		\$1,050,000
Special Category (Specific)			
	=====	=====	=====
Total All Categories	\$37,857,000	\$85,464,000	\$123,321,000
	=====	=====	=====



Item: IV.

**Monday, September 19, 2022**

**SUBJECT: APPROVAL OF THE FLORIDA ATLANTIC UNIVERSITY REVISED 2023-24  
FIVE YEAR CAPITAL IMPROVEMENT PLAN (FIXED CAPITAL OUTLAY  
BUDGET REQUEST)**

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**PROPOSED COMMITTEE ACTION**

Recommend approval of the Florida Atlantic University Revised 2023-24 Five Year Capital Improvement Plan -Fixed Capital Outlay Legislative Budget Request to include the new College of Dentistry project.

**BACKGROUND INFORMATION**

The Florida Board of Governors requires an annual submission from each university of its Fixed Capital Outlay Legislative Budget Request. The 2023-24 Fixed Capital Outlay Plan incorporates various projects for Florida Atlantic University. The submission is to identify projects to be funded in the following categories:

- Public Education Capital Outlay (PECO) Projects – CIP2A
- Capital Improvement Trust Fund (CITF) Projects – CIP2B
- Back of Bill (BOB) Projects requiring Legislative Approval to be Constructed, Acquired and Financed by University or Direct Support Organization - CIP2C – Updated to Include College of Dentistry

On August 23, 2022, the BOT approved the revisions to the CIP to update the Health Sciences Project to align with the recommendations of the Supplemental Education Plant Survey. This request further revises the CIP to introduce the new College of Dentistry project on CIP2C for legislative approval and to provide CIP3 project details in support of this request.

**IMPLEMENTATION PLAN/DATE**

Upon Board approval and final Legislative appropriations.

**FISCAL IMPLICATIONS**

N/A

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**Supporting Documentation: 2023-24 Five-Year Capital Improvement Plan  
(Revised CIP2C and CIP3 Project Details - College of Dentistry)**

**Presented by: Stacy Volnick, VP Administrative Affairs and Chief Administrative Officer  
Phone: 561-297-6319**

**FY 2023-24 Back of Bill (BOB)  
Fixed Capital Outlay Projects Requiring Board Approval to be Constructed, Acquired and Financed  
by a University or a Direct Support Organization**

University: Florida Atlantic University - BOT Approved 8.23.2022 REVISED 9/1/2022

Contact: Ms. Azita Dotiwala  
(name)

(561)297-0425  
(phone)

idashtaki@fau.edu  
(email)

Project Name *	Brief Description of Project	GSF	Project Location	Project Cost	Funding Source(s)	Estimated Annual Operating & Maintenance Cost	
						Amount (\$)	Source
FAU College of Dentistry	Proposed new building for FAU's College of Dentistry -the facility will house teaching labs, research labs, clinical space, study and faculty offices.	93,750	Boca Raton Campus	\$84,611,000	Donor / State Funding	TBD	TBD
FAU HBOI Research Facility	Marine science facility for research partnership	10,000	HBOI Campus - Fort Pierce	\$3,500,000	Private Funds	TBD	Private

\* List all proposed projects for FY 2023-24 requiring Legislative (Back-of-Bill) authorization pursuant to s.1010.62 and s.1013.71, F.S.



State University System  
5-Year Capital Improvement Plan (CIP)  
FY 2023-24 through 2027-28

## Project Detail

University: FLORIDA ATLANTIC UNIVERSITY  
Project Name: COLLEGE OF DENTISTRY  
Project Address: FAU Boca Raton Campus - 777 Glades Road

Priority #: 1 - BOB

### PROJECT NARRATIVE

A 2019 report from Health Resources and Services Administration shows that one in four Florida residents already live in areas with a shortage of dentists, more than any other state. Topping the list of states with "Dental Health Professional Shortage Areas," more than 5 million Floridians live in areas that have limited or no access to a dentist. In fact, 63 of 67 counties have a dental shortage. Data from Wellbeing Florida show that in 2021 hospitals billed more than \$620 million in preventable ER visits and hospital admissions stemming from oral health issues last year. About half of that was billed through Medicaid, Medicare and other government services. The elderly community and children most often have limited dental care. One in five children in Florida suffer from treatable dental problems. Almost a quarter of Florida's third-grade children suffer from untreated tooth decay. Correspondingly, Florida is ranked sixth in the nation for the highest percentage of third-grade children with unfilled cavities. In those over 65 years old, one in three have significant dental issues as a result of tooth decay or gum disease, and 14 percent have all their teeth extracted.

According to the American Dental Education Association (ADEA), private dental schools on average burden a student with over \$500,000 in tuition, materials costs and administrative fees. These costs are projected to increase at a rate of 3-5 percent per year for the next 4 years. Currently, the state of Florida has only one publicly funded dental school to service a population of 22.2M residents. We propose to become the second public dental school in the state with a focus toward recruiting students with a passion to work in underserved and rural areas.

This 94,000 gross sq. ft. facility will allow for the didactic, operatory, clinical, simulation and experiential learning for dental students in a new College of Dentistry. Our regional partners in Palm Beach, Broward and Martin counties have expressed a willingness to partner in faculty and learner experiences, recruitment, and retention to ensure that we optimize the numbers and the depth and breadth of experiences of dentists to serve the needs of Florida. This program will interact with other professional schools on FAU Campus and with dental assistant programs throughout the region. Our joint academic endeavors will allow for the innovative solutions necessary to tackle the workforce crisis.

The building will allow dental students to learn in an environment with advanced technology and support reputable, patient-centered clinical instruction. The facility will house adequate didactic and other learning space dedicated to the College of Dentistry. Specifically, these spaces will include:

- a. Wet laboratory with online milling units, sintering oven, and intraoral scanners with learning software
- b. Preclinical spaces for simulation learning of basic skills of dentistry, as well as fixed and removable prosthodontics on mannequins.
- c. Instructional clinical spaces with 90 dental operatories for standardized patient, student treatment clinics.

The Boca Campus Master Plan includes a long term project which will be the site for this new facility; an update to the MP is needed to include this project in the five year horizon.

Project cost have been calculated using 2021 BOG Construction cost data, with an added inflation adjustment consistent with CBRE forecasted inflationary data as documented in <https://www.cbre.com/insights/books/2022-us-construction-cost-trends>.

### RESERVE ESCROW PLAN

	Renovation/Remodeling Projects (1% per s. 1001.706(12)(c) F.S.)	New Construction Projects (2% per Board Regulation 14.002)
Estimated Bldg Value:	DRAFT	\$ 56,710,000
Value Basis/Source:		Building Construction cost
Estimated 1st Yr Deposit:		\$ 1,134,200
Funding Source:		TBD as needed - Bldg. is non E&G
Comments:		

### BUILDING SPACE DESCRIPTION (account for all building space below)

Space Type (per FICM)	Net Sq. Ft. (NSF)	Net-to-Gross		Gross Sq. Ft. (GSF)	Unit Cost * (per GSF)	Building Cost
		Conversion Factor				
<b>NEW CONSTRUCTION</b>						
Research Lab	17,000	1.7		28,050	\$629	17,641,767
Teaching Lab	3,000	1.7		4,950	\$535	2,648,052
Office	1,000	1.5		1,500	\$497	744,960
Study	8,000	1.4		11,200	\$487	5,454,288
Subtotal NASF:	29,000			-		-
Other	31,000	1.6		48,050	\$629	30,220,567
Total:	60,000			93,750		56,709,634
* Apply Unit Cost to total GSF based on Space Type						
<b>REMODELING / RENOVATION</b>						
						Remodeling Projects <b>Only</b>
						<b>BEFORE      AFTER</b>
	-			-		-      -
	-			-		-      -
Subtotal NASF:	-			-		-      -
Other	-			-		-      -
Total:	-			-		-      -

Grand Total:	60,000	93,750	56,710,000
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**PROJECT COMPONENT COSTS & PROJECTIONS**

	Costs Incurred to Date	Projected Costs					Total
		Year 1	Year 2	Year 3	Year 4	Year 5	
<b>Basic Construction Costs</b>							
Building Cost (from above)	-	56,710,000					56,710,000
Environmental Impacts/Mitigation	-						-
Site Preparation	-	124,500					124,500
Landscape / Irrigation	-	155,600					155,600
Plaza / Walks	-	155,600					155,600
Roadway Improvements	-	-					-
Parking : 50 spaces	-	467,000					467,000
Telecommunication	-	2,500,000					2,500,000
Electrical Service	-	370,000					370,000
Water Distribution	-	185,000					185,000
Sanitary Sewer System	-	185,000					185,000
Chilled Water System	-	935,000					935,000
Storm Water System	-	185,000					185,000
Energy Efficient Equipment	-	125,000	-				125,000
Subtotal: Basic Const. Costs	-	62,097,700	-	-	-	-	62,097,700
<b>Other Project Costs</b>							
Land / existing facility acquisition	-				-	-	-
Professional Fees	-	4,630,000					4,630,000
Fire Marshall Fees	-	142,000					142,000
Inspection Services	-	502,000					502,000
Insurance Consultant	-	36,000					36,000
Surveys & Tests	-	85,000					85,000
Permit / Impact / Environmental Fees	-	3,000					3,000
Artwork	-	100,000					100,000
Moveable Furnishings & Equipment	-	14,000,000					14,000,000
Project Contingency	-	3,100,000					3,100,000
Subtotal: Other Project Costs	-	22,598,000	-	-	-	-	22,598,000
<b>Total Project Cost:</b>	-	84,695,700	-	-	-	-	84,695,700

DRAFT

**PROJECT FUNDING**

Funding Received to Date (all sources)			Projected Supplemental Funding			Projected PECO Requests		Total Project Cost
Source	FY	Amount	Source	FY	Amount	FY	Amount	
			Donations/Gifts	2023-24	30,000,000			Should equal Total Project Cost above
			Others	2023-24	54,695,700			
					-			
					-			
		-			84,695,700		-	84,695,700

**FAU External Consultant Report**  
**Bruce E. Rotter, DMD, MS**  
**Dean Emeritus**  
**Southern Illinois University**  
**School of Dental Medicine**

1. **In your professional opinion, please comment on perceived student demand for the proposed program. What type of student would be interested in this program? What type of employment would be available to the student following graduation? Is both the student demand for the program and potential job market sustainable for this degree program into the foreseeable future?**

Student demand for dental education has been historically strong. Even during an application downturn in the 1980's, applications far outweighed the number of open positions. Observing predictions for future retirements coupled with the increasing demand for dental services, the need for an increasing dental workforce is predicted to continue to be strong. Based on the reviewed documents, I believe that FAU would be in a strong position to capture this student demand. My reasoning is based on several observations:

1. The Pre-Health Professions Office appears to be effective in counseling and placing professional students. The number of overall applications processed as well as the number of minority applications processed by this office is exemplary. This activity could easily be translated to the dental education program. Many pre-professional applicants aren't keenly aware of the opportunities in dental education. An in-house Pre-Health Professions Office would have a strategic advantage in guiding these potential applicants.
2. Operating as a state vs. private entity gives the university a potential fiscal advantage, which can be translated into lower tuition.
3. FAU appears to have a strong sense of diversity and a good diversity plan. The stated holistic application and review process will allow for a broader group of applicants that have an appropriate fit to the School of Dental Medicine's ultimate strategy

Employment opportunities for dental school graduates are diverse and plentiful, including private practice, corporate practice, public health, industry, military, etc. It would be a rare occurrence for a graduate dentist to not find appropriate employment. The dental industry sees no change in the future so, as stated above, I believe that FAU's current plan is certainly sustainable.

- 2. Is the proposed body of curriculum appropriate for the job skills needed for the professions referenced above? What unfilled need or gap would the degree program fill in the workforce?**

The proposed curriculum plan appears adequate to successfully train dental students to safely and effectively treat patients in the general practice of dentistry. The proposed curriculum plan also demonstrates conformity to the required standards of the Commission on Dental Accreditation (CODA) and allows for students to be adequately trained to successfully sit for both national and regional/state licensing exams. Obviously, the current stated plan is a roadmap and must undergo considerable further construction and revision prior to accreditor approval and program utilization.

- 3. Does the proposed degree program seem to fit with the institutional goals and mission (strategic plan) of the institution?**

The proposed program does indeed fit with the stated institutional goals and strategic plan of the University. The University already has demonstrated a strong commitment to health care education and including a dental education program only makes good sense in creating a well-rounded health education strategy. Dental education will not only augment the level of health care education in general, but will provide avenues of interprofessional health care, research, access to care, etc. that the University has not employed to date.

FAU has a stated strategy to help populate Health Professions Shortage areas (HPSAs). Although there is never a guarantee that graduates will populate HPSA's, FAU's strategy has addressed this appropriately. The primary steps in this strategy are the recruitment of applicants from underserved areas and the financial remuneration through loan forgiveness (typically paid through the FQHC/Community Clinic via government grants) for those who populate these regions.

I would also emphasize that the proposed dental education program itself will help to reduce disparities by increasing available treatment in the community clinics that the students populate. Incentivizing alumni with faculty appointments within these clinics is also strategic. It is important that appropriate time and consideration be given when choosing the appropriate clinics/locations for affiliation agreements.

4. **Does FAU have adequate faculty numbers and expertise/credentials to successfully implement the program? Is the faculty research active enough to successfully mentor doctoral students?**

FAU does not currently have adequate faculty to successfully implement the program but the proposed plan accounts for a budget and timeline to adequately prepare a faculty with the credentials/expertise to do so. I do have some concerns regarding both the proposed timeline and the faculty numbers (faculty/student ratios). I will address this under #8, major challenges.

I am a strong proponent that a faculty member must be a scholar to be a successful teacher. Having said that, I believe that the hiring proposal, along with the proposal for shared services with the medical school will provide the expertise necessary to fulfill this goal.

5. **Are the institutional, College, and Department resources adequate to support the degree program? (i.e., Library, funding for students, research labs and equipment, etc.)**

As stated in #4 above, not all of these resources are in place, but have been accounted for within the proposal. The University has proposed an appropriate funding plan for tuition and fees, shared services and facilities construction.

6. **Do you feel strong support for the degree program from the College and upper-level administration?**

Based on the proposal, as well as the included letters of endorsement and program support, I am confident that there is a strong level of support for this developing program.

7. **What are the major strengths of FAU to successfully offer this degree program?**

Overall strengths:

1. Continued strong need for dental professionals
2. History of successful medical education
  - a. Ability to draw on the experience/expertise of medical school
3. Pre-Health Professions Office
  - a. This office appears to be a shining star within your university system. You might want to package this and market it to other institutions.
4. Strong proposal with good system support

- a. State University system
  - b. Upper administration involvement and support
5. Strong sense of campus diversity

**8. What will be the major challenges of FAU to successfully offer this degree program?**

Major challenges:

1. The timeline for implementation appears too aggressive; much thought has gone into what is a very feasible proposal, don't set it up for failure by rushing the process.
  - a. My first thought would be that the stated timeline should be reordered
    - i. Recruit the inaugural Dean and other key leadership earlier in the process. Administrators who will be responsible for operationalizing the program should anchor curriculum design, the design of space needs and the CODA application for "initial accreditation".
  - b. The plan for Year IV service learning is important, yet very complex to negotiate with the many outside clinics. More time should be allotted to this process.
    - i. Clinics must have dental facilities or be willing to construct such facilities as to have enough available space for their staff and rotating students
    - ii. Each facility must have at least one dentist who is trained, calibrated and willing to mentor students. These dentists should have adjunct faculty appointments.
    - iii. Each clinic should have a patient population that allows every student to have experience in all aspects of dental care, or alternate arrangements must be made.
  - c. The CODA accreditation process can be 18-24 months alone. Based on CODA policy, a program must not enroll students/residents until "initial accreditation" status has been obtained. If a program enrolls students/residents without first having been granted "initial accreditation" status, the Commission will not accept the application for accreditation until after the first enrolled class has graduated. In addition, the Commission expects that the program will notify all students/residents enrolled of the possible ramifications of enrollment in a program operating without accreditation. The Commission will also notify the applicable state board of dentistry.
  - d. Based on the above information, I would recommend a program start date of 2027.
2. Current challenges in hiring faculty/staff
  - a. This is a nationwide problem; expect similar issues
  - b. I would recommend a strategic yet aggressive hiring plan
  - c. Determination of the proposed number of faculty was, in part, dependent on the budgetary structure that was proposed. Based on the proposed

student numbers, faculty schedules and faculty:student ratios I don't believe these numbers (40 FTE by year 5) are adequate. My rationale follows:

- i. Must account for faculty research time, service work, practice day
- ii. Where a faculty:student ratio of 1:10 may be adequate for other categories of professional education, it is typically not a standard for dentistry.
  1. Dental students must be practice ready at the time of graduation; therefore, they are performing progressively more complex, irreversible procedures on their patients beginning early in their training. Immediate availability of faculty is necessary for evaluation, direction or intervention. Typically, an acceptable faculty:student ratio in the general treatment areas is 1:6 and in the surgical specialties is 1:4.
- d. The number of 40 proposed faculty would be more comfortably in line with the original class size of 45 students/class. Therefore, I would recommend considering keeping class size at 45 instead of aggressively increasing to 90 students. As the initial operations of the dental school work out and the budgetary needs of the school become clear, CODA could be petitioned for an increase in class size to meet future expectations.



TEXAS TECH UNIVERSITY  
HEALTH SCIENCES CENTER™  
EL PASO

Woody L. Hunt School of Dental Medicine

Report on the Feasibility of a  
School of Dental Medicine

August 2018





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# **Report on the Feasibility of a School of Dental Medicine Texas Tech University Health Sciences Center El Paso**

## **1. Executive Summary**

El Paso County and the surrounding region have historically suffered from inadequate access to health care and health care providers. Throughout its history, Texas Tech University Health Sciences Center El Paso (TTUHSC El Paso) has been on a mission to improve the lives of people in its community and West Texas by providing first class health care to its culturally diverse population.

However, the El Paso and West Texas regions remain entrenched in a critical shortage of dental health care professionals. Though the State of Texas has three high performing schools of dentistry, the relocation of graduates to the West and Far West Texas area is not occurring at a rate that is adequate to alleviate the shortage faced by the region.

Equipped with the skills and experience necessary to serve the cultural-ly-diverse border region, TTUHSC El Paso proposes a new Doctor of Dental Medicine (DMD) program to be established at the new Woody L. Hunt School of Dental Medicine (WLHSDM).

In 2017, the 85th Texas Legislature provided TTUHSC El Paso with a policy rider and \$8 million to begin the planning and establishment of a dental program. To ensure proper stewardship of state funds and a strong program plan, an assessment of the feasibility of the plan for the new school was conducted. El Paso and West Texas communities stand to benefit substantially from the placement of a new school of dental medicine in El Paso, which will improve access to care by providing competent, highly-trained graduates into the region's dental health care work force.

Key findings of the feasibility assessment are:

### Workforce Need

A severe shortage of dental care providers exists in the El Paso region and is exacerbated by the aging population of the region's dental care professionals, the unique challenges that face a border community and a growing population. Lacking opportunities for dental care pose challenges to the overall health and wellbeing of El Paso and its surrounding communities. The region's lack of proximity to the existing dental schools in the state means it does not benefit from an influx of dental graduates who are likely to establish their practice or career in close proximity to their training program. Thus the

existing Texas dental school programs are unable to address the challenges faced in El Paso and West Texas. Sufficient workforce demand exists to employ graduates of a new dental medicine program at TTUHSC El Paso.

### Educational Demand

Analysis of Texas dental school applicant and enrollment rates provides clear evidence that there is adequate demand from Texas students to support a fourth dental medicine program in the state. Further, since the closest in-state program is more than 550 miles away – the closest out-of-state program being more than 430 miles away – from the proposed location for the WLHSDM, the El Paso program will not compete with any regional institutions. Instead, the new program will provide a much-needed program in dentistry to meet the oral care needs of the Upper Rio Grande and West Texas region while preventing Texas students from having to obtain their education out of state. Sufficient educational demand and need exist to make a new dental medicine program in Texas a necessity and high priority.

### Academic Program

Since its inception, TTUHSC El Paso has produced culturally informed and competent health care professionals by: adopting a holistic admission policy to facilitate enrollment of local students; mandating Spanish language classes through an immersion program in the medical school; creating a symptom-based integrated curricular model; facilitating community engagement in the curriculum; and targeting the chronic diseases that afflict the surrounding communities. The proposed program is innovative, novel and tailored to address the oral care needs of the region.

### Operational Budget

The budget for the WLHSDM has been carefully planned to support the start-up costs of a new professional doctoral program. Specifically, the budget is sufficient to support the early phase of the DMD program, as well as the cost of centralized services required for accreditation and operation. Projected revenue and state formula funding adequately support the long-term sustainability of the program. Additionally, the philanthropic momentum generated by the Hunt Family Foundation and the Paso Del Norte Foundation provide evidence of the community's support and commitment to the WLHSDM. The proposed budget for program operations is financially feasible.

## **2. TTUHSC El Paso: A History of Serving the Underserved**

The El Paso-Juarez region is home to more than 2.7 million people and is recognized as the largest bi-national metropolitan area on the U.S.-Mexico border. Unfortunately, the health care needs of this massive borderplex have often gone unmet. El Paso historically suffers from a significant shortage of health care providers. When compared to the rest of the state, West Texas has a 46 percent shortage of doctors, a 21 percent shortage of nurses and a 40 percent shortage of dentists.

Texas Tech University Health Sciences Center El Paso's (TTUHSC El Paso) mission is to end this disparity. Since 1973, TTUHSC El Paso – originally as a regional campus of the Lubbock-headquartered Texas Tech University Health Sciences Center – has been dedicated to improving the lives of people in the community through excellence in education, research and patient care.

From the beginning, the El Paso campus immersed itself in serving the community in ways specific to the unique health care needs of its socially and culturally diverse border region – while developing its vision to more wholly serve the El Paso-Juarez region. For the first 35 years of the El Paso campus, only third- and fourth-year medical students trained at the site. In 2008, the medical school received full accreditation and established the four-year, Paul L. Foster School of Medicine. Shortly following, the Gayle Greve Hunt School of Nursing opened in 2011 as a free-standing school of nursing.

On May 20, 2013, Gov. Rick Perry signed a bill establishing TTUHSC El Paso as its own independent health sciences center within the Texas Tech University System (TTU System). In July 2014, the TTU System Board of Regents appointed Richard Lange, M.D., M.B.A., as the founding president of TTUHSC El Paso. Later in the same year, the Texas Higher Education Coordinating Board approved the establishment of a Graduate School of Biomedical Sciences at the institution.

Every year, hundreds of TTUHSC El Paso students, residents and fellows gain valuable and unique experiences in emerging technologies, academic innovations, cultural immersion and collaborative partnerships. El Paso's unique community provides researchers and budding health care providers an opportunity to improve the nation's future well-being by addressing health problems among predominantly Hispanic and underserved populations today. From student-run clinics in underserved neighborhoods to a network of Texas Tech Physicians of El Paso outpatient offices located throughout the city, the university is becoming the national model for addressing the health needs of diverse border populations.

As part of the university’s strategic plan for growth, enrollment of 40 medical students in 2009 has evolved into more than 700 students pursuing rewarding careers in medicine, nursing, biomedical science and, soon, dentistry.

In addition to improving the overall health of the community, the institution has had a significant impact on the regional economy. With more than 2000 employees and an annual budget of over \$270 million, TTUHSC El Paso was credited in 2016 with an economic impact of \$223 million to the region. In 2015 alone, the Paul L. Foster School of Medicine Medical Practice had 198,000 clinic visits with 111,000 patients served while providing over \$29 million of uncompensated care to local residents.

Empowered by its history of proudly serving the health care needs of the borderplex, TTUHSC El Paso is prepared to continue its tradition of expanding its services to the community to address a critical need for dental care access in the border region.

### 3. Workforce Feasibility Assessment

Residents of the El Paso region face many barriers to receiving oral health care; however, the most pressing issue is the significant lack of oral health care professionals, particularly dentists, in the region. Texas currently ranks 33rd in the nation in the number of practicing dentists per 100,000 people.<sup>1</sup> In 2017, El Paso County was ranked No. 112 out of 197 Texas counties with a dentist, reporting a ratio of only 20.9 general dentists per 100,000 residents<sup>2</sup> which is approximately 15 dentists below the ratio for the state of Texas and 27 dentists below the national ratio (i.e., a 57 percent shortage compared to the national average).<sup>3</sup>

*Table 1. Number of Dentists per 100,000 population, 2017*

	<b>El Paso County<sup>1</sup></b>	<b>Texas<sup>1</sup></b>	<b>U.S.<sup>2</sup></b>
General Dentists	20.9	36.3	48.2
All Dentists	29.7	47.1	61

*Sources: <sup>1</sup>Texas Health and Human Services, 2017; <sup>2</sup>American Dental Association, Health Policy Institute, 2018*

While the entire state lingers below the national average ratio of dentists to citizens, a comparison of population to general dentist ratios by geographic region further reveals that the border region faces the highest shortage of dentists in Texas.<sup>4</sup> Furthermore, recent data demonstrates the health provider supply for the West-El Paso Region, which includes El Paso and Hud-

speth Counties, is “lower than nearly all other regions in the state” with the third lowest supply of general dentists and dental hygienists.<sup>5</sup>

*Table 2. Population to Provider Ratios, 2017 - General Dentists*

<b>West-El Paso Region<sup>1</sup></b>	<b>El Paso County<sup>1</sup></b>	<b>Texas<sup>1</sup></b>	<b>U.S.<sup>2</sup></b>
5,506:1	5,482:1	2,970:1	2,075:1

Sources: <sup>1</sup>Texas Health Institute, 2018; <sup>2</sup>American Dental Association, Health Policy Institute, 2018

As demonstrated in Table 2, the population to provider ratios for El Paso County and the West-El Paso Region are nearly double that of the remainder of the state. When compared to the average ratio in the U.S., the disparity of the supply of general dentists in the El Paso region is even more alarming.

Compounding these discrepancies, 2014 data<sup>6</sup> shows that general dentists are not evenly distributed across the state of Texas with 53 percent of general dentists located in the five most populated counties of Texas – Harris, Dallas, Bexar, Tarrant and Travis, contiguous to existing dental schools.

As a direct result of this severe lack of dentists, El Paso County has been designated a Dental Health Professional Shortage Area (DHPSA) and a “high need” area for dental care providers.<sup>7</sup>

Unfortunately, this shortage of dental health professionals is expected to worsen over the next decade due to the fact that over one third (37 percent) of the state’s general dentist workforce is at or approaching retirement age (over 55 years of age).<sup>8</sup> Specifically in El Paso County, 38 percent of all currently active dentists are above 50 years of age.<sup>9</sup> In 2016, the Health Professions Resource Center of Texas predicted nearly 45 percent of the state’s general dentist workforce will be at or past retirement age by 2025.

These data sets all point to the same conclusion: there is a severe – and potentially worsening – shortage of dentists in the El Paso region that detrimentally impacts the overall health care of the region.

Since the release of the Surgeon General’s seminal report on oral health in America,<sup>10</sup> health care professionals have been acutely aware of the “silent epidemic” of untreated dental and oral diseases that substantially affect a variety of serious health conditions.<sup>11</sup> According to the Surgeon General’s report, poor dental health is associated with increased incidences of cancer, diabetes, heart disease, lung disease and stroke, as well as adverse pregnancy outcomes. In children, poor dental care is linked to malnutrition, school absences and lower academic performance.<sup>12</sup>

Texas' oral health disparities that pose risks to overall health are most concentrated in its rural and border regions. Oral health problems occur with chronic diseases such as diabetes, which occur more frequently in Texas' border regions than other regions of the state.<sup>13</sup> Additionally, the rural regions of the state have lower rates of dental visits with their concentration of low-income, food insecure, underserved populations.<sup>14</sup> The Centers for Disease Control and Prevention reports that almost half (45 percent) of adults in El Paso did not visit a dentist or dental clinic in 2016.<sup>15</sup>

Meanwhile, population growth estimates indicate significant population increases for El Paso County. Based on 2017 population estimates from the United States Census Bureau, El Paso County has 840,410 residents; this population is projected to increase by 70 percent between 2000 and 2040.<sup>16</sup> El Paso is the largest city on the U.S.-Mexico border. The combined region of El Paso and its sister city Juarez, Mexico, is the largest bi-national metropolitan area in the Western Hemisphere. A rising population will exacerbate the discrepancies in dental care for the El Paso region should the shortage of dental health care providers continue to go unaddressed.

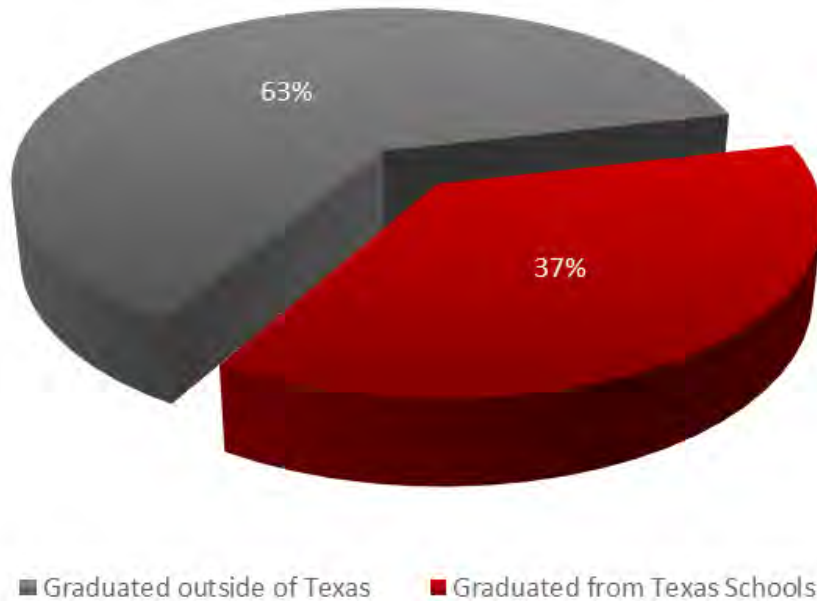
Analysis of data<sup>17,18,19</sup> on dental school graduates shows that:

- 86 percent of Texas dental school students who graduated since 2007 are currently licensed in Texas;
- Approximately 75 percent of Texas dental school graduates establish their practice in proximity to their dental schools; and
- The ratio of dentists per capita is highest among Texas counties with a dental school.

The current dental schools in Texas are located on the Interstate 35 corridor and eastern portion of the state. The closest Texas dental school is located more than 550 miles from El Paso. While Texas faces a critically uneven distribution of dentists and an overall aging workforce of dentists, data suggests that graduates of Texas' existing dental schools are not likely to fill the workforce shortages of the El Paso region. Currently, the majority of dentists practicing in El Paso graduated from out-of-state schools (see Figure 1). The El Paso region does not benefit from the existing presence of dental schools in the state. The following section of this feasibility report explores this concept and the impact of educational opportunities on the workforce at length.



*Figure 1. El Paso County Dentists by Location of Graduating Dental School, 2017.*



*Source: Texas State Board of Dental Examiners, 2018*

In examining the impact of dental schools and their curricula on surrounding communities, data suggests that a dental school will increase access to dental and related health care services, including:

- Number of dentists and number of dental visits by community members<sup>20,21,22,23,24</sup>
- Oral health screening programs<sup>25</sup>
- Community education, including dental services and nutrition counseling<sup>26,27,28,29,30,31,32</sup>
- Dental care knowledge<sup>33</sup>
- Tobacco prevention and cessation<sup>34</sup>
- Obesity prevention and intervention<sup>35</sup>
- Diabetes prevention and management<sup>36,37</sup>

#### Summary: Workforce Feasibility Assessment

A severe shortage of dental care providers exists in the El Paso region and is complicated by the unique challenges that face border communities and an aging population of dental care professionals. This disparity will worsen in the face of a growing population of the region. The lack of opportunities for dental care poses challenges to the overall health and wellbeing of El Paso and its surrounding communities. The region's lack of proximity to the existing dental schools in the state means it does not benefit from a yearly influx of dental graduates who are likely to establish their practice or career

in close proximity to their training program. Thus, the existing Texas dental school programs will not meet the challenges faced in the El Paso and West Texas regions.

Sufficient workforce demand exists to employ graduates of a new dental medicine program at TTUHSC El Paso.

#### 4. Educational Demand Feasibility Assessment

Texas currently has three dental schools: The University of Texas Health Science Center (UTHealth) at Houston School of Dentistry, the UTHealth at San Antonio School of Dentistry and the Texas A&M University College of Dentistry in Dallas. Of these institutions, UTHealth at San Antonio is the closest in proximity to El Paso at 550 miles away.

Figure 2. Existing and Proposed Dental Schools in Texas.



Source: American Dental Association, 2016

In the fall 2017 term, the three existing dental medicine programs each enrolled between 406 and 434 students -- total state-wide enrollment of 1,260 - and awarded a combined 304 Doctor of Dental Science degrees.

*Table 3. Enrollment and Degrees Awarded at Texas Dental Schools, 2017.*

<b>Institution</b>	<b>Program</b>	<b>Fall Enrollment 2017</b>	<b>Degrees Awarded 2017</b>
Texas A&M Health Sciences Center	D.D.S.	420	101
UTHealth Sciences Center-Houston	D.D.S.	406	99
UTHealth Sciences Center-San Antonio	D.D.S.	434	104
<b>Total</b>		<b>1,260</b>	<b>304</b>

Source: Texas Higher Education Coordinating Board Accountability System, 2018

Enrollment and graduation data provided to the Texas Higher Education Coordinating Board (THECB) Accountability System for the past five years, shows total enrollment for each school at or near 400, with 82 and 109 degrees awarded annually per institution during this time period.

*Table 4. Enrollment at Texas Dental Schools, Fall 2013-2017.*

<b>Institution</b>	<b>Program</b>	<b>Fall Enrollment</b>				
		<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
Texas A&M Health Sciences Center	D.D.S.	416	420	419	422	420
UTHealth Sciences Center-Houston	D.D.S.	371	387	402	405	406
UTHealth Sciences Center-San Antonio	D.D.S.	415	417	418	427	434
<b>Total Enrollment</b>		<b>1202</b>	<b>1224</b>	<b>1239</b>	<b>1254</b>	<b>1260</b>

Source: Texas Higher Education Coordinating Board, Accountability System, 2018

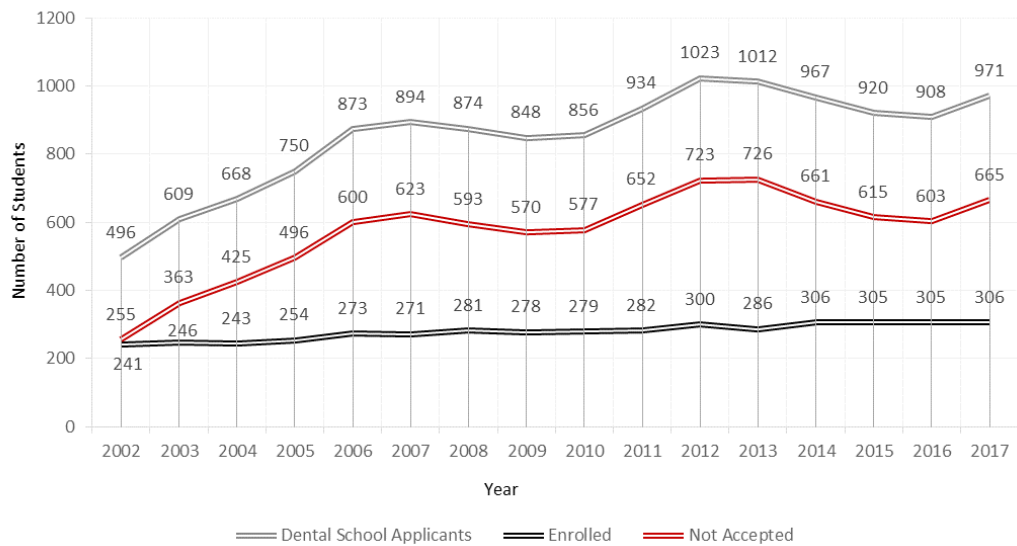
*Table 5. Degrees Awarded at Texas Dental Schools, 2013-2017.*

<b>Institution</b>	<b>Program</b>	<b>Degrees Awarded</b>				
		<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
Texas A&M Health Sciences Center	D.D.S.	97	99	106	104	101
UTHealth Sciences Center-Houston	D.D.S.	86	82	83	100	99
UTHealth Sciences Center-San Antonio	D.D.S.	97	109	104	99	104
<b>Total Degrees Awarded</b>		<b>280</b>	<b>290</b>	<b>293</b>	<b>303</b>	<b>304</b>

Source: Texas Higher Education Coordinating Board, Accountability System, 2018

Enrollment at Texas dental schools has remained steady, with the programs consistently reaching class capacity. In 2017, Texas dental schools did not accept 665 (69 percent) of 967 applicants for admission, with even greater numbers rejected in previous years.

*Figure 3. Incoming Class Enrollment Data at Texas Dental Schools*



Source: Texas Medical and Dental School Application Service, 2018

Interest in attending dental school in Texas is strong, and applications to its dental schools have increased substantially over the past 15 years. Since 2002, the number of dental school applicants to Texas schools increased by 96 percent. In 2012 and 2013, the number of total state-wide applicants climbed to over 1,000. In the past seven years, between 603 and 726 applicants were not accepted for admission each year.<sup>38</sup>

Dental school admissions in Texas have not kept pace with student interest and applicant demand. Remaining fairly steady over the past 15 years, the number of applicants accepted for admission increased by 65 students (27 percent) from 2002 to 2017. In the same time period, rejections climbed by 410 students (161 percent).

An analysis of academic year 2016-17 admission statistics for all U.S. dental schools indicates a total of 90 students from Texas were admitted to one of the 64 private or 26 public dental schools outside of Texas.<sup>39</sup> While Texas dental schools rejected 603 students in 2016, 90 qualified Texas applicants enrolled in programs elsewhere, indicating a strong pool of qualified candidates for an additional dentistry program within the state.

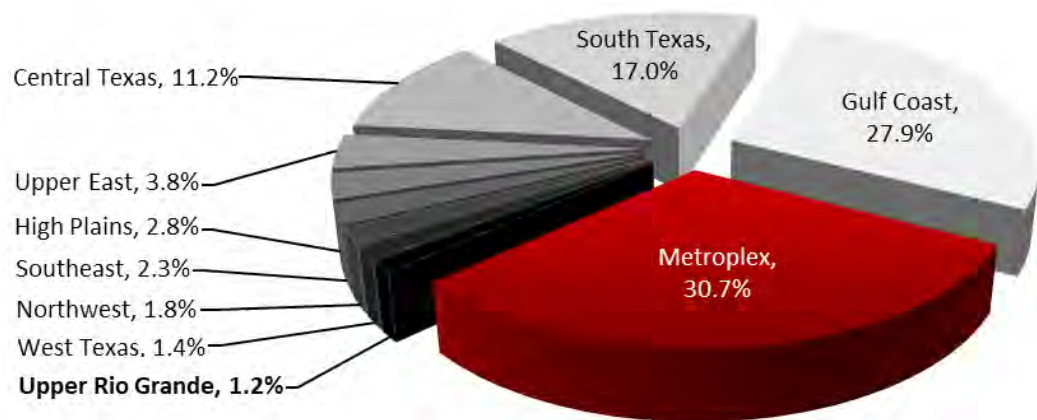
While there is sufficient evidence alone to conclude that a need for a new dental medicine program exists based on student interest within the state, it stands to reason that an additional educational opportunity is needed in West Texas based on how the program would serve its surrounding communities.

It is the mission of the proposed school of dental medicine, henceforth known as the Woody L. Hunt School of Dental Medicine (WLHSDM), to prepare general dentists who will help alleviate the documented shortage of dentists within the El Paso and West Texas regions. Growth of the number of dental health care professionals in the community will significantly increase access to oral care for all, while improving overall health and quality of life for residents in the region.

As noted in the previous section of this report, the presence of a dental medicine program has profound positive impacts on its proximate communities, including improved health, health care access and a more available workforce.

Most Texas dental school graduates remain in the state to practice, with the majority practicing near the state’s existing dental medicine programs. Based on an analysis of the Texas State Board of Dental Examiners’ (TSBDE) database on current licenses, of the 9,180 active Texas dentists who graduated from Texas schools, 75 percent are practicing in proximity to their dental schools in the Metroplex, Gulf Coast and South Texas regions (i.e., Dallas, Houston and San Antonio regions). Only 1.4 percent, or 131, of licensed dentists are practicing in West Texas and 1.2 percent, or 110, are practicing in the Upper Rio Grande region that encompasses El Paso.

*Figure 4. Texas Dental School Graduates by Practice Region*

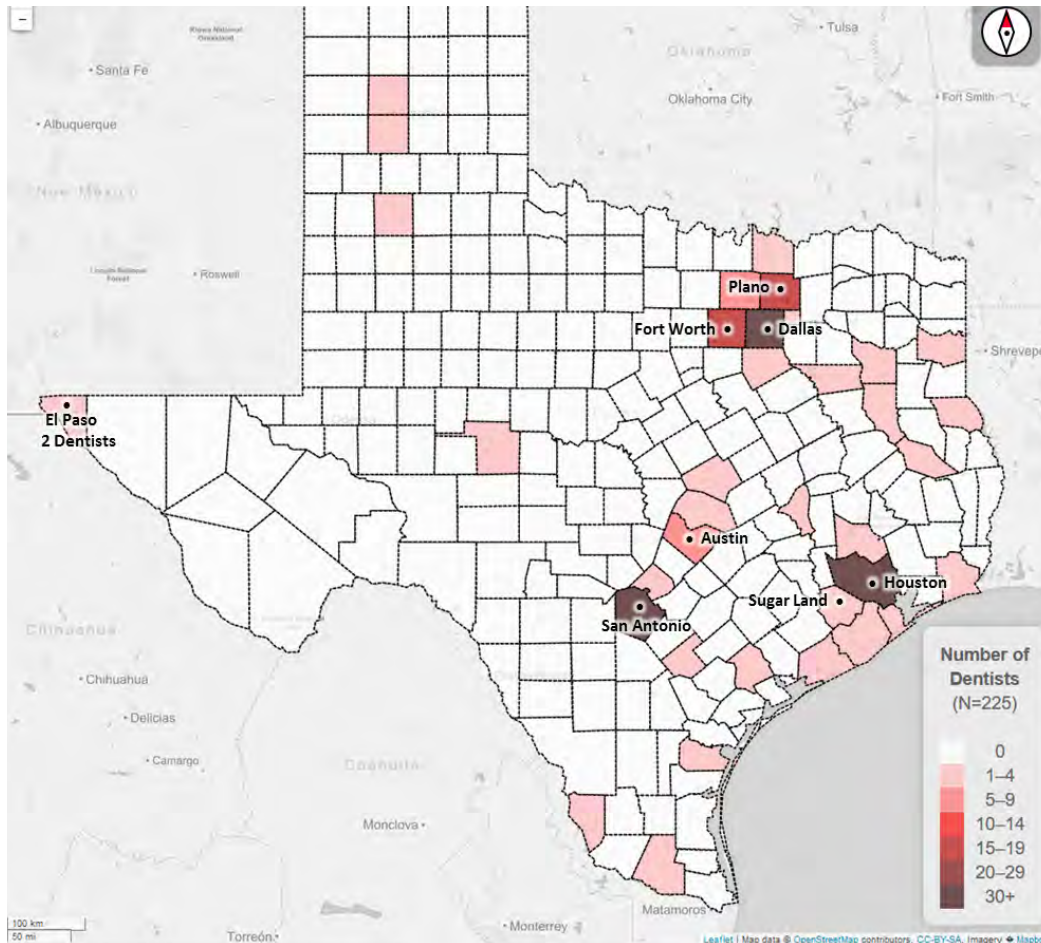


<sup>†</sup>N = 9180

Source: Texas State Board of Dental Examiners, 2018

Of Texas dental school graduates in the past 10 years, those that choose to practice in West Texas or in the Upper Rio Grande region have been on the decline. Since 2007, only 22 dentists – or 0.9 percent of total graduates – have chosen to establish their practice in West Texas and only 22 in the Upper Rio Grande region. In 2017, only one graduate chose to practice in West Texas and two opened practices in the Upper Rio Grande region.<sup>40</sup>

*Figure 5. Texas Dental School Graduates Practicing by County: Currently Active Dentists, Graduated 2017.*



Source: Texas State Board of Dental Examiners, 2018

Data published by the Texas Legislative Budget Board (LBB) includes reports of dental graduates practicing in underserved areas, like El Paso and the surrounding region. An examination of this data reveals that less than 8 percent of graduates from Texas dental schools in the past two years have chosen to practice in underserved areas.

*Table 6. Percent of Dental School Graduates Practicing in Underserved Areas.*

<b>Texas Dental School</b>	<b>FY 2016</b>	<b>FY 2017</b>
Texas A&M University System Health Science Center	6.9%	6.0%
The University of Texas Health Science Center at Houston	6.0%	6.0%
The University of Texas Health Science Center at San Antonio	7.8%	7.1%

*Source: Texas Legislative Budget Board, ABEST System, 2018*

The data indicates that the majority of Texas dental school graduates are prone to establish their career and practice near their professional school alma mater and graduates from existing institutions are not migrating to the critically underserved areas of West Texas in numbers that are sufficient to address the critical need for oral health care in the region. Therefore, it stands to reason that creating a new opportunity for dental education in far West Texas will enhance oral health care and address the existing, inadequate dental health care workforce.

Summary: Educational Demand Feasibility Assessment

The analysis of existing programs in Texas and their application and enrollment rates provides clear evidence that there is adequate demand from Texas students to support a fourth state-authorized dental medicine program. Further, since the closest existing in-state program is more than 550 miles away from the proposed location for the WLHSDM, the El Paso program will not compete with any regional institutions. Instead, the new school will provide a much-needed program in dentistry designed to meet the oral care needs of the Upper Rio Grande and West Texas regions while preventing Texas students from having to obtain their education out of state.

Sufficient educational demand and need for the benefits of an educational program exist to make a new dental medicine program in Texas a necessity.

**5. Academic Feasibility Assessment**

In order to address the demonstrated critical shortage of dental care providers in the Borderplex region, the Doctor of Dental Medicine (DMD) program will be the initial degree-granting program at the TTUHSC El Paso WLHSDM. The DMD program is designed to prepare students at the doctoral level to practice dentistry.

On July 12, 2016, the THECB granted preliminary authority to TTUHSC El Paso to plan for a professional practice-level degree program in dentistry.

The proposed program is consistent with the requirements set forth by the Texas Education Code (TEC), Texas Administrative Code (TAC), the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) and the Commission on Dental Accreditation (CODA). TTU System Chancellor Robert Duncan, TTUHSC El Paso President Richard Lange, MD, MBA, and WLHSDM Founding Dean Richard Black, DDS, MS, met with Commissioner of Higher Education Raymund A. Paredes, PhD, and his senior staff on April 6, 2018. The TTUHSC El Paso team shared its analysis of the workforce need, educational demand and approach to development of the program.

The WLHSDM mission is:

“...to improve the oral health of the people of Texas and the greater El Paso community by: a) focusing on the unique oral and overall health care needs of the border population; b) demonstrating excellence in education, research and patient care; and c) providing leadership to the practicing community and other area stakeholders.”

Since its inception, TTUHSC El Paso has produced culturally informed and competent doctors, nurses and scientists by: adopting a holistic admission policy to facilitate enrollment of local students - with approximately 30 percent of medical students, 80 percent of nursing students and 65 percent of biomedical science students being from El Paso; mandating Spanish language classes through an immersion program in the medical school; facilitating community engagement early in the curriculum; and targeting chronic diseases that afflict the surrounding communities. The WLHSDM will adopt a similar approach.

The WLHSDM Curriculum Committee has primary responsibility for the overall management of the curriculum and provides oversight of the design, methods, collection and interpretation of all evaluation data (quantitative and qualitative) that will be used to assess the quality and effectiveness of the dental education program. The Committee has adopted curricular domains, developed student outcomes expected at the end of the degree program and established competencies that students are expected to demonstrate throughout their academic experience. These domains, outcomes and competencies were informed by highly-regarded curricular reform efforts developed by the American Dental Education Association (ADEA).

To fulfill its mission and produce first-class, practice-ready graduates that will more adequately provide oral health care to the West Texas and border regions, the WLHSDM will utilize an integrated curricular model with some shared components from the TTUHSC El Paso Paul L. Foster School of Medicine (PLFSOM).



The WLHSDM dental education program will be delivered as a four-year academic curriculum, structured along six main domains:

1. Biomedical Sciences
2. Patient Care
3. Communication and Interpersonal Skills
4. Professionalism
5. Health Promotion
6. Practice Management and Informatics

Each domain is embedded across all four years (D1-4) of the curriculum to provide students with an integrated learning experience. Years D1, D2 and D3 will consist of 48 weeks of coursework, with some flexibility depending on calendar and holidays. Year D4 will consist of 37 academic weeks, calendar permitting.

WLHSDM competencies reflect the contemporary knowledge, skills and values that are necessary for a graduate to begin the independent practice of a general dentist. In direct alignment with the American Dental Education Association's (ADEA) "Competencies for the General Dentist" (2018), WLHSDM graduates will be able to address health issues beyond traditional oral health and will be trained to independently and collaboratively practice evidence-based comprehensive dentistry while improving the health of society. Ongoing formative evaluations and summative demonstration of competencies will assess a student's ability to complete required tasks based on established professional criteria and demonstrate an understanding of the foundational knowledge, standards and values of the dental profession.

Dental education has changed little over the years despite major advances in pedagogy, educational platforms and medical knowledge. Consequently, the ADEA, American Dental Association (ADA) and CODA are developing curricula to address current dental needs and practice. Importantly, the ADA has modified its board exam to a singular assessment of dental and clinical knowledge that will be conducted at the end of a students' academic program. This summative assessment focuses on approximately 50 dental conditions and symptoms that are most commonly treated in the U.S. WLHSDM's focus on preparation for general dentistry practice, led by the school's founding dean - a nationally-recognized leader in general dentistry - closely aligns with this emphasis.

Strategic, purposeful recruitment is critical to the success of the proposed dental training program and to ensure graduates are prepared to provide first-class care to the underserved communities of the region. The WLHSDM has established admissions protocols and standards that will encourage highly-qualified applicants, including those from diverse and non-traditional

backgrounds. The goal of the WLHSDM is to attract, matriculate and graduate a diverse student body with strong academic credentials and a passionate interest in serving the unique oral health needs of border populations in the greater El Paso, West Texas and southern New Mexico regions.

The WLHSDM will follow standard recruitment and admissions standards, policies and procedures in its selection process. The Admissions Committee will examine each candidate for overall suitability and is committed to the selection of a class from a variety of backgrounds, interests and life experiences. This philosophy is intended to not only select students that are academically gifted, but whose diversity will also provide a stimulating and broad learning environment for all students.

According to the U.S. Census Bureau's 2017 population estimates, 82 percent of El Paso County's 840,410 residents are Hispanic/Latino. Unfortunately, Hispanic/Latinos constituted only 8.2 percent of dental school applicants in 2014.<sup>41</sup> This fact is concerning when considering oral health education interventions may be ineffective if the intervention is not framed in a culturally sensitive and relevant manner for its target population.<sup>42</sup> Thus, students from an underrepresented minority background, as well as those with an interest in serving the region, are of particular interest for recruitment to the WLHSDM.

With equal qualifications, preference for dental school admission may be given to residents of El Paso, the U.S.-Mexico border region and West Texas as opposed to applicants from outside the region. The success of the Paul L. Foster School of Medicine in recruiting underrepresented and disadvantaged students as documented in the Liaison Committee of Medical Education (LCME) self-study – 47 percent from the U.S.-Mexico border region, 42 percent economically or disadvantaged and 28 percent Hispanic – provides clear evidence that TTUHSC El Paso and the WLHSDM will be able to impact access for these students.

The goal of recruitment efforts will be to attract an applicant pool that is academically qualified and comprised of significant numbers of students with the following attributes:

- Residents of El Paso, West Texas or the U.S.-Mexico border region
- Socioeconomically disadvantaged
- Currently underrepresented in the state's existing dental medicine programs
- Commitment to providing oral health care to the El Paso and West Texas region

Recruitment efforts will include an immediate focus on area universities such as the University of Texas at El Paso, Angelo State University, West Texas A&M University, Sul Ross State University, University of Texas of the Permian Basin, Texas Tech University and pipeline community colleges such as El Paso Community College. Additionally, the WLHSDM will participate in outreach/pipeline programs that target underserved minority high school and college students and additional partnerships with other TTUHSC El Paso outreach programs.

In concert with these recruitment efforts, TTUHSC El Paso will pursue opportunities for developing scholarships to attract and enhance the desired applicant pool. Similar to the existing schools at TTUHSC El Paso, the WLHSDM aspires to enroll a student body that is reflective of the diversity of the El Paso, West Texas and U.S.-Mexico border regions to ensure graduates are equipped to serve these populations.

See Table 7 for enrollment projections for the first five years of the WLHSDM; legislative support and accreditation permitting, TTUHSC El Paso and WLHSDM leadership anticipate the first class will be seated in 2021.

*Table 7. Enrollment Projection for the WLHSDM, Years 1-5.*

<b>Enrollment Projections</b>					
	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
New Students <sup>1</sup>	40	60	60	60	60
Asian or Pacific Islander <sup>2</sup>	9 (23%)	14	14	14	14
Black Non-Hispanic <sup>2</sup>	2 (5%)	3	3	3	3
Hispanic <sup>2</sup>	12 (30%)	18	18	18	18
Native American/Alaskan Native <sup>2</sup>	1 (2%)	1	1	1	1
White Non-Hispanic <sup>2</sup>	16 (40%)	24	24	24	24
International <sup>2</sup>	0	0	0	0	0
Other <sup>2</sup>	0	0	0	0	0
Cumulative Headcount	40	100	160	220	240
FTSE <sup>1</sup>	40	100	160	220	240
Attrition (2% per class) <sup>3</sup>	1	1-2	1-2	1-2	1-1
Graduates	0	0	0	58-59	58-59

*Notes:*

1. All students will be full-time per THECB classification
2. Ethnic distribution is generated from the TTUHSC El Paso Paul L. Foster School of Medicine fall 2017 enrolled student population.
3. Attrition rate is based on the 2015-16 Survey of Dental Education

## Accreditation

CODA is nationally recognized by the United States Department of Education as the sole agency to accredit dental and dental-related education programs conducted at the post-secondary level. CODA functions independently and autonomously in matters of developing and approving accreditation standards, making accreditation decisions on educational programs, and developing and approving procedures that are used in the accreditation process. It is structured to include an appropriate representation of the communities of interest.

TTUHSC El Paso leadership and Dr. Black are preparing the CODA application for the WLHSDM with plans to submit it in November 2018. CODA will meet to review the application as early as January 2019; if the program is deemed to have been developed sufficiently to meet commission standards, a site visit will be scheduled in late 2019. The WLHSDM aims to receive initial accreditation and permission to seat its first class from CODA in July 2021.

After five successful years as a standalone institution, TTUHSC El Paso was granted independent accreditation with commendation, the highest-level designation possible, by SACSCOC in June 2018. In accordance with SACSCOC requirements, the establishment of the DMD program warrants notice of a substantive change (i.e., a significant modification or expansion in the nature and scope of a SACSCOC accredited institution). TTUHSC El Paso will give notice to SACSCOC in August 2018 and submit for approval in November 2018; a substantive change site committee visit will follow in 2019.

As the accreditation processes with CODA and SACSCOC advance, TTUHSC El Paso will simultaneously pursue THECB approval of the proposed DMD program. After obtaining TTU System Board of Regents approval for the program in August 2018, TTUHSC El Paso will submit the DMD program proposal to the THECB in November 2018. Throughout 2019, the proposal will be reviewed by THECB staff and an external evaluator, after which a review committee will visit TTUHSC El Paso. The THECB will meet as early as November 2019 to grant program approval.

Though these processes are independent, they must be advanced concomitantly in order for the WLHSDM to seat its first class in 2021. Leadership has strategically established a methodical accreditation timeline to achieve this goal. Please see Appendix A for the comprehensive accreditation timeline.

## 6. Financial Feasibility Assessment

### a. Operational Financial Feasibility

Through coordination with TTU System CFO Gary Barnes, TTUHSC El Paso President Lange, CFO Sue Fuciarelli and Dean Black, an operational budget for the WLHSDM has been prepared and exhaustively refined. President Lange set the mandate to design a budget that would be sufficient and provide adequate revenues to support start-up costs and operations over the FY21-25 period. The budget reflects a start-up year for FY21, first enrollments, and tuition and fee generation in FY22, and flow of state funding beginning in FY24. In addition, the budget was developed to align with and support accreditation timelines for THECB, SACSCOC and CODA.

*Table 8. WLHSDM Financial Summary.*

Expenses	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Faculty	\$158,449	\$530,240	\$1,031,296	\$1,057,344	\$4,564,544	\$11,564,544	\$11,507,633	\$15,435,279	\$16,709,844
Staff	\$50,822	\$111,360	\$148,480	\$347,098	\$484,637	\$570,055	\$658,695	\$750,653	\$805,846
Facilities, Equipment, Other	\$34,068	\$598,400	\$14,960,391	13,034,185	\$8,184,000	\$4,421,280	\$2,162,800	\$7,311,040	\$7,166,000
<b>Total Expenses</b>	<b>\$243,339</b>	<b>\$1,240,000</b>	<b>\$16,140,167</b>	<b>\$14,438,627</b>	<b>\$13,233,181</b>	<b>\$16,277,250</b>	<b>\$14,329,129</b>	<b>\$23,496,973</b>	<b>\$24,681,690</b>

Funding Source	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Formula Funding	\$ -----	\$ -----	\$ -----	\$ -----	\$ -----	\$ -----	\$ -----	\$4,522,323	\$4,522,323
Tuition & Fees	\$ -----	\$ -----	\$ -----	\$ -----	\$ -----	\$1,385,720	\$3,533,600	\$5,766,880	\$8,088,080
Special Item	\$ -----	\$860,640	7,139,360	\$10,000,000	\$10,000,000	\$10,000,000	\$10,000,000	\$5,000,000	\$5,000,000
Donor Funding	\$243,339	\$379,360	\$9,000,807	\$4,438,627	\$3,233,181	\$4,891,530	\$795,529	\$8,207,769	\$7,071,287
Clinical Revenue	\$ -----	\$ -----	\$ -----	\$ -----	\$ -----	\$ -----	\$ -----	\$ -----	\$ -----
<b>Total Funding Source</b>	<b>\$243,339</b>	<b>\$1,240,000</b>	<b>\$16,140,167</b>	<b>\$14,438,627</b>	<b>\$13,233,181</b>	<b>\$16,277,250</b>	<b>\$14,329,129</b>	<b>\$23,496,972</b>	<b>\$24,681,690</b>

Projected Student Enrollment	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
	0	0	0	0	0	40	100	160	220

The budget includes tuition and fee revenue generated by the first cohort of 40 students who will enroll in 2021. Cohort size will increase to 60 students beginning in 2022. After four years and by FY26, an estimated total 240 students will be enrolled at the WLHSDM. A faculty recruitment plan has been developed to guide the hiring process.

By FY25, the annual operating costs are projected to be \$23.7 million in 2018 dollars. Revenues needed to offset these expenses are derived primar-

ily from state formula funding, tuition and fees, and donor funding. Current biennial formula funding rates for health related institutions (\$45,223, per student) were used to calculate revenues.

Tuition (\$27,000 per student per academic year) and fees (\$10,005 per student per academic year) were utilized to project revenue generated by student enrollment. Students will pay institutional student services fees that facilitate student support services. In addition, attention has been given to start-up costs for facilities and equipment in order to conservatively manage the initial costs of operations.

Due to the delay in generation of state formula funding and given the need to build the professional program in a staged manner before students are enrolled, non-formula funding requests are calculated based on conservative estimates and requirements for THECB, SACSCOC and CODA approvals. Non-formula funding is appropriate for the start-up of new academic programs that fill a unique need for the residents of the State of Texas, like that which inspires the founding of the WLHSDM. In particular, the regional impact of the presence of a dental school has been adequately demonstrated and is an important solution for the State to consider for addressing the shortage of dentists in the El Paso and West Texas regions.

As stated earlier in this report, El Paso County has been designated as a Dental Health Professional Shortage Area and a “high need” area for dental care providers with only one provider for every 5,000 people.<sup>43</sup> Therefore, during the first five biennia, non-formula (or special item) funding will be requested, with reduced levels each year as formula funding, tuition and fees, and donor funding increase.

Support and recognition of the need for the WLHSDM was established by the 85th Texas Legislature in 2017 when \$8 million was allocated, along with a policy rider, to support the founding and initial programming of a dental medicine program at TTUHSC El Paso.

#### Summary: Operational Financial Feasibility

The budget for the WLHSDM has been carefully developed to support the start-up costs of a new professional doctoral program and the costs associated with THECB approval, and SACSCOC and CODA accreditation. The FY21-25 budget is sufficient to support the early phase of the DMD program and WLHSDM, as well as the cost of centralized services required for accreditation and operation.

Projected revenue, expenditures and state funding have been considered in order to adequately support the long-term sustainability and prosperity of the program.

The proposed budget for program operation is financially feasible.

### **b. Financial Feasibility of Facility Requirements**

In 2017, TTUHSC El Paso broke ground on the Medical Sciences Building (MSB) II, an \$83 million, 219,900-square-foot facility. The five-story building will more than double the campus' research capacity and add crucial instructional space to support the institution's growing student population and expanding vision. Construction is expected to be completed by 2020.

Funding for MSB II was approved by the 84th Texas Legislature in 2015 under House Bill 100, which appropriated \$75 million in Tuition Revenue Bonds for the building's construction. TTUHSC El Paso has contributed an additional \$8 million to cover total construction costs.

The WLHSDM will be housed in MSB II. Approximately 26,000 square feet of the third floor of the five-story facility has been allocated for dental school instructional and administrative spaces. In addition, the MSB II will include space for the library needs of the WLHSDM, labs, study rooms, student services and dining services.

In addition to the instructional space required for the WLHSDM, space for a community clinic has been identified in the Administrative Support Building on the TTUHSC El Paso campus. When fully operational in FY21, this clinic will contribute to the clinical learning environments that support the DMD curriculum, as well as generate clinical revenues in support of the WLHSDM and TTUHSC El Paso.

#### Summary: Financial Feasibility of Facility Requirements

With the construction of MSB II, infrastructure for the WLHSDM is already provided through state funds and supplements contributed by TTUHSC El Paso. No additional facility requirements exist at this time.

Facility requirements of the proposed program are feasible.

## **7. Feasibility Assessment of Philanthropic Opportunities**

Throughout its history, TTUHSC El Paso's mission to "serve the needs of [its] socially and culturally diverse communities and regions" has indelibly been empowered by monumental philanthropic investments. The El Paso community's rich tradition of impactful giving that enhances education and health care opportunities in the region has continued with the establishment of the WLHSDM.

In 2016, the Hunt Family Foundation dedicated \$25 million to support the initiative and name the school the Woody L. Hunt School of Dental Medicine. This large gift was soon followed by a \$6.1 million grant from the Paso Del Norte Foundation.

These gifts demonstrate that visionary community members and stakeholders are supportive partners in this initiative. TTUHSC El Paso has set a philanthropic goal of raising \$10 million more for the WLHSDM to fund start-up costs, equip state-of-the-art classrooms and lab spaces, and recruit top faculty.

## **8. Conclusion**

The critical dental health care needs of the El Paso and West Texas regions are not being adequately addressed by the existing dental schools in the state due to their distance from El Paso and the trend of graduates establishing their careers in close proximity to their professional school alma mater. Therefore, a new initiative must be taken in order to secure the dental health – which is essential to overall health – of the border region.

TTUHSC El Paso is experienced in addressing the unique challenges and opportunities that come with treating the culturally-diverse populations of border communities. Furthermore, it is prepared to implement proven education and treatment techniques to train dentists that are competent and compassionate in treating these populations. The establishment of the Woody L. Hunt School of Dental Medicine will transform the landscape of dental health care in El Paso and West Texas with its mission to:

“... improve the oral health of the people of Texas and the greater El Paso community by: a) focusing on the unique oral and overall health care needs of the border population; b) demonstrating excellence in education, research and patient care; and c) providing leadership to the practicing community and other area stakeholders.”

At the end of an exhaustive feasibility assessment, it is determined that TTUHSC El Paso is adequately equipped and prepared to implement a new Doctor of Dental Medicine program at the Woody L. Hunt School of Dental Medicine that will educate a new, diverse generation of dentists to serve a region in serious need of dental health care providers. In all instances, from existence of need to academic plans to financial success, the proposed school of dental medicine is feasible.



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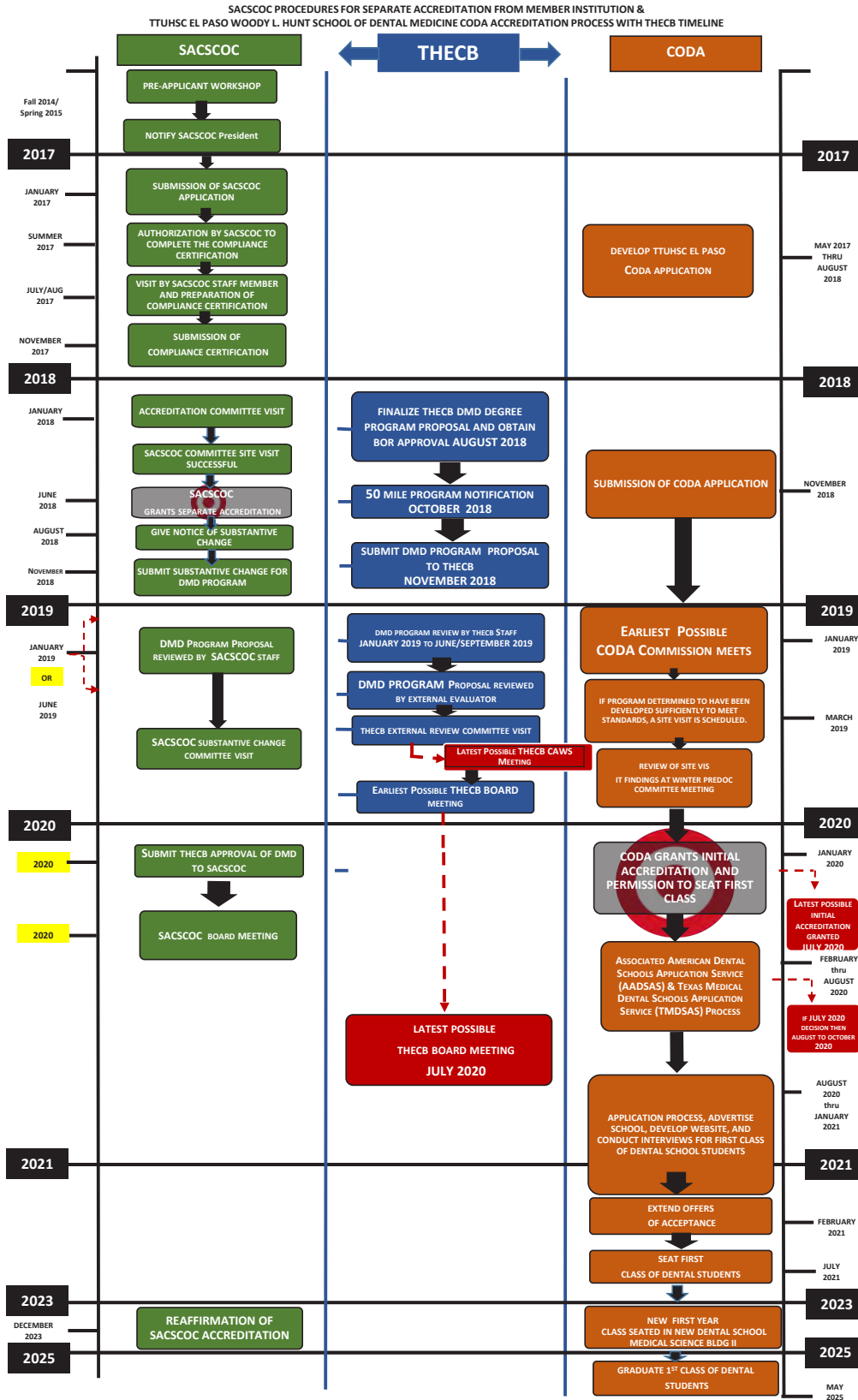
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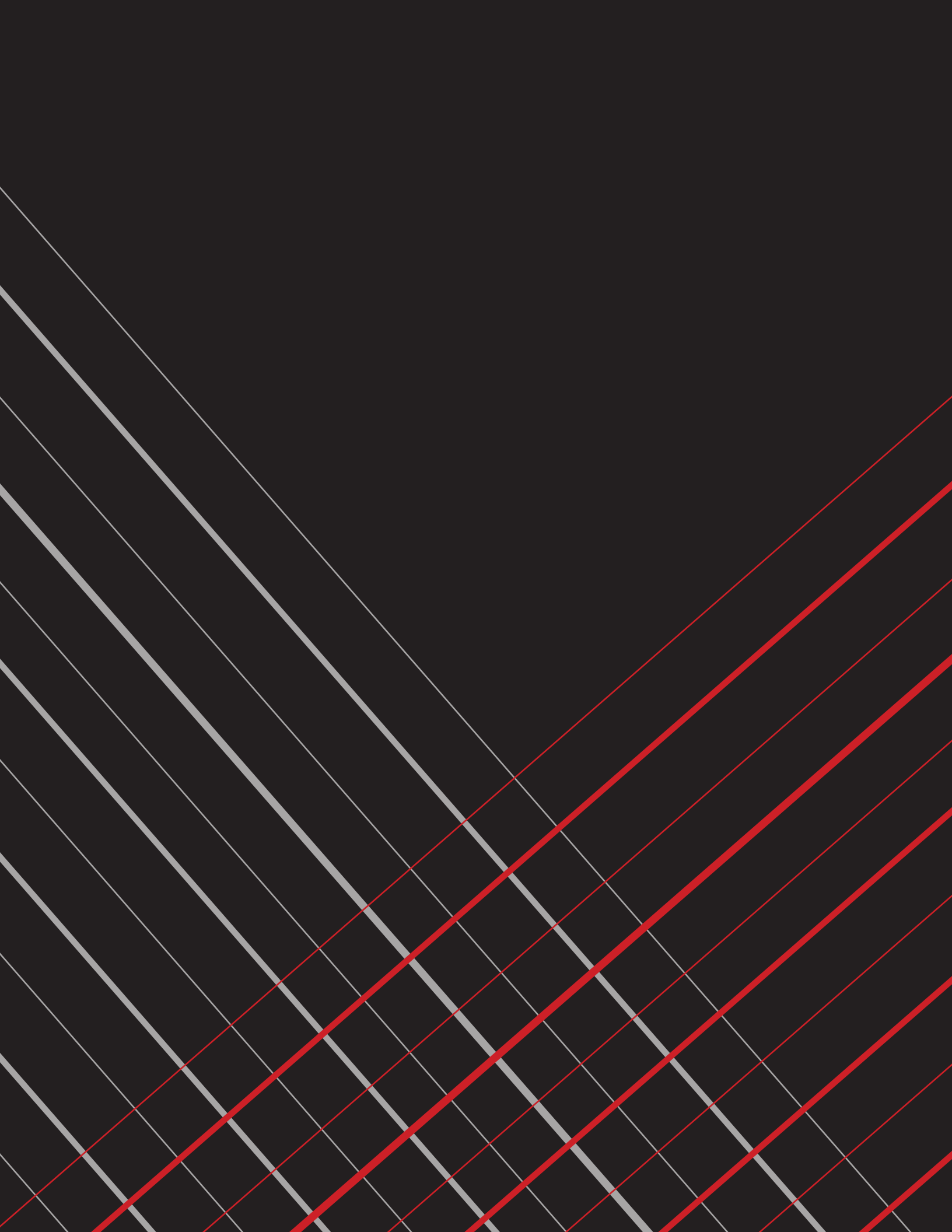
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# Appendix A



REVISED 6/18/2018









## PECO Project Detail

University: University of Florida  
 Project Name: Dental Science Building  
 Project Address: UF Main Campus

Priority #: 1

### PROJECT NARRATIVE

The Dental School is currently housed in the Dental Science Building. This building does not meet the needs of the College and the College needs new space to meet their educational requirements and continue to rise in the rankings nationally. The addition will provide a new welcoming space; clinical teaching, clinical student, and clinical resident space; Faculty Practice clinics; clinical support; teaching labs; simulation labs; Classrooms; School amenities; administration offices; faculty offices; Oral and Maxillofacial Surgery Clinic; and research space. In addition, it will remove a parking lot and replace it with 400 parking spaces in a structured parking garage under the building. This will enhance the accessibility for physically challenged patients and visitors by proximity and providing a connected covered parking option for when it is raining.

### RESERVE ESCROW PLAN

	Renovation/Remodeling Projects <small>(1% per s. 1001.706(12)(c) F.S.)</small>	New Construction Projects <small>(2% per Board Regulation 14.002)</small>
Estimated Bldg Value:	\$ -	\$ 133,057,260
Value Basis/Source:		Total construction cost or insurable value, whichever is greater.
Estimated 1st Yr Deposit:	\$ -	\$ 2,661,145
Funding Source:		
Comments:		

### BUILDING SPACE DESCRIPTION (account for all building space below)

Space Type (per FICM)	Net Sq. Ft. (NSF)	Net-to-Gross		Gross Sq. Ft. (GSF)	Unit Cost * (per GSF)	Building Cost
		Conversion Factor				
<b>NEW CONSTRUCTION</b>						
Classroom	14,300	1.5		21,450	462	9,909,900
Teaching Lab	56,300	1.6		90,080	587	52,876,960
Research Lab	36,700	1.6		58,720	545	32,002,400
Office	45,000	1.5		67,500	466	31,455,000
Study	7,600	1.5		11,400	445	5,073,000
Campus Support Services	4,000	1		4,000	435	1,740,000
	-			-		-
	-			-		-
	-			-		-
Subtotal NASF:	-			-		-
Other	-			-		-
Total:	163,900			253,150		133,057,260

\* Apply Unit Cost to total GSF based on Space Type

	Net Sq. Ft. (NSF)	Gross Sq. Ft. (GSF)	Building Cost	Remodeling Projects <b>Only</b>	
				BEFORE	AFTER
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
	-	-	-	-	-
Subtotal NASF:	-	-	-	-	-
Other	-	-	-	-	-
Total:	-	-	-	-	-
Grand Total:	163,900	253,150	133,057,260		

### PROJECT COMPONENT COSTS & PROJECTIONS

	Costs Incurred	Projected Costs					Total
	to Date	Year 1	Year 2	Year 3	Year 4	Year 5	
<b>Basic Construction Costs</b>							
Building Cost (from above)	-	-	75,000,000	58,057,260	-	-	133,057,260
Environmental Impacts/Mitigation	-	150,000	-	-	-	-	150,000
Site Preparation	-	500,000	-	-	-	-	500,000
Landscape / Irrigation	-	-	-	100,000	-	-	100,000
Plaza / Walks	-	-	50,000	50,000	-	-	100,000
Roadway Improvements	-	-	150,000	450,000	-	-	600,000
Parking : 400 spaces	-	-	6,000,000	2,000,000	-	-	8,000,000
Telecommunication	-	500,000	1,500,000	2,000,000	-	-	4,000,000
Electrical Service	-	500,000	1,000,000	1,000,000	-	-	2,500,000
Water Distribution	-	500,000	500,000	1,000,000	-	-	2,000,000
Sanitary Sewer System	-	500,000	1,500,000	1,000,000	-	-	3,000,000
Chilled Water System	-	1,000,000	1,500,000	2,000,000	-	-	4,500,000
Storm Water System	-	250,000	300,000	1,000,000	-	-	1,550,000
Energy Efficient Equipment	-	-	5,000,000	9,795,000	-	-	14,795,000
Subtotal: Basic Const. Costs	-	3,900,000	92,500,000	78,452,260	-	-	174,852,260
<b>Other Project Costs</b>							
Land / existing facility acquisition	-	-	-	-	-	-	-
Professional Fees	-	5,500,000	8,000,000	6,900,000	-	-	20,400,000
Fire Marshall Fees	-	-	-	-	-	-	-
Inspection Services	-	250,000	500,000	650,000	-	-	1,400,000
Insurance Consultant	-	25,000	-	-	-	-	25,000
Surveys & Tests	-	100,000	200,000	100,000	-	-	400,000
Permit / Impact / Environmental Fees	-	300,000	300,000	50,000	-	-	650,000
Artwork	-	-	-	100,000	-	-	100,000
Moveable Furnishings & Equipment	-	-	3,000,000	5,000,000	-	-	8,000,000
Project Contingency	-	5,000,000	8,000,000	16,172,740	-	-	29,172,740
Subtotal: Other Project Costs	-	11,175,000	20,000,000	28,972,740	-	-	60,147,740
<b>Total Project Cost:</b>	-	15,075,000	112,500,000	107,425,000	-	-	235,000,000

#### PROJECT FUNDING

Funding Received to Date (all sources)			Projected Supplemental Funding			Projected PECO Requests		Total Project Cost
Source	FY	Amount	Source	FY	Amount	FY	Amount	
Gen Rev	22-23	58,300,000	Foundation	23-25	25,000,000	23-24	60,000,000	Should equal Total Project Cost above
			Donations/Gifts	23-25	51,700,000	24-25	40,000,000	
					-			
		58,300,000			76,700,000		100,000,000	235,000,000



**State University System  
Education and General  
2023-2024 Legislative Budget Request  
Form I**

<b>University(s):</b>	<b>Florida Atlantic University</b>
<b>Request Title:</b>	<b>Establishing a College of Dentistry at Florida Atlantic University</b>
<b>Date Request Approved by University Board of Trustees:</b>	<b>September 19, 2022 (Initial Approval) December 8, 2022 (Approval Amended Proposal - Pending)</b>
<b>Recurring Funds Requested:</b>	<b>\$37,857,000</b>
<b>Non-Recurring Funds Requested:</b>	<b>\$85,464,000</b>
<b>Total Funds Requested:</b>	<b>\$123,321,000</b>
<b>Please check the request type below:</b>	
<b>Shared Services/System-Wide Request</b>	<input type="checkbox"/>
<b>Unique Request</b>	<input checked="" type="checkbox"/>

**I. Purpose**

**In order to increase overall dental student enrollment and graduates that can best serve the needs of our growing population in Florida,** Florida Atlantic University is proposing the formation of the state’s second public dental school.

Florida Atlantic University aims to create a new College of Dentistry and to offer the Doctor of Dental Medicine (D.M.D.) program starting in 2026. The College of Dentistry is aligned with the development of FAU Health Network. We plan to admit 45 students in year 1 and have a staggered increase to 90 students over 4 years with a total enrollment of 350 (assuming attrition) students once fully enrolled. The College of Dentistry will be supported by a proposed \$30 million lead donation and will be housed in a new 94,000 gsf College of Dentistry facility that will be constructed on FAU’s Boca Raton campus. In addition to the operational funding requested in this legislative budget request, the College of Dentistry facility will be a fixed capital outlay request that seeks state support during the upcoming legislative session. In addition to standardized patient clinical program requirements, dental care clinic experiences will be operationalized in Broward, Palm Beach, and Martin counties with full and affiliate faculty members, similar to the clinical rotations provided by our College of Medicine and College of Nursing. The College of Dentistry also will partner

with public and private partners in the FAU Health Network. The College of Dentistry is an essential component of FAU Health Network's mission to best serve the growing population of Florida. Further, the clinical, education and research opportunities will enhance Florida's life sciences sector, boosting its workforce and related economic impact.

The U.S. Bureau of Labor Statistics projects 19 percent job growth for dentists (from 2016 to 2026), which is much faster than average. The bureau cites an aging population and new research linking oral and overall health as reasons for the increased demand for dental care. A 2019 report from Health Resources and Services Administration shows that one in four Florida residents already live in areas with a shortage of dentists, more than any other state. Topping the list of states with "Dental Health Professional Shortage Areas," more than 5 million Floridians live in areas that have limited or no access to a dentist. In fact, 63 of 67 counties have a dental shortage. Data from Wellbeing Florida shows that in 2021 hospitals billed more than \$620 million in preventable ER visits and hospital admissions stemming from oral health issues. About half of that was billed through Medicaid, Medicare and other government programs.

The elderly community and children are the populations that most often have limited access to dental care. Among those over 65 years of age, one in three people have significant dental issues as a result of tooth decay or gum disease, and 14 percent of seniors ultimately have all their teeth extracted. Moreover, one in five children in Florida suffer from treatable dental problems. Almost a quarter of Florida's third-grade children suffer from untreated tooth decay. Correspondingly, Florida is ranked sixth in the nation for the highest percentage of third-grade children with unfilled cavities.

According to the Journal of the American Dental Association, as a result of the current dentist shortage, the United States is seeing more foreign-trained dentists in the United States. Dentists trained outside the US have increased from 4.3% to 6% from 2002-2016, and estimates place that rate as high as 8% currently. However, current immigration policies continue to impact the ability to recruit and retain foreign trained dentists. The impacts of these policies are likely to be felt hardest in rural areas – the places that prove most challenging when attempting to recruit practicing dentists.

Florida Atlantic's proposed College of Dentistry aligns with the overall FAU Strategic Plan, *The Race to Excellence*, which includes health as one of its academic pillars and community relationships as an essential element. Moreover, the programs also concur with FAU's annual Accountability Plan, which establishes targets to produce more degrees in areas of strategic emphases and to meet workforce needs in health fields.

According to the American Dental Education Association (ADEA), private dental schools on average burden a student with over \$500,000 in tuition, materials costs and administrative fees. These costs are projected to increase at a rate of 3-5 percent per year for the next 4 years. Currently, the state of

Florida has only one publicly funded dental school to service a population of 22.2M residents.

The proposed FAU College of Dentistry would become the second public dental school in the state and would focus on recruiting students with a passion to work in underserved and rural areas.

Our goals are to:

1. Establish the infrastructure for the education mission of the school inclusive of an office of student affairs, accreditation and curriculum development, in accordance with the requirements of the Commission on Dental Accreditation (CODA).
  - a. CODA evaluates the educational quality of predoctoral, advanced, and allied dental education programs in the United States. All 50 states plus Puerto Rico and the District of Columbia recognize the Commission's authority to accredit predoctoral, advanced, and allied dental education programs in their respective disciplines.
  - b. The Commission also evaluates the educational quality of international dental education programs (see International Predoctoral Policies and Procedures). The Commission on Dental Accreditation has developed accreditation standards for each of the disciplines within its purview. The standards, which are the basis for accreditation actions, are reviewed periodically and revised as necessary (see CODA Policy and Procedures for Development and Revision of Accreditation Standards).
2. Recruit, hire and train an additional 30 teaching, clinical and research faculty and supporting staff to actualize the education, research and clinical curriculum.
3. Recruit, hire and train an additional 10 faculty to lead and manage the college's administrative operations from the tripartite mission perspective.
4. Partner with precepting faculty in underserved communities as well as with the state to advance loan repayment programs designed to incentivize graduates to serve in underserved areas

**Goal 1 Establish the infrastructure and facilities for the educational mission of the school inclusive of an office of student affairs, accreditation and curriculum development.**

- (1) Recruit, hire and retain a founding dean, associate dean for student affairs, assistant dean of curriculum, and senior faculty with expertise in accreditation. They will need legal, financial and human resources personnel in addition to support staff.

- (2) Hire a focused consulting firm to expedite the accreditation process.
- (3) Purchase learning tools and equipment .
- (4) Identify academic classrooms for didactic learning areas.
- (5) Build dedicated dental school facilities by year 3 that include:
  - a. Wet laboratory with online milling units, sintering oven, and intraoral scanners with learning software.
  - b. Preclinical spaces for simulation learning of basic skills of dentistry, as well as fixed and removable prosthodontics on mannequins.
  - c. Instructional clinical spaces with comprehensive dental operatories for standardized patient, student treatment clinics.

**Goal 2 & 3 Recruit, hire and train an additional 30 teaching, clinical and research faculty to actualize the education, research and clinical curriculum and an additional 10 faculty to lead and manage the college's administrative operations from the tripartite mission perspective.**

- (1) Will recruit 30 full-time, qualified “core faculty” as described by the CODA, as well as supporting staff to deliver a high quality DMD curriculum in accordance with CODA specifications.
  - a. The standards for accreditation curriculum must include at least four academic years of instruction or its equivalent.
  - b. 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.
  - c. Using the CODA definition of an FTE, the prescribed student-faculty ratio for instruction preclinically and clinically in the predoctoral program – subtracting out administrators, biomedical scientists, and those who have other teaching responsibilities such as shared responsibilities with the college of medicine (e.g. anatomy), is not to exceed 10:1 and should accommodate the requirements of clinical instruction (70 percent or more by core faculty).
- (2) We will hire key roles for implementation and execution of the curriculum including IT, library services, research services, simulation, and rural outreach.



- (3) We will hire administrative leadership that will oversee and ensure the delivery of a quality dental education program, meeting and exceeding CODA standards for education, and embracing the tripartite mission.

**Goal 4 Partner with the state moving forward on loan repayment programs designed to incentivize graduates to serve in underserved areas.**

- (1) We will establish clinical opportunities with qualified preceptors in our local and regional community.
  - a. Adjunct faculty are defined as dentists from the community that practice in a variety of clinical settings and commit to teaching one day a week for ten months a year.
- (2) Recruit an Asst Dean of Admissions and office staff to recruit students to achieve these goals. Work with state lawmakers to develop proposed legislation that would establish dental education reimbursement and loan repayment programs similar to the Medical Education Reimbursement and Loan Repayment Program referenced in § 1009.65 Fla. Stat.

## **II. Return on Investment**

### *Contributions*

FAU is making the following contributions to creation of its College of Dentistry:

- Leveraging existing resources within the University, including infrastructure surrounding finance, human resources, information technology, legal, marketing, registrar services.
- Maximizing opportunities for interprofessional learning in pre-clinical classes and in research programs.
- Shared use of existing simulation and anatomy labs with College of Medicine.
- Shared instructors with the College of Medicine in common or overlapping areas of training.
- Use of lecture halls and other spaces with other Colleges on FAU campuses.
- Use of simulation lab in the Medical Research space for basic science faculty.

### *Projected Return on Investment*

FAU Health Network aims to best serve the healthcare needs of the population of the region and of Florida through education, research integration and interprofessional practice. Florida Atlantic's Boca campus currently houses 7 colleges related to health sciences (e.g. biomedical engineering, medicine, nursing, psychology, social work).

The proposed College of Dentistry is the next natural progression of this coalition of collaboration. The College of Dentistry will be a key pillar in this foundation of

care delivery, providing a pipeline of highly trained dental professionals, well equipped to serve the community.

Population and economic growth are driving the demand for and the expansion of the life sciences sector in Southeast Florida. According to the Business Development Board of Palm Beach County, the county alone is home to 15 hospital and over 700 life sciences companies primarily engaged in medical services, as well as the research and development or manufacturing of biotechnologies, medical devices, pharmaceuticals, and biological sciences. The construction and operationalization of a new College of Dentistry would have a significant impact on the region's growing life sciences sector. The design and construction of a new 94,000 gsf College of Dentistry facility would result in approximately 1,500 direct, indirect and induced jobs. These numbers are over and above the 40 full-time faculty and 70 full-time support staff that will be employed once the College of Dentistry is fully operational. In addition to directly creating 110 high wage jobs and infusing tens of millions of dollar into the regional economy, the ongoing operations of the College of Dentistry will also have significant indirect impacts on job creation. It is estimated that an additional 540 indirect jobs will be created as a result of the College of Dentistry's annual operations.

In addition, FAU Health Network will work collaboratively with the region's 12 dental hygiene programs to provide additional clinical rotation opportunities – also impacted by the shortage of dentists in the region. The ability to find and retain adequate preceptors is becoming evermore challenging for the dental allied health providers. These programs directly benefit from connectivity to a dental school and will also help FAU reduce the cost of clinical support personnel.

Between 80-90% of the dental students that train in Florida remain in Florida, this will have a tremendous impact on the number of dentists available to serve. Focusing the curriculum on serving the underserved will benefit the 63 counties that have a shortage of dental providers.

The primary educational outcomes of the proposed programs include student enrollment and graduation numbers. The primary workforce outcomes include the number and percentage of students who successfully pass the National Board Dental Examination (Part 1 and 2) and enter the dental workforce in Florida, and specifically in underserved areas of the state. This program will increase the number of dental graduates, and will recruit students likely to stay in the region as they develop ties to the community that will further increase the likelihood of retention. The expected returns on investment (ROI) include increases in the number of dentists, as well as allied dental professionals, such as dental hygienists and assistants, that are added to Florida's workforce.

The funding for doctoral student stipends/scholarships will also allow us to attract and enroll additional students and will also contribute to the college and FAU's mission.

### **III. Personnel**

This legislative budget request contains a combination of both recurring operational and non-recurring startup funds that would support the creation and ongoing operations of the College of Dentistry.

The majority of costs associated with the program are recurring and are for personnel needed to support the college and for the annual, recurring expenses associated with the program for operations, equipment, supplies, mannequins, radiological software, and diagnostic tools.

A minimum of 40.0 total faculty FTEs, 70.0 staff FTEs, and 10 adjunct FTEs will be hired. Various faculty will be needed to represent expertise in administration, education and research.

Additionally, the remaining \$85.5M non-recurring request would fund the startup faculty and staff expenses, fees, infrastructure and equipment necessary to provide academic instruction in clinical settings and in campus simulation lab settings.

**IV. Facilities**

	<b>Facility Project Title</b>	<b>Fiscal Year</b>	<b>Amount Requested</b>	<b>Priority Number</b>
<b>1.</b>	College of Dentistry Facility	2024-2025	\$84,695,700	N/A
<b>2.</b>				



**2022-2023 Legislative Budget Request**  
**Education and General**  
**Position and Fiscal Summary**  
**Operating Budget Form II**  
 (to be completed for each issue)

**University:** Florida Atlantic University  
**Issue Title:** Enhancing and Expanding Florida's Dental Services

	<u>RECURRING</u>	<u>NON-RECURRING</u>	<u>TOTAL</u>
Faculty	40.00		40.00
Other (A&P/USPS)	70.00		70.00
 Total	 110.00		 110.00
	=====	=====	=====
	=====	=====	=====
Salaries and Benefits	\$21,357,000		\$21,357,000
Other Personal Services		\$750,000	\$750,000
Expenses	\$15,000,000	\$12,000,000	\$27,000,000
Operating Capital Outlay		\$72,714,000	\$72,714,000
Electronic Data Processing	\$450,000		\$450,000
Financial Aid	\$1,050,000		\$1,050,000
Special Category (Specific)			
	=====	=====	=====
Total All Categories	\$37,857,000	\$85,464,000	\$123,321,000
	=====	=====	=====