

Chapter 2

**STATUS OF THE  
HEALTH WORKFORCE  
IN TEXAS**





## INTRODUCTION

The importance of access to health care services cannot be overstated. Every person at some point in life will need access to one or more health providers. However, access to these providers could be adversely affected by factors beyond the person's control, such as provider acceptance of health plans, distance to the provider, and adequacy of the supply of providers. By reporting on demographic trends and the supply and distribution of health professionals by geographic region, researchers, legislators, and state planners may better understand and influence access to health care services by Texans.

### ***Statistics***

This chapter and Appendix C describe trends in the supply and distribution of various types of health care providers and compare these trends to national averages. The statistics are presented as narratives, tables, graphs, and maps. Most of the data are presented in the form of ratios of the number of providers in a given health profession to the population of the area being evaluated, multiplied by 100,000. These ratios were used to compare supply and distribution trends among various populations and areas over time. High ratios indicate there are more providers who are available to serve the population in an area; low ratios indicate there are not enough providers to serve the population. Although ratios are simplistic measures of provider adequacy, they are good indicators that, when observed over time, may be used to signal the need for conducting more extensive and comprehensive workforce studies.

### ***Data and Sources***

Supply data for Texas were collected from state licensing boards. All statistics in this report were based on professionals who were actively practicing in Texas for a given year. U.S. supply data were obtained from the U.S. Bureau of Health Professions and some national professional organizations. For both Texas and the U.S., there were some years where supply data were not available. The years for which actual data were used in this report are indicated on the graphs by data markers. Because of the absence of U.S. supply data for 2002 and 2003, these points on trend lines were estimated using available data for past years and a linear regression model. The supply ratios for providers in each county for all available years may be found online at: <http://www.tdh.state.tx.us/dpa/coverpg.htm>.

Texas population numbers used to calculate ratios were estimates provided by the Texas A&M University State Data Center (TAMSDC, <http://txsdc.tamu.edu/>). Population numbers for the

census years 1990 and 2000 were actual counts. The estimates for a given year may not necessarily match estimates in other reports or Web sites because estimates are revised periodically by the TAMSDC. The population data used for national statistics were obtained from the U.S. Bureau of the Census.

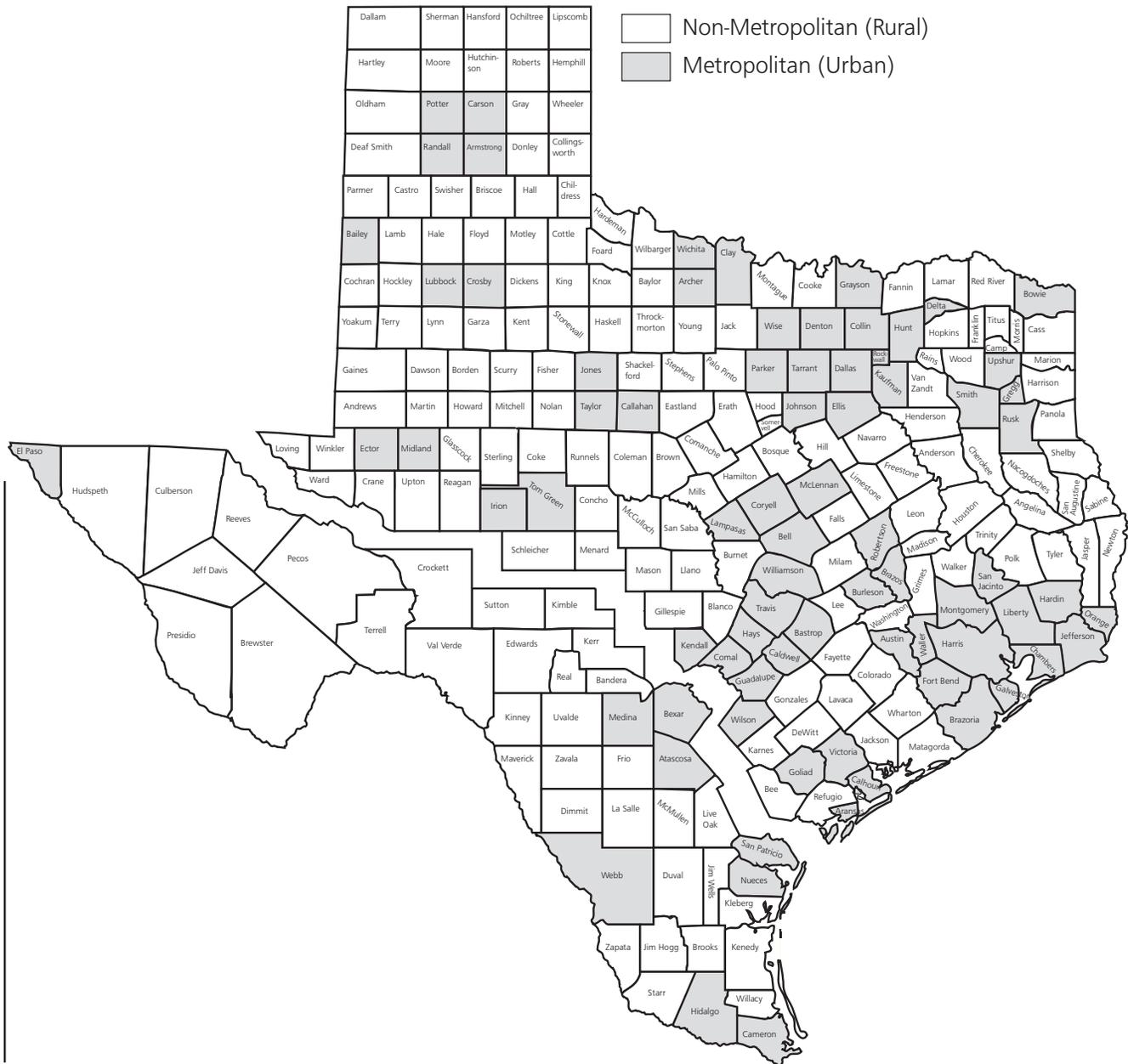
The classification of counties as either metropolitan (77 counties) or non-metropolitan (177 counties) was based on reports from the U.S. Office of Management and Budget. The identification of 43 Texas counties as border counties was based on SB 1378 of the 76th Texas Legislative Session. (See Figure 2.1) For many of the analyses presented in this chapter or Appendix C, the 254 counties were categorized as border metropolitan, non-border metropolitan, border non-metropolitan, and non-border non-metropolitan counties. In 2003, 86.4 percent of the Texas population lived in metropolitan counties and 13.6 percent in non-metropolitan counties. Also, 68.8 percent of the state population lived in non-border metropolitan counties, 17.5 percent in border metropolitan counties, 2.4 percent in border non-metropolitan counties, and 11.3 percent in non-border non-metropolitan counties. Overall, 19.9 percent of the Texas population lived in the 43-county border area.

### ***Health Professional Shortage Areas (HPSAs)***

The designation of a county as a primary medical care, dental, or mental health Health Professional Shortage Area indicates that the county has an inadequate number of specific health providers to serve the population in the county. There are several categories of HPSA designations: whole county, sub-county, facility, or special population. In Appendix C, when referring to HPSA designations, the facility designations are not included, and the partial-county geographic designations and the special-population designations are combined as “part of county” designations. The Health Professions Resource Center (HPRC) administers the federal HPSA program in Texas in collaboration with the Texas Primary Care Office and the Shortage Designation Branch, National Center for Health Workforce Analysis, U.S. Department of Health and Human Services. Lists of designated areas can be found at <<http://www.tdh.state.tx.us/dpa/hpsa.htm>>. Detailed information about HPSA designations is presented for primary care physicians, dentists, and psychiatrists in this chapter and Appendix C.

Figure 2.1

Border and Metropolitan Counties in Texas, 2003



Border Counties (43)

**2003 Population Statistics:**

**211 Non-Border Counties** — 80.1 percent of total Texas population

68.8 percent in metropolitan non-border counties

11.3 percent in non-metropolitan non-border counties

**43 Border Counties** — 19.9 percent of total Texas population

17.5 percent in metropolitan border counties

2.4 percent in non-metropolitan border counties

Prepared by: Health Professions Resource Center, Center for Health Statistics, Texas Department of Health, April 27, 2004

## MEDICAL PROFESSIONS

- **Physicians**
  - Direct patient care (DPC)
  - Primary care (PC)
  - Internal medicine
  - Pediatrics
  - Family practice
  - Obstetrics and gynecology
  - Psychiatry – included in the section on Mental Health Professions
- **Physician’s Assistants**
- **Chiropractors**
- **Podiatrists**

### *DPC Physicians*

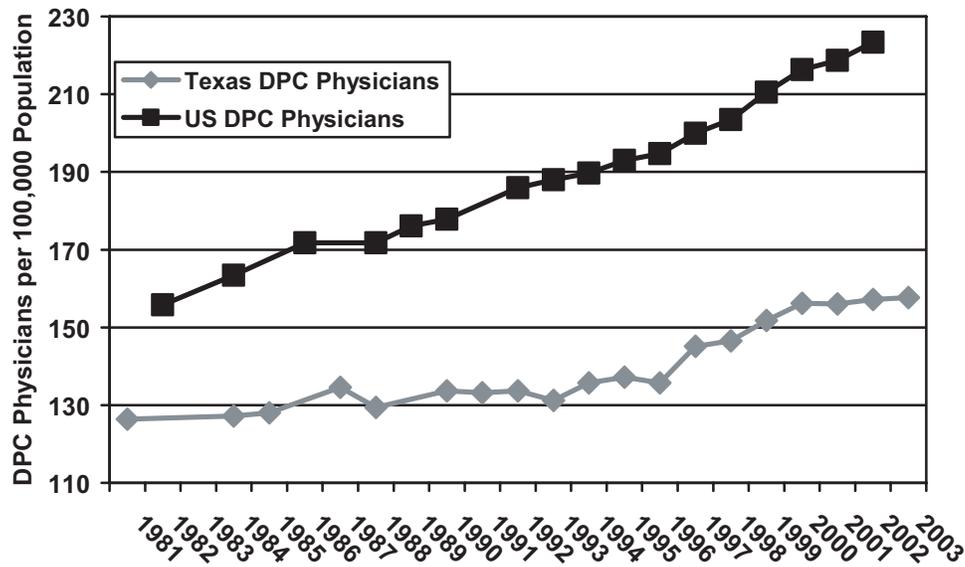
The term *DPC physician* includes both allopathic and osteopathic physicians who are licensed by the Texas State Board of Medical Examiners (TSBME), but excludes physicians with a practice type of medical teaching, administration, research, or “not-in-practice.” Other physicians who are excluded from the supply of DPC physicians in this report are those physicians who are affiliated with the federal government – including the armed forces, the Department of Veterans Affairs, or the U.S. Public Health Service – and fellows or residents in training. DPC physicians spend at least 50 percent of their time in the direct care of patients and are trained in one or more of the more than 70 “general” or “specialist” specialties.

The supply of DPC physicians increased between 1994 and 2003 by an average of 1,180 per year. In September 2003, there were 34,432 DPC physicians actively practicing in Texas. However, over the years, Texas has consistently lagged behind the U.S. average in the ratio of DPC physician supply per 100,000 population, and the gap between the two appears to be increasing (Figure 2.2). The DPC physician supply ratios in Texas were fairly constant between 1981 and 1996 (Appendix C, item 1); however, in 1997, the ratios for both metropolitan and non-metropolitan counties began to increase and this change has persisted through 2003. Non-metropolitan counties in Texas still tend to have much smaller supply ratios than do metropolitan counties.

In 2003, there were 21 counties with no DPC physicians; and, there were seven counties that did not have a DPC physician in 1993, but had at least one in 2003. DPC ratios decreased in 72 counties between 1993 and 2003. In general, the counties with the highest ratios were those in Central or East Texas. The counties with lower ratios were generally located in the 43 county border area, West Texas, South Texas, and the Panhandle.

Figure 2.2

DPC Physicians per 100,000 Population: U.S. and Texas, 1981–2003



Sources: Texas State Board of Medical Examiners; HRSA, Bureau of Health Professions

### PC Physicians

The term *PC physician* includes physicians who are trained in one of five specialties of the more than 70+ specialties included under the umbrella of DPC — family practice, general practice, general internal medicine, obstetrics, gynecology, and general pediatrics. Of the 34,432 DPC physicians in Texas in 2003, 15,278 were PC physicians, an increase of 19.6 percent over the number practicing in Texas in 1998. In 2003, 14 percent of the over 20 million Texans were located in the 177 non-metropolitan counties and 86 percent in the 77 metropolitan counties. By comparison, only 11 percent of the PC physicians were practicing in non-metropolitan counties and 89 percent in metropolitan counties. Twenty-two of the state’s 254 counties had no PC physicians in 2003 and 16 counties had only one PC physician.

## Sources of PC physicians

In 2003, only one-half (47.2 percent) of the PC physicians practicing in Texas were trained in Texas schools. Supplementing this pool of Texas medical graduates were PC physicians who received their training in other states (20.2 percent) or other countries (32.6 percent). Due to the size of this in-migrating PC physician supply, this external source of physicians is very important to the health care delivery system in Texas.

## Supply trends

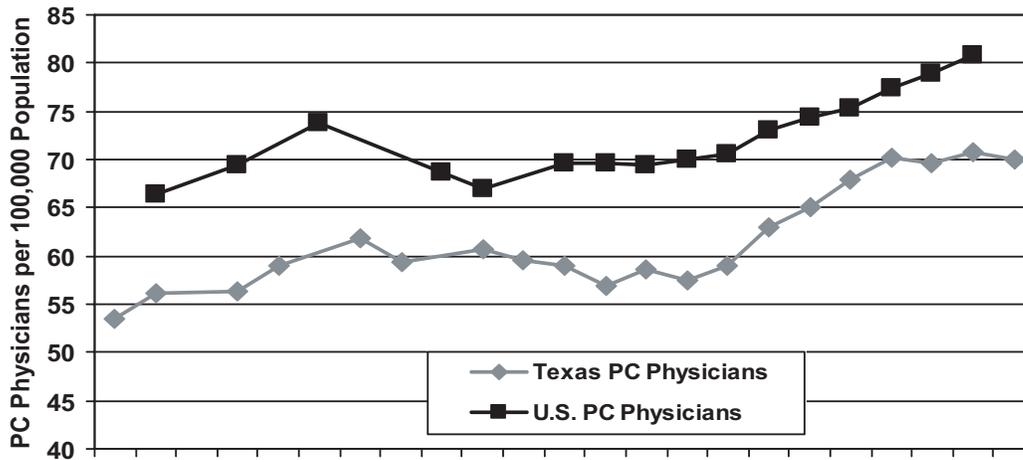
The PC physician supply increased by an average of 502 physicians per year between 1993 and 2003. Although the state's population also increased during this time, the PC physician ratios remained in the range of 57 to 70. Compared to a national benchmark ratio of 60 to 80, Texas remained in the lower range of the national benchmark, sometimes even dropping below the minimum benchmark value. The supply of PC physicians could be even more marginal since some of the physicians listed in the 2003 database practice only part-time. The total number of PC physicians available to some population groups could also be lower than the supply totals would suggest because some PC physicians limit their practices to paying or insured patients and others do not accept Medicaid patients. Thus, in some areas of the state, the "effective" physician supply is probably less than simple supply ratios would seem to indicate.

The PC physician average supply ratios in the U.S. (79.0 in 2000) have consistently exceeded the supply ratios in Texas (69.7 in 2000) for the past 20 years (Figure 2.3). Four years ago, the gap between the U.S. and Texas ratios began to widen, apparently due to stabilization in the Texas supply ratios.

The ratios in metropolitan and non-metropolitan counties were fairly constant between 1983 and 1996, with the non-metropolitan ratios being considerably smaller than the metropolitan ratios (Appendix C, item 2). Beginning in 1997, the ratios in both areas began to increase. Although the ratios in metropolitan counties appeared to stabilize about four years ago, the supply ratios in non-metropolitan areas have continued to increase. In 2003, 22 counties had no PC physicians and 10 counties did not have a PC physician in 1993 but had at least one in 2003. The lowest supply ratios were associated with the 43 border counties, West Texas, and South Texas. The highest ratios were in Central or East Texas.

Figure 2.3

PC Physicians per 100,000 Population: U.S. and Texas, 1981–2003



Sources: Texas State Board of Medical Examiners; HRSA, Bureau of Health Professions

**Location**

In 2003, there were fewer physicians per 100,000 people in non-metropolitan counties than in metropolitan counties. The ratio of 55 PC physicians per 100,000 population in non-metropolitan locations was well below the national benchmark of 60 to 80; however, the ratio in metropolitan areas (72) was in the mid-range of the national benchmark. This difference between metropolitan and non-metropolitan locations has been observed for years in Texas. The supply ratio also varied between border (63) and non-border areas (72), and very low PC physician supply ratios were observed in non-metropolitan non-border (56.3) and non-metropolitan border (47.6) locations (table 2.1).

**Practice settings**

In 2003, 36 percent of the PC physicians were employed in solo practices, 48 percent in partnership or group practices, 11 percent in hospitals, and 1 percent in Health Maintenance Organizations (HMOs). A small number of PC physicians did not report their practice settings.

Table 2.1

**PC Physician Ratios for Non-metropolitan, Metropolitan, Border, and Non-border Locations: Texas, 2003**

Location	Population	PC Physicians Per 100,000 population
Statewide	21,825,569	70.0
Metropolitan border	3,823,816	64.7
Metropolitan non-border	15,025,989	74.3
Non-metropolitan border	514,389	47.6
Non-metropolitan non-border	2,464,375	56.3

Source (physician data): Texas State Board of Medical Examiners, September 2003  
Source (population data): Texas State Data Center, Population Estimates & Projection Program, Texas A&M University.

### Primary care specialties

In 1991, the specialty mix was 45 percent primary care specialties to 55 percent specialist specialties among Texas physicians. In 2003, the ratio was 44 percent primary care to 56 percent specialists. One-half (49.2 percent) of the PC physicians in non-metropolitan counties were family practice physicians and almost one-fourth (23.7 percent) were general internal medicine physicians (Table 2.2). However, in metropolitan counties, two-thirds of the physicians were trained in family practice (30.3 percent) and general internal medicine (30.1 percent).

Table 2.2

PC Physicians by Primary Specialty and Practice Location, Texas, 2003

Physicians By Specialty	2003 PC Physicians Total	% Metropolitan	% Non-metropolitan
Family Practice	4,932	30.0	49.2
General Practice	906	5.3	10.8
General Internal Medicine	173	30.1	23.7
General Pediatrics	2,735	19.0	8.9
Obstetrics & Gynecology	2,210	15.3	7.4
TOTAL	15,278	100.0	100.0

Source: Texas State Board of Medical Examiners, 2003

### Age

The median age of PC physicians in 2003 was 47 years, two years less than in 2000. This difference could be partially attributed to the increasing number of female physicians, who tend to be younger than male physicians. The ages of PC physicians also differed based on whether the physicians were practicing in non-metropolitan or metropolitan counties. The median age for PC physicians in metropolitan counties was 46 years and, in non-metropolitan counties, 49 years. The median age for PC physicians in both border and non-border counties was 47 years.

### Gender

In 1995, 80.8 percent of the PC physicians were male; however, that percentage has steadily decreased to 70 percent in 2003. The increasing number of women in the physician workforce raises some concern that non-metropolitan physician supplies might dwindle if women show a preference for settling more in metropolitan than non-metropolitan counties. In 2003, one-third (31 percent) of the PC physicians in metropolitan and non-border counties were female. However, only 18 percent in non-metropolitan and 27 percent in border counties were female.

Male and female PC physicians also vary in their choice of a medical specialty. For example, a greater percentage of female physicians report pediatrics as their primary specialty (29.6 percent) than do male physicians (12.9 percent) (Table 2.3). The two most prevalent specialties in non-

metropolitan counties, family practice and general internal medicine, are not as well represented among female physicians (51.6 percent of females are practicing in these two specialties) as male physicians (66.2 percent).

Table 2.3

**PC Physicians by Primary Specialty and Gender, Texas, 2003**

Physicians By Specialty	2003 PC Physician Total	% Male	% Female
Family Practice	4,932	34.6	26.8
General Practice	906	7.2	2.9
General Internal Medicine	173	31.6	24.4
General Pediatrics	2,735	12.9	29.6
Obstetrics & Gynecology	2,210	12.4	16.3
TOTAL	15,278	100	100

Source: Texas State Board of Medical Examiners, 2003

**Race-Ethnicity**

In 2003, the majority (62 percent) of the state’s PC physicians were white, down from 68.3 percent in 1993 (Table 2.4). Although Hispanics made up the largest minority population of physicians in 1993, Asians–Pacific Islanders were the largest in 2003. The physician workforce that was non-Hispanic African American in 2003 was about six percent smaller than the percentage of this group in the general population, and the physician workforce that was Hispanic in 2003 was about 20 percent smaller than the percentage of Hispanics in the general population.

Table 2.4

**Race and Ethnicity Trends for Primary Care Physicians, Texas, 1993 and 2003**

Race / Ethnicity	1993 PC Physician %	1993 Population %	2003 PC Physician %	2003 Population %
White	68.3	59.3	62.0	51.4
Black	3.1	11.7	5.1	11.5
Hispanic	9.8	26.7	13.4	33.6
Asian / Pacific	8.6	2.3	17.4	3.5
American Indian / Alaskan Native	0.2		0.2	
UNKNOWN	10.0	0	1.9	0

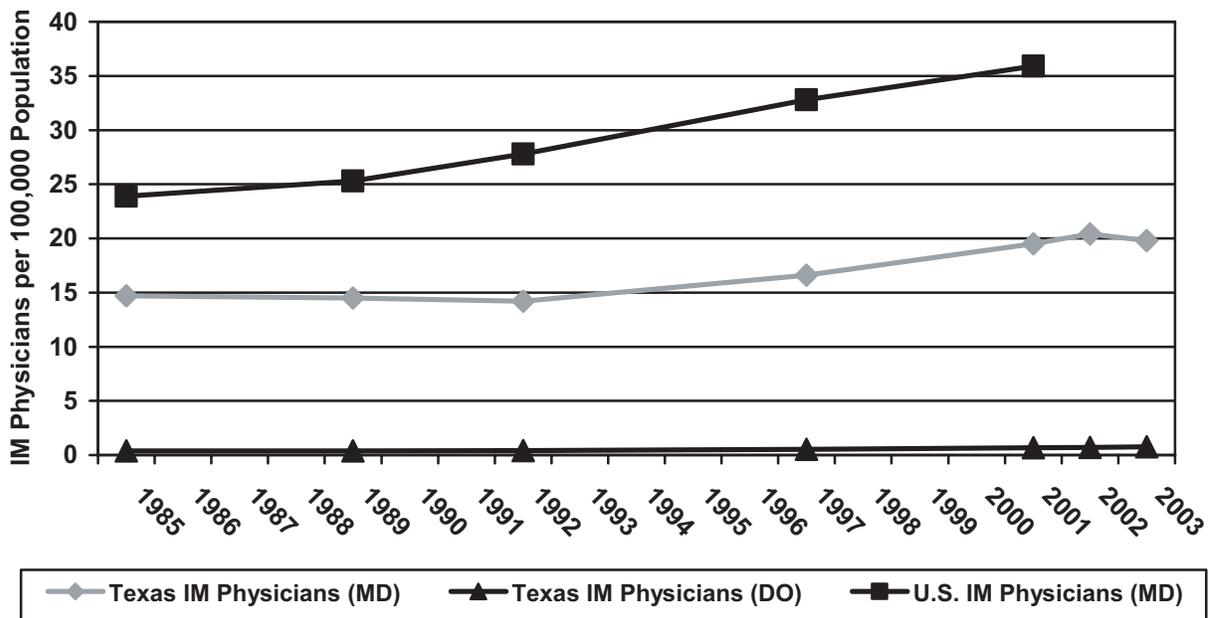
Data sources: Texas State Board of Medical Examiners, 1993 and 2003; (Texas population): Texas State Data Center

**General Internal Medicine (IM)**

In Figure 2.4, the supply of IM physicians in Texas is separated into Doctor of Osteopathy (D.O.) and Medical Doctor (M.D.) lines because national data were not available for D.O.s. As shown in the graph, the IM supply ratios for M.D.s in Texas have been lower than the U.S. average ratios for the past two decades. The ratios for D.O.s have remained stationary.

Figure 2.4

**Internal Medicine Physicians per 100,000 Population, U.S. and Texas, 1981–2003**



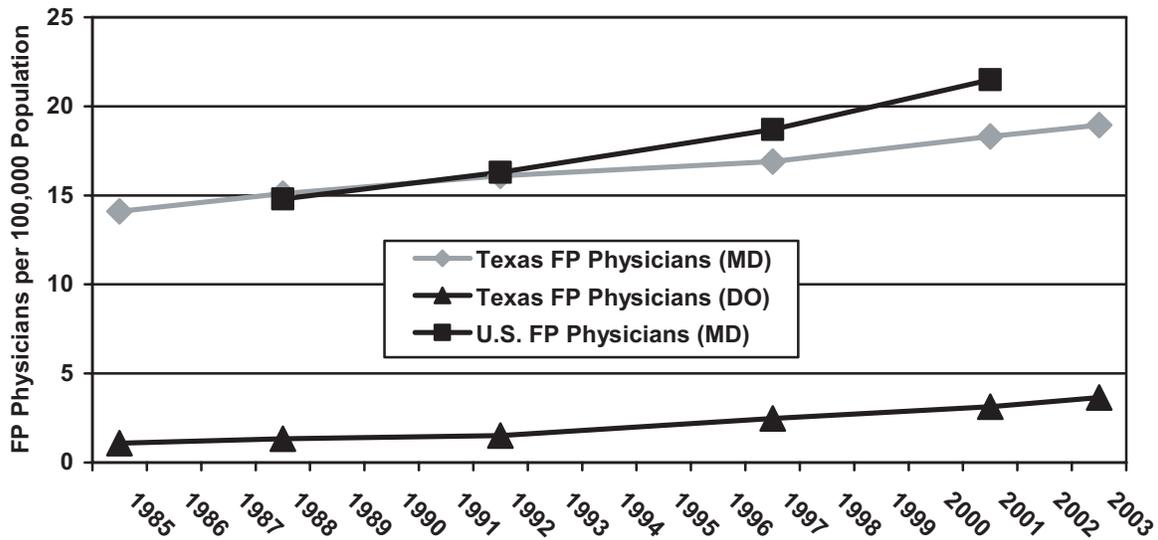
Sources: Texas State Board of Medical Examiners (M.D. and D.O.); American Medical Association (U.S. M.D.); HRSA, Bureau of Health Professions

**Family Practice (FP)**

In Figure 2.5, the supply of FP physicians in Texas is separated into D.O. and M.D. trend lines because national data were not available for D.O.s. Prior to 1992, the FP ratios in the U.S. and Texas were about the same; however, after 1992, the gap between the U.S. average ratios and the Texas ratios for FP physicians widened, with the Texas ratios consistently falling behind the U.S. ratios in magnitude. The FP ratios for M.D.s have increased more rapidly than the ratios for D.O.s.

Figure 2.5

**Family Practice (FP) Physicians per 100,000 Population,  
 U.S. and Texas, 1981–2003**



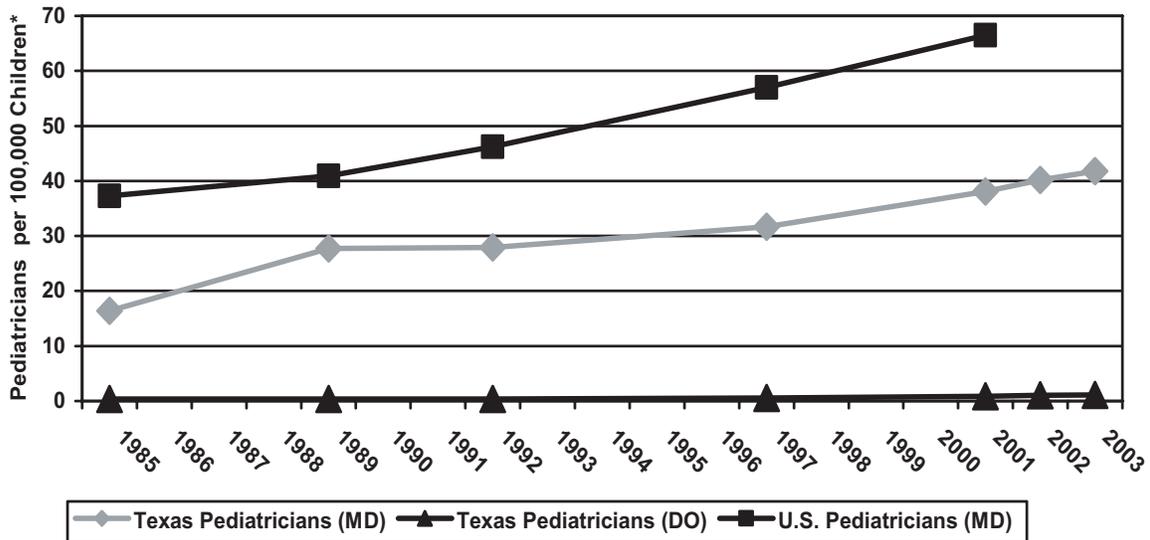
Sources: Texas State Board of Medical Examiners (M.D. and D.O.); American Medical Association (U.S. M.D.); HRSA, Bureau of Health Professions

**Pediatrician (PD)**

In Figure 2.6, the supply of PD physicians in Texas is separated into D.O. and M.D. trend lines because national data were not available for D.O.s. The PD supply ratios for M.D.s in Texas per 100,000 children have been lower than the U.S. average ratios for the past two decades, but have been increasing since the mid-'90s. The PD supply ratios for D.O.s have remained fairly constant.

Figure 2.6

**Pediatricians per 100,000 Children (0–18 years), U.S. and Texas, 1985–2003**



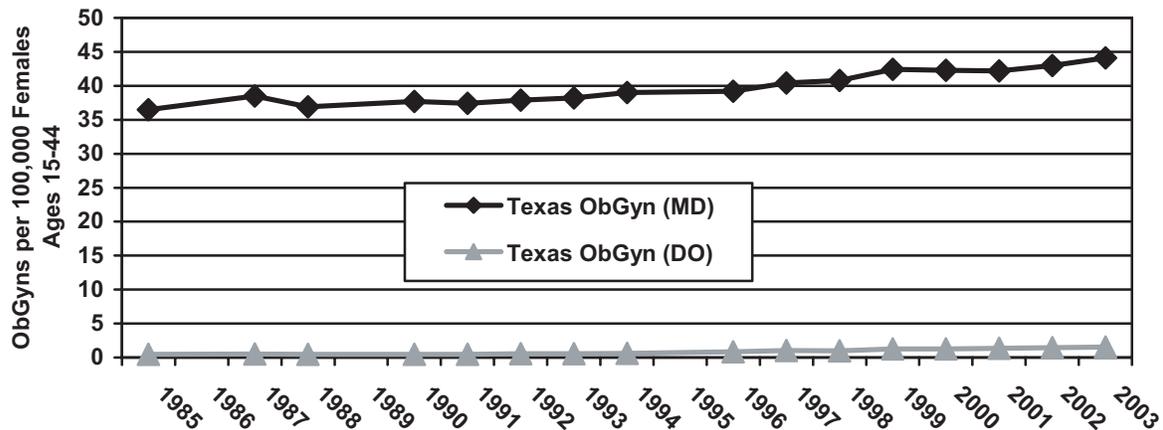
Sources: Texas State Board of Medical Examiners (M.D. and D.O.); American Medical Association (U.S. M.D.); HRSA, Bureau of Health Professions

### Obstetrics and Gynecology (Ob/Gyn)

In Figure 2.7, the supply of Ob/Gyns in Texas is separated into D.O. and M.D. trend lines to be consistent with previous graphs for FP, IM, and PD physicians. However, national Ob/Gyn supply ratios were not available for this graph. Ob/Gyn supply ratios for M.D.s have increased slightly over the past two decades, but the ratios for D.O.s have remained fairly constant.

Figure 2.7

Ob/Gyn Physicians per 100,000 Females Ages 15–44, Texas, 1985–2003



Source: Texas State Board of Medical Examiners

### HPSAs

PC physician ratios are the primary indicators used by the U.S. Department of Health and Human Services to determine if geographic areas or populations are experiencing shortages of PC physicians and qualify as federal shortage areas. In March 2004, 69.7 percent of the counties in Texas had either whole (131) or partial-county (46) HPSA designations (Appendix C, item 23). Seventy-five percent of the “whole county” HPSA designations were for non-metropolitan counties and 24 percent were border counties. Most of the partial-county HPSA designations were located in metropolitan counties. It should be noted that many of these federally designated PC physician shortage areas are also experiencing shortages of other health professionals, such as nurses, allied health professionals, and mental health providers.

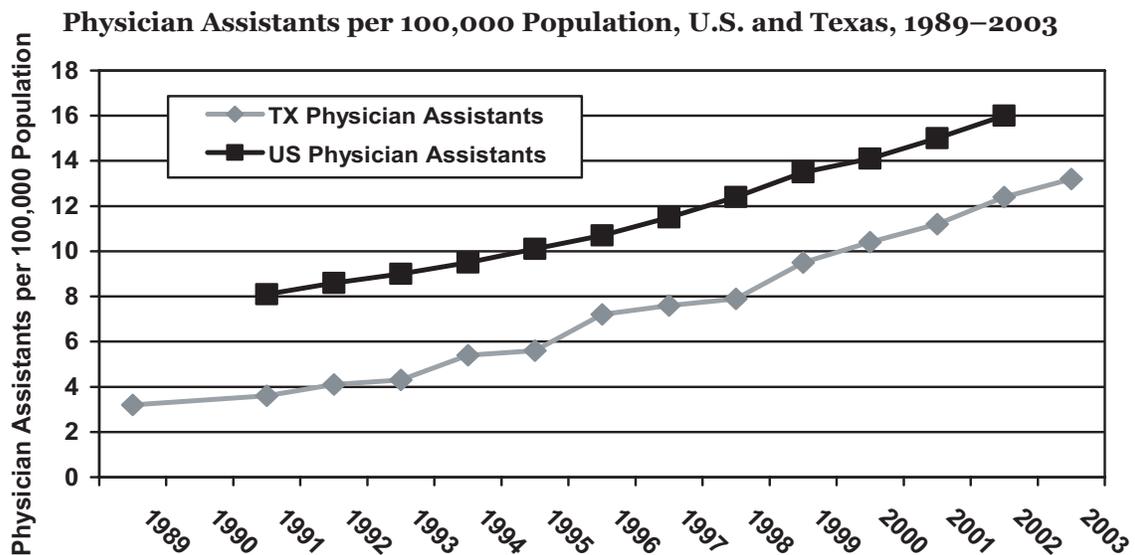
### Physician's Assistants (P.A.s)

According to the 2003 TSBME licensure data, there were 2,880 P.A.s licensed to practice in Texas and not all of them were practicing in primary care areas. Examples of non–primary care practice areas for P.A.s include emergency medicine, general surgery, and pediatric, surgical, and internal medicine sub-specialties. Because licensure data collected on P.A.s in Texas does not include specialty data, national survey statistics were used to estimate the distribution of P.A.s in Texas by specialty.<sup>1</sup>

In 2003, 87 percent of the P.A.s practiced in metropolitan counties and almost 20 percent practiced in border counties. The supply of P.A.s per 100,000 population for the U.S. (14.1 in Year 2000) has been consistently higher than the ratios for Texas (10.4 in Year 2000), and both ratios have been rising at a comparable rate (Figure 2.8). The ratios for the non-metropolitan areas have been higher than those for the metropolitan areas since 1994; however, the metropolitan areas have sustained a steady increase, while the ratios for the non-metropolitan areas have fluctuated (Appendix C, item 3).

Eighty-four counties that did not have a P.A. in 1993 had one in 2003. In 2003, the counties with the highest supply ratios were in West Texas and the Panhandle, and there were 61 counties with no P.A.s. Over the past decade, most of the counties with the greatest increase in supply ratios have been in East and Central Texas, with a few counties showing increases in South Texas and the Panhandle. Twenty-one counties experienced a decrease in their supply ratios during that time. In contrast with physicians, the average ratios in the border and non-border counties were similar.

Figure 2.8



Sources: Texas State Board of Medical Examiners, American Academy of Physician Assistants

**Age, gender, and race-ethnicity**

In 2003, three-fourths (76 percent) of the P.A.s were white, followed by Hispanic P.A.s at 11.6 percent of the total (Table 2.5). Males and females were almost equally represented in the profession. The median age of P.A.s in the state was 41 years. The median age of P.A.s in non-metropolitan counties was several years greater than the median age of P.A.s in metropolitan counties (46 years versus 40 years, respectively). The median age of P.A.s in border counties was 42 years, a year older than that of P.A.s in non-border counties. A disparity in age and gender exists among P.A.s based on their practice location: 55 percent of the P.A.s in metropolitan counties were female, but only 38 percent in non-metropolitan counties were female. In the border counties, only 38 percent of the P.A.s were female, compared to 56 percent in the non-border counties.

*Table 2.5*  
**Distribution of P.A.s by Gender and Race-Ethnicity, Texas, 2003**

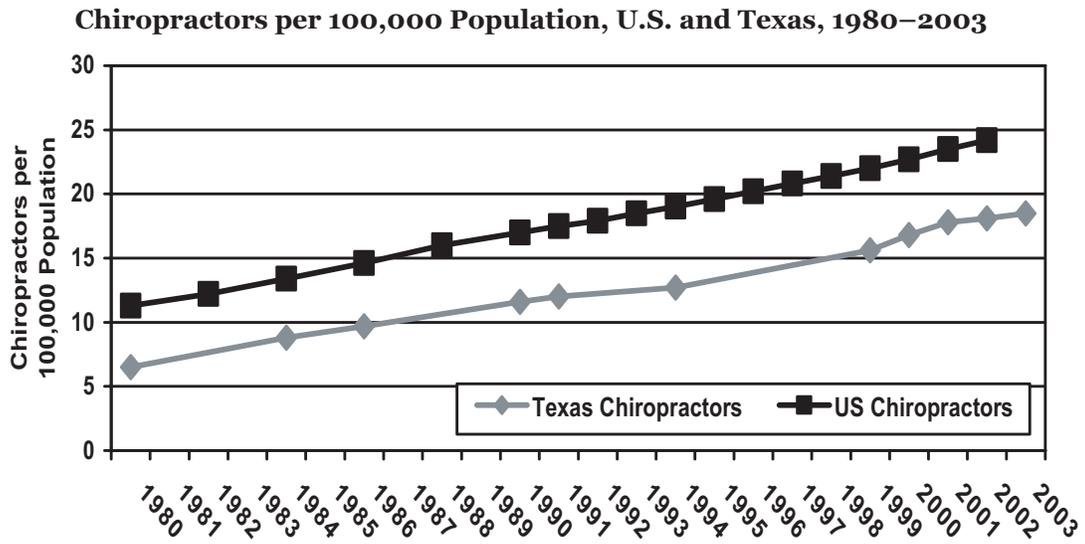
Characteristic	Variable	%
Gender	Male	47.5
	Female	52.5
Race / Ethnicity	White, not Hispanic	76.0
	Black	5.4
	Hispanic	11.6
	Asian–Pacific Islander	4.4
	American Indian–Alaskan Native	0.6
	Ethnicity	1.9

Source: Texas State Board of Medical Examiners, 2003.

**Chiropractors**

The supply ratio of chiropractors per 100,000 population in the U.S. has consistently exceeded the supply ratios in Texas (Figure 2.9). And, prior to the late 1980s, the ratio was higher in non-metropolitan counties than in metropolitan counties (Appendix C, item 4). Since that time, the ratios for chiropractors in metropolitan counties have greatly increased and exceeded the rates for non-metropolitan counties. In 2003, there were 80 counties in the state that did not have a chiropractor. Eighteen counties that did not have a chiropractor in 1991 had at least one in 2003. However, 16 counties that had chiropractors in 1991 had no chiropractors in 2003. The highest supply ratios were concentrated in the central part of the state, and also around Dallas and Houston. The general trend appears to be a shift of chiropractors away from non-metropolitan counties to metropolitan counties.

Figure 2.9



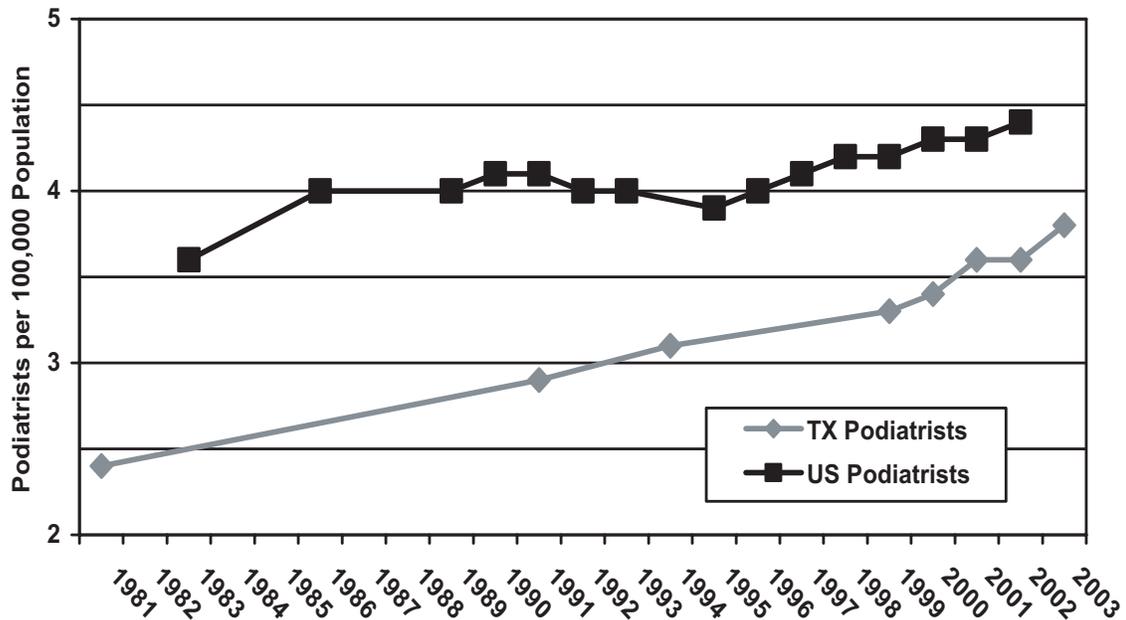
Sources: Texas State Board of Chiropractic Examiners; HRSA, Bureau of Health Professions

## Podiatrists

There are no schools of podiatry in Texas and only eight accredited schools nationally. That may partially explain why Texas lags behind the U.S. in podiatrist supply ratios, although the gap has decreased slightly in the last few years (Figure 2.10). The ratios are greater in metropolitan areas than in non-metropolitan areas (Appendix C, item 5). The highest concentration of podiatrists is in the Central Texas area. There are very few podiatrists in West Texas, South Texas, and the Panhandle. The non-metropolitan border counties have higher average ratios than the non-metropolitan non-border counties. Central Texas experienced the largest growth rate in supply ratios over the last decade. Twenty-nine counties that did not have a podiatrist in 1994 had at least one in 2003, while only four counties lost all of their podiatrists over that time. In 2003, Texas had 167 counties without a podiatrist.

Figure 2.10

Podiatrists per 100,000 Population, U.S. and Texas, 1981–2003



Sources: Texas State Board of Podiatric Medical Examiners, 1981–2002; U.S. Bureau of the Census

## NURSING PROFESSIONS

- Registered Nurses
- Advanced Practice Nurses
  - Nurse practitioners
  - Certified nurse midwives

- Nurse anesthetists
- Clinical nurse specialists
- **Licensed Vocational Nurses**

**Registered Nurses (R.N.s)**

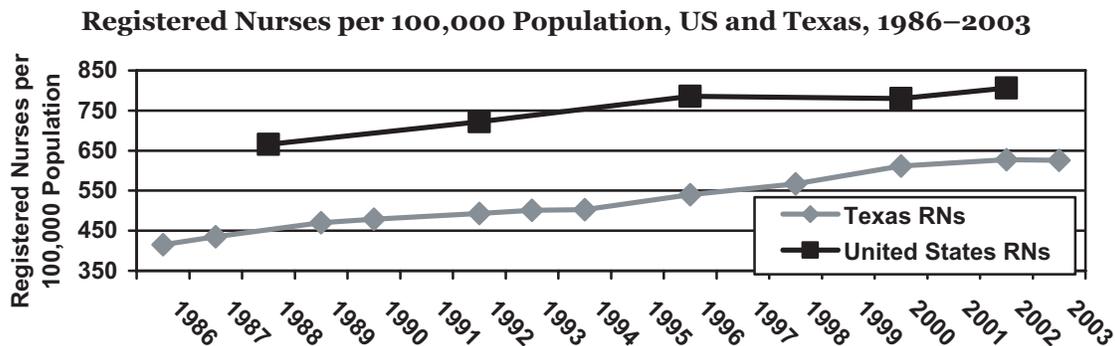
All of the R.N.s included in the statistics for this chapter and Appendix C, item 6 held active licenses and were employed either part time or full time in nursing. Although some R.N.s were employed as teachers or administrators and may not provide direct patient care, they were included in the overall supply totals for Texas R.N.s.

**Supply**

According to the Texas Board of Nurse Examiners (TBNE) licensure file for 2003, there were 136,660 active R.N.s practicing in Texas — 85 percent were employed full-time and 15 percent were employed part-time in nursing. The 136,660 R.N.s give Texas a supply ratio of 626.1 R.N.s per 100,000 population. The Texas supply ratios (611.9 in Year 2000) have been below the U.S. supply ratios (780.4 in Year 2000) for years, but the gap has been narrowing in recent years (Figure 2.11).

Metropolitan counties have consistently had a much higher ratio of nurses than the non-metropolitan counties (Appendix C, item 6). There were only four counties that did not have an R.N. in 2003 but those four counties had a combined population of only 7,459 people. Since 1993, 204 of Texas’ 254 counties have seen an increase in the supply ratio of R.N.s, and two counties that did not have an R.N. in 1993 had at least one in 2003. Although the border counties continue to have much lower supply ratios than the rest of Texas, the ratios in those counties are increasing at a rate comparable to the rest of the state.

Figure 2.11



Sources: Texas Board of Nurse Examiners; HRSA, Bureau of Health Professions

## Gender

In 2003, the R.N. population in Texas was predominantly female; only 9.2 percent of the nurses were male.

## Position type and employment field

A majority (64.6 percent) of the R.N.s who were actively employed as nurses in Texas were working in hospitals — the others being primarily employed in home health (5.3 percent), physicians’ or dentists’ offices and clinics (5.0 percent), school or college health clinics (4.2 percent), nursing homes or extended care facilities (3.4 percent), business or industry (2.4 percent), community and public health (2.1 percent), freestanding clinics (2.0 percent), schools of nursing (1.7 percent), temporary agencies (1.1 percent), self-employed or in private practice (1.0 percent), or in other employment fields (7.3 percent).

Since the majority of R.N.s were working in hospitals in 2003, most were employed in hospital-related positions, such as head nurse, staff nurse, or general duty nurse (Table 2.6). Advanced Practice Nurses accounted for 4.5 percent of all nursing positions for active nurses in Texas.

Table 2.6

**Distribution of Actively Employed R.N.s in Texas by Position Type, 2003**

Position Type	Number	%
Head Nurse, Staff Nurse, General Duty Nurse, or Assistant	87,964	64.4
Administrator/Supervisory/Assistant	15,528	11.4
School/Office Nurse	8,968	6.6
Nurse Practitioner	3,539	2.6
Faculty/Educator	3,084	2.3
Consultant	2,319	1.7
Nurse Anesthetist	1,547	1.1
Clinical Nurse Specialist	804	0.6
In-service/Staff Development	874	0.6
Certified Nurse Midwife	245	0.2
Other	11,788	8.7

Source of data: Texas Board of Nurse Examiners, September 2003

## Education — basic and highest degrees

In 2003, one-third (33.1 percent) of the active R.N.s listed as their *basic degree* the baccalaureate degree in nursing (BSN), 43.7 percent listed associate degree in nursing (ADN), and 22.7 percent listed diploma in nursing. The majority listed ADN as their *highest degree* (39.4 percent) followed by the BSN degree (34.8 percent), and the diploma in nursing (12.0 percent). Only 5.9 percent had a master of science in nursing and 0.3 percent, a doctorate in nursing. A small percentage of R.N.s

had their highest degree in a field other than nursing (7.6 percent) and a few did not provide the BNE their highest degree.

Of those nurses with a diploma degree, 18.4 percent had progressed to a BSN, 4.6 percent to an MSN, and 0.3 percent to a doctorate in nursing. Of those nurses with ADN as their basic degree, 8.8 percent progressed to a BSN, 2.4 percent to a MSN, and 0.1 percent to a doctorate in nursing. By comparison, of those nurses with a BSN as their basic degree, 10.6 percent advanced to MSN and 0.6 percent advanced to a doctorate in nursing.

**Work area**

The most common work areas for active R.N.s in Texas were medical-surgical (14.6 percent), intensive care-critical care (11.3 percent), obstetrics and gynecology (8.2 percent), and operating/recovery care (7.7 percent) (Table 2.7).

Table 2.7

**Distribution of Active R.N.s in Texas by Their Work Area, 2003**

Position Type	Number	%
Medical/Surgical	19,893	14.6
Intensive Care/Critical Care	15,399	11.3
Obstetrics and Gynecology	11,240	8.2
Operation/Recovery Care	10,523	7.7
Pediatrics	8,600	6.3
Emergency Care	7,881	5.8
Home Health	6,508	4.8
General Practice	6,285	4.6
Geriatrics	5,769	4.2
Neonatology	5,328	3.9
Psychiatric/Mental Health/Substance Abuse	4,715	3.5
Community/Public Health	4,346	3.2
Oncology	3,882	2.8
Rehabilitation	2,903	2.1
Anesthesia	1,602	1.2
Occupational/Environmental	694	0.5
Other	20,305	14.9
Missing	787	0.6

Source: Texas Board of Nurse Examiners, September 2003

**Job satisfaction, retention, and re-entry into nursing**

The Regional Center for Health Workforce Studies at the Center for Health Economics and Policy (CHEP) conducted two research studies in 2000 and 2002 on Registered Nurses (R.N.s) in Texas. The following reflects the results of the 2002 CHEP study of 1,090 R.N.s with some

comparison to the 2000 study results in regard to factors that affect retention and re-entry of nurses in the nursing workforce:

- While 72 percent of the R.N.s reported general satisfaction with their work, 72 percent reported exhaustion and 59 percent reported frustration.
- Commitment to employers remained high, but R.N.s wanted more help to effectively manage their workload, minimize harassment by physicians, improve patient care support, and provide training for new technologies.
- 11 percent more R.N.s (55 percent) were dissatisfied with pay than in 2000.
- Some of the factors that affect retention and re-entry of nurses in the workforce have to do with the nursing workload involved in caring for an increasingly aged, severely ill, and obese patient population along with increasing paperwork and physical and interpersonal stressors.
- The most frequently reported work environment issues included: paperwork (82 percent), severity of patient illness (70 percent), government regulations (64 percent), R.N. turnover (61 percent), need for second language skills (58 percent), voluntary overtime (53 percent), pressure to reduce time "on the clock" (51 percent), and an increase in the number of patients assigned (55 percent).
- Nurses in the survey were asking for assistance with and support for their work, for due respect, and for input into decisions made at the unit and organization levels.<sup>2</sup>

### **Aging of the Registered Nurse workforce**

The aging of the Registered Nurse workforce will have an impact on future nursing workforce trends. R.N.s from the Baby Boomer generation entered nursing in large numbers in the 1960s and 1970s and represent the largest cohort of R.N.s today. In conjunction with this, a declining percentage of young R.N.s is entering the workforce.<sup>3</sup> In a national study done by Buerhaus, Staiger and Auerback (*JAMA*, 2000), recent workforce trends were used to forecast long-term age and employment of Registered Nurses. 60,386 R.N.s from 23 through 64 years of age participated. Some of the results are as follows:

- The average age of working R.N.s increased by 4.5 years between 1983 and 1988.
- There has been a 35 percent decrease in the number of full-time equivalent R.N.s in recent cohorts than observed at similar ages that entered the labor market 20 years earlier.

- Over the next two decades, this trend will lead to a further aging of the R.N. workforce because the largest cohorts of R.N.s will be between age 50 and 69.
- Within the next ten years, the average age of R.N.s is forecast to be 45.4 years.
- The total number of full-time equivalent R.N.s per capita is forecast to peak around the year 2007 and then to continue to decline as the largest cohorts of R.N.s retire.
- By the year 2020, the R.N. workforce is forecast to be roughly the same size as it is today, declining nearly 20 percent below projected R.N. workforce requirements.<sup>4</sup>

In the Texas Department of Health report *Demographics of the Nursing Workforce Texas — 2003*, (Health Professions Resource Center and Nursing Workforce Data Section, Center for Health Statistics, 2004), the median age of both female R.N. and L.V.N. groups was 46, with non-metropolitan nurses being slightly older on average (47 years) than metropolitan nurses (45 years). R.N.s and L.V.N.s were among eight professions with the median age of licensees being over 40. The other professions include dentists, pharmacists, direct patient care physicians, primary care physicians, physician assistants and social workers. Nurses in border counties were slightly younger (45 years) than nurses in non-border counties (46 years). The median age of nurses in Texas has been increasing over the past decade, as it has in the U.S. A recent publication reported that the average age of R.N.s increased by 4.5 years between 1983 and 1998.<sup>5</sup> Another recent report, *Health and Nurses in Texas — The Supply of Registered Nurses: First Look at Available Data*,<sup>6</sup> verifies that the age of the R.N. workforce in Texas is increasing, wages are stagnating, and R.N.s are withdrawing in increasingly larger numbers from the active workforce.

In the 2002 CHEP study, the R.N.s who were surveyed indicated the following work plans:

- R.N.s age 46–55 intend to retire at age 61.
- R.N.s age 56 and above intend to retire at age 65.
- Approximately 7 percent of R.N.s 56 and above plan to retire within the next year.
- Over 4 percent of R.N.s planning to leave nursing for another type of work are in the “30 and below” and “46–55” age groups.
- Rural R.N.s average age of intended retirement decreased by more than three years, from age 66 in 2000 to age 63 in 2002.
- The percentage of border R.N.s intending to decrease work hours for next year increased from 11 percent in 2000 to 19 percent in 2002.<sup>7</sup>

In a study done in 2000 on schools of nursing in Texas, the following age-related trends among faculty could have an impact on the capacity of schools of nursing to produce more graduates over the next 20 years (Rains and Tschirch, 2000):

- In 1999–2000, the mean (51.8) and median (51) age of all nurse faculty in Texas based on the Board of Nurse Examiners biennial re-licensure data has increased from 49.36 in 1994.
- The nurse faculty workforce in Texas has a higher median age than the R.N. workforce as a whole.
- From 1994 to 1999, the percentage of nurse faculty in Texas 40 years of age or over steadily increased while the percentage of nurse faculty below the age of 40 steadily declined.
- If 65 years of age is considered standard retirement age, almost 57 percent (922 faculty) of all nurse faculty in 1999 were 50 years of age or older and will reach retirement age within 10 years.<sup>8</sup>

In the 2003 BNE master file, there were 3,084 R.N.s who held active licenses, were employed full- or part-time in nursing, and indicated “faculty or educator” as the position they held at the time of license renewal. Out of the 3,084 R.N. faculty or educators, there were 1,817 who worked in schools of nursing. The median age of faculty or educators who worked in schools of nursing was 53 years of age. This is consistent with the study done by Rains and Tschirch in 2000 where the cohort of nursing faculty continues to age without a significant increase in recruiting younger nurses into nursing education.

### ***Advanced Practice Nurses (APNs)***

The term *APN* includes all nurses recognized by the TBNE as nurse practitioners, nurse midwives, nurse anesthetists, and clinical nurse specialists. The APN specialties are based on the types of practice or target populations of the practice, such as pediatrics, family, school health, women’s health, oncology, and psychiatry-mental health.

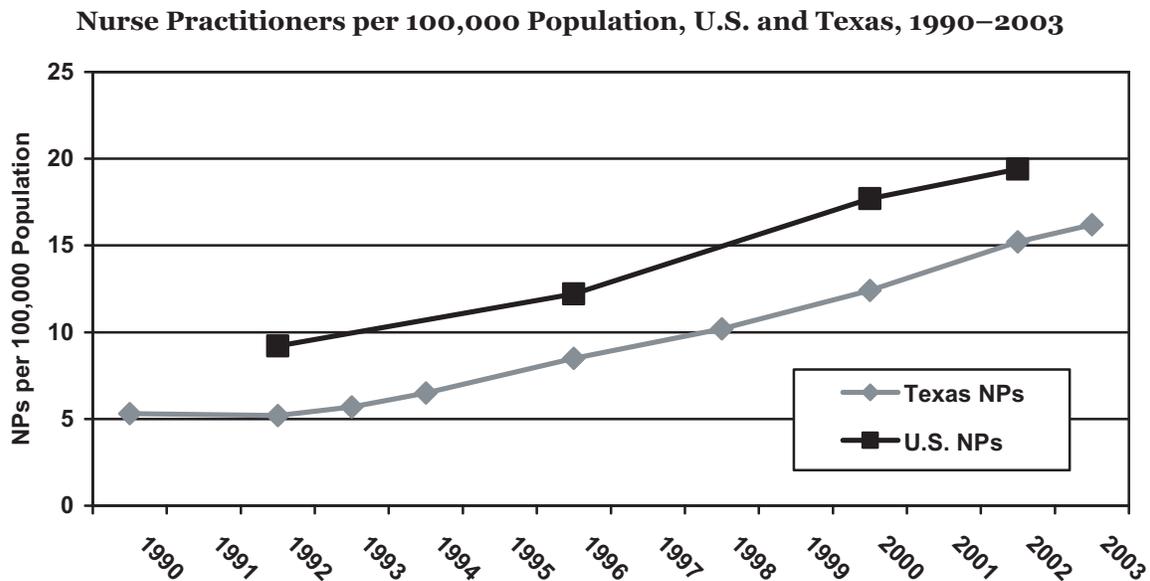
### ***Nurse Practitioners (NPs)***

NPs have been granted authorization by the Board of Nurse Examiners to practice based on their advanced education and experience. NPs practice both under the authority of their nursing license and in collaboration with physicians. Some functions, such as prescribing medication, can be performed only in collaboration with a physician under written protocols.

The data for NPs were obtained from the 2003 R.N. master licensing file. The “position type” on the file has variables for *administrator, school nurse, researcher, nurse practitioner, clinical nurse specialist, nurse anesthetist, nurse midwife, and other*. An R.N. record was selected as an NP record based on the position type of “nurse practitioner.” Since an APN may be certified in multiple position types, but can only choose one position type when completing renewal forms, the totals presented in this report possibly undercount the exact number of NP recognitions in Texas. In 2003, there were 3,539 active NPs practicing in Texas. The importance of NPs in the delivery of health care is indicated by their increasing supply, an increase of 117 percent between 1996 and 2003.

The supply ratios of NPs per 100,000 population in Texas have lagged behind the U.S. average supply ratios for decades (Figure 2.12). In contrast with the trends for many health professions in Texas, the highest NP supply ratios were in certain counties in the Panhandle and in areas west of Central Texas. Overall, the average ratios of NPs in metropolitan counties were higher than in non-metropolitan (Appendix C, item 7). Eighty-four counties that did not have an NP in 1993 had at least one in 2003. In 2003, 68 counties had no NPs.

Figure 2.12



Sources: Texas Board of Nurse Examiners; HRSA, Bureau of Health Professions

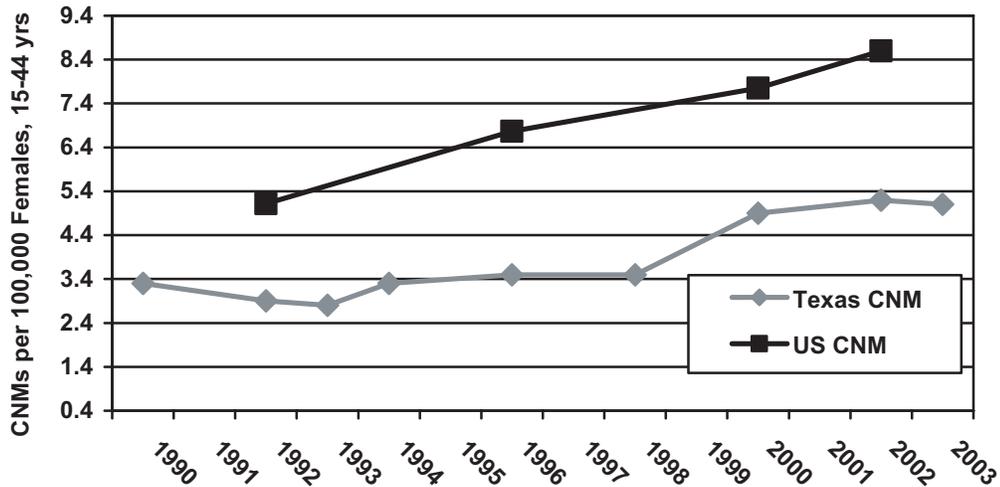
### ***Certified Nurse-Midwives (CNMs)***

CNMs have been granted authorization by the Board of Nurse Examiners to practice based on advanced education and experience. CNMs provide obstetrical and gynecological care for women during pregnancy, childbirth, and the postpartum period. In Texas, there are two types of midwives: Documented Midwives and CNMs. Documented Midwives are persons who successfully

complete a course on midwifery and successfully pass the state-approved comprehensive written exam as required by the Texas Midwifery Board. Certified Nurse Midwives' educational preparation requires an R.N. background. They are regulated by the Board of Nurse Examiners.

In Texas, in 2003, there were 245 CNMs. The data for CNMs were obtained from the 2003 R.N. master licensing file (for position types, see "Nurse Practitioners," above). An R.N. record was selected as a CNM record based on the position type of "nurse midwife." Since an APN may be certified in multiple position types, but can only choose one position type when completing renewal forms, the totals presented in this report possibly undercount the exact number of CNM recognitions in Texas. CNMs were primarily located in the metropolitan areas of Texas and their numbers increased by 58 percent between 1996 and 2003 (see Figure 2.13). The Texas supply ratio of CNMs per 100,000 female population of childbearing age (ages 15 through 44) has lagged behind the U.S. supply ratio since 1992, when national statistics first became available.

Figure 2.13  
**Certified Nurse Midwives per 100,000 Females Ages 15–44,  
 U.S. and Texas, 1990–2003**



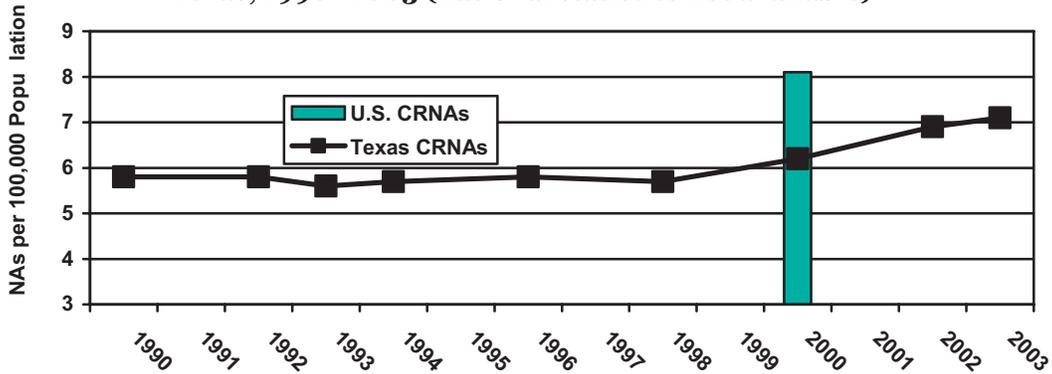
Sources: Texas Board of Nurse Examiners; HRSA, Bureau of Health Professions

### ***Certified Registered Nurse Anesthetists (CRNAs)***

CRNAs were primarily located in the metropolitan areas of Texas. Their ratios increased by 40 percent between 1996 and 2003 (see Figure 2.14). U.S. statistics for Figure 2.14 were available only for the year 2000. The Texas ratio in 2000 was below the national average. In 2003, there were 122 counties that did not have a CRNA.

Figure 2.14

Certified Registered Nurse Anesthetists per 100,000 Population, Texas, 1990–2003 (national statistics not available)



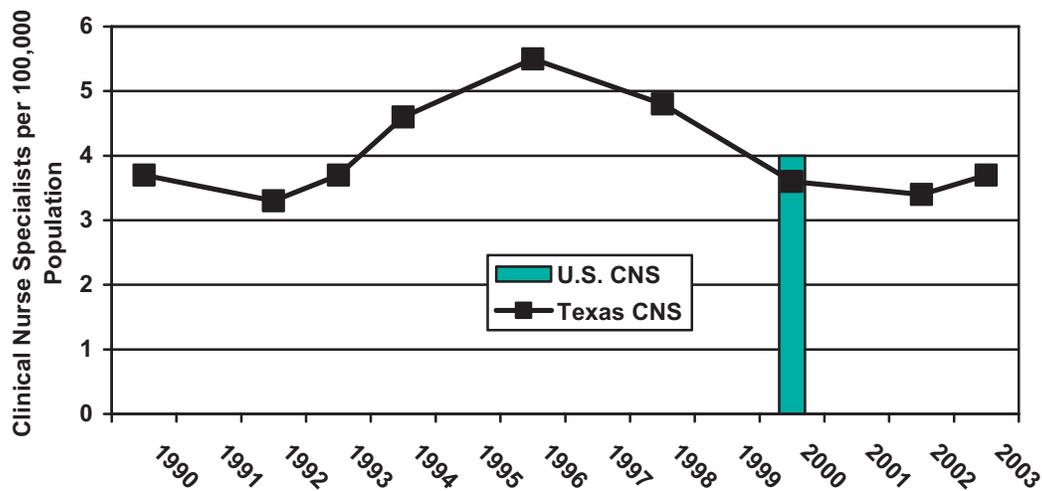
Sources: Texas Board of Nurse Examiners; HRSA, Bureau of Health Professions

### Clinical Nurse Specialists (CNSs)

CNSs are primarily located in the metropolitan areas of Texas. Their ratios decreased by 23.8 percent between 1996 and 2003 (see Figure 2.15). U.S. statistics were not available except for the year 2000. The Texas and U.S. supply ratios for that year were similar in magnitude. Twenty-three counties that did not have a CNS in 1993 had at least one in 2003. In 2003, there were 173 counties in Texas that did not have a CNS.

Figure 2.15

Clinical Nurse Specialists per 100,000 Population Texas (National Statistics not available), 1990–2003



Sources: Texas Board of Nurse Examiners; HRSA, Bureau of Health Professions

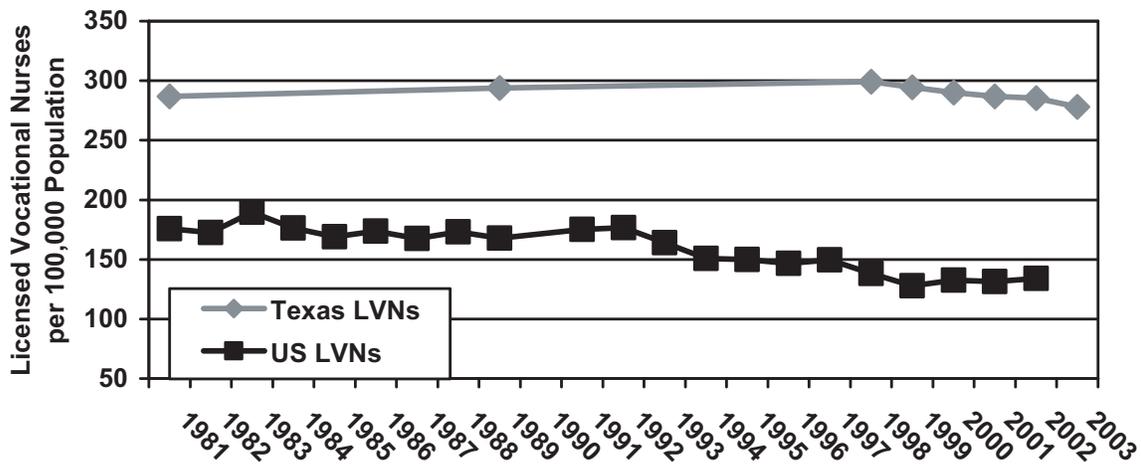
### Licensed Vocational Nurses (L.V.N.s)

L.V.N.s provide nursing care under the direction of a registered nurse, a physician, or another authorized health care provider. According to the Texas Board of Vocational Nurse Examiners (TBVNE) licensure file, there were 60,807 active L.V.N.s practicing in Texas in 2003, a supply ratio of 277.9 L.V.N.s per 100,000 population. The L.V.N. profession is among the few health professions in Texas where the supply ratios (290.2 in 2000) exceed the U.S. average ratios (132.6 in 2000) (Figure 2.16). However, the ratio for Texas has been declining slightly over the past five years while the U.S. ratios have stabilized. The general trend in both the U.S. and Texas has been toward a decline in the supply of L.V.N.s.

In contrast with most other professions, the ratios for L.V.N.s are higher in non-metropolitan counties than metropolitan counties, and the gap between the two has been increasing (Appendix C, item 11). The trend has been toward the increased use of L.V.N.s in non-metropolitan counties relative to the use of R.N.s. The supply ratios of L.V.N.s are lower in both the metropolitan-border counties and the non-metropolitan border counties than in the rest of the state. Three of the five counties that did not have an L.V.N. in 1994 had at least one in 2003. In 2003, there were only three counties that did not have an L.V.N., and, in the last decade, 138 counties have experienced growth in the supply of L.V.N.s relative to the population.

Figure 2.16

Licensed Vocational Nurses per 100,000 Population: U.S. and Texas, 1981–2003



Sources: Texas Board of Vocational Nurse Examiners; HRSA, Bureau of Health Professions

## DENTAL PROFESSIONS

- **Dentists**
- **Dental Hygienists**

### *Dentists*

Most dentists are general dentists, which would, using the physician analogy, be the equivalent to PC physicians. For the purpose of this report, the term *general dentists* will include dentists within the specialties of public health, pediatric, and general dentistry. Also, in this chapter, statistics are reported only for dentists who are non-federal, non-resident, and non-administrative.

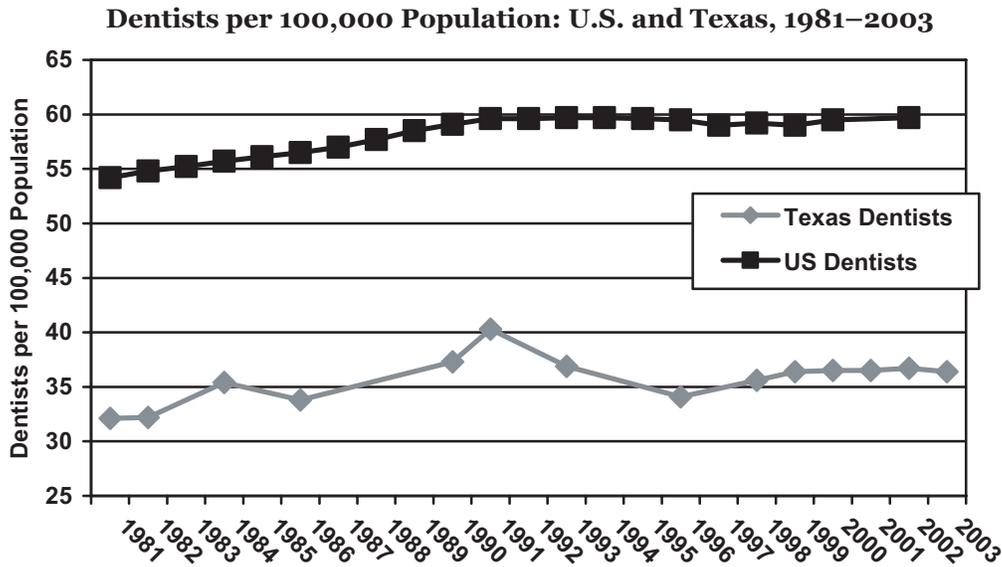
In 2003, there were 7,939 non-federal, active general dentists in private practice in Texas. The supply ratios of dentists per 100,000 population have remained fairly constant over the last two decades and have lagged behind the U.S. average ratios (Figure 2.17).

In 2003, the average supply ratio for dentists in Texas was 36.4 per 100,000 population (Appendix C, item 12). There were more general dentists employed in metropolitan counties (ratio of 38.3) than in non-metropolitan counties (24.4). The average supply ratio of dentists in border counties fell far short of the ratio in non-border metropolitan counties, and the gap between metropolitan and non-metropolitan counties has been widening over the years. Between 1993 and 2003, 143 counties experienced a decline in their ratios, while only 17 counties experienced an increase in ratios of 50 percent or greater, which is considerably less than for most other health professions. Three counties that did not have a dentist in 1993 had at least one in 2003. In 2003, there were 46 counties with no dentists.

### **Age and Gender**

In 2003, almost three-quarters (78.3 percent) of the dentists were males and 60 percent of the dentists statewide were below the age of 50 years, the median age being 47 years (Appendix C, item 12). The average age of a male dentist in Texas was 49, and of a female dentist, 38. In non-metropolitan counties, only one in ten dentists were females, compared to one out of three dentists in metropolitan counties. Nineteen percent of the dentists in the border counties were female, while 22 percent in the non-border counties were female.

Figure 2.17



Sources: Texas State Board of Dental Examiners 1981–2002; HRSA, Bureau of Health Professions

### Dental HPSAs

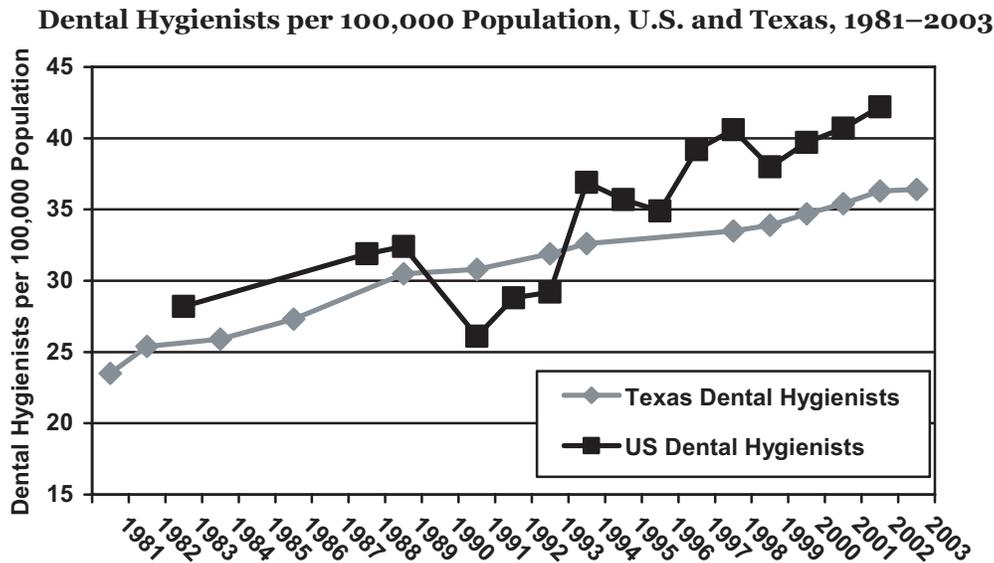
In March 2004, 107 counties in Texas had some type of HPSA designation that indicated the area or population was experiencing a shortage of dentists. Seventy-nine of these designations were for whole counties (Appendix C, item 24).

### Dental Hygienists

These health professionals work under the direct supervision of a dentist and are eligible for licensure after graduating from a community college (two-year program) or from a three- or four-year university program. The supply ratios of dental hygienists per 100,000 population have steadily increased in Texas since 1981 (Figure 2.18). The supply ratios for Texas have lagged behind the U.S. average ratios for most of the past two decades.

Because dental hygienists must practice with a supervising dentist in Texas, their geographic distribution is linked to that of dentists. Thus, the ratios for dental hygienists were much higher in metropolitan than in non-metropolitan counties in 2003 (Appendix C, item 13). Most of the border counties have very low supply ratios. Between 1993 and 2003, 80 counties experienced a decline in their ratios, while the ratios for 15 counties more than doubled. Between 1993 and 2003, 13 counties lost all of their dental hygienists, just as 13 counties lost all of their dentists. Twenty counties that did not have a dental hygienist in 1993 had at least one in 2003. In 2003, there were 58 counties with no dental hygienists, and 46 counties with no dentists.

Figure 2.18



Sources: Texas State Board of Dental Examiners, 1981–2002; HRSA, Bureau of Health Professions.

## ALLIED HEALTH PROFESSIONS

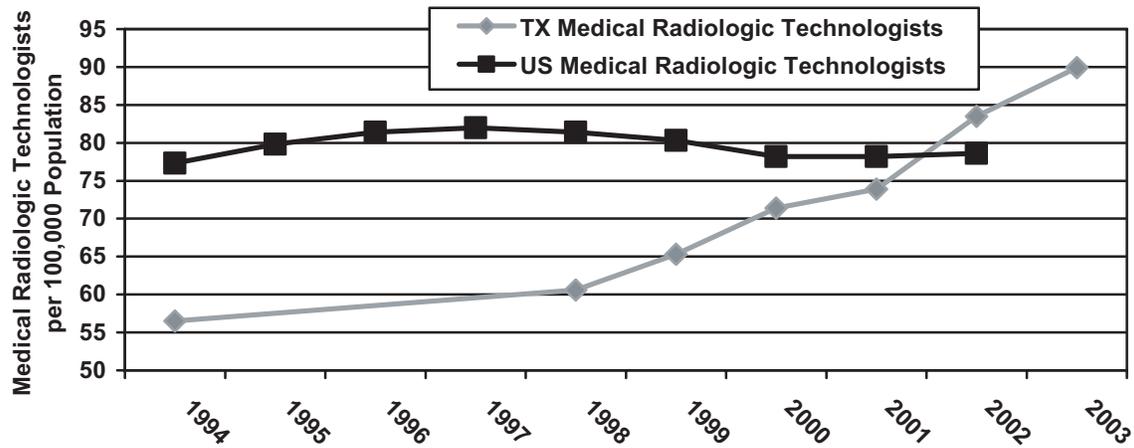
- Medical Radiologic Technologists
- Occupational Therapists
- Optometrists
- Pharmacists
- Physical Therapists

### ***Medical Radiologic Technologists (MRTs)***

MRTs are certified by the Texas Department of State Health Services. They administer radiation for medical purposes under the direction of a practitioner. The definition includes diagnostic radiography, nuclear medicine, and radiation therapy. Over the last decade, the supply ratios of MRTs per 100,000 population in Texas have lagged behind the U.S. average supply ratios; however, the gap between the two has been decreasing. In 2002, the Texas ratios surpassed those of the U.S. (Figure 2.19). Non-metropolitan counties had lower supply ratios than metropolitan counties (Appendix C, item 14) and, in general, the border counties had lower ratios than the rest of the state. In particular, the counties in West Texas, with the exception of El Paso, had very low ratios. Since 1994, ratios have grown in counties distributed throughout the state, including the border counties, and five counties that did not have an MRT in 1994 had at least one in 2003. However, 12 counties that had RTs in 1994 did not have any in 2003. In 2003, there were 38 counties with no RTs.

Figure 2.19

**Medical Radiological Technologists per 100,000 Population:  
 U.S. and Texas, 1994–2003**



Sources: Texas Department of Health, Division of Professional Licensing and Certifications 1994–2002; American Registry of Radiologic Technologists

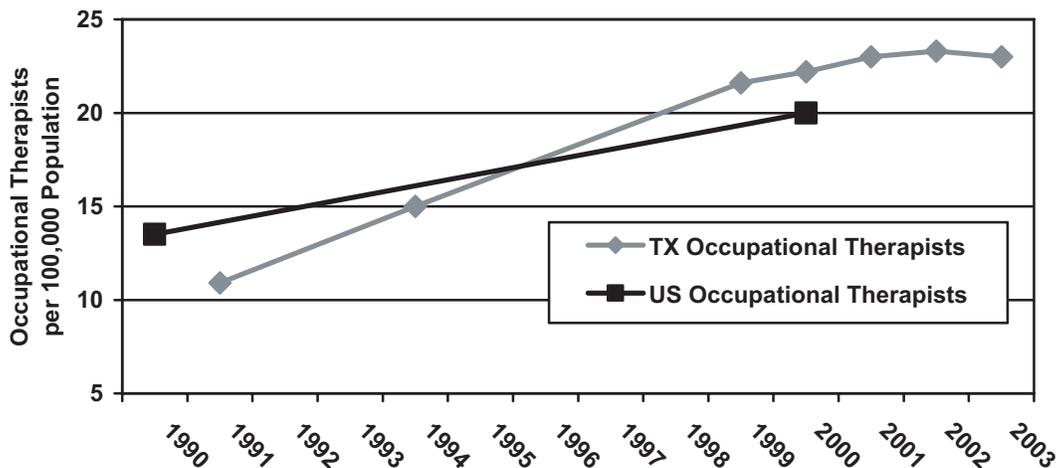
**Occupational Therapists (O.T.s)**

The supply ratios of O.T.s per 100,000 population in Texas have risen steadily over the last decade. And, since the mid-1990s, the state ratios have been higher than the U.S. average ratios (Figure 2.20).

In 2003, the ratios for O.T.s were higher in the metropolitan areas than in the non-metropolitan areas, but the ratios were generally lower for the border counties than in the rest of the state (Appendix C, item 15). Since 1994, 136 counties have experienced an increase in their O.T. ratios; however, in 2003, there were 97 counties that did not have an O.T. Fifty-four counties that did not have an O.T. in 1994 had at least one in 2003.

Figure 2.20

**Occupational Therapists per 100,000 Population, U.S. and Texas, 1990–2003**



Sources: Texas Department of Health, Division of Professional Licensing and Certification; HRSA, Bureau of Health Professions

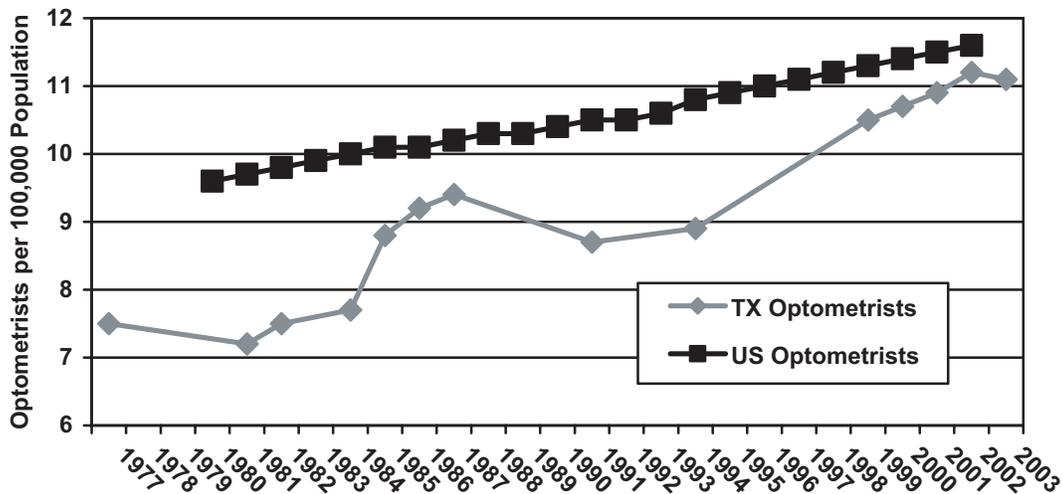
## Optometrists

The University of Houston College of Optometry is the only accredited school of optometry in Texas. The ratios of optometrists per 100,000 population in Texas have lagged behind the U.S. supply ratios for over two decades, although the gap appears to be narrowing (Figure 2.21).

Optometrists are more likely to practice in metropolitan counties than non-metropolitan counties, but this hasn't always been the case (Appendix C, item 16). Prior to 1984, the ratios for non-metropolitan counties were higher than those for metropolitan counties. However, since that time, the metropolitan county ratios have surpassed those of the non-metropolitan counties and the gap between the two has been steadily widening. Nine counties that did not have an optometrist in 1994 had a least one in 2003; however, 14 counties that had optometrists in 1994 did not have any in 2003. In 2003, there were 110 counties that did not have an optometrist. In several areas of Texas, notably the lower Panhandle area and portions of West Texas, a patient would have to travel through several counties to reach an optometrist. The border counties have very low supply ratios and several counties have no optometrists.

Figure 2.21

Optometrists per 100,000 Population, U.S. and Texas, 1977–2003



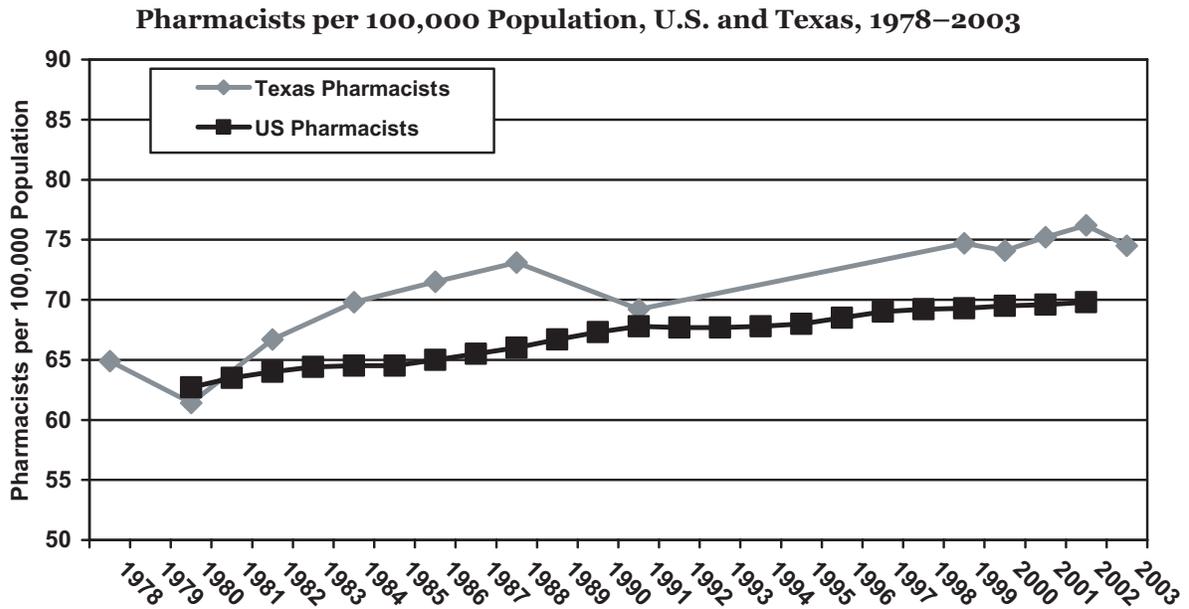
Sources: Texas Department of Health, Division of Professional Licensing and Certification; HRSA, Bureau of Health Professions

## Pharmacists

The state ratio of pharmacists per 100,000 population has exceeded the U.S. average supply ratio for the past two decades. However, since the mid-1990s, the supply ratios for both the U.S. and Texas have been static, the Texas ratio in 2003 actually being lower than the rate in 2002 (Figure 2.22).

The ratios for pharmacists are higher in the metropolitan counties than in the non-metropolitan counties (Appendix C, item 17). However, the ratios are lower for the border counties, both metropolitan and non-metropolitan. The majority (201) of counties in Texas have experienced a decline in the ratios since 1994. However, two counties that did not have a pharmacist in 1994 had at least one in 2003. In 2003, there were 18 counties that did not have a pharmacist).

Figure 2.22



Sources: Texas State Board of Pharmacy, 1978–2002; HRSA, Bureau of Health Professions

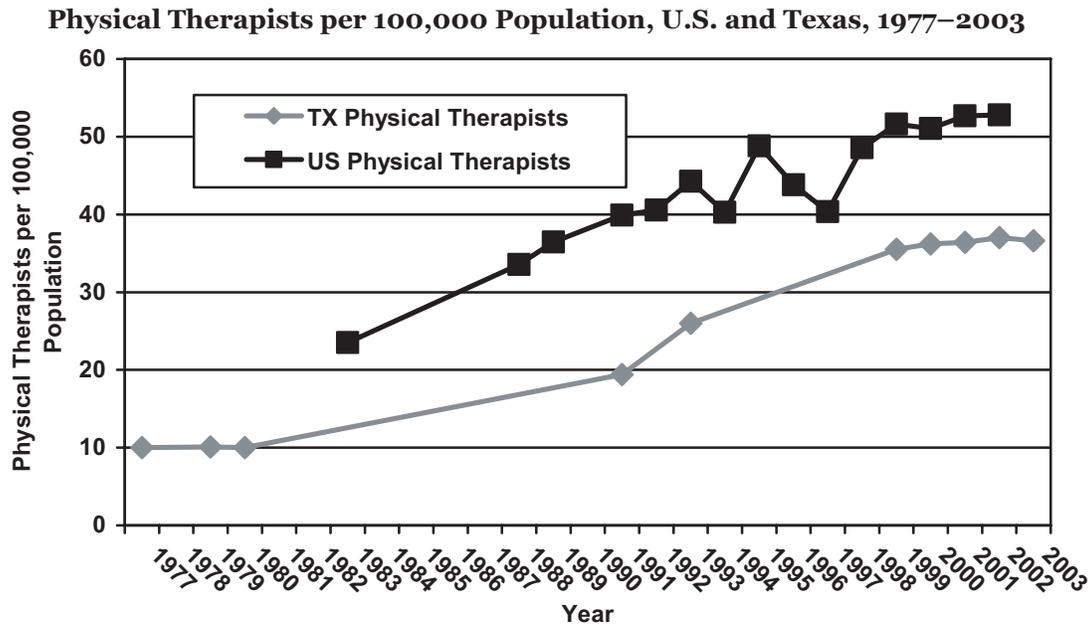
## Physical Therapists (P.T.s)

There are no bachelor's degree programs for P.T.s in Texas. The state requires that P.T.s hold at least a master's degree from an accredited P.T. program and pass a national exam administered by the Executive Council of Physical Therapy and Occupational Therapy Examiners. There are eleven accredited P.T. educational programs in the state.

The supply ratios for P.T.s per 100,000 population in Texas have shown steady increases over the past 30 years; however, the Texas supply ratios have consistently lagged behind the U.S. average (Figure 2.23).

The supply ratios have generally been higher in metropolitan counties, with the exception of the border counties, which generally have much lower ratios (Appendix C, item 18). Between 1993 and 2003, the ratios increased in 163 counties, scattered across the state. Although the border counties experienced an increase in ratios at a comparable rate to the rest of the state, the largest concentrations of counties experiencing the most growth in ratios were in an area from Central Texas to the Dallas metropolitan area in North Texas. Thirty-one counties that did not have a P.T. in 1993 had at least one in 2003. In 2003, 61 counties did not have a P.T.

Figure 2.23



Sources: Texas Department of Health, Division of Professional Licensing and Certification; HRSA, Bureau of Health Professions

## MENTAL HEALTH PROFESSIONS

- **Psychiatrists**
- **Psychologists**
- **Social Workers**
- **Licensed Professional Counselors**
- **Advanced Practice Nurses**

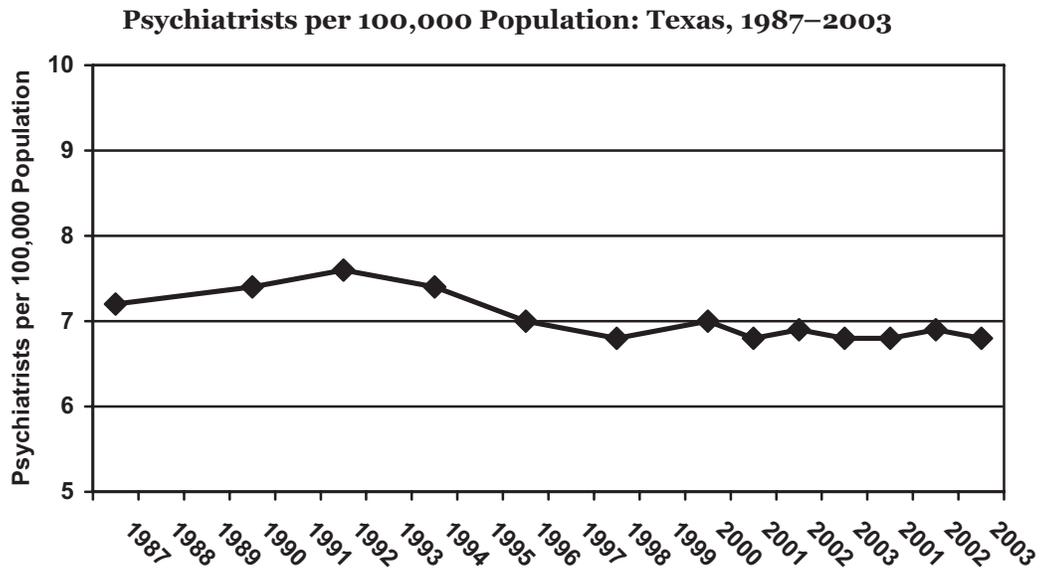
### *Psychiatrists*

There were 1,480 psychiatrists licensed by the Texas State Board of Medical Examiners in September 2003. In addition to physicians practicing in the specialty of psychiatry, physicians in

the specialty of child psychiatry were included in this report on “psychiatrists” to comply with the HPSA definition of “general” psychiatry. The ratio of psychiatrists per 100,000 population began to increase around 1986, stabilized for several years, then, in about 1992, began to decline (Figure 2.24). For the past 8 years the ratios in Texas have again stabilized. For comparative purposes, national supply ratios for psychiatrists were not available for this report.

Nearly three out of every four (68.7 percent) of Texas’ psychiatrists were male in 2003; and, more than one-half of the psychiatrists were over 50 years of age (Appendix C, item 19). The supply ratios for psychiatrists per 100,000 population were the largest in metropolitan counties. Border counties had lower supply ratios than did non-border counties.

Figure 2.24



Source: Texas State Board of Medical Examiners

**Mental Health HPSAs**

In March 2004, there were 189 whole counties designated by the U.S. Department of Health and Human Services as mental health HPSAs in Texas, and two counties designated as partial-county HPSAs. One county had a “low-income population” designation (Appendix C, item 25).

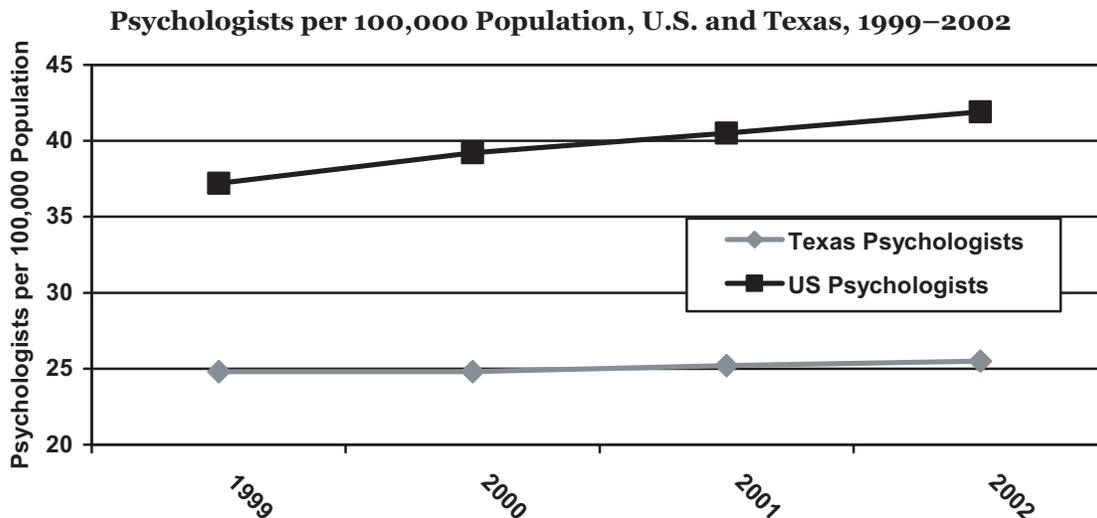
**Psychologists**

In Texas, there are four categories of psychologists: Licensed Psychologist (LP), Provisionally Licensed Psychologist (PLP), Licensed Specialist in School Psychology (LSSP), and Licensed Psychological Associate (LPA). A psychologist may hold more than one of these licenses. The statistics in this report represent an unduplicated count of these four types of psychologists. Only psychologists’ license numbers and location (metropolitan, non-metropolitan) were available for

analysis in 2003 because the Texas State Board of Examiners of Psychologists (TSBEP) is one of only a few boards that does not collect data on age, gender and race-ethnicity on its licensees. Of the four types, licensed psychologists were in greatest supply in 2003. Since 1999, the psychologist supply ratios have been higher for the U.S. than for Texas (Figure 2.25).

The supply ratios have been greater in Texas metropolitan counties than in non-metropolitan counties. In 2002 (Appendix C, item 20), the largest concentration of counties with high ratios was in Central Texas. The border counties and Panhandle counties had very low ratios; many of these counties did not even have a psychologist. Also, very few of these counties had an increase in supply ratios between 1999 and 2002. Most of the growth in supply ratios was in Central Texas. Between 1999 and 2002, 78 counties experienced an increase in ratios, while 70 experienced a decrease. Fourteen counties that had no psychologists in 1999 had at least one in 2002. Despite these gains, 118 counties had no psychologists in 2002.

Figure 2.25



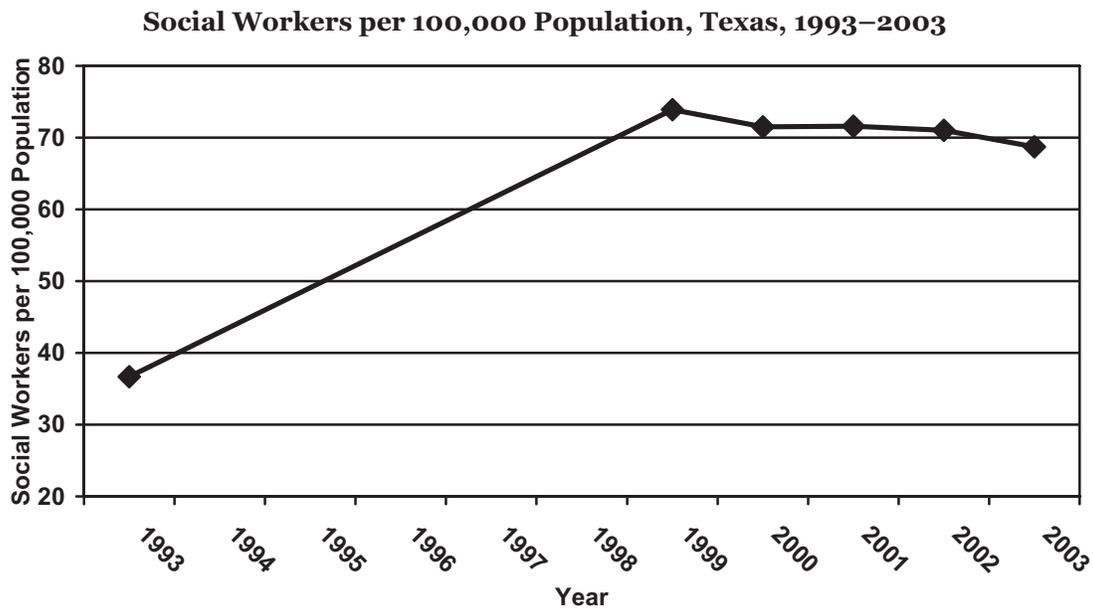
Sources: Texas State Board of Examiners of Psychologists, 1999–2002; U.S. Bureau of the Census

### **Social Workers**

The Texas State Board of Social Worker Examiners (TSBSWE) issues licenses to social workers in Texas. The ratios of social workers per 100,000 population over the last five years have been fairly constant; however, the overall trend appears to be favoring a slight decline in the magnitude of the ratio (Figure 2.26). Data on age, gender, and race-ethnicity are not available from the TSBSWE.

In 2003, there were 51 counties with no social workers, compared to 104 in 1993 (Appendix C, item 21). However, 22 counties that had social workers in 1999 did not have any in 2003, while six counties that did not have social workers in 1999 had at least one in 2003.

Figure 2.26



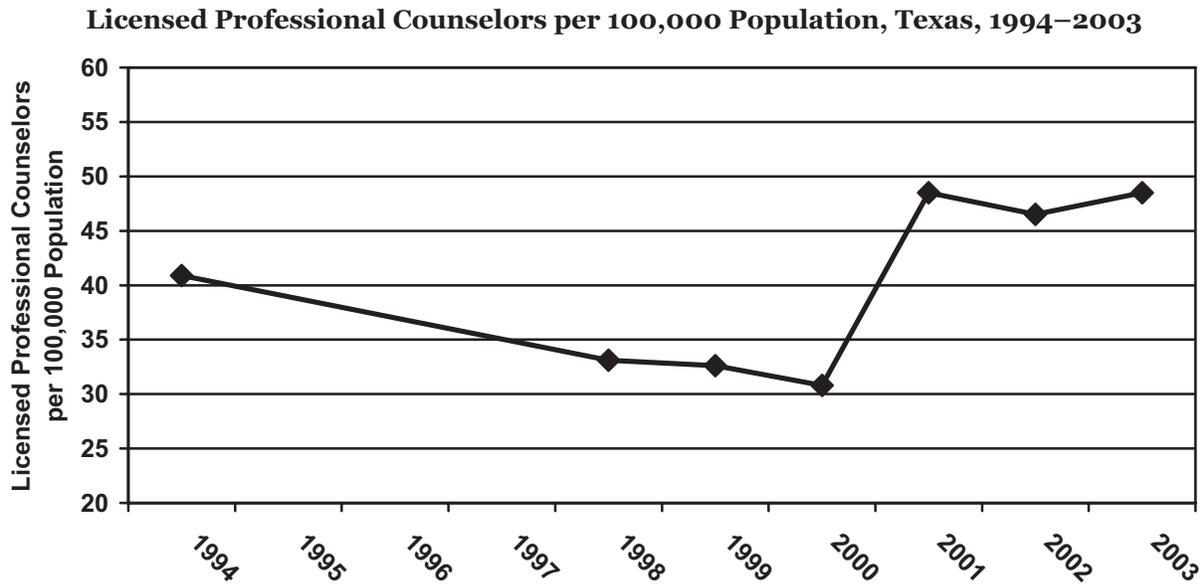
Source: Texas Professional Licensing and Certification Division, TDH

### ***Licensed Professional Counselors***

The Division of Professional Licensing and Certification at the Texas Department of Health issues licenses to professional counselors in Texas. The ratio of counselors per 100,000 population declined between 1994 and 2000. In 2001, the ratios rapidly increased and have remained stationary for the past three years (Figure 2.27).

In 2003, there were 52 counties with no Licensed Professional Counselors, compared to 72 in 1994 (Appendix C, item 26). However, 14 counties that had counselors in 1994 did not have a counselor in 2003. Thirty-four counties that did not have a counselor in 1994 had at least one in 2003.

Figure 2.27



Source: Texas Professional Licensing and Certification Division, TDH

### ***Advanced Practice Nurses (APNs)***

The Texas Board of Nurse Examiners recognizes APNs in various clinical practice areas. Nurse Practitioners (NPs) may be recognized in one of 12 clinical areas. In 2003, there were 77 NPs with Psychiatric / Mental Health recognitions, an increase from 2000, when there were 43 NPs with P/MH recognitions. Clinical Nurse Specialists may be recognized in one of 14 clinical areas. In 2003, there were 322 CNSs with P/MH recognitions, a decrease from 2000, when there were 372 CNSs with P/MH recognitions.

**Notes**

1. 1999 AAOA Physician Assistant Census Survey for Texas (Alexandria, VA: American Academy of Physician Assistants).
2. Carol Reineck, Antonio Furino, Joseph Lucke, and Robert Wood, *2002 Survey of Texas Registered Nurses, Health and Nurses in Texas 2:2* (fall, 2002) (San Antonio: Texas Institute for Health Policy and Research and the Center for Health Economics and Policy at the University of Texas Health Science Center at San Antonio, in partnership with the Texas Nurses Foundation).
3. Anna Pearl Rains and Poldi Tschirch, "Nursing Education: An Assessment of Educational System Capacity to Meet Workforce Demands," in *The Future of Nursing: Data for Action, Health and Nurses in Texas 3:1* (fall, 2000) (San Antonio: Texas Institute for Health Policy and Research and the Center for Health Economics and Policy at the University of Texas Health Science Center at San Antonio, in partnership with the Texas Nurses Foundation).
4. Peter I. Buerhaus, Douglas O. Staiger and David I. Auerbach, "Implications of an Aging Registered Nurse Workforce," *Journal of the American Medical Association 283:22* (June 14, 2000).
5. Ibid.
6. Don R. Miller, *The Supply of Registered Nurses: First Look at Available Data, Health and Nurses in Texas 1:1* (winter, 2000) (San Antonio: Texas Institute for Health Policy and Research and the Center for Health Economics and Policy at the University of Texas Health Science Center at San Antonio, in partnership with the Texas Nurses Foundation).
7. Buerhaus et al., op. cit.
8. Reineck et al., op. cit.