

(2)

STUDY
PROJECT

The views expressed in this paper are those of the author and do not necessarily reflect the views of the Department of Defense or any of its agencies. This document may not be released for open publication until it has been cleared by the appropriate military service or government agency.

THE NATIONAL NURSING SHORTAGE: RECRUITMENT AND
RETENTION CHALLENGES FOR THE ARMY

BY

LIEUTENANT COLONEL STEVEN E. KADING
United States Army

DISTRIBUTION STATEMENT A: Approved for public release.
Distribution is unlimited.

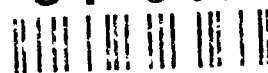
USAWC CLASS OF 1991

DTIC
ELECTE
JUN 11 1991
S B D



U.S. ARMY WAR COLLEGE, CARLISLE BARRACKS, PA 17013-5050

91-01641



REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION Unclassified			1b. RESTRICTIVE MARKINGS		
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution is unlimited.		
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE					
4. PERFORMING ORGANIZATION REPORT NUMBER(S)			5. MONITORING ORGANIZATION REPORT NUMBER(S)		
6a. NAME OF PERFORMING ORGANIZATION U.S. Army War College		6b. OFFICE SYMBOL (if applicable)	7a. NAME OF MONITORING ORGANIZATION		
6c. ADDRESS (City, State, and ZIP Code) Carlisle Barracks, PA 17013-5050			7b. ADDRESS (City, State, and ZIP Code)		
8a. NAME OF FUNDING/SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (if applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER		
8c. ADDRESS (City, State, and ZIP Code)			10. SOURCE OF FUNDING NUMBERS		
PROGRAM ELEMENT NO.		PROJECT NO.	TASK NO.	WORK UNIT ACCESSION NO.	
11. TITLE (Include Security Classification) The National Nursing Shortage: Recruitment and Retention Challenges for the Army.					
12. PERSONAL AUTHOR(S) LTC Steven E. Kading					
13a. TYPE OF REPORT Study Project		13b. TIME COVERED FROM _____ TO _____		14. DATE OF REPORT (Year, Month, Day) 91-03-05	
15. PAGE COUNT 54					
16. SUPPLEMENTARY NOTATION					
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)		
FIELD	GROUP	SUB-GROUP			
19. ABSTRACT (Continue on reverse if necessary and identify by block number) Like the country at large, the Army has been challenged by a national imbalance between the supply of professional nurses and the demand for their services. This shortage, known as the nursing shortage, poses special problems for the Army Medical Department as it strives to maintain wartime readiness and provide comprehensive peacetime care to Department of Defense beneficiaries. History demonstrates that the present nursing shortage is different from past ones in that it has been caused by a host of emerging trends in health care and society at large. Unlike past shortages, experts believe there are no "quick fixes" to the present, persistent shortages of nurses. Instead, it will require reforms that address a whole series of basic underlying problems. Still, classic studies have demonstrated attributes of magnet hospitals and characteristics of the nursing profession that provide clues to resolving, or at least ameliorating, the nursing shortage for the Army. This paper reviews the national nursing shortage and the history of shortages of nurses to meet Army needs. It examines strategies the Army Nurse Corps has used to correct imbalances in nurse compensation and improve (continued on back)					
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT. ☐ DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION Unclassified		
22a. NAME OF RESPONSIBLE INDIVIDUAL COL Danny L. Crawford, Project Adviser			22b. TELEPHONE (Include Area Code) (717) 245-3016		22c. OFFICE SYMBOL AWCAA

19. Abstract (continued)

its ability to successfully compete with the civilian labor market for nurses. It draws upon the classic studies and critiques the Army for failing to incorporate lessons learned in devising successful strategies for recruiting and retaining nurses. Finally, it introduces early findings of the Army Nurse Corps Proud to Care Survey and uses them to formulate the author's view of elements that should form the basis for a strategic restructuring of the role, function and organization of Army nursing.

USAWC MILITARY STUDIES PROGRAM PAPER

The views expressed in this paper are those of the author and do not necessarily reflect the views of the Department of Defense or any of its agencies. This document may not be released for open publication until it has been cleared by the appropriate military service or government agency.

THE NATIONAL NURSING SHORTAGE: RECRUITMENT AND RETENTION CHALLENGES FOR THE ARMY

AN INDIVIDUAL STUDY PROJECT

by

Lieutenant Colonel Steven E. Kading, AN

**Colonel Danny L. Crawford, FA
Project Advisor**

**DISTRIBUTION STATEMENT A: Approved for public
release; distribution is unlimited.**

**U.S. Army War College
Carlisle Barracks, Pennsylvania 17013**

ABSTRACT

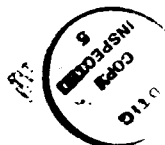
AUTHOR: Steven E. Kading, LTC, AN

TITLE: The National Nursing Shortage: Recruitment and Retention Challenges for the Army

FORMAT: Individual Study Project

DATE: 5 March 1991 **Pages:** 54 **CLASSIFICATION:** Unclassified

Like the country at large, the Army has been challenged by a national imbalance between the supply of professional nurses and the demand for their services. This shortage, known as the nursing shortage, poses special problems for the Army Medical Department as it strives to maintain wartime readiness and provide comprehensive peacetime care to Department of Defense beneficiaries. History demonstrates that the present nursing shortage is different from past ones in that it has been caused by a host of emerging trends in health care and society at large. Unlike past shortages, experts believe there are no "quick fixes" to the present, persistent shortages of nurses. Instead, it will require reforms that address a whole series of basic underlying problems. Still, classic studies have demonstrated attributes of magnet hospitals and characteristics of the nursing profession that provide clues to resolving, or at least ameliorating, the nursing shortage for the Army. This paper reviews the national nursing shortage and the history of shortages of nurses to meet Army needs. It examines strategies the Army Nurse Corps has used to correct imbalances in nurse compensation and improve its ability to successfully compete with the civilian labor market for nurses. It draws upon the classic studies and critiques the Army for failing to incorporate lessons learned in devising successful strategies for recruiting and retaining nurses. Finally, it introduces early findings of the Army Nurse Corps Proud to Care Survey and uses them to formulate the author's view of elements that should form the basis for a strategic restructuring of the role, function and organization of Army nursing.



Accession For	
NTIS GRA&I	☒
DTIC TAB	☐
Unannounced	☐
Justification	
By _____	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

TABLE OF CONTENTS

Abstract	ii
Table of Contents	iii
List of Figures	v
Introduction	1
Assumptions and Limitations	2
The National Nursing Shortage: Framing the Problem	3
Implications	4
Nursing Shortages Past and Present	7
The Nursing Shortage and the Army	9
Readiness	9
Peacetime Health Care	9
Active Duty vs. Civilian Nurses	10
Historical Overview of Military Nursing Shortages	12
Revolutionary War	12
Spanish American War	12
World War I	12
World War II	13
Korean War	13
Vietnam	14
Post Vietnam Era	15
Desert Shield/Desert Storm	15

The Current Crisis	17
Compensation	18
What Else Can Be Done?	21
Proud To Care Survey	21
Utilization of Professional Personnel	22
Insufficient Time For Direct Patient Care	24
Poor Staffing Patterns and Duty Schedules	24
Authority, Autonomy, and Organizational Value	26
Recommendations	27
Pay	29
Civilian Nurses	30
Educational Linkage	30
Organizational Structure	31
Force Multiplication	31
Career Progression	32
Leader Development and Selection	32
Managerial Flexibility	33
Organizational Value	33
Lessons Learned	34
Conclusion	34
Appendix	36
Endnotes	49
Bibliography	52

LIST OF FIGURES

<u>Figure 1.</u> Army Nurse Corps Officer Distribution by Major Command/Location	38
<u>Figure 2.</u> Army Nurse Corps Strength by Area of Concentration (COMPO 1)	39
<u>Figure 3.</u> Salary Progression in Various Occupations	40
<u>Figure 4.</u> Top Ten Reasons For Leaving the Army Nurse Corps Nurse Administrators	41
<u>Figure 5.</u> Top Ten Reasons For Leaving the Army Nurse Corps Community Health Nurses	42
<u>Figure 6.</u> Top Ten Reasons For Leaving the Army Nurse Corps Psychiatric Nurses	43
<u>Figure 7.</u> Top Ten Reasons For Leaving the Army Nurse Corps Operating Room Nurses	44
<u>Figure 8.</u> Top Ten Reasons For Leaving the Army Nurse Corps Nurse Anesthetists	45
<u>Figure 9.</u> Top Ten Reasons For Leaving the Army Nurse Corps Obstetrics and Gynecology Nurses	46
<u>Figure 10.</u> Top Ten Reasons For Leaving the Army Nurse Corps Medical-Surgical Nurses	47
<u>Figure 11.</u> Top Ten Reasons For Leaving the Army Nurse Corps Clinical Nurses	48

Our ultimate challenge is to maintain our historically high standards despite continuing changing requirements, organizational and mission changes, technological advances, and service in whatever environment we are thrust.

Brigadier General Connie L. Slewitzke, AN (Ret)

INTRODUCTION

Army Nurses Are Proud To Care! This is the motto of the Army Nurse Corps and reflects a 200 year old heritage of successful service. Today a national nursing shortage threatens the ability of the corps to attract and retain sufficient numbers of nurses. More importantly, it threatens the very fabric of military medicine and the imperatives that will shape the Army into the next century.

Over the past four years, the Army Nurse Corps has achieved unprecedented reforms needed to improve recruitment and retention of professional nurses. Yet much remains to be done. The future will bring with it declining defense dollars, force reductions and significant changes in the way the Army is organized and fielded to support United States strategic policy. These changes will significantly affect initiatives designed to attract and retain nurses. At the same time, they will place additional demands on available resources as adjustments are made to new roles and missions in support of a different Army. How well the Army Nurse Corps adjusts to these changes while maintaining a forward momentum will be its measure of success.

The irony of a study dealing with recruiting and retaining more officers and civilian personnel at the same time that the rest of the Army struggles to find a way to reduce officer and civilian spaces without degrading its capabilities is apparent. Yet that is the task at hand

and will be the challenge for the Army Nurse Corps leadership in the years to come.

The purpose of this paper is to provide an overview of the problems associated with establishing and retaining sufficient numbers of qualified nurses to meet the needs of the Army. It will examine the history of nursing shortages and their relevance to the Army and review some of the existing strategies the Army is using to improve recruitment and retention of nurses. Finally, it will suggest additional strategies to bring into balance the supply and demand for professional nursing services in the Army.

ASSUMPTIONS AND LIMITATIONS

This study is focused within the framework of professional nursing practice in the United States and a national shortage of nurses and will examine the principle or fundamental issues relevant to the nursing shortage. In this context it includes issues related to both uniformed and Department of Defense Civilian nurses. Excepting specific situations that are differentiated in the text, practice factors relating to recruitment and retention of nurses in Army Medical Treatment Facilities are essentially the same for both groups.

Clarity and simplicity require qualification of the noun "nurse". There are a variety of kinds of nurses, distinguishable by their educational preparation, type of licensure, and utilization within the health care system. This paper deals with the shortages of registered nurses only. Unless otherwise indicated, the term nurse refers collectively to Army Nurse Corps Officers and their Department of Defense Civilian counterparts.

THE NATIONAL NURSING SHORTAGE: FRAMING THE PROBLEM

In order to appreciate the problem of recruiting and retaining nurses in the Army Medical Department, it is important to briefly examine the supply and demand problem within the nation's civilian health care system. This is true for a variety of reasons, two of which are sufficient to establish relevance for the Army.

First, with few notable exceptions, there is essentially no difference in the peacetime practice of nursing in the Army than in civilian practice. Army hospitals are presented with the same challenges and limitations as are civilian institutions. They are subject to many of the same regulatory requirements and strive to provide health care that equals or exceeds that of its civilian counterparts. Nurses practicing in both environments are affected by the same internal and external influences.

Second, the U.S. Army Recruiting Command and the U.S. Army Cadet Command recruit from the same pool of nurses and nursing students as do civilian hospitals and other health care organizations. Similarly, installation Chief Nurses compete with local markets for civilian nurses. In each case, issues affecting the profession of nursing and nursing practice nationally have a profound influence on the Army's ability to attract and retain nurses.

The Problem

Nurses represent the largest group of professional health care providers in the United States. There are over 2.1 million registered nurses licensed to practice in this country.¹ Still, the demand for their services significantly exceeds their supply. This disparity between supply and demand is commonly referred to as the nursing shortage. It affects our nation's overburdened health care system in many ways, and it exacerbates nearly all of the fundamental problems for which the national health care system is known.

Vacancies of nurse positions are prevalent in virtually every setting where nurses

practice. They are most severe in acute care hospital settings. Large urban hospitals and public health care facilities are the most affected. In 1983, the American Hospital Association reported a vacancy rate of approximately 5%. By 1987, it had reached 11.3%. Hospitals reported vacancy rates ranging from 26% to 40% and Congress estimated that 95% of urban and 74% of rural hospitals were affected by the shortage.² A recent Department of Health and Human Services Commission concluded that 165,000 nurses would be needed to fill existing vacancies in hospitals and nursing homes alone. These numbers do not reflect the needs of home health agencies, government facilities, private practice, research facilities or any of a myriad of other employers of nurses. Similarly, they reflect current needs without regard for the future needs of a burgeoning health care industry. When projected needs are inserted into the equation, the demand for nurses is expected to increase by at least 43% by the year 2000!³

The Implications

No matter how compelling the statistics, one need only watch television or read the newspaper to appreciate the existing and potential implications of an unresolved shortage of nurses. It is among the most pervasive and persistent issues for the nursing profession and the health care industry today. But the real significance of the nursing shortage is not its impact on the profession of nursing or the health care system as a whole. It is the consumers of health care for whom the real problems will exist.

The hospital remains the principle focus of health care delivery in our society. Patients in hospitals are the recipients of nursing services twenty-four hours a day while other health care professionals interact with them on an episodic basis. Even though some 67% of nurses work in hospitals, the number is increasingly insufficient to staff available beds. In 1969, approximately 58 nurses were needed to manage the care of 100 patients. Today, that number is in excess of 91 nurses.⁴ Unstaffed beds have forced hospitals to close beds, reduce services, and, in some cases, close all together. The end result has been to further

reduce accessibility to health care, particularly in already underserved areas of the country.

If inaccessibility of care is not bad enough, consider the implications of health care provided in an environment that is inadequately staffed. Under those conditions, there can be no assurances of safety, quality, or even adequacy of care. Patient classifications systems that objectively measure patient care needs and balance them against numbers and mix of providers are required by the Joint Commission on Accreditation of Health Care Organizations (JCAHO).⁵ Staffing below the levels required by these systems represents acknowledgement of an acceptable level of risk for patients. Ironically, this risk is seldom communicated to patients who are generally unable to assess the adequacy of the care they are provided. Furthermore, the risk of legal liability assumed by nurses accepting responsibility for understaffed units compounds the problems. They are torn between their commitment to patient care and the ethical dilemma created by the knowledge that they cannot possibly meet the needs of the patients in their charge.

Issues of quality are even more acute in critical care units. The constant increase in the number of critical care beds has increased the demand for nurses significantly. These beds require four to six times as many nurses to staff them as do regular care beds. They also require nurses with special skills and knowledge who function with a much higher degree of autonomy. Changing trends in health care, coupled with demographic changes in our society, advancing technology, and medical capabilities have increased the numbers of patients admitted for intensive nursing care. For these patients, there can be no acceptable level of risk.⁶

Regardless of the level of care, fewer patients are being admitted under elective conditions. Changes in the manner in which hospitals are reimbursed by third party payers have made such admissions economically difficult and redirected less sick patients to out of hospital care. As a result, all patients entering hospitals are sicker than before. Those same reimbursement practices shorten hospital stays for even the sickest patients. Nurses, already

hard pressed to provide quality care, must now accomplish patient care objectives in much less time. For many patients, this means there is a continuing requirement for nursing care even after discharge from the hospital. The result has been a greatly expanded need for nurses practicing outside the hospital in home health care and skilled care facilities. When coupled with an overall short supply, this has further fragmented the pool of nurses and worsened the outlook in both inpatient and outpatient care.

Thus far only the traditional hospital role of nurses has been discussed. Yet, perhaps the greatest shortage is in nursing homes and assisted care facilities. Medical science has significantly increased the life expectancy of Americans. In 1990, one in nine citizens was over 60 years old. By 2030, that will increase to one in four Americans.⁷ At the same time, the abilities and desires of extended families to provide for the needs of these aged citizens has decreased. Ultimately they need professional care. But nursing homes are only one aspect of non-hospital health care. As hospitals shift their focus away from episodic and chronic care, the emergence of outpatient care facilities, same day surgery centers, health maintenance organizations, and ambulatory care clinics has grown proportionately. Once again, these new facilities have placed new demands on a diminishing supply of nurses.

There are other factors that will dramatically increase the need for nurses out of proportion to mere population growth in the United States. We have already observed the demand caused by the emergence of new diseases, such as Acquired Immune Deficiency Syndrome (AIDS). Drug and alcohol abuse is a growing health problem for which the health care system has yet to devise a successful strategy and which consumes huge numbers of nursing hours.

Bio-technology, genetic engineering, robotics and artificial intelligence will vastly increase health care possibilities. With the advent of every new procedure more nurses, possessing greater specialized skill and knowledge will be needed to meet new demands.

Finally, it takes little vision to deduce that a national health care policy, probably

coupled with catastrophic health insurance, is inevitable to ensure the availability of health care to every citizen. One can only imagine the profound demand for nurses that such a system will create. Not only will more nurses be needed to perform in traditional roles, but they will assume an ever greater role as primary providers of care.

NURSING SHORTAGES PAST AND PRESENT

Clearly the nursing shortage is acute and has serious implications for the health care system in the United States. Is it a new problem? What can be learned from the past? In answering these questions, a brief review of the history leading up to the current shortage is helpful.

Among the earliest references to a shortage of nurses was made by General George Washington. Addressing the Continental Congress in 1775, he said,

"... the pay of nurses for their attendance on the sick is by no means adequate to their service . . . they are extremely difficult to procure; indeed they are not to be got."⁸

It is difficult to liken the very early shortages of nurses to the present one. Nurses have not always been highly educated and skilled practitioners. Like barbers who also practiced surgery, forbearers of modern nursing practice were commonly uneducated persons charged with the care of the sick. It was not until the 1900's that nursing began to define itself as a profession through the establishment of professional organizations and the passage of state nurse practice acts.

From 1900-1930, it was fairly easy for the supply of nurses to be matched to the demand. Nursing was one of the few professions open to women and there was little

competition by other professions for women seeking a career. Hospitals operated their own schools of nursing and staffed patient care units with students who received little or no compensation. Graduates sought positions in private practice or with visiting nurse associations. The economic crisis following the stock market crash in 1929 made even these low paying and low prestige positions attractive.⁹

World War II brought with it the earliest severe shortage of nurses. By June, 1945, 65,377 nurses, or 29% of the total U.S. supply of nurses were on duty with one of the armed services. This was a transient shortage brought about by the unprecedented demand for nurses resulting from the war. The popularity of that war and the patriotism of American nurses contributed to successful efforts to ameliorate the shortage by increasing the supply. For example, The Bolton Bill of 1943 authorized the Cadet Nurse Corps which increased student enrollment in nursing programs by 44,000 between 1943 and 1946.¹⁰

The decade of the 1950's represented a relatively healthy period with a steady balance between supply and demand. The expanded supply remaining from the war build-up actually exceeded the need for nurses for a short period. But, by the 1960's nurse vacancy rates peaked. Hospitals reported an average of 23 vacancies for every 100 positions. Clearly a function of wage disparity, this shortage was met with salary increases nearly twice as large as those for other predominantly female professions. Cyclical shortages continued into the 1970's and, as salaries fell behind other professions, vacancy rates of about 13% were again reported by the end of the decade.¹¹

Unlike the transient shortages of the past, the current one has been persistent throughout the 1980's and into the 1990's. A great deal of research has been done and provided us with a sound assessment of the causes of the shortage. Experts generally agree this is a different kind of shortage that will not be resolved by merely increasing the supply of nurses. It will require reforms that will address a whole range of basic, underlying issues.

THE NURSING SHORTAGE AND THE ARMY

Why does the Army need nurses? If this question reflects a misunderstanding or lack of knowledge about the Army health care system, then based on the number of times I have heard it at the Army War College, it is a widely misunderstood issue. Therefore, it is important to establish the impact of a nursing shortage on the Army as a whole.

Readiness

The Army Medical Department has multiple missions. Paramount among them is to maintain medical readiness for wartime contingencies. In Forces Command alone, there are 16 Combat Support (CSH) and Mobile Army Surgical Hospitals (MASH), each with a requirement for nurses to staff it. Clearly, an active force of highly trained, mobilization ready nurses is needed to deploy immediately with the Army's deployable medical facilities. Even in the absence of a full-scale mobilization like Desert Shield/Desert Storm, Army nurses are involved on a regular basis in support of Low Intensity Conflict operations and nation building activities. The continuous assignment of Army Nurse Corps officers to Joint Task Force Bravo in Honduras is just one contemporary example. Finally, Army nurses are employed to support Special Operations missions. Nurses prepared for these roles must not only be clinical experts prepared for very independent practice; they must also be Air Assault or Airborne qualified and possess a full range of specialized military skills and abilities.

Peacetime Health Care

A second principle mission is to provide comprehensive health care to soldiers, their family members, retirees and survivors. When all eligible beneficiaries are totaled, it supports some 10 million people in one of the most complex health care systems in the world.

The peacetime mission includes direct health care responsibilities in more than 42 Army hospitals and countless clinics located throughout the United States and Europe, and scattered elsewhere throughout the world. It also includes the Civilian Health and Medical

Program of the Uniformed Services (CHAMPUS), which is a cost sharing program for health care actually rendered by civilian providers and facilities. CHAMPUS makes the Department of Defense one of the largest consumers of civilian health care in the United States.

Even as the Army Medical Department struggles to provide high quality health care in support of quality of life, sustainment and readiness imperatives, the real costs of providing that care increase between 10% and 15% every year. Yet the Department of Defense budget, and by extension, the Army Medical Department share, is declining. Every effort must be made to maintain quality while containing costs.¹²

CHAMPUS costs are approximately 65% greater than direct care costs. This difference is increasing. Personnel shortages have driven a progressively greater proportion of direct health care into the CHAMPUS sector, driving up costs and clearly threatening one of the most cherished and basic of military benefits.

While the extent to which the nursing shortage has driven care into the CHAMPUS sector is difficult to quantify, I have personally been forced to close whole hospital units and reduce or eliminate services because there were simply not enough nurses to safely maintain them. My peers have reported the same experiences. The nursing shortage has also affected shortages of other health care providers, further reducing accessibility to health care within Army Medical Treatment Facilities. In testimony before the House Armed Services Committee in 1989, the Government Accounting Office reported on its study of military physicians and factors related to their intention to leave military service. The report concluded there was a 70% chance that 4000 physicians would leave military service when their service obligations expired. Inadequate numbers of nurses to provide care to their patients was cited by 74% of these physicians as one of the three most important factors related to their decision to leave the service.¹³

Active Duty vs Civilian Nurses

Brigadier General Clara L. Adams-Ender, Chief, Army Nurse Corps, refers to

Department of Defense civilian nurses as "Army Nurse Corps officers in disguise". This reference is not whimsical. It reflects a very accurate portrayal of their function and value to the Army Medical Department (AMEDD). In peacetime, the civilian nurses perform essentially the same function as do their uniformed counterparts. They provide continuity, continued capability in the event of mobilization of active duty nurses, and round-out requirements that far exceed any conceivable authorized end strength for Army Nurse Corps officers. In order to meet the patient care needs of the Army, 3,454 civilian nurses are required to augment active duty officers.¹⁴

On the other hand, active duty nurses are needed as well. Army Nurse Corps officers meet mobilization and contingency requirements of the Army Medical Department. They provide a training base for officers and AMEDD enlisted personnel, develop future leaders, perform research and development functions, and participate at every level of the Army structure to ensure that the nursing needs of the Army are met. At the same time, they provide a full range of general and specialized patient care services. There are 4,659 Army Nurse Corps spaces authorized.¹⁵ Their distribution, less Transient, Holding and Student spaces, is shown at Figure 1.

The collective force structure of nurses in the Army is truly a symbiotic one, neither of which could individually meet the Army's needs. In the context of the nursing shortage, two points in particular are worthy of emphasis. First, without civilian nurses, the strength of the Army Nurse Corps would have to almost double just to meet patient care needs in Army Medical Treatment Facilities. Second, the impact of the nursing shortage on Department of Defense civilian nurse recruitment and retention is far worse than it is for active duty nurses. Only 79% of civilian nurse authorizations are filled.¹⁶ Were the Army solely dependent upon civilian nurses, even assuming away mobilization and other role differences, the impact of the shortage would be vastly intensified. Both are needed, and any discussion of the shortage and necessary reforms must include both components.

HISTORICAL OVERVIEW

Before turning to the central issues related to the shortage, it is important to look at the effect it has had on the Army. Perhaps there is no better place to start than to look at the history of Army nursing in terms of supply and demand.

Revolutionary War

The history of Army nursing goes back to 1775 when the Continental Congress authorized medical care for the Continental Army and provided for one nurse for every ten patients.¹⁷ But nurses were not the sole providers of "nursing care" during the Colonial period. In fact, the vast majority of care was provided by relatively untrained and unskilled volunteers, family members, religious orders and fellow soldiers. In an era when the practice of medicine was relatively unsophisticated, there was no shortage of nurses.

Civil War

By 1861, the American Civil War once again demonstrated a special need for nurses. Great numbers of paid and volunteer nurses and unskilled persons came forth to care for casualties in both the North and the South. The historical record shows that despite the rigorous conditions and low pay of the period, there was no shortage of persons to care for Civil War Soldiers.¹⁸

Spanish American War

Like the wars that preceded it, the Spanish-American War enjoyed the luxury of more than sufficient numbers of volunteer nurses. Sarnecky reports that during this brief conflict, over 1,568 trained nurses served in the United States, Puerto Rico, Cuba, Hawaii and the Philippines. They were assisted by over 1000 untrained volunteers selected because they were immune to Yellow Fever.¹⁹

World War I

The first official recognition of the need for nurses as a permanent part of military

service occurred in 1901 when Congress first authorized the Army Nurse Corps with a strength of 403 nurses. In addition to this active cadre of nurses, a list of nurses willing to serve in the event of war had been prepared and created a sort of reserve corps of nurses for the first time. Therefore, when the United States entered World War I, it did so for the first time with an organized active and reserve strength of nurses and an organization to manage it. Once again, there was an unprecedented number of volunteers who responded to war-time needs to build up the Army Nurse Corps in preparation for war.²⁰

World War II

As already mentioned, World War II created the largest demand for nurses ever seen. On 7 December 1941, there were less than seven thousand nurses on active duty despite activation of the reserves in May. Despite vigorous efforts by organized nursing and a tremendous number of volunteers, the available supply of nurses could not meet the demands of either the civilian or military needs. By 1944, although there were 42,000 Army and 11,000 Navy nurses on active duty, there was a shortage of 10,000 military nurses.²¹ The shortage was exacerbated by policies that precluded black and male nurses from serving in the Army Nurse Corps. In fact, male nurses were drafted and served as combatants. Even as Army nurses waded ashore at Anzio and attended casualties in Normandy, public concerns about inadequate care for soldiers prompted President Roosevelt to propose a bill to draft civilian nurses for wartime service. The end of the war made this eventuality unnecessary.

The shortage during World War II had far reaching consequences for the future of the Army Nurse Corps. In 1947, the Army-Navy Nurses Act was passed which established the Nurse Corps as a permanent corps. It also established the first formal recruitment measures to ensure sufficient quantities of qualified nurses to support military requirements.²²

Korean War

Only three years later, the Korean War again called Army nurses to duty in a combat zone. Within the first four days of the war, Army nurses established a hospital in Pusan. On

8 July 1950, they moved forward with a Mobile Army Surgical Hospital (MASH) to the Taejon perimeter and were present during the amphibious landings at Inchon and the eastern coast. In all, Army nurses served in over 25 different MASH, Evacuation, Field and Station hospitals and hospital trains. The limited duration and geographical isolation of that war did not generate a need for large numbers of nurses. Still, by July, 1951, there were 5,397 Army nurses in Korea. Over 2000 nurses had volunteered or were recalled to active duty.²³

Vietnam

The first Army Nurse Corps participation in the Republic of Vietnam occurred in April, 1956 when three officers were assigned to the United States Military Assistance Advisory Group (Vietnam) in Saigon. Additional nurses were assigned to the 8th Field Hospital in Nha Trang in March, 1962 to support the buildup of American Forces in South Vietnam. By April, 1965, the flow of nurses to support combat forces in Vietnam began in earnest. Throughout this period, recruitment of nurses for the Army was particularly difficult. The continuing need for health care in U.S. facilities and the expanding treatment needs of returning casualties amplified requirements at the same time that nurses were needed in Vietnam. In addition, four Army hospitals were operated in Japan to provide care for casualties from Vietnam, each requiring Army nurses to staff them.²⁴ There was a constant shortage in both U.S. and overseas facilities. In 1966, in response to the shortage and the expanding need, the Selective Service System implemented the first ever draft for nurses. Although a female draft was considered, it was not implemented and the draft was limited to male nurses. On 29 March, 1973, Lieutenant Colonel Marion Minter of Carlisle, Pennsylvania was the last Army Nurse Corps Officer to leave the Republic of Vietnam. Between 1956 and 1973, over 5000 others had preceded her.²⁵

The Vietnam era is an important chapter in the history of the Army Nurse Corps, especially in the context of this article, because it demonstrated the resolve, innovation, public and legislative support that was needed to maintain a sufficient strength of nurses for

a contemporary Army. From 1956 to 1970, difficulties in procuring and maintaining sufficient numbers of nurses required significant changes in procurement methods, compensation and incentives. Some of the more significant reforms occurring during this period are summarized in Appendix A. While these milestones may not seem especially significant today, many were extremely controversial and hard won at the time. In retrospect it can be seen that their real utility was in overcoming institutional obstacles that made the Army a less attractive career option for nurses.

Post Vietnam Era

In the years following withdrawal of U.S. forces from Vietnam, Army nursing was primarily focused on providing peacetime care to soldiers, their families, and some 10 million Department of Defense beneficiaries. Army nurses were employed in Army Medical Centers and Community Hospitals throughout the United States, Europe and Korea. Although nursing in these facilities closely paralleled that provided in civilian hospitals, Army nurses could not be merely nurses in uniform.

Combat medical readiness remained the highest priority for the military health care system and Army nurses had to be prepared for both roles. This demanded nurses who were trained and capable of practicing across an entire spectrum of environments ranging from a modern medical center to the most austere of combat casualty care environments. Furthermore, it required nurses who understood the roles and missions of the Army and who were prepared to deploy on short notice anywhere in the world. The specialized nature of Army nursing made the task of recruiting and retaining sufficient numbers of nurses who possessed required skills increasingly critical. The evolving nursing shortage made it progressively more difficult.

Desert Shield/Desert Storm

When Iraq invaded Kuwait in August 1990, Army nurses deployed almost immediately to Saudi Arabia. Because nurses assigned to deployable hospitals normally fill vacancies in

co-located Army hospitals, their deployment had an almost immediate impact on health care in Army hospitals all over the United States. This impact was exacerbated almost at once when officers assigned to TDA organizations were mobilized under the Professional Officer Filler System to round out deploying hospitals. In some cases, entire capabilities were temporarily eliminated when fixed facilities lost all officers in specialties such as operating room nurses and nurse anesthetists. Augmentation by Individual Mobilization Augmentees was needed almost immediately. Even when the reserves were called to active duty, the situation in some facilities was initially worsened when civilian nurses, also reservists, were mobilized for units that were either deploying or being called to back-fill CONUS hospitals.²⁶

This phenomenon is not cited to demonstrate insufficiency of the existing system. In fact, based on available information, it appears that after the situation became balanced by the reserve call-up, the recall of volunteer retirees, volunteer accessions, and other planned initiatives, it is working quite well. Rather it represents one of the significant differences between nurse officers and combat arms officers. When combat arms officers are deployed, they leave behind a preparatory and training mission for a real one. When nurse officers are deployed, they leave behind a real and continuing mission for yet another. Furthermore, in a situation like Desert Storm, the potential exists for the requirements of both the theater and CONUS based missions to increase dramatically.

Like every previous conflict in the history of the United States, Desert Shield and Desert Storm struck a patriotic nerve in American nurses. According to Colonel John Hudock, Assistant Chief, Army Nurse Corps, there were more volunteers than the Army could use to support Desert Shield. Approximately 494 volunteer nurses were brought onto active duty for definite terms, many accepting great personal hardships. Nurses accepted significant cuts in pay, loss of advanced schooling opportunities, and family separations in order to respond to the needs of their country. Operation Desert Shield and Desert Storm demonstrate the utility of a ready and trained cadre of professional nurses to support both

peacetime and war contingency requirements simultaneously.

THE CURRENT CRISIS

Although the history of the Army Nurse Corps right up to the present war in Southwest Asia demonstrates continued capability to meet wartime demands, that capability is being eroded by the nursing shortage. In addition, the ability of nurses to support peacetime needs of soldiers and their families is clearly at risk. Therefore, the nursing shortage directly threatens quality of life, readiness, and sustainment imperatives. In his FY 92-97 Program Objective Memorandum (POM) submission, Major General Wheeler, Commander, U.S. Army Recruiting Command, acknowledged the difficulty by calling it a "... low density and difficult mission ... requiring immediate attention"²⁷ But just how difficult is it?

There are two principle sources of accession for the Army Nurse Corps. They are the United States Army Recruiting Command (USAREC) and the Reserve Officer Training Corps (ROTC). In FY 90, active component recruiting from both sources accomplished 565 accessions against a mission of 660.²⁸ The impact of this shortfall is exacerbated by continuing problems at the local level in recruiting Civil Service nurses. Nearly 20% of these authorized positions are vacant. Yet, FY 90 showed virtually no improvement in civilian nurse recruitment.²⁹

Even more disturbing than recruitment difficulties are the statistics demonstrating a continuing downward trend in retention of Army Nurse Corps officers. Upon completion of initial service obligations, only 69% of first term officers are choosing to remain on active duty. While this may not seem particularly low, an 80% retention rate at this point is needed to balance end-strength requirements and new officer accession. Worse, fewer officers with between three and eight years active duty are electing to continue their military careers.³⁰

These officers represent a significant investment and have reached that point in their careers where the Army depends on them to provide unit level leadership and specialty care.

Aggregate recruitment and retention statistics tell only part of the story. The Army Nurse Corps is composed of officers subgrouped by practice specialty called Areas of Concentration (AOC) which are analogous to the Military Occupational Specialty. Figure 2 shows the distribution of officers by AOC and demonstrates existing shortages in several specialties. These specialties correspond to those that are particularly difficult to recruit and for which competition in the civilian market is particularly severe. Two of these specialty areas, 66F (Nurse Anesthetist) and 66H (Medical Surgical Nurse) have very serious implications for both wartime and peacetime health care. Two others, 66D (Pediatric Nurse) and 66G (Obstetrics and Gynecology Nurse) pose special problems in terms of providing quality of life support to soldiers and their families in peacetime as well as support to nation building and peacekeeping missions. Finally, lest it be misinterpreted, AOC 66J (Clinical Nurse) includes new accessions and unspecialized officers who have either not yet decided on a clinical career track or who are in the process of qualifying for one.

Clearly, should both recruitment and retention trends continue, the filled end strength of the Army Nurse Corps will decline to levels that will adversely affect the whole range of issues already addressed. What is causing this decline and what is being done about it?

COMPENSATION

In any supply and demand equation, adequate and appropriate compensation for products or services rendered is critical to the balance. Compensation for nurses has long lagged behind other professions and has resulted in at least part of the supply and demand imbalance. In particular, the nursing profession has long been the victim of wage

compression in which the growth of salaries from starting to maximum is very narrow. Figure 3 illustrates the effects of wage compression by comparing the average salary progressions of nurses to selected other professions. In 1988, nurses with ten or more years experience earned only \$7,000 more than new graduates. Long range potential for increased earnings has also lagged behind other professions.³¹ As the nursing shortage increased competition for nurses, starting salaries increased and wage potential grew accordingly.

Army efforts within the last two fiscal years have focused primarily on correcting imbalances in compensation for new accessions and selected critical specialties in an effort to improve recruitment and retention. These initiatives either directly increase compensation, or increase it indirectly by awarding constructive credit for experience. Principle among them is the Army Nurse Corps Accession Bonus for registered nurses accessed via USAREC's direct commissioning program. Public Law 101-189 (Section 302c, Chapter 5, Title 37, United States Code) authorized a \$5,000 bonus to nurses accepting a four year active duty service obligation. In FY 90, 160 nurses accepted this bonus. While it is too early to assess the long term effects of this bonus, there is evidence that it will not be sufficient. A new graduate nurse can expect nearly \$2,500 more in starting salary in a civilian position than as an Army Lieutenant. This difference is growing each year. Simple mathematics demonstrates that the \$5,000 accession bonus offsets this difference for only two years in exchange for a four year active duty commitment. Furthermore, this difference is not offset by traditional Army benefits.³² Civilian institutions offer attractive benefit packages that often include excellent medical and dental care, relocation allowances, educational and tuition assistance, and even new cars.

The same law established the first ever special incentive pay for nurses by granting \$6,000 annual incentive bonuses to nurse anesthetists in exchange for continued service obligations. A critical specialty for both peacetime and contingency missions, nurse anesthetists have long been among the most difficult nurses to recruit and retain because of

the significant disparity between compensation in the Army and that available in civilian practice. In October, 1990, there were only 225 nurse anesthetists on active duty against an authorized strength of 304. Only 82% of eligible nurse anesthetists accepted this bonus; suggesting that it is not adequate to make them want to stay.³³ Another initiative to help in recruitment of nurse anesthetists is the U.S. Army Health Professions Scholarship Program. This program provides scholarships, including all educational expenses and a stipend. Although ten scholarships were offered, only three potential officers applied for them.³⁴

The FY 88-89, Public Law 100-180 (Sections 533 and 3353, Title 10, United States Code) granted constructive credit to nurses for determination of accession grade and tenure. Prior to this change, credit was limited to physicians and dentists and nurses possessing advanced educational degrees.³⁵

Much remains to be done in order to bring financial remuneration of professional nurses into alignment with that of the civilian labor market with which it competes. Initiatives under consideration include an educational loan repayment program, special pay incentives for additional categories of nurses, larger new accession bonuses, and larger incentive special pay for nurse anesthetists.³⁶

While progress has been made in correcting at least some of the compensation issues for active duty nurses, serious problems continue to plague their Department of Defense civilian counterparts. Pay schedules for civilian employees of the Department of Defense have lagged behind those of the civilian labor market for several years. Department of Defense facilities can no longer successfully compete with civilian facilities located in their communities despite special salary rates in some areas, increased educational opportunities, and improved career ladders. In FY 90, there were 2,887 authorized civilian nurse positions in the United States, Europe and Korea. Only 2,295 of these positions were filled.³⁷

Ironically, compensation disparities exist not only between Department of Defense civilian nurses and their counterparts in civilian practice. Both the Veterans Administration

(VA) and the National Institute of Health (NIH) are authorized higher nurse salaries, recruiting and retention bonuses, larger differential pay for night, weekend, and holiday work, and less restrictive shift scheduling options. The disparities exist because the VA and NIH are governed under Title 38, USC while DoD employees are managed under Title 5. The differences are significant. In terms of salary alone, a nurse in the grade of GS-11 may make as much as \$8,648 less than one working for the National Institute of Health. In order to successfully recruit, retain and integrate civilian nurses into Army health care facilities, legislation has been introduced to either bring Department of Defense under Title 38 or to make the provisions of Title 38 applicable to DoD health care employees.³⁸ This is a critical need and one that the Army Nurse Corps believes would significantly improve the impact of the nursing shortage in Army facilities.

WHAT ELSE CAN BE DONE?

Clearly, the Army Nurse Corps leadership has skillfully articulated the risks associated with the nursing shortage and obtained legislative support for reforms that will certainly help recruit and retain nurses in the near term. These force management initiatives will continue, for there is much left to be accomplished if the Army is to be competitive with the civilian health sector. Moreover, the dynamic nature of the supply and demand issue will make recent reforms inadequate over time. There is a limit to costly reforms such as these no matter how critical they are. Before reaching that limit, additional means must be found to make the Army Nurse Corps an attractive, long-term career option for greater numbers of nurses.

PROUD TO CARE SURVEY

In 1989, the Army Nurse Corps undertook a comprehensive study to examine opinions

on the personal, military and professional issues that affect satisfaction and retention of Army Nurse Corps officers. The primary data collection instrument was known as the Proud To Care Survey. The survey was mailed to each of the 4,442 officers on active duty at the time. Officers returned 3,536 completed surveys. The data obtained from this survey is still being analyzed and prepared for publication. Among the findings are the top ten reasons for leaving the Army given by officers in each of the areas of concentration. This data is shown in Figures 4 through 11.

This data gives tremendous insight into the needs of Army nurses. It should come as no surprise. For over ten years a host of studies have repeatedly demonstrated the same concerns. In 1988, the Secretary's Commission on Nursing published its final report, once again emphasizing key issues related to nurse satisfaction and retention.³⁹ Listed as among the most critical factors were:

- Insufficient time available for direct patient care.
- 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 government, management and administration.
- Lack of collegial communication and collaboration.
- Inaccurate and misrepresented image and organizational value.

Utilization of Professional Personnel

The primary purpose of professional nurses is to provide professional nursing services. No matter how simplistic this definition, it is the root of serious problems in the appropriate

utilization of nurses. Studies show that as much as 52% of a nurse's time is consumed by technical, administrative and housekeeping functions.⁴⁰

Systems that generate spaces in accordance with workload are sophisticated and do a good job of differentiating professional and paraprofessional functions. They also generate almost sufficient numbers of clerical and paraprofessional support personnel requirements and authorizations. But, beyond that, nurse managers have little control over institutional practices that control personnel resources. Like any other personnel system in the Army, actual authorizations are less than requirements. This is true even though requirements are determined by a dynamic system that prospectively matches personnel requirements to patient care needs. Naturally, there is further disparity between faces and authorized spaces.

The Chief Nurse and Chief Wardmaster have formal control over the assignment of soldiers assigned to the 91 Series MOS's within facilities only after they are assigned to the Department of Nursing. There is no guarantee they will be. Even after assignment to a nursing unit or clinic, nurses exercise technical, not command authority. Therefore, these soldiers are frequently taken to support grass cutting and other details, participate in training, and a variety of other priorities exercised by others. Although these are important, patient care requirements cannot be deferred, nurses must pick up the slack.

Civilian paraprofessional personnel, although more directly controlled by the nursing unit, pose a similar problem. Hiring authority against authorized spaces is encumbered by frequent hiring freezes, budgetary constraints and civilian personnel policies. In addition, the principle authority for hiring against civilian spaces rests outside the department. Once again, external priorities determine the availability of these personnel.

There is another aspect distinctive to the nursing profession that creates special problems for nurses. Nurses are responsible for operating units around the clock, seven days a week. After normal duty hours, functions performed by an array of support personnel belonging to other services must be assumed by nurses. Examples include laboratory

functions, obtaining patient meals, patient transportation, and housekeeping activities. In medium and small facilities, there is frequently not even a clerk available to answer the telephone.

This issue, referred to by the studies as "substitution", has long plagued the nursing profession and is repeatedly shown as a major source of professional nurse dissatisfaction. One would not employ a surgeon to give immunizations to children because it would be an expensive and inappropriate utilization of his time. The same principle applies.

Insufficient Time For Direct Patient Care

In addition to inappropriate utilization, the problems cited above also distract from the time available to provide direct patient care. If dissatisfaction stemming from performing non-professional duties is not severe enough, that arising from the knowledge that professional nursing needs of patients are not being met is even worse. It is contrary to the entire professional orientation of nurses. It also creates great ethical dilemmas. Nurses are forced to prioritize things that are not optional and to leave some things undone or incompletely accomplished. Should all patients be medicated on time? Or, is it more important to provide emotional support to a dying patient? Should one patient's pain be ignored for the moment because another won't get to eat tonight unless a tray is brought up immediately? These are the kinds of problems nurses face that carry the implications of the shortage far beyond desirable working conditions.

Poor Staffing Patterns and Duty Schedules

Poor time schedules and staffing patterns are understandably a major source of dissatisfaction. Even under the best of circumstances, sufficient numbers of nurses must be found to meet the needs of evening, night, weekend and holiday tours. There are a host of reasons why time scheduling is a serious problem for nurses and nurses in the Army in

particular. Some of the problem results from insensitivity and tradition in the form of requiring everyone to rotate among all shifts. But, there are also obstacles which make flexible and people oriented duty rosters extremely hard to accomplish.

Flexible time schedules require acceptance of change, commitment and support. This support must come from both within the Department of Nursing and by others who are seldom as motivated to make it possible as are those affected. Civilian personnel policies must be integrated with military ones to accommodate both uniformed and civilian nurses. Resource managers must be able and willing to support the overtime generated by alternative scheduling procedures. In addition, contracts and/or overhiring practices must be considered to meet contingencies and demands during periods of unanticipated work load. Finally, all elements of the command need to accept the keen differences between the Department of Nursing and the rest of the command which is oriented around an eight-hour, Monday-Friday schedule.

While it sounds simple, in reality it doesn't come together very well. Army nurses who have worked a night shift may be required to participate in mandatory training given only during the day. Field training, mobilization exercises and other officer requirements, often introduced long after carefully tailored shift schedules are finalized, corrupt those schedules and require last minute changes that affect many nurses. People get sick and emergencies arise. The system must accommodate to last minute changes because somebody simply has to work.

When one considers the structure and make-up of an Army organization, two distinguishing factors routinely direct what will happen. First, there is no requirement for a civilian employee to accept a last minute or undesired change to the duty roster. Second, there is a rank oriented pecking order. It is usually the young Lieutenant, the very one we are trying so hard to retain, that has no choice but to accept the change. After their initial obligations, they are saying "no more".

Authority, Autonomy and Organizational Value

Classic studies have demonstrated significant trends in organizational structure that have had a profound bearing on nurse recruitment and retention. Among the undisputed findings is the fact that high nurse satisfaction, low turnover, and low vacancy rates correlate very highly with organizational structures possessing greater autonomy and self governance.

41, 42, 43

The Army Medical Department has long maintained an organization structure for the Department of Nursing that is highly stratified. The placement of the senior nurse executive within the command structure of most Army Medical Treatment Facilities is subordinate to the Deputy Commander for Clinical Services. The senior officers responsible for the Medical Corps, Medical Service Corps, and Veterinary Corps officers and their missions function as Deputy Commanders. The Chief Nurse, while responsible for the largest number of officers and enlisted personnel within the organization and a mission that continues 24 hours a day, 7 days a week is designated a Department Chief.

Perhaps the most ironic aspect of this organizational placement is that the Chief Nurse actually performs with a level of responsibility and function that is essentially the same as his or her professional counterparts who are called Deputy Commanders. The principle decision making body normally includes the Chief Nurse who is generally the only member, besides the Command Sergeant Major, who does not serve at the Deputy Commander level. While there are many reasons why this is problematic and important in terms of the bigger issue of effective command organization, there is one that is particularly relevant to this discussion. That reason relates to empowerment and the extent to which it undermines the leadership capacity of the senior nurse executive.

The perception of an overall lack of interest and action by the command in the problems and concerns of nurses was shown by the Proud To Care Survey as the number one reason to leave the Army by Army Nurse Corps officers. The fact that the command is

distinguishable from the senior leadership of the nurse corps is significant. Martin discusses this phenomenon in terms of oppressed group dynamics. Denial of access to the decision making structure represents limited participation in policy development, status, resource sharing, recognition and a host of other factors that are highly valued. Furthermore, over time the not so subtle message is communicated to others within the organization signifying that somehow the denial of opportunity and lowered status is earned and legitimate.⁴⁴ The consequences are control assumed by more powerful groups who come to view the members of the oppressed group as utilitarian to be used in accomplishing external demands. If one compares the relative power of two captains, one responsible to the Chief Nurse and another to one of the Deputy Commanders, this phenomenon is evident every day. Power for power's sake is not the issue. The real cost is the sense of powerlessness and futility that discourages innovation, risk taking, satisfaction and hope of improving the status quo.

It is not just at the command level that the current organization of the Department of Nursing has become obsolete in my view. Army Regulation 40-66 establishes the organizational structure of the Department of Nursing. While there are variations according to size and type of facility, a common characteristic is relatively heavy layer of supervision and management between the functional units and the executive level. These layers do not exist to the same extent in the organization of any other AMEDD professional group. I call it a "blue collar structure" which implies the need for continuous supervision, funnelled communication, delayed decision making ability and centralization of authority and autonomy.

RECOMMENDATIONS

On the surface, these problems do not seem that hard to fix. The magnet hospitals, so called because they have demonstrated abilities to recruit and retain nurses despite the nursing shortage, do not have nurse vacancy problems. They actually have waiting lists of nurse applicants. Simply put, these organizations meet the needs of nurses and enjoy

enhanced productivity and resource constraint as a consequence. Common characteristics of these hospitals include operational respect for the authority, autonomy, image and decision making needs of nurse professionals. In addition, they have recognized the need to place the nurse leadership into the executive chain where it can affirm the importance of nursing throughout the hospital organization. Executives empowered by direct access to the top were found to be more effective in securing and managing resources and more inclined to be innovative in meeting the needs of the organization. Perhaps more importantly, nurses at levels below the executive level demonstrated that their association with an empowered department vastly improved their own performance and value within the organization.^{45 46} Have the lessons learned by the major studies and experiences of magnet hospitals escaped the leadership of the Army Medical Department?

I believe the answer is yes, and no. No, because I believe the corporate attitude is one that sincerely values the role of nurses and understands that it could not survive without them. Yes, because I believe the pluralistic environment in which Army nurses function has made necessary innovation extremely difficult. Army nurses are part of so many wholes, each having different priorities and needs, that their own needs have become lost in the balance. First, as officers, nurses are part of an organization full of rules, regulations, policies, procedures, and requirements applicable to all officers. Secondly, nurses are part of a traditional health care hierarchy. This hierarchy is influenced by its own traditional values, perceptions and goals that affect nurses tremendously. Thirdly, as members of a distinct profession, nurses are subject to a whole series of regulatory, ethical, and practice demands. I believe that when the priorities and needs of each of these environments converge, Army nurses experience tremendous job satisfaction. When there is divergence, the needs of nurses are subjugated to powerful pluralistic elements of the environment which creates dissatisfaction and causes nurses to leave the Army.

Lest it sound like a sinister plot against nurses or brutal indifference to their personal

and professional needs, I do not believe this to be the case. The ultimate goals are the same and the commitment to accomplish those goals by all concerned is equal. What is needed is better communication of divergent needs and a willingness to take whatever actions are needed to bring them into better into balance.

It is time for the Army Medical Department to reassess its organization and modernize the manner in which nurses fit into it. In the late 1970's, poor retention of Dental Corps officers was among the factors that precipitated a study by the Surgeon General and led ultimately to legislation that completely restructured the Dental Corps. In addition to a 178% increase in productivity following that change, retention of Dental Corps officers increased by six times.⁴⁷ The relationship of the Army Nurse Corps to the remaining AMEDD officer branches is more intimate than that of the Dental Corps. Still, the principles and their utility to recruitment, retention and productivity have definite bearing.

When Operation Desert Storm is over and the Army returns its attention to the task of downsizing and reorganizing itself, the Army Medical Department will revisit its own assessment of how it can best accommodate to the challenges the future will bring. In my view, this will be an opportune time to address the whole issue of the nursing shortage and its impact on readiness and peacetime health care. Changes that are good for the entire organization and which enhance productivity, quality and performance in accomplishing all of the missions of the Army Medical Department are needed now. Toward that end, I offer the following comments and recommendations that I believe could start the process of strategically evaluating the Army Nurse Corps and lead to its own *perestroika*.

Pay

Pay that keeps pace with competing labor markets is essential for the recruitment and retention of nurses. The present new accession bonus serves as a recruiting incentive but cannot compensate for disparities that exist in salaries over the span of the initial obligated tour. They need to be larger. Moreover, means must be found to compensate non-obligated

nurses, particularly those in critical specialties, at a competitive rate.

The dynamic nature of the supply and demand equation would make bonuses for all Army nurses the most cost effective way to achieve parity with competing markets because it could be tailored according to needs of the Army over time. While pay is important, caution must be observed to avoid using money to compensate for shortcomings in the manner in which nurses are utilized. Job satisfaction, reasonable working conditions, and professional autonomy can not be bought, but efforts to do so could be extremely expensive.

Civilian Nurses

Civilian nurses must be afforded professional opportunities that more closely equal those of their uniformed counterparts. The Federal government cannot afford to continue practices that discriminate against nurses working within the Department of Defense. Either nurses working for the Department of Defense must be managed under Title 38, or Title 5 must be changed to establish parity with nurses working for other Federal institutions. Furthermore, greater flexibility is needed to permit flexible time scheduling and higher differential pay for working late, weekend, and holiday shifts.

Within military medical treatment facilities, much greater emphasis must be given to upward mobility possibilities for civilian nurses. Positions all the way into the departmental leadership chain are needed. Greater opportunities for professional growth and development through funded educational opportunities and formal training are also essential.

Educational Linkage

Linkage with the educational system is once again needed to establish a means for bringing nurses into the military health care system. Such a system would not only exchange an education for military service, but could provide an opportunity to inculcate a whole population of nursing students with a military orientation similar to the military academies, thus ensuring a greater long-term benefit. Such linkage could take the form of a school similar to the now defunct Walter Reed Army Institute of Nursing.

Other options could include establishment of a nursing program as part of the Uniformed Services University of the Health Sciences or an entirely separate federal nursing school. ROTC also presents greater opportunities for linkage with civilian nursing schools. Nurse officers could be assigned sabbatical tours on the faculty of nursing programs in civilian institutions and even serve as Professors of Military Science. Finally, a student loan repayment program could be utilized to augment other recruiting incentives for the active component.

Organizational Structure

Changes in organizational structures are needed to modernize the manner in which nurses function in Army organizations. Nurse executives must be established at the Deputy Commander level. Remaining structures need to be flattened to eliminate redundant layers of middle management and drive the authority needed to manage and lead effectively down to lower levels. Clinical head nurses, those responsible for individual patient care units, must be given greater flexibility, autonomy and the opportunity to directly influence decisions that affect their ability to accomplish their missions. Visibility and recognition derived directly from active participation with other disciplines will enhance their sense of worth and elevate the value of nurses to a higher level within organizations. The authorizations formerly held by middle managers could be reallocated to further ameliorate shortages of nurses and provide direct support that would relieve nurses from non-nursing functions.

Force Multiplication

Greater accessibility to both personnel and technological force multipliers is essential to free nurses from non-professional duties. Clerical, secretarial, and ancillary support is needed around the clock; not just on the day shift. Soldiers assigned to the Department of Nursing should be organized into companies separate from those whose duty is predominantly a Monday-Friday daytime schedule. These companies, perhaps commanded by an Army Nurse Corps officers, could be led in a manner that optimizes their contributions to their

principle duties without compromising their soldiering skills, development, and training.

Acquisition of technological and information management systems are needed now to relieve nurses of repetitive, routine functions such as vital signs monitoring, medication administration scheduling and accounting, and patient care documentation just to name a few. Robotics and other new technology also presents enormous possibilities. Wheelchairs that climb stairs, devices that turn patients, and other technology has the potential to greatly multiply nursing time.

Career Progression

The development and career progression of Army Nurse Corps officers must be improved. The opportunity to remain in a clinical specialty or advanced practice role for the duration of an Army career without sacrificing promotability and other opportunities must be accepted and institutionalized. Moreover, means must be found to identify officers for specialty practice early in their careers and devise developmental and assignment patterns that will ensure the longest possible utilization of specialty skills. Such means could include preceptorships in military and civilian institutions in lieu of generic short courses.

Leader Development and Selection

Leader selection and development at all levels must also be improved. The process of being promoted or graduated into leadership positions without formal preparation for the challenges of these positions can no longer meet the needs of the corps. Formalized leader development, education, and experience should be pre-requisites for assumption of positions at all levels above staff nurse. New officers, particularly those assessed via the Reserve Officer Training Corps where leadership is highly valued and inculcated, need earlier opportunities to practice leadership in formal settings.

Criterion based central selection boards should be used to select officers for Chief Nurse (Deputy Commander) positions, and staff positions at Department of the Army and MACOM levels. Fellowships should be established to pair potential leaders with mentors

known to possess positive leadership skills and managerial abilities. Additional spaces are needed within the Army's military educational system, particularly at the Senior Service College level.

Managerial Flexibility

Greater flexibility for meeting managerial and leadership challenges must be built into the system. Nurses at all levels would benefit greatly by a system that was managed to budget so that hard choices and priorities could be made by those who had to live with them. Less parochialism within nursing departments is needed to encourage positive working relationships with other command elements.

There needs to be less duplication of function in situations where separate systems exist for the Department of Nursing and the rest of the organization. Instead, nurse officers need to be able to share , perhaps on a rotational basis, positions such as Chief, Plans and Operations and Chief, Clinical Support Division.

Organizational Value

The individual and collective value of nurses within organizations must be communicated to the consumers of health care. It is not sufficient that virtually all patients know their doctor's name but cannot recall the names of their nurses. Furthermore, the nature and extent of services provided by nurses must be expressly communicated.

Army advertising must be conducted in a way that emphasizes the professional opportunities and roles of nurses instead of glamorous, romantic, and domestic depictions. Community campaigns and recognition events should be tailored to identify the value of nurses. Greater care must be exercised to translate nursing contributions at the staff nurse level into the military awards and employee recognition programs within commands.

Image

Army nursing must be visibly represented at every major and as many minor professional nursing forums as possible. Recruiting must begin in the high schools before

career choices are cemented by possible nursing students. Army nurses can play a major role in re-establishing professional nursing as a viable career opportunity. Moreover, greater emphasis should be given to demonstrating the viability and public acceptance of a nursing career to male students. In this regard, the Army has a distinct advantage over civilian institutions because of its association with a traditionally accepted male image.

Lessons Learned

Army Nurse Corps strategic planning needs to concentrate not only on visionary change and future innovation, but also on lessons learned. Successful practices and ones that distract from the nursing mission need to be documented, shared, and fostered through a process that formally communicates and teaches them. Greater emphasis should be given to practical alternatives in the Army health care system in the AMEDD school system. Less attention should be given to theory and activities that have little or no applicability to Army nursing. In particular, the course structure within the Nursing Division of the Academy of Health Sciences, should draw much more heavily upon the experiences and expertise of successful nurse officers and less upon civilian contractors with little or no linkage to the military system. The Clinical Head Nurse Course, for example, could be conducted in a small group seminar forum with successful head nurses as leaders instead of in a classroom environment with multiple guest speakers.

CONCLUSION

The Army Nurse Corps is a central part of the Army Medical Department officer corps. Its history is distinguished by its ability to shape its structure and accomplish both its war and peacetime missions regardless of the demands and constraints placed upon it. Today, that legacy is being threatened by a national nursing shortage that shows no signs of abatement.

A great deal has been learned in the last decade about the factors that influence nurse

recruitment and retention. Clearly the most important lesson that has been learned is that there is no simple solution. There are no quick fixes and there are no single actions that can hope to match a diminishing supply of professional nurses with an ever expanding demand for their unique services. Instead, we must address a dynamic range of underlying issues and be prepared to change attitudes and practices that have been shown to exacerbate the problem.

Toward that end, the Army Nurse Corps has made tremendous strides in correcting compensation disparities. Much more needs to be done, especially in looking at critical specialties and the Department of Defense Civilian nurse area. At the same time, attention is being given to those factors that discourage retention of both uniformed and civilian nurses.

Within a few months, the Army will publish the Proud To Care Survey results. Those results are going to correlate powerfully with what classic studies have shown to be critical factors in nurse retention. At that point, the decision process must focus on resolving problems that are deeply rooted in the traditions and corporate cultures of the professions of nursing, medicine and military service.

Our success and, ultimately, our ability to accomplish the medical missions of the Army will hinge on how well we are able break down outmoded and paternalistic traditions. We need to envision and incorporate brave new organizational models that will not only fix the nursing problem, but also enhance the total contribution Army nurses can make to the Army Medical Department.

APPENDIX A.

VIETNAM ERA INITIATIVES

1956

Army Student Nurse Program established to provide financial assistance to nursing students. It provided pay and allowances of a Private First Class to students and a commission in the Army Reserve upon graduation.

1957

Public Law 85-155 was signed into law. It changed age and grade restrictions to appointment in the Regular Army, increased the numbers of nurse officers in the field grades, established a separate promotion list, made retirement benefits equal to the rest of the Army and authorized retirement grades equal to the grade held for the last six months of service. It authorized a strength of 2,500 Regular Army nurses.

1959

Criteria for determining grade to be changed to give credit for post-graduate education. Additional credit was authorized in 1960.

1961

Commissioning requirements were changed to enable reserve officers to apply for active duty service.

Army Nurse Corps recruiting was transferred from the Office of the Surgeon General to the Deputy Chief of Staff for Personnel. Formal Army Nurse Corps recruiting efforts included assignment of nurse officers and enlisted recruiters to the U.S. Army Recruiting Service.

1962

An Army Nurse Corps officer was assigned to the Office of the Deputy Chief of Staff for Personnel to coordinate and manage recruitment of Army nurses.

1963

Operation Nightingale was established by the Department of the Army to elaborate to the public the needs of the Army for 2000 additional nurses.

Civilian nurses were authorized direct commissions and permitted their choice of assignments to Army hospitals.

1964

The minimum age of dependents for female nurses was reduced from 18 to 15 years. It was eventually removed altogether in 1971.

The Walter Reed Army Institute of Nursing (WRAIN) was authorized under the auspices of the Surgeon General and in coordination with the University of Maryland School of Nursing. This program provided financial assistance and education to nursing students in exchange for active duty service.

Married female nurses were permitted appointment as Regular Army officers.

1965

Surgical nurses and nurse anesthetists could volunteer for direct appointment and assignment to Vietnam immediately following their basic course.

1966

Graduates of two-year Associate Degree nursing programs were accepted for service. They were appointed as Warrant Officers for two years active duty.

Public Law 89-609 authorized regular commissions for male nurses.

1967

Public Law 90-130 removed restrictions on female officers and granted them the same promotion consideration as male officers.

1970

Army regulations were changed to allow pregnant women to remain on active duty.

Colonel Anna Mae Hays, Chief, Army Nurse Corps, became the first woman in the Army to be promoted to Brigadier General.

Source: Highlights in the History of the Army Nurse Corps

FIGURE 1.

Army Nurse Corps Officer Distribution by Major Command/ Location

Authorization	Distribution
Chief of Staff, Army	2
Defense Agenices	11
7th Medical Command (Europe)	527
Forces Command	296
Health Services Command	3442
Joint Assignment	2
Personnel Command	5
Japan	2
18th Medical Command (Korea)	100
U.S. Army Recruiting Command	27
Field Operating Agencies	4
Training and Doctrine Command	11
Army Materiel Command	1
MRDC	37

Source: Army Nurse Corps, October 1990

FIGURE 2.

Army Nurse Corps Strength by Area of Concentration (COMPO 1)

Area of Concentration	Required Spaces	Authorized Spaces	Actual Strength	Percent Authorized
66A Administration	320	240	192	80
66B Community Health	145	155	144	93
66C Psychiatric *	175	170	156	92
66D Pediatric *	401	422	326	77
66E Operating Room	743	397	418	105
66F Anesthesia	749	304	225	74
66G Obstetrics/Gyn *	302	299	265	88
66H Medical-Surgical *	3625	2406	2103	87
66H Clinical	799	372	637	171

*** Does not include Nurse Practitioners, Nurse Midwives, or Clinical Nurse Specialists.
Source: Army Nurse Corps, October 1990.**

FIGURE 3.

Salary Progression In Various Occupations (in dollars)

Occupation	Average Starting Salary	Average Maximum Salary	% Salary Progression
Accountants	21,024	61,546	192.7
Attorneys	31,014	101,169	226.2
Chemists	22,539	74,607	231.0
Engineers	27,866	79,021	183.6
Clerks	12,517	21,872	74.7
Secretaries	16,326	28,051	71.8
Nurses	20,342	27,744	36.4

**National Survey of professional, administrative, technical and clerical pay,
Washington,
D.C. : U.S. Department of Labor, Bureau of Labor Statistics (Bulletin 2271).
October 1986.**

Figure 4.

Top Ten Strong Reasons To Leave The Army Nurse Corps - 66A - Nurse Administrators

Factor	Rank	Percent
Lack of Interest/Action By Command In Problems of Military Nurses	1	82.1
Unsafe Nurse-To-Patient Ratio	2	79.8
Poor Leadership	3	72.4
Poor Management	4	72.3
Undesirable Job Assignments	5	70.1
Lack of Time To Provide Quality Patient Care	6	69.4
Restricted Promotion Opportunity	7	67.2
Poor Morale in Work Unit	8	66.3
Too Many Non-Nursing Duties	9	65.3
Want to Change Careers	10	64.3

Proud To Care Survey, Army Nurse Corps, 1990.

Figure 5.

Top Ten Strong Reasons To Leave The Army Nurse Corps - 66B - Community Health Nurse

Factor	Rank	Percent
Number of Hours Spent At Work Each Day	1	90.6
Quality of Patient Care Provided By Professional Nursing Personnel In My Work Setting	2	88.3
Receiving Award(s) For My Job Performance by Rater/Supervisor	3	85.3
Retirement Pay and Benefits	4	85.3
Time For My Family/Personal Life	5	83.8
Having a Mentor(s) in the Army Nurse Corps	6	80.0
Opportunity to Make Administrative/Clinical Decisions	7	79.6
Frequency of Weekends Off	8	78.1
Opportunity to Attend Continuing Education Programs Funded by the Army	9	77.1
Getting Medical Care	10	77.0

Proud To Care Survey. Army Nurse Corps, 1990

Figure 6.

Top Ten Strong Reasons To Leave The Army Nurse Corps - 66C - Psychiatric Nurses		
Factor	Rank	Percent
Lack of Interest/Action By Command In Problems of Military Nurses	1	89.2
Lack of Time To Provide Quality Patient Care	2	87.8
Restricted Promotion Opportunities	3	87.6
Unsafe Nurse-To-Patient Ratio	4	84.8
Undesirable Job Assignments	5	83.1
Poor Leadership	6	77.5
Poor Management	7	76.4
Time For My Personal/Family Life	8	73.4
Poor Morale in Work Unit	9	71.1
Concerned About Professional Practice Issues	10	70.7

Proud To Care Survey, Army Nurse Corps, 1990

Figure 7.

Top Ten Strong Reasons To Leave The Army Nurse Corps - 66E - Operating Room Nurses

Factor	Rank	Percent
Lack of Interest/Action By Command In Problems of Military Nurses	1	85.5
Restricted Promotion Opportunities	2	84.6
Poor Leadership	3	83.2
Poor Management	4	79.3
Lack of Time To Provide Quality Patient Care	5	77.4
Poor Morale in My Work Unit	6	75.4
Low Army Pay	7	73.4
Civilian Jobs Pay More Than The Army	8	72.5
Nurse-To-Patient Ratio is Unsafe	9	71.9
Required to Work Too Many Hours	10	71.1

Proud To Care Survey, Army Nurse Corps, 1990

Figure 8.

Top Ten Strong Reasons To Leave The Army Nurse Corps - 66F - Nurse Anesthetists		
Factor	Rank	Percent
Civilian Jobs Pay More Than The Army	1	97.8
Lack of Interest/Action by Command in Problems of Military Nurses	2	95.7
Low Army Pay	3	95.3
Restricted Promotion Opportunities	4	95.2
Poor Management	5	93.2
Need More Time With My Family	6	86.0
Required to Work Too Many Hours	7	84.7
Poor Leadership	8	83.9
Poor Morale in My Work Unit	9	81.1
Undesirable Job Assignments	10	78.0

Proud To Care Survey, Army Nurse Corps, 1990

Figure 9.

Top Ten Strong Reasons To Leave The Army Nurse Corps - 66G - OB/GYN Nurses		
Factor	Rank	Percent
Lack of Interest/Action By Command In Problems of Military Nurses	1	86.6
Lack of Time To Provide Quality Patient Care	2	82.5
Need More Time With My Family	3	81.1
Restricted Promotion Opportunities	4	80.7
Poor Management	5	78.1
Undesirable Job Assignments	6	75.3
Poor Leadership	7	74.8
Required To Work Too Many Hours	8	73.1
Poor Morale In My Work Unit	9	69.9
Too Much Stress On The Job	10	69.2

Proud To Care Survey, Army Nurse Corps, 1990

Figure 10.

Top Ten Strong Reasons To Leave The Army Nurse Corps - 66H - Medical-Surgical Nurses

Factor	Rank	Percent
Lack of Interest/Action By Command In Problems of Military Nurses	1	88.3
Unsafe Nurse-To-Patient Ratio	2	86.2
Lack of Time To Provide Quality Patient Care	3	83.8
Poor Management	4	82.3
Poor Leadership	5	80.6
Restricted Promotion Opportunities	6	79.9
Undesirable Job Assignments	7	78.6
Need More Time With My Family	8	77.5
Required To Work Too Many Hours	9	75.4
Too Many Non-Nursing Duties	10	75.2

Proud To Care Survey, Army Nurse Corps, 1990

Figure 11.

Top Ten Strong Reasons To Leave The Army Nurse Corps - 66J- Clinical Nurse (New Accessions)

Factor	Rank	Percent
Unsafe Nurse-To-Patient Ratio	1	90.0
Civilian Jobs Pay More Than The Army	2	87.1
Lack of Interest/Action by Command In Problems of Military Nurses	3	86.6
Poor Management	4	82.5
Lack of Control Over Time Schedule	5	82.1
Poor Morale	6	81.9
Need More Time With My Family	7	81.0
Frequent Changes In Shift Rotations	8	79.7
Restricted Promotion Opportunities	9	79.1
Lack of Time To Provide Quality Patient Care	10	78.9

Proud To Care Survey, Army Nurse Corps, 1990

ENDNOTES

1. Patricia Moccia, "Toward the Future: How Could 2 Million Registered Nurses Not be Enough?," Nursing Clinics of North America, September 1990, p. 605.
2. American Hospital Association Report on the National Hospital Personnel Survey, Chicago, American Hospital Association, p.1213.
3. G. Silvestri and J. Lukasiewicz, "A Look at Occupational Employment Trends to the Year 2000," Monthly Labor Review, September 1987, p. 49.
4. Lois Frels, et. al. "RCTs: Not the Answer to the Nursing Shortage," Nursing Economics, May-June 1989, p. 138.
5. Hospital Accreditation Manual, Chicago. The Joint Commission on Accreditation of Hospitals and Health Care Organizations, 1990, p. 301.
6. W. Kraus, et al. "An Evaluation of Outcome From Intensive Care in Major Medical Centers," Annals of Internal Medicine, 104, 1989, p. 410.
7. Faye Abdellah, "Reflections on a Recurring Theme," Nursing Clinics of North America, September 1990. p. 511.
8. Mary Sarnecky, : "A History of Volunteerism and Patriotism in the Army Nurse Corps," Military Medicine, July 1989, p.359.
9. Martha King, "Nursing Shortage, Circa 1915" Image: Journal of Nursing Scholarship, Fall 1989, p. 124.
10. P. Kalische and B. Kalische, "Nurses in American History, The Cadet Nurse Corps". In pages from Nursing History, p. 102.
11. Patricia Prescott, "Shortage of Professional Nursing Practice: A Reframing of the Shortage Problem," Heart & Lung, September 1989. p. 437.
12. Report of the Secretary of Defense to the President and Congress, p.24.
13. David Baine, "Military Physicians' Views on Factors which Influence Their Career Decisions, p.7.
14. Army Nurse Corps Information Paper, October 1990 (hereafter referred to as "ANC Information Paper #1"

15. Ibid.
16. Ibid.
17. Highlights In The History of the Army Nurse Corps, p. 1. (hereafter referred to as Highlights.)
18. Sarnecky, p. 360.
19. Sarnecky, p. 361.
20. Sarnecky, p. 362.
21. Highlights, p. 14.
22. Military Nurses Task Force Report on the Military Nursing Shortage, December 1988, p: VI-A-4.
23. Highlights, p. 15-16.
24. P. Kalische and B. Kalische, "The Women's Draft: An Analysis of the Controversy Over the Nurses' Selective Service Bill of 1945," Nursing Research, p. 405.
25. Highlights, p. 57.
26. Discussions with AMEDD Chief Nurses and Commanders, August - September 1990.
27. Excerpt from U.S. Army Recruiting Command Program Objective Memorandum submission, in DCLM Program Development Exercise Special Text, p. A-39.
28. ANC Information Paper #1, p. 1.
29. Ibid. p. 2.
30. Ibid. p. 1.
31. L. Aiken and C. Mullinex, "The Nurse Shortage: Myth or Reality?," The New England Journal of Medicine, p. 641.
32. ANC Information Paper #1. p. 3-4.

33. Ibid. p. 4.
34. Ibid. p. 5-6.
35. Ibid. p. 7-9.
36. Ibid. p. 10.
37. Ibid. p. 10.
38. Sr. Rosemary Donley and Sr. Mary Flaherty, "Analysis of the Market Driven Nursing Shortage," Nursing and Health Care, April 1989. p. 186-189.
39. M. Manthy. "Can Primary Nursing Survive," American Journal of Nursing, 1988, p. 45.
40. American Academy of Nursing Task Force on Nursing Practice In Hospitals, 1983.
41. C. Fagin, "Why a Quick Fix Won't Fix Today's Nursing Shortage," Nursing Economics, 1989, p. 36-40.
42. Marlene Kraemer and Claudia Schumalenberg, "Magnet Hospitals: Part I. Institutions of Excellence," The Journal of Nursing Administration, January 1988, p. 13-24.
43. Clair Martin, "A Response From an Educational Perspective," Nursing Clinics, September 1990, p. 562-566.
44. Marlene Kraemer and Claudia Schumalenberg, p. 22.
45. Marlene Kraemer and Claudia Schumalenberg, "Magnet Hospitals: Part II. Institutions of Excellence," The Journal of Nursing Administration, February 1988. p. 47-62.
46. Thomas Reddy, "The Army Dental Care System: 1975 - 1989," Military Studies Project, February 1990, p. 12-17.

BIBLIOGRAPHY

- Abdallah, Faye. "Reflections on a Recurring Theme." Nursing Clinics of North America, Vol. 25, September 1990, pp. 509-516.
- Aiken, L. and Mullinex, C. "The Nurse Shortage: Myth or Reality?" The New England Journal of Medicine, 317: p. 641-646. 1987.
- American Hospital Association Report on the National Hospital Personnel Survey, Chicago, American Hospital Association, 1988.
- Baine, David. Military Physicians' Views on Factors Which Influence Their Career Decisions. Washington: General Accounting Office, 1989.
- Carter, J. "Mutual Support and Mobilization Preparedness: The Method of an Army Reserve Hospital" Military Medicine, Vol. 155, August 1990, pp. 379-381.
- Cowling, Richard. "The Nursing Shortage: Dynamics and Solutions. A Research Perspective." Nursing Clinics of North America, Vol. 25, September 1990, pp. 569-579.
- Evans, A. "Shortage of Professional Nursing Practice: A Reframing of the Shortage Problem." Heart & Lung, Vol. 19, July 1990, pp. 430-431.
- Fagin, C. "Why a Quick Fix Won't Fix Today's Nursing Shortage." Nursing Economics, May-June 1989, pp. 36-40.
- Ferguson, Vernice. "The Nursing Shortage: Dynamics and Solutions." Nursing Clinics of North America, Vol. 25, September 1990, pp. 615-616.
- Frelin, A. J. "The Clinical Nurse Specialist Role in the Army Medical Department." Clinical Nurse Specialist, Vol. 4, Fall 1990, pp. 47-50.
- Frels, Lois. "RCTs: Not the Answer to the Nursing Shortage." Nursing Economics, May-June 1989, p. 138.
- Golightly, C., Wright, L., and Pogue, L. "A Model to Facilitate Interactive Planning." Journal of Nursing Administration, Vol 20, September 1990, pp. 16-19.
- Harris, M. "Restructuring: Specifics for Home Health Care." Nursing Economics, Vol. 8, July-August 1990, pp. 257-262.
- Highlights in the History of the Army Nurse Corps. Washington, U.S. Army Center of Military History, 1987.
- Hospital Accreditation Manual, The Joint Commission on Accreditation of Hospitals and Health Care Organizations, Chicago, 1990.

- Kalische, P. and Kalische, B. "Nurses in American History, The Cadet Nurse Corps in World War II. In pages from Nursing History, New York, American Journal of Nursing Company, 1984. pp. 102-104.
- Kalische, P. and Kalische, B. "The Women's Draft: An Analysis of the Controversy Over the Nurses' Selective Service Bill of 1945." Nursing Research, 22: p. 405, 1973.
- King, Martha. "Nursing Shortage, Circa 1915." Image, Fall 1989. p. 124.
- Kramer, Marlene and Schmalenberg, Claudia. "Magnet Hospitals: Part I. Institutions of Excellence" Journal of Nursing Administration, Vol. 18, January 1988, pp. 13-24.
- Kramer, Marlene and Schmalenberg, Claudia. "Magnet Hospitals: Part II, Institutions of Excellence" Journal of Nursing Administration, Vol. 18, February 1988, pp. 11-19.
- Kramer, Marlene. "The Magnet Hospitals. Excellence Revisited." Journal of Nursing Administration, Vol. 20, September 1990, pp. 35-44.
- Kraus, W. (1989) "An Evaluation of Outcome from Intensive Care in Major Medical Centers." Annals of Internal Medicine, 104, 410.
- Labig, G. "Effectiveness of Recruiting Sources for Staff Nurses." Journal of Nursing Administration, Vol. 20, July-August 1990. pp. 12-17.
- Martin, Clair. "A Response From an Educational Perspective." Nursing Clinics of North America, Vol. 25, September 1990, pp. 562-566.
- Mochia, Patricia. "Toward the Future: How Could 2 Million Registered Nurses Not Be Enough?" Nursing Clinics of North America, Vol. 25, September 1990, pp. 605-613.
- Molter, Nancy. "Workload Management System For Nurses: Application to the Burn Unit" Journal of Burn Care and Rehabilitation, Vol. 11, May-June 1990, pp. 267-274.
- Norby, Ronald. "Positioning for Success." Nursing Clinics of North America. Vol. 25, September 1990, pp. 525-535.
- Pooyan, A., Eberhardt, B. and Szigetie, E. "Work Related Variables and Turnover Intention Among Registered Nurses." Nursing and Health Care, Vol. 11, May 1990, pp. 254-258.
- Prescott, Patricia. "Shortage of Professional Nursing Practice: A Reframing of the Shortage Problem." Heart & Lung, Vol. 18, September 1989, p. 437.
- Rascati, Kal. "Comparison of Woman Pharmacy and Nursing Students." American Pharmacist, Vol. 6, June 1990, pp. 49-53.
- Reddy, Thomas. "The Army Dental Care System: 1975 - 1989." Thesis. Carlisle

Barracks: U.S. Army War College, 10 February 1990.

Sarnecky, Mary. "A History of Volunteerism and Patriotism in the Army Nurse Corps." Military Medicine, Vol. 154, pp. 358-365.

Shugart, E. and Alexander, Gus. "Developing Head Nurses in the Army Nurse Corps." Nursing Management, Vol. 21, September 1990, pp. 42, 44.

Silvestri, G. and Lukasiewicz, J. "A Look At Occupational Employment Trends to the Year 2000." Monthly Labor Review, September 1987, p. 49.

Smeltzer, C. "Innovative Pay Package." Journal of Nursing Administration, Vol. 20, July-August 1990, pp. 6-7.

Smith, Barbara. "A Speedy Recovery for the Nursing Shortage." Imprint, Vol. 37, September - October 1990, p. 107.

Stanton, Lawrence. "Recruitment. The Shortage is a Two-Sided Equation: Supply and Demand." The Nurse Manager's Bookshelf, Vol. 1, March 1990, pp. 13-18.

Veran, J., Murdaugh, C. Gerber, R. and Milton, D. "Shortage Solutions: Refining the Science of Managing Nursing Resources." Aspens Advisory for the Nurse Executive, Vol. 4, December 1988, pp. 4-5.

United States. Report of the Secretary of Defense to the President and the Congress. (1990) Washington: U.S. Government Printing Office.

United States. Military Nurses Task Force Report on the Military Nursing Shortage. Department of Health and Human Services, Secretary's Commission on Nursing, December 1988.

United States. Excerpt from, Special Text, Department of Command, Leadership, and Management, Program Development Exercise. Carlisle, PA.: U.S. Army War College, 1991.