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ABSTRACT

This paper explores the early days of patient evacuation and the beginning of formalized military training for nurses in aeromedical evacuation during World War II. It then outlines the primary aircraft used for aeromedical evacuation and the structure of these units before and after the Air Force Reserve reorganization, June 1992. The paper examines the critical issues of recruiting and retention. It also looks at Reserve requirements, the impact of personal time constraints, and the training time involved in accomplishing initial aeromedical evacuation qualification. The final section concludes with six recommendations for the emerging aeromedical evacuation system of tomorrow.

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THE HISTORY OF AEROMEDICAL EVACUATION AND THE EMERGING SYSTEM OF TOMORROW

INTRODUCTION

Now is the time to relook at how we do business, how we train, and how we retain the high quality of personnel that are so vital to the aeromedical evacuation mission today. To do this, I will first explore the early days of patient evacuation, then look at the mission of aeromedical evacuation as it is structured today, examine some recruiting and retention issues, and finally look at tomorrow.

I feel that with the aeromedical evacuation system of tomorrow it is now time to focus on change with an emphasis on inter-operability, especially among the C-141 and C-130 aeromedical crews. How to make interoperability a reality is a totally different story. Without command conviction toward allocating flying time and ground training funds for aeromedical evacuation, interoperability will be just another term. Aeromedical crews in our changing world must not only be familiar with their unit's aircraft, but with all of the aircraft capable of patient evacuation -- commercial aircraft, all military cargo aircraft, and military tanker aircraft.

HISTORY AND BACKGROUND

Patient air transport is believed to go back as far as the Franco-Prussian War in 1870, when the Prussians besieged the city

of Paris. Air transport at this time began when the French launched 66 balloons, transporting 160 wounded Frenchmen to safety. During this time, balloon transports for the wounded were known as the ***first*** air ambulances.[1]

Jules Verne predicted the first cases of air transport when he described the rescue of shipwrecked men by airship in his fictional work Robur le Coquerant (1886).[2] It was not until 1909, that U.S. Army Captain George H.R. Gosman (MC) and Lieutenant A.L. Rhoades (CAC), attempted to build an airplane for the purpose of transporting patients. Although unsuccessful in their attempt to build a patient airlift airplane, they were undoubtedly the first men to point out to Washington D.C. the great potential of the airplane for transporting military patients. In 1910, they were successful in convincing the War Department to conduct further experiments involving air transport for the sick and wounded.

In February 1918, the Curtiss JN-4 (Jenny), was the first aircraft used for patient airlift here in the United States. In 1920, the Air Corps added to its inventory the first military aircraft especially configured for transportation of the wounded. This aircraft, designated the DeHavilland DH-4, had space for the pilot, two Stokes litters, and a medical technician. These airplanes were used this same year to evacuate American soldiers from the Mexican border conflicts.

In 1930, a civilian pilot flying over the Ohio countryside would initiate the concept of flight nursing. Her name was Lauretta M. Schimmoler and her idea of nurses trained in aviation would, in time, result in nurses with wings. Her ideas, unfortunately, did not catch on for the next twelve years due to some unwittingly created ill will with the Red Cross, the lack of political and military support, and the high cost involved.[3]

In 1936, Ms. Schimmoler formed a commercial organization called the Aerial Nurse Corps of America with the purpose of providing trained personnel for air evacuation. For the next four years she lobbied for recognition of her organization as a military specialty, first through the Army Nurse Corps, then with Brigadier General Henry "Hap" Arnold, and finally with the Red Cross. In 1940, in a final attempt to acquire support, she visited the Secretary of War and Miss Mary Beard, the Director of the Red Cross Nursing Service. Both parties responded with polite disinterest. She was told "you have a wonderful idea," but you are ten years ahead of us.[4] One year later, the Japanese bombed Pearl Harbor.

Ms. Schimmoler failed to gain any type of military or governmental agency recognition of her ideas throughout the 1930's and early 1940's prior to U.S. entry into World War II. However, the Aerial Nurse Corps provided a model of what we know today as the U.S. Air Force Flight Nurse Corps. In 1966, the Air

Force honored Ms Schimmoler as a pioneer in air evacuation and awarded her the gold wings of the flight nurse.[5]

It was not until World War II, when the need became obvious, that aeromedical evacuation became a priority. David N. W. Grant, the Air Surgeon, assigned to the staff of General Arnold, submitted a plan for a workable aeromedical evacuation system to the Army Staff. By the end of 1942, nurses began to train in air evacuation techniques. All at once, aeromedical evacuation had a tremendous role to undertake.

In October 1942, the Army officially opened the first School of Air Evacuation at Bowman Field, Kentucky. It began with two squadrons of nurses and technicians. High priority missions called these initial medical personnel to the Western Pacific area and north Africa before graduation. The first official flight school graduation took place in February 1943, under the auspices of the Army Air Corps.[6]

Since there were no airplanes specifically designed for patients, cargo aircraft were used to transport the wounded on their return flights from combat areas. This was the beginning of assigning medical personnel to transport squadrons -- and the ***real beginning*** of the air evacuation mission. The Air Corps moved almost 1.5 million patients by air during World War II.[7]

In October 1944, the School of Air Evacuation was incorporated into the School of Aviation Medicine at Randolph Field, Texas. Six years later, due to the limited facilities at Randolph Field, the School of Air Evacuation, now referred to as the Flight Nurse School, was moved to Gunter Air Force Base, Alabama. In October 1959, the Air Force again moved the school to its present location at Brooks Air Force Base in San Antonio, Texas. Since 1959, Air Force nurses, as well as nurses from other countries, have graduated from the Flight Nurse Program at the School of Aerospace Medicine.[8]

Before 1947, America's flying force was the Army Air Corps. Then in 1947, the Air Corps separated from the Army and became known as the United States Air Force. This created three equal military departments: the United States Army, the United States Navy, and the United States Air Force. In 1949, the Air Force established the Nurse Corps. The Air Force Nurse Corps consisted of highly qualified and experienced Army nurses who chose to transfer to the new Air Force. Over 1,000 Army nurses transferred to the newly formed Air Force Nurse Corps, some who had participated in the air evacuation of patients during World War II.[9]

We learned many lessons during World War II on the importance of the air evacuation mission. The U.S. recognized the need for domestic aeromedical evacuation. In 1948, the Secretary of

Defense directed that the sick and wounded be air evacuated in times of both peace and war. The military delegated this responsibility to the Military Air Transport Service (MATS). Later that same year, the Air Force formed the first domestic aeromedical airlift unit at Brooks Field, San Antonio, Texas. The Air Force selected the C-47 "Gooney Bird" as the logical choice for the aeromedical evacuation mission across the entire country.[10]

In 1954, the MATS introduced the Convair C-131A Samaritan. This was the first aircraft specifically designed to carry patients. The C-131 could carry 37 ambulatory or 27 litter patients, or a combination of both. It was primarily used for domestic patient airlift. On 1 July 1964, MATS assumed responsibility for aeromedical evacuation in the United States Air Force European area.[11]

In FY 1965, MATS transported a total of 72,341 patients, family, and non-medical attendants to proper specialty centers for treatment.[12] This number included 19,809 patients and family members transported using C-131 and C-118 aircraft. Another 10,755 patients and attendants from overseas hospitals were transported to aerial ports in the U. S. using the C-135, and 41,777 patients and family throughout the domestic system were transported using the C-131 and C-118. In FY 1966, the total number increased to 97,442.[13]

If not proven before, the value of the aeromedical evacuation mission was definitely confirmed during the Vietnam War. Statistics show that during World War II, almost 4.5 percent of the wounded who reached patient air staging facilities died. During the Korean conflict; 2.6 percent died. Of those patients who reached a medical transport facility in Vietnam, less than 1 percent died.[14] And still today, of patients transported to medical facilities by air, fewer than one percent of all victims of illness and accidents die.

Experiences in both peace and wartime have proven air evacuation to be the safest, quickest and most economical means of transporting the sick and injured to medical treatment facilities. Aeromedical evacuation has definitely proved its value with humanitarian assistance to our people not only during peacetime but also in times of national emergency and war. Before we added jet aircraft to the inventory, travel time between Southeast Asia and the U.S. averaged three to four days. Today, the Air Force can airlift a patient from Japan to California in 10 hours or to an East Coast medical facility within 17 hours.

Patients who are eligible for airlift include active duty and retired military members of the Air Force, Army, Navy, and Coast Guard. Military dependents and other patients certified by the Veterans Administration or the U.S. Public Health Service are

also eligible for airlift. Aeromedical evacuation is also used for assisting U.S. civilians in emergencies and has played a significant role in relieving human suffering as a result of national disasters in almost every part of the world.

HOW AEROMEDICAL EVACUATION UNITS ARE ORGANIZED TODAY

As we know the mission today, military aeromedical evacuation has three categories: strategic using the C-141 aircraft; tactical using the C-130 aircraft; and domestic using the C-9 aircraft.

-- The Lockheed C-141 Starlifter is a high-swept-wing, four-engine jet with a T-tail configuration. Lockheed designed the C-141 aircraft for long-range, high-speed cargo airlift and airdrop. This aircraft first came on line with the Military Airlift Command (MAC) in 1965. The C-141 is air refuelable for extended range between theaters. The C-141 is capable of flying up to 24 hours with an augmented crew; the 24 hour limitation is due to crew fatigue and crew restrictions. The C-141 can be configured with up to 103 litters for patient airlift. While the primary mission of the C-141 is cargo airlift the secondary mission is emergency air evacuation. Each aircraft is permanently equipped with enough equipment to configure for the airlift of 48 litter patients at any given time. To configure for more than 48 litters, more equipment would have to be added. No C-141s are dedicated for air evacuation.

-- The Lockheed C-130 Hercules is a high-wing, four-engine turboprop aircraft designed in the early 1950s. Since this aircraft first flew in 1954, Lockheed has produced over 50 versions. It is also designed for cargo airlift and airdrop. The C-130 is significantly slower than the C-141 and is usually employed for short range theater airlift. Like the C-141, the primary mission of the C-130 is cargo airlift and airdrop. This aircraft can be configured for up to 74 litters.

-- The C-9 Nightingale, the only dedicated aircraft for air evacuation, is the Air Force version of the twin-jet commercial DC-9. The Air Force introduced the C-9A Nightingale as the first jet aircraft specifically designed and permanently configured for aeromedical evacuation in August 1968. The normal configuration is 15 litter patients and 24 ambulatory patients. This aircraft is self-sufficient for domestic air transport. It comes equipped with a self-contained ramp, stairways, internal power unit, as well as litter, ambulatory, and special care areas. The C-9As are based at Scott AFB, IL, Yokota AB, Japan, and Frankfurt, Germany. Today, the C-9, remains responsible for all peacetime domestic patient airlift in the United States, inter-island airlift in Japan, and inter-country airlift throughout Europe.

On all three aircraft, the normal medical crew composition is two flight nurses and three medical technicians. Patient requirements may dictate the addition of a flight surgeon or

more crew members. Patients are moved by classifications -- "routine," "priority," or "urgent." "Routine" patient airlift is normally scheduled within 72 hours, "priority" airlift within 24 hours, and patients classified as "urgent" are transported immediately.

To date, active duty has 4 aeromedical evacuation squadrons (two stateside and two overseas), the Air National Guard 10, and the Air Force Reserve 21. Air Force Reserve aeromedical units make-up approximately 71 percent of all Air Force aeromedical activities. This includes over 2,600 personnel assigned to 19 reserve aeromedical evacuation squadrons and 2 aeromedical groups.[15] Air Force Reserve aeromedical evacuation crews are prepared to fly to any part of the world -- the latest being Somalia.

The crews responsible for aeromedical evacuation of patients within the U.S. are both active duty and reserve personnel assigned to Scott Air Force Base, Illinois. The medical crews that transport patients within and from the Pacific and Southeast Asia areas are active duty personnel stationed at Yokota Air Base, Japan. The Yokota unit is supported on a rotating basis by individuals from the three reserve strategic units on the West Coast who are performing their required reserve annual tour of 15 days. The crews flying in Europe and the Middle East have their

headquarters in Germany and are supported by East Coast Reserve units in a similar rotational manner as Yokota. Since there are five aeromedical evacuation units on the East Coast and only a few active duty tours available in Germany, many 15-day active duty tours are performed in hospitals, burn units, exercises, aeromedical contingency operations training, and other flying and squadron activities.

There are 19 aeromedical evacuation squadrons and 2 aeromedical evacuation groups spread throughout the U.S. within the Air Force Reserve. The squadrons are responsible for providing crews (2 Flight Nurses and 3 Medical Technicians) to support the patient mission as well as coordinating launch and recovery of those missions. The 2 aeromedical groups are primarily responsible for providing ground support of the aeromedical system, and setup of mobile air staging facilities (MASFs). The Groups also supply liaison teams, control centers, and communications support. Today, with new budgetary constraints and the military drawdown, the future structure of the aeromedical evacuation system may demand significant changes.

As part of the Air Force directed Objective Wing restructure, HQ Air Force Reserve reorganized the chain-of-command for aeromedical evacuation units in June 1992.

Diagram: **Old Organization**

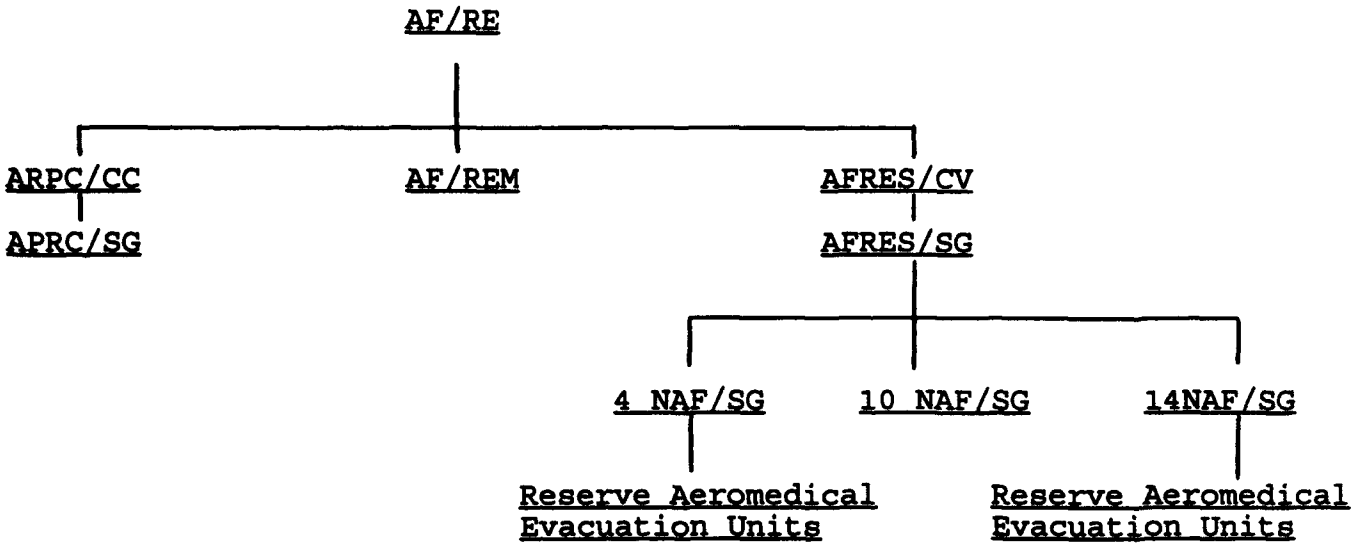

Diagram: **New Organization**

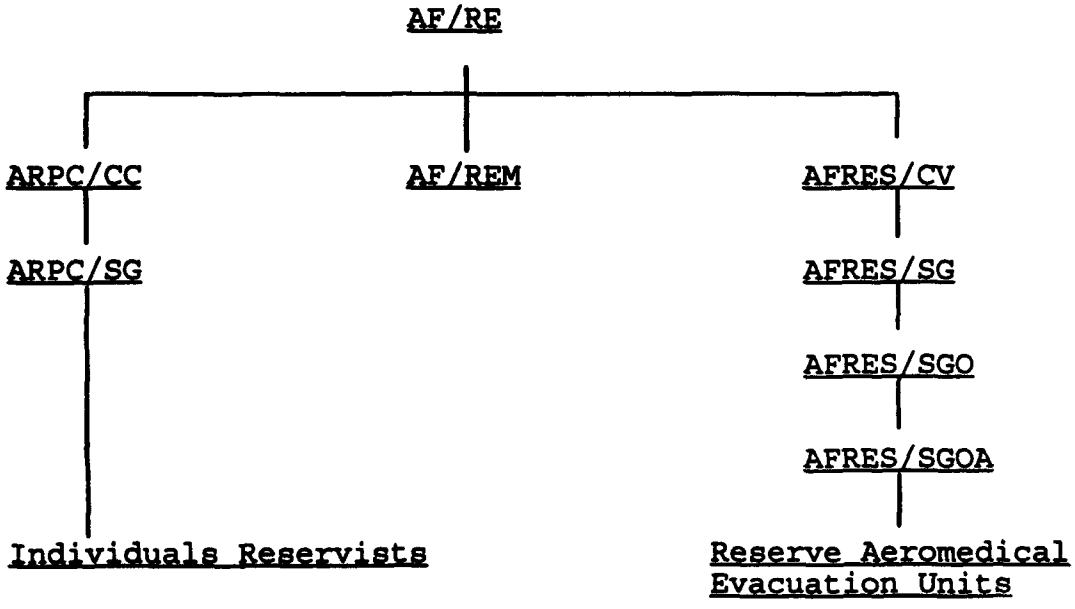

FIGURE 1.

This total reorganization not only consolidated the three Reserve Numbered Air Forces (NAFs), but for the most part deleted the NAF level aeromedical function. Fourth Air Force and Fourteenth Air Force are no longer involved with the day-to-day operation of aeromedical units. Tenth Air Force never had an aeromedical function.

Now, instead of aeromedical units reporting through a Numbered Air Force, they initially report to their respective Wing or Group Commander through the operations channel, then to the newly established Aeromedical Operations Division at HQ Air Force Reserve (AFRES), Robins AFB, Georgia. To date, this new section in aeromedical operations (SGOA), is authorized three full-time positions -- one Lieutenant Colonel Medical Service Corps, one Lieutenant Colonel Nurse, and one Chief Master Sergeant Medical Technician. Personnel in the aeromedical operations section are reservists now on four-year active duty tours. These personnel have extensive backgrounds and possess a high degree of expertise in both aeromedical evacuation matters and the reserve. Presently, these positions are strictly administrative and do not include flying duties. The aeromedical operations section reports directly to the Director of Medical Operations, HQ AFRES/SGO.

What will this reorganization really mean to aeromedical evacuation? Though it is too soon to expect any valid

conclusions, the extensive travel normally required of headquarters personnel will make it extremely difficult to provide continuity and support to the field even with the knowledge and expertise of personnel in the aeromedical operations section. From my experience at Numbered Air Force, and the volume of aeromedical calls and inquiries handled daily, it may be extremely difficult for the AFRES staff to provide effective coordination and communication when dealing with the 21 aeromedical evacuation units under the current structure. Some units may tend to rely more and more on each other while others may contact their gaining command, Air Mobility Command (AMC), directly for guidance. Over time, this may lead to a decline in standardization procedures. However, I feel the newly established SGOA function at HQ AFRES is a major step in the right direction for representation in the emerging aeromedical evacuation system of tomorrow. With this new section, SGOA will have the continuity of personnel to communicate directly with Reserve units and AMC. SGOA will also be able to provide continuity at training meetings and to take an active role in aeromedical evacuation training decisions.

Aeromedical units now directly report to the Commander of the Operations Group at their base. This could prove to be a double-edged sword. There are many perceptions, good as well as bad, about medical flying units. Old opinions and attitudes will not change overnight.

If an aeromedical unit is fortunate, the Commander of Operations will be an advocate for aeromedical operations, be familiar with medical flying requirements, and work with the unit to accomplish these requirements. If a unit is less fortunate, the aeromedical unit may be seen as excess baggage with a multitude of complex problems requiring additional training time. For example, in a large strategic aeromedical evacuation unit, approximately 106 nurses and 165 medical technicians have a requirement to fly every 60-days. This is flying training time, perceived by some people, as training time taken away from the operations community. With the cutbacks and reductions in flying training time, it is obvious that the flying currency requirement for a large number of aeromedical evacuation personnel may go overdue, thus dropping the unit's overall readiness rating.

Will the lack of flying opportunities affect recruiting and retention for aeromedical evacuation units? We will have to wait and see. With reduced flying training time and the large numbers of personnel with 60-day currency requirements, there will be many changes to the aeromedical evacuation system we know today. Many changes are now being discussed at higher headquarters regarding the numbers of medical flying units and personnel actually needed in the emerging aeromedical evacuation system.

Colonel McNish, HQ USAF/REM, in a briefing during the last Association of Military Surgeons of the United States (AMSUS)

Convention in November 1992, presented a talk on the command structure and organization of the Medical Service of the Air Force Reserve. He described a summary of changes that are being considered including a proposed aeromedical evacuation unit reorganization. This proposal appears to be one of many options being considered for the coming drawdown.

The proposal would create aeromedical patient staging squadrons (APSS's) in place of the deactivated aeromedical evacuation squadrons not collocated with their mission assigned aircraft. Currently, APSS personnel are not required to perform flying duties, therefore, by reducing the number of aeromedical crews AFRES can reduce the cost of maintaining flying currency by approximately one-third. Too, the proposed drawdown being discussed would reduce the number of aeromedical evacuation crews by approximately 30%. Of course, this proposal may change with the next base closure list soon to be released. Thus far, no decisions have been finalized on exactly how to accomplish the reduction of aeromedical evacuation crews.

The following list is provided to outline the present Air Force Reserve unit structure and number of authorized crews as it exists today. The aeromedical evacuation units not collocated with their mission assigned aircraft are indicated with an asterisk (*).

Air Force Reserve Aeromedical Evacuation Units:

31 AES = 45 crews (strategic C-141)

33 AES = 25 crews (tactical C-130)

* 34 AES = 12 crews (tactical C-130)

35 AES = 22 crews (tactical C-130)

* 36 AES = 12 crews (tactical C-130)

40 AES = 50 crews (strategic C-141)

* 45 AES = 12 crews (tactical C-130)

47 AES = 12 crews (tactical C-130)

60 AES = 30 crews (strategic C-141)

63 AES = 25 crews (tactical C-130)

64 AES = 12 crews (tactical C-130)

65 AES = 50 crews (strategic C-141)

67 AES = 12 crews (strategic C-141)

68 AES = 50 crews (strategic C-141)

69 AES = 45 crews (strategic C-141)

70 AES = 12 crews (tactical C-130)

72 AES = 45 crews (strategic C-141)

73 AES = 17 crews (domestic C-9)

* 74 AES = 25 crews (tactical C-130)

* 32 AEG = 0 crews (397 personnel not counted in crews)

* 37 AEG = 0 crews (397 personnel not counted in crews)

Air Force Active Duty Aeromedical Evacuation Units:

57 AES = 23 crews (domestic C-9)

1 AES = 0 crews (98 personnel not counted in crews)

9 AES = 14 crews (all three aircraft)

2 AES = 15 crews (all three aircraft)

RECRUITING AND RETENTION CONSIDERATIONS

Recruiting and retention issues are critical in any organization. But today, especially with budgetary constraints and the overall drawdown of the military, recruiting and retention are of vital importance. Units will no longer have the resources to train personnel that do not plan to remain in the Air Force Reserve for a reasonable "payback" period of time.

The recruiting process for a non-prior service nurse continues to be a lengthy, time-consuming process within the Air Force Reserve. It takes approximately one year from the time of initial interview until the unit receives assignment orders and the flight nurse candidate can take the commissioning oath. It takes approximately two years total for initial qualification.

Time Involved From Initial Interview Through Qualification:

Initial interview and referred to recruiter		2 Jan 93
Paperwork and physical completed	6 months	2 Jul 93
Packet at HQ AFRES for review	3 months	2 Oct 93
Packet at ARPC for rank	3 months	2 Jan 94
Oath sent and oath taken	1 month	2 Feb 94
Orders completed and received	1 month	2 Mar 94
First UTA	1 month	2 Apr 94
MIMSO date received/completed	3 months	2 Jul 94
Flight school date received/completed	3 months	2 Oct 94
Flight training at unit and initial qualification	4 months	2 Feb 95

FIGURE 2.

The required initial commissioning paperwork alone is quite involved and time consuming taking approximately six months. After completion of the initial paperwork and a flying physical, the unit sends the packet to HQ AFRES for review and certification of the physical (approximately three months). AFRES then sends the packet to Denver to the Air Reserve Personnel Center (ARPC) for completion of the Reserve assignment order (approximately three months).

If the newly commissioned nurse has no military or flying experience, full qualification requires additional schools and expenses. The cost to send one nurse to Military Indoctrination of Medical Service Officers (MIMSO), an 18-day course, is approximately $4,575.00. The cost of Flight School, a five and one-half week course, is approximately $10,065.00. This becomes extremely expensive for the military especially if the nurse later decides not to participate after completion of training.

After the Vietnam War, Reserve units were staffed largely with experienced prior-service nurses. During the 1970's, the words "commitment" and "dedication" were a top priority. Nurses were staying in the Reserve programs 20-28 years. Now with an apparent change in priorities and the lack of personal incentives, it is not unusual for a nurse to stop participating

or to leave the Reserve program entirely after only two or three years.

For a period of time the Individual Ready Reserve (IRR) retains these nurses but they no longer participate in the unit training assembly (UTA), and they require additional training if ever recalled to active duty. Depending on how long the individual is in inactive status, the training could be time consuming and expensive.

Now with the drawdown and the current budgetary constraints, it is time to rethink our recruiting policies. Instead of recruiting the nurse off-the-street, with no prior military or flying experience, perhaps we should place a greater emphasis on retaining our active duty assets for reserve positions through exit-interviews and separation briefings plus a thorough follow-up.

A large number of military nurses separating from any of the active forces really don't know much about nursing duty in the Reserve.[16] They have later made general comments about their lack of knowledge regarding Reserve opportunities. It is imperative to make a conscious effort to retain our personnel in some branch of the military, not only for their experience but for reduction in the training costs involved.

What is the cause of the apparent high turn-over rate in Reserve aeromedical units today? Could it be that humor no longer exists, that units are too large to manage effectively with the skeleton full-time staff, a change in personal priorities, etc.? Results from all the unit surveys and questionnaires developed over the years indicate that a majority of the losses seem to occur because of a change in the individual's personal situation. Changes sighted included: a change in marital status, a home move, family conflicts, civilian employment interference, attending higher education, and lack of time to meet Unit Training Assembly requirements.

Can we possibly attempt to control personal decisions? Obviously, we can't; however, we can try to ask the right questions and lay out the details of the program during the recruiting interview. Honesty and frankness about what the aeromedical evacuation job involves and the personal commitment it requires will probably help. We recruit too many people that think the requirements are only one weekend per month and two weeks per year. Nothing could be farther from the truth.

Today, the time involved to train a non-prior service nurse is 14 months. The process begins by applying for MIMSO and Flight School. After receiving confirmation dates for these two required courses, it will take approximately eight months to complete both courses since they are not usually available back-

to-back and require two separate trips to San Antonio, Texas. After completion of both schools, full crew qualification may take another six months. This six months is due largely to personal schedules and the occasional lack of aircraft for training.

The gaining process looks like this (See Figure 2): first, the nurse attends an 18-day MIMSO course at Lackland AFB, Texas. The nurse then returns home and awaits a Flight School quota to attend the five and one half week course at Brooks AFB, Texas. During Flight School, the nurses are given classes in: 1) aeromedical history, 2) specialized techniques required for safe transportation of patients by air, 3) the basic principles of aviation medicine, 4) the procedures and techniques used in disasters, and 5) the skills necessary for aeromedical nursing care of medical and surgical patients as well as all other categories of patients.[17] Once the nurse has completed both MIMSO and Flight School, they are ready to begin unit training and qualification.

Many times after the first time-consuming eight months with attending MIMSO and Flight School, the nurse finds a conflict with Reserve and personal time commitments, for example, civilian employers and family priorities. Many times the nurse is not eager to request additional time-off from a civilian job to accomplish the additional unit training and flying duties that are necessary for actual aircraft qualification. Aeromedical

evacuation units require (by regulation) members to complete approximately 30 annual training requirements, 10 biennial requirements, as well as fly once every 60-days as a crew member and once every 90-days in their applicable crew position once qualified. With a crew consisting of only five members, two Flight Nurses and three Medical Technicians, it does not take long to understand the dilemma of how to keep everyone current and qualified with only four or five missions available per month.

Along with training requirements and currency issues, we cannot forget routine inspections. Preparing for these inspections demands an enormous number of man-hours. Until the reorganization, June 1992, medical inspections for aeromedical units were strictly administrative. The inspection team based its overall rating on how well the unit documented its mission. Some of the required documentation includes unit goals and objectives, operational plans, job descriptions, and operating instructions for every section within a unit. Some large units have up to 30-40 sections requiring written documentation. These administrative responsibilities absorb an enormous amount of time over and above the scheduled UTA weekend.

When the cumulative demand for time becomes too great and it becomes too difficult for the nurse to accommodate not only reserve commitments, but civilian job responsibilities, along

with family responsibilities, it becomes clear that the Reserve commitment will most likely be the first to go.

How do we improve retention rates? It appears that today the biggest complication is the -- ***demand for time.*** How do we reduce ground training and flying training requirements, do away with largely meaningless administrative inspections, yet maintain the quality that we so desperately need, especially with a reduction in forces? For many years committees and action teams have attempted to solve this dilemma. There are stacks of retention surveys and questionnaires, along with the results of numerous interviews, maintained at higher headquarters. However, these tools do not appear to shed much light on how to actually improve retention rates or how to recruit separating active duty personnel for the military reserve.

RECOMMENDATIONS FOR THE EMERGING SYSTEM OF TOMORROW

With the military drawdown, budgetary constraints, and the emerging aeromedical evacuation system of tomorrow, it will be crucial to our survival to maximize every resource available and keep the reserve operation running smoothly. The leadership today in our Reserve Program is exceptional. It is vital that we maintain that Reserve leadership. As we shift from a policy of containment to economic prosperity and growing democratic institutions around the world, we must remember that we need to be a force for freedom and democracy throughout the world. To do

this, we must be ready for our new role and maintain an even greater potential for rapid mobilization.

First, for the aeromedical evacuation system of tomorrow, recommend a review of the potential value of having an Air Reserve Component (ARC) liaison team at Air Mobility Command. This liaison team would consist of Air Force Reserve, Air National Guard, and active duty personnel. The ARC would fill the positions with reservists. The jobs would involve flying duties and the responsibility of establishing day-to-day communication with Air Force Reserve and Air National Guard units. It would be important to fill these positions with personnel that were current and qualified, that had the appropriate rank commensurate with the authority, that had at least ten years experience in a flying unit along with a thorough background with the ARC, and were instructor and/or examiner qualified.

The benefits of having six to eight full-time reservists at AMC would include: a greater appreciation and understanding of reserve time constraints (reservists are part-time and have two days per month scheduled for a UTA to accomplish most requirements; this is often overlooked), broader representation for ARC, more continuity for day-to-day operations, a broader pool of expertise when making policy decisions, and enhanced standardization of procedures. These benefits would far out-

weigh the dollar cost of a liaison team in the long term.

Second, recommend standardized guidelines for aeromedical evacuation recruiting such as a basic outline for recruiters and more detailed guidelines, briefings, and questionnaires for the unit level. These tools would focus on flying requirements and most importantly the time commitment involved in aeromedical evacuation unit participation. These guidelines would be most influential in units that do not have the luxury of having one particular person doing recruiting. These guidelines would provide standardized information for anyone conducting a recruiting interview at the unit level. Some units may have effective recruiting programs but other units continue to be fragmented when it comes to actual recruiting techniques. Many times the lack of full-time personnel greatly effects unit level recruiting.

Third, recommend review of the present organization of aeromedical evacuation units. There is a lack of analysis to determine if it is cost effective to keep a unit with only ten to twelve crews (approximately 60 people) at several locations. Could we improve our present system and reduce some of our overhead by combining units? From my past experience in a 50-crew strategic unit and at Numbered Air Force, I feel the most operationally effective unit size would be a 30-crew unit. This is without hard facts on the actual cost of operating a large

versus a small aeromedical evacuation unit, and strictly my opinion. For example, a 30-crew unit, approximately 150 personnel, appears manageable and yet small enough to keep the personal touch. It appears that when people know each other's medical backgrounds and capabilities, things tend to run more smoothly. In a 30-crew unit, I feel we would again be able to focus on the person as well as focus on maintaining the individual's unit training and readiness requirements as well, such as, flying activities, continuing education, and medical skills, etc.

The personal touch has been missing in the large strategic units since the authorization "surge" in the late 1970's and early 1980's. When the strategic units expanded to 50 crews, approximately 250 personnel, plus administrative staff and Medical Service Corps Officers, the full-time staff did not increase at a comparable rate. In addition to the original six full-time positions, the full-time staff increased by only three positions when the strategic units doubled in size; 25 crews to 50 crews.

Again today we are seeing a similar shortage of full-time personnel with the build-up in the two aeromedical evacuation groups. The increase in number of unit personnel has exceeded the capability of full-time staff to effectively manage the added responsibilities. I think we would be better off in the long run

with a more realistic unit size, especially in areas such as, qualification training, standardization, recruiting, retention, and medical readiness.

With today's economic constraints, we may want to reevaluate the need for combining smaller units, and reducing the large strategic units from 50 crews to 30 crews. In my opinion, 30 crews would be more manageable with the number of full-time staff presently authorized. Even the existing number of full-time staff at present is not certain with the reorganization changes and unit manning statement changes. To date, the number of full-time staff in the large strategic units appears inadequate.

Recommend for a 30-crew unit, a full-time staff of ten full-time slots: Commander, 2 nurses, 2 medical technicians, 2 administrative personnel, 1 experienced AFORMS person (preferably a 271X AFSC), 1 secretary, and 1 position dedicated for training and medical readiness. I have chosen not to address full-time manning in the two aeromedical evacuation groups at this time, since higher headquarters does not count the group personnel by crews, and the group's mission is totally different from an airevac squadron's mission. It is unclear how many additional personnel and missions these groups will actually inherit after the drawdown of the aeromedical evacuation squadrons.

Also recommend a process action team be appointed to identify the

critical resources of the strategic unit, to prepare a detailed cost/mission analysis, and recommend the optimum unit size.

Fourth, recommend continuation of the consolidated training program, "school house," for C-130 aeromedical evacuation qualification immediately after Flight School graduation. Today, the AMC pilot program for nurse and medical technician qualification out of Flight School is underway at Little Rock AFB, Arkansas. Some of the background on how the school house concept originated involves Desert Shield/Storm. During the Gulf War, MAC stated that they would need approximately 53 additional aeromedical evacuation crews to adequately accomplish the mission. MAC then sponsored a five-day qualification course for nurses and medical technicians at Kelly AFB, Texas, to accomplish the task of qualifying 53 new crews. Both the Air Force Reserve and the Air National Guard, referred to as the Air Reserve Components (ARC), supported this qualification program. After the war, MAC gave the ARC several waivers to continue this consolidated training for unqualified reservists until establishment of the active duty school house at Little Rock AFB. The first school house qualification program is currently being conducted at Little Rock AFB. The future of this program under the current structure is uncertain at this time.

I would like to mention here that the two tactical units at Kelly AFB, Texas (1 AES and 1 AEG), were largely responsible for the

success of the C-130 qualification training courses during the past two years. Both units at Kelly AFB provided standardized training for other tactical units in the ARC. The instructors and examiners all taught from the new HQ AMC standardized lesson plans. With the uncertainty about the continuation of the school house at Little Rock AFB, it may be unwise to reorganize or eliminate the Kelly AFB aeromedical evacuation squadron at the present time. If the school house at Little Rock AFB, does not continue for cost reasons, manpower, number of required instructors and examiners, or for whatever reason, the Flight School at Brooks AFB would depend largely on the resources from the aeromedical evacuation squadron at Kelly AFB. The aeromedical group at Kelly AFB has a few instructors and examiners, but the numbers are not sufficient to help support a revived qualification program for Flight School graduates. The number of required instructors and examiners, for the most part, would have to come from those trained through the aeromedical evacuation squadron at Kelly AFB.

Fifth, recommend more nursing involvement in the final after-action reports sent to higher headquarters. It is critical we ensure the highest standards for clinical activities during both peacetime and wartime. It may become too easy for non-medical personnel to overlook nursing assessments and evaluations when it comes to patient care, whether these assessments are on the ground or in the air.

After the Gulf War, nursing evaluations regarding patient needs and assessments were not always presented in the final after action documentation forwarded to higher headquarters. It appeared that clinical activities were not high enough priority to be included in the final "sanitized" report. By deleting nursing assessments and not addressing ways to improve the patient care system, the patient suffers. We must ensure nursing requirements and changes are documented appropriately and fully supported. It is vital that top management accept the importance of clinical activities including nursing assessments, and give patient care the recognition required.

Sixth, recommend reassessing the Reserve nursing authority, manning, and position at major command levels. The Air Force Reserve has one Brigadier General position, the Mobilization Assistant (MA) to the Chief of the Air Force Nurse Corps, at Bolling AFB, MD. This position carries rank but apparently does not provide for any authority dealing with policy. Recommend a relook at the duties and responsibilities assigned to IMAs and MAs. Perhaps a greater role and more authority could be considered in these changing times.

The Air Force Reserve also has a Colonel position for the Chief Nurse at HQ AFRES. However, an active duty nurse has always held this position. The present incumbent in this position is not at HQ AFRES, but is located at Bolling AFB in Washington, D.C. The

Air Force Reserve currently has three reserve nurse positions, one 0-6 and two 0-5 positions. Presently, the 0-6 and one of the 0-5 positions are in the non-flying medical division (SGOG), and the other 0-5 position is in the aeromedical operations division (SGOA). Recommend that with the Air Force Reserve aeromedical evacuation making up 71% of the total Air Force aeromedical capability, it is appropriate to dedicate a full-time reserve Colonel nurse position at HQ AFRES dedicated to deal with the complexity of aeromedical evacuation.

In addition to expanding full-time manning for nurses at major command levels, I recommend that AFRES review the appropriateness of present civil service ratings for nurses. The Office of Personnel Management (OPM) implies that the best qualified person should be in any given position. As long as civil service nurses continue to be graded as GS-11s, it will be nearly impossible for a well-qualified nurse to achieve a supervisory position at Command levels. Major command level positions usually grade out as GS-12s and 13s and these positions are not in the "nursing series," but in the "medical administration" area. Position descriptions for nursing positions are not considered to be "supervisory." Nurse applicants, therefore, are excluded from major command level positions. Recommend that GS ratings and positions at Command levels should be generic, and interchangeable whether the position involves a nurse or Medical Service Corps officer.

SUMMARY

The Air Force must call upon the Air Force Reserve for augmentation early in any contingency to meet strategic airlift and aeromedical evacuation requirements. The Reserve must maintain its ability to mobilize and deploy within 72 hours of activation. Along with this role, we must ensure the continuity of Reserve management and leadership to maintain the outstanding capability and readiness we have come to expect from the Air Force Reserve.

Although the Air Force Reserve aeromedical evacuation system is relatively healthy today, the drawdown will force us to look at our present structure and reshape for the emerging system of tomorrow. It will force our leadership to make some hard decisions and determine where they can make some improvements. We must be ready for both a new role and rapid mobilization.

Now is the time to consider the benefits of an ARC liaison team at AMC, a time to understand reserve time constraints, and a time to gain a greater appreciation for reserve contributions. A reevaluation of recruiting practices, the development of a process action team to identify critical resources of an aeromedical evacuation unit and optimum unit size, a look at the benefits of consolidated training, and an increase in full-time manning for reserve units would be an appropriate starting point for the emerging system of tomorrow.

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