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OR
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- In order to receive the 1.0 contact hour, you must pass the test with 80% or greater.

5. **DEADLINE for submitting is April 1, 2009**.

Accreditation
The Texas Nurses Association/Foundation Provider Unit is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

Disclosure to participants
- **Successful completion:** Once successful completion is verified, a "Certificate of Successful Completion" will be awarded for 1.0 Contact Hour.
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Questions???
E-mail cne@texasnurses.org or **phone** 512-452-0645.

Educational goal/purpose
The purpose of this educational activity is to describe the past and current context surrounding the supply and demand of registered nurses and assist nurses in understanding the impact of a nursing shortage and related strategies on their current and future work environment.

Learning objectives
Upon completion of this learning activity, the nurse should be able to:

- Highlight the historical and social background of nursing shortages in the United States.
- Identify at least 3 factors affecting the supply and demand of registered nurses in the workforce.
- Describe the unique demographic trends related to the current and projected nursing shortage.
- Identify strategies in the areas of work environment, workplace efficiencies, practice development, and workforce development proposed to impact the current nursing shortage. ★

The Nursing Shortage: A "Perfect Storm"

by Cindy Zolnierek, MSN, RN

Introduction
Nursing shortages have been cyclic events since World War II (WWII). Various market forces including population growth, the explosion of treatment modalities, and emergent nursing roles have driven an increased demand for nurses and a resultant shortage at various times throughout the last century.

The current shortage, however, is significantly different from those past. A reduced *supply* of nurses, related to the aging of the nursing workforce, is coupled with an unprecedented growth in *demand* as Baby Boomers age — thus creating a "perfect storm:" a unique convergence of factors creating a once-in-a-lifetime storm of great magnitude and violence. Because all nurses are in the midst of this storm, all nurses need to be aware of projections, opportunities, and threats related to the shortage.

What is a Nursing Shortage?
This appears to be a basic question, but the answer can become quite complex. Based on a supply-and-demand model (Table 1), a shortage occurs when the demand exceeds supply — in this case, of nurses. The supply of nurses is influenced by a number of factors including nursing school enrollments and graduations, number of hours worked by nurses, and nurses' flow in and out of the workforce (Clarke & Cheung, 2008). Historically, demand has been created by population growth (including increased longevity), new technologies, and new roles for nurses outside the traditional bedside nurse position (see Table I). As demand increased, schools typically enhanced enrollments to produce more nurses. This approach has had limited short-term success as nursing shortages have plagued nursing throughout the past century.

Historical Perspectives
The first nursing shortage described in the literature occurred during WWII when 25% of the country's nursing workforce entered the military, thus significantly reducing the supply of nurses to the civilian population (Bollough & Bollough, 1966). At the same time, new technologies (radiology and laboratory), treatments (antibiotics), and payment systems (insurance) created a new and heightened demand for hospital-based nurses. No longer was the hospital a place for the poor who could not afford private duty nursing, or those needing a place to die; instead, the hospital became a place to access the most advanced treatment available (Sandelowski, 2000). Hospitals needed more nurses to provide these new treatments. In addition, the nurse's role in industries supporting the war flourished, thus creating new demands. The equation of increased demand and reduced supply created the first recognized shortage of hospital nurses.

The country responded to the nursing shortage with congressional appropriations for nursing education — funding for schools to increase enrollments, as well as programs to cover the costs of nursing education for individuals, e.g., the Cadet Nurse Corps was introduced. A proposal to draft nurses, largely supported by the public, was withdrawn in 1945 after aggressive recruitment efforts were successful in attracting nurses (Kalish & Kalish, 2004).

Also in response to the shortage, a new level of caregiver was introduced: an assistant to the nurse. Rather than provide direct care, the nurse became responsible to see to it that the patient was nursed (Saunders, 1954). The debut of the nursing assistant would forever change the role of the hospital nurse.

Though a surplus of nurses was anticipated after WWII, the nursing shortage persisted. Longer life expectancy, population growth, and an increased demand for public health nurses contributed to a growing demand for nurses. Despite this demand, nurses returning from the war were reluctant to accept the poor working conditions and low pay in hospital environments as compared with their previous military roles — positions in industry and physician offices were more desirable. Additionally, many nurses returning from the war married and left the workforce. Absent the patriotic call to serve during the war, and with more opportunities for women in the workplace, nursing fell in popularity. School enrollments plummeted. In an attempt to replenish the void of registered nurses, another level of caregiver was defined: the practical nurse (Kalish & Kalish, 2004).

The nursing shortage was characterized as critical in the 1950s: hospitals had to close wards and could not provide new services. Demand

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Table 1: Factors Affecting Supply and Demand of Nurses

FACTORS AFFECTING SUPPLY OF RNS	
Nursing education	
• School enrollments	Attraction of nursing as a profession to potential students (career options, wages, working conditions, employment rates) Currently qualified students turned away due to capacity limitations (faculty shortages, shortage of clinical space)
• Graduations	20-35% nurses do not successfully complete the nursing program
Hours worked **(full time, part time, per diem)**	Economic factors • General economy: when economy slows, nurses tend to return to the workforce • Wages and benefits Non-economic factors • Job characteristics • Quality of work environment • Personal situation (continued education, child/elder care, age of RN)
Departures/re-entry to hospital workforce	
• Permanent departures > *Opportunities in other settings* > *Retirements*	Especially for nurses > 40 looking for less physically demanding jobs Baby boomer nurses expected to retire…
• Temporary departures	Dependent on economy and personal situation: childcare, eldercare, continued education
• Re-entry	Plays a small role; re-entry from extended time away is difficult
Immigration	Continued significant growth
FACTORS AFFECTING DEMAND OF RNS	
Population requiring hospital services	Continued significant growth
Hospital RN workforce	Continued significant growth; research trends supporting hospital RN staffing relationship to patient outcomes, continued advances in treatment requiring complex care
Non-RN hospital providers	Currently low use
Non-hospital based RN demand	Significant need (faculty; growth in outpatient services, long-term care)

Factors affecting supply and demand of nurses (Sources: Clark & Cheung, 2008; Buerhaus, Auerbach,& Staiger, 2007)
From: http://www.nursecredentialing.org/Magnet/ProgramOverview/ForcesofMagnetism.aspx accessed 9/10/08.

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had exploded due to growth and aging of the population, extension of hospitalization and insurance plans, introduction of new medicines and treatments, use of nurses in other settings, and increase in numbers of hospital-based births. A significant number of nurses dropped out of the workforce within three years of graduation to marry and raise families. Efforts to recruit students into nursing schools were organized by hospital associations and insurance groups. Efficient utilization of the hospital nurse became a priority and the industrial model of mass production so successful in product manufacturing was applied to nursing. This model became known as "team nursing" where the nurse became the manager of care for a group of patients. Also in the 1950s, a five-year research project to prepare bedside nurses at a faster pace and move nursing into the overall system of higher education was implemented: the associate degree nurse was born (Kalish & Kalish, 2004).

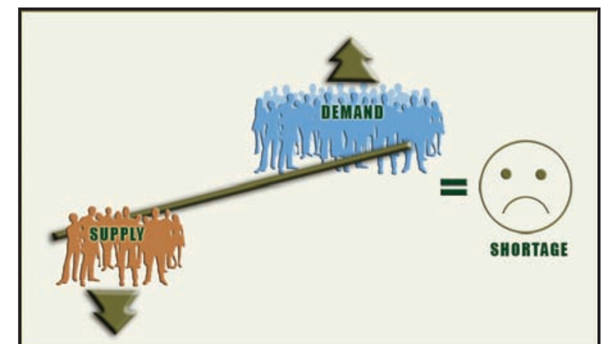
A new decade saw little change in the intensity of the nursing shortage with hospitals reporting RN vacancies of 20-30% in 1961. Nursing compared poorly with the wages and working conditions of other predominantly female professions such as teaching. A report from the Surgeon General's Consultant Group on Nursing concluded that a 75% increase in nursing graduates was needed to reach the projected need for nurses in 1970. Subsequently, Congress passed The Nurse Training Act of 1964 authorizing millions of dollars for nursing education—grants for special projects, nursing school construction, administration of programs, and nursing student loans.

During the 1970s, beds in long-term hospitals (i.e., psychiatric facilities) were reduced by 40% while acute care beds increased by 10%. Outpatient visits increased by 62%. Although health care worker wages continued to be below the all-industry average, numbers of workers grew by 55% (Kalish & Kalish, 2004). There were more nurses than ever: nursing school admissions had doubled from 1959 to 1979, and employed nurses tripled between 1950 and 1982 (Aiken, 1983). President Carter vetoed the 1978 Nurse Training Act claiming an adequate supply of registered nurses, a decision heavily criticized by the nursing community. Anecdotal evidence revealed a severe national shortage of registered nurses, particularly in acute care, related to geographic maldistribution, low pay, expanded need especially for those with advanced education, shortage of faculty, and large number of inactive nurses (70% of nurses were in the workforce: 60% working full time and 40% part time) (Cunningham, 1979). The Nurse Training Act was reauthorized in 1979, and a study by the Institute of Medicine (IOM) was commissioned by Congress to resolve the debate over the existence of a nursing shortage.

The IOM report was released in 1983. It concluded that, while the shortage had peaked in 1979 at a 14% hospital vacancy rate, the supply and demand of nurses was balanced and expected to remain so through the 1980s. How did the shortage turn around so quickly? Economic forces such as double digit inflation and salary increases lured nurses back into the workforce. Demand was also reduced as unemployment rates climbed, workers lost health insurance benefits, and hospital occupancy rates fell (Aiken, 1983). By 1984, hospital nurse vacancy rates reached an all time low. However, by 1986, the shortage again reared its head and continued through the remainder of the decade. The supply of nurses was impacted by reduced enrollments—a smaller pool of college-aged individuals, and among them, fewer numbers were choosing nursing. Yet, the demand for nurses continued to rise (Aiken, 1987).

Changing economic forces affecting care delivery and the use of health care providers surfaced in the 1990s. Reimbursement models for health care moved away from fee-for-service (payment based on cost of providing care) toward shared risk models [monetary limits regardless of costs of care; fixed or capitated payment systems such as diagnostic related groups (DRGs) and managed care (health maintenance organizations)]. The hospital business imperative was to reduce operating costs (e.g., labor and supplies) and control resource utilization (length of hospital stay) while achieving positive patient outcomes. Hospitals struggled for financial survival; hospital mergers and closures occurred. Because nurses were part of the hospital cost formula and viewed as expensive, they became a prime target for change initiatives. Re-engineering, a process borrowed from outside the health care industry, was introduced to improve operational efficiency and reduce costs. In most hospitals this resulted in the introduction of multi-skilled workers and changes in the role of the registered nurse. Hospital demand for nurses declined and the shortage waned. Nursing schools reduced enrollments and fewer nurses entered the workforce. From 1996 to 2000, the annual increase in employed RNs slowed to 1.0% per year (as compared with 3.3% between 1988 and 1996, and 2.4% from 2000-2004) (HRSA, 2006). This lull would later be recognized as an early warning of an impending storm.

A 1990 report by the U.S. Department of Health and Human Services was perhaps the first to recognize the potential impact of the tremendous change in demographics expected to occur in the new millennium. In 1990, the median age of an RN was 39 years with only 16% of RNs being under 30 — the percentage of employed RNs over 50 years old was expected to double by 2020. A shift in demographics would cause the pool of high school graduates to shrink, resulting in even fewer candidates for nursing school. Additionally, demand was expected to grow based on historical trends and expert projections (News, 1990). Yet, during the 1990s, as nurses struggled with staffing reductions and hospitals enjoyed 1-2% vacancy rates, it was difficult to envision such dramatic changes in the supply-demand equation in a few short years. The warning was largely ignored.



The Perfect Storm Develops

By the late 1990s, some began to question whether another nursing shortage may loom over the millennial horizon. Shifts in the delivery of care to outpatient settings in the 1990s left hospitals with patient populations of increased severity requiring more intense and highly skilled care. As hospitals improved on efficiency and cost measures, the target moved toward quality outcomes — most dramatically showcased in the 1999 IOM report, *To Err is Human,* which indicated that as many as 98,000 patient lives were lost annually due to medical errors. Nurses complained of working conditions, and an interest in the relationship between nurse staffing and patient outcomes surfaced. The increased concern about quality, together with the increasing acuity of patients, began to offset the reduced nursing demand experienced earlier (Buerhaus, 1998). Nurses were needed and demand began to escalate.

The supply side of the equation would be largely driven by the aging of the nursing workforce. "[U]nlike past shortages, the coming RN shortage will be driven by fundamental, permanent shifts in the labor market that are unlikely to reverse in the next few years" (Buerhaus, 2000, p. 2953). Nursing schools traditionally derived their students from a candidate pool of young women. In the 1980s, this pool declined in number and nursing schools had to compete with growing career opportunities for college-aged women. Thus,

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fewer nurses were produced, resulting in a lopsided age distribution of practicing nurses: in 2004 the median age of the registered nurse population was 46.8 years and only 26.3% were under 40 (HRSA, 2006). The largest cohorts of nurses are in their 50s and 60s. There are not enough new graduates to fill the workforce vacancies created as these nurses begin to reduce their hours and retire, resulting in a very different kind of shortage than ever before experienced.

In 2000, the supply of nurses in 2020 was forecast to be 20% less than national demand (Buerhaus, et al., 2000) — a shortage of 760,000 registered nurses. In 2007, this estimate was modified to 340,000 nurses based updated data (Auerbach, et al., 2007). A new trend also emerged: individuals were entering the nursing workforce in their 20s, following a period of time in another career, through associate degree programs and accelerated bachelor degree programs. Nursing's job security and respectable wages and benefits were attractive to individuals who had entered other careers following high school (Auerbach, et al., 2007).

The improvement in the shortage projection should be interpreted with cautious optimism: "We have reduced the magnitude of the future shortage hurricane from a Category Five, on a huge amount of steroids, down to a Category Three … But that can still kill you … (If) it were to fully develop (It) would shut down most of the system and cause care to be rationed." (Peter Buerhaus, PhD, RN, FAAN as quoted by Roman, 2008).

Texas, familiar with the fierce devastation caused by hurricanes, is not immune from threats of a severe shortage of nurses. Current estimates indicate an existing shortage of 21,800 nurses, and predict a shortage of 70,600 nurses by 2020 (CNWS, 2006). Fortunately, Texas is actively involved in many efforts and on several levels to stem the current shortage and mitigate dire predictions.

Strategies for Addressing the Nursing Shortage

Major storms like Hurricane "Ike" and the current situation in nursing, come with warnings and are tracked by experts, who monitor level of force and potential dangers, and advise regarding preparations and recovery. The warning and potential danger of nursing's perfect storm are clear. Past strategies in and of themselves will not be adequate. New approaches targeting all aspects of the nursing workforce — work environment, workplace efficiencies, workforce development, practice initiatives — will be required.

Work environment. It is no surprise that the work environment is linked to nurse satisfaction and retention. Hospitals with positive practice environments are more likely to attract nurses and keep them in the workforce longer. Research conducted by the American Nurses Association (ANA) in 1983 identified 14 characteristics in hospitals that were successful in attracting and retaining nurses. In the early 1990s, the American Nurses Credentialing Center (ANCC) developed the Magnet Recognition Program® to distinguish hospitals with excellent professional practice environments. The 14 characteristics became known as "forces of magnetism" and their expression became the criteria upon which hospitals were evaluated (Table 2). Based on a statistical analysis of data from Magnet facilities, a new model was introduced this year (2008).

The new model replaces the 14 forces of magnetism with five components which contain the forces:

- Transformational Leadership
- Structural Empowerment
- Exemplary Professional Practice
- New Knowledge, Innovation & Improvements
- Empirical Quality Results

As hospitals compete to fill nurse vacancies, interest in Magnet recognition—a badge of practice environment excellence—has multiplied. From 1994, when the first Magnet hospital was designated, until 2000, less than ten facilities per year were recognized as Magnet. Corresponding with the awareness of a nursing shortage after 2000, Magnet designations dramatically increased, reaching a peak of 75 awards in 2005 alone. Currently, 293 hospitals nationally carry Magnet designation (ANCC, 2008).

Texas has been a leader in the development of programs to support best practices in the work environments of nurses. Texas was first in the nation (2001) to have regulations addressing nurse staffing. Regulations requiring hospitals to have policies on safe patient handling and abuse/harassment protections were also established in Texas in the early 2000s. Most notably, the Texas Nurses Association developed the Nurse-Friendly™ hospital

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TABLE 2: Forces of Magnetism

The original Magnet™ research study from 1983 first identified 14 characteristics that differentiated organizations that were best able to recruit and retain nurses during the nursing shortages of the 1970s and 1980s. These characteristics became the ANCC Forces of Magnetism that provide the conceptual framework for the Magnet appraisal process.

Described as the heart of the Magnet Recognition Program®, the Forces of Magnetism may be thought of as attributes or outcomes that exemplify excellence in nursing. The full expression of the current 14 Forces of Magnetism is the requirement for designation as a Magnet facility and embodies a professional environment guided by a strong and visionary nursing leader who advocates and supports excellence in nursing practice.

Force 1: Quality of Nursing Leadership
Knowledgeable, strong, risk-taking nurse leaders follow a well-articulated, strategic, and visionary philosophy in the day-to-day operations of the nursing services. Nursing leaders, at all levels of the organization, convey a strong sense of advocacy and support for the staff and for the patient. (The results of quality leadership are evident in nursing practice at the patient's side.)

Force 2: Organizational Structure
Organizational structures are generally flat, rather than tall, and decentralized decision-making prevails. The organizational structure is dynamic and responsive to change. Strong nursing representation is evident in the organizational committee structure. Executive-level nursing leaders serve at the executive level of the organization. The Chief Nursing Officer typically reports directly to the Chief Executive Officer. The organization has a functioning and productive system of shared decision-making.

Force 3: Management Style
Healthcare organization and nursing leaders create an environment supporting participation. Feedback is encouraged and valued and is incorporated from the staff at all levels of the organization. Nurses serving in leadership positions are visible, accessible, and committed to communicating effectively with staff.

Force 4: Personnel Policies and Programs
Salaries and benefits are competitive. Creative and flexible staffing models that support a safe and healthy work environment are used. Personnel policies are created with direct care nurse involvement. Significant opportunities for professional growth exist in administrative and clinical tracks. Personnel policies and programs support professional nursing practice, work/life balance, and the delivery of quality care.

Force 5: Professional Models of Care
There are models of care that give nurses the responsibility and authority for the provision of direct patient care. Nurses are accountable for their own practice as well as the coordination of care. The models of care (i.e., primary nursing, case management, family-centered, district, and holistic) provide for the continuity of care across the continuum. The models take into consideration patients' unique needs and provide skilled nurses and adequate resources to accomplish desired outcomes.

Force 6: Quality of Care
Quality is the systematic driving force for nursing and the organization. Nurses serving in leadership positions are responsible for providing an environment that positively influences patient outcomes. There is a pervasive perception among nurses that they provide high-quality care to patients.

Force 7: Quality Improvement
The organization has structures and processes for the measurement of quality and programs for improving the quality of care and services within the organization.

Force 8: Consultation and Resources
The healthcare organization provides adequate resources, support, and opportunities for the utilization of experts, particularly advanced practice nurses. In addition, the organization promotes involvement of nurses in professional organizations and among peers in the community.

Force 9: Autonomy
Autonomous nursing care is the ability of a nurse to assess and provide nursing actions as appropriate for patient care based on competence, professional expertise, and knowledge. The nurse is expected to practice autonomously, consistent with professional standards. Independent judgment is expected to be exercised within the context of interdisciplinary and multidisciplinary approaches to patient/resident/client care.

Force 10: Community and the Healthcare Organization
Relationships are established within and among all types of healthcare organizations and other community organizations, to develop strong partnerships that support improved client outcomes and the health of the communities they serve.

Force 11: Nurses as Teachers
Professional nurses are involved in educational activities within the organization and community. Students from a variety of academic programs are welcomed and supported in the organization; contractual arrangements are mutually beneficial. There is a development and mentoring program for staff preceptors for all levels of students (including students, new graduates, experienced nurses, etc.). Staff in all positions serve as faculty and preceptors for students from a variety of academic programs. There is a patient education program that meets the diverse needs of patients in all of the care settings of the organization.

Force 12: Image of Nursing
The services provided by nurses are characterized as essential by other members of the healthcare team. Nurses are viewed as integral to the healthcare organization's ability to provide patient care. Nursing effectively influences system-wide processes.

Force 13: Interdisciplinary Relationships
Collaborative working relationships within and among the disciplines are valued. Mutual respect is based on the premise that all members of the healthcare team make essential and meaningful contributions in the achievement of clinical outcomes. Conflict management strategies are in place and are used effectively, when indicated.

Force 14: Professional Development
The healthcare organization values and supports the personal and professional growth and development of staff. In addition to quality orientation and in-service education addressed earlier in Force 11, Nurses as Teachers, emphasis is placed on career development services. Programs that promote formal education, professional certification, and career development are evident. Competency-based clinical and leadership/management development is promoted and adequate human and fiscal resources for all professional development programs are provided.

From: http://www.nursecredentialing.org/Magnet/ProgramOverview/ForcesofMagnetism.aspx accessed 9/10/08.

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designation to recognize hospitals who met specific criteria demonstrating a best practice nursing environment (this program transitioned to ANCC in 2007 and is now known as Pathway to Excellence™).

Other initiatives to improve the work environment and attract and retain nurses include: implementation of shared governance and shared decision making structures; alternate work schedules (4, 6, 8, 10, and 12 hour shifts, weekend programs), manager training, creative benefits (onsite child care, elder care programs, education support, retirement transition plans), and career development tracks.

Workplace efficiencies. When there is a shortage of something, efforts are targeted toward using that "something" as economically as possible. Appropriately designed, applied and implemented technology has the potential to offer a number of efficiencies to nurses in the practice setting:

- electronic medical records that simplify and reduce clinical documentation
- communication devices that facilitate timely information exchange without interrupting care
- personal digital assistants (PDAs) that provide immediate access to informational resources
- staffing/scheduling systems that enable staff participation, balance staff and patient needs, and respond to the dynamic nature of acute care
- patient tracking systems that anticipate, facilitate, and communicate patient flow through the organization

Technology won't fix existing system problems, but does offer potentially productive tools to support efficiencies in nursing practice.

Other strategies for wise use of nursing resources include environment and process design, such as the location and availability of supplies and equipment, the organization and layout of the physical environment, and procedures for implementing care. The number and type of clinical support staff available to the nurse also affects how the nurse organizes and spends his/her time. The goal of workplace efficiencies is to optimize the time nurses spend in value added care requiring their level of expertise and licensure.

Practice development. Many of the strategies for nurturing a desirable workplace (identified above, e.g., Magnet designation), also support practice development. Additionally, the nursing shortage prods nurses to examine practice patterns: levels of collaboration with team members, use of evidence-based practices, models of care delivery, and scope of practice. Health care organizations are recognizing the important role of teamwork in achieving safe and effective patient care. *TeamSTEPPS™* (AHRQ, 2008), originally published in 2006 and recently revised, offers an evidence-based framework for teamwork which optimizes performance and safety. This model is built upon principles of team structure, leadership, situation awareness, mutual support, and communication to enhance all team member roles. Collaborative team models enhance the practice environment for nurses, thereby supporting their satisfaction with the workplace.

Evidence-based practice refers to activities that are backed by science and research. Traditionally, much of nursing practice has not necessarily had a scientific basis. Evidence-based practice requires knowing the research or scientific literature, and, if a "best practice" has been identified, it is used (e.g., incorporated in policies, procedures, and practices). When nurses follow best practices, patients are receiving more efficacious care and nurses are thereby more efficient in their practice.

Historically, nursing models of care delivery were driven by market forces and mimicked strategies employed in other industries, e.g., apprenticeship model in early 1900s, functional nursing (production model), team nursing (industrial model), patient focused care (business model). The primary care model introduced in the 1980s was the first to come from a professional practice perspective and reflect professional values. The current and projected future nursing shortage offers nurses an opportunity to proactively create a new nursing model of care based on evidence and linked to outcomes. Research convincingly supports a relationship between nurses and patient outcomes within the context of the hospital environment and culture. The delivery model of nursing care can be the context that supports the kind of nursing practice that can achieve positive outcomes. This is a time for nurses to design and measure structures and processes to deliver care.

Finally, the shortage of nurses and other health care workers require policy makers to take a fresh look at workforce planning. *Out of Order, Out of Time* (AAHC, 2008) warns that the lack of national uniformity in scopes of practice restricts the mobility and practice of health professionals thus contributing to existing workforce shortages. The report calls for transformative change through the development of innovative policies.

Workforce development. Workforce development is perhaps the most consistent and traditional response to nursing shortages. In virtually every era, additional funding for nursing education has played a major role in responding

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TABLE 3: Texas Nurses Association — Leading Efforts to Address the Nursing Shortage

PROMOTING POSITIVE WORK ENVIRONMENTS

Advocacy and Whistleblower Protections
TNA ensured protection for nurses when advocating for the patients through legislation in 1987, 1995, 1997, 1999, 2003, 2005, and 2007.

Nurse Staffing
In 2002, Texas was the first in the country to implement staffing regulations thanks to TNA's successful and collaborative effort with key stakeholders.

Safe Patient Handling and Workplace Safety
First again! TNA achieved legislation to require hospitals and nursing homes to adopt policies minimizing manual lifting and protecting nurses from violence in the workplace (2003; 2005).

Nurse-Friendly™ Hospital Designation
TNA introduced a recognition program for hospitals who had implemented essential elements of the ideal nursing practice environment as identified by nurses and research.

ESTABLISHING WORKPLACE EFFICIENCIES

Licensure Mobility
Thanks to TNA, Texas was among the first four states to participate in the Nurse Licensure Compact which permits nurses to move and practice in participating states with minimal hassle and expense (1999, 2007).

SUPPORTING PROFESSIONAL PRACTICE

Unified Regulation of Nursing
In 2003, TNA supported a single board of nursing and single practice act for all RNs and LVNs, ensuring all nurses the same advocacy and whistleblower protections.

Nurse Title Protection
Through TNA's efforts, Texas law restricts the use of the title "nurse" to RNs and LVNs (2003). A proposal to allow veterinary technicians to call themselves nurses was defeated in 1999.

Nursing Peer Review
Errors impacting patient safety are potentially reportable to the board of nursing; TNA ensured that nurses would have due process protections and the benefit of peer review in such situations. Additionally, TNA successfully moved the focus from one of individual blame to one that considers the contribution of system issues beyond the nurse's control (1987, 1993, 2007).

Practice Protection
TNA has worked to protect nursing's scope of practice by ensuring that licensing acts of allied health groups (speech pathology, audiology, respiratory therapy, social work) do not exclude nurses from performing acts that overlap with nursing (1981-2003). Additional practice protections accomplished by TNA include RNs' authority to determine death (1991) and RNs' ability to provide nutritional and pharmaceutical components of diabetes self-management training (1999).

EFFECTING WORKFORCE DEVELOPMENT

Center for Nursing Workforce Studies
TNA was one of the first states to recognize the impending nursing shortage and convinced the legislature to invest resources in a statewide center (CNWS) which would research nursing supply and demand and enable strategic responses to the impending shortage (2001).

Nursing Education
TNA successfully secured legislatively over $55 million to increase enrollments and graduations from nursing schools (2001-2007).

Financial Support for Nursing Educators
Thanks to TNA's advocacy for nursing education, nurse preceptors and their children are eligible for a $500 tuition exemption and nursing faculty are included in the Texas Affordable Home Loan program.

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to the shortage. This time, appropriations will be a necessary but insufficient response; the most critical barrier to producing more nurses is limited capacity of nursing schools related to lack of faculty and saturation of clinical sites. The development of novel solutions to this challenge will be key in addressing the need to produce large numbers of nurses.

Innovative approaches have centered on partnerships outside the normal spheres of likely nursing partners — strategic partnerships include professional/membership associations (TNA, Texas Hospital Association, AARP), schools of nursing, governmental agencies (BON, Texas Higher Education Coordinating Board), business and industry (Greater Houston Partnership, Chambers of Commerce), hospital councils, hospitals and health care institutions, and philanthropy. Communities are utilizing centralized clinical placement systems to maximize use of available clinical sites, and schools are subsidizing clinical education with simulation technology in clinical learning labs.

Individual schools and hospitals have established relationships to maximize use of clinical sites and share staff as faculty (e.g., joint appointments, preceptorships). Schools have designed creative strategies to retain students and promote their successful completion of the nursing program, and hospitals are implementing evidence-based new grad programs (such as the Versant RN Residency Program) to support transition and retention of newly graduated nurses. Responses to the faculty shortage include addressing salary disparities, providing loan forgiveness programs to graduate students who plan to teach, training staff nurses to provide clinical education, and standardizing curriculum. Nursing programs have been designed with specific student populations in mind: fast track or accelerated programs for individuals with bachelor degrees in other fields, online/distance learning programs for rural or working students, and programs targeting specific cultural groups (e.g., Hispanic students).

The Texas Center for Nursing Workforce Studies (TCNWS) was established in 2004 to monitor nursing workforce data, develop priorities, and guide policy around the nursing shortage. The TCNWS maintains a database rich in information about Texas nurses. Recent surveys (available at http://www.dshs.state.tx.us/chs/cnws/default.shtm) include Long Term Care Nurse Staffing (2008), and Hospital Nurse Staffing (third survey completed in 2008), as well as the 2007-released report, Professional Nursing Education in Texas Demographics and Trends (2006). The data collected and tracked by the TCNWS provides nursing with a "weather map" and forecast of the progression of the nursing shortage.

Conclusion

"Those that fail to learn from history are doomed to repeat it." Winston Churchill.

What has the history of the nursing shortage taught us? As a profession, nursing has tended to be reactionary and allow the profession to be shaped by external forces: introduction of new levels of caregivers and the development of models of care were not conceived of nursing determining a better way to care for patients, instead they were driven by shortages. Nursing has an opportunity to proactively and consciously create a context for practice that is best for patient care, including work environments, care processes, models of care, and nursing practices. The historical perspective of nursing shortages can inform nurses, and those who rely on them. Surplus nurses have been a rare and perhaps, artificial occurrence. Ensuring an adequate supply of nurses is an ongoing, long-term process that requires continued focus and commitment. With current and proposed efforts to address the shortage, it is likely there will be some success. Let this success not distract from the commitment to ensure an adequate nursing workforce in the future — or we will be doomed to repeat the very cycle we are attempting to interrupt. ★

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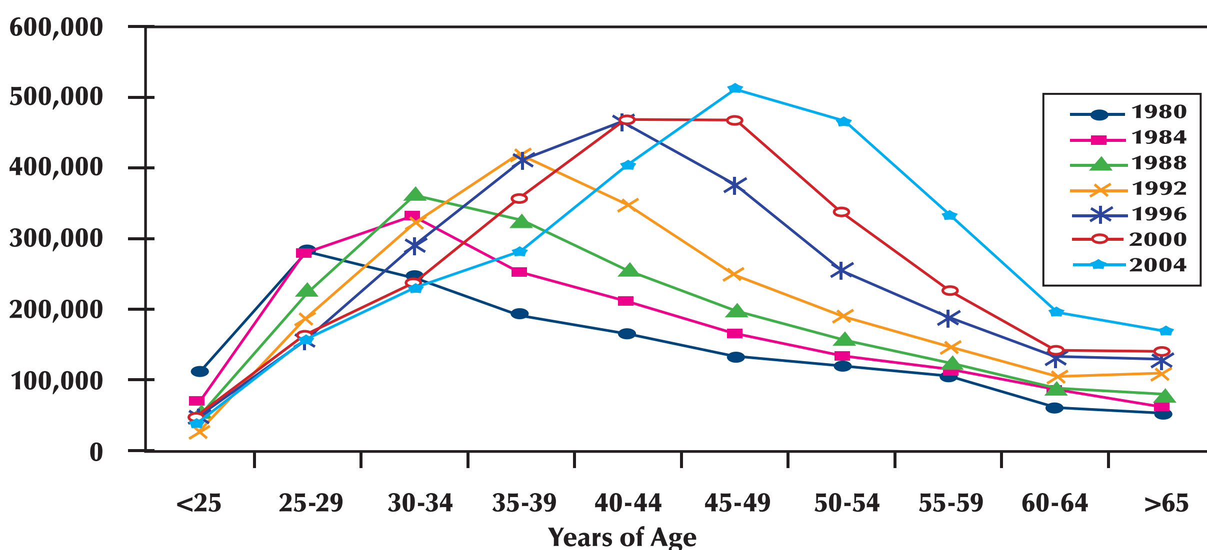
Chart 4. Age distribution of registered nurse population 1980-2004*



*The total numbers of nurses in each survey, across age ages, may not equal the estimated total of all RNs due to incomplete information provided by respondents. Only those who provided age information are included in the calculations used for this chart.

Test for CNE Credit The Nursing Shortage: A "Perfect Storm"

1. Nursing shortages are related to an imbalance of supply and demand. All of the following factors affect the supply of nurses, EXCEPT:
   a. Nursing school student capacity related to faculty and clinical site availability
   b. Number of non-nurse healthcare providers
   c. Number of hours nurses work
   d. Number of nurses in the workforce
2. Historically, the demand for nurses has grown when:
   a. The population increases due to improved longevity and increased birthrate
   b. Advances in medicine and science create new treatments
   c. People obtained health insurance coverage
   d. All of the above
3. Responses to early nursing shortages have included all of the following EXCEPT:
   a. Funding to support the education of more nurses
   b. Funding for increased faculty salaries to recruit nurses into teaching positions
   c. Introduction of new levels of caregivers
   d. Efforts to recruit students into nursing schools
4. The current and projected nursing shortage differs from previous shortages in that it
   a. Is due to a lack of nurses who want to work in the hospital environment
   b. Can be resolved with the improved use of technology in the workplace
   c. Results from aging of the workforce and the population, resulting in increased demand at the same time supply is reduced due to nursing retirements
   d. None of the above
5. What new trend emerged in a 2007 study which resulted in revised predictions as to the severity of the shortage?
   a. The candidate pool for nursing students expanded to include 2nd career individuals in their 20s
   b. Improvements in work environments had lured unemployed nurses back into the workforce
   c. Nurses were delaying retirements thus enhancing the supply of nurses
   d. All of the above
6. How does the Magnet® Recognition Program contribute to one solution to the nursing shortage—improving the practice environment?
   a. Magnet criteria include hospital characteristics that are successful in attracting and retaining nurses
   b. Nurses who are satisfied with their work environments are likely to stay in the workforce longer
   c. Magnet hospitals demonstrate excellent professional practice environments
   d. All of the above
7. Texas has led the nation in approaches to support best practices in the work environments of nurses. These approaches all of the following EXCEPT:
   a. Nurse staffing regulation and whistleblower protections
   b. Safe patient handling protections
   c. Advocacy and whistleblower protections
   d. None of the above
8. In developing workplace efficiencies, all of the following should be considered, EXCEPT:
   a. Technology can reduce the number of nurses needed
   b. Technology can improve efficiency of nursing work
   c. Organization of the environment is an important aspect of efficiency
   d. Systems to improve availability of supplies and equipment to nurses are important
9. What opportunities does the shortage present for practice development?
   a. Fewer nurses will enable others to take on nursing's role
   b. Models in other industries, such as manufacturing, can help nurses be efficient
   c. Nurses can re-evaluate care delivery models to ensure they are based on evidence based practices and patient outcomes
   d. All of the above
10. Solving the nursing shortage requires:
   a. Partnerships and collaboration among various groups
   b. Multiple approaches (work environment, practice, education)
   c. New and creative strategies
   d. All of the above

The Nursing Shortage: "A Perfect Storm"

TEST QUESTION ANSWER/REGISTRATION/EVALUATION FORM

Send by mail **with a self-addressed stamped envelope** OR complete online and print certificate of successful completion at http://tnacne.texasnurses.org.

TEST QUESTION ANSWERS

1. A B C D
2. A B C D
3. A B C D
4. A B C D
5. A B C D
6. A B C D
7. A B C D
8. A B C D
9. A B C D
10. A B C D

ACTIVITY EVALUATION

Purpose of this activity: The purpose of this educational activity is to describe the past and current context surrounding the supply and demand of registered nurses and assist nurses in understanding the impact of a nursing shortage and related strategies on their current and future work environment.

Please complete this evaluation questionnaire. Your responses will be used to revise this activity and to plan future educational activities. Circle the number/response that best fits your evaluation of the activity.

1 = Not at all 2 = Somewhat 3 = Almost completely 4 = Completely

1. Rate your achievement of theses objectives:
   a. Highlight the historical and social background of nursing shortages in the United States. 1 2 3 4
   b. Identify at least 3 factors affecting the supply and demand of registered nurses in the workplace. 1 2 3 4
   c. Describe the unique demographic trends related to the current and projected nursing shortage. 1 2 3 4
   d. Identify strategies in the areas of work environment workplace efficiencies, practice development, and workforce development proposed to impact the current nursing shortage. 1 2 3 4
2. Rate the effectiveness of the teaching/learning materials. 1 2 3 4
3. Were the objectives relevant to the overall purpose? 1 2 3 4
4. How long, in minutes, did it take you to complete this activity? (Circle one)
   0–30 minutes 31–60 minutes 61–90 minutes More than 90 minutes
5. List two (2) ways you will integrate what you learned in this activity into your practice and/or employment environment. ______________________________

   ____
6. Were the following disclosed prior to the beginning of this activity?
   a. Requirements for Successful Completion Yes No
   b. Conflicts of Interest Yes No
   c. Commercial Support Yes No
   d. Non-Endorsement of Products Yes No
   e. Off-Label Use of Products Yes No
7. Did you notice any bias that was not disclosed in this activity? Yes No
   If "Yes," Please describe: ______________________________

   ____

   ____

Additional comments:

____

____

REGISTRATION INFORMATION

Name: ______________________________

Address: ______________________________

City: ____________________ State: __________ ZIP: __________

Phone: ______________________________

Date of Birth (MM/DD): ___ ___/___ ___

E-mail: ______________________________

Check one: ___ RN ___ LVN ___ Student ___ Other: ______________

Check one:

Practice setting: ___ Hospital ___ LTC ___ Non-clinical setting. Other: ______

Practice role: ___ Staff Nurse ___ Manager/Supervisor ___ Faculty. Other: _______

___ Member of TNA/TxNN (TNA District # ______) ___ Non-member of TNA/TxNN

Mail this completed form to: **Texas Nurses Association**
7600 Burnet Road, Suite 440
Austin, Texas 78757

Please include a self-addressed, stamped envelope. If all fields are completed on the form and a passing grade of 80% is achieved on the Test for CNE Credit, certificates of successful completion will be sent in 4 to 6 weeks.