Increasing Capacity and Efficiency in Programs Leading to Initial RN Licensure in Texas

Texas Higher Education Coordinating Board

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Executive Summary

Introduction

Nurses often are referred to as the "backbone" of health care in the United States. They are frequently the most visible practitioners in a hospital, school, home, or long-term care facility, focusing not only on a particular health problem but also on the whole patient and his or her needs and the needs of the family. Registered nurses (RNs), those individuals who have earned at least a three-year diploma, two-year associate's degree (ADN), or a four-year baccalaureate degree (BSN) in nursing, constitute the largest health care occupation, holding 2.3 million jobs in the United States.[1] Texas had 136,600 RNs (approximately 6 percent of the national total) residing and practicing in the state in August 2003. Of those Texas RNs, 91 percent are female and 77 percent are white. They have a median age of 46 and the median age is increasing at a rate more than twice that of all other occupations. Approximately 75 percent of Texas nurses work in either a hospital (64.3 percent), home health care setting (5.3 percent), or physician's office (5 percent).[2]

In recent years, Texas, like many states, has experienced a well-publicized nursing shortage. While vacancy rates in some parts of the state suggest that the shortage is abating, the current shortage is different from those of the past and therefore may have a more long-term impact on the availability and quality of health care delivery. In the past, nursing shortages have been caused primarily by market factors such as levels of health care reimbursement. The current shortage is driven primarily by demographic changes. General population growth, the rising proportion of people over age 65, and advances in medical technology are expected to greatly accelerate the future demand for patient care services and, thus, the need for RNs. As a result of these factors, the U.S. Department of Labor has identified RNs for the first time as the top occupation in the country in terms of job growth through the year 2012. *This means that more new jobs are expected to be created for registered nurses than for any other occupation*. And while other health care occupations – particularly those in allied health fields – show higher rates of job growth in Texas, the sheer number of nurses needed to fill new and replacement positions in Texas makes nursing education an important issue for the State of Texas. The Coordinating Board has determined that increasing the number of RN graduates is of sufficient importance to make it a specific target for success in *Closing The Gaps by 2015: The Texas Higher Education Plan.*

Origins and Scope of the Study

In fall 2003, the Texas Nursing Education Policy Coalition (NEPC) asked the Coordinating Board to "consider a study related to the ability of Texas schools of nursing to respond to the nursing shortage." While simply stated, the issues surrounding the supply of and demand for nurses are complex. The current and future supply of nurses in Texas is affected by a variety of factors, including the rate at which Texas can enroll students and graduate new professionals from educational programs, the capacity of educational programs to meet market demand, the rate at which nurses migrate in and out of the state, expanding career options for women, demographic trends that affect the size and age of the labor force, and workforce issues such as salary levels and working conditions.

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[1] Source: U.S. Department of Labor, 2004
[2] Source: Board of Nurse Examiners for the State of Texas, 2004

In an effort to address some of the issues within this complex health care environment, Coordinating Board staff have focused this study primarily on students in initial RN licensure degree programs and the faculty who teach in those programs. The study does not address other important issues in nursing, including instruction for licensed vocational nurses, advanced practice nurses (e.g., nurse midwives and nurse practitioners), and the importation and training of foreign-born nurses. It also provides only basic information and recommendations on the nurse practice environment – an important topic deserving its own in-depth review and analysis.

This study is divided into five sections. Section I describes the educational pathways for initial RN licensure and identifies initial RN educational programs in Texas. Section II presents trend data on applications, admissions, enrollments, and graduations in RN nursing programs. Section III examines existing and potential faculty for nursing programs. Section IV describes some of the critical academic issues in nursing education and the Coordinating Board's efforts and initiatives to help increase capacity in nursing programs. Section V profiles RNs practicing in the state.

Summary of Key Findings

Initial RN Licensure Programs

With support from the Texas Legislature and other public and private sources, including hospitals, the state's nursing programs in recent years have increased interest in nursing, admitting more students, and graduating more of them. Applications increased by 67 percent from 1997-2003 and by 38 percent since 2001. There were approximately 6,000 qualified applicants to *initial* RN programs who were not offered admission in fall 2003, and while it is unclear how many of those applicants applied to more than one nursing program, (we suspect many), the number suggests that there is a limited capacity in individual programs to accommodate the growing interest in nursing.

Offers of admission and first-year entering enrollments are up by approximately 87 percent for this same period. After a three-year decline, the number of initial RN licensure graduates in 2003 returned to 1997 levels.

The state's nursing programs also should be commended for steadily increasing the ethnic diversity of its graduates at a time when many other health care professions have seen significant declines in enrollments from under-represented groups (possibly affected by restrictions imposed by the *Hopwood* decision).

ADN programs have traditionally produced the majority of graduates in the state (64 percent of total initial RN graduates in 2003), but interest (student applications and admissions) in BSN programs is growing faster. This interest may mirror a movement in other states toward emphasizing baccalaureate degrees as the preferred entry-level credential for nursing. For example, a North Carolina task force recently wrote: "By expanding pre-licensure BSN, RN-to-BSN and accelerated BSN programs, the Task Force envisioned the current ratio of 60% ADN/Diploma and 40% BSN nurses could gradually change over the next 10-15 years to 40% ADN/Diploma and 60% BSN."[3] If Texas were to continue to mirror these trends, there would be significant financial implications for the State and for students.

[3] Source: Task Force on the North Carolina Nursing Workforce, 2004

Applications and admissions are increasing at a faster rate than increases in graduation. That is due, in part, to the lag time between enrollment and graduation, but it also follows a general trend in higher education: students are taking longer to graduate. This failure of production to closely follow increased enrollments may also indicate problems with student retention in some initial RN licensure programs. Student retention data are not readily available from the nursing programs. If standardized data were available, educators could target attrition problems at individual schools and identify best practices among schools with high retention rates. CB staff will further examine this issue and develop recommendations if warranted.

Despite the growing competitiveness for admissions to nursing programs, schools had 405 vacant seats in fall 2003, fewer than in the last four years but more than in the late 1990s. Vacancies in high-demand programs suggest the need for better coordination of the application and admissions process among nursing programs. An analysis of initial RN licensure programs delivered via distance education also showed a lack of statewide coordination.

Nursing Faculty

In an April 2004 survey, nursing deans and directors said that to continue to increase enrollments to meet demand of students alone, they would need more faculty, and faculty are hard to find. (One indication of that problem is shown on the first bar graph Section III.) With enrollments climbing, the average entering class size of RN licensure programs increased 108 percent from 1999 to 2003, while average FTE faculty at these programs increased by only 13 percent for this same period. These disparities probably cannot continue to increase without affecting educational quality.

Furthermore, in fall 2003, "lack of budgeted faculty positions" was the most frequently stated reason that nursing programs gave for not admitting additional qualified applicants. Other report findings support the contention of nursing program directors that "lack of nursing faculty" appears to be one of, if not the greatest, impediment to increasing capacity in nursing programs.

An analysis of current faculty show that 76 percent have a master's degree in nursing or in another field. If national trends are true for Texas faculty, nurses become faculty later in life. The median age of doctoral graduates in nursing was 46.2 in 1999. Given that the mean age of retirement of full-time faulty in 2002 was 61.5 years, the number of productive teaching and research years are curtailed because of nurses' relatively greater age at graduation.

Faculty salaries in academic settings are also a deterrent to recruitment and retention. Nursing deans and directors say that this is the case at all levels of faculty rank in most academic settings, whether they are recruiting a master's degree nurse at the local level or a doctorally prepared nurse through a national search. Staff analysis shows that average salaries for nursing faculty at community colleges and at instructor levels at universities are particularly low as compared to those salaries earned by practicing nurses. Salaries likely need to be increased if the state wants to retain existing faculty and hire new faculty to increase enrollment capacity.

The number of graduates from masters and doctoral degree programs decreased by 23 percent from 1994 to 2003 – a 10-year low in the number of graduates. The three health-related institutions that offer doctoral degrees – representing one-half of all Texas institutions offering the doctoral degree in nursing -- have produced only 44 graduates during this period.

Fall 2003 enrollment data show that schools are recruiting more students into graduate nursing programs; however, nursing education, a specialization that may most likely indicate student interest in becoming nursing faculty directly after graduation, represents less than 2 percent of all students enrolled in master's level programs. In contrast, practice-based specializations such as clinical nurse specialists, nurse practitioners, nurse midwives, and nurse anesthetists represent 70 percent of the students enrolled in master's level programs. Student interest in these other specializations most likely reflects the perceived status of those practitioners within nursing, the demand for advanced practice nurses, and the salaries they are paid. Nursing programs or the state should provide incentives for students to choose nursing education as a specialization in master's programs.

Special Issues in Nursing Education

Earlier this spring Coordinating Board staff surveyed the state's nursing deans and directors about their opinions on the nursing shortage and issues affecting nursing education and practice. Their responses indicated their belief that their ability to hire new nursing faculty was the greatest impediment to increasing enrollments in nursing programs. "Lack of parity between faculty salaries and practice salaries in local area or region" was seen as the greatest obstacle in hiring. Academic preparation and retention of incoming students also was a concern of these nursing educators, especially those in the Border region and in Southeast Texas. Deans and directors saw more money, particularly more state formula funding, as the solution to these problems.

Staff also asked the deans and directors why they thought nurses leave the profession. In general, respondents blamed stressful working conditions, although lack of respect, unattractive work hours, and lack of autonomy also were considered important factors in attrition. Some people believe that these issues have worsened with the implementation of managed care.

Other Coordinating Board studies provided insights into costs and staffing requirements associated with potential enrollment increases. In one cost study, staff estimated that the state's 66 public nursing programs could increase enrollments by 16 percent (2,060 students) at a cost of $14.2 million. This amount represents the cost of hiring 211 new nursing faculty, while all other space constraints (such as facilities and clinical sites) remained the same. Staff also looked at actual costs of operating nursing programs in comparison to current formula funding weights.

The Coordinating Board administers a number of programs and activities that promote innovation in nursing education and articulation among the state's nursing programs. Several policies resulting from these activities, such the development of a Field of Study Curriculum for nursing, will need further monitoring by Board staff. Professional organizations such as the Texas Nurses Association have been promoting new strategies to help coordinate common activities among nursing programs, stretch existing faculty and resources, build partnerships between clinical facilities and nursing programs, and increase capacity at individual schools. These concepts are the focus of a grants competition to be conducted in fall 2004 and supported by funds from the Texas Tobacco Lawsuit Settlement.

Nursing Practice

Finally, a review of nurse practice data showed that 136,600 nurses reside and practice in Texas. They are predominately female (91 percent); white (77 percent) and 40 years old or older (61 percent). The majority of nurses have a diploma or associate degree (51

percent) and work as staff nurses (58 percent) in hospital settings (64 percent). The High Plains, Gulf Coast, and the Metroplex regions have the most nurses per 100,000 population. South Texas (particularly the areas of the Lower Rio Grande Valley and the Upper Rio Grande Valley) have the fewest nurses per 100,000 population. Developing educational programs at all levels of instruction and practice, and facilitating partnerships between providers and higher education institutions, may help retain nurses in practice and eventually recruit some of them to academic positions.

Recommendations

As a result of these and other findings, Coordinating Board staff makes the following recommendations:

	ACTION TO BE TAKEN BY					
RECOMMENDATIONS (High priority recommendations are shaded)	Legislature	THECB	Educational Institutions	Employers	Nursing Community	Other
RN Education Programs						
Set statewide goals for increasing the number of initial RN licensure graduates and identify funding required to produce these results.		x	x		x	
Study retention rates of nursing programs and establish a forum for promoting best practices.		x	x		x	
Increase financial aid funding for the Professional Nursing Aid Program from $526,288 to $3.5 million for the biennium (a reallocation of $1.5 million in existing funds and $1,473,712 in new funds.) Cost: $ 1,473,712.	x	x				
Establish a statewide or regional application and admissions center(s) for initial RN licensure programs. Cost: $250,000 for initial start-up in first two years.	x		x		x	x
Continue to study articulation agreements between community colleges, universities, and health-related institutions to determine and promote best practices.		x	x			
Monitor and enforce compliance by nursing programs with the Field of Study Curriculum.		x				
Continue to support research in nursing education through the Nursing, Allied Health, and Other Health-related Education Grant Program, a program funded from proceeds of the State's Tobacco Lawsuit Settlement.	x	x				
Promote innovation in nursing education through the "regionalization" of common administrative and instructional functions, interdisciplinary instruction, pooled or shared faculty, and new clinical instruction models to maximize use of existing resources and faculty.		x	x	x	x	x
Continue to develop new accelerated and alternate entry degree programs to speed the graduation of nurses and to help attract students from underrepresented groups to the profession.	x	x	x	x	x	x
Study K-12 curricula and make recommendations to better prepare college-bound students for health care careers.	x		x		x	
Provide special item funding to increase enrollments and retention in nursing programs in South Texas (especially in areas outside Bexar County), where practice to population ratios are the worst in the state. Cost: $2.5 million for the biennium.	x		x	x		

RECOMMENDATIONS (High priority recommendations are shaded)	ACTION TO BE TAKEN BY					
	Legislature	THECB	Educational Institutions	Employers	Nursing Community	Other
Better coordinate distance education offerings to avoid overlap of programs, share faculty expertise and increase educational opportunities in areas of the state (especially in parts of West Texas) where new degree programs or special training are needed.		x	x	x	x	
Review funding for nursing programs and particularly for nursing faculty to ensure that programs have adequate support to maintain quality while increasing enrollments.			x			
RN Education Faculty						
Establish incentives such as a loan repayment program for graduate students, particularly those from underrepresented groups, who are interested in careers in nursing education. Cost: $ 1.4 million for the biennium.	x	x	x			
Make filling vacant nursing faculty positions and creating new faculty positions at competitive salaries a top priority in budgeting decisions.			x			
Increase ADN faculty salaries, and, in some cases, instructor salaries at universities, to be more competitive with nurse practice salaries. Cost: $11 million for the biennium.	x		x			
Educational Opportunities for RNs in Practice Settings						
Reward nurses (e.g., academic credit or a stipend) who serve as preceptors for nursing education programs.			x	x		
Build a positive work environment that promotes continuing education and makes accommodations such as offering flexible work schedules for nurses with young children and creating new roles for older nurses.				x	x	
Encourage joint appointments for practicing nurses to teach in nursing programs.			x	x		x
Develop standardized, centrally-delivered coursework to prepare practicing nurses for teaching positions.			x	x	x	x
Continue to provide tuition reimbursement programs to encourage employees to pursue nursing education.				x	x	
Examine the need for additional RN-refresher courses and the effectiveness of existing refresher courses in encouraging nurses to re-enter the profession.			x	x	x	

Acknowledgements

Board staff gratefully acknowledges the expertise and assistance of the staff of the Board of Nurse Examiners for the State of Texas, Aileen Kishi and Bruce Gunn of the Texas Department of Health, and Wanda Douglas and Jim Willmann of the Texas Nurses Association.

I. General Information

This section describes the educational pathways for initial RN licensure and identifies initial RN licensure programs in Texas.

What is a Registered Nurse (RN)?

In Texas, the professional title "registered nurse" may be used only by individuals who have graduated from an accredited diploma, associate degree (ADN), or bachelor's degree (BSN) nursing program, passed a national comprehensive examination (the NCLEX-RN®), and are licensed by the Board of Nurse Examiners for the State of Texas (BNE). The BNE is the chief regulatory agency in Texas for both licensed vocational nurses and registered nurses and is responsible for approving nursing programs, licensing new graduates and nurses moving to Texas from other states and countries, investigating complaints against nurses, and taking disciplinary action against licensees.

After an RN becomes qualified for nursing practice at this basic level, they may accept positions in a hospital, clinic, or other health care setting. In these different settings, they may rise through the nursing ranks, for example, from graduate nurse, to staff nurse, to nurse manager, and possibly beyond. A registered nurse with a baccalaureate degree may also take advanced courses at the master's level to qualify for a more specialized nursing role (e.g., nurse educator, nurse administrator, nurse practitioner, clinical nurse specialist). Illustration 1 shows different pathways for a student to become a registered nurse in Texas and then go on to earn more advanced training and specialization.

Special Focus of this Study

While there are a number of issues affecting all levels of professional nursing, this study concentrates on those issues affecting the education and practice of nurses at the basic level (Diploma, ADN, and BSN graduates). It is at this level that the state has the greatest need to produce more nurses to help relieve any current or future shortage. More specifically, the study focuses on initial RN licensure programs which award degrees to students who are eligible to apply to take the professional licensure exam and be licensed for the first time. The term "initial RN licensure" would not apply to a registered nurse who, for example, graduated from an ADN program and then returned to school to earn a BSN degree.

Types of RN Programs

Texas has four types of educational programs leading to initial RN licensure:

Diploma Programs – traditionally require three years of study at a single-purpose school. In Texas, the state's two diploma programs are administered by hospitals.

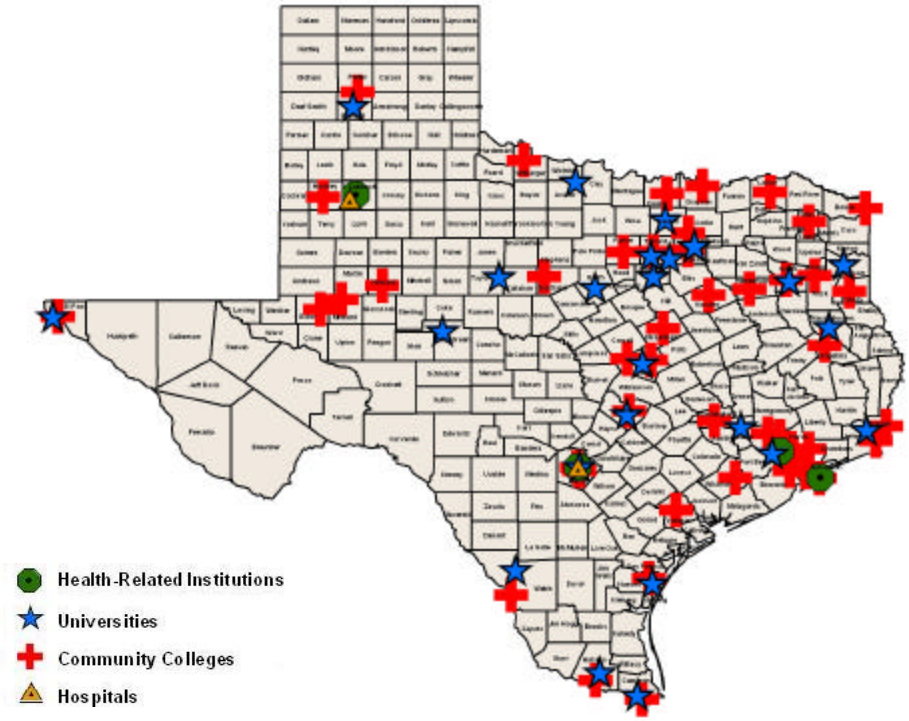
Associate Degree Programs (ADN) – traditionally require two years of study at a community college.

Baccalaureate Degree Programs (BSN) – traditionally require four years of study. The nursing curricula usually take place during the last two years at a university, or academic health science center.

Alternate Entry Programs – are normally accelerated programs for baccalaureate graduates in another discipline who are interested in obtaining initial RN licensure. They usually are provided by a university, or academic health science center.

Map 1 shows the number and distribution of these initial RN licensure programs in Texas.

Map 1: Initial RN Licensure Programs at Public and Independent Institutions in Texas



Sources: Texas Higher Education Coordinating Board and Board of Nurse Examiners for the State of Texas THECB 07/2004

A list of institutions offering these nursing programs is included as Appendix A.

Table 1 provides statistical information about these programs by type of nursing degree:

TABLE 1: General Statistics on Initial RN Licensure Programs In Texas (2003)

Type of Degree	Number of Programs*	% of Total 2003 Enrollment	% of Total 2003 Graduates
Diploma	2	2.5 %	3.0 %
ADN	50	56 %	61.4 %
BSN	25	41.5 %	35.6 %
Universities		33 %	26.3 %
Health-related Institutions		8.5 %	9.3 %

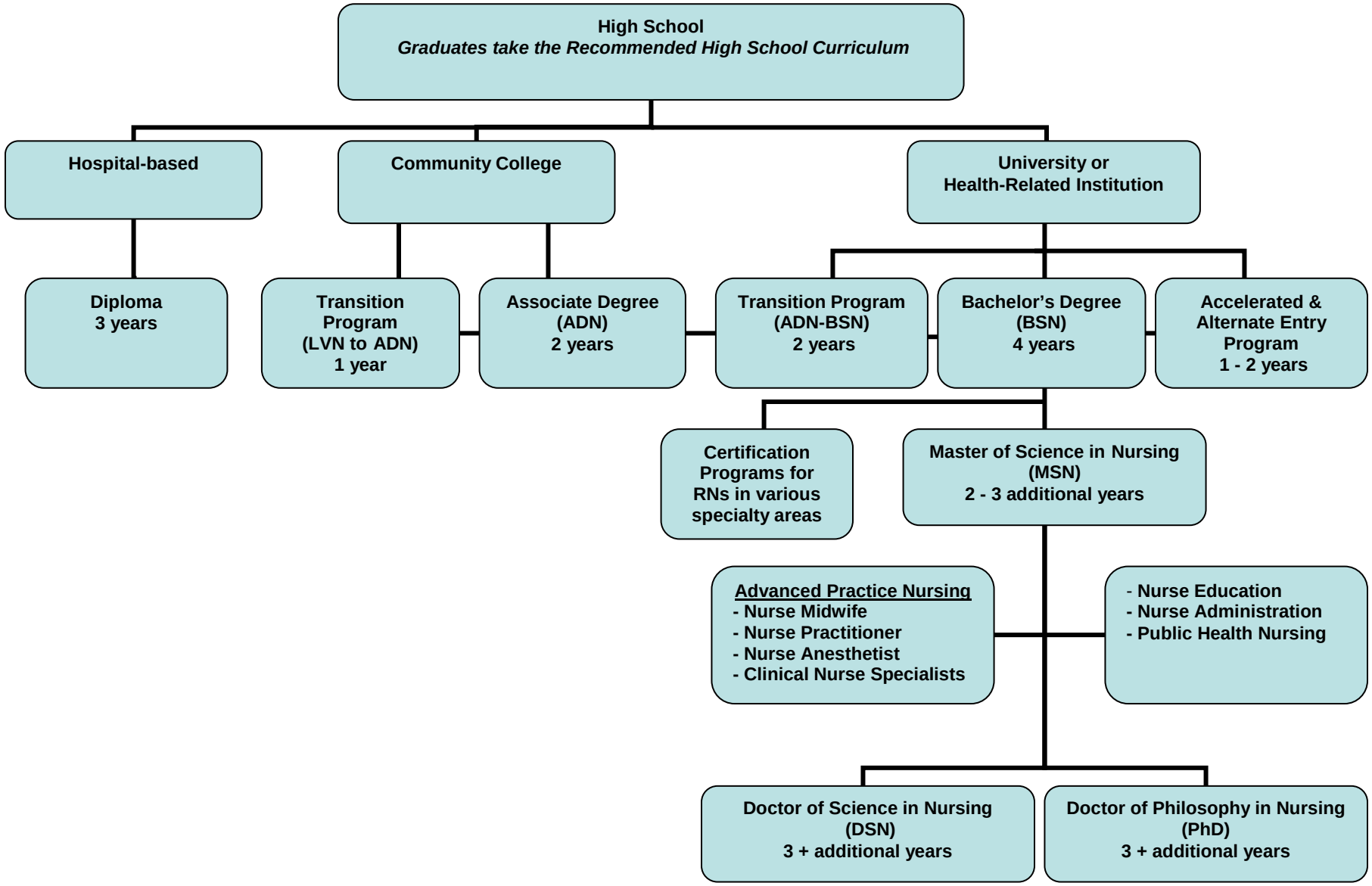
Source: Texas Board of Nurse Examiners; Texas Nurses Association

* Number of programs – represents higher education institutions or hospitals that are approved by the BNE to offer a program leading to initial RN licensure as of September 1, 2003. Lamar University at Beaumont and Houston Baptist University are the only institutions counted twice because each institution offers both the ADN and BSN programs. Nevertheless, many of these institutions offer more than one pathway or program for students to become a registered nurse. (See Illustration 1) The University of Texas at Austin's Alternate Entry MSN program is not counted as a separate program but its enrollment and graduation numbers are included in the BSN count.

Of the 77 programs referenced above, 66 represent nursing programs at public institutions: (48 ADN programs; 18 BSN programs; no Diploma programs).

It is not uncommon for nursing programs to offer more than one pathway or program for students to become RNs. For examples, many schools offer transitional programs that prepare licensed vocational nurses to become RNs through a Licensed Vocational Nurse (LVN)-to-ADN "bridge" program or to offer ADN graduates who are already registered nurses the opportunity to earn a BSN.

COMMON CAREER PATHWAYS FOR REGISTERED NURSES
Illustration 1



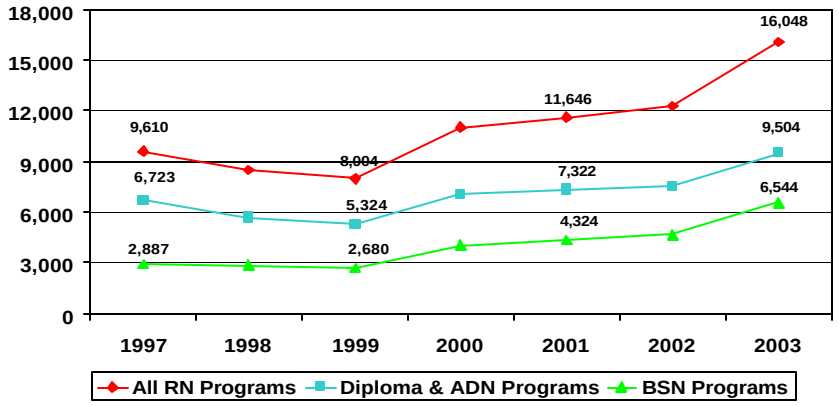
II. Academic Demographics

This section presents trend data on applications, admissions, enrollments, and graduations for the state's RN licensure programs. Statistics represent nursing programs at both public and private institutions unless otherwise noted.

Applications

- Applications have increased 67 percent from 1997 to 2003. Applications to BSN programs increased 127 percent; Diploma and ADN programs, 41 percent.

Graph 1: Total Qualified Applications to RN Licensure Programs* in Texas (1997- 2003)



*** Numbers include applications to the RN-to-BSN track within Basic Nursing Programs.**

Note: Applications are duplicated. Numbers may include multiple applications sent by one applicant.

Source: Board of Nurse Examiners for the State of Texas

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(Note: BSN increases include students applying to the RN-to-BSN track within Basic Nursing Programs. Based on available 2003 data, qualified applications to the RN-to-BSN track represent approximately 13.5 percent of the qualified applications.)

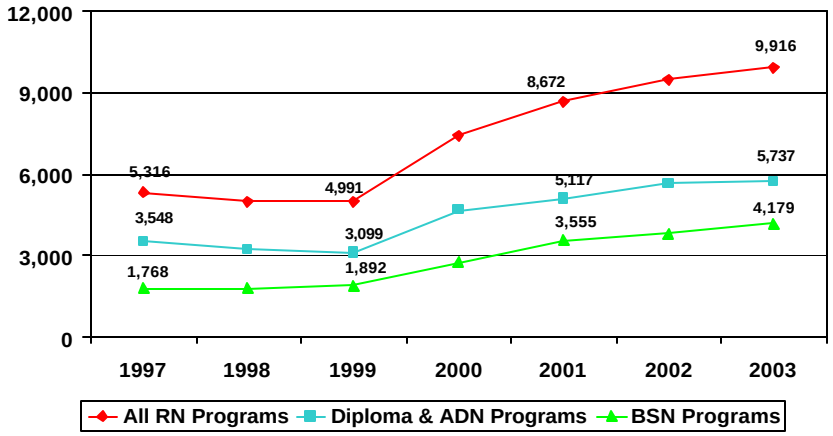
Additional Comments and Details:

Applications increased by 67 percent from 1997-2003 and by 38 percent since 2001. There were approximately 6,000 qualified applicants to *initial* RN programs who were not offered admission in fall 2003, and while it is unclear how many of those applicants applied at more than one nursing program, the number suggests that there is a limited capacity in individual programs to accommodate a growing interest in nursing among students.

Admissions

- Offers of admission have increased by 86.5 percent from 1997 to 2003. Offers from BSN programs increased 136 percent; Diploma and ADN programs, 62 percent.

Graph 2: Total Offers of Admission to RN Licensure Programs* in Texas (1997- 2003)



*** Numbers include offers of admission to the RN-to-BSN track within Basic Nursing Programs.**

Source: Board of Nurse Examiners for the State of Texas

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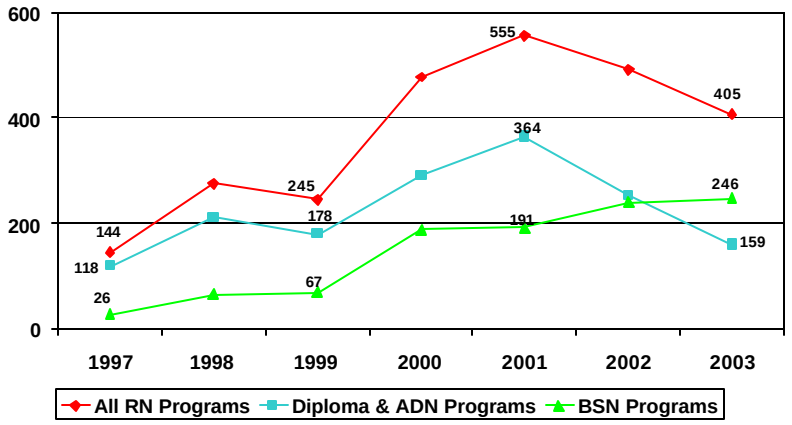
(Note: BSN increases include students offered admission to the RN-to-BSN track within Basic Nursing Programs. Based on available 2003 data, offers of admission to the RN-to-BSN track represent approximately 18.4 percent of the offers.)

- Despite the increasing competitiveness for admission to nursing programs, schools had 405 vacant seats in fall 2003, fewer than in the last four years but more than in the late 1990s. In 2003, vacancies in BSN programs exceeded vacancies in ADN programs for the first time during this seven-year period.

Graph 3: Total Vacant Seats in RN Licensure Programs* in Texas (1997- 2003)



*** Numbers include vacancies in the RN-to-BSN track within Basic Nursing Programs.**

Source: Board of Nurse Examiners for the State of Texas

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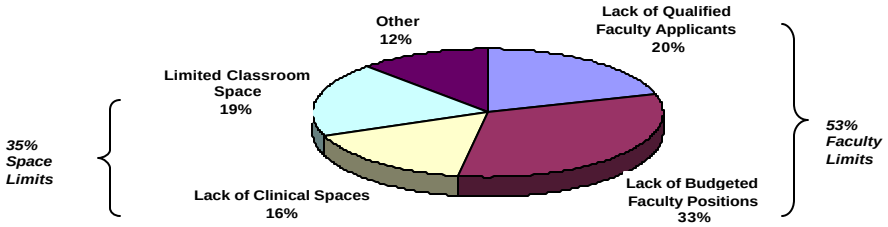
Additional Comments and Details:

The 405 vacant seats only represent gaps in *current* capacity, not potential capacity in nursing programs. For more information about potential capacity in the state's nursing programs, see Student Capacity Study on page 28.

- "Lack of budgeted faculty positions" is the most frequently stated reason that nursing programs give for not admitting qualified applicants.

Graph 4: Stated Reasons Why Qualified Applicants Are *Not* Admitted to ADN and BSN Programs in Texas (2003)



Source: Board of Nurse Examiners for the State of Texas

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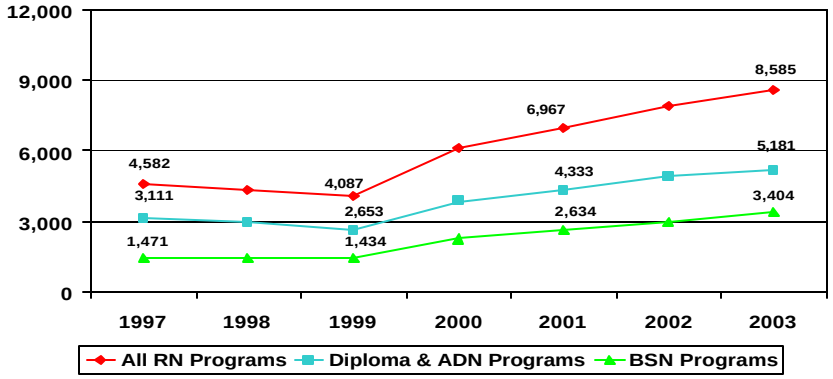
Enrollments

- First-year entering enrollments have increased 87 percent from 1997 to 2003. First-year entering enrollments at BSN programs increased 131 percent; Diploma and ADN programs, 66 percent.

Graph 5: Total First-Year Entering Enrollment in RN Licensure Programs* in Texas (1997- 2003)



*** Numbers include first-year entering enrollment in the RN-to-BSN track within Basic Nursing Programs.**

Source: Board of Nurse Examiners for the State of Texas

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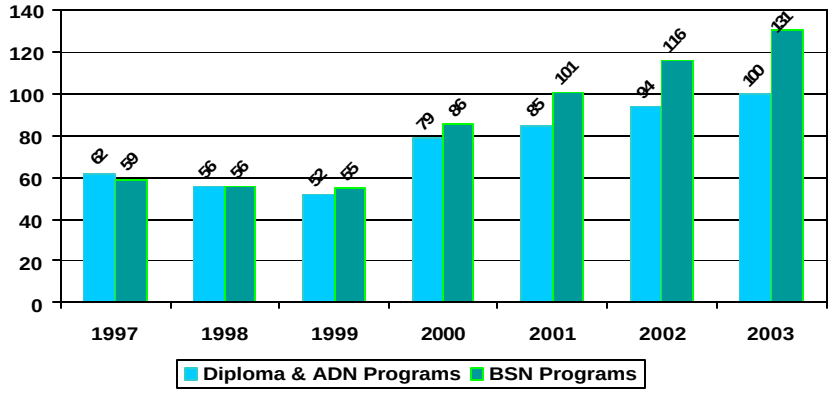
Note: BSN increases include first-year entering students in the RN-to-BSN track within Basic Nursing Programs. Based on available 2003 data, first-year entering students in the RN-to-BSN track represent approximately 16.8 percent of the first-year entering students.

- Average entering class size for all RN licensure programs increased 80 percent from 1997 to 2003. BSN average entering class size increased by 122 percent; Diploma and ADN programs, by 61 percent.

Graph 6: Average Entering Class Size in RN Licensure Programs* in Texas by Type of Program (1997- 2003)



*** Numbers include seats in the RN-to-BSN track within Basic Nursing Programs.**

Source: Board of Nurse Examiners for the State of Texas

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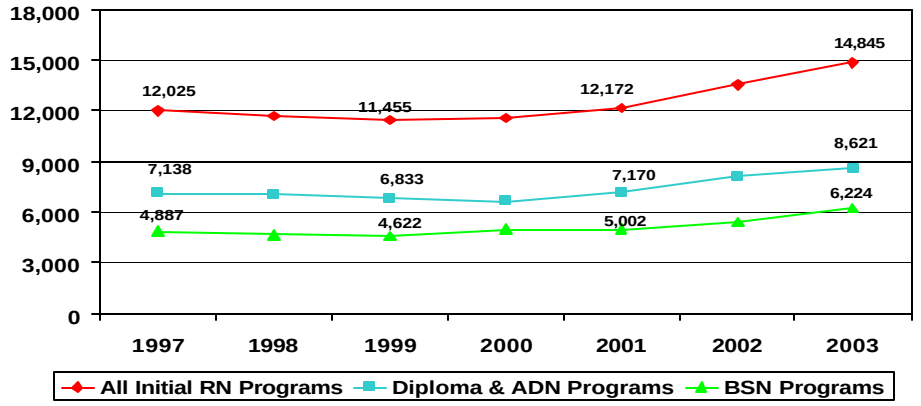
- Enrollments in initial RN licensure programs have increased 23 percent from 1997 to 2003. BSN enrollments have increased by 27 percent; Diploma and ADN programs, 21 percent.

Graph 7: Total Enrollment in Initial RN Licensure Programs* in Texas (1997- 2003)



*** Numbers exclude total enrollees in the RN-to-BSN track within Basic Nursing Programs.**

Source: Board of Nurse Examiners for the State of Texas

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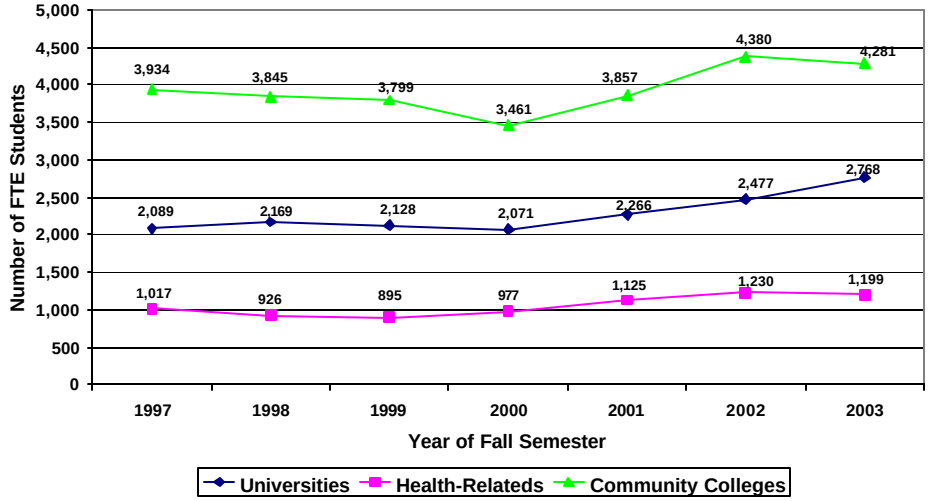
- While enrollments increased from 2002 to 2003, total student FTEs *decreased* for health-related institutions and community colleges, indicating that students are taking fewer courses. If these trends continue, students will take longer to graduate.

Graph 8: Number of Full-Time Equivalent Students* in RN Licensure Programs by Type of Institution (1997-2003)



***Number of FTE students derived by dividing the number of fall semester credit hours generated by 15.**

Source: Texas Higher Education Coordinating Board

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Additional Comments and Details:

In recent years, schools also have added pre-requisites to their degree programs. For example, most, if not all, ADN programs require two courses (most commonly Anatomy and Physiology) which would take a minimum of two semesters to complete, since Anatomy is normally a prerequisite to physiology. One school offered this explanation: "We have definitely changed our "lingo" around here as we used to say we had a 2-year associate degree program. Now we say there is a 2-year nursing course sequence. When a prospective student and their parents hear about prerequisites to that sequence, it doesn't take them long to realize they are actually looking at a 3-year program for what has been traditionally thought of as a 2-year degree."

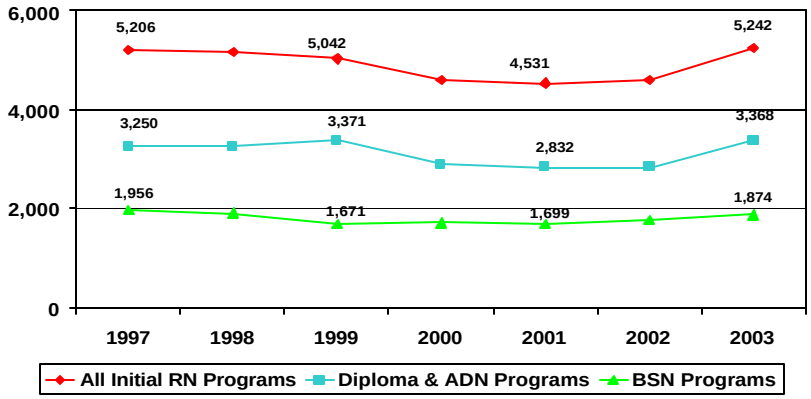
Student Retention

Although uniform student retention data is not readily available from the nursing programs, the Texas Nurses Association estimates student retention (from enrollment to graduation) to average 70 percent among all programs. In informal conversations with nursing deans, Coordinating Board staff has found that retention rates vary significantly among institutions, with health-related institutions reporting more than 90 percent retention and other institutions reporting as little as 40 percent retention in initial RN licensure programs. Board staff will study this issue further and develop recommendations if warranted.

Graduates

- After a three-year decline, the number of 2003 initial RN graduates has returned to 1997 levels.

Graph 9: Total Graduates from Initial RN Licensure Programs* in Texas (1997- 2003)



*** Numbers exclude graduates from the RN-to-BSN track within Basic Nursing Programs.**

Source: Board of Nurse Examiners for the State of Texas

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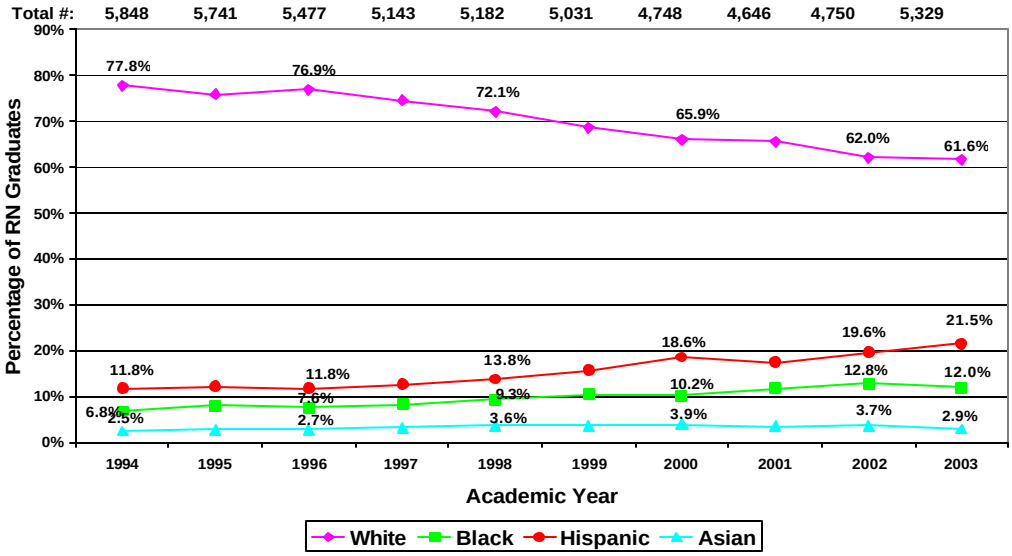
- Although RN graduates do not yet reflect the ethnic diversity of the state's population, the trends are more positive for nursing than for many other health disciplines. Hispanics represented 21.5 percent of graduates; Blacks, 12 percent of graduates in 2003.

Graph 10: Total Graduates from RN Licensure Programs* at Texas Public Institutions by Ethnicity (1994-2003)



***Percentages include graduates from initial licensure programs and RN-to-BSN programs.**

Source: Texas Higher Education Coordinating Board

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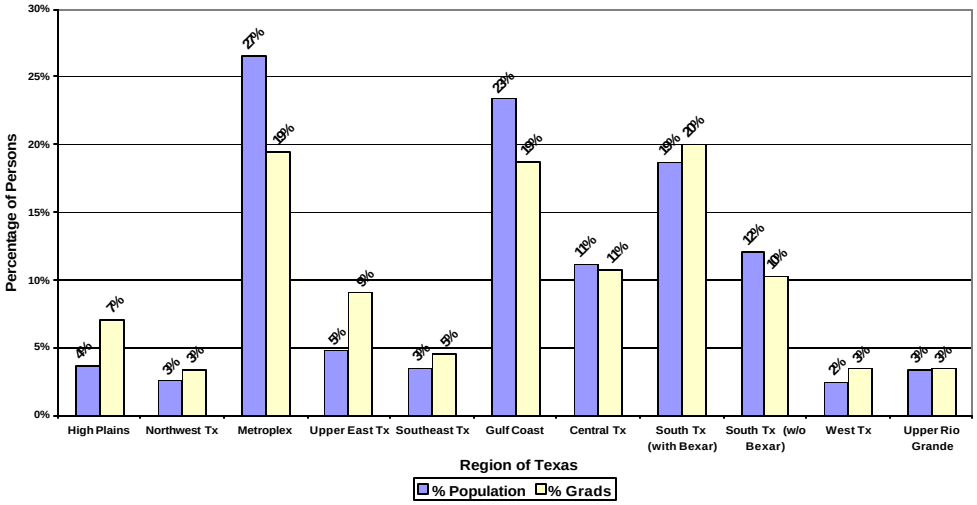
- The Gulf Coast, the Metroplex, and South Texas (excluding Bexar County) have the smallest percentage of the state's graduates compared to those regions' percentages of the state's total population.

Graph 11: Comparison of Regional Population and Regional Graduates of Initial RN Licensure Programs* in Texas (2003)



***Percentages exclude graduates from the RN-to-BSN track within Basic Nursing Programs. TWU graduates divided between the Metroplex and Gulf Coast regions.**

Sources: 1) Regional Population: Texas State Data Center; 2) Bexar County Population: U.S. Census Bureau, 2002; 3) Graduates: Board of Nurse Examiners for the State of Texas.

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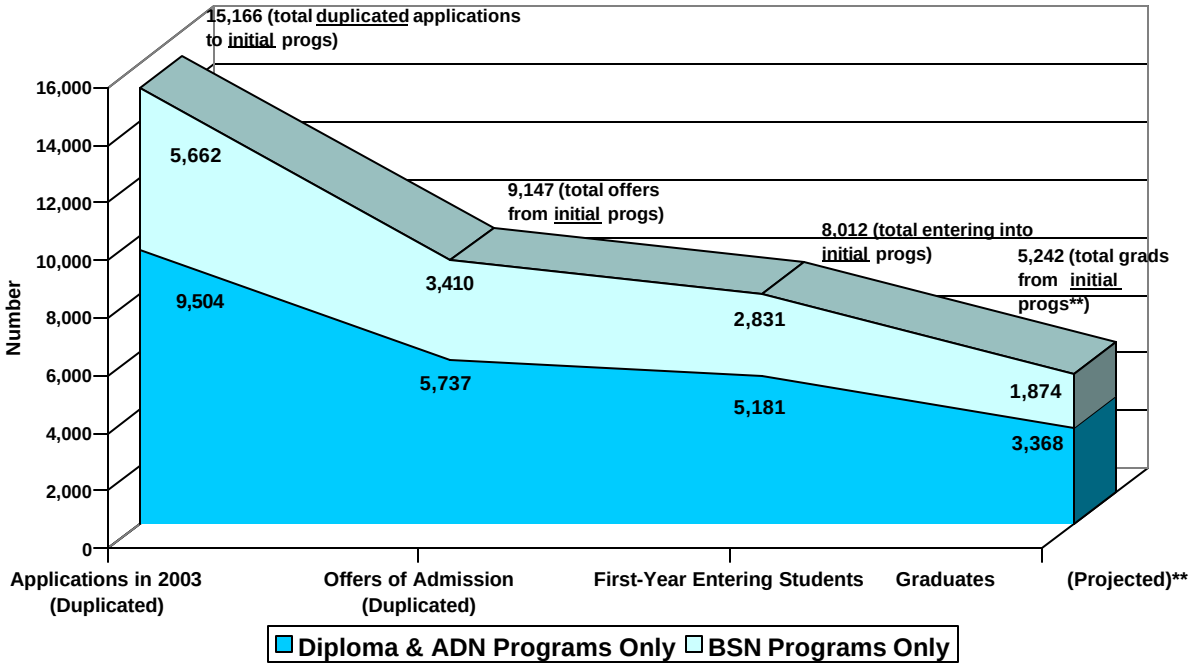
Additional Comments and Details:

While these findings suggest that these areas of the state might have a greater shortage of nurses, RN practice patterns show that urban areas with large medical centers attract a large number of nurses who graduated from institutions in other parts of the state. This is particularly true for graduates from the South Texas region (especially in areas outside Bexar County), where practice to population ratios are the worst in the state. The graduation figures also do not account for the number of nurses coming in from out-of-state and other countries who eventually practice in urban areas. More information about these migration patterns appears in Section V, Practice.

The Nursing Education Pipeline in Texas

- Based on available data, Coordinating Board staff estimates that 88 percent of students offered admission to initial RN licensure programs will enroll and that 65 percent of these enrollees will complete their program.

Graph 12: Educational Pipeline to Obtaining a Nursing Degree from an Initial RN Licensure Program* in Texas (2003)



*Numbers exclude the RN-to-BSN track within Basic Nursing Programs.

** Graduate projections are based on the number of graduates from Diploma, ADN, and BSN programs in 2003.

Source: Board of Nurse Examiners for the State of Texas THECB 07/2004

A larger version of this graph appears in Appendix B.

Conclusions

With support from the Texas Legislature and other public and private sources, including hospitals, the state's nursing programs are increasing interest in nursing, admitting more nursing students, and graduating more for entry into the profession.

Applications increased by 67 percent from 1997-2003 and by 38 percent since 2001. There were approximately 6,000 qualified applicants to *initial* RN programs who were not offered admission in fall 2003, and while it is unclear how many of those applicants applied at more than one nursing program, the number suggests that there is a limited capacity in individual programs to accommodate a growing interest in nursing among students.

Offers of admission and first-year entering enrollments were up by approximately 87 percent for this same period.

After a three-year decline, the number of initial RN licensure graduates in 2003 has returned to 1997 levels. The number of graduates from all initial RN licensure programs represented a 3.6 percent increase from 1997.

The state's nursing programs also should be commended for steadily increasing the ethnic diversity of its graduates at a time when many other health care professions have seen significant declines in enrollments of under-represented groups (possibly affected by restrictions imposed by the *Hopwood* decision).

ADN programs produce the majority of graduates in the state, but student interest (indicated by increases in application and admissions) is greater in BSN programs. This interest may mirror a movement in other states toward emphasizing baccalaureate degrees as the preferred entry-level credentials for nursing. For example, a North Carolina task force recently wrote: "By expanding pre-licensure BSN, RN-to-BSN and accelerated BSN programs, the Task Force envisioned the current ratio of 60% ADN/Diploma and 40% BSN nurses could gradually change over the next 10-15 years to 40% ADN/Diploma and 60% BSN."[1]

Applications and admissions are increasing at a faster rate than increases in graduation, due, in part, to the lag time between enrollment and graduation but also because students are taking longer to graduate. Lagging production of graduates also suggests that student retention may be a problem in some initial RN licensure programs. Board staff will study this issue further and develop recommendations if warranted.

Despite the growing competitiveness for admissions to nursing programs, schools had 405 vacant seats in fall 2003, fewer than in the previous four years but more than in the late 1990s. Vacancies in high-demand programs suggest the need for better coordination of applications and admissions among nursing programs.

"Lack of budgeted faculty positions" is the most frequently stated reason that nursing programs give for not admitting additional qualified applicants.

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[1] Source: Task Force on the North Carolina Nursing Workforce, 2004

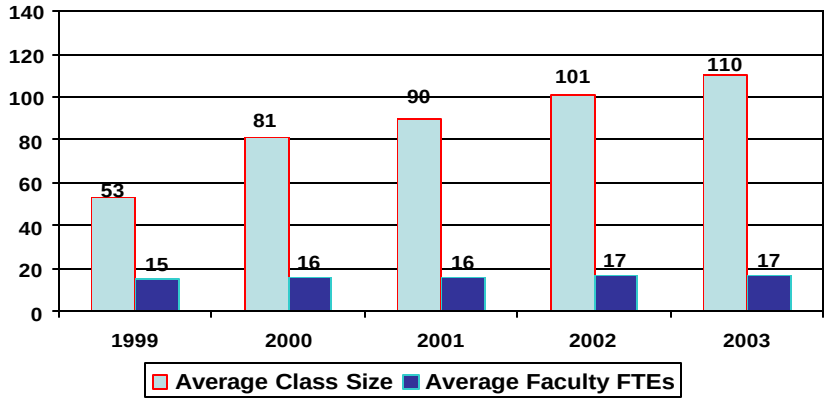
III. Faculty

This section examines issues relating to existing and potential faculty for nursing programs.

Growth in Average Faculty (FTEs)

- From 1999 to 2003, the average entering class size of RN licensure programs increased at a faster rate than the average number of FTE faculty teaching in those programs. The average entering class size increased by 108%, whereas average FTE faculty increased by only 13%.

Graph 13: Average Entering Class Size and Average Faculty FTEs in RN Licensure Programs* in Texas (1999- 2003)



*** Numbers include seats in the RN-to-BSN track within Basic Nursing Programs.**

Source: Board of Nurse Examiners for the State of Texas

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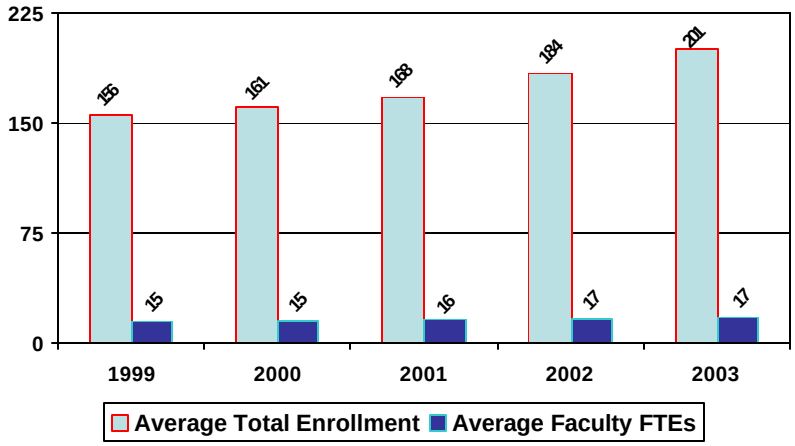
- From 1999 to 2003, the average total enrollment in RN licensure programs also increased at a faster rate than the average number of FTE faculty teaching in those programs – 29 percent for average total enrollment versus 13 percent for average faculty FTEs. The difference was greatest in BSN programs, where the average total enrollment increased by 28 percent and the average number of faculty FTEs increased by 9 percent. These disparities probably cannot continue to increase without affecting educational quality.

Graph 14: Average Total Enrollment and Average Faculty FTEs in All Initial RN Licensure Programs in Texas (1997-2003)



Source: Board of Nurse Examiners for the State of Texas

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Additional Comments and Details:

The number of faculty available to teach in nursing programs is a major factor in determining enrollment capacity. The Board of Nurse Examiners (BNE) has strict faculty-to-student ratios that must be met when students practice their skills in hospitals and other clinical settings. Since the early 1990s, the BNE has provided alternate teaching ratios so that schools could increase enrollments without hiring a significant number of new clinical faculty. Many of these alternate ratios rely on practice nurses employed by the hospital or clinic to serve as preceptors and assist faculty members. These new teaching strategies have allowed nursing programs to increase the ratio of faculty to student from 1 faculty for every 10 students to 1 faculty for 24 students if preceptors are used.

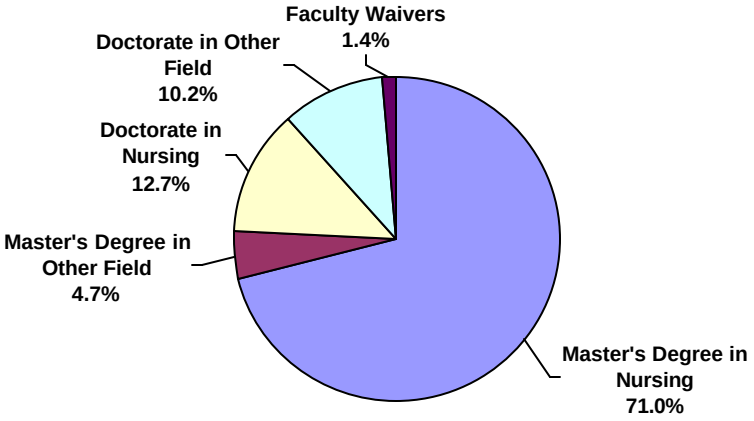
Although these efforts increase the teaching “leverage” of existing faculty, the BNE reported 84 budgeted vacant positions during Fiscal Year 2003.

Educational Attainment of Nursing Faculty

- In 2003, 76 percent of nursing faculty in initial RN licensure programs had master's degrees in nursing (71 percent) or in another field (4.7 percent) and 23 percent had doctorates in nursing (12.7 percent) or in another field (10.2 percent).

Graph 15: Academic Credentials of Nursing Faculty in Initial RN Licensure Programs (2003)

Total Number of Faculty: 1,651
(1,296 Full-Time; 355 Part-Time)



***Percentages include faculty in the RN-to-BSN track within Basic Nursing Programs.**

Source: Board of Nurse Examiners for the State of Texas THECB 07/2004

Additional Comments and Details:

Since 1995, the average age of U.S. graduates from all nursing programs has been 30 years, an increase of seven years from the previous decade. Of recipients of doctoral degrees in 1999 who reported age, the median age was 46.2 years. Given that the mean age of retirement for full-time faculty in 2002 was 61.5 years, the number of productive teaching and research years are curtailed because of age at graduation.[2]

Recent admission trends in Texas show that nursing programs are beginning to attract younger students to both initial RN licensure programs and graduate nursing programs. While this turnaround is positive, it is unclear whether it can offset retirements among a large segment of the nurses who will leave practice and academic positions in the next 5 to 15 years.

[2] Source: American Association of Colleges of Nursing

General Statistics on Existing Nursing Faculty and Their Salaries

The following table summarizes the number of full-time positions and salaries of nursing faculty by program type:

Table 2: 2003 Average Salaries for Full-time Nursing Faculty at Public Institutions

	Community Colleges		Universities		Health-Related Institutions	
Faculty Rank	Number of Faculty	Average **9-month** Salary	Number of Faculty	Average **9-month** Salary	Number of Faculty	Average **12-month** Salary
No Ranking System	253	$ 42,535				
Professor	7	$ 45,354	36	$ 75,825	27	$106,611
Associate Professor	12	$ 43,315	59	$ 59,718	34	$ 80,086
Assistant Professor	30	$ 43,213	83	$ 49,574	13	$ 65,634
Instructor	135	$ 39,700	5	$ 37,062	1	$ 56,000
Lecturer	13	$ 36,917				
Adjunct Faculty	3	$ 39,231				
Special Faculty	10	$ 34,552				
Other	5	$ 30,130	283	$ 43,577	86	$ 66,809
Teaching Assistant			2	$ 36,000	1	$ 48,000
All Ranks	463	$ 41,463	468	$ 49,054	162	$ 75,952

Source: Institutional data reported to the Coordinating Board.

The following table shows those nine-month and annual salaries as monthly salaries:

Table 3: 2003 Average Monthly Salaries for Full-time Nursing Faculty at Public Institutions

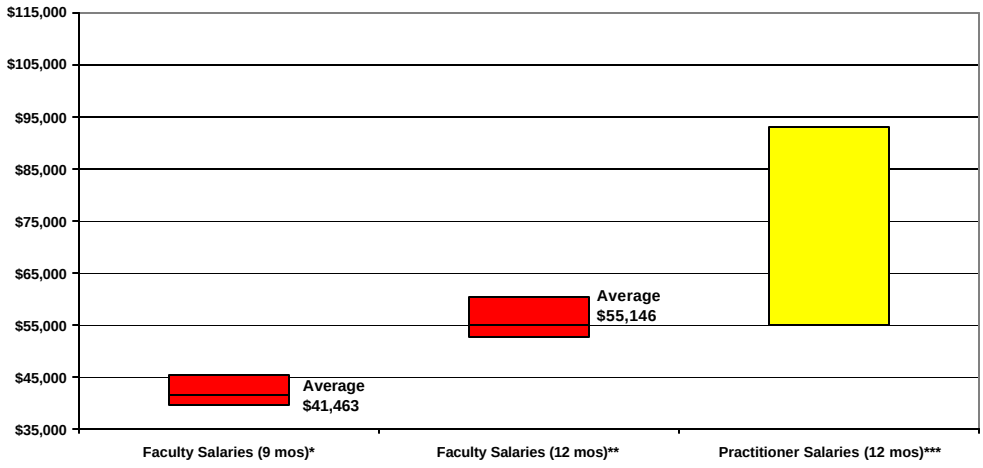
Faculty Rank	Community Colleges		Universities		Health-Related Institutions	
	Number of Faculty	Average Monthly Salary	Number of Faculty	Average Monthly Salary	Number of Faculty	Average Monthly Salary
No Ranking System	253	$ 4,726				
Professor	7	$ 5,039	36	$ 8,425	27	$ 8,884
Associate Professor	12	$ 4,813	59	$ 6,635	34	$ 6,674
Assistant Professor	30	$ 4,801	83	$ 5,508	13	$ 5,470
Instructor	135	$ 4,411	5	$ 4,118	1	$ 4,667
Lecturer	13	$ 4,102				
Adjunct Faculty	3	$ 4,359				
Special Faculty	10	$ 3,839				
Other	5	$ 3,348	283	$ 4,842	86	$ 5,567
Teaching Assistant			2	$ 4,000	1	$ 4,000
All Ranks	463	$ 4,607	468	$ 5,450	162	$ 6,330

Source: Institutional data reported to the Coordinating Board.

Academic Salaries Compared to Practice Salaries

- Salaries of community college faculty compare less favorably to salaries of practice nurses than do salaries of nursing faculty at other types of institutions.

Graph 16: Ranges of Average Salaries for Nursing Faculty at Community Colleges versus Salaries for Practicing Nurses (2003)



* Range of average 9-month salaries reported by institutions to the THECB (dark line depicts average salary for all ranks).
** Range of average salaries converted to 12 months for comparison with salaried positions in a hospital (dark line depicts average salary for all ranks).
*** Range of average salaries for selected administrative and specialty positions from a 2004 survey of 70 hospitals of the Dallas/Fort Worth Hospital Council.

Sources: 1) Faculty salaries: Institution data reported to the THECB, 2) Practitioner salaries: Dallas/Fort Worth Hospital Council provided by the Dallas/Fort Worth Area Health Education Center.

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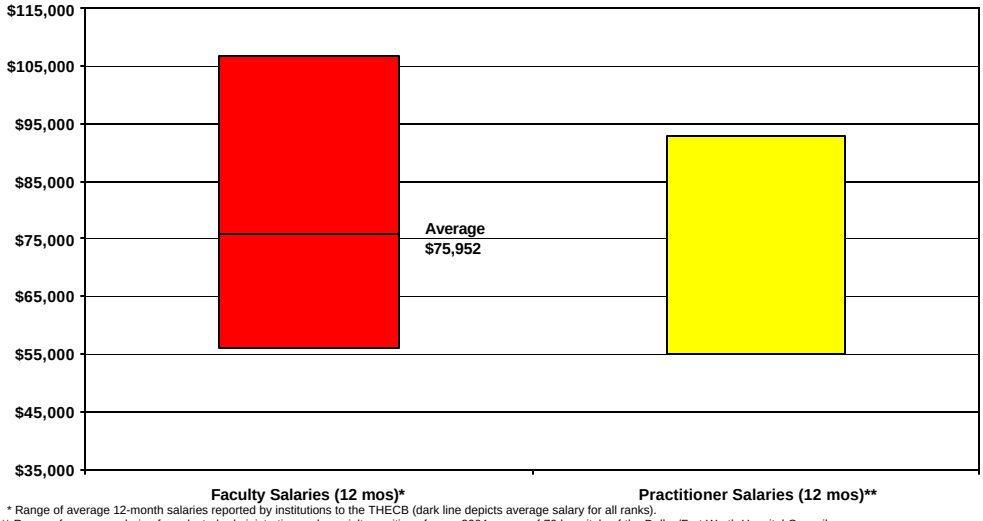
Graph 17: Ranges of Average Salaries of Nursing Faculty at Health-Related Institutions versus Salaries for Practicing Nurses (2003)



* Range of average 12-month salaries reported by institutions to the THECB (dark line depicts average salary for all ranks).
** Range of average salaries for selected administrative and specialty positions from a 2004 survey of 70 hospitals of the Dallas/Fort Worth Hospital Council.

Sources: 1) Faculty salaries: Institution data reported to the THECB, 2) Practitioner salaries: Dallas/Fort Worth Hospital Council provided by the Dallas/Fort Worth Area Health Education Center.

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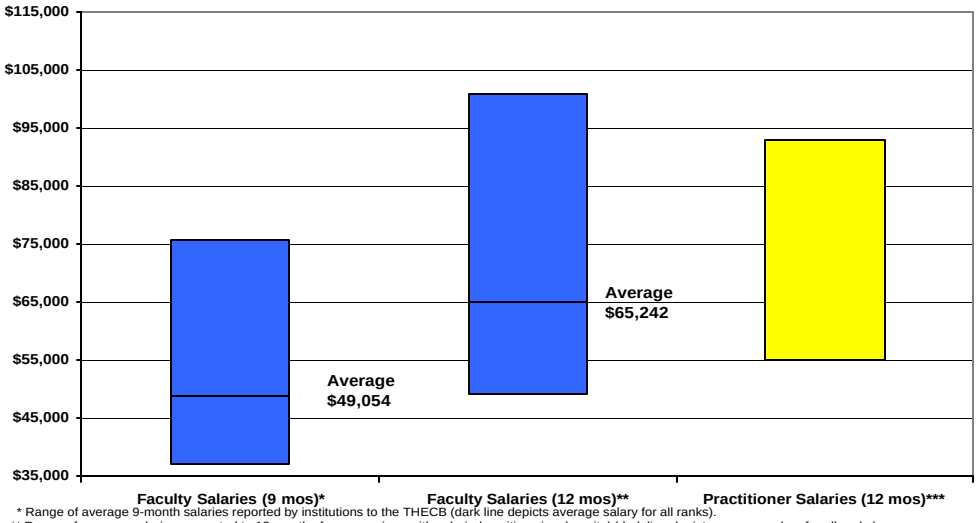
Graph 18: Ranges of Average Salaries for Nursing Faculty at Universities versus Salaries for Practicing Nurses (2003)



* Range of average 9-month salaries reported by institutions to the THECB (dark line depicts average salary for all ranks).
** Range of average salaries converted to 12 months for comparison with salaried positions in a hospital (dark line depicts average salary for all ranks).
*** Range of average salaries for selected administrative and specialty positions from a 2004 survey of 70 hospitals of the Dallas/Fort Worth Hospital Council.

Sources: 1) Faculty salaries: Institution data reported to the THECB, 2) Practitioner salaries: Dallas/Fort Worth Hospital Council provided by the Dallas/Fort Worth Area Health Education Center.
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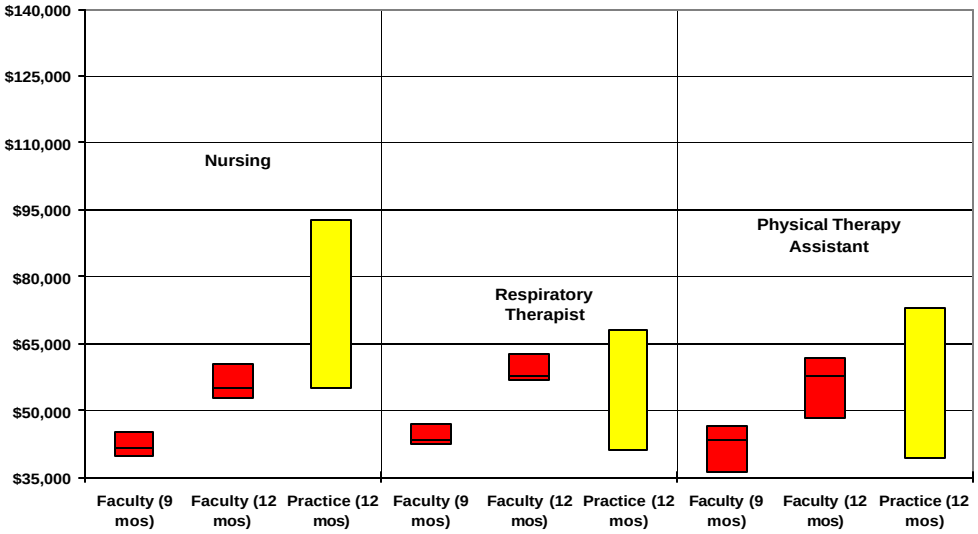
Salaries for practicing nurses (shown above on the three charts) range from an average of $54,974 for a "Nurse Educator" to an average of $92,934 for a "Director of Nursing Services."

- Salary discrepancies between academic positions and practice positions are greater for nursing faculty at community colleges than for faculty and practitioners in several other health disciplines.

Graph 19: Ranges of Average Salaries for Faculty at Community Colleges versus Salaries for Faculty and Practitioners in Selected Allied Health Disciplines (2003)



Sources: 1) Faculty salaries: Institution data reported to the THECB, 2) Practitioner salaries: Dallas/Fort Worth Hospital Council provided by the Dallas/Fort Worth Area Health Education Center.
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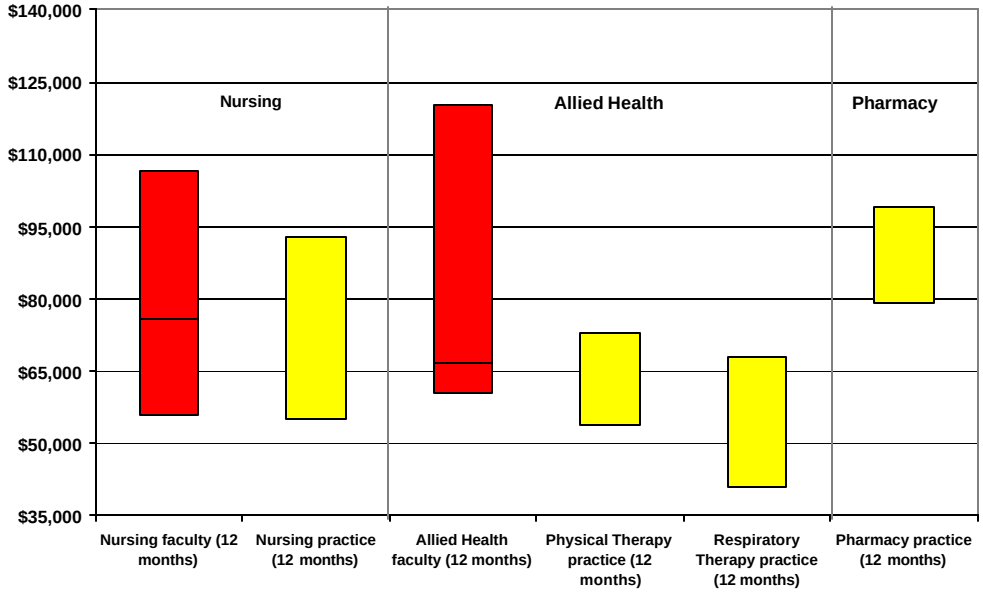
Graph 20: Ranges of Average Salaries for Faculty at Health-Related Institutions versus Salaries for Selected Allied Health Faculty and Practitioners (2003)



Sources: 1) Faculty salaries: Institution data reported to the THECB, 2) Practitioner salaries: Dallas/Fort Worth Hospital Council provided by the Dallas/Fort Worth Area Health Education Center.

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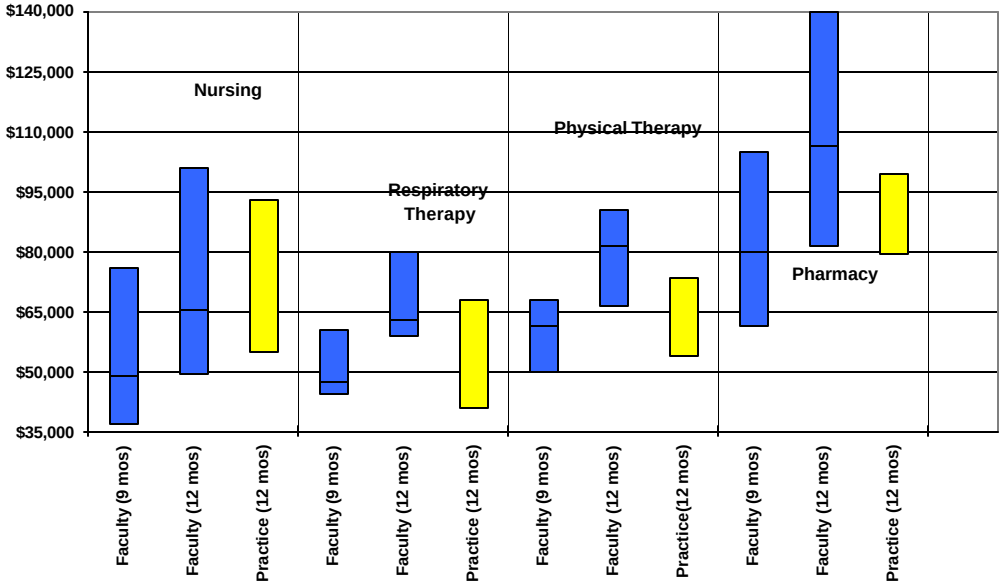
Graph 21: Ranges of Average Salaries for Faculty at Universities versus Salaries for Faculty and Practitioners in Selected Health Disciplines (2003)



Sources: 1) Faculty salaries: Institution data reported to the THECB, 2) Practitioner salaries: Dallas/Fort Worth Hospital Council provided by the Dallas/Fort Worth Area Health Education Center.

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Additional Comments and Details:

Salaries for practicing nurses (shown on the charts above) range from an average of $54,974 for a "Nurse Educator" to an average of $92,934 for a "Director of Nursing Services." Salaries for practicing respiratory therapists range from an average of $41,101 for a "Respiratory Therapist" to an average of $68,016 for a "Director of Respiratory Therapy." Salaries for practicing physical therapists range from an average of $35,110 for a "Physical Therapy Assistant (community college chart only) to an average of $73,133 for a "Director of Physical Therapy." Salaries for practicing pharmacists range from an average of $79,269 for a "Pharmacist" to an average of $99,112 for a "Director of Pharmacy."

While average salaries for nursing faculty at community colleges are particularly low, nursing deans and directors say that they have difficulty hiring new faculty at all levels of faculty rank, whether they are recruiting a master's degree nurse at the local level or a doctorally prepared nurse through a national search. The following are comments from some of the deans:

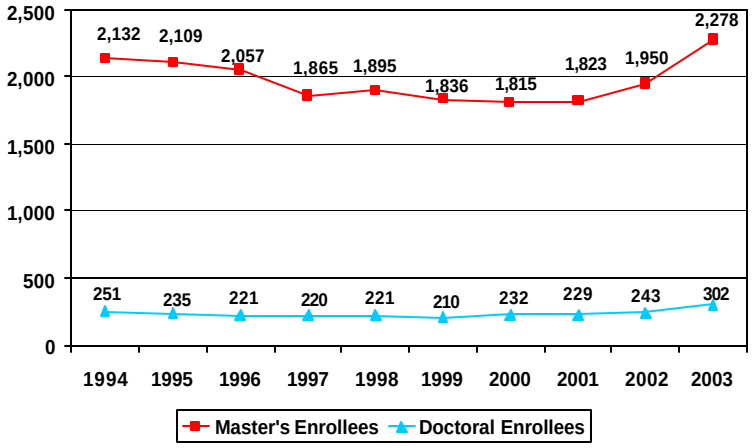
"We recently interviewed two potential candidates here for senior faculty positions but were unable to be competitive with the salary offers they were being recruited with at public universities in other states. I just learned that a nurse practitioner in clinical practice here would have to take a cut in salary if she were to move to a faculty position with the School at our median faculty salary level."

" …In several of our master's programs, students graduate to their initial job making as much as $20,000 more than their faculty. Furthermore, we recruit from a national pool (bringing an increase in nurses to Texas) and we are not keeping up with the competition. In some ranks our salaries have fallen to the 26th percentile of national salaries. In four of six categories of rank, we are now below the 50th percentile of national salaries. … This year we are losing six faculty, and even though we have sufficient faculty applicants, the salaries they are asking for are far above what we were paying the six that are leaving."

MSN and PhD Enrollments

- The number of graduate nursing students (declared majors) has increased by 8 percent from 1994 to 2003, with the 2003 totals representing a 10-year high in the number of enrolled students.

Graph 22: Total Enrollment in Master's and Doctoral Nursing Programs at Texas Public Institutions of Higher Education (1994 - 2003)



Source: Texas Higher Education Coordinating Board

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Additional Comments and Details:

While the number of master's-level students have increased marginally (7 percent), the number of doctoral level students increased by 20 percent.

Health-related institutions reported an overall 8.5 percent decrease in graduate nursing students from 1994 to 2003. While doctoral students increased substantially from 28 to 99, for these years, master's level students decreased 17 percent, from 876 to 728. The 827 declared nursing majors at health-related institutions represent 32 percent of all graduate nursing students at Texas public institutions.

Public universities reported an overall 18.5 percent increase in graduate nursing students from 1994 to 2003. While the number of doctoral students declined slightly from 223 to 203 for these years, the number of master's level students increased 23 percent, from 1,256 to 1,550.

Nursing education, a specialization that could more directly indicate student interest in becoming nursing faculty, was the declared major of 41 of 2,278 students in master's level programs in fall 2003.

In contrast, practice-based specializations, including clinical nurse specialists, nurse practitioners, nurse midwives, and nurse anesthetists, represented 70 percent of the students enrolled in master's level programs in fall 2003. Nationally, there has been

a downward trend in nursing education and an increased emphasis in the advanced practice nursing role since the mid-1990s.

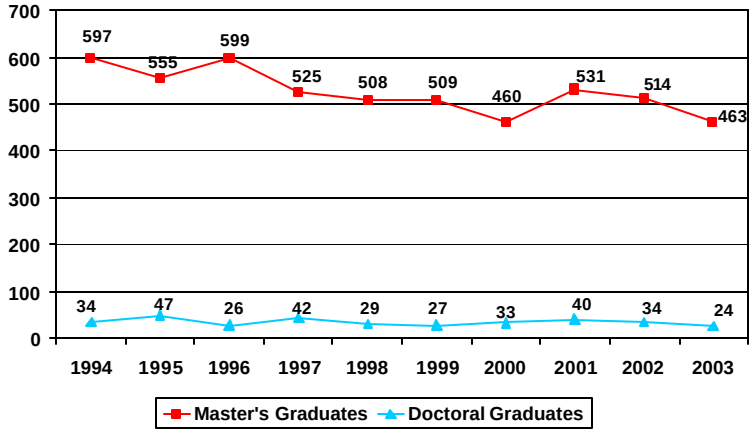
One director of a family nurse practitioner program provided insight into the problem: "The X and Y generation are into salaries and perks and will be at a job on the average of 3 to five years. Baby boomers are [also] into salaries and perks. Salary, perks and stability are important. If academia can offer vacation, paid continuing education, and other perks, there may be better retention and may be increases in nurses wanting to be faculty."

While enrollment trends are positive, the enrollment increase does not seem large when viewed in the context of a significant increase in the number of new MSN and doctoral programs from 1997 to 2003. The Coordinating Board approved 14 new MSN and five doctoral programs or new specializations within those programs during this period. The small increase in enrollments most likely reflects the competitive market for nurses in practice settings.

MSN and PhD Graduates

- The number of graduates from master's and doctoral degree programs have decreased by 23 percent from 1994 to 2003, with the 2003 totals representing a 10-year low in the number of graduates.

Graph 23: Graduates of Master's and Doctoral Nursing Programs at Texas Public Institutions of Higher Education (1994 - 2003)



Source: Texas Higher Education Coordinating Board

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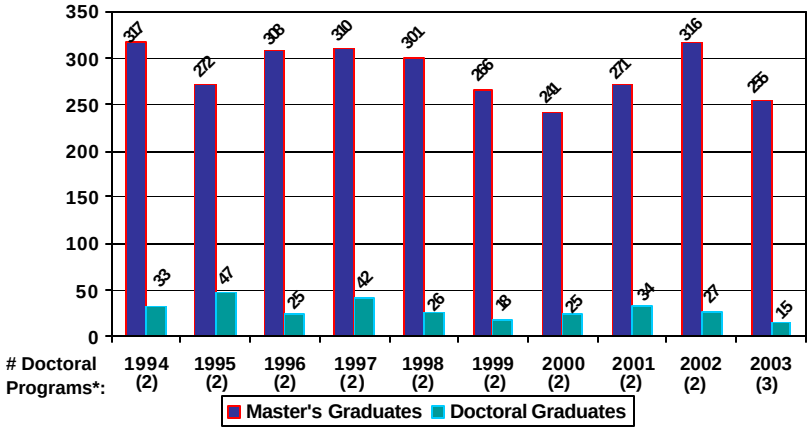
Since 1994, 5,261 master's students have graduated: 54 percent from public universities; 46 percent from health-related institutions. The three health-related institutions that offer doctoral degrees – one-half of institutions offering the doctoral degree in nursing -- have produced only 44 of the 336 doctoral graduates during this period.

Graph 24: Graduates of Master's and Doctoral Nursing Programs at Texas Public Universities (1994 - 2003)



***Years that doctoral programs were approved by Coordinating Board: TWU – 1970, UT-Austin – 1973, UT-Arlington – 2003. Programs would expect to produce graduates in six years after implementation.**

Source: Texas Higher Education Coordinating Board

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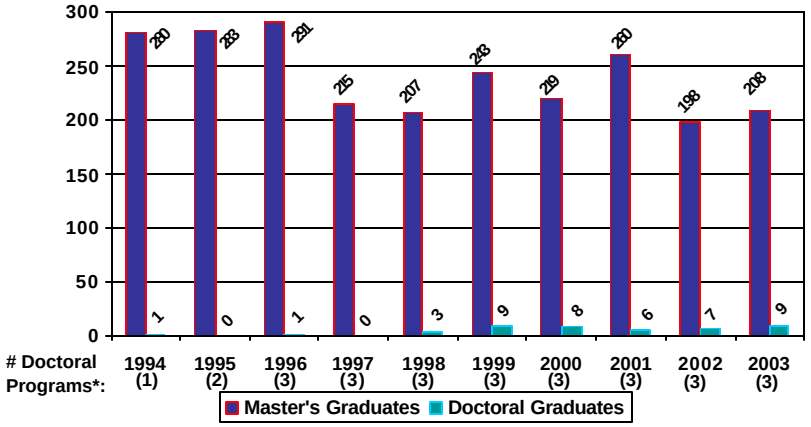
Graph 25: Graduates of Master's and Doctoral Nursing Programs at Texas Health-Related Institutions (1994 - 2003)



***Year that doctoral programs were approved by Coordinating Board: UTHSC-SA – 1990, UTHSC-H – 1995, UTMB – 1996. Programs would expect to produce graduates in six years after implementation.**

Source: Texas Higher Education Coordinating Board

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Additional Comments and Details:

Declines most likely reflect enrollment decreases in the last six years.

Decreases occurred in both master's and doctoral degree programs. The number of master's level graduates declined by 22 percent and the number of doctoral degree graduates decreased by 29 percent from 1994 to 2003.

The Coordinating Board approved 14 new MSN and five new doctoral programs or specializations within those programs between 1997 and 2003.

Conclusions

With enrollments climbing, the average entering class size of RN licensure programs increased 108 percent from 1999 to 2003, while average FTE faculty at these programs increased by only 13 percent. These disparities probably cannot continue to increase without affecting educational quality.

An analysis of current faculty shows that 76 percent have a master's degree in nursing or in another field. If national trends are true for Texas faculty, nurses become faculty later in life. The median age of doctoral graduates in the U.S. was 46.2 in 1999. Given that the mean age of retirement of full-time faculty in 2002 was 61.5 years, the number of productive teaching and research years are relatively few for doctoral nursing faculty because doctoral nursing students are older at graduation.

The number of graduates from masters and doctoral degree programs decreased by 23 percent from 1994 to 2003 – with the 2003 figures representing a 10-year low in the number of graduates. The three health-related institutions that offer doctoral degrees – one-half of institutions offering the doctoral degree in nursing -- have produced only 44 of the 336 doctoral graduates during this period. Fall 2003 enrollment data indicate that schools are recruiting more students into graduate programs. However, nursing education, a specialization that more directly indicates student interest in becoming nursing faculty, represents less than 2 percent of all students enrolled in master's level programs in fall 2003. In contrast, practice-based specializations such as clinical nurse specialists, nurse practitioners, nurse midwives, and nurse anesthetists represent 70 percent of the students enrolled in master's level programs for this period. The interest in these other specializations most likely reflects the status of these occupations in nursing and the demand for these kinds of nurses in practice settings. Nursing programs need to provide incentives for students to choose nursing education as a specialization in master's programs.

Faculty salaries in academic settings are also a deterrent to recruitment and retention. Nursing deans and directors say that this is the case at all levels of faculty rank in most academic settings, whether they are recruiting a master's degree nurse at the local level or a doctorally prepared nurse through a national search. Staff analysis shows that average salaries for nursing faculty at community colleges and at instructor levels at universities are particularly low as compared to those salaries earned by practicing nurses. Salaries likely need to be increased if the state wants to retain existing faculty and hire new faculty to increase enrollment capacity.

IV. Special Academic Issues

This section describes some of the critical academic issues in nursing education and the Coordinating Board's programs and activities to help increase capacity in nursing programs.

Dean's and Director's Survey

Coordinating Board staff surveyed the state's nursing deans and directors in April 2004 about their opinions on the nursing shortage and issues affecting nursing education and nursing practice. Seventy-seven people at 71 institutions (91 percent of recipients) returned the survey instrument (Appendix C). Analysis showed overwhelmingly uniform opinions about how nursing programs could increase capacity and why some nurses are dissatisfied with the practice environment. Those opinions varied little by type or location of individual nursing programs. A summary of responses appears in Appendix D.

The survey was divided into three parts. Respondents were able to add their own responses in all categories, as well as evaluating the items supplied and adding comments at the end.

In Part 1, Coordinating Board staff asked respondents to rate a variety of potential factors in the production of nurses under three categories: "General RN education environment," "Limitations on enrollment capacity in RN programs," and "Reasons for faculty vacancies in RN programs." The rating scale ranged from "1" to "5," "5" being the most significant or important. They were then asked to pick the top three factors from the three categories.

Overall, respondents cited factors leading to a shortage of faculty as the most important contributors to the nursing shortage. Competition with the business sector in hiring nurses rated higher than competition with other institutions or a lack of qualified applicants, but all were seen as problems. Out of all the respondents to the survey who gave a rating to "Lack of parity between faculty salaries and practice salaries in local area or region," only seven did not give it the highest rating of "5," and six of those gave it a "4." One respondent summed up the situation as follows:

> *The main reason for the nursing shortage is nursing schools are unable to enroll the qualified applicants they have because they do not have enough nursing faculty. They do not have adequate faculty because nurses with advanced degrees (MSNs etc) can make more money in the practice setting. Nursing instructors need stipends, or some form of additional pay. This is a common practice with law professors, MDs who teach, etc. Until the salaries for ADN, BSN, and MSN faculty increase, nurses with degrees necessary to teach in these areas will go to the practice arena where they make more.*

"Statewide competition for faculty" and "Lack of qualified applicants for advertised faculty positions" also received average ratings of above "4." Most respondents saw the number of clinical faculty as a more serious problem than the number of didactic (classroom teaching) faculty (average ratings of 4.33 and 3.91 respectively; "number of

clinical faculty" was the item second most likely to be ranked first overall, after lack of parity with practice salaries). "Overworked faculty" was particularly seen as a problem in rural areas.

Concerns about the academic preparation and retention of incoming students also generated a high level of concern, especially in the Border region and Southeast Texas. Some respondents indicated in comments that teaching styles of faculty were a problem in retaining students:

> *Too many instructors still teach using the lecture method with little variation to stimulate students. We need more workshops on how to teach! Just because someone is a great nurse doesn't mean he/she knows how to teach. We need more inspiring teachers who truly care about their students and the learning environment. We need positive role models.*

Another factor blamed for difficulty in attracting and retaining good students was a poor public image of the nursing profession. Many respondents, particularly those from rural institutions and in north Texas, reported problems with inadequate facilities or the number or appropriateness of clinical sites. Few identified outdated curricula as a significant factor.

Part 2 of the survey asked respondents to rate possible solutions and then pick the top three most important solutions. The most popular solution to these difficulties was money, particularly more state formula funding for nursing programs (average rating 4.48), although state special item funding, federal funding, and more financial support from top administration also rated high. The distribution as well as the amount of funding was seen as an issue ("Place money where results are obtained," "By my calculations it looked like ADN produced an increase of 1 [graduate] at a cost of <$4,000 and the Bacc. produced an increase of 1 [graduate] at a cost of >$17,000"). Among the other approaches listed in the survey, private and health-related institutions and those in West Texas were particularly interested in greater participation by hospitals in nursing education, while Border institutions and community colleges gave high ratings to better preparation of incoming students. Health-related institutions and those in the Upper Rio Grande Valley gave above-average ratings to greater use of interdisciplinary faculty, pooled or shared nursing faculty among nursing programs, greater use of information technology, and greater use of online education.

Part 3 of the survey asked recipients to rate reasons for nurses leaving the practice of nursing and for their not returning. In general, respondents blamed working conditions for nurses leaving the profession and failing to return. The stressfulness of the working environment was seen as the worst problem (average rating 4.55), though lack of respect, unattractive work hours, and lack of autonomy also got fairly high ratings. Some people believe that these working conditions have worsened with the implementation of managed care. Low salary was viewed as less of a problem, particularly in the Border area, where the greater attractiveness of other career options also received a lower-than-average rating. Respondents in rural areas were more likely than others to rate family responsibilities taking precedence over career goals as an important factor, as well as the lack of refresher programs. One respondent said in a comment that the lack of mentoring of new graduates was a factor in nurses leaving the profession. Another wrote, "Nursing education is a small part of the problem. The

fundamental problem rests in a health care system that does not understand or value the role of nursing."

Student Capacity Study

Coordinating Board staff also recently attempted to determine how many new initial RN licensure students could be enrolled at the state's 67 public programs if those programs had no constraints on faculty hires but space constraints (number of classrooms, lab facilities, and clinical sites) remained the same.

To determine that potential enrollment, CB staff used results from a nurse faculty needs study conducted by WorkSource: The Gulf Coast Workforce Board in 2003. Although the original study was limited to nursing programs in the Houston-Galveston area, CB staff believe that the methodology (which isolated "nursing faculty" as the only independent variable) and the subsequent results provide the best available model for estimating capacity on a statewide level. WorkSource originally asked the 13 public nursing programs in its 13-county area (representing 22 percent of the state's initial RN licensure enrollment) to estimate "maximum physical capacity enrollments." Under that scenario, the schools reported new fall 2003 enrollments in spring 2003 as if there were no constraints on faculty hires but space constraints (such as facilities and clinical sites) remained the same. CB staff applied the results of that study to actual fall 2003 enrollment figures for those schools and then extrapolated the results to the public nursing programs in the rest of the state.

Using that methodology, Coordinating Board staff estimates that; if faculty were available, the state's 66 public nursing programs could increase enrollment by 16 percent (2,060 new students) at a cost of $14.2 million. This amount represents the cost of hiring 211 new nursing faculty at the same proportional distribution among sectors as exists now: $60,000 for each faculty member hired at a community college; $80,000 for each faculty member hired at a university or health-related institution. If $10,000 "signing bonuses" were offered to each new hire, the cost would increase to $16.7 million. However, the costs do not include the additional formula funding costs that would be generated with those enrollment increases.

Current State Appropriations

The nursing programs at the state's public institutions receive State funding from a variety of sources. The following table summarizes funds appropriated for nursing in Article III of House Bill 1 (General Appropriations Act) of the 78th Legislature:

TABLE 4: State Funding Generated for All RN Degree Programs at Public Institutions by Source of Funding for the 2004-05 Biennium.
(Estimates are in italics)

Source of Funding	FY 2004	FY 2005	Total
Formula Funding			
Community Colleges	$ 48,062,330	$ 48,062,330	$ 96,124,660
Universities	$ 38,031,610	$ 38,031,610	$ 76,063,220
Health-related Institutions	$ 23,893,853	$ 23,893,853	$ 47,787,706
Non-Formula, Special Item Funding			
Enrollment Growth Funding			
Community Colleges	$ 482,815	*$ 386,262*	*$ 869,077*
Universities	$ 1,994,800	*$ 1,994,800*	*$ 3,989,600*
Health-related Institutions	$ 0	$ 0	$ 0
Nursing Innovation Grant Program	$ 2,025,000	$ 2,025,000	$ 4,050,000
Financial aid specifically targeted to RN nursing students	$ 261,000	*$ 261,000*	*$ 522,000*
Totals	$ 114,751,408	$ 114,654,855	$ 229,406,263

Source: Finance, Campus Planning and Research Division; Universities and Health-Related Institutions Division, THECB

Funding Recommendations for the 2006-07 Biennium

The Texas Legislature directs study committees appointed by the Coordinating Board to review and update funding formulas and supplemental items and recommend changes to the Legislature, Legislative Budget Board, and Governor.

As part of that review and update process, Coordinating Board staff recently calculated the instruction and operations (I&O) funding weights for the state's public universities. That calculation is the basis of the new I&O formula methodology (approved at the April 2004 Coordinating Board meeting) that will be recommended to the Legislature for the 2006-07 biennium. In that review, staff calculated the full academic costs of the program, by discipline and instruction level, for all institutions. Dividing total academic costs for all institutions by the number of total semester credit hours per discipline and level results in an average funding weight which is now based on actual costs.

The preliminary results of that cost analysis for nursing programs are summarized below. *Note: Nursing courses are captured under the funding weights "Health Services" and "Nursing:"*

Current Formula Funding Weights for Universities

	Lower Division	Upper Division	Master's	Doctoral
Health Services	2.87	3.46	6.47	15.98
Nursing	4.91	5.32	6.49	16.32

Cost-Based Weights After Analysis

Health Services	1.43	2.22	3.72	12.63
Nursing	2.52	2.82	5.78	11.31

These preliminary results show that calculated cost-based weights for nursing are lower than current formula weights for nursing. There may be a number of reasons for the difference. Because universities have discretion as to how they spend their formula appropriations, administrators may be reallocating funds generated from nursing semester credit hours to other programs. Nursing enrollments also may be increasing at a greater rate than expenditures, particularly if programs have difficulty filling vacant faculty positions. Relatively low costs or high semester credit hours would cause the calculated relative weights to decline.

Using I&O formula funding as the sole mechanism to ensure adequate funding for a particular discipline is not likely to be an effective tool because each institution has a different operational structure. One of the recommendations of the Formula Advisory Committee was that any attempt on the part of the Coordinating Board or the Legislature to create an incentive for a particular discipline through funding it at a higher level should be done only as a special item appropriation. This would allow the Legislature to appropriately require institutions that receive specifically directed additional funding to spend it to address the specific issue that the Texas Legislature has identified, which is not the case when general funding is provided through the I&O formula. (This would also allow the Coordinating Board to track expenditures of these funds.) This mechanism could also allow the Legislature to focus on institutions of excellence that operate in a more financially efficient manner than their counterparts. For example, Texas Woman's University (TWU) and The University of Texas at Arlington (UT Arlington) together accounted for 38 percent of all full-time nursing students equivalents among public universities with nursing programs. However, the two schools operate at an average cost that is significantly less than the statewide average: $432 per semester credit hour (SCH) at TWU, $449 SCH at UT-Arlington, and $577 SCH for the statewide university average.

If these recommendations are adopted by the 79th Legislature, the new formula weights for universities would be phased in through 2011.

Coordinating Board staff will conduct a comparable cost study of programs at health-related institutions prior to the 80th Legislative Session. In the meantime, the Coordinating Board also recommended a new formula funding rate for master's and doctoral degree programs at health-related institutions that would provide those four schools (Texas Tech University Health Sciences Center, The University of Texas Medical Branch at Galveston, The University of Texas Health Science Center at Houston, and The University of Texas Health Science Center at San Antonio) an estimated $1.4 million in additional funding for the biennium.

Funding rates at community colleges are evaluated during each legislative interim, using the *Report of Fundable Operating Expenses* that is submitted by individual colleges. Based on the current methodology for funding programs and evaluating costs, analysis of individual programs, such as the ADN, are difficult because those costs are captured in larger categories of instruction (i.e., "Health occupations," including dental assistant, medical, laboratory and associate degree nursing).

At its April 2004 meeting, the Coordinating Board also approved recommendations to the 79th Legislature that would dedicate $43.5 million in new special item funding for nursing education:

- A $13.2 million Nursing Growth Supplement for community colleges that exceed 3 percent growth in fall 2006 and 6 percent growth in fall 2007 in Licensed Vocational Nurse (LVN) and RN programs.

- A $5.3 million Nursing Growth Supplement for universities that exceed 3 percent growth in fall 2006 and 6 percent growth in fall 2007 in nursing programs.

- A $5 million Nursing Growth Supplement for health-related institutions that exceed 3 percent growth in fall 2006 and 6 percent growth in fall 2007 in nursing programs.

- A $20 million Nursing Success Supplement distributed to all programs at community colleges (estimated $8 million share), universities (estimated $8 million share) and health-related institutions (estimated $4 million share), based on the number of RN nursing graduates.

Other Coordinating Board Activities and Programs

The Coordinating Board administers a number of activities and special programs that either directly or indirectly support nursing education including:

Financial Aid to Nursing Students

Nursing students are eligible for a wide variety of *general* financial aid programs administered by the Coordinating Board. The Board also oversees a number of *small programs* that specifically target nursing students. The following table summarizes awards for Fiscal Year 2004:

Table 5: Financial Aid for Nursing Students in 2004

Financial Aid Program	No. of Students	Total Awards
LVN-to-RN Scholarship	45	$ 78,500
Professional Nursing Student Scholarship	52	$ 122,500
Professional Rural Scholarship	18	$ 27,500
Rural BSN/Graduate Scholarship	14	$ 32,500
Total	129	$ 261,000

Source: Student Services Division, THECB

Less than 1 percent of the state's 14,845 initial RN licensure students received targeted financial aid under these financial aid programs in Fiscal Year 2004. (Many more, of course, received financial aid from sources available to students from all disciplines.) Total awards represent $17.58 per enrolled student in fall 2003.

Grant Funding

Under authority delegated by the Coordinating Board, the Commissioner of Higher Education awards grants under the Nursing, Allied Health and Other Health-related Education Grant Program to schools that offer innovative solutions for increasing nursing enrollments and retaining nursing students. To date, the Coordinating Board has awarded $6.9 million: $3.04 million in the 2002-03 biennium and $3.9 million in the current biennium.

The Coordinating Board plans to distribute additional nursing grants this fall for projects that can "invigorate or revolutionize the education of initial RN licensure nursing students." These high-priority projects would most likely address extending the use of preceptors under new clinical instruction models, consolidating administrative and instruction services within a geographic area (a concept often referred to as "Regionalization"), and using shared or pooled nursing faculty or interdisciplinary faculty. These concepts would be tested as pilot projects and, if successful, serve as examples of how schools could maximize the use of existing resources and faculty and increase nursing student enrollment. This grant competition is expected to fund three to five large pilot projects through 2007.

Coordination of Nursing Education

The Coordinating Board continues to promote articulation among academic programs to ease the transfer of students between institutions and promote timely graduation.

As part of that focus, the Board approved the Field of Study Curriculum (FOSC) for Nursing in July 2002. A FOSC is a set of courses which, when completed at any Texas public college, university, or health science center, transfers and applies to the nursing curriculum at any other Texas public college, university, or health science center. By facilitating the transfer of credit for nursing students who have not completed their ADN, those students can continue their education without having to repeat coursework they already have completed. Students who already have completed their ADN can opt to complete the one-semester bridge course for the traditional ADN-to-BSN transition, but for transfer students who do not have the ADN diploma and RN license in hand, completing the FOSC can save them as much as two years of repetitive coursework.

Despite the best efforts to make nursing programs aware of the FOSC, Coordinating Board staff believe that all schools may not be fully abiding by the new requirements. Staff will monitor compliance to ensure compliance with the new curriculum requirements, and the FOSC will be evaluated regularly to assess its effectiveness in streamlining articulation and improving graduation rates and time-to-graduation.

New Degree Program Approval

In the last five years, the Coordinating Board has approved 37 new degree programs or extensions of existing degree programs in nursing: nine ADN; nine BSN; 14 MSN; and five PhD or DSN. Of those 37 new programs, 16 were distance education programs. Despite these additions, graduates from master's and doctoral programs continue to decline as noted above.

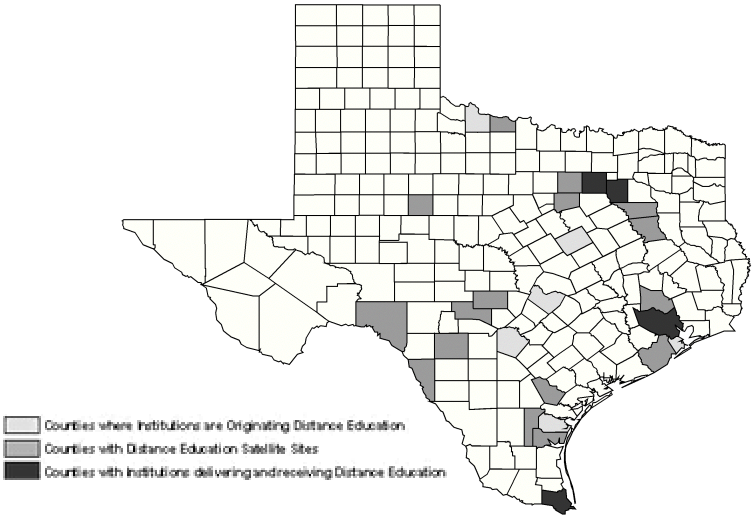
Distance Education

As of October 2003, the Board of Nurse Examiners (BNE) reported that 22 nursing programs offered 44 distance education initiatives in the state.

ADN and BSN Programs Delivered Via Distance Education

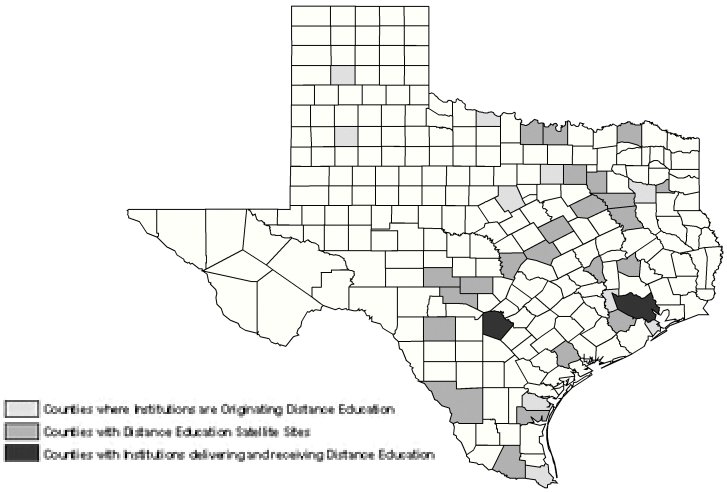
- Some counties are served by more than one distance education initiative, while other areas are served by few or none.

Map 2: ADN Programs Delivered Via Distance Education



Sources: Texas Higher Education Coordinating Board and Board of Nurse Examiners for the State of Texas THECB 07/2004

Map 3: BSN Programs Delivered Via Distance Education



Sources: Texas Higher Education Coordinating Board and Board of Nurse Examiners for the State of Texas THECB 07/2004

Additional Comments and Details:

Overlap tends to occur in large metropolitan areas, increasing access but potentially increasing the overall costs of nursing education.

The Upper Rio Grande Valley (El Paso area) and the High Plains (Lubbock-Amarillo area) regions appear to offer no distance education programs at the associate degree level.

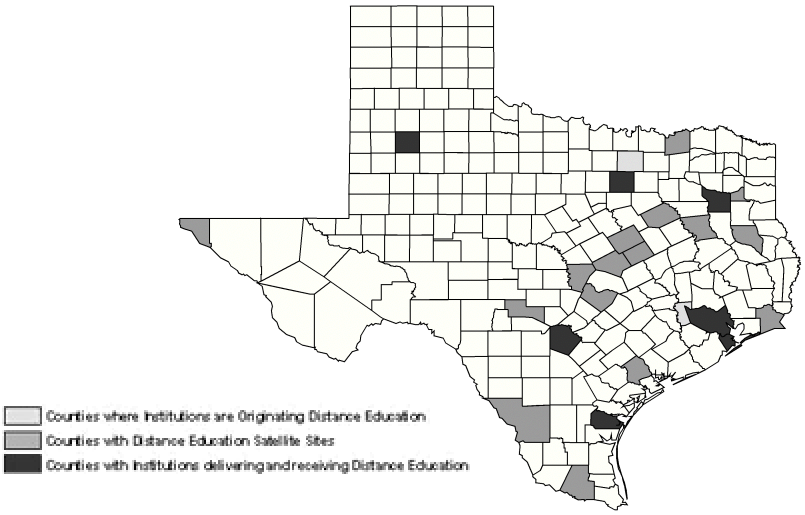
The Central Texas metropolitan areas (Austin and San Antonio) appear to be underserved by distance education at the associate level.

The Upper Rio Grande Valley (El Paso area) region appears to be unserved by distance education at the BSN level.

MSN and Doctoral Programs Delivered Via Distance Education

- Some counties are served by more than one distance education initiative, while others are served by few or none.

Map 4: MSN and Doctoral Nursing Programs Delivered Via Distance Education



Sources: Texas Higher Education Coordinating Board and Board of Nurse Examiners for the State of Texas THECB 07/2004

Additional Comment and Detail:

Overlap occurs in large metropolitan areas, potentially increasing the overall costs of nursing education.

Selective Trends in Nursing Education

In recent years, many schools have adopted special initiatives to increase capacity and efficiency in their programs. A closer look reveals that many of these "innovations" have focused on additions or re-arrangements of content within the curriculum, rather than on shifts that could help solve the nursing shortage.

To help refocus those intentions, the Texas Nurses Association recently sponsored a series of planning sessions that have required leaders in nursing education to "think outside the box" in envisioning the future of nursing education. Several concepts emerged from those sessions, and, if implemented on a statewide or regional basis, they could have a significant impact on enrollment capacities at individual RN licensure programs. Some of those concepts are described below:

Regionalization. Because Texas has a significant number of nursing programs tightly clustered in specific regions of the state, the idea of consolidating common tasks in administration and instruction has great potential. By centralizing common functions, schools could free up faculty time and operating costs to expand enrollments in their

programs. In discussing this concept, nursing faculty were concerned that their programs would lose some of their uniqueness and autonomy – concepts traditionally emphasized in nursing education. Other faculty were concerned that centralizing services could disadvantage certain students who might be restricted in their ability to travel or who have other family obligations.

Interdisciplinary instruction. For a number of years, health care professionals have discussed the future of health care delivery in terms of working in interdisciplinary teams, where individual professions may lose some of their professional identity but health care would be delivered in a more seamless, unified environment. To help prepare nurses for this kind of collaborative effort, educators have proposed that faculty from other health disciplines teach in nursing programs. This is currently much more common at health-related institutions than it is at community colleges and universities. The concept has many advantages, the most immediate being that it could help relieve the nursing faculty shortage. Standards of accrediting bodies have complicated efforts towards greater collaboration in education among health disciplines.

New clinical instruction models. Nursing programs continue to look for new ways to increase enrollment using existing faculty. The biggest demand for nursing faculty is during the student's clinical training. The BNE requires a certain ratio of faculty to students (1 to 10) during this time to monitor a student's progress effectively and guarantee the safety of patients. Many nurse educators would like to see preceptors used more extensively through out the entire curriculum and by individual nursing programs. Advocates say that the use of preceptors not only extends the use of existing faculty but also offers students greater exposure to "real world" learning environments. Critics are concerned that preceptors will not receive proper training and screening before carrying out these new roles.

Technology also may help extend existing nurse faculty. Clinical simulation through the use of manikins and other mock patient tools have been used in some disciplines for many years, and are beginning to be used in place of or to enhance clinical instruction in nursing education. Cost is a significant issue.

Conclusions

Earlier this spring Coordinating Board staff surveyed the state's deans and directors about their opinions on the nursing shortage and issues affecting nursing education and practice. Their responses reinforced their earlier statements that their ability to hire new nursing faculty was the greatest impediment to increasing enrollments in nursing programs. "Lack of parity between faculty salaries and practice salaries in local area or region" was seen as the greatest obstacle in hiring. Academic preparation and retention of incoming students also was a concern among schools, especially those in the Border region and in Southeast Texas. Deans and directors saw more money, particularly more state formula funding, as the solution to these problems.

The deans and directors also were asked why they thought nurses leave the profession. In general, respondents blamed the stressfulness of working conditions, although lack of respect, unattractive work hours, and lack of autonomy also were considered important factors in attrition.

Other Coordinating Board studies provided insights into costs and staffing requirements associated with potential enrollment increases. In one cost study, staff estimated that the state's 67 public nursing programs could increase enrollments by 16 percent (2,060 students) at a cost of $14.2 million. This amount represents the cost of hiring 211 new nursing faculty, while space constraints (such as facilities and clinical sites) remained the same. Staff also looked at actual costs of operating nursing programs in comparison to current formula funding weights.

The Coordinating Board administers a number of programs and activities that promote innovation in nursing education and coordination of the state's nursing programs. A number of policies resulting from these activities, such the development of a Field of Study Curriculum for Nursing, will need further monitoring by Board staff.

Many experts in the nursing community believe that nursing education needs to be "reinvented to reach the nursing workforce numbers needed in Texas." Professional organizations such as the Texas Nurses Association have been promoting new strategies to help coordinate common activities among nursing programs, stretch existing faculty and resources, build public-private partnerships, and increase capacity at individual schools. These concepts are the focus of a grants competition to be conducted in fall 2003.

An analysis of initial RN licensure programs and graduate programs delivered through distance education showed duplication in some areas of the state and no access to programs in other areas.

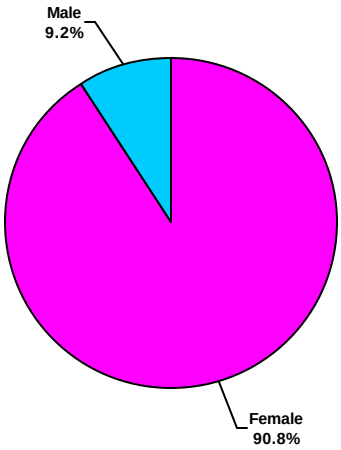
V. Practice

Gender, Age, and Ethnicity of RNs in Texas

- Despite efforts to attract men to the profession, the vast majority of RNs are women.

Graph 26: Practicing RNs in Texas by Gender (2003)

Total Number of Practicing RNs: 136,600



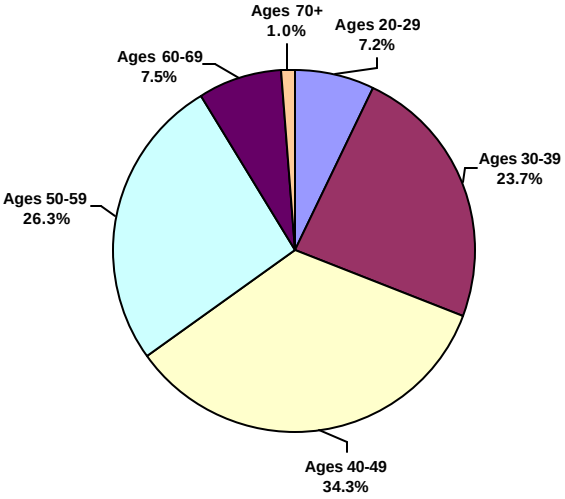
Source: Texas Department of Health

THECB 07/2004

- Sixty percent of the RNs in Texas are between the ages of 40 and 59.

Graph 27: Practicing RNs in Texas by Age (2003)

Total Number of Practicing RNs: 136,600

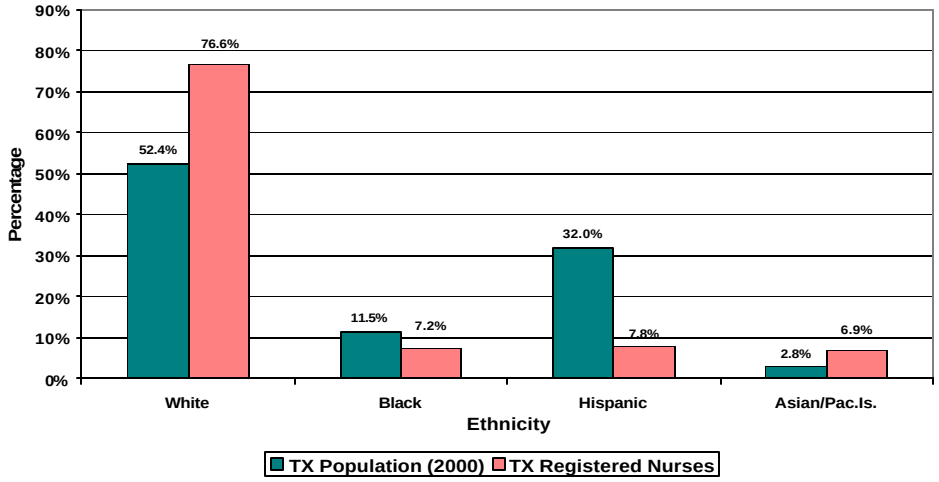


Source: Texas Department of Health

THECB 07/2004

- Texas nurses do not reflect the ethnic diversity of the state population. When compared to their populations within the state, Whites and Asians are over-represented in nursing; Blacks and Hispanics are under-represented.

Graph 28: Texas Population and Practicing RNs by Ethnicity (2003)



Sources: 1) Population: U.S. Census Bureau, 2) Practicing RNs: Texas Department of Health. THECB 07/2004

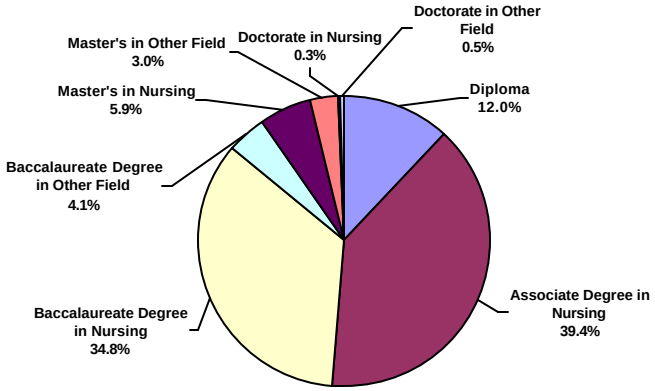
For more information about the diversity of new nursing graduates, see Section II: Academic Demographics.

Educational Attainment of Nurses in Texas

- Fifty-one percent of practicing RNs have a diploma or associate's degree in nursing. Less than 7 percent have a master's or doctoral degree in nursing.

Graph 29: Practicing RNs in Texas by Highest Degree Attained (2003)

Total Number of Practicing RNs: 136,600

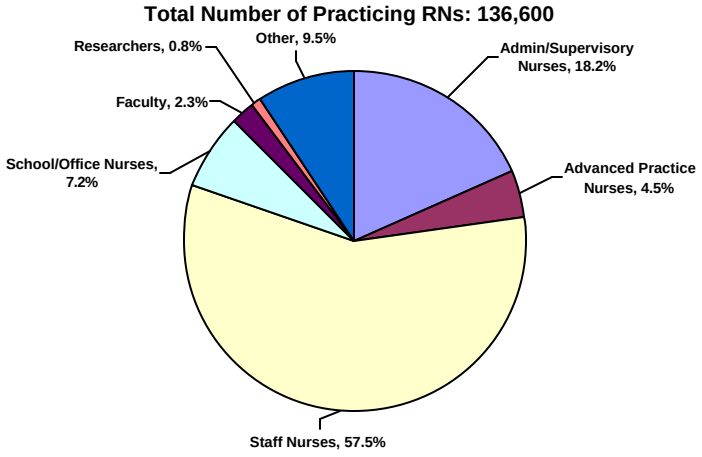


Source: Texas Department of Health THECB 07/2004

Employment and Practice Locations

- Fifty-eight percent of practicing RNs are staff nurses and 18 percent work in administrative or supervisory positions. Only 2 percent identify themselves as faculty/educators.

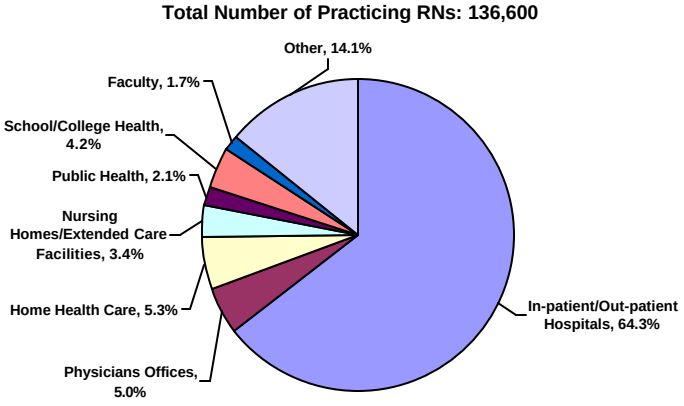
Graph 30: Practicing RNs in Texas by Practice Type (2003)



Source: Texas Department of Health THECB 07/2004

- Seventy-five percent of practicing RNs work in hospitals (64.3 percent), in home health care (5.3 percent), or physician's offices (5 percent).

Graph 31: Practicing RNs in Texas by Practice Area (2003)

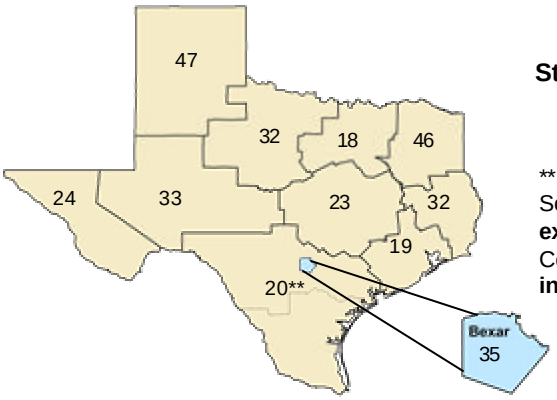


Source: Texas Department of Health THECB 07/2004

Distribution of Nurses by Higher Education Region

- The Gulf Coast, the Metroplex, and South Texas (excluding Bexar County) regions graduate the fewest nurses per 100,000 population.

Map 5: Graduates of Initial RN Licensure Programs* per 100,000 Population in Texas (2003)



Statewide Average: 24 per 100,000

****20** per 100,000 for the South Texas region **excluding** Bexar County; **26** per 100,000 **including** Bexar County.

***Initial RN licensure programs include initial licensure programs but *NOT* transition programs (e.g., RN to BSN). TWU graduates divided between the Metroplex and Gulf Coast regions.**

Sources: 1) Regional Population: Texas State Data Center; 2) Bexar County Population: U.S. Census Bureau, 2002; 3) Graduates: Board of Nurse Examiners for the State of Texas.

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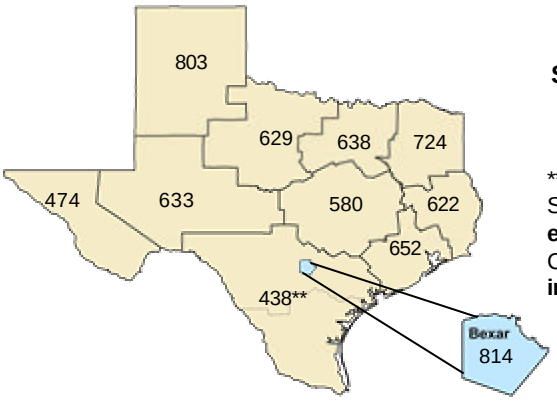
- Despite initial discrepancies in graduates per population, the Gulf Coast, the Metroplex, and the High Plains (Lubbock and Amarillo) regions have the most nurses per 100,000 population. South Texas (excluding Bexar County) and the Upper Rio Grande Valley (El Paso area) have the fewest nurses per 100,000 population.

Map 6: Practicing RNs per 100,000 Population in Texas (2003)



Statewide Average: 626 per 100,000

****438** per 100,000 for the South Texas region **excluding** Bexar County; **571** per 100,000 **including** Bexar County.

Sources: 1) Regional Population: Texas State Data Center; 2) Bexar County Population: U.S. Census Bureau, 2002; 3) Practicing RNs: Texas Department of Health.

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Additional Comments and Details:

Nurses, like other health professionals, migrate to urban areas with large medical complexes. In 2003, 56 percent of Texas nurses resided in six counties (Bexar, Dallas, El Paso, Harris, Tarrant, and Travis counties). Of the 5,242 initial RN licensure graduates in 2003, 12 percent (644) came from nursing programs in rural counties.

Current Demand for Nurses

As an example of workforce demands in a major metropolitan area, Coordinating Board staff obtained the 2003 Health Care Human Resources Demand Audit from the Dallas-Fort Worth Hospital Council. The following table shows changes in vacancy rates from 2002 to 2003 in selected health professions.

Table 6: High Demand Health Occupations – Vacancy Rates for 2002 and 2003

Occupation	Total FTEs	Vacant	2003 Vacancy Rate	2002 Vacancy Rate	Annual Change
*RN Nurse **	*15,049*	*1,351*	*9.0 %*	*12.5 %*	-3.5 %
Nurse Practitioner	*231*	*9*	*2.9 %*	*10.5 %*	-7.6 %
Vocational Nurse	*929*	*81*	*8.7%*	*11.2 %*	-2.5 %
Nurse's Aide	*560*	*75*	*13.4 %*	*9.7 %*	3.7 %
Physical Therapist	220	26	11.8 %	4.7%	7.1 %
PT Assistant	47	7	14.9 %	8.8 %	6.1 %
OT Assistant	12	2	16.7 %	3.2 %	13.5 %
Med Record Admin	38	6	15.8 %	8.9 %	6.9 %
Med Record Coder	164	21	12.8 %	11.4 %	1.4 %
Histologic Tech	74	10	13.5 %	7. 5 %	6 %
Radiologic Tech	458	60	13.1 %	18.2 %	-5.1 %
Radiation Therapist	34	6	17.6 %	N/A	N/A
Nuclear Med Tech	49	8	16.3 %	25.0 %	7.6 %
Sonographer	214	33	15.4 %	14.0 %	1.4 %
Pharmacist	468	43	9.2 %	9.3 %	.1 %
Dietician	128	13	10.2 %	3.2 %	7.0 %

Additional Comments and Details:

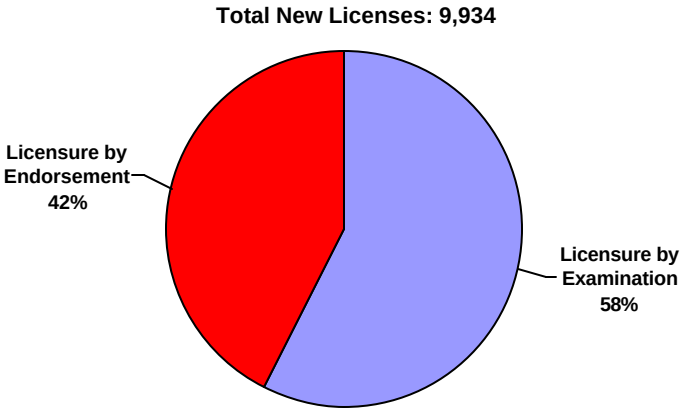
* "RN Nurse" includes nurses in both in-patient and out-patient services. Within that occupational category, vacancy rates ranged from 5.7 percent for Neonatal ICU nurses to 16 percent for Critical Care nurses.

The 1,126 initial RN licensure students who graduated from programs in the Metroplex in 2003 would not fill the 1,351 vacancies reported for that same period.

Retention of In-State Graduates

- Fifty-eight percent of newly licensed nurses in Texas took the national licensure exam in Texas. (Taking the licensure exam in Texas suggests that the majority of new licensees were in-state graduates.)

Graph 32: New RN Licenses in Texas by Method of Licensure* (2003)



* **Licensure by examination indicates that the new licensee took the examination in Texas; licensure by endorsement indicates that the new licensee applied for licensure in Texas after having taken the examination out-of-state.**

Source: Board of Nurse Examiners for the State of Texas

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Workforce Estimates

The U.S. Department of Labor has identified RNs as the fastest-growing occupation in the country. It estimates that 623,000 new jobs will be created – a 27 percent increase – between 2002 and 2012.

The Texas Workforce Commission has slightly different projections of the demand for nurses in the state. The following table compares the projections for RNs to projections for other health care professionals.

Table 7: Comparison of Employment Projections for Selected Health Occupations in Texas

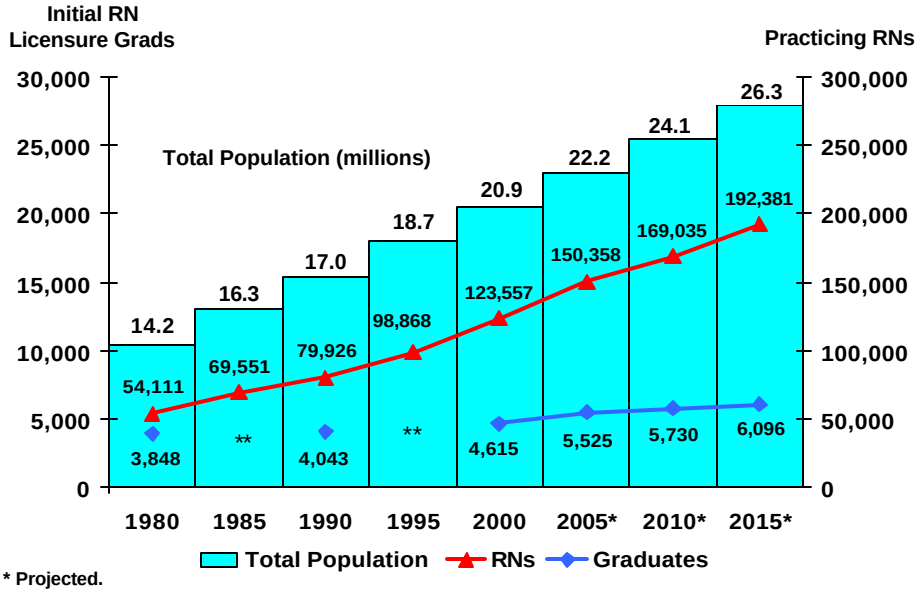
	Occupation	Employment Projections 2000	2010	# Change	% Change	Annual Avg Openings
Nursing	**Registered Nurses**	132,220	167,580	35,360	**26.7**	6,205
Allied Health	**Occupational Therapists**	4,890	6,320	1,430	**29.2**	270
	Physical Therapists	7,710	9,990	2,280	**29.6**	425
	Speech-Lang. Pathologists	6,360	9,160	2,800	**44**	440
	Dental Hygienists	5,270	7,230	1,960	**37.2**	270
	Dietitians and Nutritionists	2,970	3,450	480	**16.2**	130
	Radiologic Technologists/ Technicians	12,890	16,220	3,330	**25.8**	620
Other Health	**Pharmacists**	15,060	19,380	4,320	**28.7**	880
	Family and General Practitioners	9,660	10,750	1,090	**11.3**	255

Source: Texas Workforce Commission THECB 07/2004

Projection of Graduates, Nurses, and Population

- The number of practicing RNs is projected to rise with the population. Trends suggest that the percentage increase in practicing RNs will continue to outpace the percentage increase in RN graduates, suggesting that the state will continue to import RNs.

Graph 33: Texas Population, RNs, & Graduates



*** Projected.**

****Data for initial RN Licensure graduates for 1985 and 1995 are not available.**

Sources: Tx State Data Center, Board of Nurse Examiners for the State of Texas, Texas Department of Health THECB 07/2004

Conclusions

A review of nurse practice data shows that 136,600 nurses reside and practice in Texas. They are predominately female (91 percent), white (77 percent), and 40 years old or older (61 percent). The majority of nurses have a diploma or associate's degree (51 percent) and work as staff nurses (58 percent) in hospital settings (64 percent).

The Gulf Coast, the Metroplex, and South Texas (excluding Bexar County) regions graduate the fewest nurses per 100,000 population. Despite those initial discrepancies in graduates per population, the Gulf Coast and the Metroplex, along with the Panhandle regions, have the most nurses per 100,000 population. South Texas (excluding Bexar County) and the Upper Rio Grande Valley (El Paso area) have the fewest nurses per 100,000 population.

Nurses, like other health professionals, migrate to urban areas with large medical complexes. In 2003, 56 percent of Texas nurses resided in six counties (Bexar, Dallas, El Paso, Harris, Tarrant, and Travis counties). Of the 5,242 initial RN licensure graduates in 2003, 12 percent graduated from nursing programs in rural counties.

Developing educational programs at all levels of instruction and practice and facilitating partnerships between providers and higher education institutions will help retain nurses in practice and prepare some for academic positions.

VI. Report Recommendations

As a result of the finding in Section I–V, Coordinating Board staff makes the following recommendations:

	ACTION TO BE TAKEN BY					
RECOMMENDATIONS (High priority recommendations are shaded)	Legislature	THECB	Educational Institutions	Employers	Nursing Community	Other
RN Education Programs						
Set statewide goals for increasing the number of initial RN licensure graduates and identify funding required to produce these results.		x	x		x	
Study retention rates of nursing programs and establish a forum for promoting best practices.		x	x		x	
Increase financial aid funding for the Professional Nursing Aid Program from $526,288 to $3.5 million for the biennium (a reallocation of $1.5 million in existing funds and $1,473,712 in new funds. Cost: $ 1,473,712.	x	x				
Establish a statewide or regional application and admissions center(s) for initial RN licensure programs. Cost: $250,000 for initial start-up in first two years.	x		x		x	x
Continue to study articulation agreements between community colleges, universities, and health-related institutions to determine and promote best practices.		x	x			
Monitor and enforce compliance by nursing programs with the Field of Study Curriculum.		x				
Continue to support research in nursing education through the Nursing, Allied Health, and Other Health-related Education Grant Program, a program funded from proceeds of the State's Tobacco Lawsuit Settlement.	x	x				
Promote innovation in nursing education through the "regionalization" of common administrative and instructional functions, interdisciplinary instruction, pooled or shared faculty, and new clinical instruction models to maximize use of existing resources and faculty.		x	x	x	x	x
Continue to develop new accelerated and alternate entry degree programs to speed the graduation of nurses and to help attract students from underrepresented groups to the profession.	x	x	x	x	x	x
Study K-12 curricula and make recommendations to better prepare college-bound students for health care careers.	x		x		x	
Provide special item funding to increase enrollments and retention in nursing programs in South Texas (especially in areas outside Bexar County), where practice to population ratios are the worst in the state. Cost: $2.5 million for the biennium.	x		x	x		
Better coordinate distance education offerings to avoid overlap of programs, share faculty expertise and increase educational opportunities in areas of the state (especially in parts of West Texas) where new degree programs or special training are needed.		x	x	x	x	

RECOMMENDATIONS (High priority recommendations are shaded)	ACTION TO BE TAKEN BY					
	Legislature	THECB	Educational Institutions	Employers	Nursing Community	Other
Review funding for nursing programs and particularly for nursing faculty to ensure that programs have adequate support to maintain quality while increasing enrollments.			x			
RN Education Faculty						
Establish incentives such as a loan repayment program for graduate students, particularly those from underrepresented groups, who are interested in careers in nursing education. Cost: $ 1.4 million for the biennium.	x	x	x			
Make filling vacant nursing faculty positions and creating new faculty positions at competitive salaries a top priority in budgeting decisions.			x			
Increase ADN faculty salaries, and, in some cases, instructor salaries at universities, to be more competitive with nurse practice salaries. Cost: $11 million for the biennium.	x		x			
Educational Opportunities for RNs in Practice Settings						
Reward nurses (e.g., academic credit or a stipend) who serve as preceptors for nursing education programs.			x	x		
Build a positive work environment that promotes continuing education and makes accommodations such as offering flexible work schedules for nurses with young children and creating new roles for older nurses.				x	x	
Encourage joint appointments for practicing nurses to teach in nursing programs.			x	x		x
Develop standardized, centrally-delivered coursework to prepare practicing nurses for teaching positions.			x	x	x	x
Continue to provide tuition reimbursement programs to encourage employees to pursue nursing education.				x	x	
Examine the need for additional RN-refresher courses and the effectiveness of existing refresher courses in encouraging nurses to re-enter the profession.			x	x	x	

List of Sources

American Association of Colleges of Nursing

Board of Nurse Examiners for the State of Texas

Dallas-Fort Worth Hospital Council

Deans and directors of the state's initial RN licensure nursing programs

National League for Nursing

National Council for Workforce Education

Task Force on the North Carolina Nursing Workforce

Texas Department of Health. Center for Health Statistics. Nursing Workforce Data Section

Texas Higher Education Coordinating Board

Texas Nurses Association

Texas Nurses Association. Nurse Education Redesign Task Force

Texas Workforce Commission

U.S. Department of Labor. Bureau of Labor Statistics

Appendix A

Institutions Offering Initial RN Licensure Programs in Texas

Diploma Programs (2)

Baptist Health System (San Antonio)

Covenant School of Nursing (Lubbock)

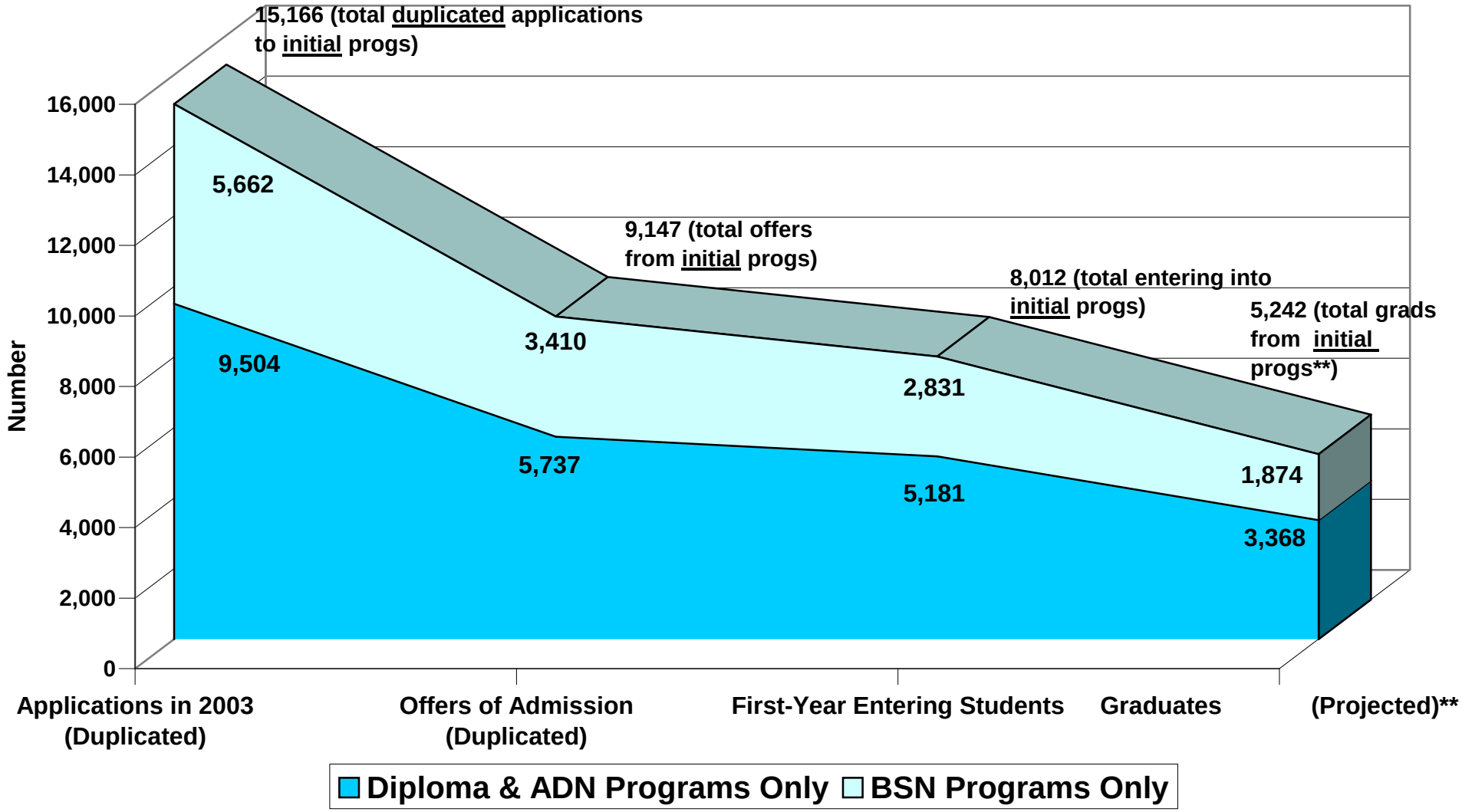
ADN Programs (50)

Alvin Community College
Amarillo College
Angelina College
Angelo State University
Austin Community College
Blinn College
Central Texas College
Cisco Junior College
College of the Mainland
Collin County Community College
Del Mar College
El Centro College
El Paso Community College
Galveston College
Grayson County College
Houston Baptist University
Houston Community College
Howard College
Kilgore College
Lamar State College-Orange
Lamar State College-Port Arthur
Lamar University at Beaumont
Laredo Community College
Lee College
McLennan Community College
Midland College
Navarro College
North Central Texas College
North Harris Montgomery C. C.
Northeast Texas C. C.
Odessa College
Panola College
Paris Junior College
San Antonio College
San Jacinto College - Central
San Jacinto College - South
South Plains College
South Texas Community College
Southwestern Adventist University
St. Philip's College
Tarrant County College
Temple College
Texarkana College
Trinity Valley Community College
Tyler Junior College
UT at Brownsville & TSMC
Vernon College
Victoria College
Weatherford College
Wharton County Junior College

BSN Programs (25)

Abilene Intercollegiate
Baylor University
East Texas Baptist University
Houston Baptist University
Lamar University at Beaumont
Midwestern State University
Prairie View A&M University
Stephen F. Austin State Univ.
Tarleton State University
Texas A&M International Univ.
Texas A&M Univ. at Corpus Christi
Texas Christian University
Texas Tech University HSC
Texas Woman's University
University of Mary Hardin Baylor
UT at Arlington
UT at Austin (also Alternate Entry-MSN program)
UT at El Paso
UT at Tyler
UTHSC at Houston
UTHSC at San Antonio
UT Medical Branch at Galveston
UT Pan American
University of the Incarnate Word
West Texas A&M University

Educational Pipeline to Obtaining a Nursing Degree from an Initial RN Licensure Program* in Texas (2003)



*Numbers exclude the RN-to-BSN track within Basic Nursing Programs.

** Graduate projections are based on the number of graduates from Diploma, ADN, and BSN programs in 2003.

Source: Board of Nurse Examiners for the State of Texas

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2004 Nursing Education Questionnaire

The information collected from this questionnaire will be used by the Texas Higher Education Coordinating Board, in consultation with other Texas state agencies and health organizations, to make recommendations on nursing education to the 79th Texas Legislature. If you would like more information about the intent or use of this document, please contact Ms. Chris Fowler at 512/427-6217. **Please send your reply by May 14, 2004**

1. The U.S. Department of Health and Human Services ranks Texas 45th among the 50 states in the number of registered nurses (RN) per 100,000 population. This means that Texas has one of the worst nursing shortages in the nation. How significant would you rate each of the following as reasons for or factors contributing to the nursing shortage in Texas? (**1=not a significant reason**; **5=a very significant reason**)

	Not a Significant Reason				**Very Significant Reason**
1. The General RN Education Environment					
a. Difficulty attracting the best students	1	2	3	4	5
b. Difficulty attracting under-represented students (including men)	1	2	3	4	5
c. Poor academic preparation of incoming students	1	2	3	4	5
d. Attrition of nursing students	1	2	3	4	5
e. Outdated curriculum	1	2	3	4	5
f. Overworked faculty	1	2	3	4	5
g. Under-trained faculty	1	2	3	4	5
h. Restrictive regulatory environment (CB, BNE, other)	1	2	3	4	5
i. Inadequate physical resources to support curriculum	1	2	3	4	5
j. Relevancy of curriculum to actual practice (Inadequate academic preparation for practice)	1	2	3	4	5
k. Other _____	1	2	3	4	5
2. Limitations on Enrollment Capacity in RN Programs					
a. Extent of remediation (and resources) required to prepare incoming students for curriculum	1	2	3	4	5
b. Number of didactic faculty	1	2	3	4	5
c. Number of clinical faculty	1	2	3	4	5
d. Number of support staff	1	2	3	4	5
e. Availability of scholarships, grants, other financial aid	1	2	3	4	5
f. Number/ appropriateness of clinical sites	1	2	3	4	5
g. Quality/capacity of classroom and laboratory facilities	1	2	3	4	5
h. Financial support from top administration	1	2	3	4	5
i. Other _____	1	2	3	4	5
3. Reasons for Faculty Vacancies in RN Programs					
a. Nationwide competition for faculty	1	2	3	4	5
b. Statewide competition for faculty	1	2	3	4	5
c. Lack of support from top management for creating new budgeted positions	1	2	3	4	5
d. Lack of qualified applicants for advertised faculty positions	1	2	3	4	5
e. Lack of parity between faculty salaries and practice salaries in local area or region	1	2	3	4	5
f. Lack of interest in educator roles among MSN/PhD graduates	1	2	3	4	5
g. Other _____	1	2	3	4	5

2. Of the reasons rated above, list the three **most significant** reasons for or factors contributing to the nursing shortage as it pertains to the production of registered nurses in Texas. (You may reference them by number, e.g., Number of didactic faculty = 2b.)
   1)

   2)

   3)

3. How would you rate the potential of each of the following solutions to increase the number of students graduating as registered nurses in Texas?

	Not a Significant Solution				**Very Significant Solution**
1. Possible Solutions to Capacity Issue in RN Programs					
a. Greater participation by hospitals in nursing education (e.g., greater use of preceptors)	1	2	3	4	5
b. Consolidation of common administrative and educational activities among neighboring nursing programs (i.e., "Regionalization")	1	2	3	4	5
c. Greater use of interdisciplinary faculty	1	2	3	4	5
d. Pooled or shared nursing faculty among nursing programs	1	2	3	4	5
e. Better academic preparation of incoming students	1	2	3	4	5
f. Curriculum changes	1	2	3	4	5
g. Greater use of information technology (e.g., teaching and diagnostic software)	1	2	3	4	5
h. Greater use of online education	1	2	3	4	5
i. More financial support from top administration	1	2	3	4	5
j. More State formula funding for nursing programs	1	2	3	4	5
k. More State special item funding for specific issues in nursing education	1	2	3	4	5
L. More Federal funding dedicated to nursing education	1	2	3	4	5
m. Other _____	1	2	3	4	5
n. Other _____	1	2	3	4	5

4. Of the possible solutions rated above, list the three **most significant** for increasing the production of registered nurses in Texas. (You may reference them by number, e.g., Curriculum changes = 1f.)

   1)

   2)

   3)

5. Finally, how significant are the following as reasons for why nurses leave nurse practice and then don't return to the profession?

	Not a Significant Reason				**Very Significant Reason**
A. Nurses Leave the Profession Prematurely Because …					
1. Salaries are too low	1	2	3	4	5
2. The working environment is stressful	1	2	3	4	5
3. The working environment is unsafe	1	2	3	4	5
4. Work hours are unattractive	1	2	3	4	5
5. Nurses have little autonomy in the workplace	1	2	3	4	5
6. Nurses don't receive enough respect in the workplace	1	2	3	4	5
7. Nurses lack confidence in their skills	1	2	3	4	5
8. Family responsibilities often take precedence over career goals	1	2	3	4	5
9. Career advancement is difficult	1	2	3	4	5
10. Other career opportunities are more attractive	1	2	3	4	5
11. Other _____	1	2	3	4	5
B. Once Gone From Practice, Nurses Don't Return Because ...					
1. Re-entry salaries are not an enticement	1	2	3	4	5
2. They lack confidence in their skills	1	2	3	4	5
3. Refresher programs are not easily available	1	2	3	4	5
4. Returning nurses need more flexible scheduling	1	2	3	4	5
5. Other occupations are more attractive	1	2	3	4	5
6. Family responsibilities take precedence over career goals	1	2	3	4	5
7. Work conditions are perceived to be the same or worse than when they left	1	2	3	4	5
8. Other _____	1	2	3	4	5

Comments about questionnaire or on questionnaire responses:

Respondent: _____ Title: _____

Nursing Program/Institution: _____

Thank you for completing this questionnaire.

Please return it by Friday, May 14 to: Chris Fowler, Program Director, Texas Higher Education Coordinating Board, P.O. Box 12788, Austin, Texas, 78711.

2004 Nursing Education Questionnaire Results

1. The U.S. Department of Health and Human Services ranks Texas 45th among the 50 states in the number of registered nurses per 100,000 population. This means that Texas has one of the worst nursing shortages in the nation. How significant would you rate each of the following as reasons for or factors contributing to the nursing shortage in Texas?

PART A ***The General RN Education Environment***	Overall	Diploma/ ADN	BSN
Difficulty attracting the best students	2.69	2.79	2.62
Difficulty attracting under-represented students (including men)	2.97	2.88	3.14
Poor academic preparation of incoming students	3.53	3.67	3.48
Attrition of nursing students	3.51	3.73	3.41
Outdated curriculum	1.88	1.92	1.97
Overworked faculty	3.77	3.85	3.72
Under-trained faculty	2.67	2.69	2.72
Restrictive regulatory environment (CB, BNE, other)	3.10	3.08	3.41
Inadequate physical resources to support curriculum	3.29	3.31	3.55
Relevancy of curriculum to actual practice (Inadequate academic preparation for practice)	1.96	2.13	1.76
Other	1.00	0.85	1.52

Associate	The WECM restraints. # hours allotted for RNSG courses need to be higher
	Cost of nursing ed vs. other disciplines forces admin. to limit enrollment in nursing
	outdated teaching/learning methods; lack of widespread innovation such as internet courses in pre-licensure programs
	students decide they do not like nursing after entering program
BSN	Conflict between ADN and BSN programs
	Lack of tutorial support services
	I believe that BSN educated RN's in clinical practice should be allowed to supervise undergrad students in clinical - they are often the most clinically proficient

PART B

Limitations on Enrollment Capacity in RN Programs	Overall	Diploma/ ADN	BSN
Extent of remediation (and resources) required to prepare incoming students for curriculum	3.50	3.69	3.48
Number of didactic faculty	3.91	4.06	3.79
Number of clinical faculty	4.33	4.48	4.31
Number of support staff	3.36	3.35	3.52
Availability of scholarships, grants, and other financial aid	3.69	3.6	4.03
Number/appropriateness of clinical sites	3.76	3.87	3.69
Quality/capacity of classroom and laboratory facilities	3.63	3.63	3.86
Financial support from top administration	3.26	3.21	3.31
Other	0.44	0.35	0.9

Associate	Unwillingness to pay nursing faculty on a different pay scale from other faculty Admission requirements vary widely in programs across the state
BSN	Nursing Building too small State FTE cap

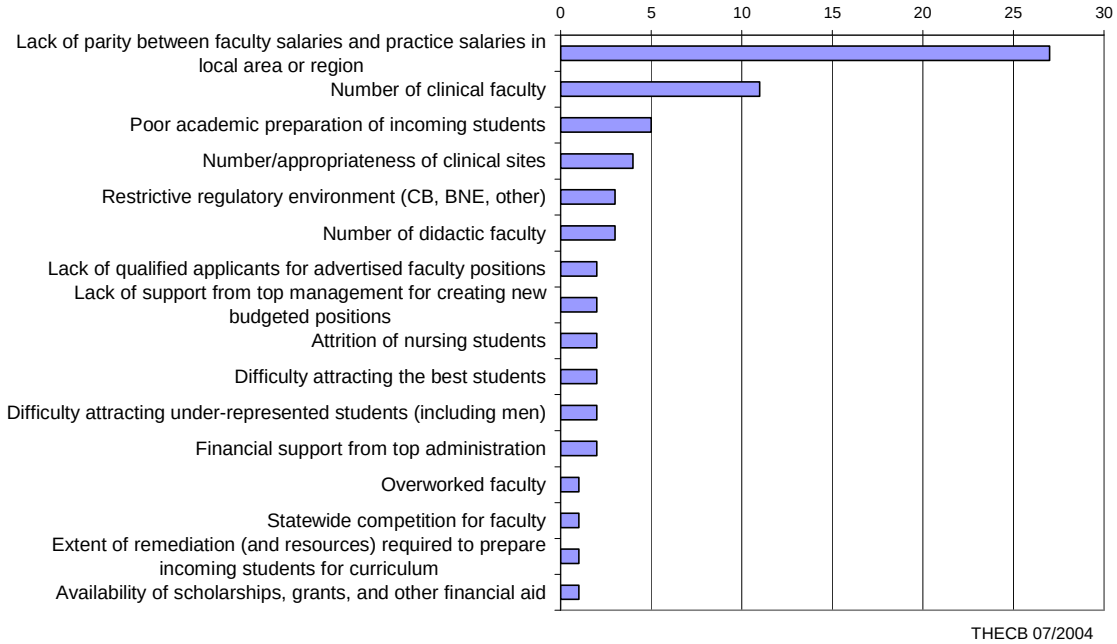
PART C

Reasons for Faculty Vacancies in RN Programs	Overall	Diploma/ ADN	BSN
Nationwide competition for faculty	3.85	3.77	4.17
Statewide competition for faculty	4.33	4.44	4.34
Lack of support from top management for creating new budgeted positions	3.13	3.08	3.24
Lack of qualified applicants for advertised faculty positions	4.21	4.44	4.1
Lack of parity between faculty salaries and practice salaries in local area or region	4.77	4.88	4.69
Lack of interest in educator roles among MSN/PhD graduates	3.87	4.02	3.59
Other	1.03	0.78	1.58

Associate	Many nurses have bad memories of nursing school; they don't see nursing school as a positive place to work because of their own perception of how badly they were treated there Lack of graduate educational tracks
BSN	Lack of men and minority faculty 9 month appointment for faculty rather than 12 month in general academic institution

2. Of the reasons rated above, list the three most significant reasons for or contributing factors to the nursing shortage as it pertains to the production of registered nurses.

Factors Contributing to Nursing Shortage
(Number ranking each as #1)

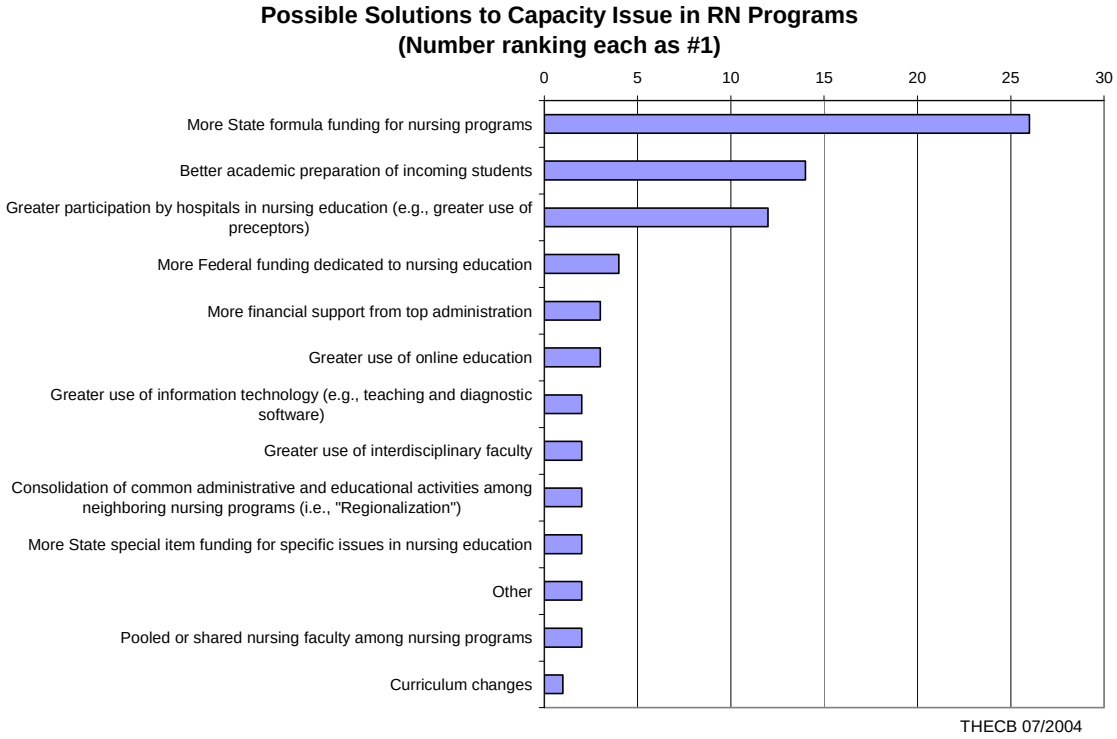


3. How would you rate the potential of each of the following solutions to increase the number of students graduating as registered nurses in Texas?

Possible Solutions to Capacity Issue in RN Programs	Overall	Diploma/ ADN	BSN
Greater participation by hospitals in nursing education (e.g., greater use of preceptors)	3.68	3.79	3.79
Consolidation of common administrative and educational activities among neighboring nursing programs (i.e., "Regionalization")	2.35	2.52	2
Greater use of interdisciplinary faculty	2.71	2.83	2.59
Pooled or shared nursing faculty among nursing programs	2.99	3.13	2.69
Better academic preparation of incoming students	3.82	4.12	3.55
Curriculum changes	2.79	2.87	2.86
Greater use of information technology (e.g., teaching and diagnostic software)	3.42	3.29	3.72
Greater use of online education	3.32	3.31	3.38
More financial support from top administration	3.81	3.85	3.93
More State formula funding for nursing programs	4.49	4.6	4.34
More State special item funding for specific issues in nursing education	4.35	4.37	4.55
More Federal funding dedicated to nursing education	4.28	4.33	4.34
Other	0.63	0.54	0.9
Other	0.23	0.23	0.38

Associate	Place money where results are obtained Core curriculum for ease of transferability
BSN	Faculty development (e.g. today's students, curricular issues, use of technology)

4. Of the possible solutions rated above, list the three most significant in increasing the production of nurses in Texas.



5. How significant are the following as reasons for why nurses leave nurse practice?

Nurses Leave the Profession Prematurely Because …	Overall	Diploma/ ADN	BSN
Salaries are too low	3.31	3.46	3.14
The working environment is stressful	4.55	4.67	4.55
The working environment is unsafe	3.51	3.6	3.52
Work hours are unattractive	3.76	3.79	3.97
Nurses have little autonomy in the workplace	3.67	3.62	4.07
Nurses don't receive enough respect in the workplace	3.83	3.75	4.14
Nurses lack confidence in their skills	2.24	2.25	2.31
Family responsibilities often take precedence over career goals	3.24	3.27	3.34
Career advancement is difficult	3.03	2.9	3.41
Other career opportunities are more attractive	3.79	3.83	3.72
Other	0.51	0.63	0.55

Associate	TOO much abuse by physicians and lack of administrative support In good economic times other options are more attractive (pay, benefits, environment, hours of work)
BSN	Lack of mentoring of new graduates

6. Finally, how significant are the following as reasons for why nurses who leave the profession don't return?

Once Gone From Practice, Nurses Don't Return Because ...	Overall	Diploma/ ADN	BSN
Re-entry salaries are not an enticement	3.46	3.56	3.41
They lack confidence in their skills	3.51	3.54	3.62
Refresher programs are not easily available	3.77	3.92	3.72
Returning nurses need more flexible scheduling	3.73	3.73	3.97
Other occupations are more attractive	3.81	3.9	3.72
Family responsibilities take precedence over career goals	3.47	3.5	3.55
Work conditions are perceived to be the same or worse than when they left	4.36	4.35	4.38
Other	0.44	0.46	0.69

Associate	workplace very stressful because of patient acuity "throw in" without adequate orientation, feel scared
BSN	too old to run run run Compression of Nursing Salaries- so when nurses consider returning the salaries do not compensate for the years of experience the nurse has