



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.¹ 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 residents² 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).³

Table 1. Number of Dentists per 100,000 population, 2017

	El Paso County¹	Texas¹	U.S.²
General Dentists	20.9	36.3	48.2
All Dentists	29.7	47.1	61

Sources: ¹Texas Health and Human Services, 2017; ²American 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.⁴ 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.⁵

Table 2. Population to Provider Ratios, 2017 - General Dentists

West-El Paso Region¹	El Paso County¹	Texas¹	U.S.²
5,506:1	5,482:1	2,970:1	2,075:1

Sources: ¹Texas Health Institute, 2018; ²American 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 data⁶ 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.⁷

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).⁸ Specifically in El Paso County, 38 percent of all currently active dentists are above 50 years of age.⁹ 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,¹⁰ 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.¹¹ 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.¹²

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.¹³ Additionally, the rural regions of the state have lower rates of dental visits with their concentration of low-income, food insecure, underserved populations.¹⁴ 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 2016.¹⁵

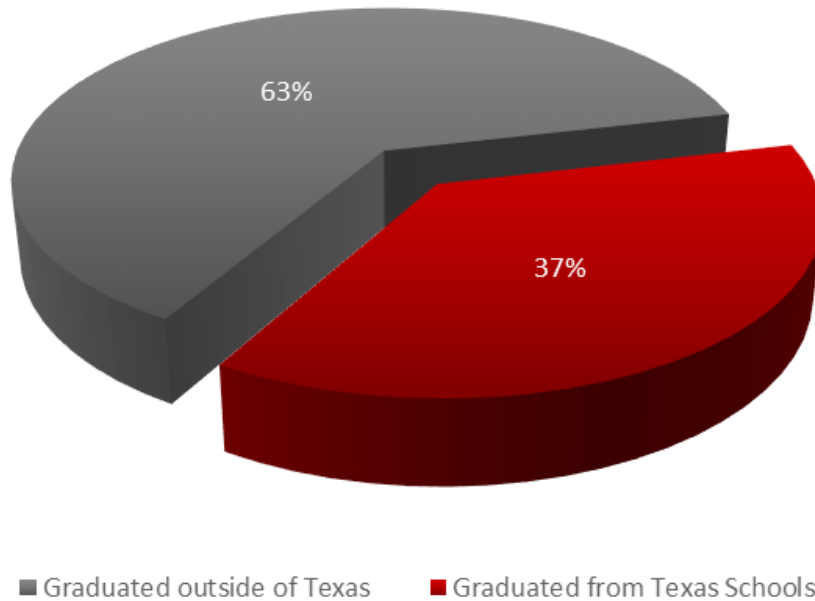
Meanwhile, population growth estimates indicate significant population increases for El Paso County. Based on 2017 population estimates from the United States Census Bureau, El Paso County has 840,410 residents; this population is projected to increase by 70 percent between 2000 and 2040.¹⁶ El Paso is 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^{17,18,19} 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^{20,21,22,23,24}
- Oral health screening programs²⁵
- Community education, including dental services and nutrition counseling^{26,27,28,29,30,31,32}
- Dental care knowledge³³
- Tobacco prevention and cessation³⁴
- Obesity prevention and intervention³⁵
- Diabetes prevention and management^{36,37}

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

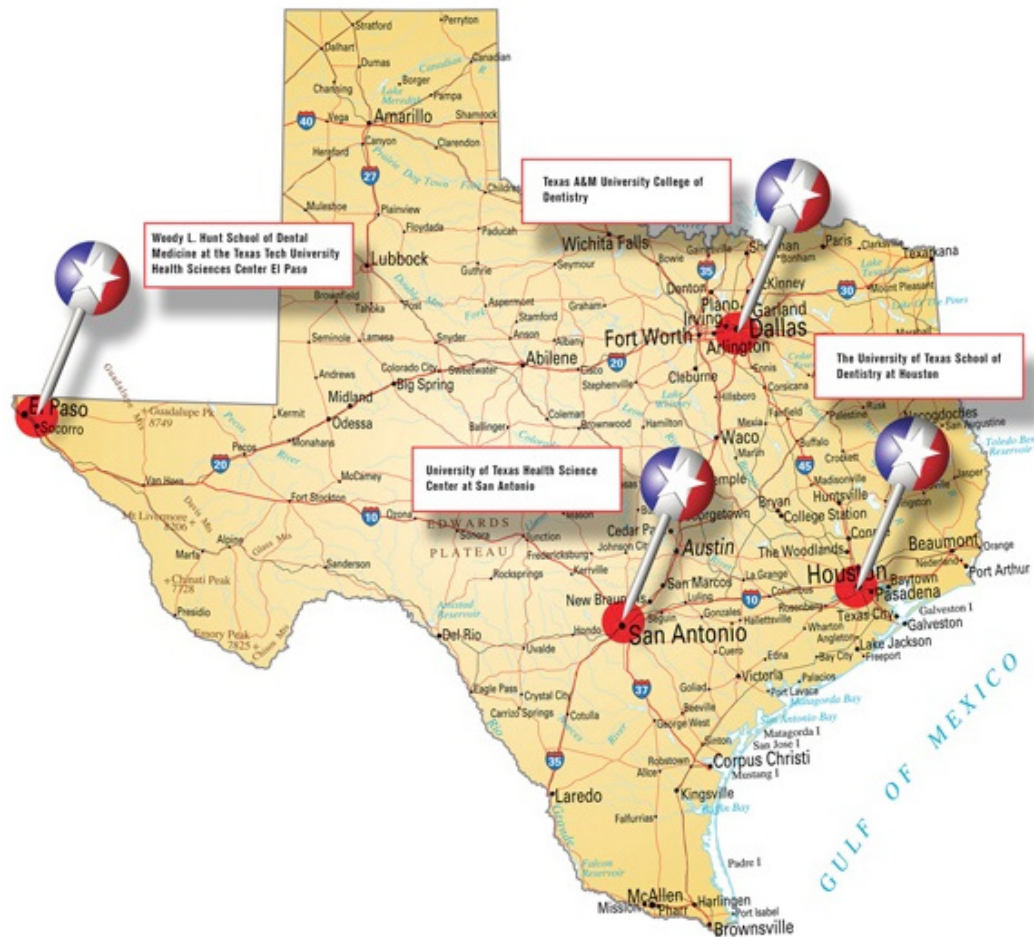
in close proximity to their training program. Thus, the existing Texas dental school programs will not meet the challenges faced in the El Paso and West Texas regions.

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.

Institution	Program	Fall Enrollment 2017	Degrees Awarded 2017
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
Total		1,260	304

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.

Institution	Program	Fall Enrollment				
		2013	2014	2015	2016	2017
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
Total Enrollment		1202	1224	1239	1254	1260

Source: Texas Higher Education Coordinating Board, Accountability System, 2018

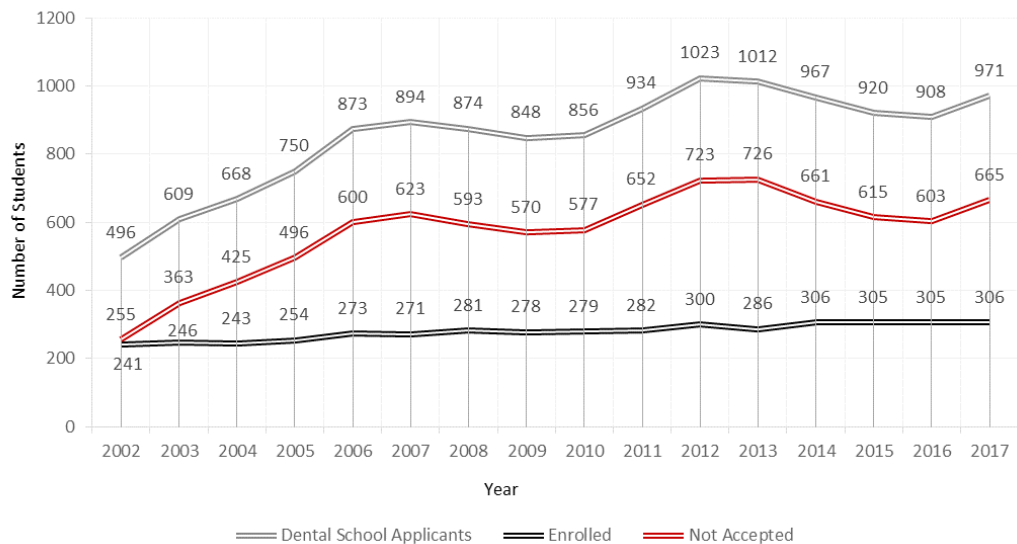
Table 5. Degrees Awarded at Texas Dental Schools, 2013-2017.

Institution	Program	Degrees Awarded				
		2013	2014	2015	2016	2017
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
Total Degrees Awarded		280	290	293	303	304

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.³⁸

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.³⁹ 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.

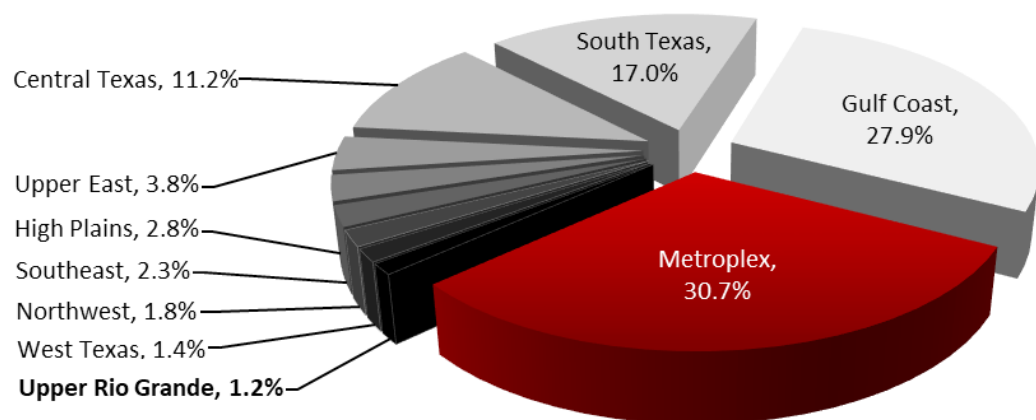
While there is sufficient evidence alone to conclude that a need for a new dental medicine program exists based on student interest within the state, it stands to reason that an additional educational opportunity is needed in West Texas based on how the program would serve its surrounding communities.

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

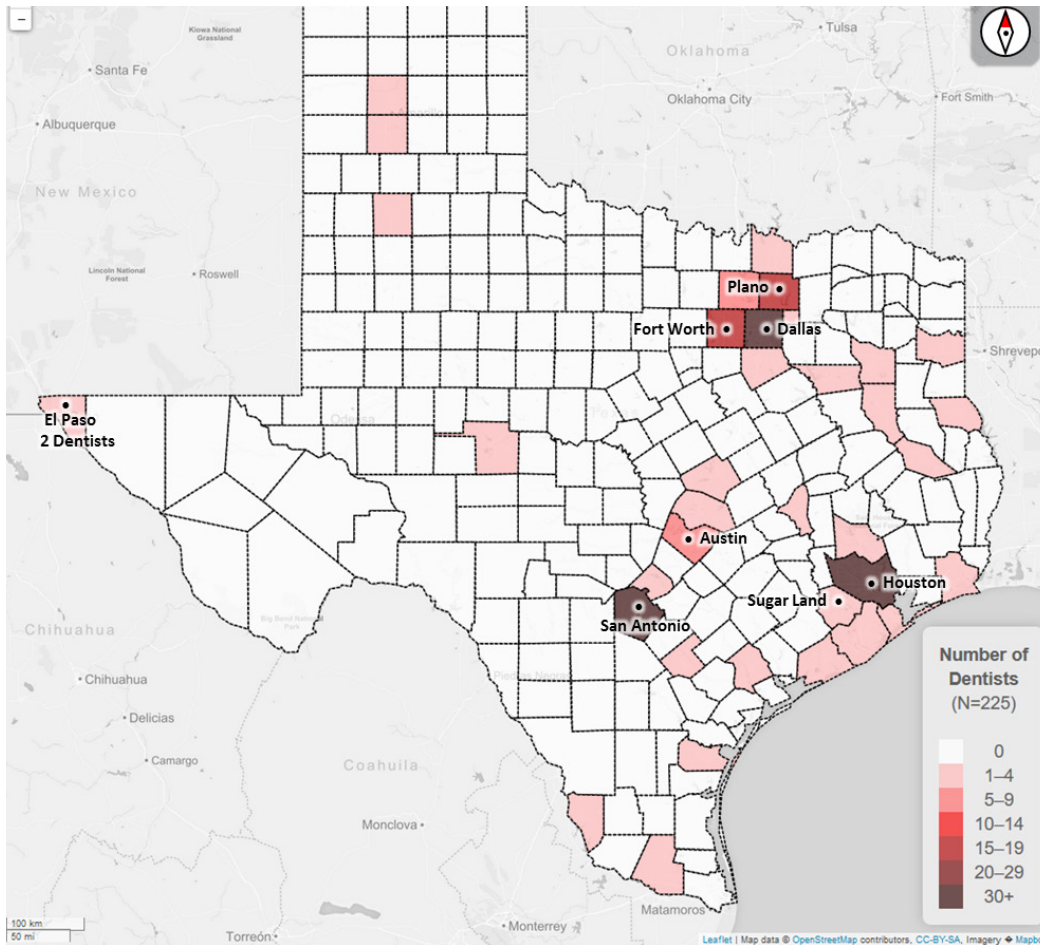


*N = 9180

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.⁴⁰

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.

Texas Dental School	FY 2016	FY 2017
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 2014.⁴¹ 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.⁴² 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.

Enrollment Projections					
	Year 1	Year 2	Year 3	Year 4	Year 5
New Students ¹	40	60	60	60	60
Asian or Pacific Islander ²	9 (23%)	14	14	14	14
Black Non-Hispanic ²	2 (5%)	3	3	3	3
Hispanic ²	12 (30%)	18	18	18	18
Native American/Alaskan Native ²	1 (2%)	1	1	1	1
White Non-Hispanic ²	16 (40%)	24	24	24	24
International ²	0	0	0	0	0
Other ²	0	0	0	0	0
Cumulative Headcount	40	100	160	220	240
FTSE ¹	40	100	160	220	240
Attrition (2% per class) ³	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
Total Expenses	\$243,339	\$1,240,000	\$16,140,167	\$14,438,627	\$13,233,181	\$16,277,250	\$14,329,129	\$23,496,973	\$24,681,690

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	\$ -----	\$ -----	\$ -----	\$ -----	\$ -----	\$ -----	\$ -----	\$ -----	\$ -----
Total Funding Source	\$243,339	\$1,240,000	\$16,140,167	\$14,438,627	\$13,233,181	\$16,277,250	\$14,329,129	\$23,496,972	\$24,681,690

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.⁴³ 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.

TTUHSC El Paso School of Dental Medicine Feasibility Report References

- ¹ American Dental Association. (2018). *Competencies for the New General Dentist*. Retrieved from http://www.adea.org/about_adea/governance/Pages/Competencies-for-the-New-General-Dentist.aspx
- ² Texas Health and Human Services, Texas Department of State Health Services. (2018). *General dentists, 2017*. Retrieved from <http://www.dshs.texas.gov/chs/hprc/tables/2017/GEN17.aspx>
- ³ American Dental Association. (2018). *Competencies for the New General Dentist*. Retrieved from http://www.adea.org/about_adea/governance/Pages/Competencies-for-the-New-General-Dentist.aspx
- ⁴ Health Professions Resource Center. (2016). *Trends, distribution, and demographics: dentists (All) 2015*. Retrieved from www.dshs.state.tx.us/chs/hprc
- ⁵ Texas Health Institute. (2018). *Oral health in Texas bridging gaps and filling needs*. Retrieved from https://www.texashealthinstitute.org/uploads/1/3/5/3/13535548/thi_report_final.pdf
- ⁶ American Dental Association, Health Policy Institute. (2018). *Supply of dentists in the U.S.: 2001-2017*. Retrieved from <https://www.ada.org/en/science-research/health-policy-institute/data-center/supply-and-profile-of-dentists>
- ⁷ U.S. Department of Health & Human Services, Health Resources & Services Administration Data Warehouse (2017). *Health Professional Shortage Areas Find*. Retrieved from <https://datawarehouse.hrsa.gov/tools/analyzers/HpsaFind.aspx>
- ⁸ Health Professions Resource Center, Dentists and Allied Health Professionals. (2015). *Demographics and trends 2014*. Retrieved from <https://www.dshs.texas.gov/chs/hprc/publications/2014DentistTrends.pdf>
- ⁹ Texas State Board of Dental Examiners. (2018). *Licensee information lists*. Retrieved from <http://www.tsbde.texas.gov/LicenseeInformationLists.html>
- ¹⁰ U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research. (2000). *Oral health in America: A report of the surgeon general*. (NIH Publication No. 00-4713). Retrieved from <https://profiles.nlm.nih.gov/ps/access/NNBBJT.pdf>

¹¹ U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research. (2000). *Oral health in America: A report of the surgeon general*. (NIH Publication No. 00-4713). Retrieved from <https://profiles.nlm.nih.gov/ps/access/NNBBJT.pdf>

¹² Seirawan, H., Faust, S., & Mulligan, R. (2012). The impact of oral health on the academic performance of disadvantaged children. *American Journal of Public Health*. Retrieved from <http://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2011.300478>

¹³ Texas Health Institute. (2018). *Oral health in Texas bridging gaps and filling needs*. Retrieved from https://www.texashealthinstitute.org/uploads/1/3/5/3/13535548/thi_report_final.pdf

¹⁴ Texas Health Institute. (2018). *Oral health in Texas bridging gaps and filling needs*. Retrieved from https://www.texashealthinstitute.org/uploads/1/3/5/3/13535548/thi_report_final.pdf

¹⁵ Centers for Disease Control and Prevention. (2016). Behavioral Risk Factor Survey System (BRFSS) survey data and documentation. Retrieved from https://www.cdc.gov/brfss/annual_data/annual_2016.html

¹⁶ Borderplex Alliance. (2014). *Population information*. Retrieved from <https://borderplexalliance.org/workforce/workforce-profile/population-information>

¹⁷ Texas Higher Education Coordinating Board, Accountability System. (2018). *Interactive reports*. Retrieved from <http://www.txhigheredaccountability.org/acctpublic/>

¹⁸ Texas Legislative Budget Board. (2018). *Automated Budget and Evaluation System of Texas (ABEST)*. Retrieved from <http://abest1.lbb.state.tx.us/>

¹⁹ Texas State Board of Dental Examiners. (2018). *Licensee information lists*. Retrieved from <http://www.tsbde.texas.gov/LicenseeInformationLists.html>

²⁰ Atchison K. A., Thind A., Carreon D. C., & Andersen, R. M. (2011). Comparison of extramural clinical rotation days: Did the pipeline program make a difference? *Journal of Dental Education*, 75, 52-61.

²¹ Formicola A. J., D'Abreu, K. C., & Tedesco, L. A. (2010). Underrepresented minority dental student recruitment and enrollment programs: An overview from the dental Pipeline program. *Journal of Dental Education*, 74, S67-73

²² Biordi, D. L., Heitzer, M., Mundy, E., DiMarco, M., Thacker, S., Taylor, E., & Fitzgerald, K. (2015). Improving access and provision of preventive oral health care for very young, poor, and low-income children through a new interdisciplinary partnership. *American Journal of Public Health, 105*(2), e23-9.

²³ Institute of Medicine of the National Academies. (2011). *Improving access to oral health care for vulnerable and underserved populations*. Washington, D.C.: The National Academies Press.

²⁴ Taylor, E., Marino, D., Thacker, S., DiMarco, M., Huff, M., & Biordi, D. (2014). Expanding oral health preventative services for young children: A successful interprofessional model. *Journal of Allied Health, 43*, e5-9.

²⁵ Russell, S. L., Greenblatt, A. P., Gomes, D., Birenz, S., Golembeski, C. A., Shelley, D., & Northridge, M. E. (2015). Toward Implementing Primary Care at Chairside: Developing a Clinical Decision Support System for Dental Hygienists. *Journal of Evidence Based Dental Practice, 15*, 145-51.

²⁶ Akabas, S. R., Chouinard, J. D., & Bernstein, B. R. (2012). Nutrition and physical activity in health promotion and disease prevention: potential role for the dental profession. *Dental Clinics of North America, 56*, 791-808.

²⁷ Bruno, M. (2012). The integration of diet and nutrition lifestyle management strategies into the dental office visit for diabetes risk reduction and management. *Journal of the American Dental Association, 143*, 1320-3.

²⁸ DiMaria-Ghalili, R. A., Mirtallo, J. M., Tobin, B. W., Hark, L., Van Hom, L., & Palmer, C. A. (2014). Challenges and opportunities for nutrition education and training in the health care professions: Intraprofessional and interprofessional call to action. *American Journal of Clinical Nutrition, 99*, 184S-93S.

²⁹ Franki, J., Hayes, M. J., & Taylor, J. A. (2014). The provision of dietary advice by dental practitioners: A review of the literature. *Community Dental Health Journal, 31*, 9-14.

³⁰ Johnson, D. L., Gurenlian, J. R., & Freudenthal, J. J. (2016). A study of nutrition in entry-level dental hygiene education programs. *Journal of Dental Education, 80*, 73-82.

³¹ Kris-Etherton, P. M., Akabas, S. R., Bales, C. W., Bistran, B., Edwards, M. S., Laur, C., & Van Horn, L. (2014). The need to advance nutrition education in the training of health care professionals and recommended research to evaluate implementation and effectiveness. *American Journal of Clinical Nutrition, 99*, 153S-66S.

- ³² Shah, K., Hunter, M. L., Fairchild, R. M., & Morgan, M. Z. (2011). A comparison of the nutritional knowledge of dental, dietetic and nutrition students. *British Dental Journal*, *210*, 33-8.
- ³³ Hoefft, K. S., Barker, J. C., Shiboski, S., Pantoja-Guzman, E., & Hiatt, R. A. (2016). Effectiveness evaluation of Contra Caries Oral Health Education Program for improving Spanish-speaking parents' preventive oral health knowledge and behaviors for their young children. *Community dentistry and oral epidemiology*, *44*(6), 564-576.
- ³⁴ Russell, S. L., Greenblatt, A. P., Gomes, D., Birenz, S., Golembeski, C. A., Shelley, D., & Northridge, M. E. (2015). Toward Implementing Primary Care at Chairside: Developing a Clinical Decision Support System for Dental Hygienists. *Journal of Evidence Based Dental Practice*, *15*, 145-51.
- ³⁵ Tavares, M., Dewundara, A., & Goodson, J. M. (2012). Obesity prevention and intervention in dental practice. *Dental Clinics of North America*, *56*, 831-46.
- ³⁶ Bruno, M. (2012). The integration of diet and nutrition lifestyle management strategies into the dental office visit for diabetes risk reduction and management. *Journal of the American Dental Association*, *143*, 1320-3.
- ³⁷ Lalla, E., & Lamster, I. B. (2012). Assessment and management of patients with diabetes mellitus in the dental office. *Dental Clinics of North America*, *56*, 819-29.
- ³⁸ Texas Medical and Dental School Application Service. (2018). *Dental school applicants and first-year enrollees ten-year statistical data*. Retrieved from <https://www.tmdsas.com/Forms/Final%202017%2010yr%20Statistics%20-%20DENT.pdf>
- ³⁹ American Dental Association. (2016). *2015-16 survey of dental education: report 2 – tuition, admission and attrition*. Retrieved from https://www.ada.org/~media/ADA/.../HPI/Files/2015-16_SDE2-final.xlsx?la=en
- ⁴⁰ Texas State Board of Dental Examiners. (2018). *Licensee information lists*. Retrieved from <http://www.tsbde.texas.gov/LicenseeInformationLists.html>
- ⁴¹ Wanchek, T., Cook, B. J., Anderson, E., Duranleau, L., Booker, C. (2015). U.S. Dental School Applicants and Enrollees, 2014 Entering Class. *Journal of Dental Education*. Retrieved from <http://www.jdentaled.org/content/79/11/1373.full#cited-by>

⁴² Garcia, R. I., Cadoret, C. A., & Henshaw, M. (2008). Multicultural Issues in Oral Health. *Dental Clinics of North America*, 52(2), 319-332. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0011853207001322?via%3Dihub>

⁴³ U.S. Department of Health & Human Services, Health Resources & Services Administration Data Warehouse (2017). *Health Professional Shortage Areas Find*. Retrieved from <https://datawarehouse.hrsa.gov/tools/analyzers/HpsaFind.aspx>

Appendix A

