

USAWC STRATEGY RESEARCH PROJECT

THE ARMY AND CIVILIAN NURSING CRISIS AT THE DAWN OF THE 21ST CENTURY

by

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The views expressed in this academic research paper are those of the author and do not necessarily reflect the official policy or position of the U.S. Government, the Department of Defense, or any of its agencies.

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ABSTRACT

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President Bush has declared that ending the nursing shortage is a national priority. The shortage of Army nurses jeopardizes military beneficiaries' health care. An insufficient supply of nurses threatens force protection and emergency preparedness of our public health system, which must prepare to respond effectively to attacks by weapons of mass destruction. Factors contributing to the registered nurse shortage are impacting recruitment of Army nurses. Further, the low retention rates among junior active duty Army nurses exacerbate the problem. Departing nurses cite several concerns and desires to begin a family, not to work fulltime, and to remain in the same duty location. Implementation of preemptive strategies will ensure an adequate supply of active duty Army nurses in the pipeline to provide quality health care to retirees and military family members in the homeland, and especially to troops operating in volatile, uncertain, complex, and ambiguous environments. Corrective strategies should include policy and regulation changes, more economic incentives, and establishment of an undergraduate School of Nursing within the United States Uniform Health Services for all services.

This Strategy Research Paper (SRP) describes the global nursing shortage. It analyzes the reasons for the shortage of non-Department of Defense civilian nurses, comparing them with the reasons for the shortage of nurses in the Army. It outlines the implications of the nurse shortage for health care beneficiaries. It reviews findings from Army Nurse Corps exit surveys. It discusses current strategic initiatives. It provides recommendations to achieve and sustain sufficient numbers of Army nurses to continue supporting the Army Medical Department goals and transformation initiatives in the face of a nationwide health care crisis. It raises critical questions for further examination: What impact will the availability of onsite child care services for shift workers have on AMEDD retention? What is the correlation between age of active duty Army nurses and personal military readiness? Will ending the shortage of nurses in the Army depend on ending the shortage of nurses in the civilian sector?

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THE ARMY AND CIVILIAN NURSING CRISIS AT THE DAWN OF THE 21ST CENTURY

Time has shown that nurses will no longer accept the mere performance of tasks as their practice goal outcomes. Nor will they remain in systems that promote fragmented, uncoordinated care leading to dissatisfaction for everyone. The relationship between the nurse and patients must be preserved for the future if a balance is to be struck between the goals of cost and quality of health care.

—Joyce Clifford of Beth Israel Hospital, Boston

The Army Nurse Corps' (ANC) mission is to provide nurse leadership and to support the Army Medical Department's (AMEDD) delivery of the highest quality of health care to the Army family, in peace and war, anywhere, and under any circumstances.¹ Currently 1,173 Army nurses serve as professional fillers in time of mobilization.² Brigadier General William Bester, Chief of the ANC, reports that "in fiscal year (FY) 02, the average number of U.S. Army soldiers deployed in support of worldwide military operations and training missions was 51,669 throughout 66 countries. During FY 02, a total of 1, 018 Army Nurses deployed in response to all missions."³ The ANC, as in the Air Force and Navy Nurse Corps, is struggling to hire enough civilian nurses to offset the shortage of active duty staff to maintain the stability of the organization, continuity of services, institutional memory – thereby insuring quality patient care to military beneficiaries.

Yet at the same time the Bureau of Health Professions documents that the U.S. is currently short 125,200 civilian nurses. Researchers forecast this amount will double by 2010 and exceed 800,000 by 2020.⁴ Recent Congressional testimony asserts that our emergency preparedness and national security are at risk due to the growing critical shortage of nurses. If the nursing shortage is not alleviated, the second-and third-order consequences of that shortage threaten force protection and may as well prevent our public health system from being able to respond effectively to bio-terrorist attack.⁵ The shortage of nurses in American society is mirrored by the shortage of nurses in the Army. Like the rest of the nation, the Army is potentially at risk of a health-care crisis that could adversely affect the well-being of its health-care consumers. Limited ANC active duty officer personnel strength makes it painfully evident that we are not immune to the problems encountered by our civilian counterparts.

This Strategy Research Paper (SRP) describes the global nursing shortage. It analyzes the reasons for the shortage of non-Department of Defense civilian nurses, comparing them with the reasons for the shortage of nurses in the Army. It outlines the implications of the nurse shortage for health care beneficiaries. It reviews findings from ANC exit surveys. It reviews

current strategic initiatives. It provides recommendations to recruit and retain sufficient numbers of Army nurses to continue supporting the AMEDD goals and transformation initiatives in the face of a nationwide health care crisis.

ARMY NURSING SHORTAGE

Testifying before Congress, Lieutenant General James Peake, the Surgeon General United States Army, articulated the importance of sustaining a robust AMEDD as part of Army transformation:⁶

To have a capable and ready Army medical force we must have the ability to recruit and retain quality, highly skilled health professionals. Without the ability to recruit and retain these vital health care professionals we face personnel shortages that could prove harmful to our deployment platform. The AMEDD will focus all resources on three fundamental components of our mission: Deploying a trained and equipped medical force; projecting a healthy and medically protected force; and managing the health of the soldier and the military family.

Specialty	Inventory	Authorizations	Specialty	Inventory	Authorizations
Critical Care Nurses	464	546	Nurse Midwives	33	28
Peri-operative-OR	305	332	Family Nurse Practitioner	198	171
Medical – Surgical	1420	1559	Obstetrical & Gynecological	166	178
Nurse Anesthetist	198	276	Community Health	139	131
Psychiatric	97	99	Emergency Room	130	95

Source: U.S. Army PERSCOM, Army Nurse Branch, Alexandria, VA 2002

TABLE 1. ANC PERSONNEL BY SPECIALTY AS OF FEBRUARY 2003

The ANC is short 265 positions of its authorized budgeted end strength of 3,415 for FY 03. The over strength inventory in certain specialty areas disguises the total nursing shortfall of 340 officers in critical care, peri-operative, medical surgical, obstetrical & gynecological, and anesthesia nurse specialty areas. The ANC personnel inventory indicates significant shortages. Levels of fulfillment in critical specialties are: critical care (84.9%), peri-operative (91%),

medical-surgical (91%), nurse anesthetists (71.7%), and obstetrical and gynecological nurses (93%). Areas filled less than 90% are considered critical. In spite of the critical shortages of 264 positions including critical care, peri-operative, nurse anesthetist, psychiatric, and obstetrical & gynecological nurses, the Corps continues to excel at its patient care mission at home and abroad during the high rate of deployments in diverse regions of the world.

Our executive and legislative branches of government acknowledge that nurses contribute significantly to saving lives and reducing severe hardships. President Bush declared that eliminating the nursing shortage is a national priority. Marilyn Rothert, Dean of Michigan State University School of Nursing, views the nursing shortage as a serious problem, jeopardizing our ability to respond to mass casualties or bioterrorist attacks. She believes the situations threatening the general public could overwhelm the nations nursing workforce.⁷ In many hospitals the shortage of nurses makes it very difficult to provide quality care and patient safety is threatened.⁸

GLOBAL SHORTAGE OF NURSES

The U.S. has a shortage of registered nurses in practice and a shortage of students entering and graduating from nursing programs. The greatest immediate concern centers on the shortage of nurses working in hospitals. However, those familiar with previous shortages state that, in comparison, this shortage is more complex because of a myriad of new demographic and societal factors, which in turn require innovative strategies to fix the problem.⁹ Some economists have described the nursing shortages as “an overarching imbalance of supply and demand attributed to demographics, qualifications, availability and willingness to do the work.”¹⁰ The International Council of Nurses provides further interpretation: It describes the nurse shortage “in terms of demand, based on the amount of care people will fund and need.”¹¹ The U. S. has experienced a cyclic shortage of nurses since World War II. “In 1941 the supply of nurses could not meet the demands of either the civilian or military needs.”¹² In 2003, there are still insufficient nurses working in hospitals or entering the workforce to meet rapidly increasing demands for their services.

The global reach of the nursing shortage is brutally impacting health care organizations and consumers throughout the world. In an international survey, researchers from Penn State University found that 69 nations were experiencing a nursing shortage.¹³

The effects of the insufficient supply of nurses in the workforce extend from such wealthy countries as Canada, Britain, and the Netherlands to impoverished regions of Africa and the Philippines.¹⁴ This global nursing shortage presents new challenges for the United States and

international nurse recruiting communities. During past shortages, the U.S. has recruited nurses from areas such as Canada, India and the Philippines. Historically higher salaries, compared with those in other nations, in America have contributed to successful recruiting efforts. Now almost every country is scrambling for this scarce human resource, making recruiting and retention internationally fiercely competitive.

According to Lucille Auffrey, Executive Director of the Canadian Nurses Association, Canada has improved incentives to lure Canadian nurses back from the U.S. Great Britain's policies prohibit poaching nurses from host countries with nurse shortages. Sarah Mullally, Director of Nursing and Chief Nursing Officer the Guidance on International Nursing Recruitment, says it is clear that recruitment should not run counter to the host country's interest. But not all nurse recruiters and health care organizations comply or agree with this anti-poaching policy. In the RN Journal, Britain was identified "as poaching nurses from the Third World, despite a Government ban on recruiting from the Third World."¹⁵ The reality is that organizations continue to recruit nurses, with little if any thought regarding the hardships imposed on other organizations in their own communities, much less giving consideration to other countries.

For example, the numbers of nurses entering Britain from South Africa has increased more than fivefold since 1997. This increase occurred even after South African President Mandela protested.¹⁶ It is apparent from the global nature of the current nurse crisis that neither the ANC nor the civilian nursing profession is capable alone of addressing the many factors contributing to the nurse shortage.¹⁷

DILEMMA FOR BOTH ARMY AND CIVILIAN SECTOR

Civilian	Army
Emergency Room	Nurse Anesthetist
Peri-Operative	Peri-Operative
Critical Care	Critical Care

TABLE 2. TOP THREE RN SHORTAGES BY SPECIALTY

The Army and civilian health care systems have a common dilemma. Both have identical registered nurse shortages in two specialty areas, critical care and peri-operative nursing based on percentage filled. The Army has a shortage of nurse anesthetist and the civilian hospitals are short of trained emergency department nurses.¹⁸ Both health care systems are struggling to ensure that patients receive quality health care despite an insufficiency of nurses. They are

taxing existing workforce too the limit. A military-unique complication of the shortage of active duty nurses in the Army is the impact of the shortage on all three key components of the AMEDD mission. The nurse shortage in the civilian community will impact one of the AMEDD key fundamental components, which is managing the health of soldiers and the family members.

Officers	FY 02	FY 03	FY 04	FY 05	FY 06	FY 07	FY 08	FY 09
Medical	4347	4347	4347	4347	4347	4347	4347	4347
Dental	1138	1138	1139	1139	1139	1139	1139	1139
Veterinary	411	419	410	410	410	410	410	410
Specialty	909	930	945	945	945	945	945	945
Nurse	3381	3392	3415	3415	3415	3415	3415	3415
Medical Service	3912	3979	3971	3971	3971	3971	3971	3971

Source: U.S. Army PERSCOM, Army Nurse Branch, Alexandria, VA 2002

TABLE 3, AMEDD PROGRAMMED END STRENGTH

Army nurses are the third largest group in the AMEDD after physicians and Medical Service Corps officers. In the civilian sector nurses make up the largest group of health care professionals.¹⁹ Universally, there appears to be a sufficient number of registered nurses to care for patients, but an inadequate supply working in the inpatient setting. Table 3 illustrates the AMEDD five year capability plan based on authorized strength for every years future mission. Change occurs based on mission needs of the specific corps and distributions of authorizations.²⁰

Retirement of the baby boomers is expected to contribute to increased demands for health care, as well as decreasing the number of nurses available to provide patient care.²¹ Many agree that nurses are the backbone of what hospitals do. And because of the undersupply of nurses, it is not uncommon for thousands of hospitals in the U.S. to divert and curtail health care services, to include canceling elective surgical procedures.²² These demographic changes and numerous other variables compound access to care problem.²³

EFFECT OF NURSE SHORTAGE IN A TIME OF MANAGED CARE

Nurses became more stressed and frustrated as a result of the re-engineering of the health care delivery system. They have routinely found themselves caring for sicker patients

with a shorter stay in the hospital with fewer support staff. The managed care system has driven many civilian nurses out of the profession as a result of downsizing and layoffs.²⁴ In turn, hospitals and nursing administrators are experiencing a significant hiring lag of registered nurses with the experience, competency and skill required to care for very complex patients.

Assistive personnel have been hired in place of licensed nurses to augment nursing care and to drive down costs.²⁵ This has only added more training and supervisory responsibility on an already overworked and extremely stressed diminishing group of registered nurses. Failure of leaders to predict, plan for, and prepare to avoid the nurse shortage has resulted in unanticipated, unintended and undesirable patient outcomes. The nursing shortage has delivered a devastating blow to the health care system.

Many people are afraid to leave their loved ones unattended by family members in hospitals due to the shortage of nurses and fear for patient safety. They are even more concerned about the consequences of the shortage on their own health care.²⁶ Dr. Dennis O'Leary, M.D., President of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), states that millions of patients' health care is potentially endangered by the growing nurse shortage.²⁷ Colonel Steven Kading, Army War College Student and ANC Officer, reported over 12 years ago that "nurses are tired of high risk environments with poor staffing. Under those conditions, there can be no assurance of safety, quality, or even adequacy of care."²⁸

Hospital cost-cutting measures have contributed to understaffing and poor patient outcomes. Several studies reveal that there is a correlation between the number of registered nurses in the workforce and patient outcomes. In 2001 the American Nurses Association Staffing Survey revealed that out of 3,617 respondents over 53% replied that they were discouraged and frightened for patient safety and quality of care.²⁹ Research has shown that "possibly hundreds to thousands of deaths and injuries each year are attributed to inadequate nurse staffing levels."³⁰ In May 2002, Needleman, Mattke, Steward, and Zelevinsky indicated that they "were uncertain if an association existed between low registered nurse staffing levels and higher risk for patient complications or deaths. They concluded that hospitalized patients receive better care by registered nurses as opposed to other nursing personnel."³¹ In 1997 "understaffing of nurses was cited as a factor in 402 out of 1,609 unanticipated deaths, injury or permanent disabilities of the ones reported. Inadequate nurse staffing levels contributed to 42% of surgery-related incidents, 25% of transfusion problems, and 19% of medication errors."³²

Likewise, studies concluded that hospitals with too few registered nurses are putting patient safety at risk as a result of their focus on the financial bottom line.³³

COMPARISON OF ARMY AND CIVILIAN NURSE SHORTAGE

In the early 1990s many of the reasons for the nursing shortage in the Army are the same as those for the shortage of nurses in the civilian sector today. The ANC "Proud to Care Survey" findings presented in Colonel Kading's Individual Study Project 12 years ago are identical to the reasons for the civilian nurse shortage today. These findings contrast somewhat with the results from the current "ANC Exit Survey". Despite the differences in the findings nurses are still leaving the profession. We have a different generation of professionals with different priorities.

ARMY NURSE CORPS "PROUD TO CARE" SURVEY - 1990

Colonel Kading also examined contributors to the shortage of Army Nurses. Data from the ANC "Proud to Care" Survey revealed the following critical issues related to Army nurses' satisfaction and retention.³⁴

- Insufficient time available for direct patient care.
- Poor compensation.
- Underutilization of professional skills.
- Unrealistic staffing patterns and duty schedules.
- Lack of clinical decision-making authority and autonomy.
- Inadequate force multiplication and information system technologies.
- Lack of participation in governance, management, and administration.
- Lack of collegial communication and collaboration.
- Inaccurate and misrepresented image and organizational value.

CAUSE OF CIVILIAN NURSE ATTRITION -1990

Colonel Kading found the following variables to be the causes for the nationwide nurse shortage throughout the 1980s and into the 1990s.³⁵

- Poor compensation.
- Inadequate staffing.

- Changes in the hospital reimbursement system – nurses caring for a greater number of sicker patients more frequently with a shorter length of stay.
- Increased need for specialized skill and knowledge to meet the advent of new technological demands and the complex care associated with the emergence of new diseases.

ARMY NURSE CORPS EXIT SURVEY - 2002

In the Oct 2002 Army Nurse Corps Newsletter the Chief of the ANC, Brigadier General Bester, highlighted the results from the ANC exit survey study. According to Brigadier General Bester active duty nurses left the Army for some of the following reasons:³⁶

- Desire to begin a new family and not work full time.
- Desire to remain in the same location.
- Lack of mentoring.

Micromanagement among middle and upper management.

SOME REASONS CIVILIAN NURSES ARE LEAVING 2002

The JCAHO and numerous other researchers indicated that nurses continue to leave the profession for the following reasons.³⁷

- Increased workloads and overworked.
- Disruptive behaviors by physicians and lack of respect.
- Low staffing levels and insufficient number of trained staff.
- Mandatory overtime.
- Limited career opportunities.
- Low pay and out-of-date benefits packages.
- Violence in the workplace/negative work environment.
- Managed care.
- Too many housekeeping duties.

CIVILIAN SHORTAGE AFFECTS ARMY SHORTAGE

The Army can only recruit nurses that are U.S. citizens. Therefore the Army must compete with the civilian community for American nurses. Brigadier General Bester stated in 2001 that “the Army was beginning to feel the pressure of the nurse shortage.”³⁸ This has become an increasing recruiting challenge for the Army since 1997. According to Rear Admiral Martin, former Chief of Navy Nurse Corps, “the best efforts of the military to recruit may have been outstripped by the nursing crisis.”³⁹

ARMY NURSE CORPS RECRUITING INITIATIVES

Fiscal Year	Program Type	Mission Requirement	Adjusted Mission Recruiting Goal	Achievement
00	ROTC	175	143	143
	AACP	43	43	45
	Direct Accession	116	148	130
01	ROTC	175	112	122
	AACP	55	55	53
	Direct Accession	103	166	113
02	ROTC	175	100	111
	AACP	55	55	51
	Direct Accession	175	212	128

Source: United States Army Recruiting Command, Fort Knox KY, 2003

TABLE 4, CONSOLIDATED ANC RECRUITMENT PROGRAMS

Army Nurse Corps leaders are devising recruiting strategies to resolve the active duty shortage of Army nurses. United States Army Reserve Officers Training Corps (ROTC) Cadet Command made available more two-and three-year nurse scholarships to attract quality nursing students to ROTC. In 1996 ROTC Cadet Command entered a Partnership for Nursing Excellence (PNE) with several universities and colleges of nursing throughout the country. The PNE is one of several ANC recruitment and retention strategies to better focus and concentrate resources on a few nursing programs. Colonel William Hartman, the Chief Nurse for Cadet Command describes the details and challenges associated with the PNE program:⁴⁰

The Partnership in Nursing Excellence program was designed to limit the number of universities actively recruiting nurses. Each PNE school has a contract between Cadet Command and the School of Nursing that guaranteed the nurse cadet a seat at the upper division nurse program as long as they met the advertised grade point average listed in the School of Nursing course catalog. He believes the program had merit but the schools selected for the program were not able to recruit the needed numbers to meet the mission requirements. Also tied to PNE were scholarship dollars and recruitment goals. Non-PNE schools who were good nurse producers in the past soon found out that they had limited scholarships available to provide nurse prospects. Also, in an effort to better focus resources ROTC cadre on these campuses were not given a recruiting mission to find nurses anymore. They stopped looking for nurse candidates resulting in the demise of the ROTC nurse program on their campus resulting in a need to re-adjust the recruiting mission and solicit support from United States Army Recruiting Command (USAREC).

Various recruiting options in the Army offer flexibility in rapidly responding to the need to adjust and shift Army nurse recruiting goals among the various programs. For example, “the original ROTC mission for 2000 – 2002 was 175, however, they were ‘adjusted’ and USAREC picked up the extra numbers. The original mission for USAREC was 85 in 2000, 82 in 2001, and 125 in 2002. The adjusted numbers reflected in table 4 are used by USAREC in the program analysis process.”⁴¹ Unfortunately, USAREC was not able to achieve the adjusted recruiting goal from FY 00 to FY 02. United States Army Recruiting Command mission requirements increased; however, additional recruiting resources were not available to accomplish the increased workload.⁴² In response to some of the lessons learned from these experiences, USAREC made internal changes. In an effort to be more responsive to nurse applicants and recruiters USAREC is streamlining the application process to avoid losing direct accession applicants, who are new graduates and working nurses. With this emphasis on increased customer satisfaction, fewer documents and less time are required to process nurse applicants. In addition to the \$5,000 accession bonus, nurses are guaranteed one of their top three choices of duty location on initial entry into the ANC. It is important to note that the ANC has an array of creative and diverse nurse recruiting programs for most nurse candidates, extending across the spectrum from the high school to the working nurses.

The Army Enlisted Commissioning Program (AECPP) affords young soldiers from any military occupation specialty the opportunity to complete their undergraduate nursing degrees in fulltime student status on a scholarship while receiving full pay and benefits.⁴³ Due to the

recruiting challenges in both the ROTC and USAREC programs, the Army increased the number of AECP slots from 55 in FY 01 to 75 in FY 03.

Another incentive offered by the Army is specialty course training to attract new nurses. After one year on active duty nurses are guaranteed, if desired, selection to attend one of the specialty training courses in fulltime student status while receiving all pay and benefits. These nurses can specialize in critical care, emergency, psychiatric mental health, obstetrical & gynecological, community health, and peri-operative nursing. The four courses mentioned are course guarantees. Emergency room and community health courses are offered, but they are not generic course guarantees.⁴⁴

ARMY NURSE CORPS RETENTION STRATEGIES

In recognition of the achievements and potential of the military Nurse Corps Chiefs, Senator Inouye introduced an amendment that was signed by the President to increase the Chiefs' rank from a one-star to a two-star. "This level of advancement recognizes the scope of responsibility of the Corps Chiefs and it ensures military nurses have a strong leadership voice."⁴⁵

The ANC was recently allocated 10 additional authorizations to the rank of colonel. This will reduce waiting time for promotion by approximately 50%. In September 2002 Colonel Sharon Feeney-Jones, the Chief of the ANC Personnel Branch, announced that Army nurse officers were not being involuntarily retained on active duty past their active duty service obligation date. However, no early retirements are currently offered and officers have been reminded that they must voluntarily complete three years time in service in grade if they want to retire at current rank.⁴⁶ Also, given the decline in nursing students graduating from ROTC, the ANC denied educational delays to nursing students wanting to pursue graduate education programs.⁴⁷ Cadet Command is completing an intensive "market analysis and scholarship reform package." They added incentives and a dedicated teaching and coaching program for recruiters and cadre. Colonel Hartman reports that he is already seeing favorable results in the ROTC nurse recruitment numbers and prospecting efforts.⁴⁸

ARMY NURSE CORPS FINANCIAL INCENTIVES

Following Congressional testimony in 2002, Brigadier General Bester received approval to award Critical Skill Retention Bonuses (CSRB) to peri-operative nurses and nurse anesthetists. The ANC is requesting continued use of the CSRB for all nurse specialties.⁴⁹ In FY 03 the National Defense Appropriations Act gave approval for increasing nurse accession bonuses to

thirty thousand dollars. Department of Defense established a work group to present a gradual approach to increase the nurse accession bonus to fifteen thousand dollars in FY 05 and twenty thousand dollars in FY07. This group is also tasked to do the same for the increase in incentive specialty pay for nurse anesthetist. Additionally the Health Professional Loan Repayment plan was approved for the Army Nurse Corps with the year of execution FY 03. This year it is used specifically for retention and beginning FY 04 and the out years it will be used for recruitment. The success of these programs will solidify the decision if it will be programmed for out years.⁵⁰ Financial initiatives have been extremely successful in attracting and keeping advanced certified practicing nurses on active duty in the Army.⁵¹

ARMY NURSE CORPS EDUCATIONAL INCENTIVES

The Uniformed Services University of the Health Sciences (USUHS) currently offers three graduate programs (Nurse Anesthetist, Family Nurse Practitioner, and Peri-operative Clinical Nurse Specialist) to active duty Army nurses. "Since USUHS has become the sole educator of Army Family Nurse Practitioners, students have a 100% pass rate on certification exams, the AMEDD has saved over \$300,000 annually, and the health care provided to military beneficiaries remains at high quality."⁵² Also, the Army Nurse Corps will start a PHD program in research in FY 03 at USUHS.

CIVILIAN STRATEGIES FOR RECRUITMENT

Many of the initiatives to recruit civilian nurses are creative and positive; however veterans of the health care industry remain skeptical and question whether this is enough to reverse the nursing crisis for the long term. More and more hospitals are beginning to entertain different strategies such as flexibility in scheduling and flexible hours for the aging nurse.⁵³ Child care is also a very popular recruiting and retention initiative.

PARTNERSHIP INITIATIVES

Government officials are aggressively introducing legislation providing incentives to promote nursing as a career and attract young people to the profession. For example, the President approved the Nurse Reinvestment Act (NRA), which establishes scholarships for nursing students who agree upon graduation to work for a time in a facility facing a critical shortage.⁵⁴ The NRA also repays student loans for nurses who seek advanced degrees and join the faculties of nursing schools.⁵⁵ It is important to note that the President's plan competes with the Army ROTC nurse scholarship program. Students who would have taken the ROTC scholarship will opt for the President's plan to get their tuition paid and remain working in their

civilian community. Another initiative sponsored by the Senate is the Nurse Employment and Education Act (NEED): "It authorizes dollars for a civilian nurse corps. It offers loan repayment program and scholarships to train nurses to work in critically short areas and incentives for nurses to achieve graduate degrees. The NEEDs act includes measures for hospitals to strive to seek best practice model status for retaining nurses."⁵⁶

According to the American Hospital Association (AHA) and the American Nurses Association (ANA) financial incentives are varied and extremely successful in recruiting and retaining nurses. According to Steven O'Connor, in 1999 more than 40% of the hospitals surveyed offer recruitment bonuses as high as \$15,000.⁵⁷ Mary Foley, former President of the ANA, believes scholarship and grants are important for increasing enrollment of faculty and students.⁵⁸

Some hospitals in Cincinnati provided \$30,000 registered nurse retention bonuses in return for a two-year work commitment. In Nevada staff members can get up to a \$2,000 finder's fee for every nurse they recruit who stays with the organization for six months to a year. Health care organizations in Florida offer a \$7,500 down payment on a new home. Lucrative sign-on bonuses are the recruiting tool of choice. Student loan forgiveness is another tactic gaining momentum.⁵⁹ These extra incentives assist nurse recruiters in finding candidates. The addition of a hefty retention bonus is valuable for preventing competitors from luring away quality employees.⁶⁰ Some of these incentives are controversial: critics claim that these enticements are a temporary solution; that the only thing that they do is redistribute, not increase the supply of nurses. Such observations have merit. Nonetheless, these incentives are very popular again.⁶¹ American hospitals are resurrecting aggressive recruiting efforts of nurses overseas.⁶² Recruiters complain that the "federal policy regarding visas is a barrier for recruitment of nurses from other countries to the U.S."⁶³

Professional organizations are forming coalitions with industry to enhance the image of the nursing profession and to recruit nurses.⁶⁴ Johnson and Johnson, one of the top three companies that supply items for nursing care of patients, launched an aggressive \$20 million dollar marketing, advertising, and recruiting campaign for the next two years. The campaign seeks to bring nationwide attention to the shortage of nurses, to enhance the image of the profession, and to recruit more males and minorities in nursing.⁶⁵

To assist with recruiting more men and minorities, celebrities and public officials are advocating nursing careers. The Bush administration issued a public announcement campaign referred to as "A Call to Care." The goal of this campaign is to inspire young people to pursue

nursing as a career and to expand enrollment in nursing programs at all levels.⁶⁶ Mary Foley agrees that “the nursing profession needs to be bolstered to attract younger nurse recruits.”⁶⁷

ORGANIZATION PERFORMANCE IMPROVEMENT INITIATIVES

Other initiatives to attract people to the nursing profession are designed to improve technology and reengineer professional staffing models to reduce dissatisfaction in the work. Experts say the health care industry has failed for over a decade to improve the work environment of health care professionals. The health care industry has ignored the technological needs of an overburdened, overworked, frustrated, stressed, demoralized, and diminishing staff. Archaic technology has hindered efficient and effective means to reduce paperwork and redundancy; and it has increased the amount of time nurses spend away from patients.⁶⁸ More hospitals are now upgrading technology, issuing nurses mobile phones and pagers for staff use to increase efficiency and safety. Colonel Eileen Malone, Special Assistant to the Army Surgeon General, address the technological issues:⁶⁹

Nursing at the bedside is physically, emotionally, and intellectually demanding. It's also risky work – look at exposure to infection and associated with work place injuries. There has been too little technology to help nurses with nursing specific issues – but an overwhelming amount of healthcare technology added to the patient care arena that has inundated nurses. We need Enterprise Resource Planning Information Technology that simplifies the redundant administrative functions that typically fall on the shoulders of the nurses and clerks.

The Joint Commission Accreditation of Healthcare Organizations, Health Care Facilities and Nursing Associations are re-engineering professional staffing models. Research shows that nurses are attracted to and stay longer at “Magnet” hospitals than at some of the other facilities. “These organizations cultivate nurse autonomy and foster transformation of nursing work through the use of mentoring roles and ergonomic technologies. Further, magnet hospitals set staffing levels on the basis of nurse competency and skill mix relative to patient mix and acuity.”⁷⁰

ARMY NURSE SHORTAGE SPECIFICS

Year	Recruitment Goal	Achievement
1998	310	310
1999	326	308
2000	334	318
2001	333	288
2002	367	291

Source: United States Recruiting Command, Fort Knox, KY, 2003

TABLE 5. ARMY ACTIVE DUTY NURSE RECRUITMENT GOALS

Since 1999 the Army has been challenged like the civilian sector, in every attempt to meet its nurse recruitment goals. Each year the recruiting goal increases, with a steady decline in overall mission achievement. The ANC experienced a recruiting deficit ranging from as low as 16 nurses in 2000 to a shortfall of 76 nurses in 2002.

	2000	2001	2002
Packets boarded	70	64	92
Soldiers selected	68	52	80
Total started/finished	65	42	59
Male	26	22	26
Female	39	20	33
Caucasian	36	19	25
Hispanic	7	3	2
Asian	5	4	4
African American	17	9	21
Other	0	7	7

Source: United States Army Recruiting Command, Fort Knox, KY, 2003

TABLE 6. ARMY ENLISTED COMMISSION PROGRAM DATA

Despite increased selection of applicants for the AECP from 2000 to 2002, fewer now are starting and finishing the program. 2002 was the first time in three years that members from all ethnic groups participated in the program. Since 2002 most of the trends in each category

remained steady or increased, with the exception of the Hispanic group. Hispanics participation has steadily declined. Even so, Colonel Ann Richardson, Chief Nurse United States Army Recruiting Command, reported a bit of good news: "The word is finally getting out about this great opportunity, 139 soldiers submitted applications for the 2003 AECP Board."⁷¹ Nurse leaders attribute their recruiting challenges to:⁷²

- Lack of incentive programs commensurate with civilian market.
- Increase in recruiting mission without an increase in recruiting force.
- Increase in time to process applicant's accession packet.
- Lack of marketing and advertising about the programs by recruiters.
- Lack of recruiter penetration of targeted market.
- Shrinking supply of civilian nurse recruits available in the pipeline or in the workforce.

Type of RN	Civilian Base Pay without Benefits	Army Base Pay without Benefits
Beginning Level	\$31,890	\$25,171.2
Mid Level	\$54,000	\$61,110.0
Senior Level	\$64,360	\$72,957.60
Director of Nursing	\$83,000	\$87,793.20
Top Nursing Executive	\$115,000	\$104,864.4

Source: OSD Military Compensation Effective 1 January 2002, the US Department of Labor Statistics, and the Hospital Management Compensation Survey, The Hay Group, Chicago 2001

TABLE 7. ANNUAL SALARY AND COMPENSATION

Nurses remain dissatisfied with their incomes and view current salary and benefits as appalling and insulting to the profession. Senator Mikulski of Maryland agrees:

Nurses have sophisticated training and education, and they get skimpy and spartan pay and respect. We need to pay nurses what they deserve. The dedication and devotion shown by countless nurses doesn't pay the mortgage! And because the best way to recruit more nurses is by having a satisfied nursing workforce that reaches out to a new generation of women and men.⁷³

Army nurse salaries compete very favorably with mid through senior level nurse managers in the civilian nursing sector. Pay for Army nurses in 2002 exceeds civilian pay, except for new nurses entering active duty with less than two years of registered nursing work experience at the rank of Second Lieutenant and for the top ranking Army nurse.⁷⁴ Median annual earnings for civilian registered nurses in 2000 range from a low of \$31,890 for beginning level nurses to a high of \$64,360 for senior level registered nurses.⁷⁵ In 2001, the average annual base salary was \$115,000 for top civilian nurse executives.⁷⁶ The top nurse executive in the Army serves at the rank of brigadier general and the base pay in that position is approximately \$10,000 less than our civilian counterparts. During a Senate Hearing, Senator Mikulski identified the following demographic and societal factors as primary contributors to the current nursing shortage:⁷⁷

- Fewer potential registered nurses behind the baby boomer generation.
- More career options for women.
- Aging U.S. labor force.
- Dissatisfaction of registered nurses working in hospitals.

GENERATIONAL, ETHNIC, AND GENDER DIFFERENCES

Many legislators are joining nursing organizations in speaking out on the important role nurses have in society. Senator Mikulski's opening statement to the Subcommittee on Aging offers an excellent example: "Nurses are truly unsung heroes in health care. They are advocates, medical professionals, and healers who fight death and disease and bring compassion to the patient for whom they care. The care they give is high-tech, high touch, and highly skilled."⁷⁸

Desire for Work	Perception of Hospitals
Service-oriented	On strike, laid off, "angels of mercy"
Anti-institutional	Work in large, cold, unresponsive institutions
Not hierarchical	Work is stressful, highly structured and "un-fun"
Flexible, welcoming change	Lacks the high-tech access associated with medicine
A diverse workforce	Tied to professional career, not open to change
Using technology	
Developing new skills	
Community work	

Source: Center for the Health Professions, University of California, San Francisco, 2001.

TABLE 8. GENERATION X PERCEPTIONS

Generation X refers collectively to individuals born between 1961 and 1981. Generation Xers value autonomy, desire independence, and seek temporary agency sponsored work in an attempt to avoid bureaucracies. Generation X's expectations of the work place and attitudes about hospitals are different from those of the baby boomer generation.⁷⁹

Diversity	U.S. Population	Civilian RNs	Army Population	Army Nurses
Caucasian	69.1%	87.7%	60.49	71%
African American	12.1%	4.9%	26.75	18.0%
Hispanic	12.5%	2.0%	6.45	6.1%
Native American	7.0%	0.5%	0.68	0.4%
Asian Pacific Islander	3.7%	3.7%	2.49	4.2%

TABLE 9. ARMY 2002 DEMOGRAPHICS / CIVILIAN 2000 CENSUS DATA.

The ethnic diversity among minorities in the Army is significantly greater than in the civilian sector. This is probably because of better mechanisms in place to monitor equality in career opportunities. Benefits such as pay, educational opportunities, varied duty assignments, and rank commensurate with other professionals are among the contributing factors.⁸⁰

The image of nursing among men in the Army is also extremely favorable, contrary to attitudes in the civilian workforce. The percentage of men in the ANC is 36%, compared to 5.6% of the civilian workforce. Twenty-four percent of the men in the ANC have prior military service.⁸¹ They tend to stay in the military because of the leadership experiences, travel, career opportunities, health care benefits, camaraderie, and emphasis on graduate level education.⁸² Although studies reveal an increase in the number of men entering the profession from 4.9% in 1998 to 6% in 2002, men are leaving the civilian workforce within four years after graduation at approximately a 50% higher rate than women as a result of the numerous issues discussed earlier.⁸³

Despite the increased number of men becoming nurses the civilian sector continues to struggle to attract and retain men and minorities in the inpatient settings.⁸⁴ These shortfalls could possibly be due to stereotypes and stigmas attached to male registered nurses working in the civilian labor force.⁸⁵ A lack of awareness about the nursing profession continues among youth and young adults. Many people still view nurses as sub-servant to physicians. The six-

year decline (1996-2001) in nurse program enrollment and degree completion seems to indicate the profession has not overcome this unfavorable, false, and grossly distorted image.⁸⁶

PROFESSIONAL CAREER OPTIONS

Army	Dental Corps	Judge Advocate Corps	Medical Corps	Nurse Corps	Veterinary Corps
Females	13%	24. 9%	19%	64%	35%

Source: U. S. Army PERSCOM, Army Nurse Branch, Alexandria, VA 2002

TABLE 10. FEMALES IN THE AMEDD AS OF OCTOBER 2002

A major contributor to the current nurse shortage came from the advances made by women in the workforce.⁸⁷ “In the early 1900s nursing was one of the few professions open to and dominated 100 percent by women. Females were discouraged and restricted from competing for other professions.”⁸⁸ In the U.S. in 2000 there were an estimated 2,694,540 registered nurses, 96% of whom were women.⁸⁹ Table 10 illustrates the active duty female population in the six branches of the AMEDD. By comparison, the percentage of women in the ANC is much lower than in the civilian sector.

Today more women are seeking careers in other disciplines. They refuse to be stereotyped and pushed toward a nursing career. For example data published by the American Medical Association reveals that out of 813,770 physicians in the U.S. 24% are female.⁹⁰ Women are increasingly represented in almost all professional schools. Enrollment of women in medical school increased from 9% in 1970 to 44% in 1999. In 1970 women accounted for 10% of the first-year law class, and this rose to 49.4% last fall. And they make up 44% of graduates from the nation’s top law schools. In 1930 less than 1% of veterinary graduates were female; by the 1990s this was greater than 60%. In 1970 only 5% of dental school classes were female; in 1999 it was up to 37.6%.

AGING LABOR FORCE

As a result of an aging nurse workforce, many Army nurse applicants are over 40 years of age. “For the first time in the history of nursing, nurses are retiring at a faster rate than new nurses are moving into the profession.”⁹¹ The National Sample Survey of Registered Nurses indicates that “only 31% of the working nurse population is less than age 40 and 10% is younger than age 30. Most civilian nurses retire from the profession at 49. The average age of the working nurse is 45.2 years and by 2010 it will be 50 years.”⁹²

PATHWAY TO THE NURSING PROFESSION

RN Education	Diploma	Associates	Bachelors	Masters	Doctorate
Army	0	0	100%	55%	13%
Civilian	22.3%	34.3%	32.7%	9.6%	0.6%

TABLE 11, REGISTERED NURSES EDUCATION LEVELS AS OF MARCH 2000.

In the civilian community the nursing profession offers three creative ways for students to complete entry level registered nurse education requirements. Based on their personal and professional needs and goals, students have the option of successfully completing a diploma, associate degree, or baccalaureate program. The Associates Degree Program is a two year course of instruction offered at community colleges. The nursing curriculum provides for basic clinical skills but does not prepare associates degree nurses for leadership, administrative, and advanced practice roles. Hospital based three-year diploma programs are declining in number throughout the country. These graduates usually practice in the hospital setting. The Bachelor's of Science Degree in Nursing is university based and takes four to five years to complete.⁹³ Basic nursing education has shifted to college and university programs. Most nurses want to continue their education and expect employers to provide assistance in achieving this professional career goal as a contribution to the organization. Approximately 71.6% of associate degree graduates and 59.9% diploma graduates go on to obtain a bachelor's degree.⁹⁴ Health care providers understand that educational preparation at the baccalaureate level is essential to serve the complex health care needs of patients in a variety of traditional and non-traditional settings.⁹⁵

A bachelor's degree in nursing prepares for a broader spectrum of scientific, critical thinking, humanistic, communication, and leadership skills not typical in diploma and associate programs. These abilities are essential for today's nurse who must be a skilled provider, designer, manager, and coordinator of care. Some career paths, such as administration, are open only to nurses with bachelors or advanced degrees. A bachelor's degree is a prerequisite for admission to graduate nursing programs in research, consulting, teaching, or clinical specialization. By 2010 the National Advisory Council on Nurse Education and Practice believes the workforce will need educational preparation at the bachelor's or master's degree levels.

In spite of these three educational entry tracks the shortage of registered nurses in the inpatient setting continues to increase.

PATHWAY TO AN ARMY NURSE CAREER

Unlike the civilian sector, in accordance with AR 135-101, para 2-3, nurse applicants must be U. S. citizens to serve in the Army.⁹⁶ The nurse force currently consists of approximately 60% active duty nurse officers and 40% Department of the Army civilians.⁹⁷ It is an elite Corps of nurse professionals with robust higher education credentials. In the Army 100% of active duty nurses are prepared at the baccalaureate level. Fifty five percent have a least one master's degree, and 13 % have doctoral degrees. On the other hand, substantially fewer civilian nurses have advanced degrees.⁹⁸

The Bachelor of Science degree is the entry level degree for accession on active duty into the ANC. Candidates enter the ANC through ROTC, USAREC as a direct commission, and the AECF. The ROTC population of interest to the ANC is usually the freshman through junior level student enrolled in nursing school. United States Army Recruiting Command directly commissions nurses prior to their 47th birthday. Nursing students in their senior year of college, new graduates, or the working nurse are all targeted for recruitment. The Army Enlisted Commissioning Program affords up to 75 active duty enlisted soldiers per year the opportunity to earn their Bachelor of Science Degree in Nursing. They are required to complete their degree within 24 months in fulltime student status. During this time soldiers receive a scholarship, full pay, and benefits.⁹⁹

FEWER POTENTIAL NURSES

The Army prefers nurses to enter the ANC after successful completion of the ROTC program. These nurse officers are younger and transition more quickly from the university campus to the Army culture with the benefit of ROTC training. But as enrollment in nursing programs on college campuses continues to decline, so do the ROTC nurse recruitment numbers and requests for ROTC scholarships.

	1997	1998	1999	2000	2001
Losses	753	512	329	341	335
End Strength	3540	3344	3332	3307	3271
Attrition Rate	21.3%	15.3%	9.9%	10.3%	10.2%

Source: ANC Personnel Proponent Branch, San Antonio, TX, 2002

TABLE 12. ANC ATTRITION RATES FROM 1997 TO 2001

In 1997, the Army downsized its force, including members of the ANC to meet the budgeted end strength. The ANC has not recovered from the departure of many well qualified junior level nurse officers. Many of the nurses eliminated from the ANC fled to the other services. The significantly higher spike of fifty percent attrition in 1997 displayed in Table 12 was a result of mandatory force reduction. In comparison in the early 1990s, nurses in the civilian sector had a similar traumatic experience due to layoffs as a result rejuvenation of Health Maintenance Organizations and Managed Care Systems.

The ROTC accession rate was decreased in 1997 by design: "There was a push to slow down on nurse recruitment because the production models were projecting that ROTC would overproduce in the out years, 1999-2001. The de-emphasis on nurse recruitment has resulted in a great deal of effort to overturn this decline."¹⁰⁰ This situation coupled with the fact that there are roughly 21,000 fewer nursing students explains the ROTC challenge.¹⁰¹

The shortage of nurses has been accompanied by a reduction in faculty to teach the students.¹⁰² Since 1997, there has been "a 23% decline in the number of bachelor of science degrees awarded in nursing accompanied by a 9.5% reduction in program enrollment."¹⁰³ According to Ada Sue Hinshaw, Dean at the University Of Michigan School Of Nursing, these two variables have a co-dependency relationship--each intensifies the other.¹⁰⁴ The shortage of nursing faculty is believed to be due to "budget constraints, departure of an aging faculty, a dwindling supply of nurse educators coming through the system, and increased job competition enticing nursing faculty away from the academic environment."¹⁰⁵

In 2001 a study of the Southern Regional Educational Board Council on Collegiate Education for Nursing revealed that 86% of the institutions surveyed had vacant faculty positions, 18% reported insufficient staff to teach undergraduate and graduate programs, and more than 500 faculty members were expected to resign in the coming two years.¹⁰⁶ This shortage of faculty imposes significant constraints on student enrollments, impacts on contributions to the body of scientific nursing knowledge, and reduces the level of nurse participation in strategic leadership roles.¹⁰⁷ Last year over 5,800 qualified applicants were not admitted to nursing programs due to the lack of faculty, an inadequate number of facilities for didactic and clinical rotations, budgetary constraints and insufficient clinical preceptors.¹⁰⁸

CONCLUSION

If we engage in an armed conflict of a serious magnitude, the research suggests that there will not be enough nurses available to care for the troops. Coupled with civilian facilities'

downsizing and staffing challenges, there is some doubt that the Army has a safety net to fall back on. The nurse shortage is a reality; the safety and well-being of our soldiers on the battlefield is at risk if they are evacuated to facilities where there are an insufficient number of nurses with the proper skills to insure safe patient outcomes. The reasons for the nursing shortage must be thoroughly examined; appropriate organizations must make cultural and policy changes to meet the needs of their valued employees. Creative and prudent risk-taking strategies must be tried. Neither our nation nor the Army can afford to ignore this problem for another 12 years. The second-and third-order effects of the nursing shortage will be catastrophic for the Army family if we fail to get the support required to recruit and retain nurses. An insufficient inventory of active duty Army nurses for prolonged periods will jeopardize not only access to health care abroad and at home. It will also adversely affect the ANC as a partner in transformation of the AMEDD.

RECOMMENDATIONS FOR ARMY NURSE CORPS

The data presented in this study strongly support an immediate need to change our policies and incentives to serve the needs of Army Nurses. These initiatives must stimulate recruitment and retention of quality nurses and eventually end the Army's shortage of nurses, independent of the shortage of civilian nurses:

- **Signing Bonuses, incentive pay, and loan forgiveness:** Increase Army nurse accession bonus from \$5,000 to \$15,000 in return for a three year active-duty service obligation. This will enable the Army to compete on equal footing with the civilian nurse recruiting market. Concurrently, provide all active-duty Army nurses' incentive pay and offer Army nurses education loan repayments in return for additional active duty service obligation based on the amount of the loan. Better pay and benefits and improved patient care were cited as the top priority for nurses and unions.¹⁰⁹
- **Finder's Fee:** Offer staff members a finder's fee for every nurse that is commissioned on active duty in the Army Nurse Corps.
- **Local Support Services:** Sponsor child care services at worksites for shift workers.
- **Recruiter Incentives:** Reward Army recruiters with extra pay for exceeding their nurse accession mission. Bonuses should be comparable to those granted to civilian recruiters working for outsourcing agencies (like MPRI and RCI). Recruiters should receive approximately \$1,000 for commissioning nurses in hard-to-find critical specialty areas.

- Extended Tour Lengths: Offer optional tour lengths up to ten years in certain locations based on the needs of the soldiers and the Army. This may be more feasible with the ongoing base realignment and closures of Army Medical Treatment facilities.
- Magnet Status: Although it is extremely difficult to obtain Magnet status, encourage and reward hospital leaders that do. Magnet hospitals have a reputation for attracting and retaining quality nurses by transforming the nurses' workplace to a more pleasant and productive environment. "Historically, magnet hospitals have demonstrated improved patient outcomes, staff satisfaction, and the ability to attract and retain professional nurses."¹¹⁰
- TriService Nursing Program: Initiate a triservice military undergraduate nursing expand graduate programs currently offered at USUHS to include all graduate level nursing specialties. By having this program will enhance our capability to maintain accession numbers at authorized end strength.¹¹¹
- New Career Track: Establish a teaching career track for Army Nurses prepared at the master's and doctorate levels. Groom these nurses to teach in military undergraduate, such as the triservice program proposed above, graduate and post graduate nursing programs. This initiative complements the efforts of the civilian sector to attract and educated individuals starting at the BSN level. Also, it offers another source for nurse recruitment and retention since the civilian sector is challenged with producing more nurses in the face of a nurse faculty shortage and the ability to accept quality nurse applicants. In 2001, five thousand quality nurse applicants were turned away from nursing programs due to insufficient faculty and space.
- Marketing: Conduct an aggressive Army Nurse campaign marketing what Army Nurses do, their career opportunities, and their reasons for staying in the Army.
- Mentorship: Sponsor local intensive middle managers training. Focus training on teaching head nurses how to mentor their staff and manage their resources.



WORD COUNT =8,404

ENDNOTES

- ¹ James. B. Peake. "Delivering Quality Health Care to Soldiers and Their Families." Army Magazine. (October 2002): 175.
- ² Carol Jones carol.jones2@amedd.army.mil, "Number of PROFIS Army Nurses," "electronic mail message to Leana Fox-Johnson leana.foxjohnson@carlisle.army.mil, 6 January 2003.
- ³ William T. Bester. "Message from the Chief." Army Nurse Corps Newsletter 03, no 03 (December 2002). Available from <<http://www.armymedicinearmy.mil/ostg/nurse/index.html>> Internet. Accessed 12 Decemberr 2002, 1.
- ⁴ Bureau of Health Professions. The Registered Nurse Population: Findings from the National Sample Survey of Registered Nurses. Washington D.C.: US Department of Health and Human Services. 22 February 2002. Available from <<http://www/bhpr.hrsa.gov/healthworkforce/rnsurvey.html>>. Internet. Accessed November 22, 2002.
- ⁵ Lois Capps. "Capps Appeals for Substantial Funding for Nurse Reinvestment Act." Congress of the United States House of Representative. 13 and 16 Sept 2002. Available from <<http://www.house.gov/capps/press219.html>> Internet; accessed 1 November 2002.
- ⁶ James. B. Peake. "On Healthcare in the United States Army." Statement presented to the 107th Cong., sess. Subcommittee on Personnel. Washington, D.C.: from <http://www.house.gov/hasc/openingstatements.andpressreleases/107thcongress/02-04-10p.html> Internet; accessed. 10 December 2002.
- ⁷ Marilyn Rothert. "MSU Report Calls Nursing Shortage a "National Security Concern"; Calls for Partnerships to Remedy. 9 September 2002. Available from <http://www.msutoday.msu.edu/news/2002/09/nursing.htm>>, Internet; accessed 15 December 2002.
- ⁸ "Health Care at the Crossroads: Strategies for Addressing the Evolving Nursing Crisis Executive Summary." Joint Commission on Accreditation of Healthcare Organizations (7 August 2002). Available from <<http://www.jcaho.org/News+Room/Press+Kits/executive+summary.html>> Internet; accessed 4 December 2002.
- ⁹ Donna Hughes. "In Our Hands: How Hospital Leaders Can Build A Thriving Workforce." American Hospital Association Commission on Workforce for Hospital and Health Systems (April 2002): 4.
- ¹⁰ Kimball, Bobbie and O'Neil, Edward. "Health Care's Human Crisis: The American Nursing Shortage." Health Workforce Solutions for The Johnson and Johnson Foundation, (April 2002): 24.
- ¹¹ Karen J. Coates. "Trickle-Down Effect: Global Nursing Shortage Provokes Competition and Cooperation Between Countries Desperate for RNs." Nurse Week. (11 July 2001); Available from <<http://www.nurseweek.com/news/features/01-06/global.html>> Internet; accessed 8 December 2002.

- ¹² Steven E. Kading. The National Nursing Shortage: Recruitment and Retention Challenges for the Army. An Individual Study Project. (Carlisle Barracks: U.S. Army War College, 5 March 1991), 13.
- ¹³ Paul Blaum. "Worldwide Nursing Shortage has Reached Crisis Proportions." Eurek Alert! 28 June 2002. Available from <http://www.com.pab15@psu.edu.html>.> Internet; accessed 4 September 2002.
- ¹⁴ Karen J. Coates. "Trickle-Down Effect: Global Nursing Shortage Provokes Competition and Cooperation Between Countries Desperate for RNs." Nurse Week. (11 July 2001); Available from <http://www.nurseweek.com/news/features/01-06/global.html>.> Internet; accessed 8 December 2002.
- ¹⁵ "Britain 'Still Poaching' Nurses from Third World Belfast Telegraph. RN Journal. " RN Journal. Available from <http://www.rnjournal.com/html>.> Internet; accessed 8 December 2002.
- ¹⁶ "Britain 'Still Poaching' Nurses from Third World Belfast Telegraph. RN Journal. " RN Journal. Available from <http://www.rnjournal.com/html>.> Internet; accessed 8 December 2002.
- ¹⁷ Bobbie Kimball and Edward O'Neil. "Health Care's Human Crisis: The American Nursing Shortage." Health Workforce Solutions for The Johnson and Johnson Foundation, (April 2002): 17.
- ¹⁸ "The Nursing Shortage." Office of the Professions, New York State Education Department. (April 2001). Available from <http://www.op.nysed.gov/nurseshortage.html>. Internet; accessed 4 September 2002.
- ¹⁹ "A Call to Action: VA's Response to the National Nursing Shortage." Department of Veterans' Affairs, Veterans Health Administration. (November 2001)
- ²⁰ Deborah Gustke, Assistant Chief of the Army Nurse Corps, telephone interview by author, 7 March 2003.
- ²¹ Elaine L. Chao. "Nursing Shortage Legislation." U.S. Department of Labor. 24 July 2002. Available from <http://www.dol.gov/sec/media/speeches/sec2577242002.html>.> Internet; accessed 4 September 2002.
- ²² Brian Hansen. "Nurse Shortage." The CQ Researcher 12, no 32 (20 September 2002). Available from <http://library.cqpress.com/cqresearcher/document.php.cqresrre2002092002>.> Internet, accessed (8 November 2002.)
- ²³ Robert Rosseter. "Nursing Shortage Fact Sheet." American Association of Colleges of Nursing (March 2002). Available from <http://www.aacn.nche.edu/Media/Backgrounders/shortagefacts.html>.> Internet; accessed (6 October 2002.)
- ²⁴ Bobbie Kimball and Edward O'Neil. "Health Care's Human Crisis: The American Nursing Shortage." Health Workforce Solutions for The Johnson and Johnson Foundation, (April 2002): 17.

- ²⁵ Brenda Nevidjon and Jeanette I. Erickson. "The Nursing Shortage: Solutions for Short and Long Term." Nurse World Online Journal of Issues in Nursing Article 6, no 1 (31 January 2001). Available from <<http://www.nursingworld.org/ojin/topic14/tpc144html>> Internet; accessed (4 September 2002.)
- ²⁶ Cindy Becker and Jeff Tierman. "Call to Arms; Johnson & Johnson Launches New Initiative in Fight to Ease Nursing Shortage." Modern Healthcare 32 (11 February 2002). Available from <<http://www.galenet.com/servlet/.HWRC.html>> Internet, accessed (4 September 2002.
- ²⁷ "Teleconference Transcript A Call for Action to Solve America's Nurse Shortage." Joint Commission on Accreditation of Healthcare Organizations (7 August 2002). Available from <<http://www.jcaho.org/News+Room/Press+Kit/nursing+transcript.htm>>. Internet; accessed 4 December 2002.
- ²⁸ Steven E. Kading. The National Nursing Shortage: Recruitment and Retention Challenges for the Army. An Individual Study Project. (Carlisle Barracks: U.S. Army War College, 5 March 1991) 5.
- ²⁹ "Analysis of American Nurses Association Staffing Survey." The American Nurses Association (6 February 2001): 9.
- ³⁰ Brian Hansen. "Nurse Shortage." The CQ Researcher 12, no 32 (20 September 2002). Available from <<http://library.cqpress.com/cqresearcher/document.php.cqresre2002092001>>. Internet, accessed (8 November 2002.)
- ³¹ Jack. Needleman et al., "Nurse-Staffing Levels and the Quality of Care in Hospitals." New England Journal of Medicine 346, no. 22 (May 2002): 1715-22. Available from <needlema@hsph.harvard.edu.html> Internet; accessed 4 December 2002.
- ³² Milan Korcok. "Perfect Storm Brewing in US because of Nursing Shortage." Canadian Medical Association 167, no. 10 (November 2002). Available from <<http://www.cmaj.ca/cgi/content/full/167/10/1159-a.html>> Internet; accessed 4 December 2002.
- ³³ Linda Ciampa. "Some Worry Nursing Shortage Could Put Patients at Risk." CNN Medical Correspondent Report. 12 January 2002. Available from <<http://www.cnn.com/2001/HEALTH/01/12/nursing.shortage/html>> Internet; accessed 11 December 2002.
- ³⁴ Steven E. Kading. The National Nursing Shortage: Recruitment and Retention Challenges for the Army. An Individual Study Project. (Carlisle Barracks: U.S. Army War College, 5 March 1991), 22.
- ³⁵ Steven E. Kading. The National Nursing Shortage: Recruitment and Retention Challenges for the Army. An Individual Study Project. (Carlisle Barracks: U.S. Army War College, 5 March 1991), 3-6 & 18.
- ³⁶ William T Bester. "Message from the Chief." Army Nurse Corps Newsletter 03, no 01 (October 2002). Available from <<http://www.armymedicinearmy.mil/ostg/nurse/index.html>> Internet; accessed 28 October 2002.

³⁷ "Health Care at the Crossroads: Strategies for Addressing the Evolving Nursing Crisis Executive Summary." Joint Commission on Accreditation of Healthcare Organizations (7 August 2002). Available from <<http://www.jcaho.org/News+Room/Press+Kits/executive+summary.html>> internet; accessed 4 December 2002.

³⁸ A Call to Action VA's Response to the National Nursing Shortage." Nursing Workforce Planning Group. Department of Veterans' Affairs, Veterans' Health Administration. (Nov 01):5-8.

³⁹ Matt Mientka. "U.S. Faces Nursing Shortage." U.S. Medicine. June 2001. Available from <<http://www.usmedicine.com/article.cfm.html>. Internet; accessed 2 December 2002.

⁴⁰ William Hartman. <Hartmanw@monroe.army.mil>, "ROTC Nurse Program Analysis." electronic mail message to Leana Fox-Johnson <leana.foxjohnson@carlisle.army.mil>, 16 October 2002 and 8 February 2003.

⁴¹ Ann Richardson, <Ann.Richardson@usarec.amry.mil>, "USAREC and non USAREC Nurse Accession Numbers," electronic mail message to Leana Fox-Johnson <leana.foxjohnson@aol.com>, 10 February 2003.

⁴² Ann Richardson, <Ann.Richardson@usarec.amry.mil>, "USAREC and non USAREC Nurse Accession Numbers," electronic mail message to Leana Fox-Johnson <leana.foxjohnson@aol.com>, 27 February 2003.

⁴³ Ann Richardson <Ann.Richardson@usarec.army.mil>, "Strategic Issues Conference Army Nurse Shortage," electronic mail message to Leana Fox-Johnson <leanafoxjohnson@aol.com>, 25 October 2002.

⁴⁴ Bester, William T. "Message from the Chief." Army Nurse Corps Newsletter 03, no 01 (October 2002). Available from <<http://www.armymedicinearmy.mil/ostg/nurse/index.html>> Internet; accessed 28 October 2002.

⁴⁵ Jennifer Larson. "Chief Military Nurses Could Get Another Star." Nurse Zone. (2002) Available from <<http://www.nursezone.com.html>> Internet; accessed 16 December 2002.

⁴⁶ Sharon Feeney-Jones. "Army Nurse Corps Brief". September 2002. Available from <Colonel William Martinez, "Educational Delays for Nurse Cadets," memorandum for cadre of First Region ROTC United States Army Cadet Command, Fort Bragg NC., 15 May 2001. <http://www.perscom.army.mil/ophsdan/default.html>> Internet; accessed 1 November 2002.

⁴⁷ Colonel William J. Martinez, "Educational Delays for Nurse Cadets," memorandum for cadre of First Region ROTC United States Army Cadet Command, Fort Bragg NC., 15 May 2001.

⁴⁸ William Hartman. <Hartmanw@monroe.army.mil>, "ROTC Nurse Program Analysis." electronic mail message to Leana Fox-Johnson <leana.foxjohnson@carlisle.army.mil>, 8 February 2003.

⁴⁹ Deborah Gustke, Assistant Chief of the Army Nurse Corps, telephone interview by author, 7 March 2003.

⁵⁰ Deborah Gustke, Assistant Chief of the Army Nurse Corps, telephone interview by author, 7 March 2003.

⁵¹ William T. Bester. "Message from the Chief." Army Nurse Corps Newsletter 03, no 01 (October 2002). Available from <<http://www.armymedicinearmy.mil/ostg/nurse/index.html>> Internet; accessed 28 October 2002.

⁵² William T. Bester. On the Army Nurse Corps, Fiscal Year 2001. Posture Statement presented to the 107th Cong., 1st sess. Subcommittee on Defense Washington, D.C.: United States Senate. 21 February 2001. Available from <<http://www.senate.gov/appropriations/defense/testimony/bester.html>> Internet. Accessed November 1, 2002.

⁵³ Linda H. Lamb. "Study Recommends Ways to Ease Nursing Shortage." The State. 5 March 2002. Available from <http://www.thestate.com/mld/thestate/2002/03/03/news/2794664.html>. Internet; accessed 11 December 2002.

⁵⁴ Hillary Rodham-Clinton & Gordon Smith. "Senate Passes Clinton-Smith Proposal to Address Nursing Shortage." U.S. Senate. 21 December 2001. Available from <http://www.clinton.senate.gov/news/2001/12/2001C21955.html>. Internet; accessed 15 December 2002.

⁵⁵ "Cures for Chronic Nursing Shortage." The Indianapolis Star. Sec 8A. 15 October 2002. Available from <<http://www.nexis.com/research.html>> Internet; accessed 3 December 2002.

⁵⁶ "Nursing Shortage Public Policy Update." American Association of Critical Care Nurses. (14 March 2002). Available from <http://www.aacn.org/aacn/pubpolicy.nsf.html>> Internet; Accessed 21 December 2002.

⁵⁷ Steve O'Connor. "Sign-On Bonus: A Tool for Landing Top Talent." Recruiting Trends. 35, no 9. (September 1998). Available from <<http://www.soconnor@lans.mha.org.html>> Internet; accessed 6 October 2002.

⁵⁸ Mary Foley, Foley Featured in New York Times, CNN Moneyline Interviews, quoted in Cindy Price. "Shortage, Other Nursing Issues Receive Major Media Focus during National Nurses Week." Nursing World. (July/August 2002.) Available from <<http://www.nursingworld.org/tan/julaug02/media.html>> Internet; accessed 8 December 2002.

⁵⁹ Linda H. Lamb. "Study Recommends Ways to Ease Nursing Shortage." The State. 5 March 2002. Available from <http://www.thestate.com/mld/thestate/2002/03/03/news/2794664.html>. Internet; accessed 11 December 2002.

⁶⁰ Steve O'Connor. "Sign-On Bonus: A Tool for Landing Top Talent." Recruiting Trends. 35, no 9. (September 1998). Available from <<http://www.soconnor@lans.mha.org.html>> Internet; accessed 6 October 2002.

⁶¹ Brenda Nevidjon and Jeanette I. Erickson. "The Nursing Shortage: Solutions for the Short and Long Term." Nurse World Online Journal of Issues in Nursing Article 6, no1 (31 January 2001). Available from <<http://www.nursingworld.org/ojin/topic14/tpc144html>> Internet; accessed 4 September 2002.

⁶² Brian Hansen. "Nurse Shortage." The CQ Researcher 12, no 32 (20 September 2002). Available from <<http://library.cqpress.com/cqresearcher/document.php.cqresre2002092001>>. Internet; accessed 8 November 2002

⁶³ Brenda Nevidjon and Jeanette I. Erickson. "The Nursing Shortage: Solutions for the Short and Long Term." Nurse World Online Journal of Issues in Nursing Article 6, no1 (31 January 2001). Available from <<http://www.nursingworld.org/ojin/topic14/tpc144html>> Internet; accessed 4 September 2002.

⁶⁴ "Nursing Shortage: Johnson & Johnson Campaign Aims to Increase Awareness: Generate Interest. (Special Report)." Dermatology Nursing Journal 14, no 12 (April 2002). Available from <<http://www.galenet.com/serlet/HWRC/hits:sesionid CYTH531IAAALEZJ OBNJAAA.html>>. Internet; accessed 4 September 2002.

⁶⁵ Cindy Becker and Jeff Tierman. "Call to Arms; Johnson & Johnson Launches New Initiative in Fight to Ease Nursing Shortage." Modern Healthcare 32 (11 February 2002). Available from <<http://www.galenet.com/servlet/.HWRC.html>> Internet; accessed 4 September 2002.

⁶⁶ Elaine L. Chao. "Nursing Shortage Legislation." U.S. Department of Labor, 24 July 2002. Available from <http://www.dol.gov/_sec/media/speeches/sec257_7242002.html> Internet; accessed 4 September 2002.

⁶⁷ Cindy Price. "Shortage, Other Nursing Issues Receive Major Media Focus during National Nurses Week." Nursing World, July/August 2002. Available from <<http://www.nursingworld.org/tan/julaug02/media.html>> Internet; accessed 8 December 2002.

⁶⁸ Laura Landro. "Staffing Problems Plague The Health Care Industry." The Wall Street Journal, 30 July 2002. Available from <<http://www.careerjournal.com/salaries/industries/health/20020730-landro.html>> Internet; accessed 8 December 2002.

⁶⁹ Eileen Malone <Eileen.Malone@otsg.amedd.army.mil>, "Army and Civilian Nurse Shortage", electronic mail message to Leana Fox-Johnson leana.foxjohnson@carlisle.army.mil, 15 January 2003.

⁷⁰ "Health Care at the Crossroads: Strategies for Addressing the Evolving Nursing Crisis Executive Summary." Joint Commission on Accreditation of Healthcare Organizations (7 August 2002). Available from <<http://www.jcaho.org/News+Room/Press+Kits/executive+summary.html>> Internet; accessed 4 December 2002.

⁷¹ Ann Richardson <Ann.Richardson@usarec.army.mil>, "Strategic Issues Conference Army Nurse Shortage," electronic mail message to Leana Fox-Johnson <leanafoxjohnson@aol.com>, 7 February 2003.

⁷² Ann Richardson <Ann.Richardson@usarec.army.mil>, "Strategic Issues Conference Army Nurse Shortage," electronic mail message to Leana Fox-Johnson <leanafoxjohnson@aol.com>, 25 October 2002.

⁷³ Barbara Mikulski. "The Nursing Shortage and its Impact on America's Health Care Delivery System." U.S. Senate. (2001). Available from <<http://www.massnurses.org/News/safestaff/senatorspk.html>> Internet; accessed 21 December 2002.

⁷⁴ "Military Basic Pay and Compensation." Office of the Secretary of Defense, 2002. Available from <http://military_pay.dtic.mil/militarypay/cgi-bin/rmc.pl.html> Internet; accessed 14 December 2002.

⁷⁵ Occupational Outlook Handbook." U.S. Department of Labor Bureau of Labor Statistics, 2002-2003 ed. Available from <<http://www.file:///C:/DOCUME-1/Owner/LOCALS-1/Temp/triHGBLM.html>> Internet; accessed 12 November 2002.

⁷⁶ "Hospital Executives Annual Base Salary and Total Compensation." Career Journal from the Wall Street Journal. Available from <http://www.careerjournal.com/salaries/industries/health/20020503-hospexecs-tab.html>. Internet; accessed 8 December 2002.

⁷⁷ Brenda Nevidjon and Jeanette I. Erickson. "The Nursing Shortage: Solutions for Short and Long Term." Nurse World Online Journal of Issues in Nursing Article 6, no 1 (31 January 2001). Available from <<http://www.nursingworld.org/ojin/topic14/tpc144.html>> Internet; accessed 4 September 2002.

⁷⁸ Barbara Mikulski. "The Nursing Shortage and its Impact on America's Health Care Delivery System." U.S. Senate. (2001). Available from <<http://www.massnurses.org/News/safestaff/senatorspk.html>> Internet; accessed 21 December 2002.

⁷⁹ Bobbie Kimball and Edward O'Neil. "Health Care's Human Crisis: The American Nursing Shortage." Health Workforce Solutions for The Johnson and Johnson Foundation, April 2002.

⁸⁰ Janet Bolvin. "Military Attracts and Keeps Men as RNs." Nursing Spectrum Magazine-Career Fitness Online. Available from <<http://community.nursingspectrum.com/MagazineArticles/.cfm?AID=7899.html>>. Internet; accessed 20 October 2002.

⁸¹ Barbara Bruno <Barbara.Bruno@cen.amedd.army.mil> "Males in the Army Nurse Corps with Prior Service," electronic mail message to Leana Fox-Johnson <leanafoxjohnson@aol.com> 6 February 2003.

⁸² Margaret Hawke. "Nursing Workforce 1999: A Year of Challenges and Opportunities." Nursing Spectrum Magazine Career Fitness Online. Available from <<http://www.community.nursingspectrum.com/MagazieArticles.html>> Internet; accessed 6 October 2002.

⁸³ Lorraine Steefel. "Who's Got Staying Power." Nursing Spectrum Magazine Career Fitness Online. Available from <<http://www.community.nursingspectrum.com/MagazieArticles.html>> Internet; accessed 2 February 2003.

⁸⁴ Brian Hansen. "Nurse Shortage." The CQ Researcher 12, no 32 (20 September 2002). Available from <<http://library.cqpress.com/cqresearcher/document.php.cqresre2002092001>>. Internet; accessed 8 November 2002.

⁸⁵ Janet Bolvin. "Military Attracts and Keeps Men as RNs." Nursing Spectrum Magazine-Career Fitness Online. Available from <<http://community.nursingspectrum.com/MagazineArticles/.cfm?AID=7899.html>>. Internet; accessed 20 October 2002.

⁸⁶ Sarah S. Taylor. "Women's Numbers in Professional Schools Still Low." Women's Village. Available from <<http://www.imdiveristy.com/villages/women/Article.html>>. Internet; accessed 9 December 2002.

⁸⁷ "The Nursing Shortage." Office of the Professions, New York State Education Department. (April 2001). Available from <<http://www.op.nysed.gov/nurseshortage.html>>. Internet; accessed 4 September 2002.

⁸⁸ Steven E. Kading. The National Nursing Shortage: Recruitment and Retention Challenges for the Army. An Individual Study Project. (Carlisle Barracks: U.S. Army War College, 5 March 1991), 8.

⁸⁹ Ernell Sprateley, et al., "Finding from the National Sample Survey of Registered Nurses." U.S. Department of Health and Human Services, Health Resources and Service Administration, Bureau of Health Professions, Division of Nursing, March 2000., 15.

⁹⁰ "Minority Physicians Statistics." American Medical Association 8 May 2002. Available from <http://www.ama-assn.org/ama/pub/print/article/168-187.html>.> Internet, accessed 9 December 2002.

⁹¹ Donna Watson. "The Perfect Storm." AORN Journal 75 (June 2002). Available from <http://www.galenet.com/servlet/HWRC/html>. Internet; accessed 4 September 2002.

⁹² "The Nursing Shortage." Office of the Professions, New York State Education Department. (April 2001). Available from <http://www.op.nysed.gov/nurseshortage.html>. Internet; accessed 4 September 2002.

⁹³ "Occupational Outlook Handbook." U.S. Department of Labor Bureau of Labor Statistics, 2002-2003 ed. Available from <file:///C:/DOCUME-1/Owner/LOCALS-1/Temp/triHGBLM.html>.> Internet; accessed 12 November 2002.

⁹⁴ "Your Nursing Career: A Look at the Facts." American Association of Colleges of Nursing. (2002). Available from <http://www.aacn.nche.edu/education/Career.html>. Internet; accessed 18 December 2002.

⁹⁵ "Occupational Outlook Handbook." U.S. Department of Labor Bureau of Labor Statistics, 2002-2003 ed. Available from <file:///C:/DOCUME-1/Owner/LOCALS-1/Temp/triHGBLM.html>.> Internet; accessed 12 November 2002.

⁹⁶ Ann Richardson <Ann.Richardson@usarec.army.mil>, "Strategic Issues Conference Army Nurse Shortage," electronic mail message to Leana Fox-Johnson <leanafoxjohnson@aol.com>, 2 February 2003.

⁹⁷ William T. Bester. On the Army Nurse Corps, Fiscal Year 2001. Posture Statement presented to the 107th Cong., 1st sess. Subcommittee on Defense Washington, D.C.: United States Senate. 21 February 2001. Available from <<http://www.senate.gov/appropriations/defense/testimony/bester.html>> Internet; accessed November 1, 2002.

⁹⁸ Sharon Feeney-Jones. "Army Nurse Corps Brief". September 2002. Available from <<http://www.perscom.army.mil/ophsdan/default.html>> Internet. Accessed 1 November 2002.

⁹⁹ William T. Bester. "Message from the Chief." Army Nurse Corps Newsletter 03, no 03 (December 2002). Available from <<http://www.armymedicinearmy.mil/ostg/nurse/index.html>> Internet; accessed 12 December 2002.

¹⁰⁰ William Hartman. <Hartmanw@monroe.army.mil>, "ROTC Nurse Program Analysis." electronic mail message to Leana Fox-Johnson <leana.foxjohnson@carlisle.army.mil>, 8 February 2003.

¹⁰¹ "Cures for Chronic Nursing Shortage." The Indianapolis Star. Sec 8A. 15 October 2002. Available from <http://www.nexis.com/research/search.html>.> Internet; accessed 3 December 2002.

¹⁰² Brian Hansen. "Nurse Shortage." The CQ Researcher 12, no 32 (20 September 2002). Available from <<http://www.library.cqpress.com/cqsearcher/document.php.cqresrre2002092001.html>> Internet, accessed 8 November 2002.

¹⁰³ G.W. Pomeroy. "Air Force Combats Nursing Shortage." Air Force Link. (Feb 2002). Available from <<http://www.af.mil/news/Feb2002/n20020212-0234.html>> Internet; accessed 4 September 2002.

¹⁰⁴ Susan Taft. "The Nursing Shortage: Is this Cycle Different?" Nursing World (31 January 2001). Available from <<http://www.nursingworld.org/ojin/topic14/tpc14ntr.html>> Internet; accessed 9 December 2002.

¹⁰⁵ "Nursing Faculty Shortage Fact Sheet." American Association of Colleges of Nursing. (2002). Available from <<http://www.aacn.nche.edu.html>> Internet; accessed 9 December 2002.

¹⁰⁶ Theresa M. Valiga. "The Nursing Faculty Shortage: National League for Nursing Perspective." The National League for Nursing Journal. April 2002. Available from <http://www.nln.org/slides/speech.html>.> Internet; accessed 9 December 2002.

¹⁰⁷ Susan Taft. "The Nursing Shortage: Is this Cycle Different?" Nursing World (31 January 2001). Available from <<http://www.nursingworld.org/ojin/topic14/tpc14ntr.html>> Internet; accessed 9 December 2002.

¹⁰⁸ Susan Taft. "The Nursing Shortage: Is this Cycle Different?" Nursing World (31 January 2001). Available from < <http://www.nursingworld.org/ojin/topic14/tpc14ntr.html>.> Internet; accessed 9 December 2002.

¹⁰⁹ Paul Blaum. "Worldwide Nursing Shortage has Reached Crisis Proportions." Eurek Alert! 28 June 2002. Available from <http://www.eurekalert.org/pub/releases/200206/ps-wns062802.php.html>. Internet; accessed 4 September 2002.

¹¹⁰ "Health Care at the Crossroads: Strategies for Addressing the Evolving Nursing Crisis Executive Summary." Joint Commission on Accreditation of Healthcare Organizations (7 August 2002). Available from <<http://www.jcaho.org/News+Room/Press+Kits/executive+summary.html>.> internet; accessed 4 December 2002.

¹¹¹ Deborah Gustke, Assistant Chief of the Army Nurse Corps, telephone interview by author, 7 March 2003.

BIBLIOGRAPHY

- "A Call to the Nation." Nursing World. (April 2002). Available from <<http://www.nursingworld.org/naf/nafa.pdf.html>> Internet. Accessed 4 September 2002.
- "A Call to Action VA's Response to the National Nursing Shortage." Nursing Workforce Planning Group. Department of Veterans' Affairs, Veterans' Health Administration. (Nov 2001).
- Abelson, Reed. "With Nurses in Short Supply, Patient Load Becomes a Big Issue." The New York Times, 6 May 2002.
- Aiken, L.H., Clarke, SP., Sloane, DM., Sochalski, J., & Silber, JH. "Hospital Nurse Staffing and Patient Mortality, Nurse Burnout, and Job Dissatisfaction." Journal of American Medical Association 288, no (16 Oct 2002). Available from <<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi.html>> Internet. Accessed 3 December 2002.
- "AMEDD Supports Army Transformation." Army Medicine. (2001). Available from <http://www.armymedicine.army.mil/armymed/about/transform/supprtransformation.html>> Internet. Accessed 10 December 2002.
- "Analysis of American Nurses Association Staffing Survey." The American Nurses Association (6 February 2001): 9.
- Barnard, Anne. "Casualties Tied to Gaps in Nursing." Boston Globe A1 (7 August 2002). Available from <<http://www.natcol.org/news-legislative25.html>> Internet Accessed 4 December 2002.
- Becker, Cinda & Tierman, Jeff. "Call to Arms; Johnson & Johnson Launches New Initiative in Fight to Ease Nursing Shortage." Modern Healthcare 32 (11 February 2002). Available from <<http://www.galenet.com/servlet/.HWRC.html>> Internet. Accessed 4 September 2002.
- Bellandi, Deanna. "Study Shows Consequences of Few Nurses: A Heavier Workload Means More Patient Deaths, Researcher Find." Contra Costa Times. 23 October 2002. Available from <<http://www.bayarea.com/mld/cctimes/news/nation/4349134.html>> Internet. Accessed 11 December 2002.
- Bester, William T. On the Army Nurse Corps, Fiscal Year 2001. Posture Statement presented to the 107th Cong., 1st sess. Subcommittee on Defense Washington, D.C.: United States Senate. 21 February 2001. Available from <<http://www.senate.gov/appropriations/defense/testimony/bester.html>> Internet. Accessed November 1, 2002.
- Bester, William T. "Message from the Chief." Army Nurse Corps Newsletter 03, no 01 (October 2002). Available from <<http://www.armymedicinearmy.mil/ostg/nurse/index.html>> Internet. Accessed 28 October 2002.
- Bester, William T. "Message from the Chief." Army Nurse Corps Newsletter 03, no 03 (December 2002). Available from <<http://www.armymedicinearmy.mil/ostg/nurse/index.html>> Internet. Accessed 12 Decemberr 2002.

- Blaum, Paul. "Worldwide Nursing Shortage has Reached Crisis Proportions." Eurek Alert! 28 June 2002. Available from <http://www.eurekalert.org./pub releases /200206/ps-wns062802.php.html>. Internet. Accessed 4 September 2002.
- Branigan, William. "Healthcare Jobs" Washington Post, 17 April 2002, sec L3.
- Barbara Bruno <Barbara.Bruno@cen.amedd.army.mil> "Males in the Army Nurse Corps with Prior Service," electronic mail message to Leana Fox-Johnson <leana.foxjohnson@aol.com> 6 February 2003.
- Bolvin, Janet. "Military Attracts and Keeps Men as RNs." Nursing Spectrum Magazine-Career Fitness Online. Available from <<http://community.nursingspectrum.com/MagazineArticles/.cfm?AID=7899.html>>. Internet. Accessed 20 October 2002.
- Bureau of Health Professions. "The Registered Nurse Population: Findings from the National Sample Survey of Registered Nurses." Washington D.C.: US Department of Health and Human Services. 22 February 2002. Available from <<http://www/bhpr.hrsa.gov/healthworkforce/rnsurvey.html>>. Internet. Accessed November 22, 2002.
- Capps, Lois. "Capps Appeals for Substantial Funding for Nurse Reinvestment Act." Congress of the United States House of Representative. 13 and 16 Sept 2002. Available from <<http://www.house.gov/capps/press219.html>> Internet. Accessed 1 November 2002.
- Chao, Elaine L. "Nursing Shortage Legislation." U.S. Department of Labor. 24 July 2002. Available from <http://www.dol.gov/_sec/media/speeches/sec257_7242002.html> Internet. Accessed 4 September 2002.
- Chas, Henry. "Nursing shortage and Homeland Security." National Security Report. Available from <<http://www.federalnewsradio.com/index.php.html>> Internet; accessed 15 December 2002.
- Ciampa, Linda. "Some Worry Nursing Shortage Could Put Patients at Risk." CNN Medical Correspondent Report. 12 January 2002. Available from <<http://www.cnn.com/2001/HEALTH/01/12/nursing.shortage/html>> Internet. Accessed 11 December 2002.
- Coates, Karen J. "Trickle-Down Effect: Global Nursing Shortage Provokes Competition and Cooperation Between Countries Desperate for RNs." Nurse Week. 11 June 2001. Available from <<http://www.nurseweek.com/news/features/01-06/global.html>> Internet Accessed 8 December 2002.
- Combs, Abner <abner.coombs@na.amedd.army.mil>. "AN Exit Survey Narrative." Electronic mail message to Leana Fox-Johnson <leana.foxjohnson@carlisle.army.mil>. 17 November 2002.
- Curtin, Leah. "Nursing's Top 10 Issues for 2002." Clinical Systems Management. Available from <<http://www.CurtinCalls.com.html>> Internet. Accessed 12 December 2002.
- Fackelmann, Kathleen. "Study: Too Few Nurses Cost Lives." USA Today. 22 October 2002. Available from <http://www.usatoday.com/news/nation/2002-10-22-nurses-usat_x.html> Internet. Accessed 11 December 2002.

- Feeney-Jones, Sharon. "Army Nurse Corps Brief". September 2002. Available from <http://www.perscom.army.mil/ophsdan/default.html>.> Internet. Accessed 1 November 2002.
- Frist, Bill. "Frist Applauds Actions to Ease Nursing Shortage." U.S. Senate. 1 August 2002. Available from <http://www.frist.senate.gov/print-item.cfm.html>.> Internet. Accessed 21 December 2002.
- Foley, Mary. Foley Featured in New York Times and CNN Moneyline Interviews. Quoted in Price, Cindy. "Shortage, Other Nursing Issues Receive Major Media Focus During National Nurses Week." Media Briefs. (August 2002).02/media. Available from <http://www.nursingworld.org/tan/julaug.html>.> Internet. Accessed 8 December 2002.
- Fuller-Thomas Esme & Minkler Meriedith. "Larger Number of Grandparents Taking Care of Their Grandchildren." Senior Journal. March 2001. Available from <http://www.seniorjournal.com/NEWS/Grandparents/03-22-01GrndPrntCare.html>.> Internet; Accessed 14 December 2002.
- Gustke, Deborah, Assistant Chief of the Army Nurse Corps, telephone interview by author, 7 March 2003.
- Hansen, Brian. "Nurse Shortage." The CQ Researcher 12, no 32 (20 September 2002). Available from <http://library.cqpress.com/cqresearcher/document.php.cqresrre2002092001>.> Internet. Accessed 8 November 2002.
- Hartman, William . Hartmanw@monroe.army.mil, "ROTC Nurse Program Analysis." Electronic mail message to Leana Fox-Johnson leana.foxjohnson@carlisle.army.mil. 16 October 2002 and 8 February 2003.
- Hawke, Margaret. "Nursing Workforce 1999: A Year of Challenges and Opportunities." Nursing Spectrum Magazine-Career Fitness Online. Available from <http://community.nursingspectrum.com/MagazineArticles.cfm.html>.> Internet. Accessed 6 October 2002.
- "Health Care at the Crossroads: Strategies for Addressing the Evolving Nursing Crisis Executive Summary." Joint Commission on Accreditation of Healthcare Organizations (7 August 2002). Available from <http://www.jcaho.org/News+Room/Press+Kits/executive+summary.html>.> Accessed 4 December 2002.
- "Hospital Executives Annual Base Salary and Total Compensation." Career Journal from the Wall Street Journal. Available from <http://www.careerjournal.com/salaries/industries/health/20020503-hospexecs-tab.html>. Internet. Accessed 8 December 2002.
- Hughes, Donna. "In Our Hands: How Hospital Leaders Can Build A Thriving Workforce." American Hospital Association Commission on Workforce for Hospital and Health Systems (April 2002): 2-95.
- Jones, Carol carol.jones2@amedd.army.mil. "Number of PROFIS Army Nurses." Electronic mail message to Leana Fox-Johnson leana.foxjohnson@carlisle.army.mil.> 6 January 2003.

- Kading, Steven E. The National Nursing Shortage: Recruitment and Retention Challenges for the Army. An Individual Study Project. Carlisle Barracks: U.S.Army War College, 5 March 1991.
- Kimball, Bobbie and O'Neil, Edward. "Health Care's Human Crisis: The American Nursing Shortage." Health Workforce Solutions for The Johnson and Johnson Foundation, April 2002.
- Korcok, Milan. "Perfect Storm Brewing in US because of Nursing Shortage." Canadian Medical Association 167, no. 10 (November 2002). Available from <http://www.cmaj.ca/cgi/content/full/167/10/1159-a.html>.> Internet. Accessed 4 December 2002
- Lamb, Linda H. "Study Recommends Ways to Ease Nursing Shortage." The State. Available from <http://www.thestate.com/mld/thestate/2002/03/05/news/2794664.html>.> Internet. Accessed 11 December 2002.
- Larson, Jennifer. "Chief Military Nurses Could Get Another Star." Nurse Zone. (2002) Available from <http://www.nursezone.com.html>.> Internet. Accessed 16 December 2002.
- Little, Bernard S., "Army Health System Faces Challenges." Stripe. 4 May 2001. Available from http://www.dcmilitary.com/army/stripe/6_18/local_news/7077-1.html.> Internet. Accessed 10 December 2002.
- Martinez, William J. "Educational Delays for Nurse Cadets," Memorandum for Cadre of First Region ROTC United States Army Cadet Command, Fort Bragg NC., 15 May 2001.
- McVicar, Nancy. "Nursing Shortage Endangers Patients; Study: Adequate Care Saves Lives." Sun Sentinel Company, sec. National; 3A. 23 October 2002. Available from nmcvicar@sun-sentinel.com.html. Internet. Accessed 3 December 2002.
- Meyer, Dorene M. "Nursing Shortage Acute in Northern Communities." Indian Life, 22 (May-June 2002). Available from <http://www.galenet.com/servlet/HWRC/html>.> Internet. Accessed 4 September 2002.
- Mientka, Matt. "U.S. Faces Nursing Shortage." U.S. Medicine. June 2001. Available from <http://www.usmedicine.com/article.cfm.html>. Internet.> Accessed 2 December 2002.
- Mikulski, Barbara. "The Nursing Shortage and its Impact on America's Health Care Delivery System." U.S. Senate. (2001). Available from <http://www.massnurses.org/News/safestaff/senatorspk.html>.> Internet. Accessed 21 December 2002.
- "Military Basic Pay and Compensation." Office of the Secretary of Defense, 2002. Available from <http://military.pay.dtic.mil/militarypay/cgi-bin/rmc.pl.html>. Internet. Accessed 14 December 2002.
- Malone, Eileen. <Eileen.Malone@otsg.army.mil>. "Army and Civilian Nurse Shortage." Electronic mail message to Leana Fox-Johnson <leana.foxjohnson@carlisle.army.mil>. 15 January 2003.

- Morrison, Patrick. "Treating the Nursing Shortage." Focus: Health Care Quarterly 23, no 30. (7 October 2002). Available from <<http://www.pmorrisson@ibj.com.html>.Internet.> Accessed 3 December 2002.
- Needleman, J., Buerhaus, P., Mattke, S., Stewart, M., and Zelevinsky, K. "Nurse-Staffing Levels and the Quality of Care in Hospitals." New England Journal of Medicine 346, no. 22 (May 2002): 1715-22. Available from <<http://www.needleman@hsph.harvard.edu.html>.> Internet. Accessed 4 December 2002.
- Nevidjon, Brenda & Erickson, Jeanette I. "The Nursing Shortage: Solutions for the Shortand Long Term." Nurse World Online Journal of Issues in Nursing Article 6, no1(31 January 2001). Available from <<http://www.nursingworld.org/ojin/topic14/tpc144html>.> Internet. Accessed 4 September 2002.
- Nurse Reinvestment Act 2002. Labor HHS Appropriations Subcommittee. September 2002. Washington, D.C.: Congress of the United States House of Representatives.
- "Nurse Shortage Tied to Patient Deaths." NCPA Daily Policy Digest Health Issues/Quality of Care and Patient Protection. (30 May 2002). Available from <<http://www.ncpa.org/iss/hea/2002/pd053002c.html>.> Internet. Accessed 8 December 2002.
- "Nurse Salaries – Salary Surveys." Allied Physicians. Available from <<http://www.allied-physicians.com/salarysurveys/nurse-salaries.html>.> Internet. Accessed 8 December 2002.
- "Nurses from India Help Relieve Shortage." RN Journal. Available from <<http://www.rnjournal.com/page2/html>.> Internet. Accessed 8 December 2002.
- "Nursing's Agenda for the Future: A Call to the Nation Registered Nurses." Occupational Outlook Handbook. (2002-3). Available from <<http://file://C:\DOCUME-1\Owner\LOCALS-1\Temp\triHGBLM.html>>. Internet. Accessed 12 November 2002.
- "Nursing Facts: Today's Registered Nurse Numbers and Demographics." Available from <<http://www.file://C:\DOCUME-1\Owner\LOCALS-1\Temp\triDCOKP.html>.> Internet. Accessed 12 November 2002.
- "Nursing Profession Unveils Strategic Plan to Ensure Safe, Quality Patient Care and Address Root Causes of Growing Shortage." American Nurses Association, 2002. Available from <<http://www.nursingworld.org/pressrel/2002/pr0404.html>.> Internet. Accessed 24 April 2002.
- "Nursing Shortage: Johnson & Johnson Campaign Aims to Increase Awareness, Generate Interest. (Special Report)." Dermatology Nursing Journal 14, no 12 (April 2002). Available from <http://www.galenet.com/serlet/HWRC/hits:sesionid_CYTH531IAAALEZJOBNJAAA.html.>. Internet. Accessed 4 September 2002.
- "Nursing Shortage Poses Serious Health Care Risk Commission Expert Panel Offers Solutions to Nation's Health Care Crisis." Joint Commission on Accreditation of Healthcare Organizations (August 2002). Available from <<http://www.jcaho.org/News+Room/news+release+archives/nursing+shortage.html>.> Internet. Accessed 4 December 2002.

- Nursing Shortage Public Policy Update." American Association of Critical Care Nurses. (14 March 2002). Available from <<http://www.aacn.org.aacn/pubpolicy.nsf.html>> Internet. Accessed 21 December 2002.
- "Occupational Outlook Handbook." U.S. Department of Labor Bureau of Labor Statistics, 2002-2003 ed. Available from <<http://www.file:///C:/DOCUME-1/Owner/LOCALS-1/Temp/triHGBLM.html>> Internet. Accessed 12 November 2002.
- "Occupational Outlook: Salary Guide." The Student Nurse Forum. 15 June 2002. Available from <<http://kcsun3.tripod.com/id116m.html>> Internet. Accessed 8 December 2002.
- O'Brien, D.J. President Signs Bill to Address Nursing Shortage: Measures Contain Hutchinson Proposals to Boost Retention and Recruitment. Tim Hutchinson, United State Senator, released August 1, 2002. Available from <<http://hutchinson.senate.gov/pressapp/record.cfm/html>> Internet. Accessed 1 November 2002.
- O'Connor, Steve. "Sign-On Bonus: A Tool for Landing Top Talent." Recruiting Trends. 35, no 9. (September 1998). Available from <<http://www.soconnor@lans.mha.org.html>> Internet. Accessed 6 October 2002.
- Oliva, Mark. "Nursing Shortage Forecast for U.S. May Affect Military Medicine." Stars and Stripes. May 20, 2001. Available from <<http://www2.pstripses.osd.mil/01may01/ed052001a.html>>. Internet. Accessed 1 November 2002.
- Patrician, Patricia. "Army Hospitals: Work Environment, Quality Care and Intent to Leave." TriService Nursing Research Program Newsletter. 26 July 2002. Available from <<http://www.usuhs.mil/tsnrf/funded/fy2001/patrician2.html>>. Internet. Accessed 1 November 2002.
- Paxson, R., & Mathewson-Chapman, M. "Recruitment and Retention of ARNG Nurses: A Qualitative Study." Army Medical Department Journal. (Jan/Feb/Mar 2002): 36-39.
- Peake, James. B. "Delivering Quality Health Care to Soldiers and Their Families." Army Magazine. (October 2002): 175-180.
- Peake, James B., On Healthcare in the United States Army Year 2001. Statement presented to the 107th Cong., sess. Subcommittee on Personnel Washington, D.C.: United States Senate. 10 April 2001. Available from <<http://www.house.gov.hasc/openingstatementsandpressreleases/107thcongress/02-04-10p.html>> Internet. Accessed 10 December 2001.
- "Physician Characteristics and Distribution in the US, 2002/2003 Edition. Minority Physicians Statistics: Total Physicians by Race/Ethnicity, 2002." American Medical Association, 2002/2003 edition. (8 May 2002). Available from <<http://www.ama.assn.org/ama/pub/print/article/168-187.html>> Internet. Accessed 9 December 2002.
- "Projected Supply, Demand and Shortage of Registered Nurses: 2000-2020." U.S. Department of Health and Human Services, Health Resources and Service Administration, Bureau of Health Professions, Division of Nursing. (22 Feb 2002).

Pomeroy, G.W. "Air Force Combats Nursing Shortage." Air Force Link. (Feb 02) Available from <http://www.af.mil/news/Feb2002/n20020212-0234.html>.>Internet. Accessed 4 September 2002.

Richardson, Ann <Ann.Richardson@usarec.army.mil>, "Strategic Issues Conference Army Nurse Shortage." Electronic mail message to Leana Fox-Johnson <leanafoxjohnson@aol.com>. 25 October 2002, 14 and 27 February 2003.

Rodham-Clinton, Hillary & Smith, Gordon. "Senate Passes Clinton-Smith Proposal to Address Nursing Shortage." U.S. Senate. 21 December 2001. Available from <http://www.clinton.senate.gov/news/2001/12/2001C21955.html>.> Internet. Accessed 15 December 2002.

Rosenstein AH. "Original Research: Nurse-Physician Relationships: Impact on Nurse Satisfaction and Retention." American Journal of Nursing 102, no. 6 (Jun 2002). Available from <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi.html>.> Internet. Accessed 3 December 2002

Rosseter, Robert. "Nursing Shortage Fact Sheet." American Association of Colleges of Nursing (March 2002). Available from <http://www.aacn.nche.edu/Media/Backgrounders/shortagefacts.html>.> Internet. Accessed 6 October 2002.

Rothert, Marilyn. "MSU Report Calls Nursing Shortage A "National Security Concern"; Calls for Partnerships to Remedy." Michigan State University Press Release. 3 September 2002. Available from <http://www.newsroom.msu.edu/news/220/09/nursing.html>.> Internet. Accessed 15 December 2002.

"Salary and Employment Outlook." Registered Nurse Career Information. Available from <http://www.jackson.cc.mi.us/Career/Careers/RN.html>.>Internet. Accessed

Scally, Robert. "Career Series: Men in Nursing Gain Respect as Attitudes Change." Nursing Zone. Available from <http://www.nursezone.com/stories/SpotlightOnNurses.asp?articleID=9377.html>.> Internet. Accessed 12 November 2002.

Schiff, Lisa. "Report: Today's Nursing Shortage is Unlike Any Other. (Professional Update)." Health Wellness Resource Center 65, no 17 (July 2002). Available from <http://www.galenet.com/servlet/HWR/hit;sessionid=YX1G5QAAALZZJOB NJRAAA.html>. Internet. Accessed 4 September 2002.

Sprateley, Ernell, et al., "Finding from the National Sample Survey of Registered Nurses." U.S. Department of Health and Human Services, Health Resources and Service Administration, Bureau of Health Professions, Division of Nursing March 2000.

Stabenow, Debbie. In Focus: America's Nursing Shortage Washington, D.C.: The U.S. Senate. Available from <http://www.stabenow.senate.gov/infocus/nursing.html>.> Internet. Accessed 4 September 2002

Stanely, Sharon. "Establishing an Undergraduate School of Nursing within the Uniformed Services University of Health Sciences." Position Paper. Carlisle Barracks: U.S. Army War College, Nov 2002.

- Steefel, Lorraine. "Who's Got Staying Power." Nursing Spectrum Magazine Career Fitness Online. Available from <<http://www.community.nursingspectrum.com/MagazieArticles.html>> Internet. Accessed 2 February 2003.
- Taylor, Sarah S. "Women's Numbers in Professional Schools Still Low." Women's Village. (2002). Available from <<http://www.imdiversity.com/villages/women/Article.html>> Internet. Accessed 9 December 2002.
- "Teleconference Transcript Call for Action to Solve America's Nursing Shortage." Joint Commission on Accreditation of Healthcare Organizations (August 2002). Available from <<http://www.jcaho.org/News+Room/Press+Kit/nursing+transcript.html>> Internet. Accessed 4 December 2002. Women Work and Health
- Trafford, Abigail. "Less Care for Patients." The Washington Post, p F-1. (20 August 2002).
- "The Nursing Shortage." Office of the Professions, New York State Education Department. (April 2001). Available from <<http://www.op.nysed.gov/nurseshortage.html>> Internet. Accessed 4 September 2002.
- Toyry, S., Aarimaa, M, and Rasanen, K. "Work, family and Stress—Differences Between Female and Male Physicians." Women Work and Health. (2002). Available from <http://www.2.niwl.se/wwh/wwh_search/detail.html> Internet. Accessed 9 December 2002.
- Valiga, M. Theresa. "The Nursing Faculty Shortage: National League for Nursing Perspective." The National League for Nursing Journal. April 2002. Available from <http://www.nln.org/slide/speech.html>. Internet. Accessed 9 December 2002.
- Wahlberg, David. "Healthy Living: Short of Hands; A Scarcity of Nurses is Lowering the Quality of Hospital Care---but there are Things you can do to Minimize Mishaps." The Atlanta Journal-Constitution 1E (29 October 2002). Available from <<http://www.nexis.http://www.nln.org/slides/speech.html>> Internet. Accessed 9 December 2002. <<http://www.nln.org/slides/speech.html>> Internet. Accessed 4 December 2002.
- Watson, Donna S. "The Perfect Storm." AORN Journal 75 (June 2002): 1068-70. Available from <<http://www.galenet.com/servlet/HWRC/html>> Internet. Accessed 4 September 2002.
- "Your Nursing Career: A Look at the Facts." American Association of Colleges of Nursing. (2002). Available from <http://www.aacn.nche.edu/education/Career.html>. Internet. Accessed 18 December 2002.