

Curing the Crisis In Nursing Education

A Master Plan for Tennessee



January 2005

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The Nursing Education Master Plan project is the result of a proposal submitted by the Tennessee Center for Nursing to the Tennessee Hospital Association's (THA) Center for Health Workforce Development. The committee is built upon previous activities within the state including the *Tennessee Independent Colleges and Universities Association Report* (December 2003) and recommendations resulting from the Nursing and Allied Health Professions Open Forum on Faculty and Workforce Shortages sponsored by Tennessee Board of Regents and Tennessee Higher Education Commission (October 2002).

Curing the Crisis in Nursing Education

A Master Plan for Tennessee

Nashville, Tennessee



Tennessee Center for Nursing
www.centerfornursing.org



A Report of the Nursing Education Master Plan Steering Committee

January 2005



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Preface

Recent efforts at both the national and state levels have been successful in attracting more people to nursing as a career. After years of declining enrollment in schools of nursing across the state, colleges and universities experienced an increase in applicants beginning in 2000. Health care stakeholders, aware of the projected registered nurse shortage for Tennessee and the nation, were hopeful that the increased enrollment would foretell a continuing trend that would enable the state to avert the impending nursing workforce shortage. For the next two years, we watched as enrollment continued to increase. Then, in the fall of 2003, optimism for avoiding a registered nurse shortage of historic proportion was dashed when our schools of nursing reached capacity thresholds and turned away hundreds of qualified candidates for admission. Our immediate challenge became dealing with the nursing education capacity crisis.

Nursing is ranked the number one growth occupation of all occupations through 2012.¹ However, the demand for registered nurses occurs during the same period when the nation will be experiencing the greatest worker shortage in its history.² As the “Baby Boomers” (the largest generation in our history) retire, the significantly smaller generations that follow are not large enough to fill the vacated positions or the increase in labor demand. As a result, a labor shortage of 10 million workers in the U.S. is projected by 2010. During this same period, competition for new entrants into all professions and worker categories will be fierce.

We will lose all competitive edge for recruiting people to the nursing profession if we continue turning away qualified applicants to our schools of nursing.

In April 2004, the Tennessee Hospital Association’s Center for Health Workforce Development provided a grant to the Tennessee Center for Nursing to convene a steering committee that would identify strategies for increasing nursing education capacity. The steering committee, which was convened in June 2004, has identified the contributing factors to our limited educational capacity, met with representatives from other states who presented strategies from their state plans, and made recommendations that the steering committee believes are necessary for Tennessee.

Nashville is recognized, both nationally and internationally, as the health care industry capital and as such Tennessee enjoys a rich reservoir of expertise in the health care industry.³ This expertise in concert with the support of consumers and others who have a vital stake in securing access to health care, can combine to assure that we have the nursing workforce essential for the delivery of care. By working together, we can provide the resources our schools of nursing need to produce the workforce needed for our future. What we now need is the will to act!



Executive Director
Tennessee Center for Nursing
January 2005

Introduction

The emerging nursing shortage that has been projected not only nationally but also globally has been called a “Perfect Storm”, using the name from a movie by that title which depicted the unusual conditions that converged to spawn a storm of phenomenal intensity unlike any that had ever been experienced.⁴ The storm was actually three storms that combined and could not be given a name because the weather service did not know how to label the convergence.

The “Perfect Storm” is analogous to today’s emerging nursing workforce shortage. **The three conditions that have converged are (1) an increased demand for registered nurses, (2) a decreased supply of registered nurses, and (3) unfavorable working conditions.** Unless dissipated, this “storm” has the intensity for an impending public health crisis.

Dissipating the “storm” will require multiple, interrelated strategies. Supply, demand, and work environment interact dynamically. Intervening at a single point in these dynamics has an effect, often unanticipated and sometimes counterproductive, elsewhere in the equation. As an example, efforts to entice individuals to go into nursing through national and state level media campaigns have created excess demand beyond enrollment capacity in schools of nursing.

A 2004 national survey by the American Association of Colleges of Nursing (AACN) revealed that the enrollments in four-year baccalaureate nursing (BSN) programs rose by 10.6 percent, while

6,340 qualified applications were denied primarily due to a shortage of nurse educators, as well as insufficient clinical placement sites and classroom space.⁵ This is the fourth consecutive year of enrollment increases; however, with the government projecting a shortfall of 800,000 nurses by the year 2020, there is still concern that too few nurses are entering the workforce. According to the latest projections from the U.S. Department of Labor, **more than one million new and replacement nurses will be needed by 2012.**

Similarly, the National League for Nursing (NLN) 2004 survey results report that enrollments for all types of pre-licensure registered nurse programs increased by 50.3 percent.⁶ **Yet, an estimated 125,037 qualified applicants were turned away from these nursing programs.**

Supply also is affected by the work environment of nurses. Studies show that turnover among new nurse graduates is high, with 53 percent of the graduates leaving the hospital within 12 months of employment. The average annual turnover rate for all registered nurses is 20 percent.⁷ Stemming the loss of new graduates and experienced nurses will require increased efforts to create work environments that are patient-oriented and nurse-oriented.

The Nursing Education Master Plan Steering Committee has attempted to understand the complexity of this gathering “storm” and to formulate goals and recommendations that can potentially dissipate the storm in Tennessee.

Curing the Crisis in Nursing Education A Master Plan for Tennessee

Executive Summary

Tennessee is projected to have the most critical registered nurse (RN) shortage (see Figure 4) of the 16 states comprising the Southern Regional Education Board (SREB).⁸

shows that since 1995, there is a significant difference between the number of students enrolled in nursing and the number who successfully graduate and become licensed in Tennessee.

FIGURE 1. 2000-2010 Projections for RN Shortages in Tennessee, the SREB, and the US.

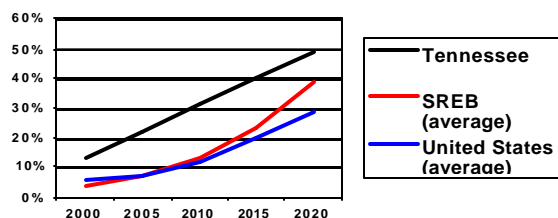
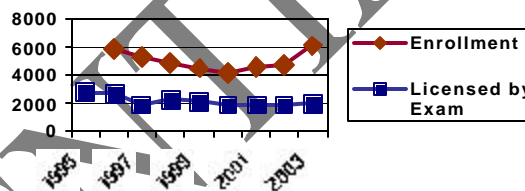


FIGURE 2. Comparison of Enrollment in Initial RN Licensure Programs and RNs Licensed by Examination



TN Board of Nursing Data

A report issued in September 2004 by the Health Resources and Services Administration (HRSA) projects a severe shortage of registered nurses for Tennessee, beginning in 2005 with a shortage of 13,100 and escalating to a shortage of 35,300 by the year 2020.⁹ According to HRSA's projections, Tennessee will be able to meet only 53 percent of the demand for RNs by 2020.

However, schools of nursing turned away hundreds of qualified applicants due to lack of faculty and other resources. The National League for Nursing released a preliminary report on December 15, 2004 that shows an estimated 125,000 qualified applicants were turned away from U. S. schools of nursing, that the nursing supply will fall far short of the demand, and that "the gap will continue to grow unless we address the critical shortage of faculty".¹⁰

State and national recruitment campaigns have been successful in achieving increases in applicants to schools of nursing in Tennessee. Enrollment in initial registered nurse licensure programs in Tennessee increased slightly from 2000 through 2002. However, even with the increase, Tennessee enrolled 899 fewer nursing students in 2003 than were enrolled in 1995.

Faculty shortages are limiting student enrollment at a time when the demand for registered nurses continues to grow.¹¹ Budget constraints, an aging faculty, and faculty salaries that are not commensurate with clinical nursing salaries are contributing to the faculty shortage.

Tennessee will have to do more than merely increase the number of students who enroll in nursing programs if we are to meet the demand for registered nurses. Figure 2

The projected nursing shortage is going to affect all of us – not just those that are directly or indirectly involved in health care. Maintaining a strong nursing workforce is critical to having access to quality health care and as a contributor to the local economy.

- ❖ The nursing shortage will reach critical proportions at the time the single largest generation in our nation's history, the Baby Boomers, reaches the age of retirement, which is usually the age of greatest health care need.
- ❖ Tennessee is expected to have the highest nursing vacancies of all states in the southeastern region.
- ❖ The state currently is experiencing a 6.34 percent vacancy rate (1,655.5 vacant budgeted positions) for registered nurses in hospital settings.
- ❖ Tennessee's hospital turnover rate is 19 percent (based on data compiled in 2003 and published in a 2004 report).

To avoid the adverse impact on health care for Tennesseans, the state must:

- ❖ Significantly increase associate and baccalaureate degree nursing school enrollments by attracting more people into the nursing profession.
- ❖ Immediately resolve the enrollment capacity crisis due to faculty shortages and other barriers.
- ❖ Improve the work environment for nurses, including support and mentoring for new nurse graduates entering the workforce.

Recognizing the urgency of the nursing education enrollment capacity crisis, the Center for Health Workforce Development approved a grant to the Tennessee Center for Nursing to facilitate development of a plan to double nursing school graduations by the year 2010.

All 31 associate and baccalaureate degree schools of nursing (including both public and private schools) were asked to participate in developing the nursing education master plan. Schools were surveyed to determine:

- ❖ Projected number of graduates by 2010.
- ❖ Current faculty and projected faculty retirements.
- ❖ Educational strategies schools would use to double graduations.
- ❖ Projected number of new faculty needed to double graduations.
- ❖ Faculty specialties needed.
- ❖ Cost to increase graduations by 2010.

A survey of schools of nursing was conducted between July and December, 2004. **Twenty-nine of 31 schools of nursing returned completed surveys for a response rate of 93.5 percent.**

Survey Results

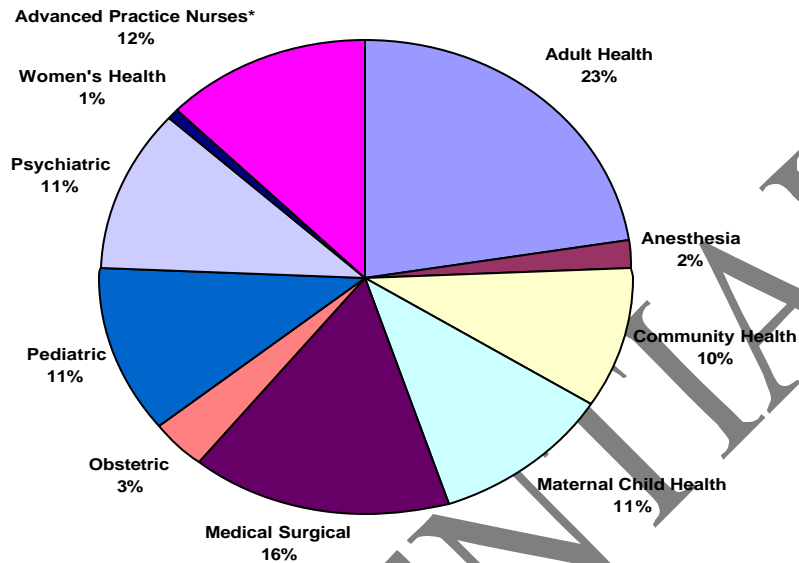
Funding Needed

To graduate 4,969 professional nurses by 2010 will require an estimated \$38,792,330 in additional funding for both public and private schools of nursing, which includes \$15,342,000 for renovating existing facilities to accommodate the increased class size. **Of this, public schools would need an additional \$31,264,808 which includes \$12,075,000 for renovation.**

Faculty Needed

Two hundred sixty-four additional fulltime equivalent faculty positions are needed over the next 5 years in order to double graduations. However, 119 of the current fulltime faculty are expected to retire during this period so a total of 383 new faculty would need to be recruited to fill the currently funded and new positions. Nurse educators with specific clinical specialties that are needed are reflected in Figure 3.

Figure 3: Projected Faculty Needed, by Clinical Specialty



* Adult Nurse Practitioners, Clinical Nurse Specialists, Family Nurse Practitioners, Geriatric Nurse Practitioners, Psychiatric/Mental Health Nurse Practitioners, Public Health (Forensics)

Educational Strategies

The strategies which schools identified that would be used to graduate more students include: new and improved articulation among the types of nursing programs (LPN to RN, paramedic to RN); accelerated programs, including BSN to PhD; year round classes, night classes and weekend classes; clinical simulation and web-based courses; joint faculty appointments with health care facilities; intensive tutoring, remediation, and/or mentoring to reduce attrition; collaboration with school districts targeting diversity recruitment; and faculty development.

Goals and Recommendations

Goal 1: To double pre-licensure RN graduates with diversity that mirrors the

state population from 1,663 in academic year 2003 to 3,326 in academic year 2010.

- ❖ Increase Associate Degree nursing graduates by at least 1,330.
- ❖ Increase Baccalaureate and Master (generic) Degree nursing graduates by at least 1,996.

Recommendations:

1. All institutions offering the ADN, BSN or generic MSN degree should be encouraged to increase their number of pre-licensure graduates.
2. All institutions should include data on nursing student applications, admissions, retention, and graduation statistics that are based on common definitions used in the comprehensive electronic data and information system. The system currently is being developed by the Tennessee

Center for Nursing, East Tennessee State University, and Tennessee Board of Nursing.

3. Clinical facilities, in collaboration with nursing education programs, should identify and make available more clinical training sites for nursing education.
4. To maximize limited resources and avoid duplication of nursing programs, nursing education programs of all types at every level should collaborate, share resources, and develop partnerships with health care providers and with each other.
5. All BSN and ADN nursing education programs should explore LPN to RN pathways to facilitate career advancement and avoid unnecessary duplication of content in these programs.
6. Develop a statewide health careers advisory program for increased recruitment into health careers for K-12 students.
7. Target a diversity of middle and high school students to encourage them to consider a nursing career.
8. High school and college guidance counselors should receive additional training in the requirements of Tennessee's nursing education programs to provide nursing-specific advice to interested students.
9. Support the training and preparation of hospital nurse clinicians to become adjunct/part-time faculty in schools of nursing by encouraging health care facilities to work collaboratively with colleges and universities to develop innovative cost-sharing strategies for part-time faculty salaries.
10. Develop a consistent standard to use within the Tennessee Board of Regents for the evaluation of retention-specific performance criteria for each nursing education program.

Goal 2: To increase the number of nursing faculty by academic year 2010 by at least 159 full-time and 62.5 part-time positions.

Recommendations:

1. Increase the number of nursing graduates with master's degrees from 256 in academic year 2003 to at least 670 by academic year 2010.
2. Increase the number of nursing graduates with doctoral degrees from 22 in academic year 2003 to at least 49 by academic year 2010.

Goal 3 To improve retention in the nursing workforce, including both nursing faculty retention and healthcare workplace retention.

Recommendations:

1. The Tennessee Center for Nursing should convene a group to study options to improve school-to-work transitions, including:
 - a. Intensive clinical experience in direct patient care during the final semester of study for nursing students, and
 - b. A supervised/mentored clinical internship experience either pre- or post-licensure.
2. Employers should take steps to create positive work environments based on the 'forces of magnetism' from the American Nurses Credentialing Center Magnet Designation Program or similar best practices for recruiting and retaining nurses in the workplace, such as the American Organization of Nurse Executives *Healthy Work Environments: Striving for Excellence, Volume I (2003) and II (2004)*.
3. The Tennessee Center for Nursing, Tennessee nursing organization leaders, and healthcare trade associations should assist employers in developing positive work environments by dissemination of best practice models.
4. The professional nursing schools should offer educational opportunities for leadership development, conflict resolution and communication skills training, interdisciplinary team building, and preceptor training for workforce retention.

5. The Tennessee Nurses Association should promote consumer advocacy efforts toward a well-educated, adequately staffed healthcare system in the interest of higher quality of care.
 6. Philanthropic organizations should support the provision of technical assistance to healthcare organizations as they attempt to make the changes necessary to improve the nursing workforce environment and enhance the quality of patient care. Financial assistance should be targeted to those facilities that would be unable to make these changes without financial assistance.
5. That the Tennessee Association of Deans and Directors conduct a study of the differentiated tuition and fees for nursing programs to better reflect the true cost of nursing education and to allow any additional revenues be used to expand enrollment capacity in nursing.
 6. That the Tennessee Department of Health expands eligibility for the Health Access Incentive Grant Program to include nursing educators.
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Goal 4 To identify and obtain funding that is necessary to support the statewide Nursing Education Master Plan.

Recommendations:

1. That the legislature adopts a bill to establish a Tennessee Nursing Scholarship Program and approves an appropriation request of \$900,000 for the scholarship program.
2. That the legislature approves an appropriation request of \$900,000 to fund the Tennessee Nursing Loan Forgiveness Program.
3. That private funding sources be solicited to match the \$1,800,000 appropriated by the legislature to the Nursing Scholarship Program and the Nursing Loan Forgiveness Program.
4. That the legislature approves a five-year appropriation request for public schools of \$31,264,808, which includes a \$12,075,000 capital expenditure request for schools of nursing that need renovation in order to increase the number of students they have projected to graduate by 2010.

The Nursing Pipeline Crisis

Supply and Demand

There are a number of commonly recognized contributing factors that indicate the evolving nursing shortage is different from past cyclical shortages and that these factors will significantly worsen in the next few years.

Nursing is ranked as the number one growth occupation of all occupations through 2012.¹² This is the first time that the RN professions ranked ahead of all other occupations in workforce demand. Between 2000 and 2020 the demand for healthcare is projected to climb by 40 percent while the growth in the number of nurses is projected at only 6 percent. **By 2020, HRSA projects that Tennessee will be able to meet only 53 percent of the demand for RNs.**¹³

The increased demand for registered nurses in acute care, long term care, home care, and public health is primarily fueled by an aging population that will continue to increase as the Baby Boomers reach retirement age, the age of greatest health care need. **Enrollments in nursing programs would have to increase at least 40 percent per year to provide enough new RNs just to replace those expected to leave the workforce through retirement.**¹⁴

An additional factor contributing to demand is the increasingly complex patient care provided by nurses today that is driven by technological advances in patient care. The increasing intensity in nursing care necessitates more nurses per patient. Furthermore, there is increased demand for RNs with strong science backgrounds and knowledge and skills in new technologies that can provide care for the greater number of patients having more complex care needs.

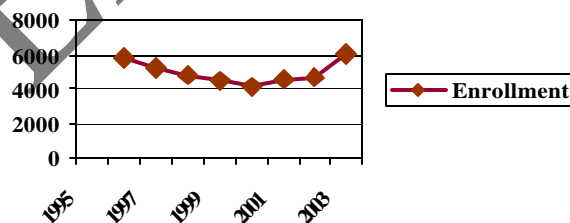
A diminished supply of RNs, due to a decade of declining enrollment in schools of

nursing, and an aging RN workforce are on a collision course with the increased health care demands of an aging population.

The supply of new nurses entering the workplace has suffered from a decade of declining enrollment in schools of nursing. Figure 4 shows school of nursing enrollment data from the Tennessee Board of Nursing for the past eight years.

Enrollments in nursing programs began to increase slightly in 2001 and continued to increase through 2003. However, the 2003 enrollment was 899 less than the number of students that were enrolled in 1995.

Figure 4: Enrollment in Initial RN Licensure Programs in Tennessee



In fall of 2004, the tidal wave of applicants interested in enrolling in nursing encountered schools of nursing that were stretched beyond their capacity following three years of steady growth. The 2004 national survey by the National League for Nursing found that colleges and universities increased their enrollments to all pre-licensure RN programs as follows:

- ❖ Baccalaureate 56.6%
- ❖ Associate Degree 48.8%
- ❖ Diploma 6.6%

Despite these increases in enrollment, the **schools turned away an estimated 125,000 qualified applicants** last fall.¹⁵ The primary barriers to accepting all qualified students at

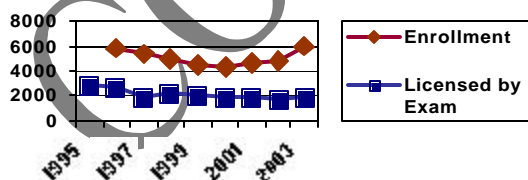
nursing colleges and universities are insufficient faculty, clinical placement sites, and classroom space. Furthermore, the NLN projects that **“the supply will fall well short of the demand and the gap will continue to grow unless we address the critical shortage of faculty”**.¹⁶

According to the American Association of Colleges of Nursing, faculty shortages are a primary reason for not accepting all qualified applicants into nursing programs.¹⁷ A study released by the Southern Regional Board of Education documented a serious shortage of nurse faculty in all 16 SREB states.¹⁸ A contributing factor to faculty shortages is due to salary deficiencies. Tennessee ranks 13th out of the 16 SREB states in faculty salary. **Only Louisiana, North Carolina, and Arkansas have lower faculty salaries than Tennessee faculty.**¹⁹

Although Tennessee schools of nursing increased their fall 2004 enrollment over the previous year, hundreds of qualified applicants were turned away due to lack of educational capacity.

In addition to barriers to enrollment, attrition in nursing programs further limits the number of new graduates entering the nursing workforce, as shown in Figure 5.

FIGURE 5. Comparison of Enrollment in Initial RN Licensure Programs and RNs Licensed by Examination



There are numerous reasons that students who enroll in nursing do not graduate. A primary reason for many students is their lack of academic preparation (particularly in math and science) for the academic rigors of the nursing curriculum and insufficient

mentoring and tutoring resources necessary for student success.

Workplace Conditions

As patient acuity has increased, requiring more complex care, a greater number of nurses are required to provide the more time-consuming care. When staffing does not keep pace with patient care demands, poor outcomes can occur...for both patients and nurses. Numerous studies, including the Institute of Medicine Report, “Keeping Patients Safe: Transforming the Work Environment of Nurses” (2003) have show that medical errors and patient deaths due to “failure to rescue” increase, along with other medical complications, when RN staffing is insufficient. **Working with insufficient staff and working additional shifts in order to meet staffing demands has an adverse outcome on nurses, including burn out and workplace injuries.** These conditions, combined with stagnant salaries²⁰, are the primary contributing factors to high turnover in health care facilities, particularly hospitals. This results in a nursing staffing shortage, as opposed to a nursing workforce shortage, which is evidenced by rising nurse vacancy and turnover rates. Nationally, the average Registered Nurse vacancy rate for hospitals is 13 percent and for nursing homes is 15 percent.²¹ In nursing homes, the nationwide average annual turnover rate is 49 percent. **Often nurses leave not only the employment setting, but they leave the nursing profession.**

Increasing turnover and vacancy rates among experienced Registered Nurses have resulted in new nursing graduates being assigned to care for high acuity patients with complex needs.²² Furthermore, it is impossible to assign new graduates to lower acuity patients because these type patients are no longer in hospitals. A study by the Health Care Advisory Board indicated that 42 percent of new hires by hospitals are likely to be new graduates.²³ Further findings indicated that the new graduates did not demonstrate safe clinical judgment, defined as recognizing deviations from normal, reporting essential data to

physicians, and initiating actions essential to validate problems or keep them from worsening. These **stresses on new graduates result in a turnover rate of 53 percent within 12 months of their employment, compared to an annual turnover rate for all registered nurses of 20 percent.** Turnover rates this high are expensive for the employer and are traumatic for the new graduate.

To retain both experienced nurses and new graduates in the workplace and in the nursing profession, efforts to improve the work environment are critical. Several decades of studies have documented effective strategies for recruiting and retaining nurses and voluntary efforts to implement these strategies are underway. The American Hospital Association and the American Organization of Nurse Executives published two volumes of 'best practices' for workplace improvement: *Healthy Work Environments: Striving for Excellence, Volume I (2003) and II (2004)*. Other voluntary efforts involve implementation of the 'forces of magnetism' defined by the American Nurses Credentialing Center Magnet Hospital Designation Program.

The legislative process has also been used to modify the work environment of registered nurses. Several states have enacted legislation that:

- ❖ Prohibits mandatory overtime
- ❖ Mandates specific RN-to-patient staffing ratios

A major national partnership between the Robert Wood Johnson Foundation, the Institute for Healthcare Improvement, and various hospitals to address supply, demand and work environment issues has been formed to implement an initiative known as "Transforming Care at the Bedside (T-CAB)".²⁴ Several targets that

have been set include zero unanticipated patient deaths, and 70 percent nursing time in direct patient care.

Major national efforts evidence the fact that healthcare organizational leaders acknowledge that becoming an employer of choice is good business.

The Nursing Education Master Plan Steering Committee affirms the need in Tennessee to address these nursing demand, supply, and workplace issues.

School of Nursing Survey Results

A survey of schools of nursing in Tennessee was conducted between July and December, 2004. **Twenty-nine of 31 schools of nursing returned completed surveys for a response rate of 93.5 percent.**

Schools were provided with their graduation data for 2003 and the steering committee goals for doubling the number of graduates by 2010. Schools were asked to provide:

- ❖ Projected number of graduates by 2010
- ❖ Current faculty and projected retirements
- ❖ Educational strategies to increase the number of graduates
- ❖ Projected number of new faculty needed to increase graduates
- ❖ Faculty specialties needed
- ❖ Cost to increase graduations by 2010

As seen in Figure 6, **schools of nursing have projected to graduate 3,498 pre-licensure nursing students by 2010. That represents an overall increase above 2003 graduations of 128.6 percent, an increase of 56.0 percent ADN graduates, 195.1 percent for BSN graduates, and 22.0 percent generic MSN graduates.**

Projected Graduations

Figure 6: Pre-licensure Student Graduations by Academic Year 2009 - 2010 and Projected Increases

Schools	2002 - 2003 Baseline			2009-2010 Goals			2009 - 2010 Projected			Total Graduates
	ADN	BSN	MSN	ADN	BSN	MSN	ADN	BSN	MSN	
Aquinas	48			68			100			100
Austin Peay State University		55			150			160		160
Baptist Memorial College		62			170			150		150
Belmont University		28			77			136		136
Carson Newman College		11			30			80		80
Chattanooga State Community College	81			115			150			150
Cleveland State Community College	44			63			60			60
Columbia State Community College	102			145			120			120
Cumberland University		18			49		No Response			
Dyersburg State Community College	26			37			65			65
East Tennessee State University		80			219			160		160
Jackson State Community College	64			91			120			120
King College		9			25			40		40
Lincoln Memorial University	87			124			170			170
Middle Tennessee State University		75			205			192		192
Milligan College		9			25			75		75
Motlow State Community College	36			51			50			50
Roane State Community College	67			95			120			120
Southern Adventist University	61			87			110			110
Southwest Tennessee Community College	72			103			No Response			
Tennessee State University	61	31		87	85		120	62		182
Tennessee Technological University		35			97			50		50
Tennessee Wesleyan		28			77			50		50
The Univ. of Memphis		65			178			200		200
The Univ. of Tennessee at Chattanooga		37			101			101		101
The Univ. of Tennessee at Knoxville		93	12		254	24		186	24	210
The Univ. of Tennessee at Martin		29			79			79		79
The Univ. of Tennessee Health Science Center					100			100		100
Union University		13			36			100		100
Vanderbilt University			106			212		80*	120	200
Walters State Community College	118			168			168			168
	867	678	118	1234	1957	236	1353	2001	144	3498

* Fisk University = 30; Lipscomb University = 50.

There is an overall projected increase of 199.6 percent in registered nurses who will return to school to obtain baccalaureate, masters and doctoral degrees (Figure 7). These degrees are critical educational pathways to meet the

demand for additional faculty as well as for advanced practice nurses in clinical settings. A master's degree in nursing is the minimal educational preparation required for a nursing faculty position.

Figure 7: Registered Nurse Graduations by Academic Year 2009 - 2010 and Projected Increases

Schools	2002 - 2003 Baseline			2009-2010 Goals			2009 - 2010 Projected			Total Projected Graduates
	RN Graduates			RN Graduates			RN Graduates			
	RN to BSN	MSN	Doctoral	RN to BSN	MSN	Doctoral	RN to BSN	MSN	Doctoral	
Aquinas	5			10			10			10
Austin Peay State University	2			4						
Baptist Memorial College	31			62			50			50
Belmont University	3	5		6	10		20	35		55
Carson Newman College		5			10		5	12		17
Cumberland University	1			2				No Response		
East Tennessee State University	21	36		42	72			72		72
King College	4			8			30			30
Lincoln Memorial University	8			16			30	30		60
Middle Tennessee State University	12			24			75	30		105
Milligan College							10			10
Southern Adventist University	18	3		36	6		36	14		50
Southwest Tennessee Community College								No Response		
Tennessee State University	11	12		22	24		40	60		100
Tennessee Technological University							50	50		100
Tennessee Wesleyan	1			2			2			2
The Univ. of Memphis	14			28			28	100		128
The Univ. of Tennessee at Chattanooga	10	45		20	90		40	90		130
The Univ. of Tennessee at Knoxville	17	25		34	50		34	50	5	89
The Univ. of Tennessee at Martin	9			18				25		25
The Univ. of Tennessee Health Science Center		31	22	40	62	44	40	62	44	146
Union University	46	18		92	36		92	40		132
Vanderbilt University		76			152			150	10	160
TOTAL	213	256	22	466	512	44	592	820	59	1471

Faculty Data

Figure 8 shows the number of current nursing faculty positions, vacant positions, and faculty who are expected to retire or leave their faculty positions during the next

5 years. There is currently a 5.6 percent vacancy rate, and an additional 24.8 percent of the positions are expected to be vacated by 2010.

Fulltime Faculty	Funded Positions	Vacant Positions	Faculty Expected to Retire/Leave						Projected Retirements
			2005	2006	2007	2008	2009	2010	
TOTAL	480	27	6	18	21	24	20	30	119

Schools of Nursing have projected that they will need an additional 201 nurse

educators in order to double the number of graduates by 2010. See Figure 9.

	2005	2006	2007	2008	2009	2010	TOTAL
TOTAL	25	48	52	35	25	16	201

Some of the faculty positions needed, for both full- and part-time positions, are in specific clinical specialty areas, as seen in Figure 10. Nurses with adult health and

medical surgical specialties are in highest demand, with maternal child health and psychiatric clinical specialties being next (tied) in demand.

	2005	2006	2007	2008	2009	2010	TOTAL
Adult Health	7	5	3	3.5	4	1	23.5
Anesthesia		1		1			2
Community Health	1	4	1.5	0.5	2.5	0.5	10
Maternal Child Health	1	3	1.5	3	1.5	1.5	11.5
Medical Surgical	4	2	1.5	4	3	2	16.5
Obstetric		3	0.5				3.5
Pediatric	1.5	4	3	2		1.5	12
Psychiatric	4	2	2.5	1	1.5	0.5	11.5
Women's Health			0.5	0.5			1
Advanced Practice Nurses*	0.5	3	3.5	3.5	1.5	1	13
TOTAL	19	27	17.5	19	14	8	104.5

* Adult Nurse Practitioner, Clinical Nurse Specialist, Family Nurse Practitioner, Geriatric Nurse Practitioner, Psychiatric/Mental Health, Nurse Practitioner, Public Health (Forensic)

Educational Strategies

Schools of nursing reported a wide variety of educational strategies that would be used to double the number of graduates. See Figure 11.

Cost Projections

Seventeen schools provided a projected budget for what would be needed financially, in addition to their current budget, to double enrollment by the year 2010. Costs submitted on their surveys included operating costs, equipment, and cost of any renovation that would be necessary to accommodate the increased class size.

Operating cost and cost of equipment were aggregated for the schools and divided by the number of graduates projected by academic

year 2010 to determine an average cost per student. The average cost per student was then multiplied by the projected increase in the number of graduates over their 2003 baseline graduations. The resulting cost for operating expenses and equipment is \$23,450,330.

Some schools cannot double the number of graduates unless they receive funding for renovation. The total projected cost for renovation for these schools is \$15,342,000.

The total projected additional funding required to graduate 4,969 nursing students, based on these estimations by schools of nursing, is \$38,792,330 spread over the next five years. Of this, public schools would need an additional \$31,264,808 which includes \$12,075,000 for renovation.

Figure 11: Strategies That Will be Used to Increase Graduations by Academic Year 2009 - 2010

Schools	LPN:RN Articulation	Accelerated Programs	Enroll Year-Round	Clinical Simulation	Web-Based Courses	Joint Faculty Appts.	Seamless Articulation	Tutoring & Mentoring	Diversity Recruitment	Partnerships	Other
Aquinas			X			X	X	X			
Austin Peay State U.	X	BSN			X	X			X		
Baptist Memorial College			X	X							1
Belmont U.		X	X		X	X				X	
Carson Newman College			X								
Chattanooga State C.C.	X							X			2
Cleveland State C.C.	X				X	X					3
Columbia State C.C.	X							X		X	
Dyersburg State C.C.	X			X	X		X				
East Tennessee State U.	X	BSN, MSN:PhD	X	X	X	X	X	X	X	X	
Jackson State C.C.	X		X					X			
King College				X		X	X				
Lincoln Memorial U.	X	BSN:MSN	X		X	X	X			X	
Middle Tennessee State U.					X			X	X	X	
Milligan College	X		X				X	X			
Motlow State C.C.	X				X			X		X	
Roane State C.C.	X				X	X	X			X	
Southern Adventist U.			X	X			X	X			
Tennessee State U.	X				X			X		X	
Tennessee Tech. U.				X					X	X	4
Tennessee Wesleyan					X	X				X	
Union U.		BSN			X	X					
U. of Memphis		BSN	X	X	X		X				
U. T. - Chattanooga				X	X		X	X	X	X	
U. T. Health Science Ctr.			X	X	X	X			X	X	
U. T. - Knoxville		BSN:PhD	X	X	X	X			X		
U. T. - Martin	X	BSN, MSN:PhD	X		X			X		X	
Vanderbilt U.		MSN:PhD		X		X	X	X		X	
Walters State C.C.	X				X	X		X		X	5

1 Spring Trimester-Evening/Weekend Cohort and RN-BSN Cohort; Summer Trimester-Day Cohort/Fall Trimester-Day Cohort

2 Paramedic to RN Transition Program; Night Nursing Program

3 Decrease attrition; Increase admission; Faculty Development, esp. teaching/learning strategies

4 Undergraduate students to be admitted twice a year

5 Exploring admitting 2 classes per year; considering use of additional off-campus site to facilitate increased enrollment

The current schools of nursing are geographically well distributed across all regions of the state. A report by the Tennessee Independent Colleges and Universities Association states that “over 95 percent of Tennesseans are located within 35 miles of an existing registered nurse program”.²⁵

A Best Practice Statement on Nursing Education, issued by The Tennessee Center for Nursing, contains a recommendation that **the Tennessee Board of Nursing approve new nursing programs only when they are developed in partnership with current schools of nursing.**

Additionally, a Tennessee Board of Regents report states that “...through the THEC and TBR program approval process, the Board will have the opportunity to carefully consider new program proposals and insure that new programs are justified based on need, are appropriate to meet the needs of Tennessee, and will maximize the use of available resources through collaborative efforts to avoid unnecessary duplication.”²⁶

It is much more costly to start a new program than to increase the capacity of existing programs to serve the same number of students. With the current and projected shortage of nursing faculty, establishing a new school of nursing not only is more costly, but further exacerbates the faculty shortage, potentially weakens existing programs, and results in fewer students graduating, successfully passing the nursing licensure exam, and entering the workforce in Tennessee. To establish a new program would require a minimum of five new faculty whereas only one or, at most, two new faculty would be needed to expand an existing program that would serve the same number of students as a new program.

Goals and Recommendations

Goal 1: To double pre-licensure RN graduates with diversity that mirrors the state population from 1,663 in academic year 2003 to 3,326 in academic year 2010.

- ❖ Increase Associate Degree nursing by at least 1,330.
- ❖ Increase Baccalaureate and Master (generic) degree nursing graduates by at least 1,996.

Recommendations:

1. All institutions offering the ADN, BSN or generic MSN degree should be encouraged to increase their number of pre-licensure graduates.
2. All institutions should include data on nursing student applications, admissions, retention, and graduation statistics that are based on common definitions used in the comprehensive electronic data and information system. The system is currently being developed by the Tennessee Center for Nursing, East Tennessee State University, and Tennessee Board Nursing.
3. Clinical facilities, in collaboration with nursing education programs, should identify and make available more clinical training sites for nursing education.
4. To maximize limited resources and avoid duplication of nursing programs, nursing education programs of all types at every level should collaborate, share resources, and develop partnerships with health care providers and with each other.
5. All BSN and ADN nursing education programs should explore LPN to RN pathways to facilitate career advancement and avoid unnecessary duplication of content in these programs.
6. Develop a statewide health careers advisory program for increased recruitment into health careers for K-12 students.
7. Target a diversity of middle and high school students to encourage them to consider a nursing career.

8. High school and college guidance counselors should receive additional training in the requirements of Tennessee's nursing education programs to provide nursing specific advice to interested students.
9. Support the training and preparation of hospital nurse clinicians to become adjunct/part-time faculty in schools of nursing by encouraging health care facilities to work collaboratively with colleges and universities to develop innovative cost-sharing strategies for part-time faculty salaries.
10. Develop a consistent standard to use within the Tennessee Board of Regents for the evaluation of retention-specific performance criteria for each nursing education program.

Goal 2: To increase the number of nursing faculty by academic year 2010 by at least 159 full-time and 62.5 part-time positions.

Recommendations:

1. Increase the number of nursing graduates with master's degrees from 256 in academic year 2003 to at least 670 by academic year 2010.
2. Increase the number of nursing graduates with doctoral degrees from 22 in academic year 2003 to at least 49 by academic year 2010.

Goal 3 To improve retention in the nursing workforce, including both nursing faculty retention and healthcare workplace retention.

Recommendations:

1. The Tennessee Center for Nursing should convene a group to study options to improve school-to-work transitions, including:
 - a. Intensive clinical experience in direct patient care during the final

semester of study for nursing students.

- b. A supervised/mentored clinical internship experience either pre- or post-licensure.
2. Employers should take steps to create positive work environments based on the 'forces of magnetism' from the American Nurses Credentialing Center Magnet Designation Program or similar best practices for recruiting and retaining nurses in the workplace, such as the American Organization of Nurse Executives *Healthy Work Environments: Striving for Excellence, Volume I (2003) and II (2004)*.
3. The Tennessee Center for Nursing, Tennessee nursing organization leaders, and healthcare trade associations should assist employers in developing positive work environments by dissemination of best practice models.
4. The professional nursing schools should offer educational opportunities for leadership development, conflict resolution and communication skills training, interdisciplinary team building, and preceptor training for workforce retention.
5. The Tennessee Nurses Association should promote consumer advocacy efforts toward a well-educated, adequately staffed healthcare system in the interest of higher quality of care.
6. Philanthropic organizations should support the provision of technical assistance to healthcare organizations as they attempt to make the changes necessary to improve the nursing workforce environment and enhance the quality of patient care. Financial assistance should be targeted to those facilities that would be unable to make these changes without financial assistance.

Goal 4 To identify and obtain funding that is necessary to support the statewide Nursing Education Master Plan.

Recommendations:

1. The legislature adopts a bill to establish a Tennessee Nursing Scholarship Program and approves an appropriation request of \$900,000 for the scholarship program.
2. The legislature approves an appropriation request of \$900,000 to fund the Tennessee Nursing Loan Forgiveness Program.
3. Private funding sources be solicited to match the \$1,800,000 appropriated by the legislature to the Nursing Scholarship Program and the Nursing Loan Forgiveness Program.
4. That the legislature approves a five year appropriation request for public schools of \$31,264,808, which includes a \$12,075,000 capital expenditure request for schools of nursing that need renovation in order to increase the number of students they have projected to graduate by 2010.
5. That the Tennessee Association of Deans and Directors conduct a study of the differentiated tuition and fees for nursing programs to better reflect the true cost of nursing education and to allow any additional revenues be used to expand enrollment capacity in nursing.
6. That the TN Department of Health expand eligibility for the Health Access Incentive Grant Program to include nurse educators.

Conclusions

The convergence of the three conditions – supply, demand, and work environment - leading to the nursing workforce “Perfect Storm” requires solutions addressing each of these root causes. The Steering Committee has developed goals and recommendations that are critical to averting the “Perfect Storm” in Tennessee.

Tennessee schools of nursing have provided a projected budget for what would be needed financially, in addition to their current budget, to double enrollment by the year 2010. The

total projected **additional funding required to graduate 4,969 nursing students, based on estimations by the schools of nursing, is \$38,792,330 spread over the next five years. Of this, public schools would need an additional \$31,264,808 which includes \$12,075,000 for renovation.**

It is much more costly to start a new program than to increase the capacity of existing nursing programs to serve the same number of students. With the current and projected shortage of nursing faculty, establishing a new school of nursing not only is more costly, but further exacerbates the faculty shortage, potentially weakens existing programs, and results in fewer students graduating, successfully passing the nursing licensure exam, and entering the workforce in Tennessee. To establish a new program would require a minimum of 5 new faculty whereas only one or, at most, two new faculty would be needed to expand an existing program that would serve the same number of students as a new program. Collaborations and partnerships among colleges and universities, all types of nursing programs, and health care organizations are encouraged in order to increase nursing graduations while maximizing the use of public resources.

“Health professionals are an economic engine for the United States,” stated Dr. Daniel Rahn, president of the Medical College of Georgia at the National Conference of State Legislatures on December 10, 2004.²⁷ **Nursing should be viewed as an investment, not as a cost, and schools of nursing are critical to sustaining this investment.**

Current research and reports indicate that nurse shortages adversely impact health care by:

- ❖ Delaying elective surgeries
- ❖ Contributing to emergency department overcrowding

- ❖ Forcing hospitals to close entire units, forcing hospitals to relocate or divert patients from one hospital to another
- ❖ Forcing hospitals to close

Averting the nursing shortage is contingent upon immediately resolving the nursing education crisis in our schools of nursing. To do so will be costly. Not to do so will come at a far greater cost in both human and economic terms.

Nurse Shortages impact patient care by increasing adverse outcomes such as:

- ❖ Medication errors
- ❖ Complications that result in death, injury or permanent loss of function
- ❖ Longer lengths of hospital stay
- ❖ Higher rates of urinary tract infections
- ❖ Higher rates of upper gastrointestinal bleeding
- ❖ Higher rates of pneumonia

Higher rates of pneumonia

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