Academic Quality and Workforce

60x30TX

Texas Higher Education Coordinating Board

An Assessment of Opportunities for Graduates of Texas Medical Schools to Enter Graduate Medical Education in Texas

A Report to the Texas Legislature
Per Texas Education Code 61.0661

October 2016

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Texas Higher Education Coordinating Board

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Agency Mission

The mission of the Texas Higher Education Coordinating Board (THECB) is to provide leadership and coordination for the Texas higher education system and to promote access, affordability, quality, success, and cost efficiency through *60x30TX,* resulting in a globally competitive workforce that positions Texas as an international leader.

Agency Vision

The THECB will be recognized as an international leader in developing and implementing innovative higher education policy to accomplish our mission.

Agency Philosophy

The THECB will promote access to and success in quality higher education across the state with the conviction that access and success without quality is mediocrity and that quality without access and success is unacceptable.

Agency Core Values

Accountability: We hold ourselves responsible for our actions and welcome every opportunity to educate stakeholders about our policies, decisions, and aspirations.

Efficiency: We accomplish our work using resources in the most effective manner.

Collaboration: We develop partnerships that result in student success and a highly qualified, globally competent workforce.

Excellence: We strive for excellence in all our endeavors.

The Texas Higher Education Coordinating Board does not discriminate on the basis of race, color, national origin, gender, religion, age or disability in employment or the provision of services.

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Executive Summary

The Texas physician workforce includes physicians educated and trained in the state, as well as physicians educated in other states or countries. The latter group comes to Texas either to continue their training in a residency program or to join or begin a medical practice. Texas is an appealing state for physicians to practice, and the state continues to attract more physicians who apply for and receive Texas medical licenses. However, Texas continues to have fewer physicians per 100,000 population than the nation as a whole and continues to lag behind the 10 most populous states.

Texas Education Code, Section 61.0661 requires the Texas Higher Education Coordinating Board (Coordinating Board or THECB) to conduct an assessment of the adequacy of opportunities for graduates of Texas medical schools to enter graduate medical education in the state. Previously, in 2011, the 82nd Texas Legislature, Regular Session, passed House Bill 2908, which directed the Coordinating Board to include the same information in the agency's five-year strategic master plan.

This 2016 report presents updates on the current challenges facing the Texas physician workforce, including the educational pipeline. This report also presents updated data, including information on undergraduate medical school students, graduate medical education and residents, and the current physician workforce and presents the following information:

- A comparison of the number of first-year graduate medical education positions available annually with the number of medical school graduates
- A statistical analysis of recent trends in, and projections of, the number of medical school graduates and first-year graduate medical education positions in the state
- Methods and strategies for achieving a ratio for the number of first-year graduate medical education positions related to the number of medical school graduates in the state of at least 1.1 to 1
- An evaluation of current and projected physician workforce needs in the state by total number and by specialty for the development of additional first-year graduate medical education positions
- An examination of whether the state should ensure that a first-year graduate medical education position is created for each new medical student position established by a medical or dental unit

Conclusions

Beginning in Fiscal Year (FY) 2014, the Texas Legislature's Graduate Medical Education (GME) Expansion efforts have promoted the creation of new residency positions and new residency programs. GME Expansion efforts are fully underway for FY 2016 and FY 2017 and are building solidly on the successful implementation of these programs.

The initial effort to address the need for additional residency positions, with more than $14 million, supported the following: (1) Planning Grant Program, (2) Unfilled Residency Position Grant Program, (3) New and Expanded Residency Position Grant Program, and (4) Resident

Physician Expansion Program. As a result of these efforts, six new primary care and two additional residency programs opened, and 100 new first-year residency positions were funded.

Planning Grants. In 2014, Planning Grants were available only to entities that did not operate a GME program, to allow them to investigate the feasibility of establishing a residency program. As a result of the initial Planning Grants, eight new residency programs received national accreditation and matriculated their first residents. A General Revenue appropriation of $1,875,000 funded the grants.

In 2016, the continuation and expansion of the Planning Grants allowed the award of 14 one-time grants of $250,000 to a broader group of entities, including federally qualified healthcare centers (FQHCs), medical schools, and teaching hospitals, and encouraged partnership efforts. Many of the selected award recipients are located in more rural and remote areas of the state. If residency programs start in these areas, it is likely that physician distribution will be positively affected.

GME Expansion Programs. In 2013, the Texas Legislature created several programs to address the need for more GME positions for Texas medical school graduates.

Establishment of the Unfilled Residency Position Program was a first-step effort to increase the available first-year residency positions in Texas. The program increased the number of first-year residency positions in the medical specialties of family medicine, internal medicine, obstetrics/gynecology, anesthesiology, and psychiatry. Funding for these residency positions was continued in FY 2015 and FY 2016 and will be maintained in FY 2017.

In 2015, the second effort to increase available GME positions started through the New and Expanded Residency Program. Eleven residency programs were funded, which supported 50 new first-year residency positions. Funding for these residency positions was continued in FY 2015 and FY 2016 and will be maintained in FY 2017.

Also in 2015, the third effort was established. The Resident Physician Expansion Program differed from the other two programs by requiring community collaboration, was competitive, and allowed funding support for new positions that were not available to first-year residents. The program provided support for 76 residency positions.

The 84th Texas Legislature streamlined the three programs into a single GME Expansion Program and increased the per-resident funding to $75,000. This increase in funding has allowed newly established residency positions to be maintained and has provided an opportunity to establish residency positions. As a result, Texas is making substantial progress toward achieving the goal of having 10 percent more first-year residency positions than Texas medical school graduates.

Heading into the 85th Texas Legislature, the Coordinating Board's Legislative Appropriations Request includes a request for additional support of $29 million to be added to the base appropriation for the GME Expansion effort, which would allow the program to maintain the new residency positions established through the efforts of the 83rd and 84th Texas Legislatures. Maintaining these efforts is essential to continue to keep pace with the increase of Texas medical school enrollments, the opening of two new Texas medical schools, and the pending opening of two additional Texas medical schools.

Texas Medical School Enrollment Increases and New Medical Schools Opening. In response to a call from the Association of American Medical Colleges to increase medical school enrollments nationally by 30 percent, Texas medical schools increased entering first-year medical school enrollments 34.9 percent from 1,342 in fall 2002 to 1,811 in fall 2015. In summer and fall 2016 respectively, two new Texas public medical schools, The University of Texas at Austin, Dell Medical School, and The University of Texas Rio Grande Valley, School of Medicine, matriculated their inaugural classes. With the addition of these two new schools, Texas increased its first-year medical school enrollment by 100 new medical students.

Two additional Texas medical schools are scheduled to open by 2018. The University of the Incarnate Word in San Antonio is planning to enroll its first students pursuing the Doctor of Osteopathic Medicine (D.O.) in fall 2017, and Texas Christian University and University of North Texas Health Science Center in Fort Worth are planning to enroll their first students in a joint effort leading to the Doctor of Medicine (M.D.) degree in fall 2018.

Texas medical schools receive funding to support their instruction and operation through a formula methodology. The amount of support that these schools have received per medical student annually has increased over the last three biennia: $42,000 in FY 2012 and FY 2013; $45,000 in FY 2014 and FY 2015; and $46,717 in FY 2016 and FY 2017. However, the most recent amount is still a 13.5 percent decrease from the original $54,000 per medical student provided when the health-related institutions' formula funding was created for FY 2000 and FY 2001.

Texas Medical Residency Programs Increased First-Year Positions. The federal financing of graduate medical education is complex and presents limited opportunities for existing teaching hospitals to add new residency programs and/or residency positions to existing programs. Because hospitals at their resident cap for Medicare GME do not receive additional federal funding to add residency positions, they often take a measured approach to funding additional residency positions.

Texas provides minimal funding support for residency training affiliated with health-related institutions through a formula allocation. In FY 2016 and FY 2017, health-related institutions received $6,266 per medical resident to support faculty costs related to supervising a resident. This was a 19 percent increase from the FY 2014 and FY 2015 amount of $5,122 per resident. This level of support equates to about 4 percent of the estimated cost of residency education.

An additional amount of $10,896 per resident is provided to eligible family medicine residency programs through the Family Practice Residency Program, administered by the Coordinating Board. These funds, combined with the formula allocation, cover approximately 11 percent of the estimated cost of training family medicine residents.

In fall 2011, the ratio of first-year entering residency positions to graduates was near 1 to 1, with 1,494 first-year entering residency positions available for the state's 1,458 medical school graduates. At that time, many recognized that unless additional first-year residency positions were created, some Texas graduates would have to leave the state to enter residency training.

In 2014, Texas medical schools awarded 1,611 M.D. and D.O. degrees. The estimated number of first-year residency positions was 1,641. In 2015, Texas medical schools awarded 1,692 M.D. and D.O. degrees. The estimated number of first-year filled residency positions in fall 2015 was 1,727, which includes an estimated 181 residents at the state's independent residency

programs. Data for the independent residency programs are not collected by the Coordinating Board, but staff reviewed available national data to develop an estimate.

Adding new residency positions to existing programs is costly and requires a long-term commitment by a teaching entity and participating hospital. Given uncertainties within the health care system, including efforts to control cost increases, reduce the number of uninsured, and address changes in health care delivery and payment resulting from the Affordable Care Act, hospitals continue to remain cautious about GME expansion.

Recommendations to Support and Maintain Progress Made

In its 2014 report, the Coordinating Board offered several recommendations to the Texas Legislature, Texas Congressional delegation, and health-related institutions and hospitals. Several of the recommendations to the Texas Legislature received positive support. The 84th Texas Legislature provided a significant increase in the amount of funding to support GME expansion efforts. For more information on those recommendations, see page 17 in this report.

Based on the progress made in previous years, and in an effort to achieve and maintain the goal of 1.1 to 1 ratio, the Coordinating Board offers the following revised recommendations:

Recommendation 1. In addition to the base-level funding, the Coordinating Board is requesting an additional $29 million to support GME Expansion programs in FY 2018 and FY 2019. This additional funding would allow support for residency positions created and filled by the GME expansion program but would not cover all new additions to the programs. It would support the existing positions currently filled by residents and would support those residents as they progress through their multi-year residency training.

Recommendation 2. The Coordinating Board's Health-Related Institutions Formula Advisory Committee recommends an increase to the GME instruction and operation formula to $8,444 per resident for FY 2018 and FY 2019. The Commissioner's recommendation related to the Graduate Medical Education formula differed from the Advisory Committee, a 31 percent increase, rather than the committee's recommended 39 percent increase. However, the Commissioner's recommendation also includes additional funding specifically to reach the 1.1 to 1 ratio goal.

Recommendation 3. Maintain funding and support for the programs established to promote primary care, expand medical education opportunities, and encourage medical school innovation.

Recommendation 4. New programs leading to either the Doctor of Medicine or the Doctor of Osteopathic Medicine, must develop a plan to establish enough residency positions to accommodate all projected graduates from the new program(s) in addition to already established residencies in Texas.

Introduction

Texas Education Code, Section 61.0661 directs the Texas Higher Education Coordinating Board (Coordinating Board or THECB) to conduct an assessment of the adequacy of opportunities for graduates of Texas medical schools to enter graduate medical education in the state. In 2011, the 82nd Texas Legislature, Regular Session, passed House Bill 2908, which directed the Coordinating Board to include the same information in the agency's five-year strategic master plan. This report is an update of the one first published in 2012 and presents the following information:

- A comparison of the number of first-year graduate medical education positions available annually with the number of medical school graduates
- A statistical analysis of recent trends in, and projections of, the number of medical school graduates and first-year graduate medical education positions in the state
- Methods and strategies for achieving a ratio for the number of first-year graduate medical education positions, relative to the number of medical school graduates in the state, of at least 1.1 to 1
- An evaluation of current and projected physician workforce needs in the state, by total number and by specialty, for the development of additional first-year graduate medical education positions
- An examination of whether the state should ensure that a first-year graduate medical education position is created for each new medical student position established by a medical or dental unit

This 2016 updated report presents data on the existing and future Texas physician workforce, including the challenges facing the educational pipeline. This report also presents data and information on current undergraduate medical school students, graduate medical education, and physician workforce, followed by updated conclusions and recommendations.

Texas Physician Workforce. The Texas physician workforce includes physicians educated and trained in the state, as well as physicians educated in other states and/or countries. The latter group comes to Texas to continue their training in a residency program or to join or begin a medical practice. Texas is an appealing state for physicians to practice, and the state continues to attract more physicians who apply for and receive Texas medical licenses. However, Texas continues to have fewer physicians per 100,000 population than the nation as a whole and continues to lag behind the 10 most populous states.

Marked by continuing population increases, the Texas general population currently is estimated to be 27.695 million. As noted in the Coordinating Board's 2012 and 2014 reports, the state's changing demographics include significant increases in the elderly and Hispanic populations. As these population sectors continue to grow, they will present challenges to the health care system and will challenge the system in different ways, e.g., patterns in patient visits and need for medical procedures. The aging population is expected to have greater financial security, more health insurance coverage, and will require access to more health care services related to declines in visual and auditory acuity and will need help with daily living activities. The increasing Hispanic population is expected to be younger; carry less health insurance coverage;

and have an increased incidence of chronic lifelong health conditions, such as diabetes and obesity. These two population sectors will exert continuing demands on the existing and future physician workforce.

Escalating health care costs and greater specialized care complicate patients' decisions related to health care services. Other factors that influence the health care delivery system include declining employer-based financial support for health insurance and reductions in federal support for Medicare and Medicaid programs. The Texas physician workforce faces additional challenges, including the high rate of Texas' uninsured population and the slow implementation of federal legislation to address health insurance. In 2014, 17 percent of the Texas population was uninsured, compared to 10 percent nationally. The lack of insurance is associated with delayed or postponed treatment, which results in more complex and higher cost services. The 2010 federal Patient Protection and Affordable Care Act enacted health-financing reforms that are underway. These reforms include providing access to insurance for the uninsured with pre-existing conditions, allowing young adults (25 and under) to remain on a parent's insurance plan, requiring health plans to cover certain preventive services, and prohibiting insurance companies from rescinding coverage for an error or technical mistake on a customer's application.

Expanding health insurance and government coverage may result in greater demand for health care services and an increased need for additional physicians. Even though Texas attracts many physicians to the state, the need for more is a concern because the Texas physician workforce has faced a shortage for several decades.

From 2006 to 2015, newly licensed Texas physicians increased 70 percent, and such growth is likely to continue in the coming years. The Texas Medical Board reported that applications for new licenses continued to rise as well, and in 2015, the agency received 5,377 applications, up from 4,026 applications in 2004. In addition, the ratio of practicing physicians to population in Texas, while increasing from the 2007 level of 157 per 100,000 to the 2014 level of 213 per 100,000, is still well below the national average of 265 physicians per 100,000. Texas ranks 41st among states in this category. The majority of the increases in the Texas physician workforce has occurred in medical specialties and subspecialties that are not considered primary care specialties.

Texas also continues to have fewer primary care physicians than other states, with just 71.4 active primary care physicians per 100,000. Texas ranks 47th among states in this category and is below the national ratio of 91.1 per 100,000.

As noted in the 2012 and 2014 reports, there is not an established optimal level of physicians per 100,000. Research studies have shown, however, that the type of physicians within a community affect the cost and quality of health care. Research continues to indicate that communities with more primary care physicians have lower health care costs and report higher quality of health.

Increases in the number of physicians educated and trained in the U.S. may be traced to a national call from the Association of American Medical Colleges (AAMC), which in 2006, asked its member institutions to increase medical school enrollments by 30 percent from the 2002 enrollment levels. Texas medical schools responded to this call and increased enrollments.

In the 2008 Coordinating Board report, Projecting the Need for Medical Education in Texas, it was noted that "Texas schools would 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." In fall 2011, Texas achieved this goal with first-year enrollments of 1,762 in Texas medical schools. Coordinating Board data show that the goal has been sustained and continues to increase, with fall 2015 first-year medical school enrollments at 1,811.

Medical Education Pipeline. In the United States, the traditional educational pathway to become a physician includes graduation from a four-year college; graduation from an accredited U.S. or international medical school, which takes four years; and completion of a residency or graduate medical education (GME) training experience, which takes three to eight years. Training may continue beyond a residency in a subspecialty and/or fellowship, which requires additional time, usually a year or two, to complete. The education and training of a physician is a lengthy and expensive process and commonly takes 11 years of postsecondary education to complete. As a result, most physicians begin their medical practices in their early to mid-30s.

The cost of becoming a physician varies by state and by medical school. In comparison to the nation, according to the AAMC, Texas medical schools have relatively low tuition and fees for in-state students, with an average cost of less than $19,300 annually, compared to a national average of $32,889 for public medical schools. A Texas resident attending a public medical school out of state would be charged nearly $57,000 annually for tuition and fees.

The same holds true for educational debt. In a report by the AAMC, 81 percent of the 2015 medical school graduates reported having education debt, and their median debt load was $183,000. The amount is lower for Texas medical school graduates, but still exceeds $100,000. A Texas Medical Association Survey in 2010 of Texas medical school graduates found that 60 percent of respondents reported a debt load of more than $100,000. Additionally, physicians beginning their residency training may be required to begin payment on loans incurred while pursuing their bachelor's and medical degrees.

Medical Schools. Texas now has 11 medical schools; ten are public, and one, Baylor College of Medicine (Houston), is independent, although it receives state funding (see Table 1). Of the 11 medical schools, 10 are allopathic medical schools, granting the M.D. degree, and one is an osteopathic medical school, granting the D.O. degree. Eight of the 10 public medical schools are located in health-related institutions, which offer many health-related degree programs; the other two are part of a state general academic institution.

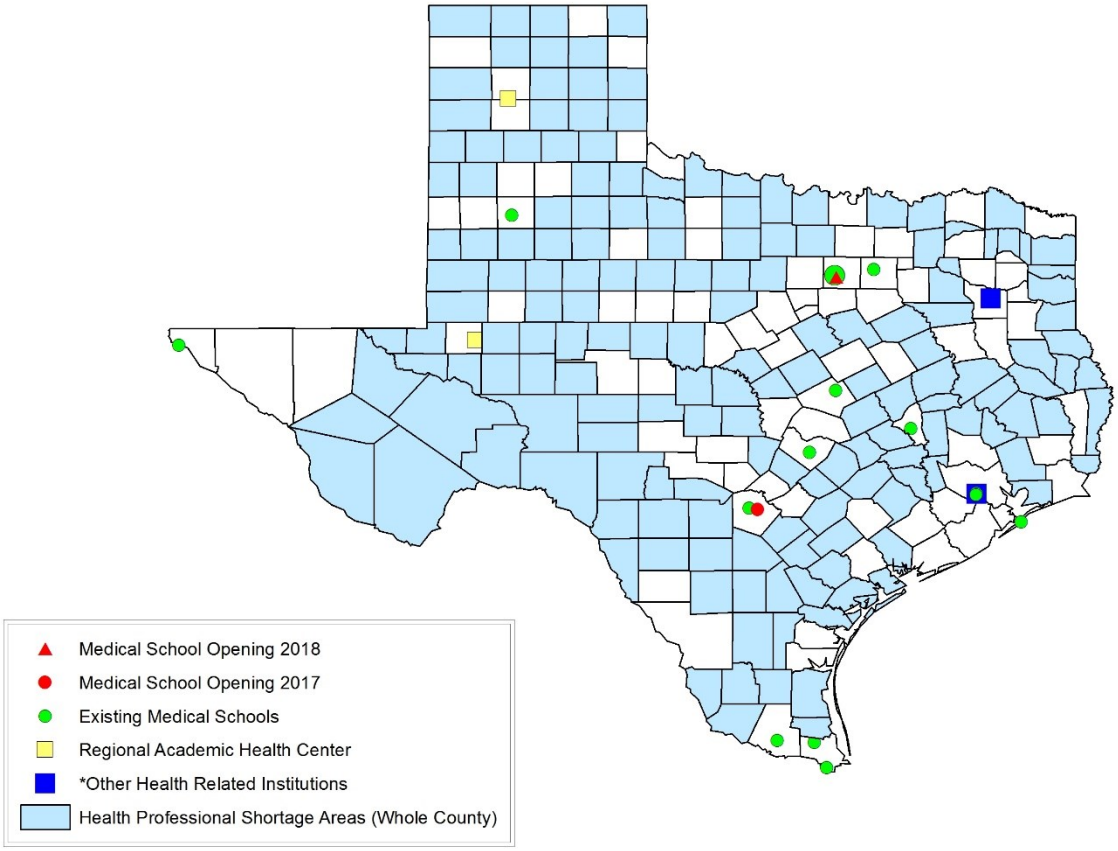
Table 1. Texas Medical Schools	
Baylor College of Medicine (BCM) (Houston)	The University of Texas Health Science Center at Houston (UTHSCH), School of Medicine
*The University of the Incarnate Word School of Osteopathic Medicine at Brooks City Base (San Antonio)	The University of Texas Health Science Center at San Antonio (UTHSCSA), School of Medicine
Texas A&M University Health Science Center (TAMUHSC), College of Medicine (Bryan/College Station, Dallas, Round Rock, Houston, Temple)	The University of Texas Medical Branch at Galveston (UTMBG), School of Medicine
Texas Tech University Health Sciences Center-El Paso, Paul L. Foster School of Medicine (TTUHSC-EP)	The University of Texas Southwestern Medical Center (UTSMC), School of Medicine (Dallas)
Texas Tech University Health Sciences Center (TTUHSC) Medical School (Amarillo, Lubbock, Odessa)	*The University of Texas at Austin, Dell Medical School
University of North Texas Health Science Center at Fort Worth (UNTHSC), Texas College of Osteopathic Medicine	*The University of Texas Rio Grande Valley (UTRGV), School of Medicine (Harlingen, Edinburg, McAllen)
*Texas Christian University/UNTHSC at Fort Worth	

***New Texas Medical Schools:** UT-Austin's Dell Medical School matriculated its inaugural class of 50 students in summer 2016; UT Rio Grande Valley matriculated its inaugural class of 55 in fall 2016; the University of Incarnate Word is on schedule to open in fall 2017, and Texas Christian University/UNTHSC is on schedule to open in fall 2018.*

The two new public medical schools, which recently opened, differ from existing Texas public medical schools, as each is housed within a public general academic institution. The University of Texas Rio Grande Valley (UTRGV), School of Medicine, and The University of Texas at Austin (UT-Austin), Dell Medical School will award the M.D. degree. Additionally, the University of Incarnate Word (UIW) in San Antonio received provisional accreditation for its School of Osteopathic Medicine, which will award the D.O. degree and is scheduled to admit its first class in summer/fall 2017. The partnership between Texas Christian University (TCU) and the University of North Texas Health Science Center (UNTHSC) will award the M.D. degree, and is scheduled to matriculate its first class in fall 2018.

The locations of the existing and pending medical schools in Texas are shown in relation to the Texas counties identified as health professional shortage areas (Figure 1). The majority of Texas medical schools are located in large urban areas of the state.

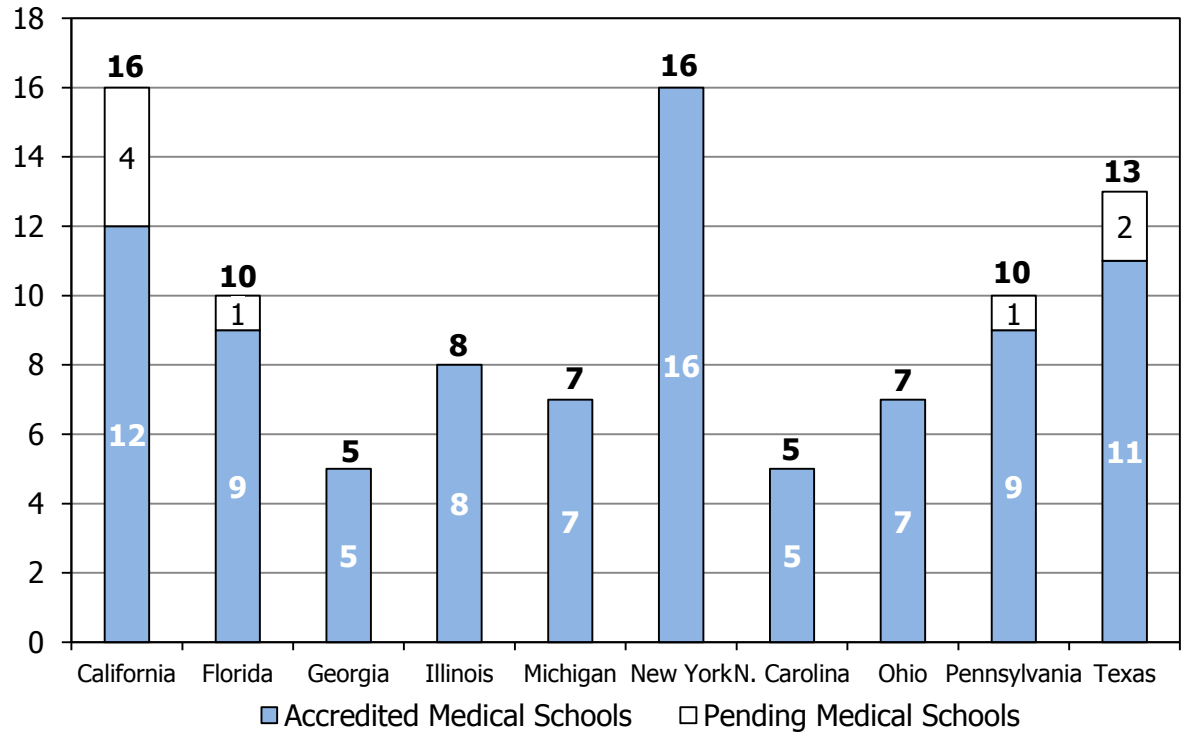
Figure 1. Location of Existing and Pending Medical Schools, Regional Academic Health Centers, and Other Health-Related Institutions



Sources: Coordinating Board, Texas Department of State Health Services

With 11 medical schools and two more in the process of opening, Texas has more medical schools than most high-population states, with the exception of New York and California (Figure 2). Following several decades with few or no new medical schools established in the U.S., eight new M.D.-granting medical schools are in the process of becoming accredited, including one in Texas. Plus, 10 new D.O.-granting medical schools are in the applicant stage of the accreditation process.

Figure 2. Medical Schools in the 10 Most Populous States



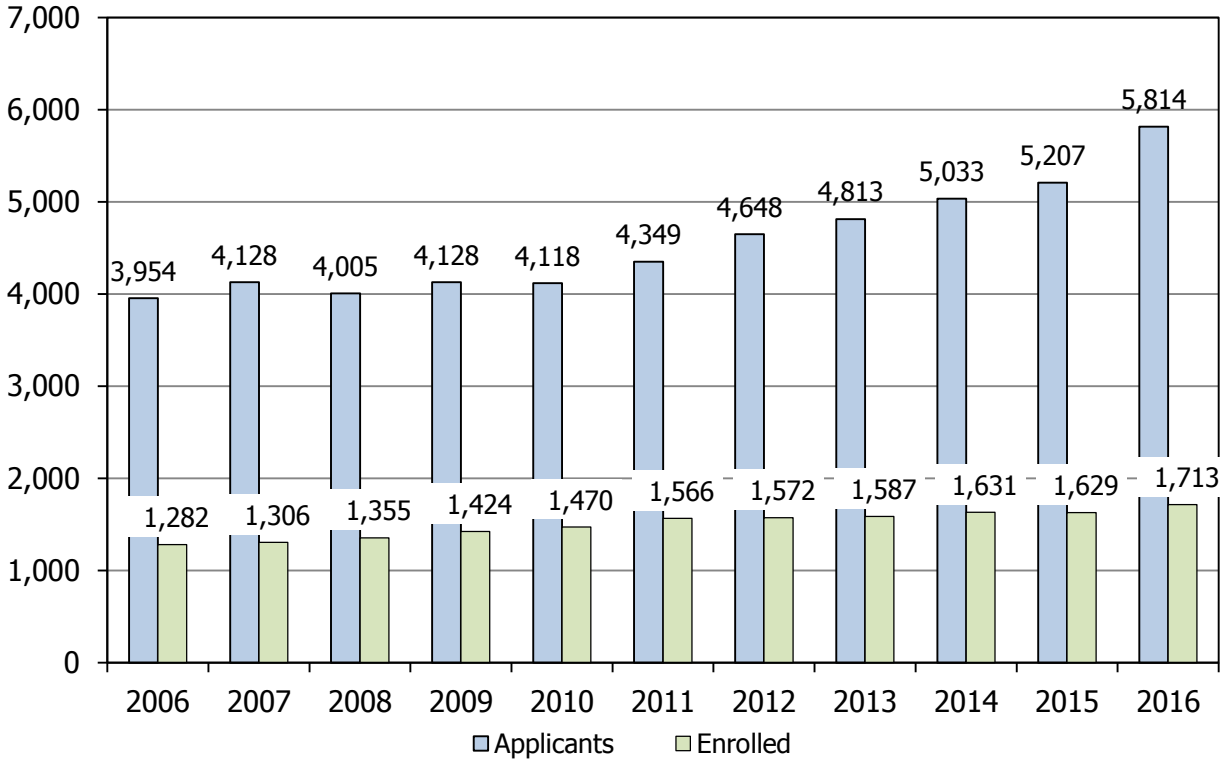
*Pending Medical Schools with LCME or AOA, Pre-accreditation, Applicant, Candidate, or Initial Provisional Accreditation Status.

Sources: Accreditation, Liaison Committee on Medical Education (MD-granting) and American Association of Colleges of Osteopathic Medicine, Commission on Colleges Accreditation (DO-granting), 2016.

Medical Student Demographics

Applicants. Since 2002, the number of unduplicated applicants to Texas public medical schools steadily increased. With the opening of two new medical schools in 2016, the number of applicants increased by 11.6 percent (Figure 3). From 2006 to 2016, the number of applicants increased by 47 percent, while the number of enrolled first-year students increased by 34 percent. Applicants typically apply to more than one medical school. Texas offers applicants an opportunity to submit one application that may be submitted to all Texas public medical schools through the Texas Medical and Dental Schools Application Service.

Figure 3. Unduplicated Applicants to Texas Public Medical Schools

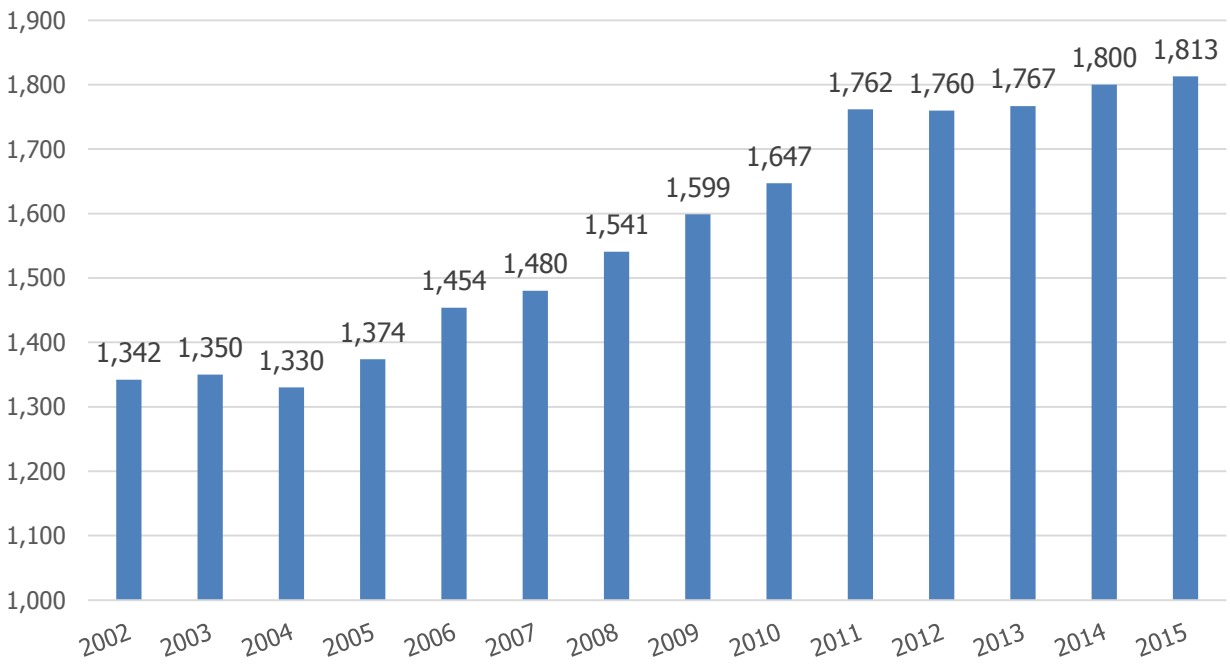


Source: Texas Medical and Dental Schools Application Service, 2016
**The number of unduplicated applicants is presented. Applicants typically apply to more than one medical school. Applicants to Baylor College of Medicine are not included.*

First-year Entering Enrollment. Since 2002, the number of students entering Texas medical schools increased 35 percent, from 1,342 to 1,813 (Figure 4). From fall 2009 to fall 2015, an additional 214 first-year medical students entered Texas medical schools. The steady increase of entering medical students is reflected in total increased enrollments in all the medical schools and the opening of the Texas Tech University Health Sciences Center El Paso (Texas Tech-UHSC-El Paso), Paul L. Foster School of Medicine, which matriculated its inaugural class in 2009.

The number of first-year entering medical students is likely to increase as existing Texas medical schools continue to increase enrollment incrementally, and as the two new public medical schools matriculate their inaugural classes. The two new medical schools are expected to matriculate an incoming class of 50 students each, adding an additional 100 Texas medical students to the overall enrollment in 2016.

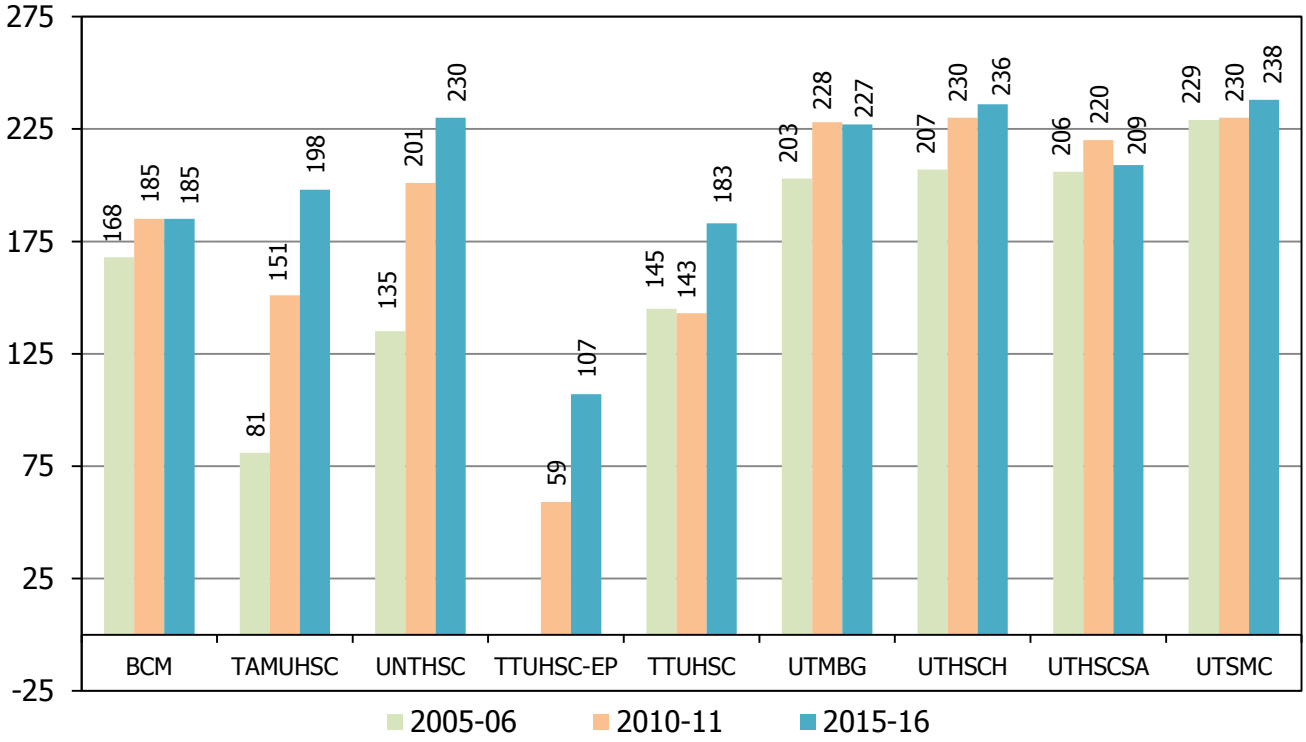
Figure 4. Texas Medical Schools, First-Year Enrollments



Source: *Coordinating* Board

Medical schools do not have a set number of admissions, and the entering class size varies from year to year. Some variation in class size occurs because applicants may receive offers of admission from several medical schools. In some cases, more applicants than anticipated may decide to matriculate, which may result in an increase in class size. From 2005 to 2015, each of the medical schools reported variations in their first-year enrollments (Figure 5). During this period, TAMUHSC, UNTHSC, TTUHSC-EP, and TTUHSC had sizable increases in their first-year entering enrollments.

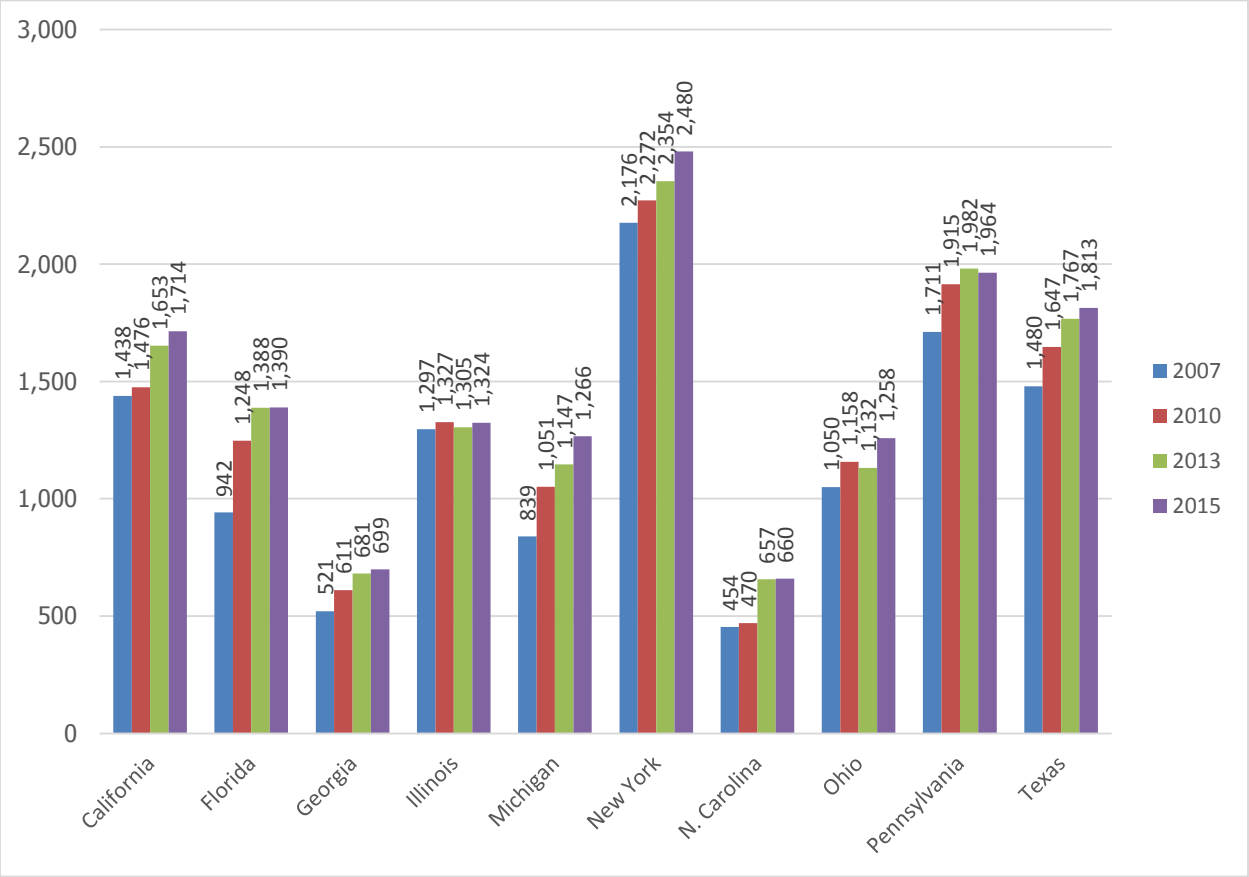
Figure 5. Texas Medical Schools, First-Year Entering Students by School



**TTUHSC-EP inaugural class matriculated in 2009.*
Source: Coordinating Board

Texas continues to have the third largest number of first-year entering medical students among the 10 most populous states, exceeded only by New York and Pennsylvania (Figure 6). Because many medical schools responded to the AAMC's call to increase the number of physicians being educated, the national goal of increasing medical school enrollments by 30 percent is on track and likely will be achieved by 2018. Some of the enrollment increases were the result of new medical schools opening, with other increases resulting from the expansion of existing programs. Florida, Michigan, New York, Pennsylvania, California, and Texas each had at least one medical school open, with inaugural classes beginning in 2008 or later.

Figure 6. Top Ten Most Populous States, First-Year Entering Students

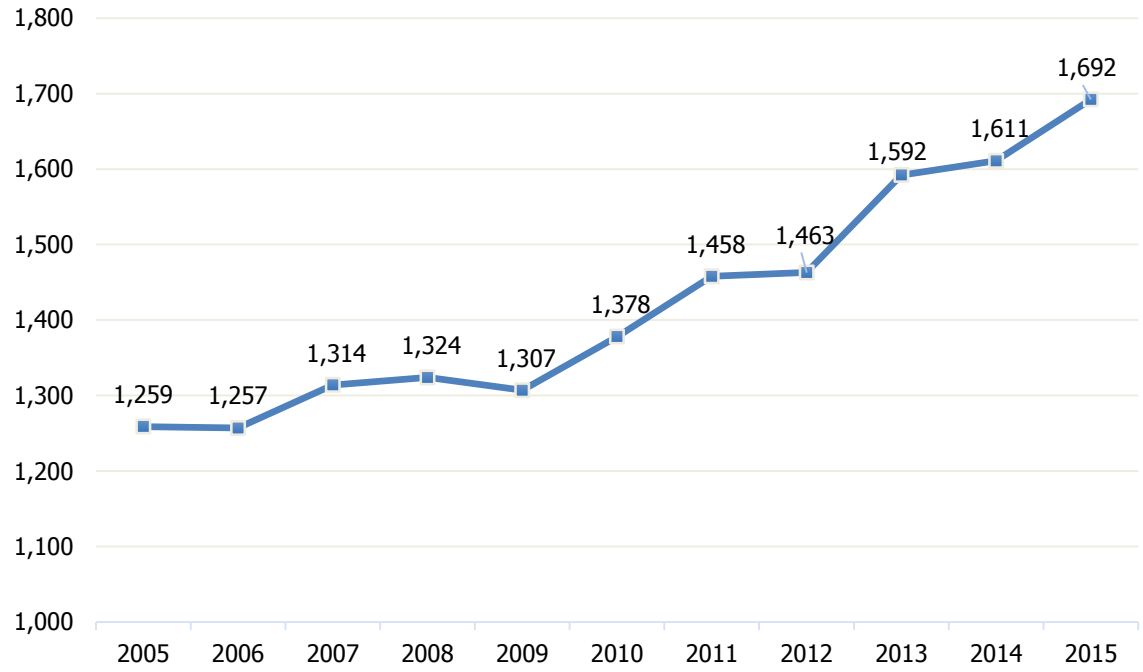


Sources: Coordinating Board, Association of American Medical Colleges, American Association of Colleges of Osteopathic Medicine

Graduates. Since 2005, Texas medical school graduates increased by 34 percent (Figure 7) and such increases will continue for the next several years, reflecting the expansion of first-year entering medical school enrollments. Medical schools have high rates of graduation. Of the Texas medical schools 2011-12 first-year entering class, 96 percent graduated in 2015.

Texas provides funding to the state's eight public medical schools located in health - related institutions through several funding allocations that support education, infrastructure, and research. State funding is provided to Baylor College of Medicine to educate and train medical students consistent with the educational funding provided to public medical schools. Medical schools receive state funding to support the instruction and operations, relative to medical education, through a funding allocation formula of approximately $46,500 annually, or a total of $186,000 per medical student. This amount does not cover the total state cost for the education of a physician.

Figure 7. Texas Medical School Graduates



Source: Coordinating Board

Graduate Medical Education

To begin practicing medicine, physicians are required (as in most states) to complete at least one year of graduate medical education (also called residency training) before they may be fully licensed by the Texas Medical Board. Few physicians stop after only one year of residency training, as residency programs are typically three to eight years in length. In addition, the national certifying organizations require completion of residency training to be eligible to become board certified.

During residency training, physician residents care for patients under the supervision of physician faculty and participate in educational and research activities. When physicians complete their graduate medical education program in an accredited program, they may be eligible to take their specialty board certification examinations and begin practicing independently. Residency programs are sponsored by teaching hospitals; academic medical centers; health care systems; and other institutions and entities, including nonprofit organizations.

Unlike the bachelor's or medical school experience, resident physicians are contractually obligated to the residency program. Resident physicians enter into a contractual arrangement with residency programs through a unique national matching process. The majority of senior medical students, graduates of international medical schools, and other physicians most often select their residency training through participation in the National Resident Matching Program, which has established a uniform date of appointment and commitment to residency programs.

Osteopathic medical graduates may also participate in a matching process through the American Osteopathic Association's Match program.

Medical school graduates generally begin residency training in July, following graduation from medical school in the spring. Medical students are placed into residency programs through a national matching process (called the Match) that occurs in March, prior to graduation. Graduating physicians of accredited U.S. medical schools and qualifying international medical graduates submit their list of preferences for particular residency programs, which may include several medical specialty areas and different geographic locations for their future residency training. Concurrently, each residency program submits a rank-ordered list of their preferred future residents. The two lists are then matched, and the future residents and residency programs are notified of their contractual commitments.

Typically, residency programs and medical specialties that fill all available positions through the Match are viewed as more competitive. The total number of residency applicants has exceeded the number of positions available nationally for many years, reaching a high in 2016. The 2016 Match offered the largest number of first-year entering residency positions, with 27,860 positions offered through the match, representing an increase of 567 more positions than in 2015. The number of physicians registering in the Match was also a record, at just over 42,370. Of those, 35,476 fully completed the process, including 18,187 U.S. senior allopathic medical school (M.D.) graduates; 1,502 previous graduates of U.S. allopathic medical schools; 2,982 graduates of osteopathic medical schools; and 5,323 U.S. citizens who graduated from an international medical school; with the majority of the remaining non-U.S. citizens who graduated from an international medical school.

The opportunity for a Texas medical school graduate to enter a Texas residency program is limited to the number of available first-year residency positions. First-year entry residency positions are available in some, but not all, medical specialties (Table 2). The following medical specialty areas provide first-year residency positions in Texas: family medicine, internal medicine, pediatrics, obstetrics/gynecology, surgery, anesthesiology, emergency medicine, psychiatry, transitional year (internship), neurology, neurological surgery, pathology, plastic surgery, orthopedic surgery, otolaryngology, and some combined programs, such as internal medicine/pediatrics. Other residency programs require physician residents to complete at least one year of training in another specialty, most commonly internal medicine, before they may enter the specialty program. Residency programs that require completion of a year or more of training tend to be highly specialized and include programs such as ophthalmology and urology.

The education and training of resident physicians is a multi-year process. Most residency programs range from three to eight years and additional opportunities for continued training beyond residency training also exist. When a physician completes a residency program, for example, in family medicine, he or she may choose to continue training in a specialized area of medicine, such as a year-long fellowship in either sports medicine or geriatrics.

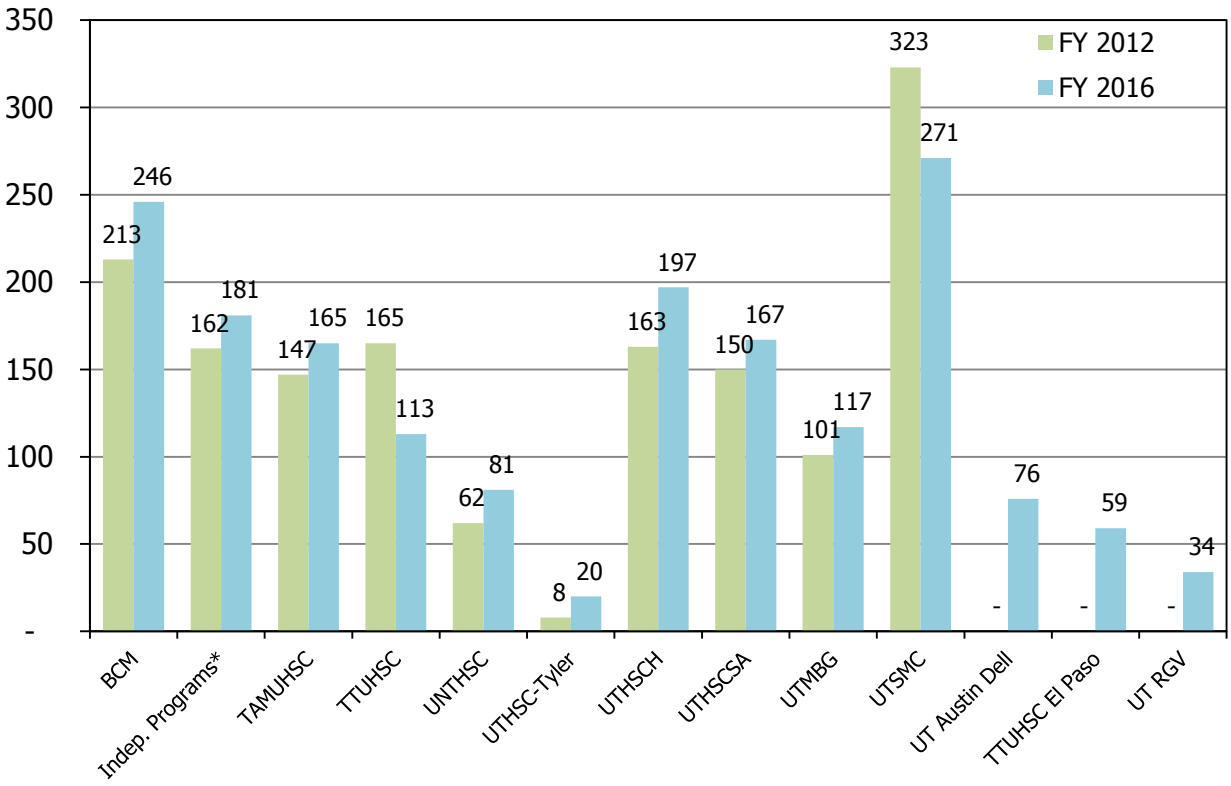
Table 2. Texas Health-Related Institution Sponsored and/or Affiliated Residency Programs

	FY 2013		FY 2014		FY 2015		FY 2016	
	Total	1st Year	Total	1st Year	Total	1st Year	Total	1st Year
UT SMC (Dallas)	94	25	101	25	107	24	89	17
UT Austin Dell							15	8
UTMB Galveston	38	12	40	12	38	12	40	14
UTHSC Houston	55	15	57	15	58	17	58	17
UTHSC San Antonio	49	15	50	15	52	16	50	13
UT Rio Grande Valley							6	6
UT MD Anderson	23	0	22	0	24	0	25	0
UTHSC Tyler	4	2	4	2	4	2	3	2
TAMUHSC	37	17	41	17	42	16	42	18
UNTHSC	21	12	21	11	20	11	23	12
TTUHSC	27	15	30	15	28	15	31	16
TTUHSC-El Paso	13	8	13	8	13	7	13	7
Sub-Total Public Institutions	361	121	379	120	386	120	395	130
Baylor College of Med	70	16	79	15	86	14	84	17
Total Number of Sponsored/Affiliated Programs	431	137	458	135	472	134	479	147

Source: Coordinating Board

In 2011, the number of first-year filled Texas residency positions was 1,494, and this number increased to 1,641 in fall 2014 and to 1,727 in fall 2015 (Figure 8). The number of first-year filled residency positions varies from year to year and depends largely on the programs having adequate resources to educate, train, supervise, and pay for the residents.

Figure 8. First-Year Filled Residency Positions in Texas

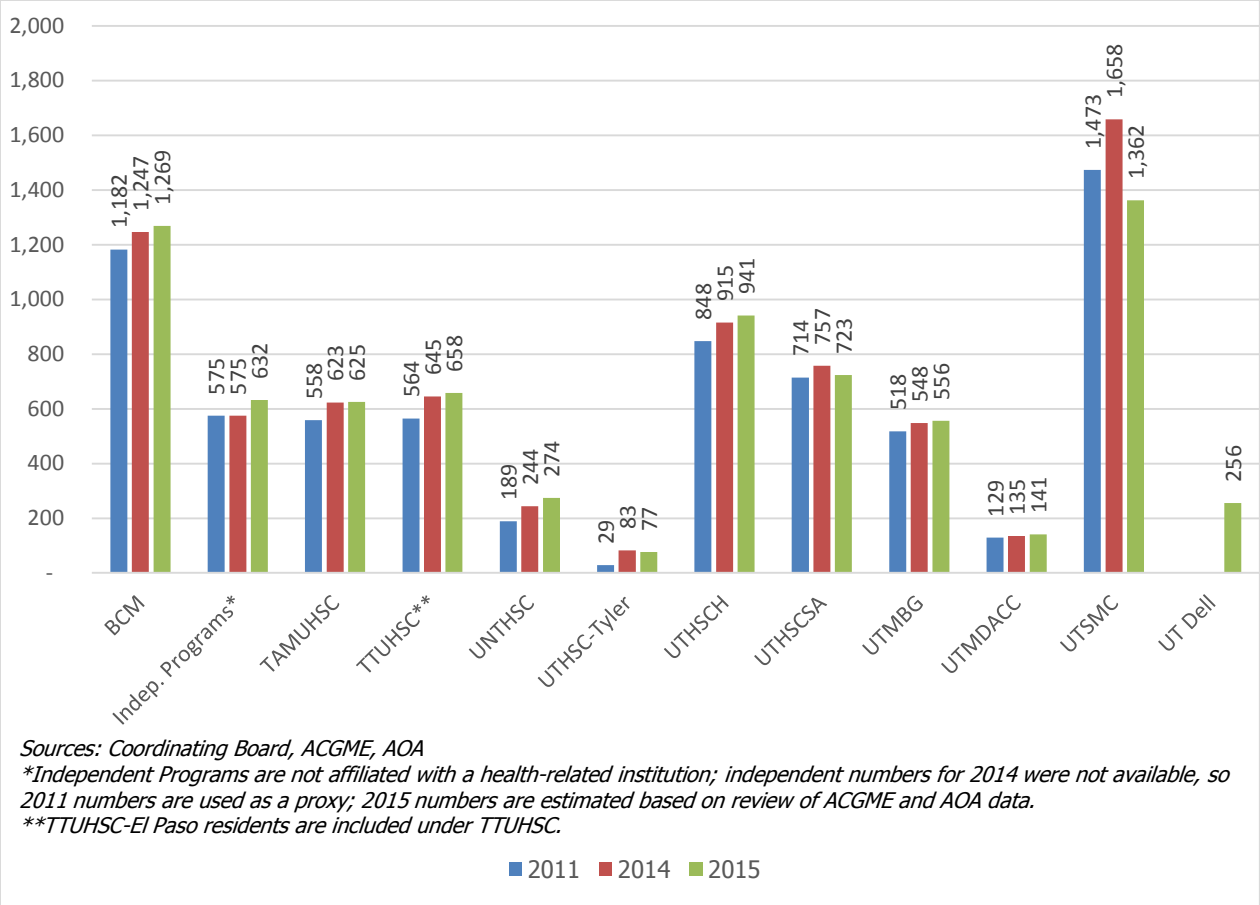


Sources: Coordinating Board, CBM00R, ACGME, AOA
**Independent Programs are not affiliatd with a health-related institution and do not generate formula funding. Note: The University of Texas MD Anderson Cancer Center does not offer first-year entry positions.*

Resident physicians receive a stipend that averages approximately $52,000 annually. Adding a new residency position requires the sponsoring residency program to have adequate resources to support the resident for the entire length of training, which at a minimum is three years. Support also includes having adequate faculty to supervise the residents, which varies by type of program, and having enough patient care opportunities. During their training, residents provide patient care services, including diagnosis and conducting medical procedures; they do not bill for their services. Resident physicians provide low-cost care to needy populations and tend to remain in the state in which they complete their residency training.

In 2011, there were 6,779 Texas physician residents identified as training in Texas residency programs (Figure 9). Of that, only 22 percent (1,494) were first-year residents. By 2014, the total number of residents increased to 7,430 with an estimated 1,641 first-year residents.

Figure 9. Total Filled Residency Positions in Texas



Sources: Coordinating Board, ACGME, AOA
**Independent Programs are not affiliated with a health-related institution; independent numbers for 2014 were not available, so 2011 numbers are used as a proxy; 2015 numbers are estimated based on review of ACGME and AOA data.*
***TTUHSC-El Paso residents are included under TTUHSC.*

Shortages exist in most all of the medical specialties, including primary care and subspecialties. There is agreement nationally that several subspecialty residency programs continue to have supply challenges, including pediatric subspecialties, palliative care, geriatrics, psychiatry, and endocrinology.

From 2007 through 2015, the number of Texas first-year filled residency positions exceeded the number of Texas medical school graduates, with the exception of 2009. However, given the increases in the number of first-year medical school enrollments, it continues to be a challenge for the state to provide more first-year entering residency positions than Texas medical school graduates or to meet the state's goal of having 10 percent more first-year residency positions than medical school graduates. In 2015, Texas graduate medical education programs increased their first-year entering positions; however, programs may not be able to sustain these positions without additional state funding.

In the last few years, Texas medical schools enrollments increased markedly, requiring new residency programs and positions. In 2014 and 2015, first-year filled residency positions exceeded the number of graduates by 30 and 35 respectively, but continued to be well below the goal of 10 percent more first-year residency positions.

As mentioned previously, the state invests $186,000 per medical graduate during their medical education. With an additional 100 new medical students enrolling in the state's two new schools, in four years there will not be enough first-year positions available for these graduates to remain in Texas. If just half of them leave, the state's investment of $9.3 million, just to support medical education through the instruction and operations formula allocation, will leave the state.

Texas must maintain the small but important increases it has made in the number of its first-year residency positions, and add more positions to accommodate future graduates, or recognize that the state will be educating medical school graduates who will have to leave the state to begin their residency training. While some graduates who enter residency training in other states may eventually return to Texas, others will not.

If the goal of having 10 percent more first-year entering residency positions is to be achieved, the state will need to provide additional ongoing funding to maintain the positions. Maintaining support of the targeted GME expansion efforts and increased formula funding are important steps to move toward the goal. If funding is not maintained, the substantial progress the state has made may not be sustained (Table 3).

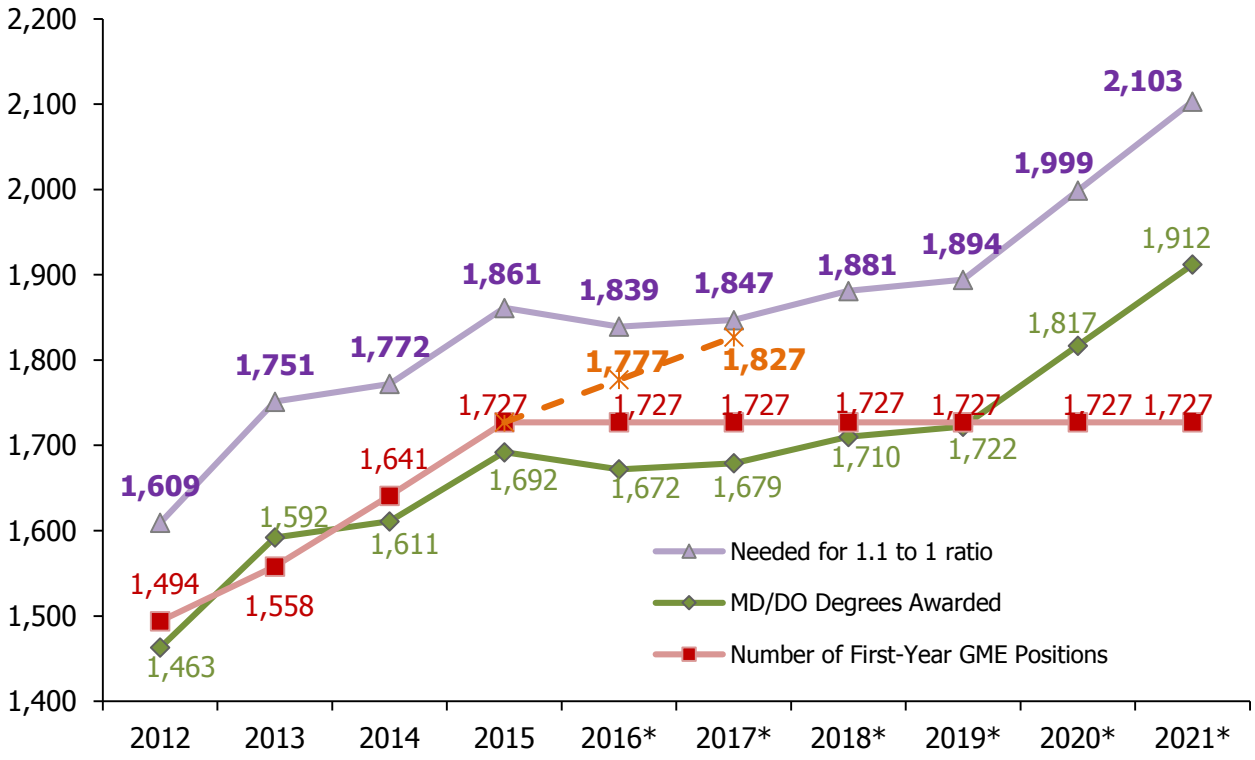
Table 3. Number of Additional New First-Year Residency Positions Needed to Achieve 1.1:1

	FY 2015	*FY 2016	*FY 2017	*FY 2018	*FY 2019
Texas Medical School Graduates	1,692	1,672	1,679	1,710	1,710
First-Year Filled Residency Positions	1,727	1,777	1,827	1,727	1,727
Additional New First-Year Residency Positions Needed to Achieve 1.1:1	134	62	20	154	154

*Source: Coordinating Board, ***Estimates only***

Achieving the goal of 1.1 first-year entering residency positions for each medical school graduate will allow every Texas medical graduate an opportunity to remain in the state for residency training and will allow graduates from other states an opportunity to enter a Texas residency program. Additional funding, however, is needed to support an effort to achieve a 1.1 to 1 ratio of first-year residency positions to Texas medical graduates.

Figure 10. Achieving the Goal of 1.1 to 1 Ratio of GME First-Year to Texas Medical School Graduates



Source: Coordinating Board, ****Estimates only***
Note: Projections of medical school graduates are based on a 95 percent graduation rate and includes two new medical schools that admitted students summer/fall 2016 and one new medical school scheduled to open in fall 2017. Texas Education Code 61.0661 established the goal of a 1.1 to 1 ratio. Updated August 2016.

The 83rd Texas Legislature initiated several new programs to address the shortage of first-year residency positions. The initial effort, which started in FY 2014, addressed the need for additional residency positions with more than $14 million and supported the Planning Grant Program, Unfilled Residency Position Grant Program, New and Expanded Residency Position Grant Program, and Resident Physician Expansion Program. As a result of this support, nine new primary care and two additional residency programs opened, and 100 new first-year residency positions were funded.

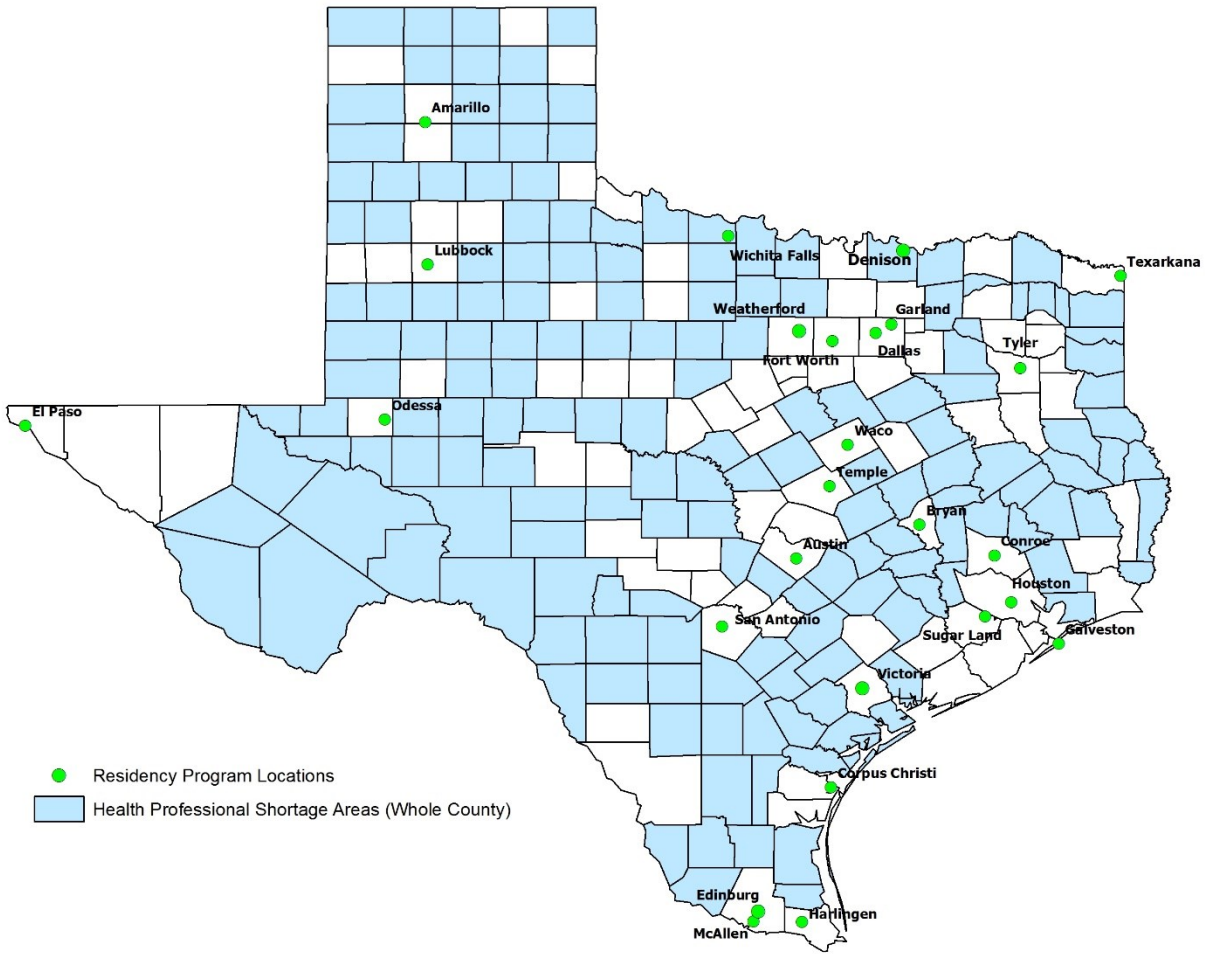
GME Expansion Programs. In 2013, the Texas Legislature created several programs to address the need for more GME positions for Texas medical school graduates. These efforts, the Unfilled Residency Position Program, the New and Expanded Residency Program, and the Resident Physician Expansion Program, were combined by the 84th Texas Legislature to streamline and focus the GME Expansion effort.

The Unfilled Position Grants Program provided support of $65,000 for an additional 25 unfilled first-year residency positions in 2014. These positions were maintained in 2015, and will continue to receive support in 2016 and 2017. Nine residency programs in Internal Medicine, Family Medicine, Obstetrics/Gynecology, Psychiatry, and Anesthesiology were able to increase their number of first-year filled positions through the Unfilled Position Grants program.

The 84th Texas Legislature expanded strategic efforts initiated by the 83rd Texas Legislature to address the need for more first-year residency positions available for Texas medical school graduates. Beginning in 2014, the Texas Legislature's Graduate Medical Education (GME) Expansion efforts have promoted the creation of new residency positions and new residency programs. The GME Expansion efforts are fully underway for fiscal years (FY) 2016 and 2017, and are solidly built on the successful implementation of these programs.

Location of Residency Programs. The geographic distribution of physicians continues to be a concern for public policymakers, given that the physician population does not distribute itself according to the state's general population. In 2011, there were 28 Texas counties without a physician; ten are located in the High Plains region and eight are located in the West Texas region. One reason for this uneven distribution is that the education and training of the state's physicians, including the medical schools and the majority of residency programs – especially the highly specialized programs – are located in large urban areas. Currently, only primary care residency programs are located in all regions and geographic areas of the state (Figure 11).

Figure 11. Location of Texas Residency Programs and Whole County Health Professional Shortage Areas (HPSAs)

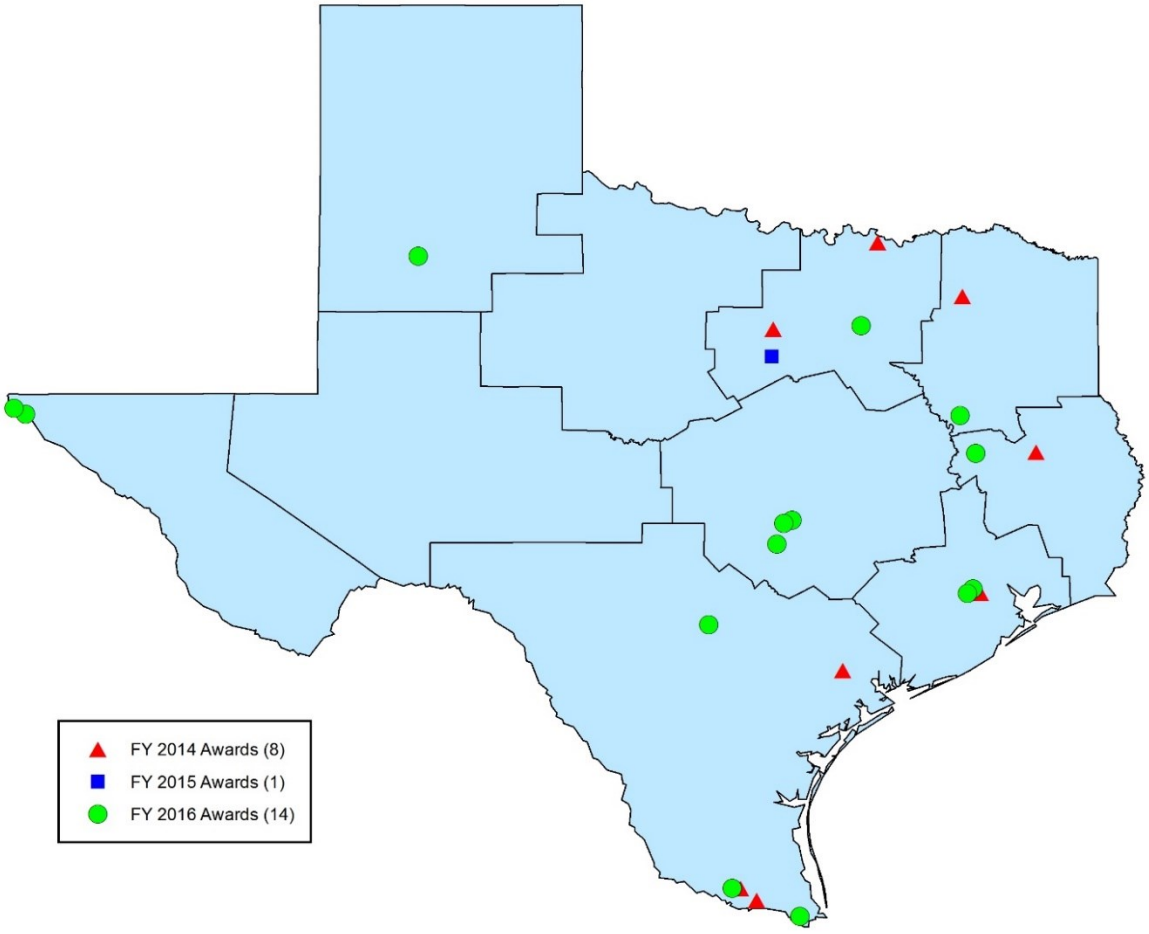


Sources: Coordinating Board, Texas Department of State Health Services

Planning Grants. In 2013, the 83rd Texas Legislature established a grant program to encourage hospitals that did not have residency training to explore the possibility of establishing new residency programs. Planning Grants are intended to promote an increase in available first-year residency positions by providing support to investigate the feasibility of establishing a residency program. While receiving a Planning Grant does not guarantee that a residency program will be established, it does show that there is serious interest in some smaller and more rural/remote communities to pursue the development of new residency programs. Several of the hospitals that received an award are in more remote or rural communities, including Lufkin, Sulphur Springs, Victoria, and Weatherford (Figure 12). As a result of the initial Planning Grants, eight new residency programs received national accreditation and matriculated their first residents. The grants were funded from a General Revenue appropriation of $1,875,000.

The continuation and expansion of the Planning Grants allowed the award of 14 one-time grants of $250,000 to a broader group of entities, including federally qualified healthcare centers (FQHCs), medical schools, and teaching hospitals, and encouraged partnership efforts. In FY 2016, an additional 14 new Planning Grants were awarded to new entities and partnerships, many located in more rural and remote areas of the state. If residency programs are started in these areas, it is anticipated that physician distribution will be positively affected.

Figure 12. Location of Entities that Received a Planning Grant by Higher Education Region

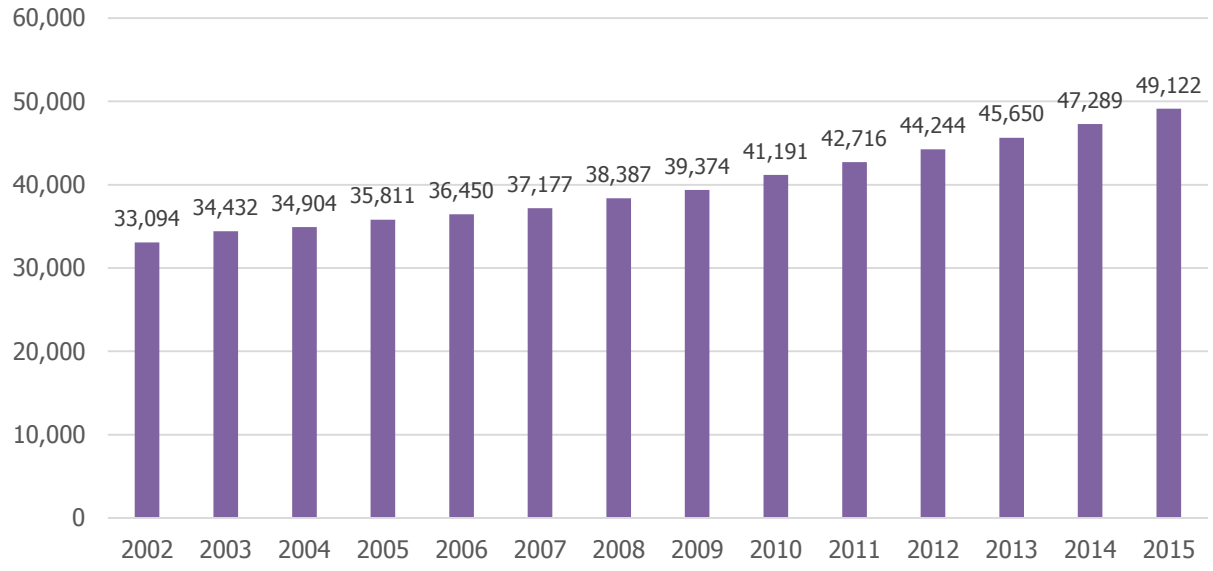


Sources: Coordinating Board

Workforce – Physicians in Practice

Texas continues to be an attractive location for physicians to practice. For the last decade, Texas has been a net importer of physicians. From 2002 to 2015, the number of physicians actively practicing in Texas increased 48 percent (Figure 13).

Figure 13. Texas Physician Supply Trend (2002-2015)

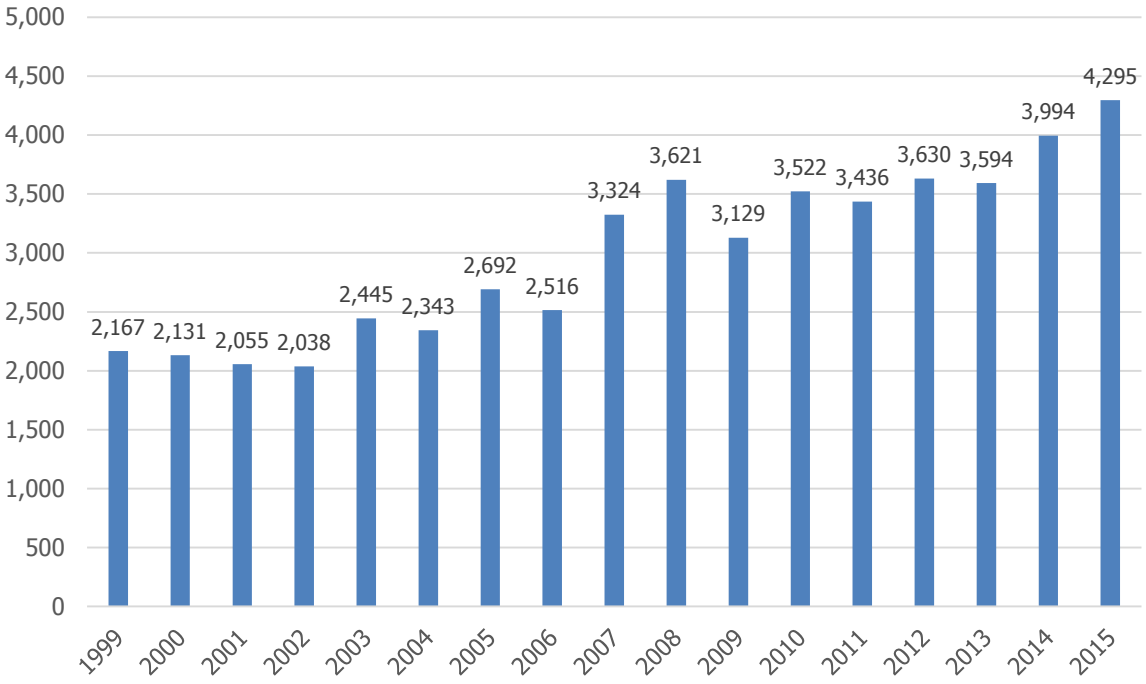


Source: Texas Department of State Health Services

The AAMC's *2015 Physician Workforce Data Book* showed that, nationally, retention rates were highest for physicians who graduated from a medical school and completed residency training in the same state. Texas physicians who complete both medical school and residency training in Texas remain to practice, regardless if they are primary or specialty physicians. This is particularly true in Texas, which ranks third among the states with a retention rate of 80.6 percent for physicians who graduated from a Texas medical school and completed residency training in the state.

Since the passage of the Tort Reform Act of 2003, which limited the liability of physicians in malpractice suits, physicians applying for a license and practicing medicine in Texas has increased dramatically. As a result of an improved climate of professional liability and the positive effect on the cost of professional liability insurance, Texas averaged an annual increase of more than 3,000 licensed physicians in the 10 years since tort reform was passed (Figure 14). By comparison, the number of new physicians licensed held relatively constant at just over 2,000 annually in the years preceding tort reform. This increase averted further physician shortages during the past decade of population growth in Texas; however, it is not known if the state will continue attracting sufficient physicians to keep up with the projected population growth.

Figure 14. Texas Newly Licensed Physicians



Source: Texas Medical Board

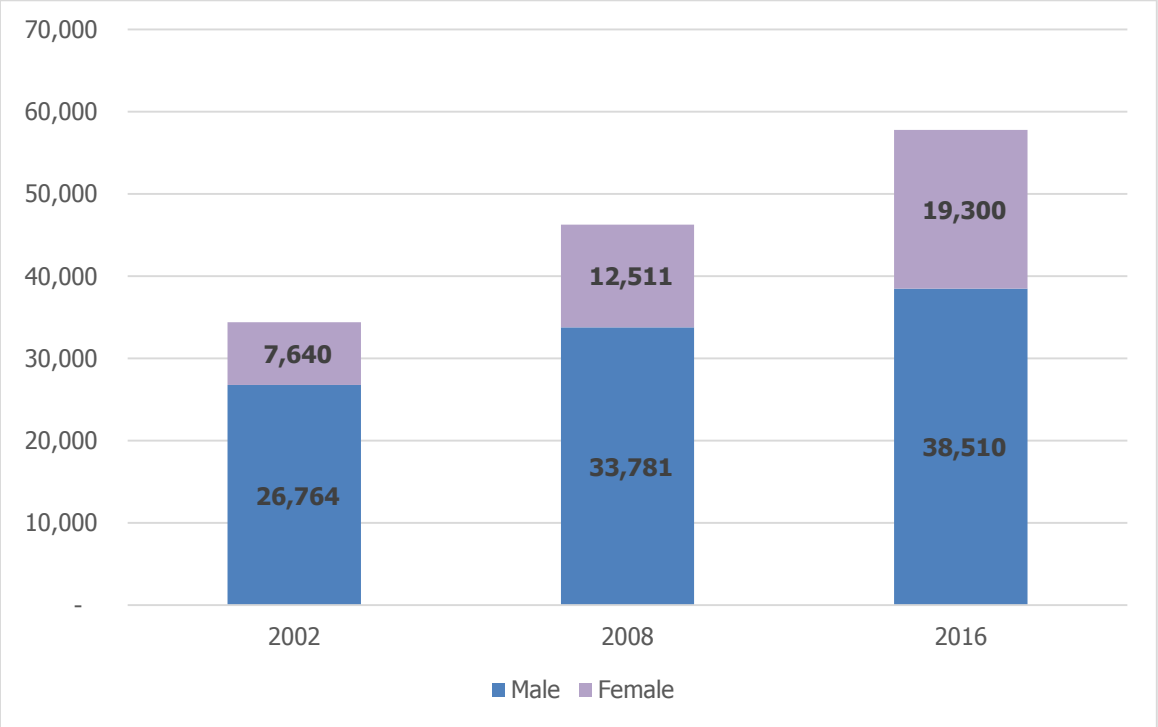
Age

The Texas physician population is aging like that of the Texas population. Forty-eight percent of Texas physicians are 51 years of age or older. While the majority of physicians over 51 are between 51 and 60, 21 percent are 61 years of age or older. Along with the aging of the Texas population in the coming decades, the average age of physicians likely will increase. While age is commonly used to understand the supply of a profession, physicians tend to retire later than most other professionals. Many physicians continue to see patients in their late 60s and early 70s.

Gender

Today, men outnumber women as practicing physicians. However, this imbalance will change, as women and men now apply to, are admitted, and graduate from medical school equally. The number of female medical school graduates surpassed males for the first time in Texas in 2007, but since 2008, women and men are graduating at approximately the same proportion. The number of active licensed female physicians in Texas grew 152 percent from 7,640 in 2002 to 19,300 in 2016. The presence of more women physicians likely will change the future physician workforce. Research has shown that women physicians enter primary care specialties at higher rates, practice fewer hours, and spend more time with patients. These gender differences in practice patterns may affect the need for more physicians in Texas, and must be factored into projected future workforce needs.

Figure 15. Texas Active Licensed Physicians



Source: Texas Medical Board, May 2016, Sept 2008, Sept 2002 and includes only physicians actively practicing.

Ethnicity

Physicians of African American and Hispanic origin are underrepresented proportionally in medicine in comparison to the Texas general population (Table 4). Although more physicians from underrepresented populations are graduating from Texas medical schools, increases have not kept pace with the growth of African Americans and Hispanics in the state's general population. Research suggests that underrepresented minority physicians provide care for underrepresented populations at greater rates than do physicians of other ethnicities. Additional research shows that patients prefer to have physicians who understand and reflect similar cultural characteristics, including similar ethnicities. Given the ethnic changes occurring in Texas, educating and training more physicians who represent the changing demographics of the state would be beneficial.

Table 4: Texas Physicians by Ethnicity

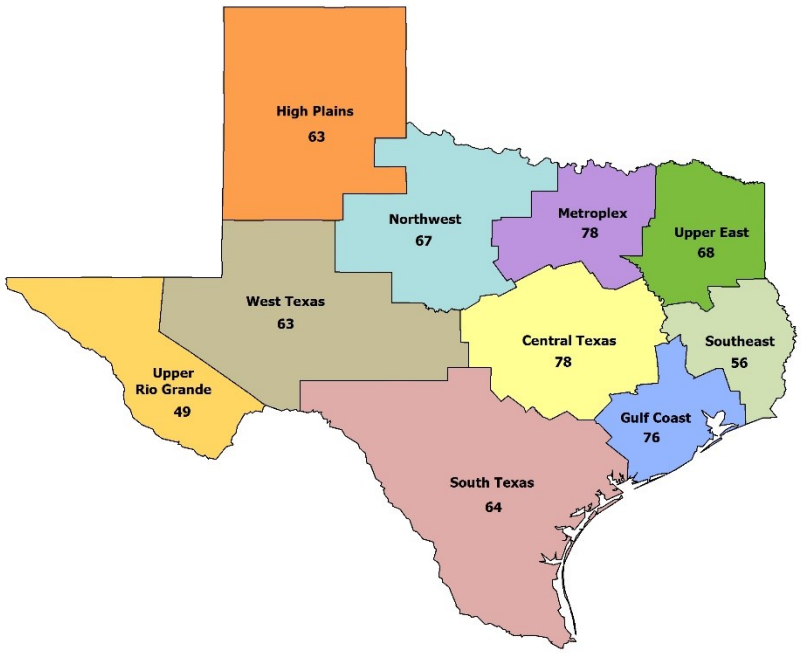
	Of Hispanic Origin	Non-Hispanic Origin	Unknown	Total	Percent
American Indian or Alaska Native	7	96	0	103	0.17%
Asian	17	11,236	0	11,253	19.11%
Black or African American	21	3,266	0	3,287	5.58%
Native Hawaiian or Other Pacific Islander	5	120	0	125	0.21%
Other	1,038	3,237	0	4,275	7.26%
Unknown	4	2	1	7	0.01%
White	3,291	36,558	0	39,849	67.66%
TOTAL	4,383	54,515	1	58,899	100%
PERCENT	7.44%	92.56%	0.00%	100%	

Source: Texas Medical Board, May 2016 and includes approximately 1,000 physicians who are not actively practicing, but continue to maintain their Texas medical license

Primary Care Physicians by Region

To understand the distribution of physicians in a region, the number of physicians per 100,000 is the standard reference. The ratio of primary care physicians, which includes family physicians, internists, obstetric/gynecologists, and pediatricians, to the general population varies by region (Figure 16). The ratio is greater in the Metroplex, Central Texas, and Gulf Coast regions. While the South Texas region shows 64 physicians per 100,000 population, if Bexar County is removed from the region, the primary care physician per 100,000 population decreases to 43 per 100,000 population, making it the area of Texas with the lowest primary care physician-to-population ratio. The growth in the Texas general population has not allowed Texas to significantly increase its total physician-to-100,000 population. Texas continues to have one of the lowest total physician-to-population ratios in the nation.

Figure 16. Primary Care Physicians per 100,000 Population, Higher Education Regions



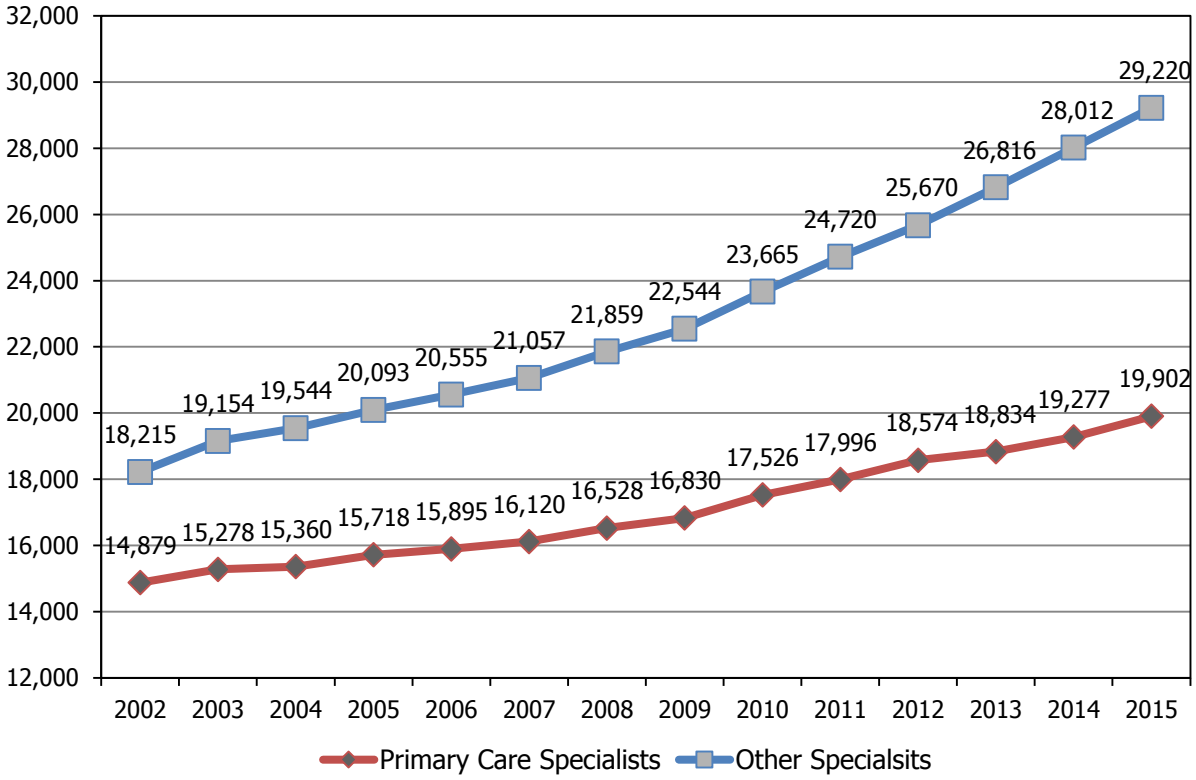
Sources: Physicians, Texas Department of State Health Services; Population, Texas State Data Center

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 specialties. There are several reasons for this, depending on specialty, including higher salaries, psychomotor skills and interest in procedures, more desirable work hours, and conditions for non-primary care physician specialties. This trend will likely continue.

The number of medical specialty choices has increased significantly since the beginning of the century. Since 2002, physicians could decide among 110 different areas of medicine, and by 2006 there were 126 medical specialty boards. Rapid specialization continued, and by 2015 the American Board of Medical Specialties reported that physicians could become certified in more than 155 specialties and subspecialties. Most of these new specialties and subspecialties require some residency training in internal medicine or pediatrics. If Texas is to reach the current national average of physicians per 100,000 population ratios for the medical specialties that admit first-year residents, the state's commitment to support the GME Expansion effort must be maintained, or the progress made may be jeopardized.

Since 2002, the number of primary care physicians in Texas increased at a lower rate (33%) than the overall number of direct patient care physicians (48%). The trend shows that the state has more physician specialists than primary care physicians (Figure 17).

Figure 17. Texas Primary Care* and Other Specialists (2002-2015)



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

Conclusions

The 84th Texas Legislature expanded strategic efforts initiated by the 83rd Texas Legislature to address the need for more first-year residency positions available for Texas medical school graduates.

Beginning in 2014, the Texas Legislature's Graduate Medical Education (GME) Expansion efforts have promoted the creation of new residency positions and new residency programs. GME Expansion efforts are fully underway for fiscal years (FY) 2016 and 2017 and are building solidly on the successful implementation of these programs.

The initial effort to address the need for additional residency positions started in FY 2014, with more than $14 million, and supported the following programs: (1) Planning Grant Program, (2) Unfilled Residency Position Grant Program, (3) New and Expanded Residency Position Grant Program, and (4) Resident Physician Expansion Program. As a result of these efforts, six primary care and two additional residency programs opened, and 100 new first-year residency positions were funded.

Planning Grants

In 2014, Planning Grants were available only to entities that did not operate a GME program, to allow them to investigate the feasibility of establishing a residency program. As a result of the initial Planning Grants, eight new residency programs received national accreditation and matriculated their first residents. A General Revenue appropriation of $1,875,000 funded the grants

In 2016, the continuation and expansion of the Planning Grants allowed the award of 14 one-time grants of $250,000 to a broader group of entities – including federally qualified healthcare centers (FQHCs), medical schools, and teaching hospitals – and encouraged partnership efforts. In FY 2016, the Coordinating Board issued a Request for Applications (RFA) and received more than 20 applications. Selected award recipients include those located in more rural and remote areas of the state. If residency programs start in these areas, it is likely that physician distribution will be positively affected.

GME Expansion Programs

In 2013, the Texas Legislature created several programs to address the need for more GME positions for Texas medical school graduates. Those programs were combined by the 84th Texas Legislature to streamline and focus the GME Expansion effort.

Establishment of the Unfilled Residency Position Program was a first-step effort to increase the available first-year residency positions in Texas. In 2014, this program filled 25 available-but-unfilled first-year residency positions and the support for those positions has been maintained at a per-resident funding level of $65,000. The program increased the number of first-year residency positions in the medical specialties of family medicine, internal medicine, obstetrics/gynecology, anesthesiology, and psychiatry. Funding for these residency positions was continued in FY 2015 and FY 2016 and will be maintained in FY 2017.

In 2015, the second effort to increase available GME positions started through the New and Expanded Residency Program. The number of requests from existing and new residency programs seeking funding through the program (to support new residency positions) exceeded the available funding. The Coordinating Board's Request for Applications provided a methodology in anticipation of that possibility, with first priority given to primary care medical specialties and medical specialties with demonstrated shortages. Eleven residency programs were funded, which supported 50 new first-year residency positions. Funding for these residency positions was continued in FY 2015 and FY 2016 and will be maintained in FY 2017.

Also in 2015, the third effort was established. The Resident Physician Expansion Program, which differed from the other two programs by requiring community collaboration, was competitive and allowed funding support for new positions that were not available to first-year residents. The program provided support for 76 residency positions. The positions established and funded under this program were rolled into the current overarching program, the GME Expansion Program, and continue to be maintained.

The 84th Texas Legislature streamlined the three programs into a single GME Expansion Program and increased the per-resident funding to $75,000. This increase in funding has allowed newly established residency positions to be maintained and provided an opportunity to establish additional residency positions. As a result, Texas is making substantial progress toward achieving

the goal of having 10 percent more first-year residency positions than Texas medical school graduates.

Heading into the 85th Texas Legislature, the Coordinating Board's Legislative Appropriations Request includes a request for additional support of $29 million to be added to the base appropriation for the GME Expansion effort, which would allow the program to maintain the new residency positions established through the efforts of the 83rd and 84th Texas Legislatures. Maintaining these efforts is essential to continue to keep pace with the increase of Texas medical school enrollments, the opening of two new Texas medical schools, and the pending opening of two additional Texas medical schools.

Texas Medical School Enrollment Increases and New Medical Schools Opening

In response to a call from the Association of American Medical Colleges to increase medical school enrollments nationally by 30 percent, Texas medical schools increased entering first-year medical school enrollments 34.9 percent from 1,342 in fall 2002 to 1,811 in fall 2015. In summer and fall 2016 respectively, two new Texas public medical schools, The University of Texas at Austin, Dell Medical School, and The University of Texas Rio Grande Valley, School of Medicine, matriculated their inaugural classes. With the addition of these two new schools, Texas increased its first-year medical school enrollment by 100 new medical students.

Two additional Texas medical schools are scheduled to open by 2018. The University of the Incarnate Word in San Antonio is planning to enroll its first students pursuing the Doctor of Osteopathic Medicine (D.O.) in fall 2017, and Texas Christian University and University of North Texas Health Science Center in Fort Worth are planning to enroll their first students in a joint effort leading to the Doctor of Medicine (M.D.) degree in fall 2018.

Texas medical schools receive funding to support their instruction and operation through a formula methodology. The amount of support that these schools have received per medical student annually has increased over the last three biennia: $42,000 in FY 2012 and FY 2013; $45,000 in FY 2014 and FY 2015; and $46,717 in FY 2016 and FY 2017. However, the most recent amount is still a 13.5 percent decrease from the original $54,000 per medical student provided when the health-related institutions' formula funding was created for FY 2000 and FY 2001.

Texas Medical Residency Programs Increased First-Year Positions

The federal financing of graduate medical education is complex and presents limited opportunities for existing teaching hospitals to add new residency programs and/or residency positions to existing programs. Because hospitals at their resident cap for Medicare GME do not receive additional federal funding to add residency positions, they often take a measured approach to funding additional residency positions.

According to the Association of American Medical Colleges (AAMC), results of the 2014 Medical School Enrollment Survey (published in April 2015), medical school deans expressed concerns about medical school enrollment growth outpacing growth in GME.

Texas medical schools and teaching hospitals are making serious efforts to address the first-year residency shortage. The GME Expansion Program provides funding to cover costs associated with resident stipends and training of resident physicians.

Texas provides minimal funding support for residency training affiliated with health-related institutions through a formula allocation. In FY 2016 and FY 2017, health-related institutions received $6,266 per medical resident to support faculty costs related to supervising a resident. This was a 19 percent increase from the FY 2014 and FY 2015 amount of $5,122 per resident. This level of support equates to about 4 percent of the estimated cost of residency education.

An additional amount of $10,896 per resident is provided to eligible family medicine residency programs through the Family Practice Residency Program, administered by the Coordinating Board. These funds, combined with the formula allocation, cover approximately 11 percent of the estimated cost of training family medicine residents.

In fall 2011, the ratio of first-year entering residency positions to graduates was near 1 to 1, with 1,494 first-year entering residency positions available for the state's 1,458 medical school graduates. At that time, many recognized that unless additional first-year residency positions were created, some Texas graduates would have to leave the state to enter residency training.

In 2014, Texas medical schools awarded 1,611 M.D. and D.O. degrees. The estimated number of first-year residency positions was 1,641. In 2015, Texas medical schools awarded 1,692 M.D. and D.O. degrees. The estimated number of first-year filled residency positions in fall 2015 was 1,727, which includes an estimated 181 residents at the state's independent residency programs. Data for the independent residency programs are not collected by the Coordinating Board, but staff reviewed available national data to develop an estimate.

Adding new residency positions to existing programs is costly and requires a long-term commitment by a teaching entity and participating hospital. Given uncertainties within the health care system, including efforts to control cost increases, to reduce the number of uninsured, and to address changes in health care delivery and payment resulting from the Affordable Care Act, hospitals continue to remain cautious about GME expansion.

Prior Recommendations and Results

In its 2014 report, the Coordinating Board offered several recommendations to the Texas Legislature, Texas Congressional delegation, and health-related institutions and hospitals. Several of the recommendations to the Texas Legislature received positive support. The 84th Texas Legislature provided a significant increase in the amount of funding to support GME expansion efforts. Each 2014 recommendation is provided below, followed by the result.

- **The Texas Legislature:** To achieve a 1.1 to 1 ratio of Texas first-year entering positions to medical school graduates, maintain and increase its funding support of the Graduate Medical Education Expansion programs, and maintain funding for the promotion of primary care through the Primary Care Innovation Grants.

  Result. The 84th Texas Legislature established and funded the GME Expansion Program, which helped Texas make significant headway toward reaching its goal of a 1.1 to 1 ratio.

- **The Texas Legislature:** Increase the formula funding amount for Graduate Medical Education from the FY 2014 and FY 2015 level of $5,122 to the Coordinating Board recommended level of $6,577.

  Result. The 84th Texas Legislature increased the formula funding for Graduate Medical Education from $5,122 to $6,266 per resident.

- **The Texas Legislature:** Increase the funding trusteed to the Coordinating Board to support the Family Practice Residency Program from the FY 2014 and FY 2015 biennial amount of $12.7 million with an additional exceptional item request of $16 million, which would increase the per-resident funding amount from $8,700 to an estimated $14,350 per resident.

  Result. The 84th Texas Legislature increased funding for the Family Practice Residency Program to $16.7 million, increasing the per-resident funding level from $8,700 to $10,896 per resident.

- **Health-related institutions, hospitals, and residency programs:** Continue to increase the number of first-year residency positions and establish additional residency programs that offer first-year residency positions.

  Result. The health-related institutions, hospitals, and residency programs increased their first-year residency positions and established new residency programs.

- **The Texas Congressional delegation:** Support Congressional action to reconsider the current Medicare caps, which would allow states with increased populations to receive support for the expansion of residency training.

  Result. While the Medicare caps remain, there is much discussion at the national level to revise how residency training is funded. The Institute of Medicine issued a report in 2014, which called for a serious overhaul of Graduate Medical Education financing.

- **The Texas Legislature:** Seek alternative funding sources, which may include industry, hospitals, and healthcare plans to increase graduate medical education opportunities in Texas.

  Result. Through passage of Senate Bill 18, the 84th Texas Legislature established a separate fund for Graduate Medical Education. The fund may include legislative appropriations or transfers, gifts, grants and donations, and investment proceeds.

- **The Texas Legislature:** Encourage the Texas medical schools to continue to innovate and streamline the medical education pipeline.

  Result: The 84th Texas Legislature funded the Primary Care Innovation Grant Program, the Joint Admissions Medical Program, and the Statewide Preceptorship Program to address the medical education pipeline and encourage innovation.

Recommendations to Support and Maintain Progress Made

Based on the progress made, and in an effort to achieve and maintain the goal of 1.1 to 1 ratio, the Coordinating Board offers the following revised recommendations:

Recommendation 1. In addition to the base-level funding, the Coordinating Board is requesting an additional $29 million to support GME Expansion programs in FY 2018 and FY 2019. This additional funding would allow support for residency positions created and filled by the GME expansion program, but could not cover all new additions to the programs. It would support the existing positions currently filled by residents and would support these residents as they progress through their multi-year residency training.

Recommendation 2. The Coordinating Board's Health-Related Institutions Formula Advisory Committee recommends an increase to the GME instruction and operation formula to $8,444 per resident for FY 2018 and FY 2019. The Commissioner of Higher Education's recommendation related to the Graduate Medical Education formula differed from the Advisory Committee, a 31 percent increase, rather than the committee's recommended 39 percent increase. However, the Commissioner's recommendation also includes additional funding specifically to reach the 1.1 to 1 ratio goal.

Recommendation 3. Maintain funding and support for the programs established to promote primary care, expand medical education opportunities, and encourage medical school innovation.

Recommendation 4. New programs leading to either the Doctor of Medicine or the Doctor of Osteopathic Medicine, must develop a plan to establish enough residency positions to accommodate all projected graduates from the new program(s) in addition to already established residencies in Texas.



This document is available on the Texas Higher Education Coordinating Board website:
http://www.thecb.state.tx.us

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