College for all Texans

Projecting the Need for Medical Education in Texas

A Report to the Texas Legislature

October 2008

Academic Affairs and Research

Texas Higher Education Coordinating Board

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Mission of the Coordinating Board

The Texas Higher Education Coordinating Board's mission is to work with the Legislature, Governor, governing boards, higher education institutions and other entities to help Texas meet the goals of the state's higher education plan, *Closing the Gaps by 2015*, and thereby provide the people of Texas the widest access to higher education of the highest quality in the most efficient manner.

Philosophy of the Coordinating Board

The Texas Higher Education Coordinating Board will promote access to quality higher education across the state with the conviction that access without quality is mediocrity and that quality without access is unacceptable. The Board will be open, ethical, responsive, and committed to public service. The Board will approach its work with a sense of purpose and responsibility to the people of Texas and is committed to the best use of public monies. The Coordinating Board will engage in actions that add value to Texas and to higher education. The agency will avoid efforts that do not add value or that are duplicated by other entities.

Executive Summary

To address planning for education needs related to specific disciplines, the Texas Higher Education Coordinating Board (Coordinating Board) adopted a *Methodology for Projecting the Need for Professional Education in Texas* in April 2002. Using this approach, the Board adopted four reports that presented need projections for professional education in medicine, law, veterinary medicine, and pharmacy. Projections were based primarily on two factors: the need for professional services and educational opportunity for students. This approach does not presume these are the only factors on which decisions to recommend the establishment or expansion of professional schools should be based. The full text of the 2002 *Methodology* is included as Appendix A.

The goal of this new 2008 report is to assess the current state of medical education in Texas and project state needs related to student opportunity and physician workforce over the next several years. Conclusions and recommendations are based on health-related institutional data, other state agency and national organization data, and current literature related to physician education and workforce. The Coordinating Board staff assessed the current medical education environment of the state and how it relates to the national trends. This study draws upon a variety of national, state, and institutional sources for the data.

Key Questions

Is there adequate opportunity for students to study medicine in Texas?

Are there enough entry-level graduate medical education (GME) positions?

Does Texas have an adequate supply of physicians?

Key Findings

Student Opportunity

- The number of unduplicated applicants to Texas medical schools remained relatively flat from 1998 through 2002, when substantial increases began. Since 2002, the number of unduplicated applicants to Texas public medical schools increased by 40 percent.

- Medical school enrollment is up, and all Texas schools expanded the enrollment of their first-year entering class. Four schools have added more than 20 new slots. Therefore, graduate medical education (GME)/residency training expansion must keep pace, at a minimum.

- However, opportunity to enter a Texas medical school has not kept pace with the increasing number of baccalaureate degrees awarded in the state. Proportionally fewer slots available for the state's baccalaureate graduates means that entrance into medical school is more competitive now. Entry into medical school probably will continue to become more competitive as applications increase and the number of available slots does not keep pace with the number of bachelor's degrees awarded.

- The African American and Hispanic graduates of Texas medical schools are proportionally underrepresented compared to their representation in the state's general population. Since 2002, both African American and Hispanic Texas medical school graduates increased in number. However, African American medical school graduates only increased by two percent; the percent of Hispanic Texas medical school graduates remained the same.

Medical School Expansion

- The Texas Tech University Health Sciences Center El Paso Paul L. Foster School of Medicine is the first new Texas medical school in 30 years. The Foster School of Medicine plans to open in fall 2009 with an inaugural class of 40 medical students.

- Expansion efforts are under way to allow Texas A&M University System Health Science Center students to complete all four years of their medical school experience in either College Station or Temple. The medical school has just begun to offer students opportunities for clinical rotations in Round Rock. The recent acquisition of land for a new medical education building will also help expand opportunities in Round Rock.

- The Lower Rio Grande Valley Regional Academic Health Center is planning to begin the development of new residency programs in pediatrics, obstetrics/gynecology, and surgery. This foundation development should serve as the basis for the South Texas region to further develop a plan to eventually offer a full medical program in the area.

Workforce

- The ratio of practicing physicians to population in Texas increased from the 2002 level of 152 to the 2008 level of 157 per 100,000. However, the ratio of physicians to population remains well-below the national average of 220 physicians per 100,000 population.

- Texas practicing physicians are primarily male and white. The average age of the practicing physicians is rapidly reaching retirement age.

- In 2002, Texas was a net importer of physicians and in 2008, Texas continues to be a net importer of physicians.

- The Texas Medical Board reported record increases in new applicants for licenses in the last five years and reported record levels of new licenses issued for the last two years.

- The number of physicians in Texas from 2005 to 2015 is projected to increase at a 4 percent greater rate than the state's projected population growth. Texas will increasingly need to rely on out-of-state physicians to supplement its workforce.

Conclusions

- Unless Texas expands medical school enrollments at existing schools and locations or opens additional locations or branch campuses, graduates from Texas' colleges and universities will have less opportunity to enter medical school in the state.

- To keep pace with the number of medical school first-year enrollment increases currently underway, graduate medical education programs should expand to accommodate the projected number of graduates and attract new physicians to Texas.

- Texas is an attractive state in which to practice and is a net importer of physicians.

- By 2015, the number of Texans age 65 or older is projected to increase nearly twice as much as the number of physicians. Those over the age of 65 access health care services twice as much as those under age 65.

- The state's Hispanic population is rapidly increasing and will probably have different health care needs than other groups, as well as a different ability to access services.

Recommendations

- The Legislature should fully support the existing health-related institutions and their expansion efforts before committing additional dollars to new projects.

- Texas medical schools should continue to increase first-year entering enrollments through 2015, when the Coordinating Board should assess whether additional enrollment increases are necessary.

- The Legislature should continue to expand efforts, such as the Joint Admission Medical Program, to attract and mentor African American and Hispanic students to careers in medicine. The Coordinating Board requested an additional $10 million in exceptional item funding to support JAMP in Fiscal Years 2010 and 2011.

- Optimally, the state should encourage growth of more first-year residency positions with a goal of 10 percent more first-year, entry-level residency positions than graduating medical students.

- If the Legislature is able to fully support the existing commitments in the state and decides to establish an additional medical school in Texas, the South Texas region remains a feasible location.

- Because the state is attractive to physicians educated and trained elsewhere, Texas should initiate a campaign to attract more of the best physicians educated and trained in other states.

- In the coming years, the number of female physicians will reach parity with the number of male physicians. Initaitives should be developed to encourage more female physicians to consider practicing in border and non-metropolitan counties.

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Introduction

To address planning for education needs related to specific disciplines, the Texas Higher Education Coordinating Board (Coordinating Board) adopted a *Methodology for Projecting the Need for Professional Education in Texas* in April 2002. Using this approach, the Board adopted four reports that presented need projections for professional education in medicine, law, veterinary medicine, and pharmacy. Projections were based primarily on two factors: need for professional services and educational opportunity for students. This approach does not presume these are the only factors on which decisions to recommend the establishment or expansion of professional schools should be based. The full text of the 2002 *Methodology* is included as Appendix A.

In October 2002, medical education was the the Coordinating Board's major policy discussion item at its quarterly meeting. During that meeting, the Board adopted the report *Projecting the Need for Medical Education in Texas.*

This 2008 report updates and revises that document, while keeping the title *Projecting the Need for Medical Education in Texas.* New information, examples, and perspectives based on demographic and educational changes that have occurred since 2002 are presented in the body of this report. Additional information and data are available in the appendices.

The 2002 report concluded that, "over time an additional number of physicians will be needed for the state." Estimating the number of physicians Texas will need to serve its growing and aging population is a complex but important undertaking. This 2008 study presents selected demographic data in graphs and tables to illustrate the issue and presents recommendations for decision makers to consider. The Coordinating Board offers recommendations with the acknowledgement that any decision about the expansion of existing or the creation of new medical schools should be made with a clear understanding of demand for student opportunity and demand for services.

To meet the need for more physicians for the state, while balancing issues of opportunity, cost-effectiveness, economic development, and other factors, the 2002 report recommended that the state should increase the class size at its smaller existing medical schools (Texas Tech University Health Sciences Center, Texas A&M University Health Science Center, and the University of North Texas Health Science Center). Additionally, the report recommended that, "if additional schools are created, they should be located where: a) areas of high population are served by significantly fewer than the state average number of physicians; b) the school location(s) could potentially address issues of geographic access, opportunity to attend medical school, and physician workforce diversity; and c) the state could build on significant prior investments that it and other entities have made for the provision of medical education and services."

Challenges to the Texas health care workforce are plentiful. The state's population is just less than 24 million and is projected to rapidly increase in the next decades, especially among Hispanics. This growing Hispanic population is expected to be younger, have less health insurance coverage, and have an increased incidence of chronic lifelong health conditions, such as diabetes and obesity. Also, economic status varies among the sectors of the Texas population. The aging population is expected to have to have greater financial security, have

more health insurance coverage, and access more health care services. These factors will exert strong influence on the workforce through different patterns of physician visits and medical procedures.

In Texas 24 percent of the population is uninsured, compared to 15 percent nationally. Providing care for the uninsured is often associated with delayed or postponed treatment, which results in more complex and higher cost services. Escalating health care costs confound the Texas health care delivery further, and as services grow ever more specialized, they become more costly. Other influences include declining employer-based financial support for health insurance, and reductions in federal support for Medicare and Medicaid programs. These factors should be considered in discussions of a new professional program in medicine.

The number of physicians in Texas continues to increase. Notably, the number of physicians applying for a Texas medical license continues to show substantial growth. The Texas Medical Board reported record numbers of applications for licensure were received in the first half of 2008, suggesting that Texas is an attractive state for practice. However, the ratio of practicing physicians to population in Texas, while increasing from the 2002 level of 152 to the 2008 level 157 per 100,000, is still well below the national average of 220 physicians per 100,000 population.

Nationally, there is agreement that the U.S. will face a shortage of physicians in the next several decades. To address the developing shortage of physicians, the Association of American Medical Colleges recently called on their member institutions to increase medical school enrollments by 30 percent by 2012. Texas medical schools responded to this call, and enrollments have increased. However, even with enrollment increases, Texas may not be producing enough physicians to support its increasing population. Current projections show that Texas schools will need to increase first-year enrollments by a minimum of 43 new students annually to achieve the 30 percent increase target of 1,745 first-year enrollments, and the goal would not be reached until 2014.

The Coordinating Board's position regarding medical education takes into account the reality that additional resources provided to medical education should be made in the context of the overall state needs and available resources. Expansion of medical education should be made with consideration given to potential locations, existing and projected population, and the ability of the community to support a new/expanded institution for the long term. Finally, cost-saving measures should be encouraged. These should include alternatives to new schools and setting the foundation for the development of new schools. Ideally, such alternatives would include integration of other health care providers to expand access while minimizing costs, expansion of existing schools, and the creation of new residency programs in areas that could sustain and benefit from the services such programs would provide.

The Coordinating Board staff evaluated and projected the need for medical education with an understanding of these realities and complexities. If the state decides to provide support for the establishment of new medical schools within existing health-related institutions, create a new independent or public medical school, or simply encourage existing schools to continue to increase enrollments, consideration of the existing physician pipeline and an understanding of capacity at existing schools will help shape those decisions.

Expansion efforts under way and the recent accreditation of the Texas Tech University Health Sciences Center El Paso Paul L. Foster School of Medicine, may help the state produce physicians needed for the coming population changes and maintain the level of opportunities for Texas students to attend a Texas medical school. The data presented in this report should help policymakers and planners craft regional and statewide responses with limited resources.

The Coordinating Board thanks the representatives from the Texas health-related institutions for their cooperation and input on this study. Special thanks to Dr. Jose Manuel de la Rosa, Dean of the Texas Tech University Health Sciences Center El Paso Paul L. Foster School of Medicine, for his overview of the process to establish a medical school.

The Coordinating Board also thanks our consultants for their assistance and input. Thank you to Ed Salsberg, Executive Director, Center for Physician Workforce Studies, Association of American Medical Association, and J. Kent Caruthers, Senior Consultant, MGT of America.

Finally, the Coordinating Board would like to express its thanks and appreciation to our summer intern Mahyar Entezari for his vital contribution on this study.

Student Opportunity – Institutional and Student Data

Medical Schools

Texas has nine medical schools; eight are public and one, Baylor College of Medicine (Houston), is independent. The eight public medical schools are part of the state's public health-related institutions, which are free-standing institutions that offer a variety of health-related degree programs.

The medical school's primary locations are shown on the map below in the 10 regions of the state. All the medical schools are located in large metropolitan counties. With an inaugural class scheduled to matriculate in fall 2009, Texas Tech University Health Sciences Center El Paso Paul L. Foster School of Medicine will be the first medical school to open in Texas in 30 years.

Figure 1: Texas Medical School Locations

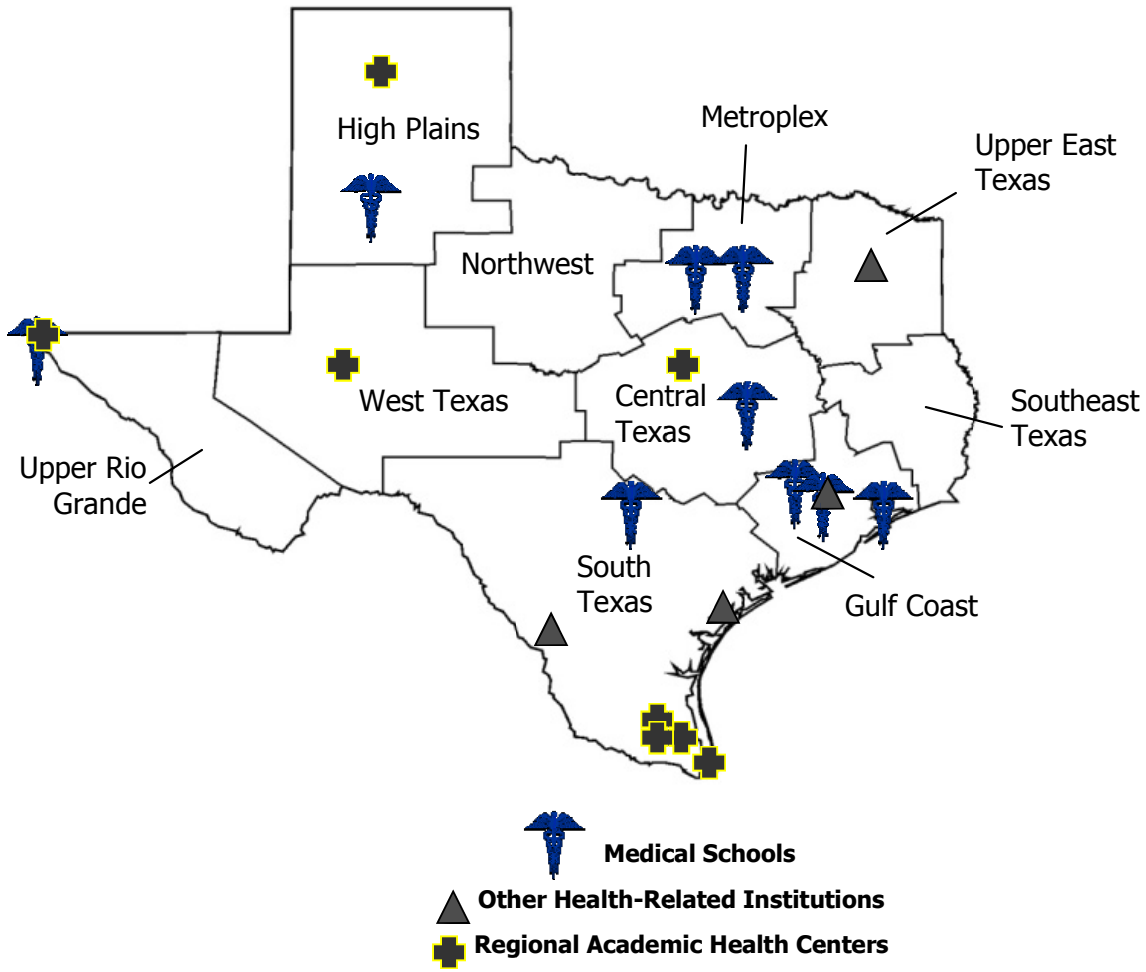


Figure 2: Texas Health-Related Institutions and Medical Schools

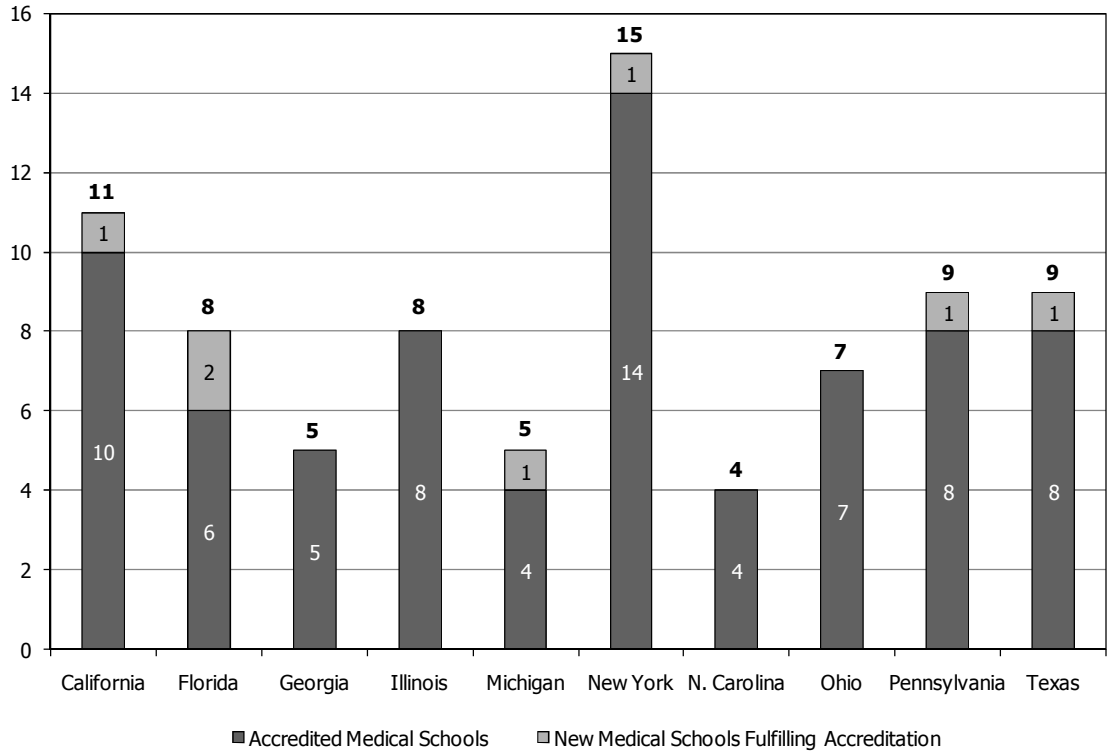
Health-Related Institution and Medical School	Founded	Accredited
The University of Texas Medical Branch at Galveston (UTMBG), School of Medicine	1881	1907 (AMA) 1943 (LCME)
Baylor College of Medicine (BCM) (Houston)	1900 (Dallas)	1916 (AMA) 1969 (LCME)
The University of Texas Southwestern Medical Center at Dallas (UTSMCD), School of Medicine	1943	1943
The University of Texas Health Science Center at San Antonio (UTHSCSA), Medical School	1959	1970
The University of Texas Health Science Center at Houston (UTHSCH), School of Medicine	1969	1973
University of North Texas Health Science Center at Fort Worth (UNTHSC), Texas College of Osteopathic Medicine	1970	1975 (AOA)
Texas Tech University Health Sciences Center (TTUHSC), Medical School (Lubbock, Amarillo, and Permian Basin)	1969	1974
Texas A&M University System Health Science Center (TAMUSHSC), College of Medicine (College Station/Temple)	1977	1981
Texas Tech University Health Sciences Center El Paso Paul L. Foster School of Medicine (TTUHSCFSM)	2008	2009*

Source: Texas Higher Education Coordinating Board (Coordinating Board); LCME is the Liaison Council on Medical Education, the national accrediting board for MD-granting medical schools in the United States and Canada; AOA is the American Osteopathic Association, the national accrediting board for DO-granting medical schools in the United States.

* First entering class.

With nine accredited medical schools, Texas has more than most of the 10 most populous states. However, Texas has fewer medical schools than either New York or California. Following several decades with little or no new medical schools established in the U.S., seven of the 10 most populous states are in the process of opening new medical schools.

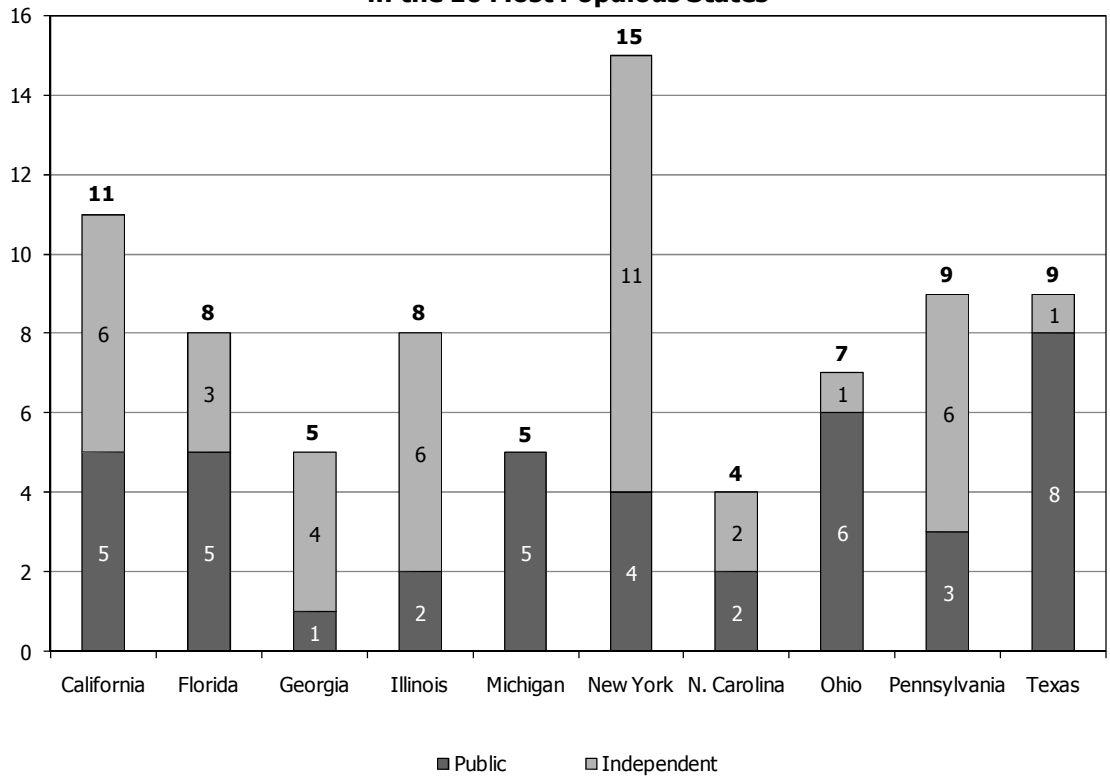
Figure 3: Medical Schools in the 10 Most Populous States



Sources: Accreditation, Liaison Committee on Medical Education; American Association of Colleges of Osteopathic Medicine (DO-granting); Association of American Medical Colleges (MD-granting).

Texas, with eight public and only one independent medical school, supports more public medical schools than the other nine most populous states. Importantly, many independent medical schools, including those in Texas, Florida, Georgia, and North Carolina, receive substantial state funding.

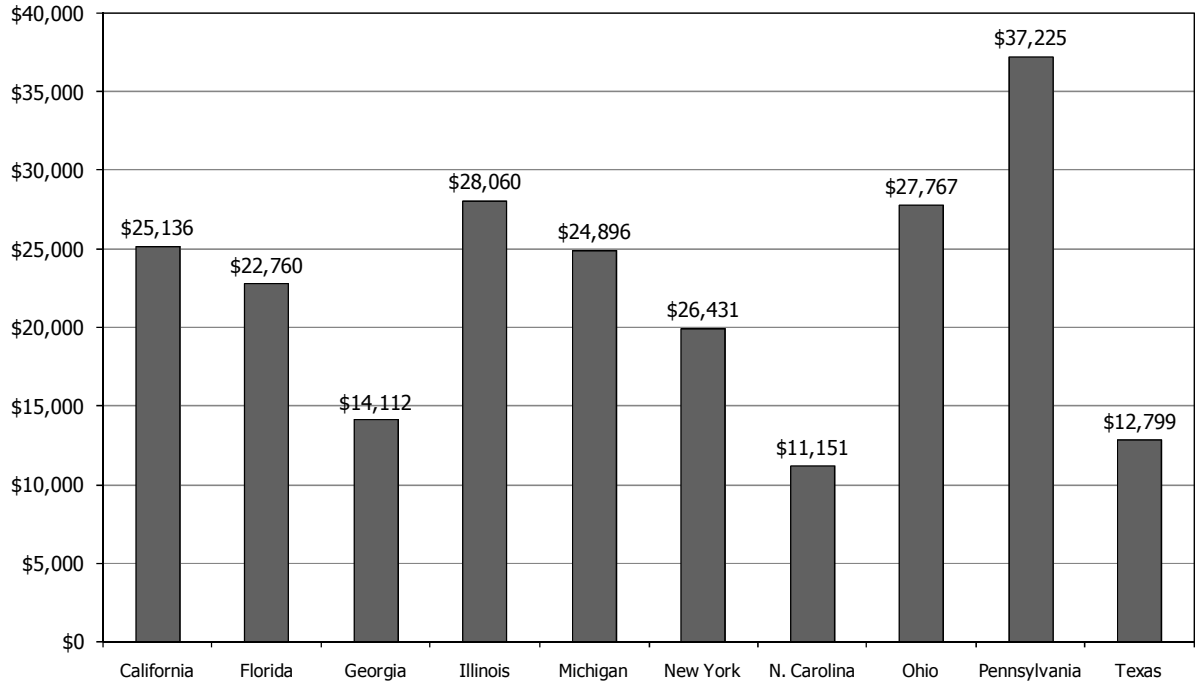
Figure 4: Public vs. Independent Medical Schools in the 10 Most Populous States



Source: Institutions.

Texas medical students pay less in tuition and fees than do students in eight of the other most populous states.

Figure 5: Average First-Year Tuition and Fees* at Public Medical Schools in the 10 Most Populous States (2008-2009)**



Source: Institutions.

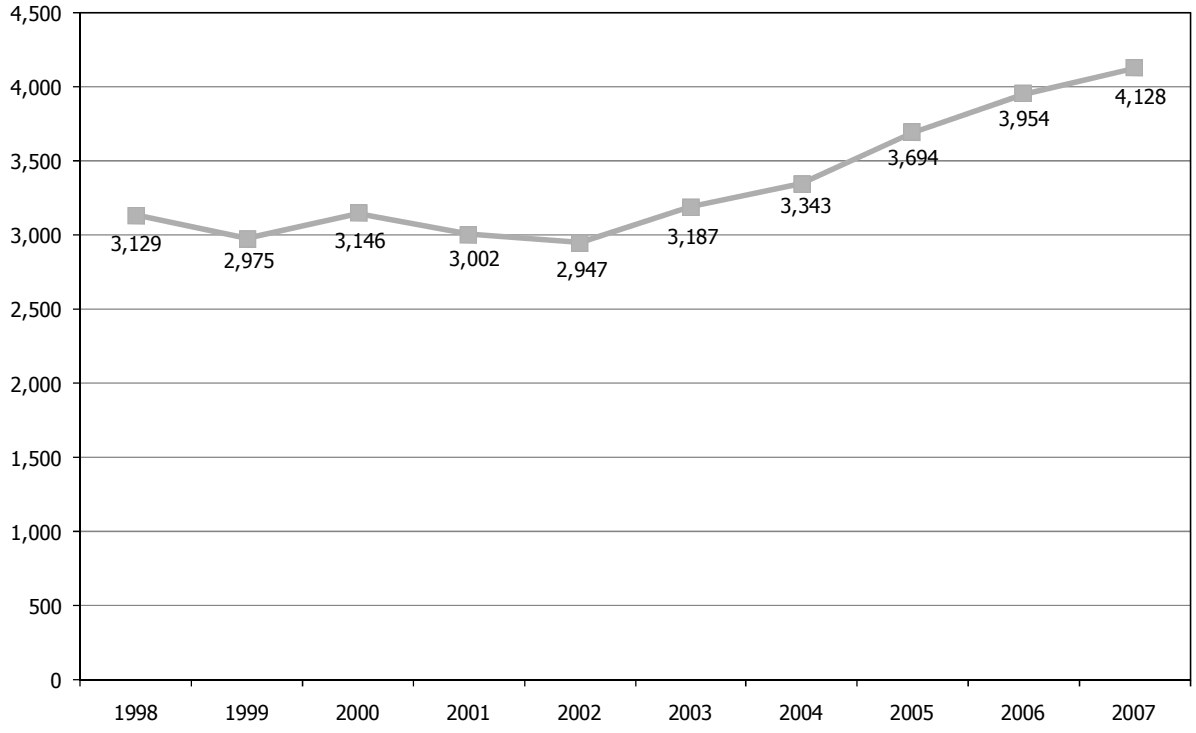
*Includes only tuition and fees; excludes costs of books, equipment, health insurance, room and board, and transportation.
**Some institutions provided only 2007-08 data.

Student Demographics

Applicants

The number of unduplicated applicants to Texas medical schools remained relatively flat from 1998 through 2002, when substantial increases began. Since 2002, the number of unduplicated applicants to Texas public medical schools increased by 40 percent.

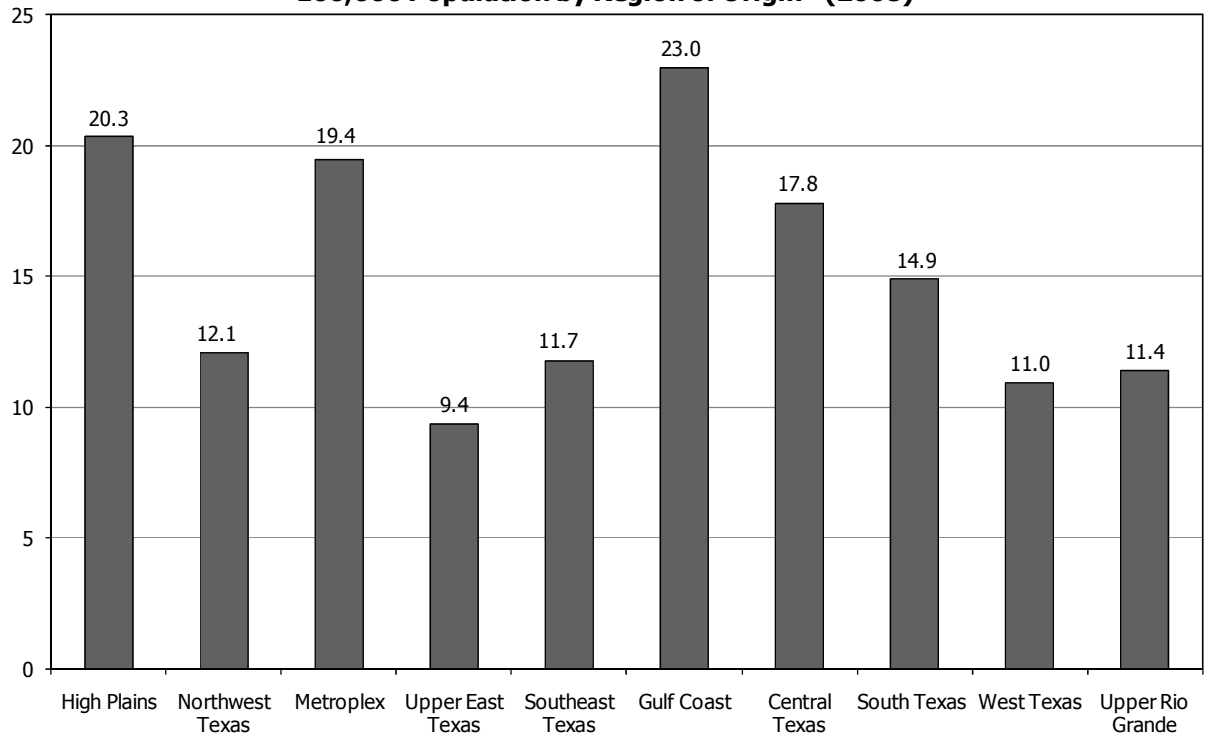
Figure 6: Unduplicated Applicants to Texas Public Medical Schools



Source: Texas Medical and Dental Schools Application Service.

In 2008, more students from the Gulf Coast, High Plains, and Metroplex regions applied to Texas pulbic medical schools than did students from other regions in the state. Notably, these data reflect student self-reported data at the time they apply to medical school; therefore, these data may be a greater indicator of where students completed their undergraduate education. The reliability of self-reported data is limited. These data were not available in 2002.

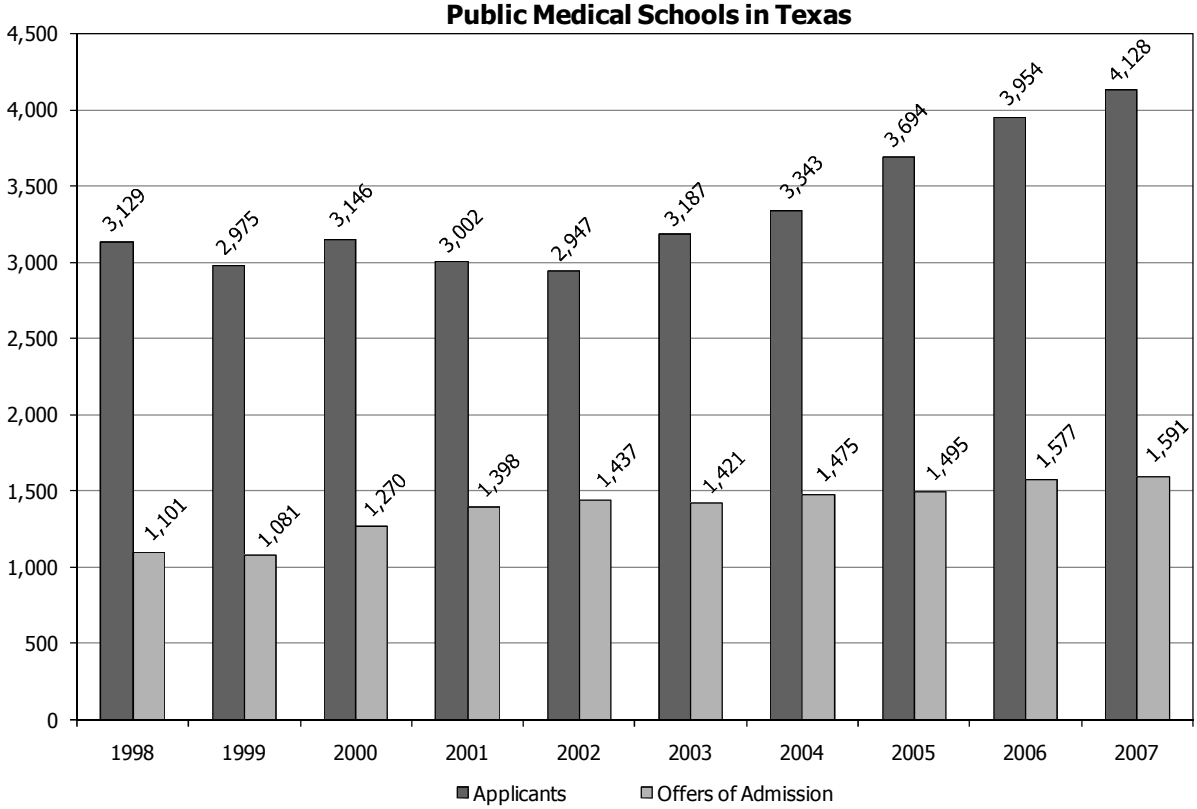
Figure 7: Public Medical School Applicants per 100,000 Population by Region of Origin* (2008)



Sources: Applicants,Texas Medical and Dental Schools Application Service; population, Texas State Demographer.
*Self-reported student data.

Since 2002, the number of unduplicated applicants to public medical schools in Texas has increased at a greater rate than offers of admissions. From 2002 to 2007, the number of applicants increased by 40 percent, while the number of admissions offers increased only 11 percent. No assessment was made regarding whether those applying to medical school were qualified.

Figure 8: Applicants* & Offers of Admission to Public Medical Schools in Texas



Source: Texas Medical and Dental Schools Application Service.
*The number of applicants (unduplicated) were counted, as opposed to the total number of applications.

Interestingly, recent offers of admission to Texas medical schools increased 57 percent from 2006-2007 to 2007-2008. While no assessment was made related to the quality of the applicant pool, the increase in numbers may reflect an increased interest in medicine as a career. With greater than 10 percent increase, six of the eight schools substantially increased the numbers of applicants offered admission.

Figure 9: Texas Medical School Applicants, Offers, and Percent Offered Admission

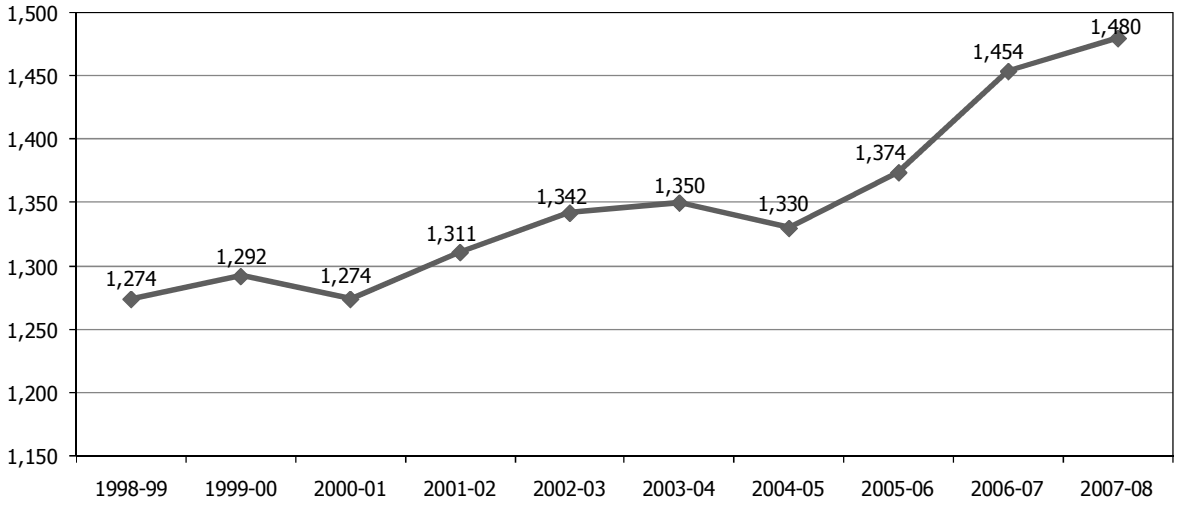
	2006-07			2007-08		
Medical School	Applicants*	Offers	Percentage Offered Admission	Applicants*	Offers	Percentage Offered Admission
BCM	4,326	275	6.4%	4,922	297	6.0%
TAMUSHSC	2,909	113	3.9%	3,133	297	9.5%
TTUHSC	2,856	183	6.4%	3,048	316	10.4%
UNTHSC	1,886	200	10.6%	1,966	395	20.1%
UTHSCH	3,495	290	8.3%	3,683	422	11.5%
UTMBG	3,408	286	8.4%	3,605	538	14.9%
UTHSCSA	3,459	271	7.8%	3,617	447	12.4%
UTSMCD	3,220	359	11.1%	3,354	399	11.9%

*Applicants may apply to more than one institution for admission.
Names of institutions and acronyms may be found on page 5 of this report.

First-Year Entering Enrollments

Since 1999, the number of students entering medical schools in Texas increased 16 percent, with the most rapid growth since 2005. Since 2005, an additional 150 first-year students have entered medical school in Texas.

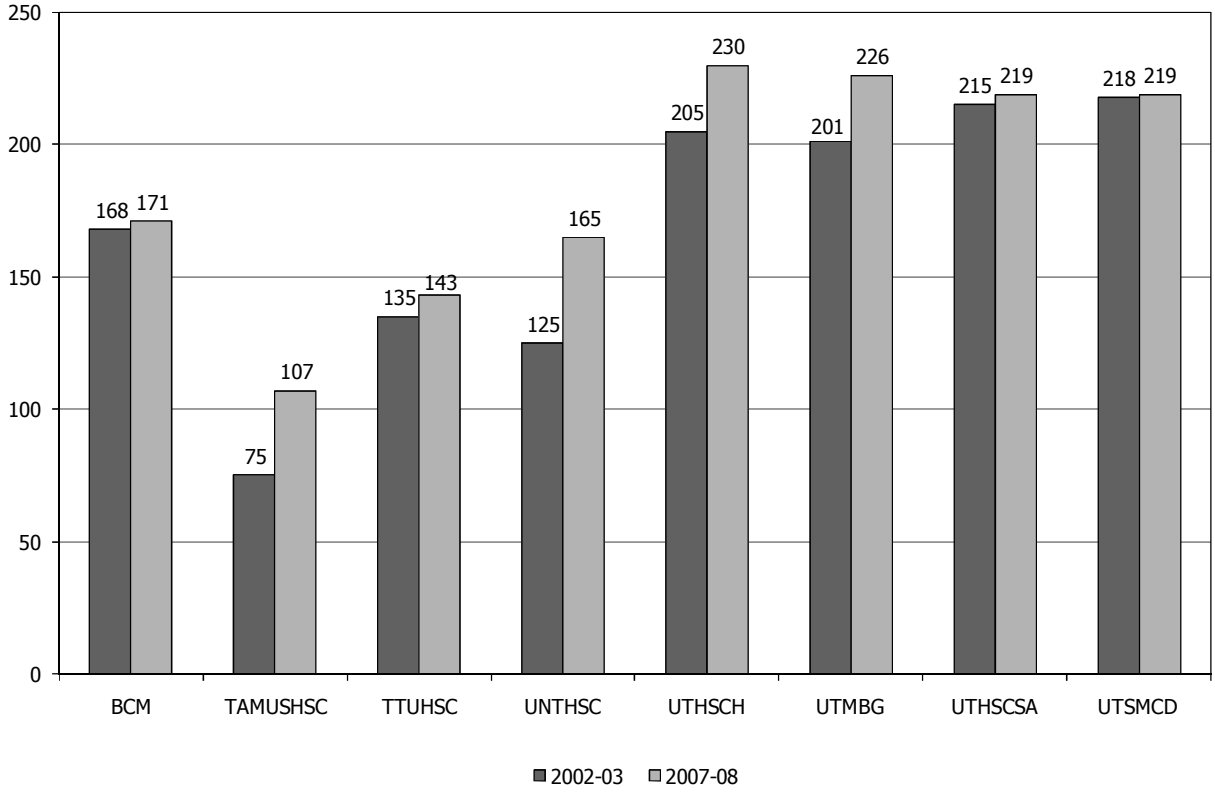
Figure 10: First-Year Entering Medical Students in Texas



Source: Coordinating Board.

Since 2003, first-year entering enrollments at all medical schools in Texas have increased. Those enrollments at four institutions increased by more than 20 students each.

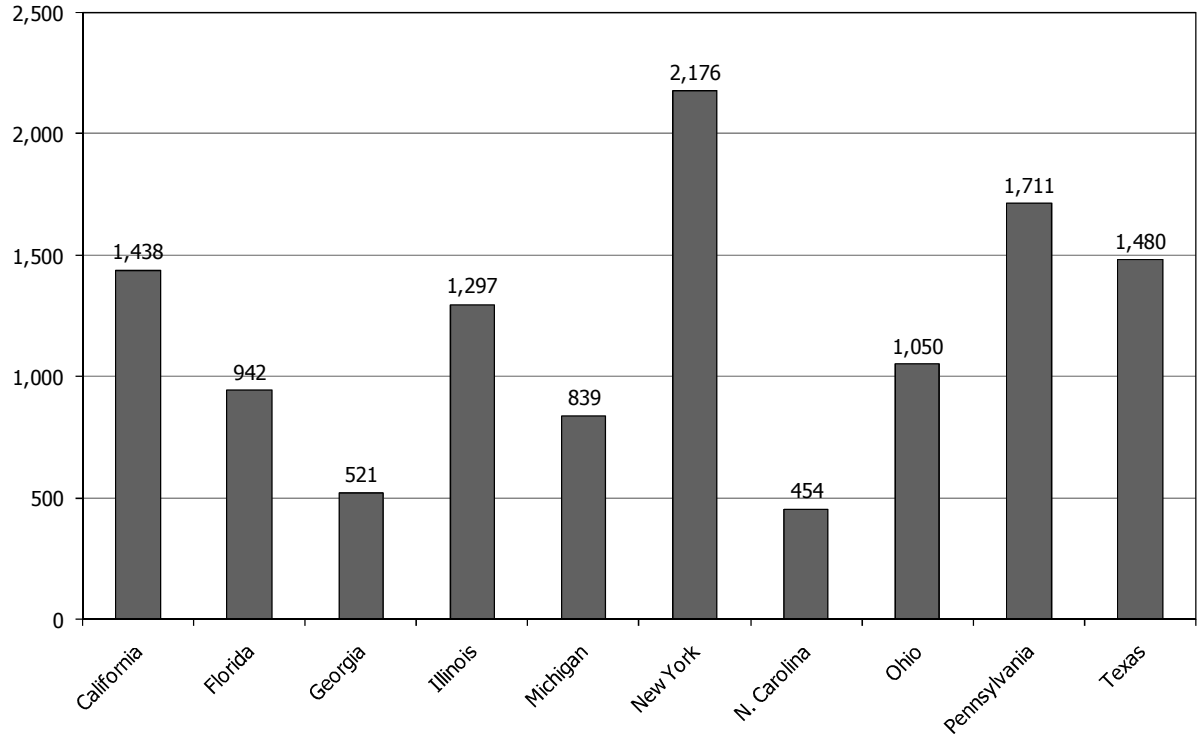
Figure 11: First-Year Entering Enrollment in Texas Medical Schools



Source: Coordinating Board.

In 2008, Texas had the third largest number of first-year entering medical students among the 10 most populous states.

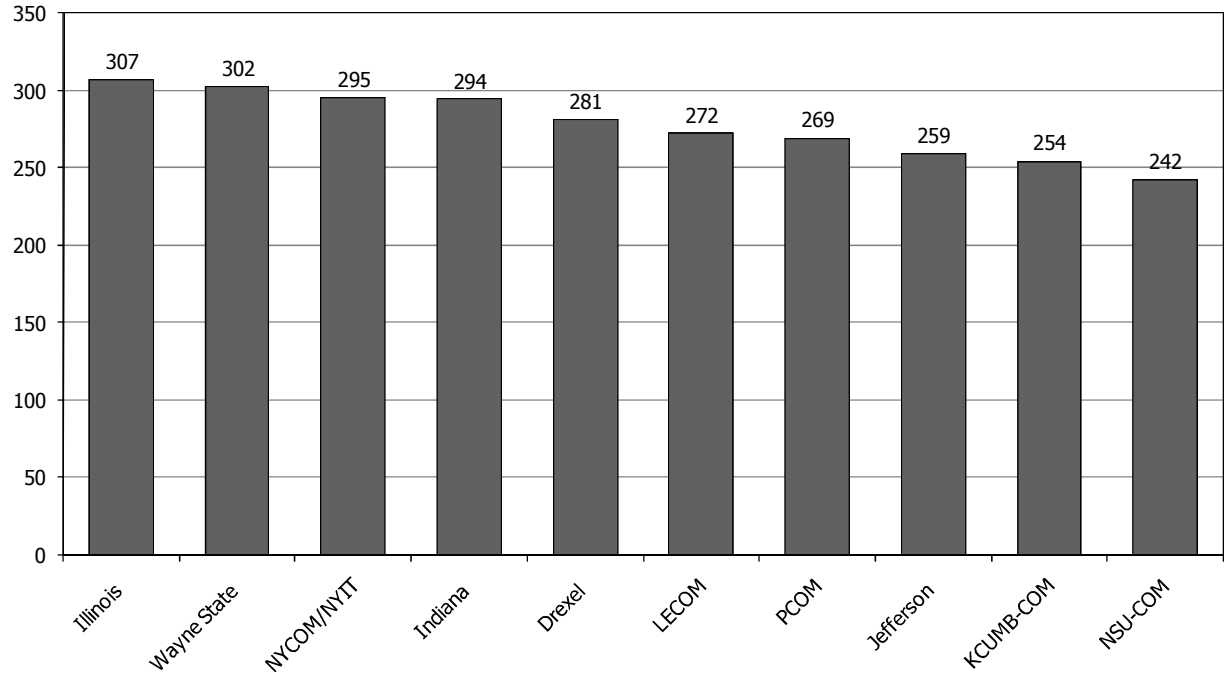
Figure 12: First-Year Entering Medical Students in the 10 Most Populous States (2007-08)



Sources: American Association of Colleges of Osteopathic Medicine (DO-granting); Association of American Medical Colleges (MD-granting); Texas schools, Coordinating Board.

Compared to medical schools in other states, Texas medical schools had smaller entering class sizes in 2007-2008. This differs from the 2002 report, when four Texas schools were on this list. Notably, in 2008, five of the medical schools with the largest first-year entering classes award the Doctor of Osteopathic Medicine (DO) degree and were not on this list in 2002.

Figure 13: 10 Largest First-Year Entering Classes at U.S. Medical Schools (2007-08)

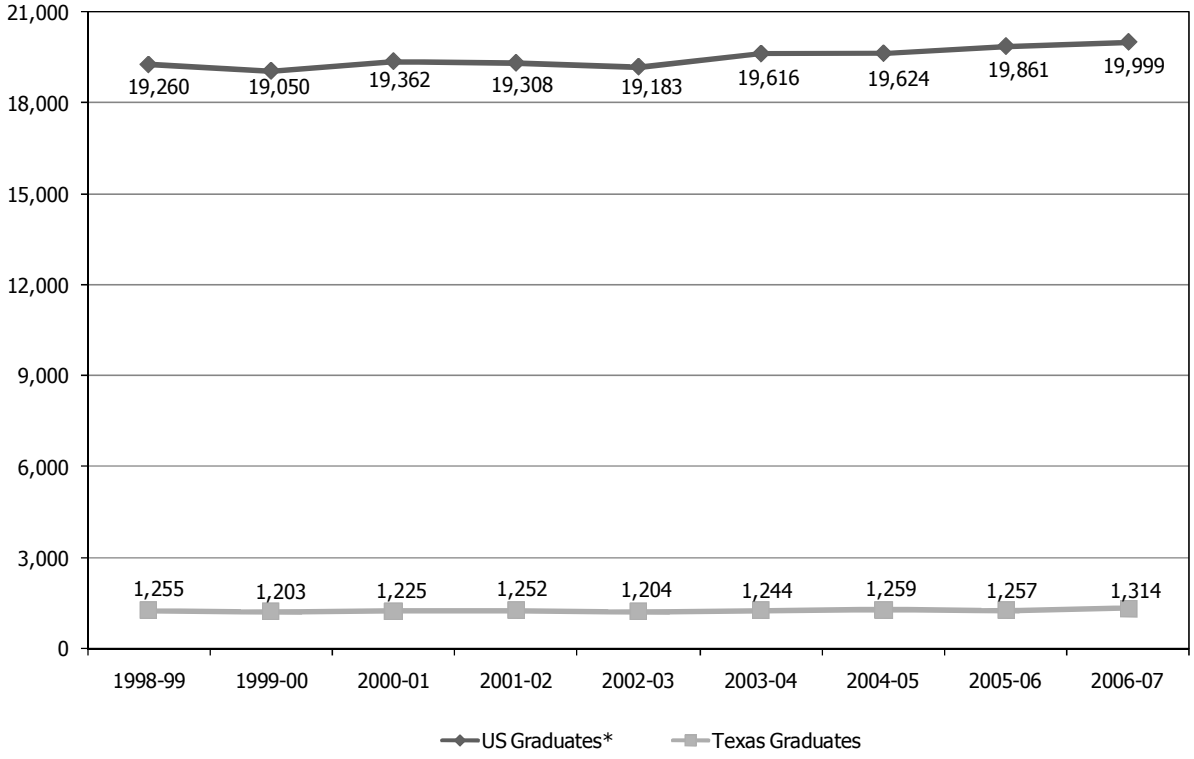


Sources: American Association of Colleges of Osteopathic Medicine (DO-granting); Association of American Medical Colleges (MD-granting).
NYCOM/NYT: New York College of Osteopathic Medicine of the New York Institute of Technology.
LECOM: Lake Erie College of Osteopathic Medicine.
PCOM: Philadelphia College of Osteopathic Medicine.
KCUMB-COM: Kansas City University of Medicine and Biosciences College of Osteopathic Medicine.
NSU-COM: Nova Southeastern University College of Osteopathic Medicine.

Graduates

Since 1999, the annual number of medical graduates in Texas has risen at a slightly faster rate (4.7 percent) than the national rate (3.8 percent).

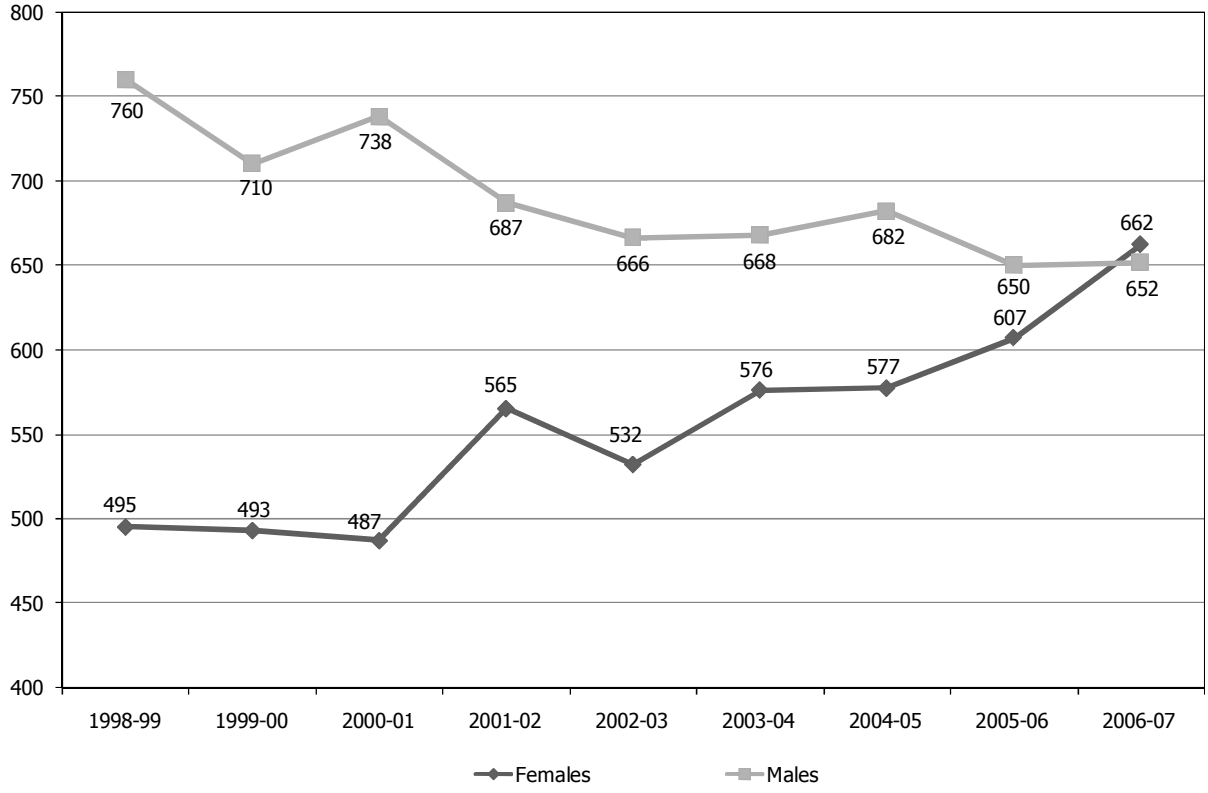
Figure 14: Medical School Graduates



Sources: American Association of Colleges of Osteopathic Medicine (DO-granting); Association of American Medical Colleges (MD-granting); Texas schools, Coordinating Board.
*Includes Texas graduates.

In 2007, the number of female medical school graduates surpassed male medical school graduates in Texas for the first time.

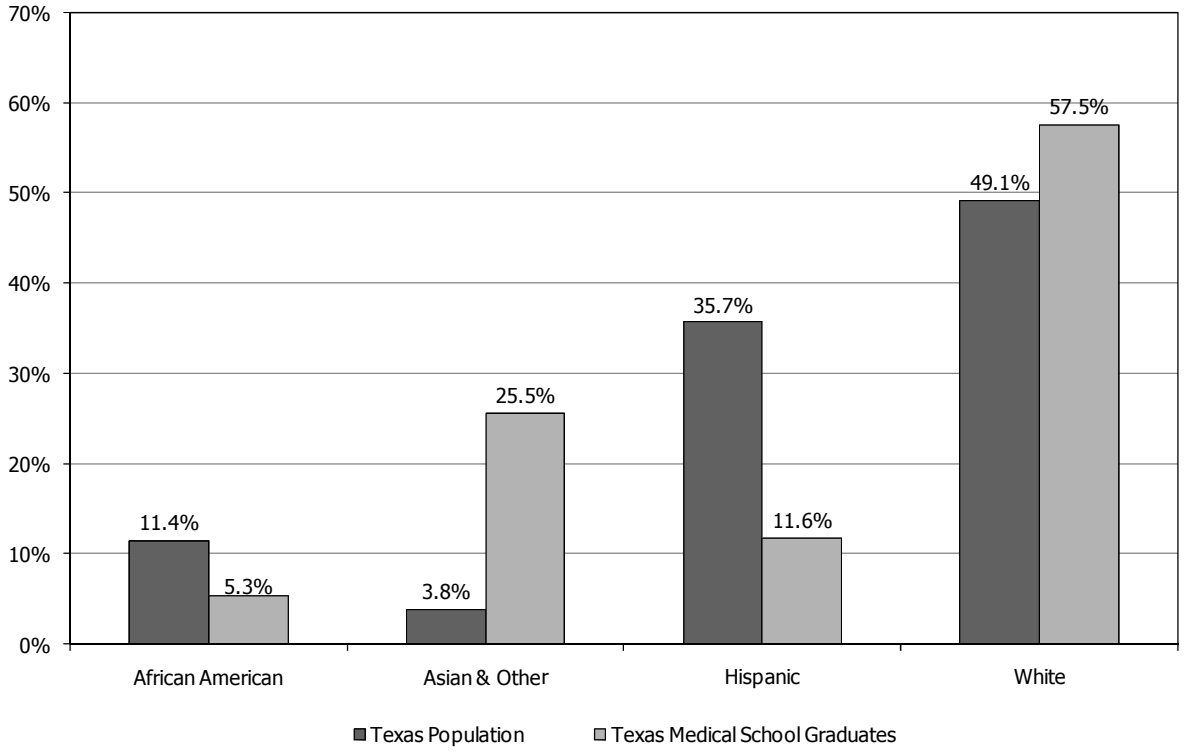
Figure 15: Texas Medical School Graduates by Gender



Source: Coordinating Board.

The African American and Hispanic graduates of Texas medical schools are proportionally underrepresented in comparison to those groups in the state's general population.

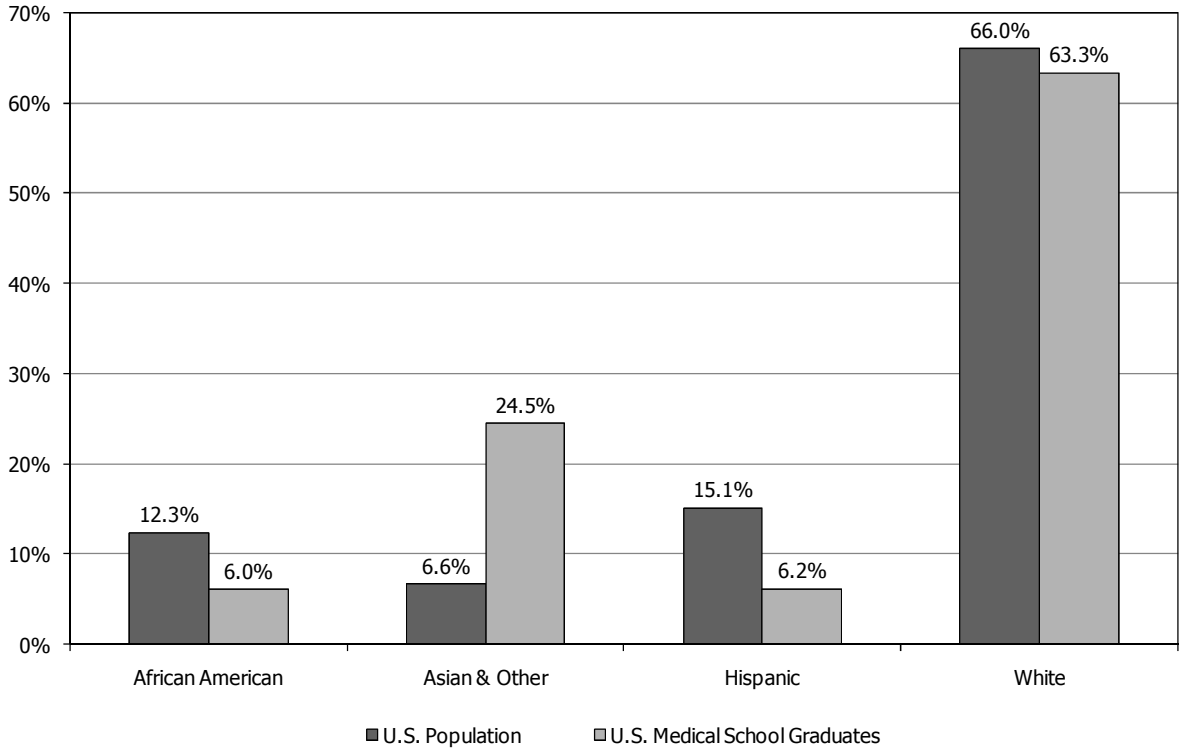
Figure 16: Comparison of Texas Population & Texas Medical School Graduates by Ethnicity (2007)



Sources: Graduates, Coordinating Board; population, Texas State Demographer.

Texas medical schools graduate more Hispanic and Asian physicians, but fewer African American and White physicians when compared to the graduates of all U.S. medical schools. Additionally, African American and Hispanic medical school graduates nationwide are proportionally underrepresented when compared to the nation's general population.

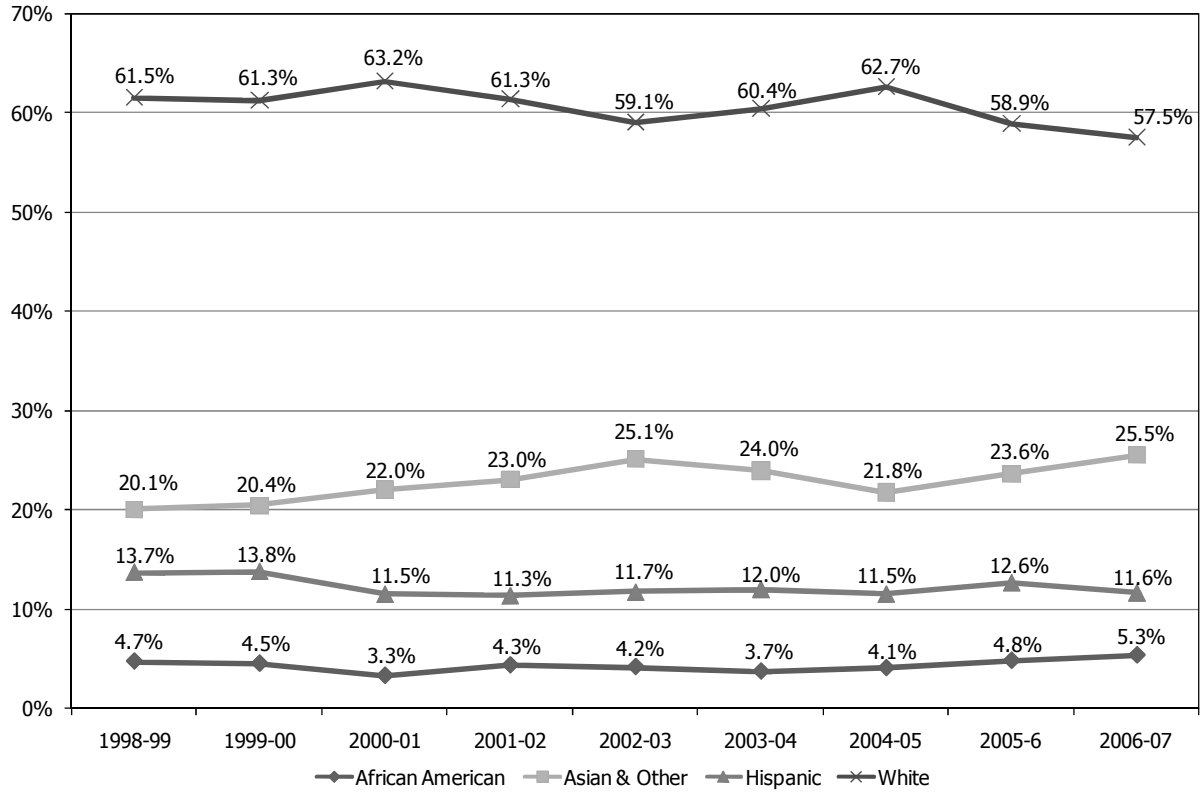
Figure 17: Comparison of U.S. Population & U.S. Medical School Graduates by Ethnicity (2007)



Sources: American Association of Colleges of Osteopathic Medicine (DO-granting); Association of American Medical Colleges (MD-granting); population, U.S. Census Bureau.

Since 1998, the percent of African American and Hispanic medical school graduates among all graduates has changed little in Texas. Since 2001, the number of African American and Hispanic graduates from Texas medical schools increased. However, African American medical school graduates increased by only 2 percent; the percent of Hispanic Texas medical school graduates remained the same. Asian graduates from Texas medical schools have increased 3.5 percent increase since 2002.

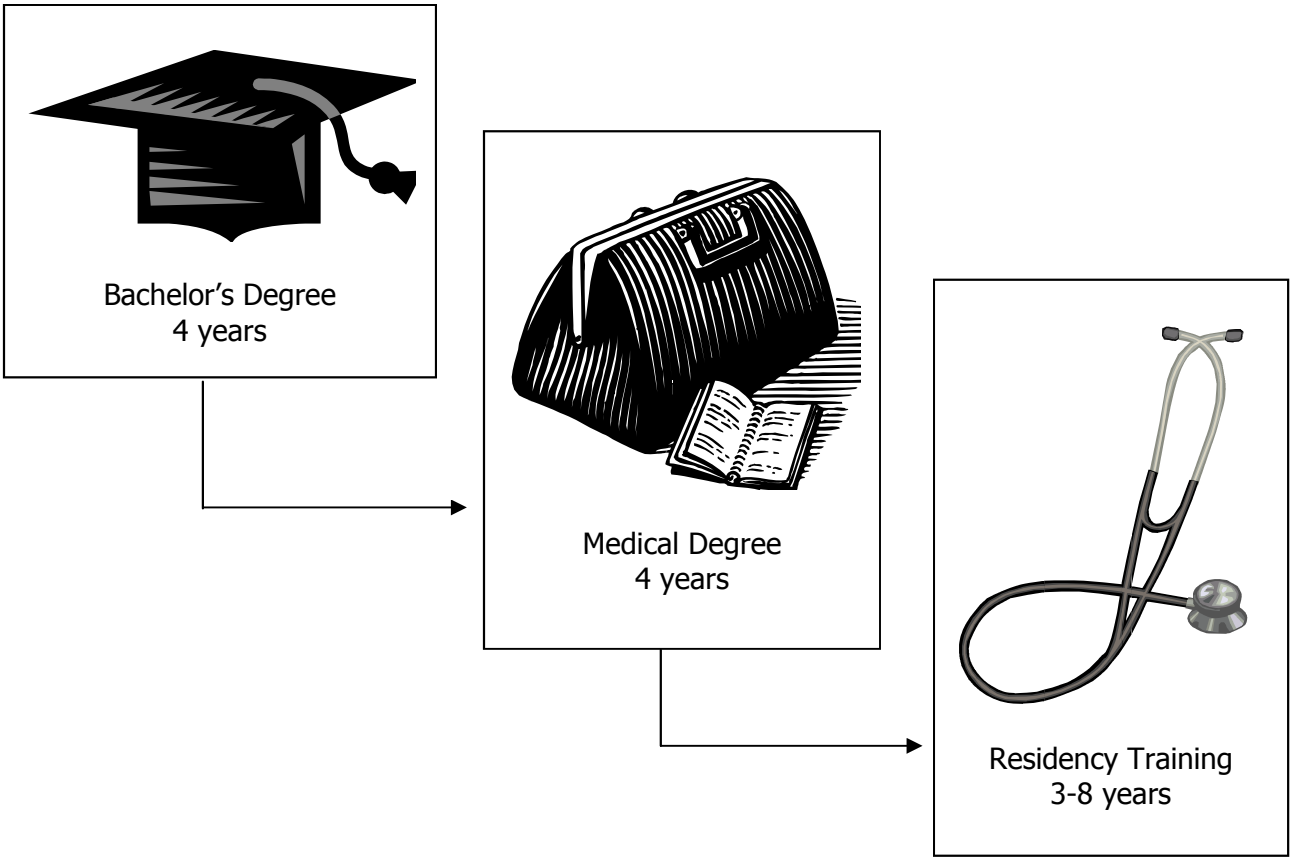
Figure 18: Texas Medical School Graduates by Ethnicity



Source: Coordinating Board.

Educational Pipeline

The traditional education experience for a U.S. physician includes graduation from a four-year college, graduation from an accredited U.S. medical school (four years), and completion of a residency or graduate medical education training experience (three to eight years).

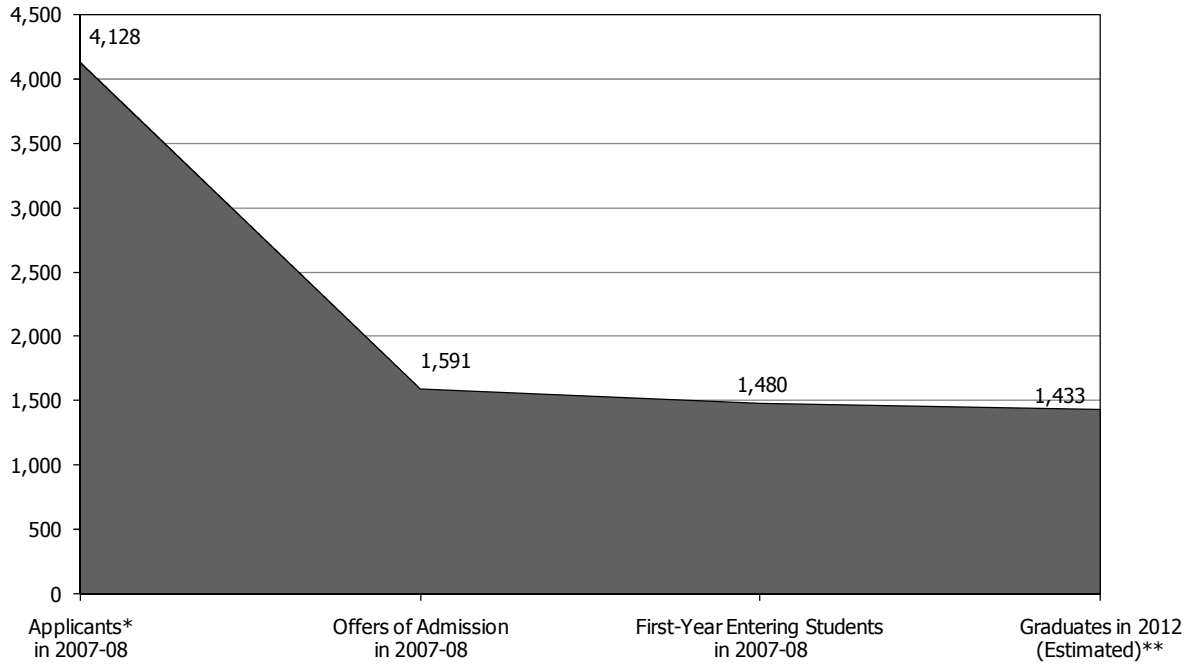


Once in medical school, medical students typically spend two years in the lecture hall and two years in clinical required and selected rotations.

Medical students focus on the basic sciences during the first two years, and the curriculum varies by medical school. However, all accredited U.S. medical schools provide instruction in biochemistry, biology/histology, gross anatomy, neuroscience, immunology/microbiology, pharmacology, and physiology. Medical students spend the last two years rotating through medical specialties, which include required experiences in pediatrics, internal medicine, family practice, obstetrics/gynecology, and surgery.

Admission to medical school is highly competitive. However, once enrolled, almost all students graduate. Based on historical attrition rates of just over 3 percent, an estimated 97 percent of the class of 2012 will graduate.

Figure 19: Educational Pipeline to Obtaining a Medical Degree in Texas



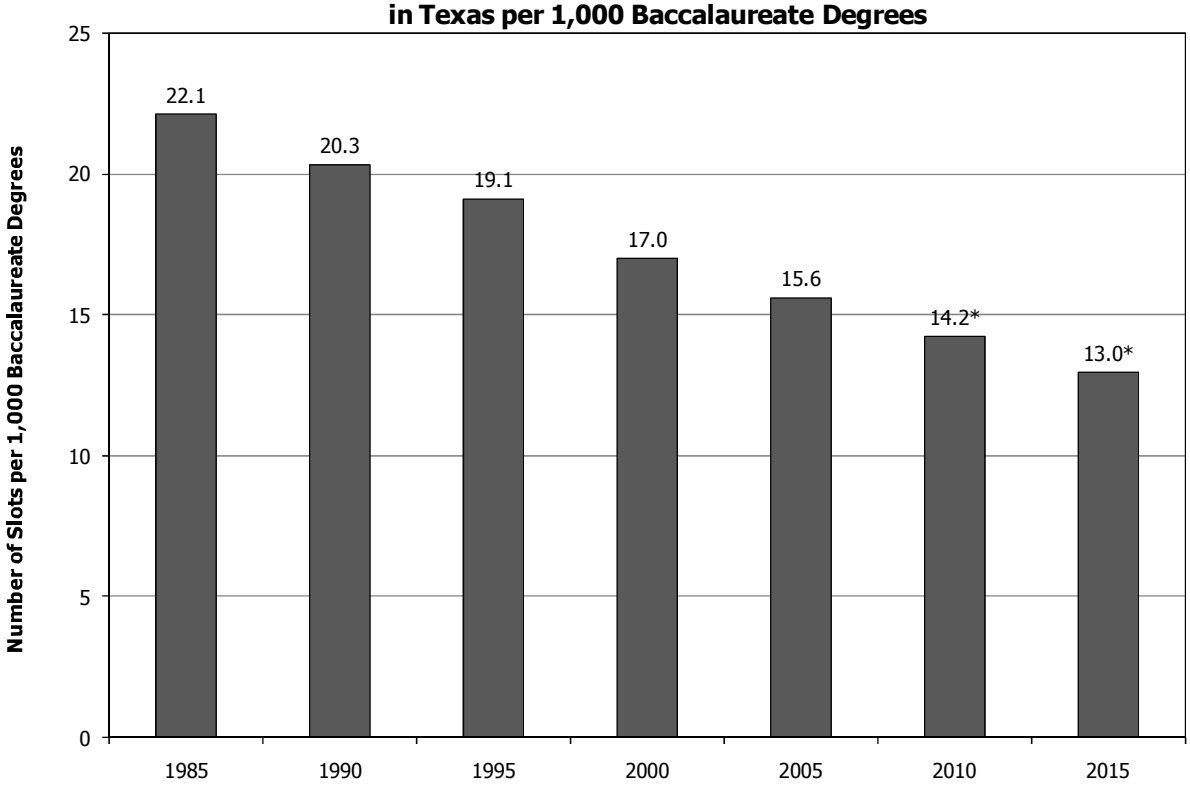
Source: Texas Medical and Dental Schools Application Service.

*The number of applicants (unduplicated) were counted, as opposed to the total number of applications.
**Graduation estimate is based on a historical 3.2% attrition rate.

Opportunity to Attend Medical School

The number of baccalaureate degrees awarded per available medical school slot is increasing, and this increase is projected to continue. With proportionally fewer slots available for the state's baccalaureate graduates, entrance into medical school is expected to become even more competitive. This suggests that even though medical schools are increasing enrollments, opportunity to enter medical school is not keeping pace with the growing baccalaureate-graduate population.

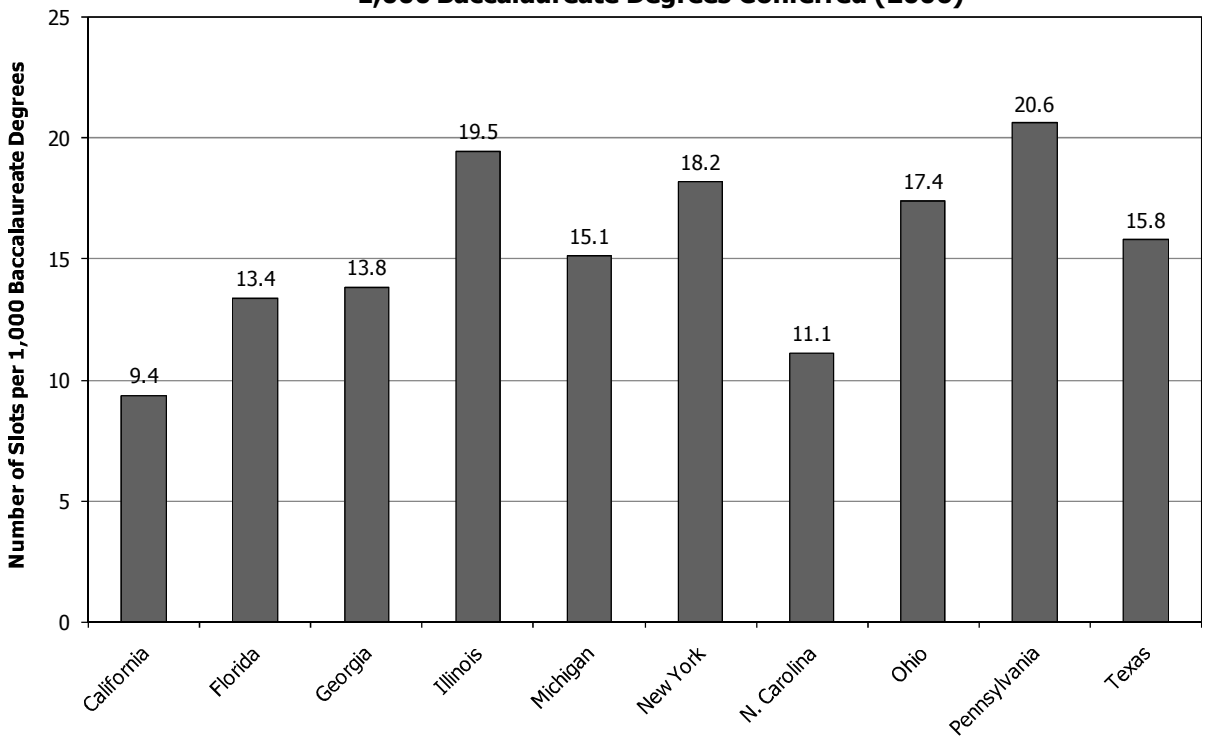
Figure 20: First-Year Entering Medical School Slots in Texas per 1,000 Baccalaureate Degrees



Source: Coordinating Board.
* Projected data.

However, Texas offers its baccalaureate graduates a near average opportunity to enter medical school when compared to the nine other most populous states.

Figure 21: First-Year Entering Medical School Slots per 1,000 Baccalaureate Degrees Conferred (2006)

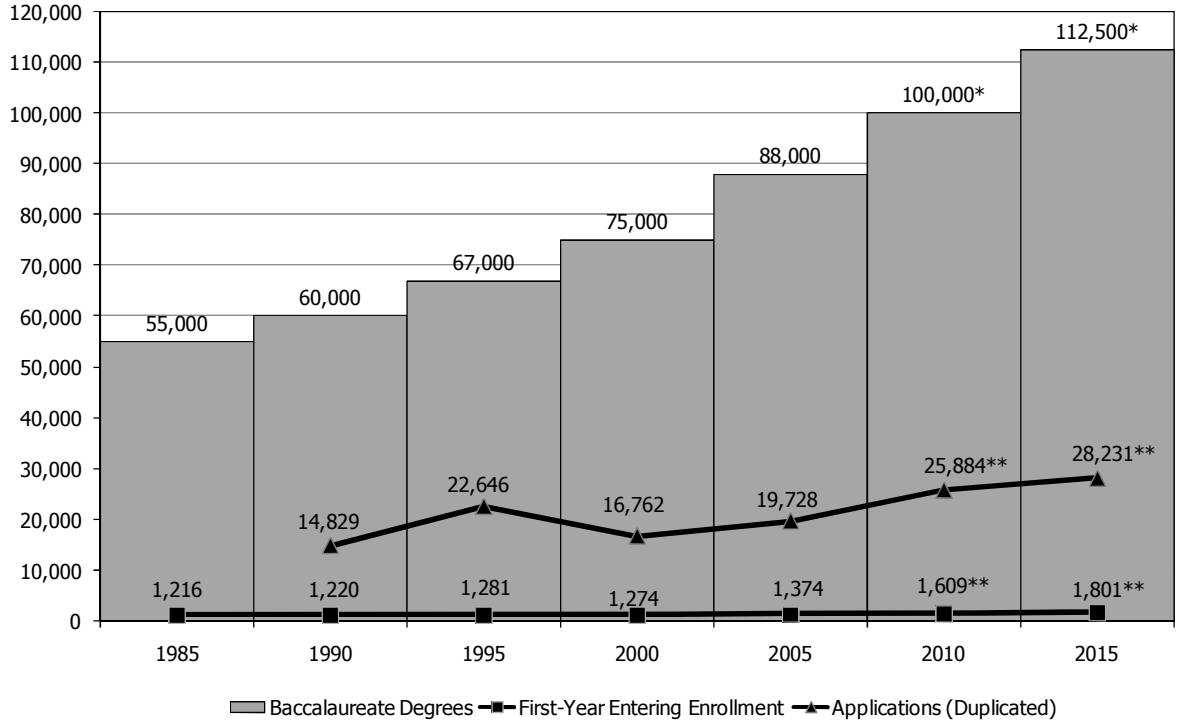


Sources: American Association of Colleges of Osteopathic Medicine (DO-granting); Association of American Medical Colleges (MD-granting); baccalaureate degrees, U.S. Department of Education; Texas schools, Coordinating Board.

*DO-granting medical school data include slots for first-year entering and first-year repeating students.

Unless Texas expands medical school enrollments at existing schools and locations, or opens additional locations or branch campuses, graduates from Texas' colleges and universities will have less opportunity to enter medical school in-state.

Figure 22: Texas Baccalaureate Degrees, Medical School Applications, & First-Year Entering Enrollments



Source: Coordinating Board.
*Targets for *Closing the Gaps*.
**Projected data.

Graduate Medical Education (GME)/Residency Training

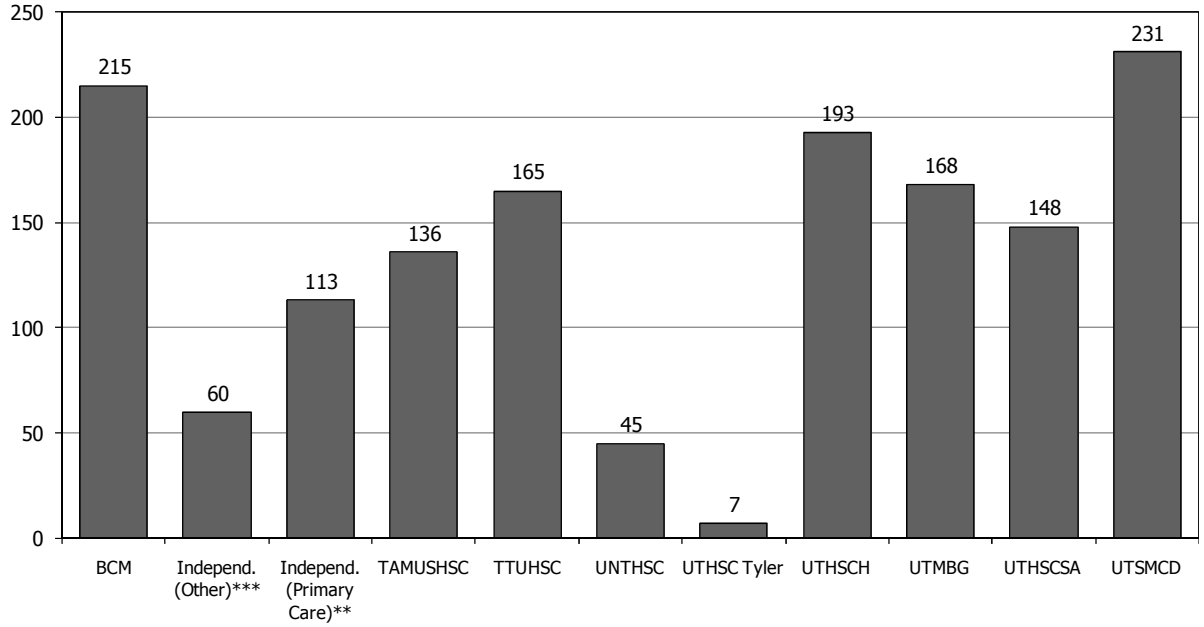
Texas medical schools are graduating more physicians. To retain these new physicians, the state must offer them an opportunity to finish their education and training by completing a graduate medical education program. Graduate medical education (often called residency training) represents the final stage of education and training a physician is required to complete to fulfill state licensure requirements to practice.

Just as entrance into medical school is a competitive process, so too is entry into graduate medical education programs. During the final year of medical school, before graduation, medical students enter a national match process that determines where they will spend their years of residency training and complete their education.

Opportunity for GME

Opportunity to enter residency training in Texas is measured through an assessment of first-year filled residency positions. In 2007, there were 1,481 filled first-year positions in graduate medical education programs in Texas. First-year entry residency positions are available in some, but not all, medical specialties. These areas have opportunities for first-year residency positions: family medicine, internal medicine, pediatrics, obstetrics/gynecology, surgery, anesthesiology, emergency medicine, psychiatry, transitional year (internship), neurology, dermatology, pathology, plastic surgery, orthopedic surgery, otolaryngology, and some combined programs such as internal medicine/pediatrics.

Figure 23: First-Year Filled GME Positions in 2007-08 (HRI Affiliated and Unaffiliated)*

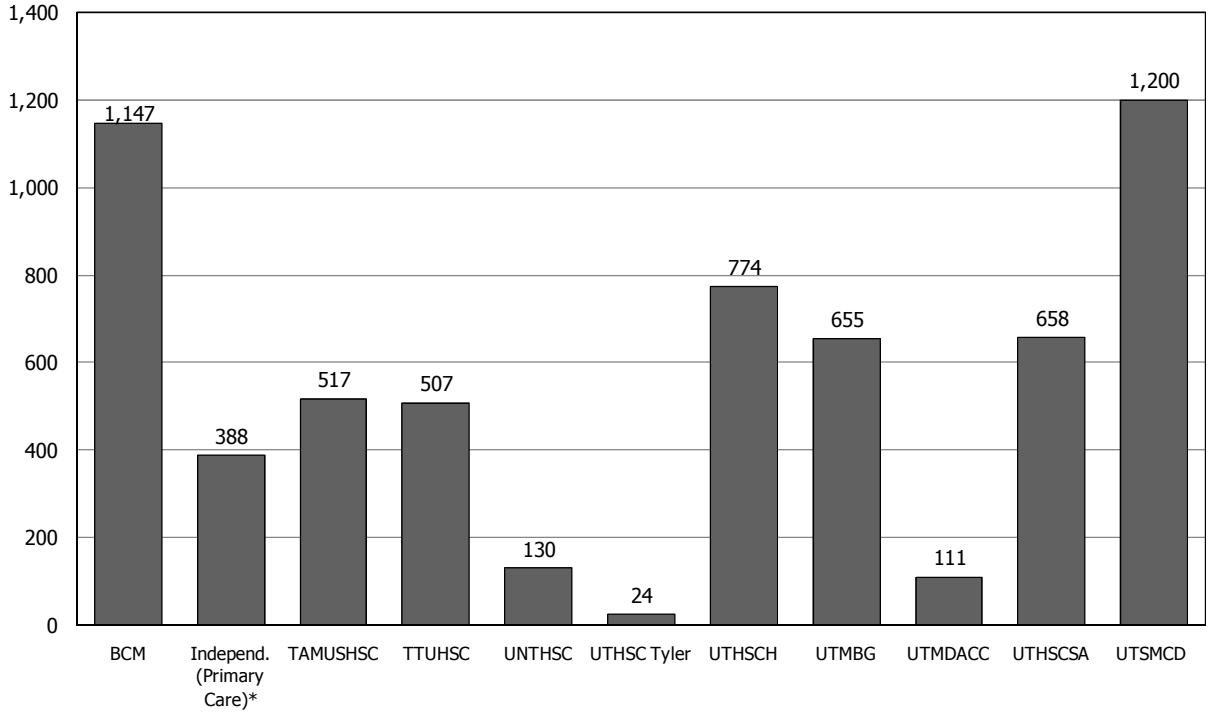


Source: Coordinating Board.
*The University of Texas MD Anderson Cancer Center (UTMDACC) does not have first-year entry positions available in GME. Due to its highly complex and specific work, it educates and trains physician residents who have completed at least a year of training in another (typically internal medicine) residency program prior to entry into its programs.
**Independent Primary Care programs include: family medicine, internal medicine, pediatrics, and obstetrics/gynecology and are not affiliated with a health-related institution.
***Independent (Other) programs include all other residency specialties and programs are not affiliated with a health-related institution.
Names of institutions and acronyms may be found on page 5 of this report.

The education and training of resident physicians is lengthy, ranging from three to eight years. When a physician completes a full residency program, for example in family medicine, he or she then has an opportunity to continue to specialize in the areas of sports medicine or geriatrics.

In 2007, the first year these data were available through the newly implemented Coordinating Board reporting process, 6,111 Texas physician residents were identified as training in Texas residency programs.

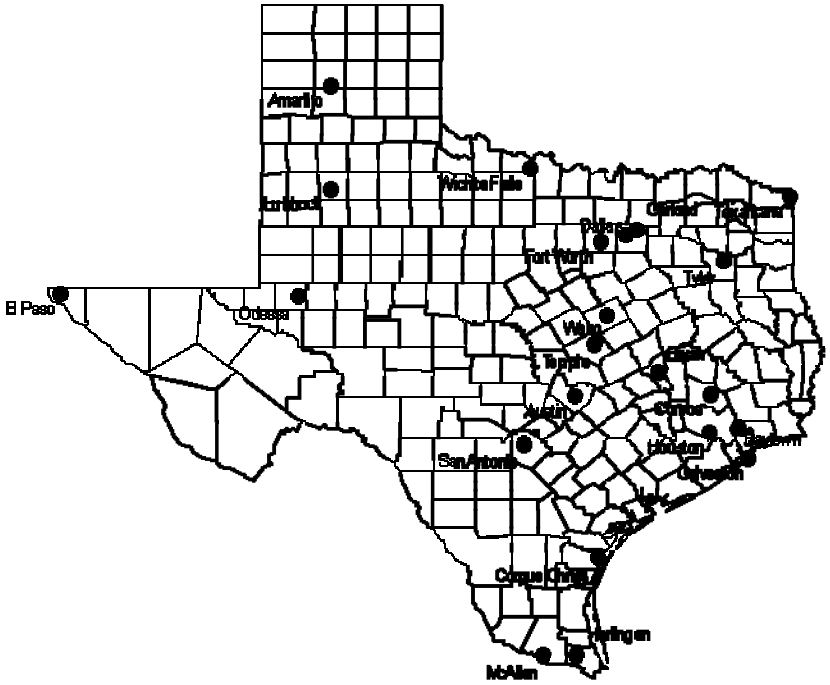
Figure 24: Total Filled GME Positions in 2007-08
(Affiliated and Primary Care Unaffiliated)



Source: Coordinating Board.
*Independent Primary Care programs include: family medicine, internal medicine, pediatrics, and obstetrics/gynecology and are not affiliated with a health-related institution.
Names of institutions and acronyms may be found on page 5 of this report.

Texas graduate medical education (residency) programs are located across the state.

Figure 25: Locations of Residency Programs

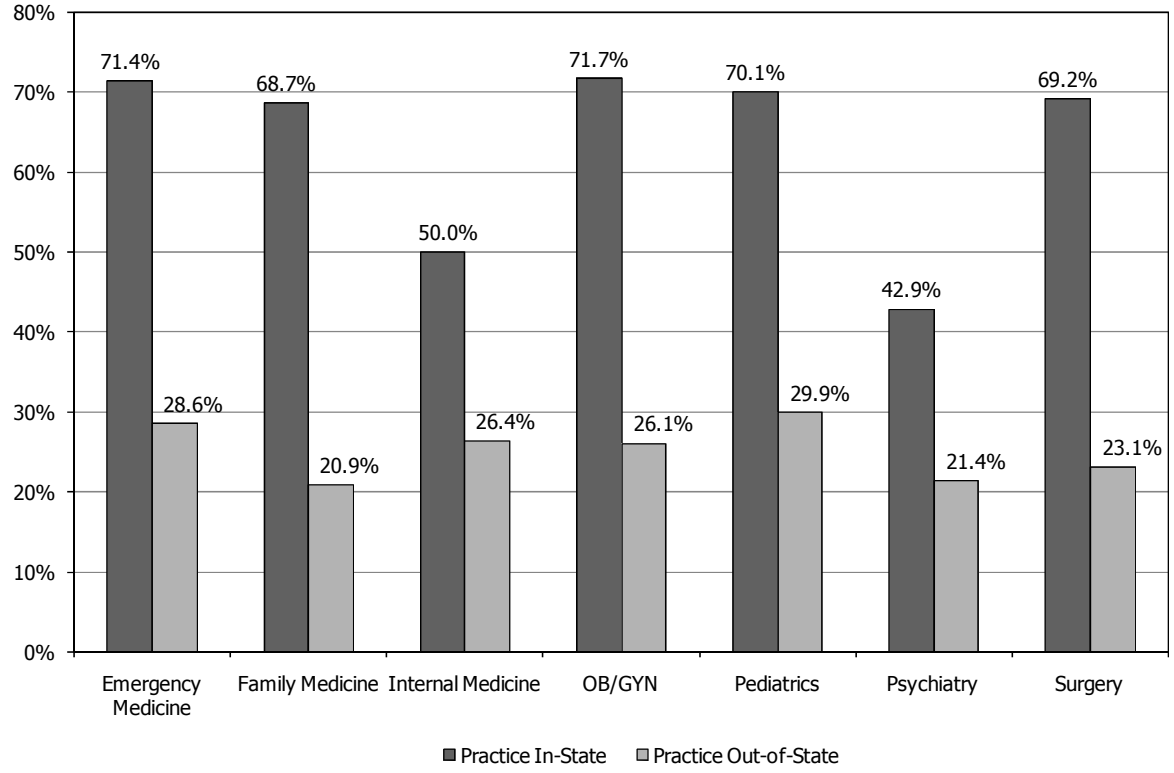


Source: Accreditation Council for Graduate Medical Education (ACGME).

In-state Retention

In an annual survey conducted by the American Medical Association, most of Texas physicians planned to remain in state to practice after completing their residency programs. Many factors, including the age of physicians at time of residency completion, familiarity with the local community, and an understanding of available practice opportunities, influence these decisions.

Figure 26: Plans of MD Residents Completing a Texas Program* (2006)



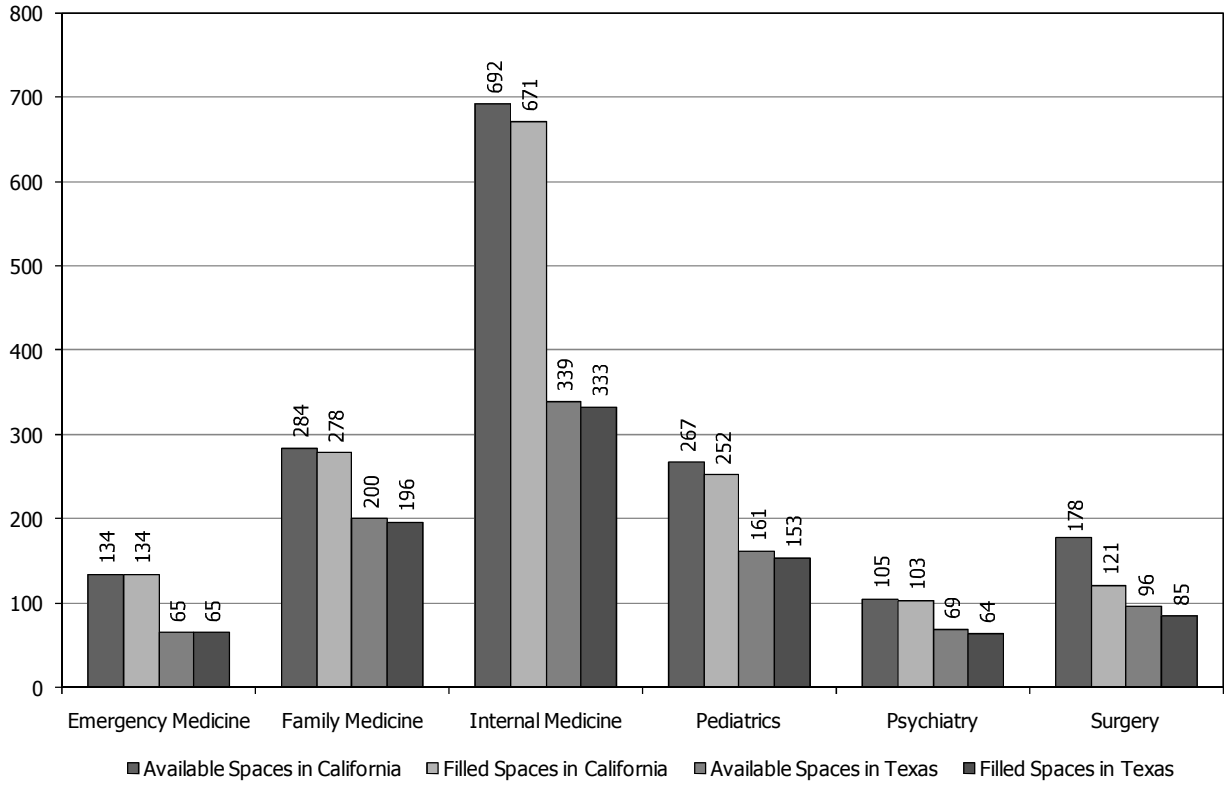
Source: American Medical Association.

*Practice state was unreported for 68 out of the 481 residents in the study.

The Association of American Medical Colleges (AAMC) reported that in 2007, 79 percent of Texas physicians who graduated from a Texas medical school and completed their residency training in-state remained in Texas to practice. Retention of physicians following completion of residency training is a cost-effective way to increase patient health care services and add to the physician population. In addition, during their many years of training, resident physicians often provide patient care services to uninsured and needy populations.

Other states, such as California, offer more residency positions than the number of physicians who graduate from California medical schools. Offering more residency positions than the number of medical school graduates is likely to increase the physician workforce. With variances related to specialty selection, physicians are more likely to remain in the state they complete their residency training. As illustrated below, California offers and fills more residency positions than Texas.

Figure 27: Residencies in California and Texas by Specialty (2008)



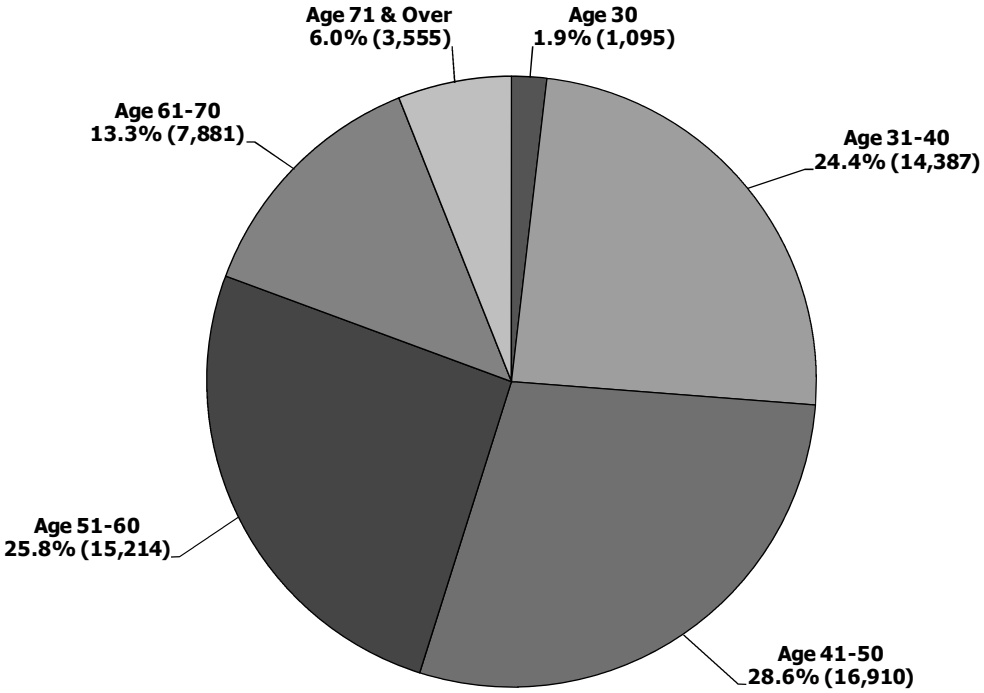
Source: National Resident Matching Program's *Result and Data: 2008 Main Residency Match.*

Workforce – Physicians in Practice

Age

The Texas physician population is aging like that of the Texas population. Forty-five percent of the licensed physicians in Texas are 50 years of age or older. While the majority of the older physician population is between 51-60 years of age, 19 percent of Texas physicians are 61 years of age or older. With the aging of the Texas population in the coming decades, this percent is likely to increase. Nationally, the physician population is also aging. Physicians over the age of 60 comprise 23 percent of the nation's workforce.

Figure 28: Texas Physicians by Age (2008)

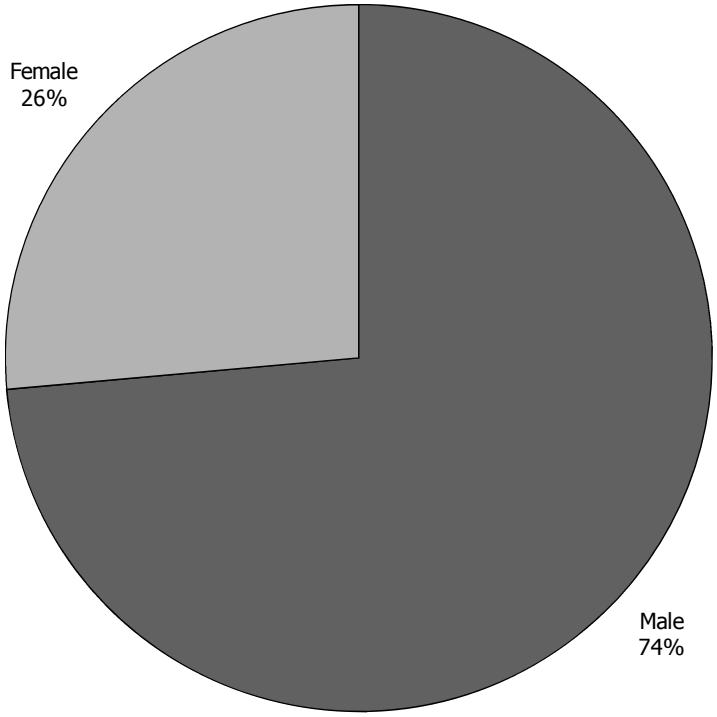


Source: Texas Medical Board.

Gender

In Texas, women and men apply to medical school at near the same levels, are admitted at similar rates, and enroll and graduate in similar numbers. The number of female medical school graduates surpassed male medical school graduates for the first time in Texas history in 2007, but it will be several years before women reach parity with men as practicing physicians. Today, men account for three-fourths of the state's physicians.

Figure 29: Texas Physicians by Gender (2008)

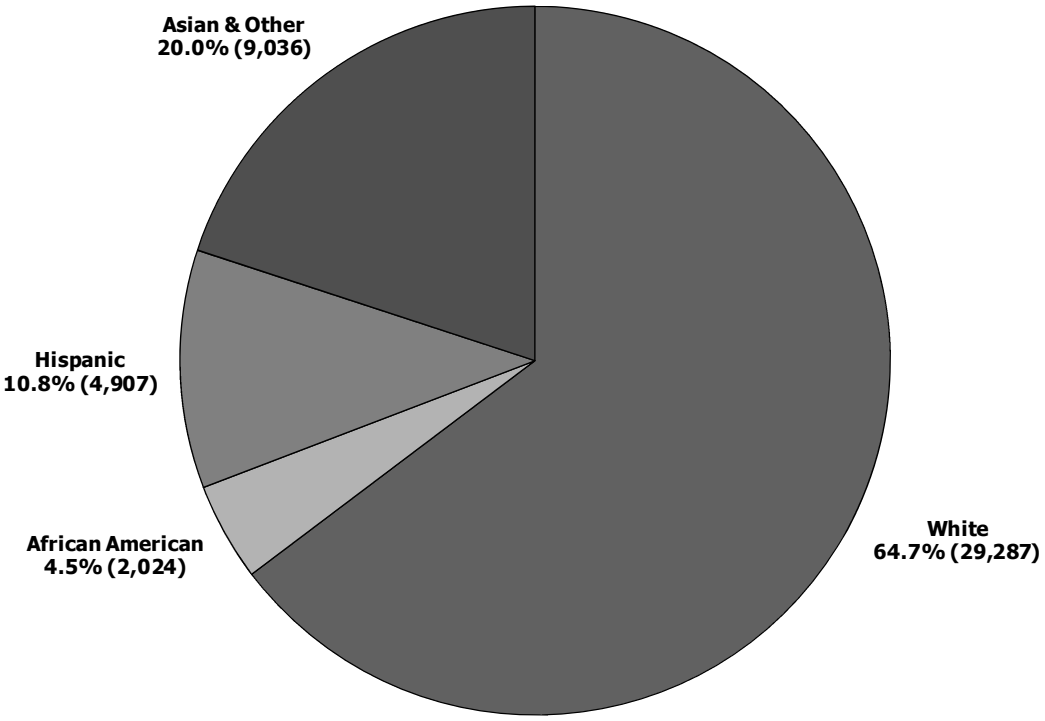


Source: Texas Medical Board.

Ethnicity

African Americans and Hispanic physicians are proportionally underrepresented in comparison to these groups' representation in the state's general population. Although more of them are graduating from medical school, those increases have not kept pace with the growth of the African American and Hispanics in the state's population.

Figure 30: Texas Physicians by Ethnicity (2008)

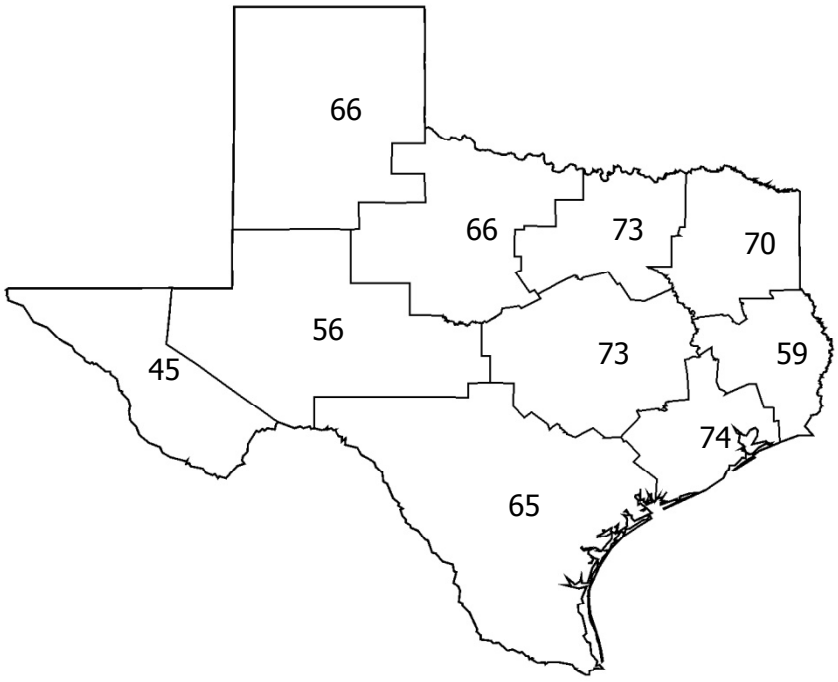


Source: Texas Medical Board.

Physicians by Region

Regional differences in the number of primary care physicians per 100,000 population are presented in Figure 31. The number of primary care physicians to population is greater in the Metroplex, Central Texas, and Gulf Cost regions. While the South Texas region shows 66 physicians per 100,000 population, if Bexar county is removed from the region, the primary care physician per 100,000 population decreases to 57 per 100,000 population.

Figure 31: Primary Care Physicians per 100,000 Population by Texas Region (2007)

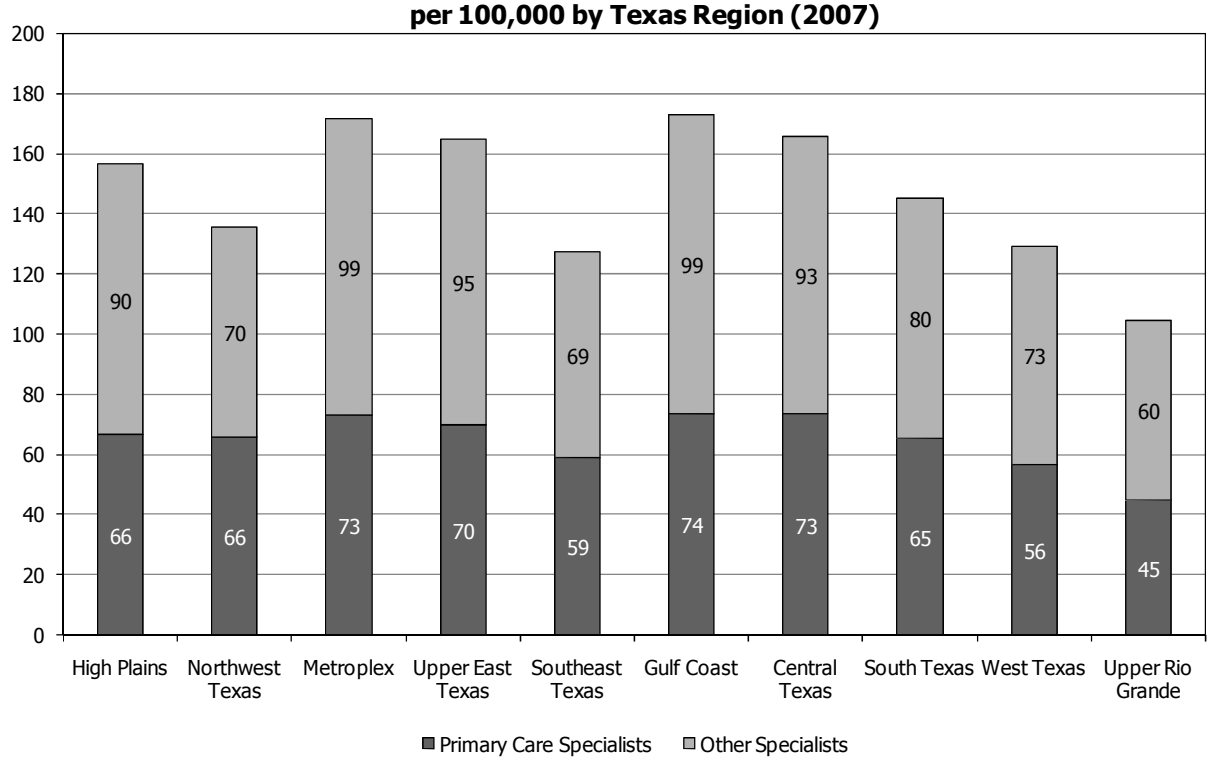


Sources: Physicians, Texas Department of State Health Services; population, Texas State Demographer.

Primary care physicians, especially family physicians, tend to distribute themselves in patterns geographically similar to the general population. All regions of Texas have fewer primary care physicians than other physician specialists. Due to higher salaries for non-primary care physician specialists, this trend will likely continue.

The number of medical specialty choices has increased since the 2002 study, when physicians could decide from among 110 different areas of medicine in which to specialize. By 2006, there were 126 medical specialty boards. Increasing specialization adds years of training to the residency experience and raises the cost to prepare a physician.

Figure 32: Primary Care and Other Physician Specialists per 100,000 by Texas Region (2007)

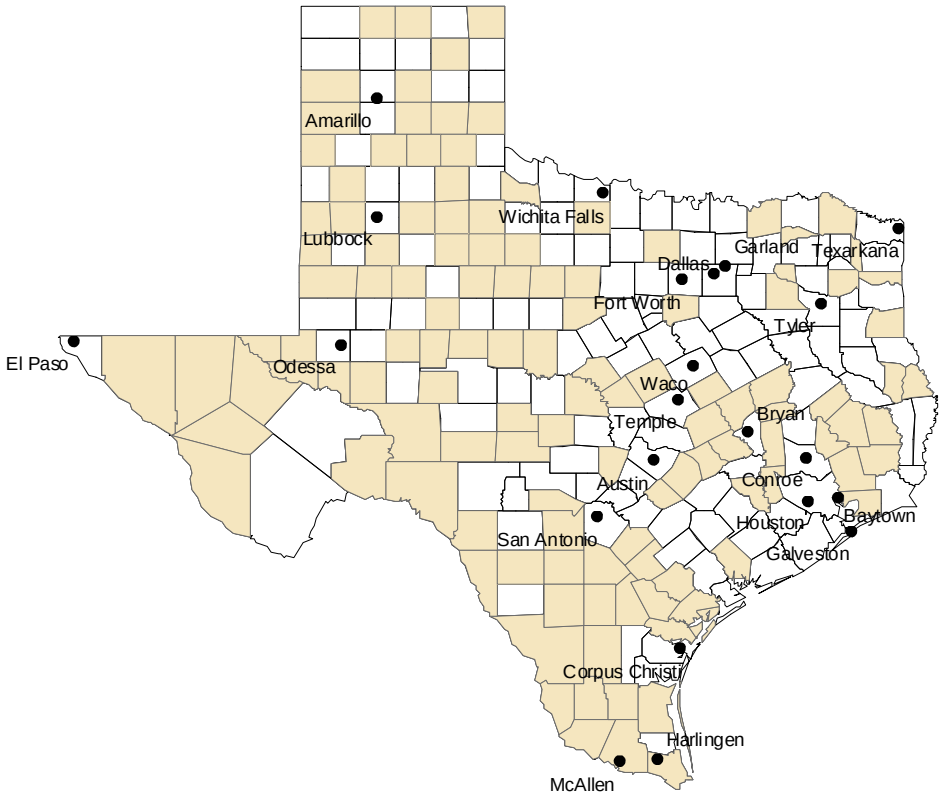


Source: Physicians, Texas Department of State Health Services; population, Texas State Demographer.

Maldistribution

Physician distribution is a long-standing public health issue, with concerns first raised as early as the 1960s. Physicians are educated and trained in larger, more urban areas of the state, and they tend to practice in those areas. In 2007, there were 25 Texas counties without a physician, 17 of them located in the High Plains region. Since 2002, there has been little improvement in the distribution of physicians across the state, especially to areas identified as Health Professional Shortage Areas (HPSAs).

Figure 33: Location of Texas Residency Programs and Whole County HPSAs

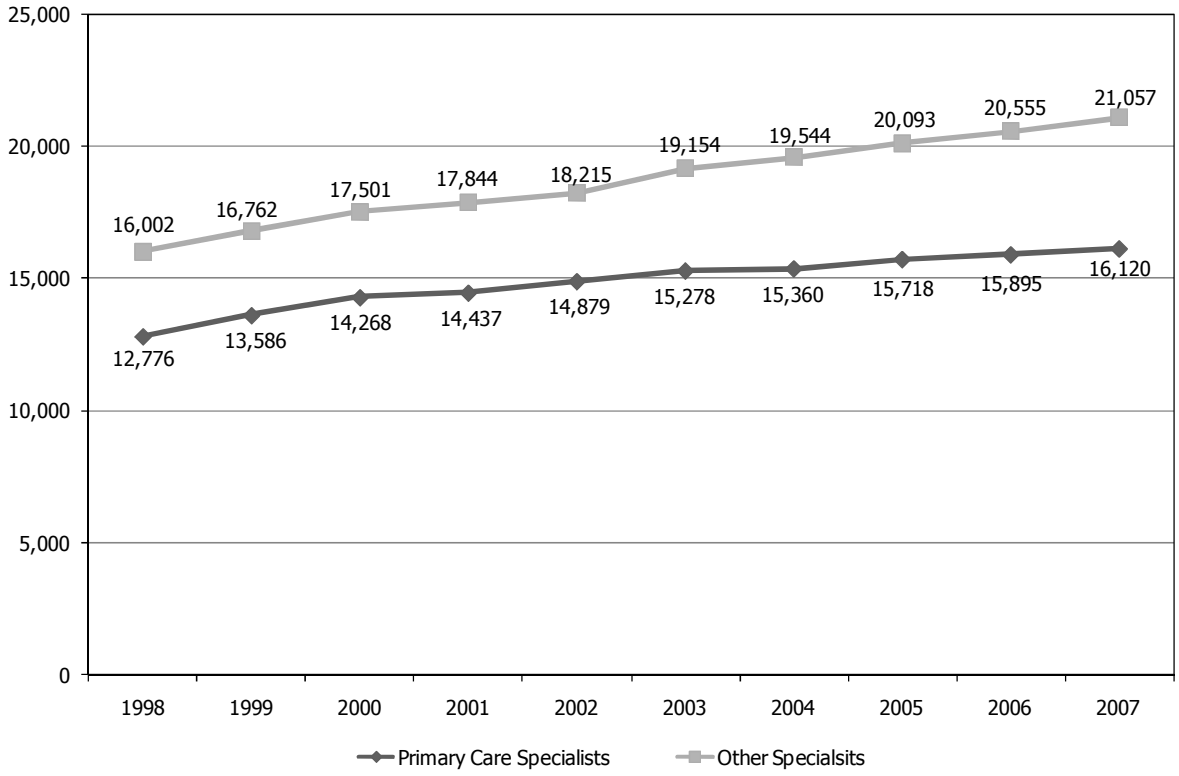


Source: Texas Department of State Health Services, Whole County HPSAs, 2006.

Primary Care and Other Physician Specialists

Since 1998, the number of primary care physicians in Texas increased at a lower rate (26 percent), than the overall number of direct patient care physicians (32 percent).

Figure 34: Primary Care* and Other Specialists in Texas



Source: Texas Department of State Health Services.
*Primary care includes family medicine, internal medicine, pediatrics, and obstetrics/gynecology.

Trained to treat a variety of medical problems, primary care physicians who practice in areas with lower populations provide needed health care services to patients over a lifetime. The emergence of other health care professionals, such as physician assistants and nurse practitioners with the skills required to provide primary health care services, could help the state respond to the relative scarcity of primary care physicians. In particular, the rapid increase in these other types of primary care providers could help increase access to health care services in rural and inner-city undeserved areas. But these providers probably do not offer a panacea, since they ae likely to want to live and provide care in the same areas as phsycians.

Figure 35: Selected Health Care Professions in 1997 and 2007

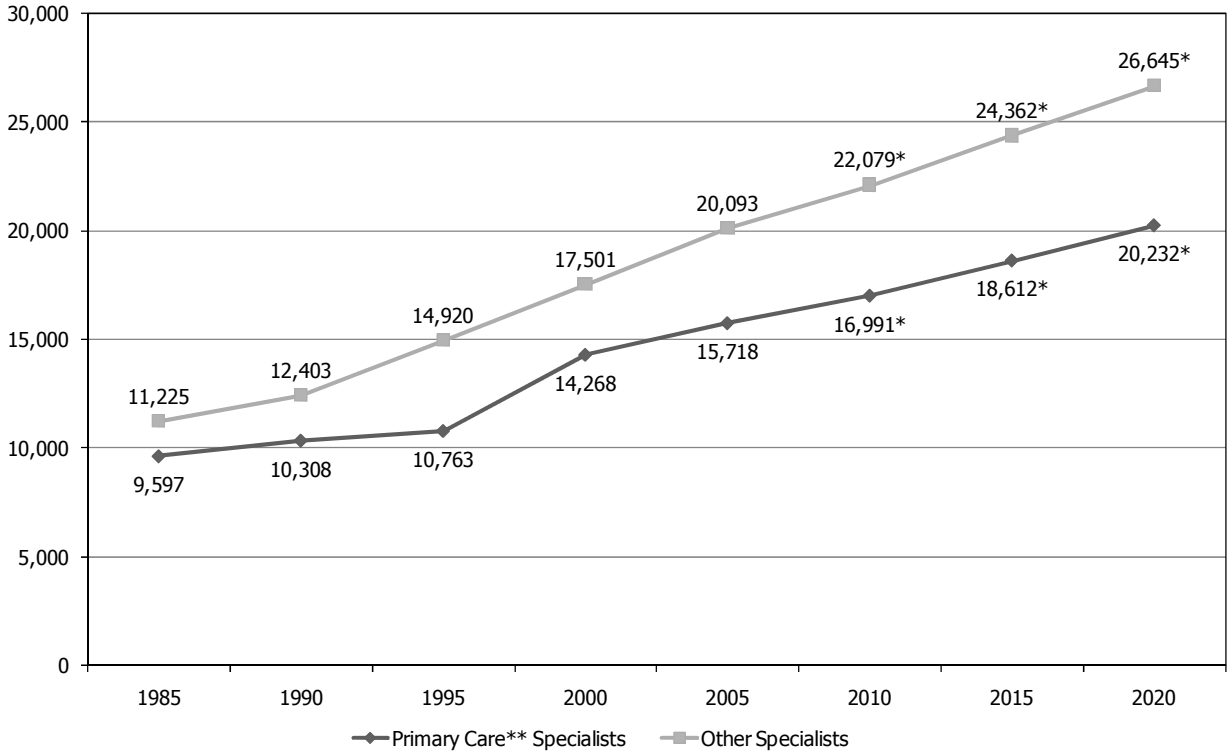
Health Care Profession	1997	2007	Percent Increase
Primary Care Physicians	12,160	16,120	32.6%
Physician Assistants	1,463	3,862	164.0%
Nurse Practitioners*	2,000	4,858	142.9%

*Nurse Practitioner data were unavailable for 1997. Data from 1998 were used.

Projections

The number of primary care physicians is projected to increase at a slower rate than other physician specialists.

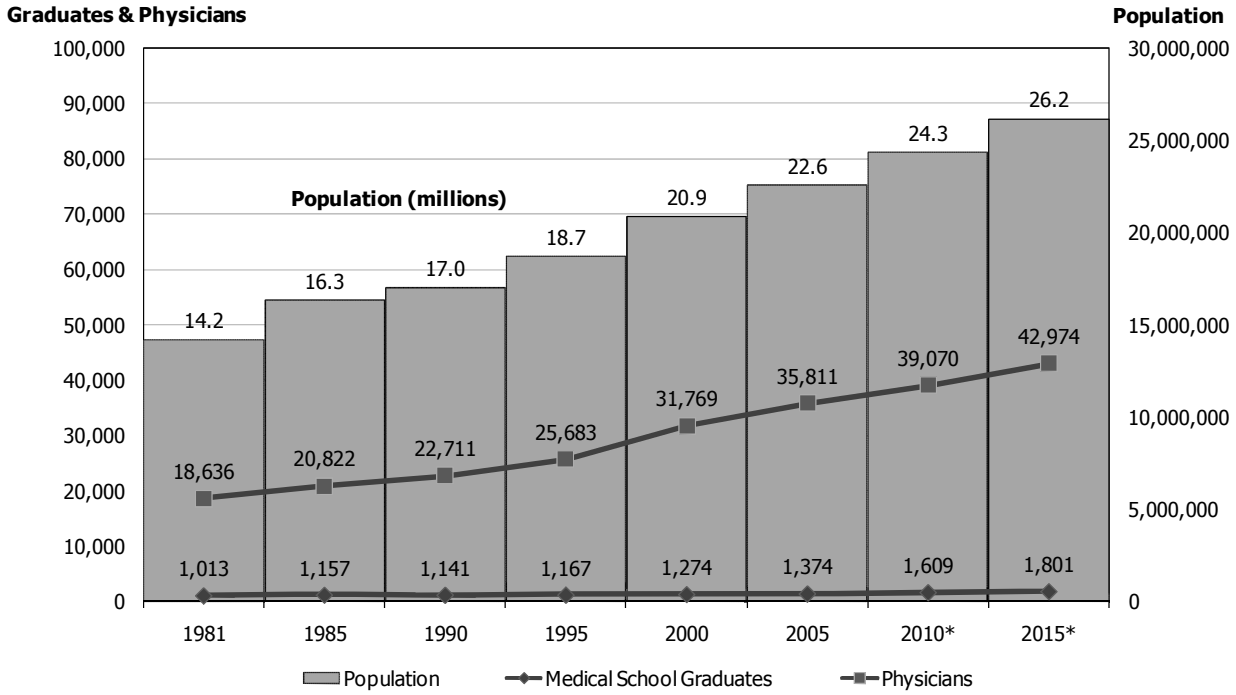
Figure 36: Texas Physician Workforce Projections



Source: 1985-2005, Texas Department of State Health Services; 2010-2020 projections, Coordinating Board.
*Projected data.
**Primary care includes family medicine, internal medicine, pediatrics, obstetrics/gynecology.

From 2005 to 2015 the number of physician graduates in Texas is expected to increase by approximately 30 percent, the state's practicing physician population is expected to increase by 20 percent, and the state's population is expected to grow by approximately 16 percent. To meet the demand for health care services, Texas will need to increasingly rely on out-of-state physicians to supplement its workforce.

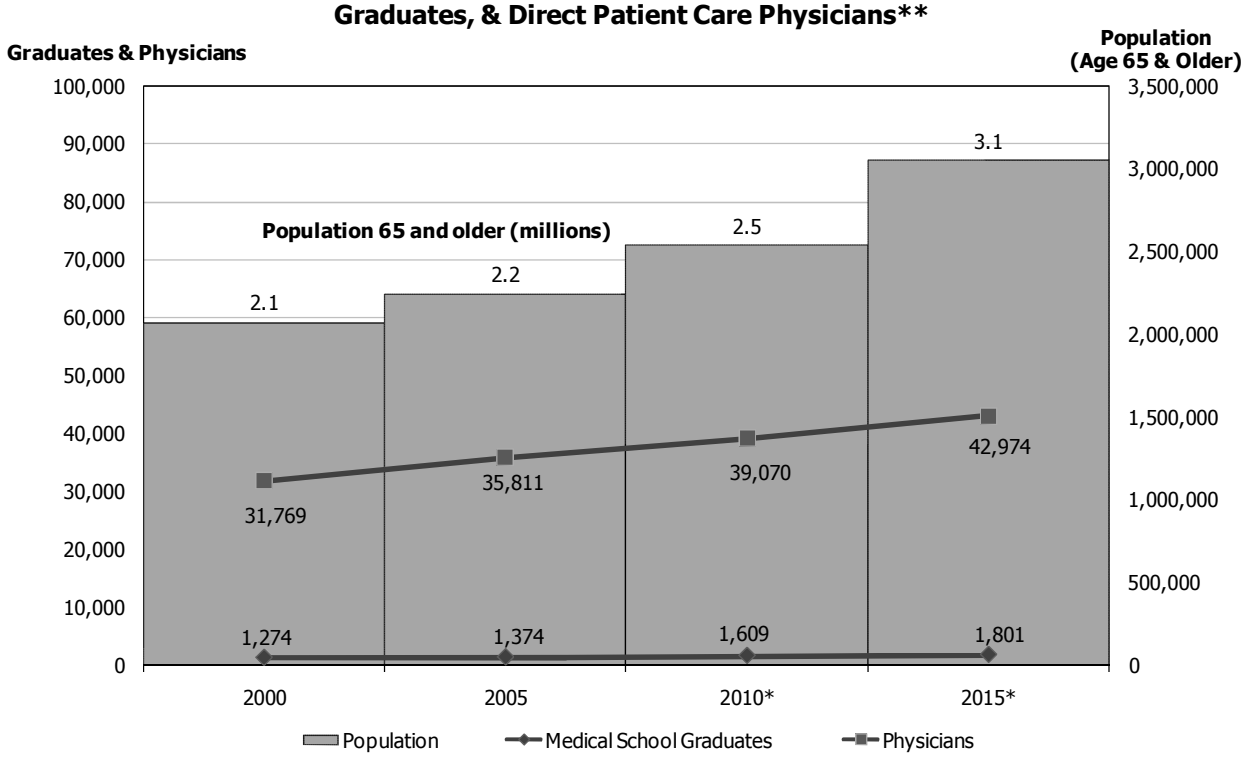
Figure 37: Texas Population, Medical School Graduates, & Direct Patient Care Physicians**



Sources: Graduates, Coordinating Board; physicians, Texas Department of State of Health Services; population, Texas State Demographer.
*Projected data.
**Direct patient care physicians includes primary and other specialty physicians.

By 2015, the number of Texans age 65 or older is projected to increase by 30 percent, while the number of practicing physicians is projected to increase by 16 percent. With such rapid expansion of the population over 65, more physicians will be needed to care for the aging population. Notably, those over the age of 65 access health care services twice as much as those under age 65.

Figure 38: Texas Population (Age 65 & Older), Medical School Graduates, & Direct Patient Care Physicians**



Sources: Graduates, Coordinating Board; physicians, Texas Department of State Health Services; population, Texas State Demographer.
*Projected data.
**Direct patient care physicians includes primary and other specialty physicians.

Medical School Expansion Efforts Underway

Establishing a new medical school is one of the most powerful and permanent ways to increase the supply of physicians in Texas. While the benefits to the local community are potentially great, so are the costs to the state, and both must be weighed carefully. Any new medical school would require the full support of the local, regional, and state community with lasting financial commitments from the Legislature.

A medical school must achieve preliminary accreditation before students can be admitted, a process that takes at least two years. Full accreditation can take up to five years. Funding for faculty, administration, staff, and facilities for research and clinical practice is required for two to five years. As currently structured, development of these elements occurs without the support of state formula funding.

The first step toward development of a new medical school requires establishment or expansion of residency program offerings in geographic proximity to the future school. After the supervising faculty and clinical practice facilities are in place to support the core residencies, the clinical foundation can be established for medical education. The core medical specialties of pediatrics, obstetrics/gynecology, internal medicine, family practice, and general surgery serve as the foundation for the clinical portion of medical education.

In response to the Coordinating Board's 2002 study, the state's health-related institutional leadership initiated medical education efforts in new geographic areas and increased entering medical school classes. Recent expansion efforts have increased opportunity for medical students to locate in El Paso, Temple, College Station, and Austin to pursue their medical education.

Beginning in 2009, Texas medical students may attend all four years of medical school at facilities in El Paso, Temple, and College Station. Also, a new expansion effort will allow medical students to complete their third- and fourth-year (commonly called "clinical rotations") in Midland/Odessa. This is also the case in Austin, where 60 medical students will complete their third- and fourth- years of training.

Two areas -- the El Paso area and the Lower Rio Grande Valley -- were identified in the 2002 study as potential sites for new medical schools. Since the 2002 study, the Texas Tech University Health Sciences Center Regional Academic Health Center in El Paso received significant financial recourses that led to the establishment of the Foster School of Medicine and expansion of medical education into the Midland/Odessa area. The Lower Rio Grande Valley also received funding support and opened an Internal Medicine Residency Program.

Texas Tech University Health Sciences Center – Paul L. Foster School of Medicine (El Paso) and Permian Basin Regional Academic Health Center (Midland/Odessa)

The Texas Tech University School of Medicine was created by the 61st Texas Legislature in 1969 as a multi-campus institution, with Lubbock as the administrative center and regional campuses at Amarillo, El Paso, and Odessa. Medical students spend their first two years in Lubbock and complete their last two years of medical school in Lubbock, or at the Regional

Academic Health Centers in Amarillo or El Paso. In 1979, the School of Medicine became part of the newly organized Texas Tech University Health Sciences Center.

Texas Tech University Health Sciences Center has worked for many years to establish a four-year medical campus in El Paso. In anticipation of the establishment of a new medical school, the 77th Texas Legislature in 2001 authorized the institution to increase its entering medical school class size by 20 medical students annually, with a goal of 200 entering medical students. The Coordinating Board authorized the enrollment increase in April 2002, as directed by rider to the Legislature's General Appropriations Act. Texas Tech increased enrollments accordingly.

In October 2007, the Coordinating Board received a report that the new El Paso medical school received official recognition as the Paul L. Foster School of Medicine and received Liasion Committee on Medical Education (LCME) approval to admit its first class in fall 2009. The Foster School of Medicine will have an inaugural class of 40 students and plans to increase enrollment to 80 entering medical students within the first three years. As a result of the enrollment increases and the opening of the Foster School of Medicine, the TTUHSC Medical School in Lubbock will initiate a new site for its third- and fourth-year medical students in Odessa at the Permian Basin Regional Academic Health Center beginning in 2009.

The establishment of the Texas Tech University Health Science Center El Paso Paul L. Foster School of Medicine provides an instructive example in how to start a new medical school. The Foster School of Medicine is the first medical school to open in Texas in more than 30 years. It is in an area that has a low physician-to-population ratio and borders the country of Mexico and the state of New Mexico. Jose Manuel de la Rosa, Dean of the Foster School of Medicine, provided information and insights into the planning and formation of the school. He identified four principles essential to the establishment of the Foster School: lay the groundwork, be persistent and build gradually, plan the planning, and recruit regionally. A summary of each of these principles is presented below:

Lay the groundwork. Dr. de la Rosa noted that from the beginning concept, a new medical school requires the support of local community and state leaders. The local and regional interests should be clarified as early as possible, and state representatives should be engaged in its development so they are able to make a strong case for a new school. If the local community of physicians is not supportive, the concept is unlikely to move forward. In the case of the Foster School of Medicine, Dr. de la Rosa stated that initial community conflicts were addressed with the support and collaboration of the El Paso County Medical Society. The local professional society helped build a case to those outside the greater El Paso area for a medical school located on the border. After local support was given, greater statewide support followed. Initial funding was provided through tuition revenue bonds ($40 million), clinic expansion ($11 million), and start-up/planning funds ($2 million). These funds were appropriated to the Foster School in advance of its preliminary accreditation by the LCME.

Be persistent and build gradually. The process to establish the Foster School of Medicine took 10 years from initial proposal to the final stage of LCME accreditation. During the decade of planning, the future school functioned as a Regional Academic Health Center (RAHC) and as a future school, maintaining and expanding existing clinical and academic functions. Faculty grew in number and in expertise necessary for a four-year medical school. With the assignment of only 20 students per faculty member, the entering class of students will increase from 40

students in 2009, to 60 in 2010, and 80 in 2011. The LCME, Dr. de la Rosa said, supports gradual and incremental advances toward development.

Plan the planning. Dr. de la Rosa explained that the long funding process allowed for greater organization to transition the El Paso RAHC to a medical school. He added that the advantages and disadvantages of the models of medical school growth (expansion of existing campus, expansion of an existing RAHC or branch campus, establishment of a new RAHC or branch campus, and establishment of a new medical school, either public or independent) need to be weighed carefully in the context of the financial, industrial, philanthropic, medical, and political contexts of the local community. The Foster School of Medicine had back-up plans in place to continue as a RAHC in case the new school model fell through. For example, its new building was designed with rooms that could be adapted to serve as educational or clinical spaces. Dr. de la Rosa noted that the LCME accreditation requirements are daunting, with 126 criteria, but that the LCME staff served as a great resource.

Recruit regionally. Dr. de la Rosa stated that a medical school needs a national reputation. Students attending the Foster School of Medicine will be recruited in - Texas, nationally, and internationally. However, the institution will adhere to the legislative requirement that 90 percent of an entering medical school class be Texas residents. Dr. de la Rosa noted that the Foster School of Medicine will recruit students from the region in an effort to help close gaps in medical care. He added that regional opportunity and an increase in the number of physicians in the community were key to building the case for a new medical school in El Paso. In the El Paso experience, physicians educated and trained in El Paso remain in the area to practice. Dr de la Rosa said that to recruit the inaugural class of fall 2009, the Foster School of Medicine leadership attended recruitment fairs throughout the border regions and hosted summer programs for out-of-state students who might have attended high school in the El Paso area.

Lower Rio Grande Valley Regional Academic Health Center

In response to documented need to enhance existing educational opportunity and develop instructional programs for students living in the South Texas region, the 75th Texas Legislature in 1997 authorized The University of Texas System to establish and operate a Regional Academic Health Center (RAHC) to serve the four counties of the Lower Rio Grande Valley (Cameron, Hidalgo, Starr, and Willacy).

The Lower Rio Grande Valley RAHC was officially established in 1998 with three major divisions: Medical Education, Medical Research, and Public Health. Four sites (Brownsville, Edinburg, Harlingen, and McAllen) were selected for the location of the three divisions. Medical Education was designated for Harlingen and McAllen, medical research for Edinburg, and public health for Brownsville. The University of Texas Health Science Center at San Antonio (UTHSCSA) was designated to oversee and operate the medical education and research divisions, while the public health division operates as a branch campus of The University of Texas Health Science Center at Houston's School of Public Health. In 2002, the medical education division opened as a geographically separate site of UTHSCSA and began sending medical students there.

Development of a branch campus or RAHC could serve as the foundation for later expansion of program offerings, including the development of a free-standing medical program. If adequate resources were provided to support the Lower Rio Grande Valley RAHC, it could develop into a

separate medical program. Providing adequate funding for the eventual establishment of a medical school in the South Texas region would serve the needs of the state and the region. However, significant resources would be required to achieve that goal.

To lay the groundwork to found a stand-alone medical school, the state would need to provide significant resources to ensure the success of such an endeavor. Harlingen and McAllen are relatively well-supported in the numbers of physicians, but surrounding counties have significant physician shortages. To set the foundation for the development of a medical program in the area, new residency programs in pediatrics, obstetrics/gynecology, and general surgery should be developed. If a medical program were offered in the Lower Rio Grande Valley, students from the local and surrounding communities would have greater opportunities to attend medical school and would likely remain or return to the area to practice.

Texas A&M University System Health Science Center

The Texas A&M College of Medicine was established in 1974, and its first 32 medical students matriculated in 1977. In 1998, the College of Medicine joined the newly authorized Texas A&M University System Health Science Center.

The College of Medicine is in the process of expanding its education efforts in its existing locations in College Station and Temple. Historically, the campus in College Station provided education for medical students in their first and second year, while students completed their third and fourth years in Temple at the Scott and White Hospital. The TAMUSHSC College of Medicine's current medical education expansion efforts in College Station and Temple will allow students to complete medical program in a single location at either existing site in College Station or Temple.

The College of Medicine is also in the process of increasing its first-year medical student enrollment from 85 in 2006 to 200 by 2014. Additionally, the 80th Legislature authorized and allocated $9 million to expand clinical and medical education in Round Rock and surrounding areas. Medical education will occur at the three hospital systems in Williamson County (St. David's, Seton, and Scott & White), and other facilities, such as the Lone Star Circle of Care Community Health Clinics.

The University of Texas Medical Branch – Austin Program

The University of Texas Medical Branch (UTMB) School of Medicine in Galveston was established in 1881, when the Texas Legislature authorized the founding of The University of Texas and a University of Texas Medical Department. In 1919, the Medical Department was renamed The University of Texas Medical Branch.

In the late 1980s, UTMB School of Medicine began rotating third-year medical students to Austin for clinical rotations. Since 2000, a cohort of third-year medical students has volunteered to reside in Austin to complete clinical rotations in family medicine, internal medicine, obstetrics/gynecology, pediatrics, psychiatry, and surgery.

UTMB began sending fourth-year medical students to Austin in 2001 for some clinical education. In March 2005, UTMB and the Seton Healthcare Network (SHN) entered into a 30-year

affiliation agreement for third- and fourth-year medical students, graduate medical education (GME), and research programs in Austin. UTMB currently has 165 residents and 60 full-time third- and fourth-year medical students training in Austin.

There is local and legislative support to develop a long-range plan to eventually offer a medical program in the Austin area. Possible options include a partnership with the University Medical Center at Brackenridge, expansion of the existing UTMB presence, or the possible development of an Austin satellite campus of The University of Texas Southwestern Medical Center at Dallas.

Development of Other Sites

Potential sites and changing demographics are additional considerations important in evaluating whether a new medical school is warranted. Potential sites should be attractive enough to appeal to a large number of physicians and allow academic faculty to secure research grants that would provide needed resources, including development of laboratories and purchase of equipment.

Consideration should be also be given to geographic regions that are currently and chronically medically underserved, with a lower than average physician-to-population ratio. Efficiencies are achieved when development builds on significant prior investments, such as existing regional academic health centers or sites with established residency programs. Development of another state-supported medical program should provide geographical access and increase the opportunity for underrepresented populations to attend medical school, too.

In addition, development of a new medical program requires that a large and diverse patient population be available to serve the educational needs of the students and residents. Operation of a medical school requires access to patient populations that present a broad range of health conditions.

Consideration must also be given to the existing and projected Texas population and its health care needs. The state's oldest population is increasing, and people over age 65 access twice as many health care services as those under age 65. Additionally, the younger population is predominantly Hispanic, and generally has less health insurance but a greater prevalence of lifelong chronic diseases, such as obesity and diabetes. Such chronic conditions require lifelong monitoring and treatment.

Texas has the highest rate of uninsured adults and children in the nation. This fact increases the likelihood that the current and future Texas health care system will face serious challenges, since uninsured patients delay treatment and access services through high-cost emergency rooms, rather than seek early care that might prevent conditions from worsening. Thus, the Texas health care system must be considered in any decision to establish a new medical program.

Alternatives to Starting a New School

Creating a new medical school is a high-cost commitment over many years. There are alternatives to consider before deciding to establish another new school.

Continue to increase entering enrollments at existing schools and further develop branch campuses. Enrollment in Texas medical schools increased substantially since 2002, up 10 percent. The medical schools with the smallest entering classes in 2002 were Texas Tech University Health Sciences Center, Texas A&M University System Health Science Center, and the University of North Texas Health Science Center at Fort Worth. Each has increased enrollment by more than 20 students in the last five years.

Expand entry-level Graduate Medical Education programs. At a minimum, entry-level residency programs should be increases to accommodate the increasing number of medical school graduates. In addition to the finding that a majority of primary care physicians who complete their residency training in Texas remain in the state to practice, expansion of residency programs provides a foundation for development of future medical programs and provides health care services to needy populations, including the uninsured. Optimally, the residency programs should be attractive enough and have enough entry-level slots to train 10 percent more physicians than the medical schools graduate.

Explore the feasibility of developing primary care and other entry-level residency programs in geographically remote and rural areas. Residency training serves as a unique asset in a community, both as an economic driver for the local economy and providing health care services to those who might not otherwise have access to them.

Conclusions and Recommendations

Unless Texas expands medical school enrollments at existing schools and locations or opens additional locations or branch campuses, graduates from Texas' colleges and universities will have less opportunity to enter medical school in the state. To keep pace with the number of medical school first-year enrollment increases currently underway, graduate medical education programs should expand to accommodate the projected number of graduates and attract new physicians to Texas.

Texas is an attractive state in which to practice and is a net importer of physicians.
By 2015, the number of Texans age 65 or older is projected to increase nearly twice as much as the number of physicians. Those over the age of 65 access health care services twice as much as those under age 65. The state's Hispanic population is rapidly increasing and will probably have different health care needs than other groups, as well as a different ability to access services.

Student Opportunity

Texas baccalaureate graduates have less opportunity to attend a Texas medical school than in 2002.

Recommendation: Provide full-funding to the state's existing health-related institutions through the formula process and provision of supplemental funding for small classes to encourage the expansion efforts under way. The Legislature should fully fund the existing health-related institutions and their expansion efforts before commiting additional dollars to new projects.

Recommendation: Texas medical schools should continue to incrase first-year entering enrollments through 2015, when the Coordinating Board should assess whether additional enrollment increases are necessary.

Graduate Medical Education

The state should have an adequate number of high-quality graduate medical education programs to accommodate Texas medical school graduates and to attract graduates of other states and international medical graduates.

Recommendation: To keep pace with first-year enrollment increases at the state's medical schools, graduate medical education programs should expand to accommodate the projected number of graduates and to attract new physicians to Texas.

Recommendation: New residency positions should be added to keep pace with the expansion of medical education programs. Because residents provide low-cost care to needy populations and tend to remain in the state in which they complete their residency training, it is essential to provide support for residency programs to expand through the addition of new positions, and help local communities develop new residency programs, especially those with positions available upon graduation from medical school.

Recommendation: Optimally, the state should encourage growth of first-year residency positions than medical school graduates, with a minimum of 10 percent more first-year, entry-level residency positions than graduating medical students.

Additionally, state funding to the health-related institutions through the Graduate Medical Education formula should be increased, as recommended by the Coordinating Board's Health-Related Institutions Formula Advisory Committee and requested by the Coordinating Board in its exceptional item funding request. If the increases were appropriated, GME formula funding would be increased to $7,500 per resident, up from the current level of $6,000 per resident.

Women Physicians

Women have reached parity with men as applicants, matriculants, and graduates of the state's medical schools. However, women have not reached parity with the practicing physician population, although they will do so in coming years. In 2007, the Texas practicing male physician population outnumbered women two-to-one, and women were less likely than men to practice in border and non-metropolitan counties.

Recommendation: Because many more women are expected to enter the physician workforce in Texas, programs should be developed to encourage more women to practice in border and non-metropolitan counties.

African American and Hispanic Physicians

Since the 2002 report, the number of African American medical students in Texas medical schools increased by 2 percent. However, African Americans remain underrepresented among medical enrollments, graduates, and practicing physicians in the state.

Also since 2002, Hispanic medical student enrollments increased, but the percentage was unchanged and Hispanics remain underrepresented. For example 35.7 percent of the general population in Texas was Hispanic in 2007. But only 11.6 percent of the first-year medical school students and 10.8 percent of active primary care physicians were Hispanic.

Since the 2002 report, the 77th Legislature established and maintained support for the Joint Admissions Medical Program (JAMP). The 80th Legislature in 2007 increased JAMP funding to allow more students to enroll in the program and expand eligibility to students attending Texas independent general academic institutions.

Recommendation: Support, increase, and expand efforts underway to attract and mentor African American and Hispanic students to careers in medicine. Additional support should be provided for the successful continuation of JAMP. The Coordinating Board requested an additional $10 million in exceptional item funding to support the program in Fiscal Years 2010 and 2011.

Other Areas:

Recommendation: Graduate medical education data collection CBM-00R. The Coordinating Board should maintain and expand the collection of data related to Graduate Medical Education through its Coordinating Board Management-00 Resident (CBM-00R) reporting requirement. Board staff should be directed and adequate support should be provided to review, monitor, and publish data. Data should be reviewed by the Health-Related Formula Advisory Committee annually. After data have been collected for five years, the Coordinating Board should make a funding recommendation based on outcomes as they relate to practice location and retention in Texas. Residency programs identified by the CBM-00R as successful in having resident physicians locate in HPSAs should receive additional financial support through state grants or additional formula incentives.

Recommendation: Physician Education Loan Repayment Program. Existing loan repayment programs should be enhanced, and physicians who receive support under the Physician Education Loan Repayment Program should serve as mentors to encourage a new generation of physicians to locate in whole--county HPSAs. Development of such a mentoring program could be a cooperative effort between the Coordinating Board, the Office of Rural and Community Affairs, and the Department of State Health Services Bureau of Primary Care.

Recommendation: Student interest in medicine and primary care specialties. Expansion of successful state initiatives, including the Joint Admission Medical Program and the Statewide Preceptorship Programs, could potentially increase student interest in medicine as a career, with directed efforts to attract African American and Hispanic students to medicine and encourage medical students to consider careers in the primary care specialties of family medicine, internal medicine, pediatrics, and obstetrics/gynecology.

Recommendation: Importing physicians. Initiation of an outreach program to other states' newly-trained physicians could help secure the "net importer" status of Texas.

Recommendation: New and innovative strategies. Such efforts could potentially attract medical students to rural and underserved communities and might include expanded use of distance learning and development of collaborative partnerships, and promotion of rural life and practice to medical students.

Data Sources

Data and information included in this report came from the following sources:

American Association of Colleges of Osteopathic Medicine
American Medical Association
American Osteopathic Association
Association of American Medical Colleges
The Commonwealth Fund
Texas Department of State Health Services, Health Professions Resource Center
Liaison Committee on Medical Education
National Resident Matching Program
Texas Higher Education Coordinating Board
Texas Medical Association
Texas Medical Board
Texas Medical and Dental Schools Application Service
Texas State Demographer
U.S. Census Bureau
U.S. Department of Education National Center for Education Statistics
U.S. Department of Health and Human Services