PROFILE IN LEADERSHIP

Brigadier General David N.W. Grant and the Birth of the Flight Nurse

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In September of 1944, after intense fighting against the Japanese in Palau, 24 wounded soldiers were loaded onto a C-47 to be evacuated to Guadalcanal for medical treatment. The war-weary soldiers were turned over to U.S. Army 1Lt Mary L. Hawkins, a flight nurse in the 828 Medical Air Evacuation Squadron (MAES), who would be in charge of the patients until their disembarkation. Running low on fuel, the C-47 made an emergency landing on the small island of Bellona in the Solomon Islands southwest of Guadalcanal. During the landing, a propeller tore through the fuselage of the plane causing a piece of a wooden litter pole to slash the trachea of one of the men. Jumping into action, Hawkins directed the evacuation of the disabled aircraft and rushed to treat the badly wounded soldier. Hawkins administered morphine before fashioning suction and breathing devices using simple medical supplies from her kit and the tubes from a Mae West life preserver. Using these make-shift devices, Hawkins, assisted by an enlisted medical technician, was able to keep the soldier's air passage clear of blood for 19 hours while they awaited rescue. Because of her leadership, ingenuity and quick-thinking, all of Hawkins' patients survived the ordeal, and Hawkins was awarded the Distinguished Flying Cross.

A month later, in October of 1944, U.S. Army 1Lt Adela Lutz of the 802 MAES was on a mission to evacuate 15 patients from the German border to Istres when the aircraft she was serving on encountered a storm and crashed. Lutz was killed along with her patients; it was her 196th aeromedical evacuation mission. Over the course of her 11 months as a flight nurse, Lutz had evacuated nearly 3,500 casualties and had become one of the most highly decorated women to serve in World War II. For her courage, dedication, and extraordinary leadership, she received the Air Medal with four Oak Leaf Clusters, a Purple Heart, and posthumously, the Distinguished Flying Cross.

These two remarkable professionals were part of a new mission being undertaken by the newly created U.S. Army Air Forces. The mass evacuation of battlefield casualties using transport aircraft manned by specially-trained flight nurses had begun less than two years earlier, but in that short amount of time, had become one of the most successful advancements in military medicine. Between 1942 and the end of the war, over a thousand flight nurses and nearly that many enlisted medical technicians were trained at the new School of Air Evacuation at Bowman Field, Kentucky. Eighteen Medical Air Evacuation Squadrons were formed with the mission of evacuating wounded personnel from combat zones across the globe to hospitals in the rear or back to the continental United States. Each flight was staffed by a flight nurse and enlisted medical technician team to provide care while en route.

The flight nurses would work in unheated, unpressurized, and extremely loud aircraft that, because they were used to fly in materiel before being converted to receive the wounded, were unable to fly under the markings and protection afforded to medical transport vessels by the Geneva Convention. Because of this lack of protection, all flight nurses were volunteers. At the end of the war, almost half a million casualties had been transported for definitive care away from combat zones. The low fatality rate among evacuees, about two per every 100,000 wounded soldiers, reflected the nurses' unique training in aviation medicine and their capacity for independent thinking and quick action.

The mission of aeromedical evacuation and the creation of the flight nurse specialty, which proved so successful in World War II, and which we, in 2021, have come to acknowledge as a strategic part of any war effort, did not enjoy an easy road into existence. There were institutional and technical roadblocks that threatened to end this innovation before it ever had a chance to mature. Flight nursing and aeromedical evacuation needed an advocate and an organizer to overcome these obstacles. They found that person in U.S.Army Brigadier General David Norvell Walker Grant.

Background

The idea of using aircraft to move injured or ill persons was promulgated shortly after the Wright brothers made their historic first flight in 1903 and was developed internationally throughout the 1920s and 1930s. Prior to the onset of hostilities in World War II, the German Luftwaffe proved the value of aeromedical evacuation during the Spanish Civil War. While the United States medical and aviation communities were taking note of this development, there was little interest in pursuing mass aeromedical evacuation in the U.S. military due to a blend of technical, cultural, and organizational factors. In fact, according to Lt Colonel Richard L. Meiling of the U.S. Army Medical Corps, many military authorities still thought it was "dangerous, impracticable, medically unsound, and militarily impossible" (Meiling, 1944, p. 93) even after the U.S. entered World War II.

Likewise, the interest in using nurses aboard aircraft was well established before the opening of World War II. In the early 1930s, Lauretta M. Schimmoler, a female pilot, predicted a future need of nurses to serve aboard military aircraft and founded the Aerial Nurse Corps of America (ANCOA). ANCOA was a civilian organization comprised of highly-trained nurses that Ms. Schimmoler intended to serve as flight nurses in the U.S. Army when needed. Receiving no acceptance and border-line hostility by the American Red Cross, the only volunteer organization authorized to render aid to the Medical Department of the Army, Ms. Schimmoler began reaching out directly to army personnel she thought would be interested in her flight nurse organization. She was disappointed by Major General Henry H. Arnold, then Acting Chief of the Army Air Corps, when he dispassionately directed her back to the Red Cross.

Undaunted by the lack of interest by the Red Cross and the U.S. Army Air Corps, Ms. Schimmoler persistently pressed for the inclusion of ANCOA nurses in the national defense structure during times of war. Yet Army leadership continued to show a sincere lack of interest in creating a special unit of nurses trained in aerial evacuation and in-flight care of wounded servicemen. Ms. Schimmoler's ideas, however, attracted the notice of Maj Grant.

General Grant, Aerial Medivac, and the Advent of Flight Nurses

Already a well-established Army medical professional, Grant was drawn to the emerging specialty of aviation medicine, and in 1929, he applied to the School of Aviation Medicine to become a flight surgeon. While serving as a flight surgeon at Randolph Field, Grant's professionalism and competence garnered the attention

and esteem of the Surgeon General's office. In 1936, he was ordered to attend the Air Corps Tactical School (ACTS) at Maxwell Field, Alabama, the first flight surgeon to do so.

The ACTS in the 1930s was a flurry of activity developing the concepts of the military application of air power. As a flight surgeon, Grant was already keenly aware of the unique requirements of aviation medicine and was developing a strong affinity to the Air Corps. His exposure to the proponents of an independent Air Force at ACTS likely influenced his later belief in an independent air force medical service. It is obvious by his thesis, titled "The Value of the Autogiro in Military Medicine" that by the time he graduated from ACTS, Grant was envisioning the mass evacuation of battlefield casualties by air, although at the time, he was uncertain that such a mission would be realized.

Fortuitously, Grant was moving toward a role in which he would be able to combine his personal experience with aviation medicine, his interest in aeromedical evacuation, and the growing body of knowledge regarding Luftwaffe successes. He would act as a champion for the Army medical community to develop a plan for the aerial evacuation of wounded servicemen. In August 1939, now Lieutenant Colonel Grant, who had earned a reputation for being a forceful and skilled administrator, was sent to Washington D.C. to assume the post of assistant to the Chief of the Medical Division in the Office of the Air Corps.

Due to the illness of his boss, Grant would end up serving as the acting chief immediately upon his arrival. He found himself in a situation where tensions over the growing autonomy of the Air Corps had been brewing for months, with the Army Surgeon General endeavoring to assume command of the Air Corps Medical Division. Grant's effectiveness in staving off repeated attempts to centralize the Army's medical services and appreciation of the needs of the Air Corps earned him the respect of General Arnold. Arnold's support of Grant would serve him well as he strove to expand the roles and responsibilities of the Air Corps Medical Division and strengthen its autonomy. The conflict over organization and command, which stemmed from the growing separation between the Army and the Army Air Corps would be a recurring theme throughout the war and strain Grant's relationship with two subsequent Surgeon Generals.

In the spring of 1941, Grant began to press harder for the creation of an organized aeromedical evacuation system. With the authority question still unsettled, he would have to submit his proposed evacuation plan to the Surgeon General, now Major General James C. Magee. The plan was set aside with no action taken for almost nine months. Armed with his new title of Air Surgeon, Grant went around the Surgeon General and took a copy of his plan directly to the War Department. The Surgeon General was incensed that Grant had bypassed proper channels and demanded that General Arnold reprimand him. Arnold responded by confirming that, going forward, the Air Surgeon would report directly to him and not to the Surgeon General. This episode is but one example of Grant's willingness to go outside established channels when he felt the mission was not being served. The creation of the Army Air Forces (AAF) in 1941, Arnold's trust and backing of Grant, and the 1942 reorganization of the War Department, which gave the responsibility for aeromedical evacuation to the AAF, finally opened up the possibility for the introduction of a comprehensive plan for evacuation—a plan that due to Grant's inclusive leadership, would include an expansive opportunity for women.

The Medical Air Evacuation Squadrons, later renamed Medical Air Evacuation Transport Squadrons, included a role for female Flight Nurses. This role reflected the recognition that nurses were the most highly-trained medical professionals next to

doctors, and that due to unique physiological issues that could affect an ill or injured body while in flight, America's wounded deserved their specialized care.

Given the tyranny of distance in the Pacific Theater, intra-theater evacuation by air had already begun out of necessity. With this capability already established, the most critical step was to institute effective training programs. Grant took a personal interest in preparing the course of study for the nurses at the School of Air Evacuation, which was opened in October of 1942. In addition to military training, the flight nurses' education included courses in physiology, tactics of air evacuation, logistics, arctic and tropical medicine, and field sanitation and hygiene.

As the first class of flight nurses was entering the school, Grant was working to prove to those in Washington that still had doubts, that inter-theater evacuation was feasible and that flight nursing was a key element. A mission, kept secret from the Surgeon General's office, was underway.

It would be as formidable a test as one could readily imagine. The first flight nurse, U.S. Army 2Lt Elsie S. Ott, was not yet a flight nurse when handed her first mission. The Army nurse had never even been on a plane when she was tasked in January of 1943 to transport five injured and ill men from her station hospital in Karachi, India, to Walter Reed Hospital in Washington, D.C. Ott had less than 24 hours to prepare, and with no flight surgeon to brief her, she was on her own to get the job done. She grabbed what medical supplies she thought would be needed and set off. The trip lasted seven days, spanned 11,000 miles, and stopped in 11 locations before reaching Washington, D.C.

Ott provided almost around-the-clock care to her patients, even paying out-of-pocket for patient's lodging and meals when they were needed. Although she was so fatigued at the end of her trip that she had to check her dog tag to find out what her name was, all of her patients went on to make full recoveries.

The mission was an unmitigated success. It demonstrated that aeromedical evacuation could save lives and lessen the burden of hospitals in forward areas, while generating publicity that inspired scores of nurses to apply to be flight nurses. For this mission, Ott became the first woman to be awarded the Air Medal. Less than a month later, Grant would tell the first graduating class of flight nurses "Your graduation in the first class of nurses from the first organized course in air evacuation, marks the beginning of a new chapter in the history of nursing." (Link & Coleman, 1955, p. 371)

The flight nurses who followed lived the Flight Nurses Creed, written by Grant himself: "I will summon every resource to prevent the triumph of death over life." (Barger, 2013, p. 57) Flight nurses served in every corner of the globe, working in tandem with pilots and air crews in every aspect of the mission– from configuring aircraft, to inflight management of the patients. Flight surgeons and Air Corps officers placed increasing trust in the flight nurses throughout the war, and often relied on them to fulfill the flight surgeon's duties when needed.

In spite of their successes, aeromedical evacuation and flight nursing were hampered by institutional as well as gender bias by traditional officers, and their full potential remained unrealized at the end of the War. A fundamental lack of understanding and an aversion to putting women into harm's way kept flight nurses, in the Pacific and China-Burma-India theaters particularly, from flying into combat zones and even on certain routes of evacuation. Additionally, a lack of education in the value of air evacuation to theater commanders and a lack of acceptance of air assets as more than supplemental parts of the Army mission, occasionally

led to a reluctance to use the air over traditional means of evacuation. These issues, coupled with coordination and communication issues, and a low-priority rating given to patients by some theater commanders, created damaging delays, additional exposure and injury to the wounded, and wasted flying hours for the MAES. One flight nurse, in August of 1944, made over a hundred flights yet only received patients on roughly 30% of them. The reluctance to accept this capability not only reduced the effectiveness of evacuation and wasted the specialized skill of the flight nurse, it undoubtedly cost American servicemen their lives.

The nature of global conflict necessitated the creation of the flight nurse specialty. In a sense, development of this capability was inevitable, though it could be slowed by bureaucratic wrangling. However dreary and frustrating the bureaucratic battles over autonomy of the Air Surgeon's office, they were essential in enabling Grant to move ahead with his plans to create an effective air evacuation capability early in the war, including a pivotal role for female nurses.

Grant worked tirelessly to see the development and continued growth of the medical air evacuation program, and after the war, spoke candidly yet humbly of its successes, heaping praise on his staff and on the members of the MAES. He retired in 1946, having institutionalized the Air Evacuation mission, and laid the foundation of an independent medical service that would come into its own after the establishment of the Air Force in 1949. Likewise, flight nursing was further developed in the Korean and Vietnam Wars, and has become a highly specialized sub-field of the nursing profession in the military and civilian spheres alike. Flight nurses continue to, in Grant's words, "set the very skies ablaze with life and promise for the sick, injured, and wounded" (Barger, 2013, p. 57).

Questions for Reflection:

- General Grant and the Surgeon General both had responsibilities for the evacuation of Army personnel yet struggled to overcome the burgeoning inter-service rivalry to implement a comprehensive plan of evacuation and teach ground commanders the value of air evacuation, thus lessening its overall effectiveness. What can this teach us about leadership in planning joint operations today?

- Until 1942, General Grant lacked the explicit authority to execute the air evacuation mission that he felt would best serve U.S. servicemen and women, and took his 1941 proposal directly to the War Department. Additionally, he would go outside of normal procurement chains when deployed AAF medical units were in need of supplies. How would you assess Grant's readiness to operate outside formal channels?

- Flight Nurses were a key element in the success of the air evacuation mission, yet were often discontented when they felt their contributions were being limited due to policies relating to their gender. What would you do if you feel your impact is being hindered by leaders who have biased ideas regarding gender and/or race?

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References

Barger, J. (2013) *Beyond The Call of Duty: Army Flight Nursing in World War II*. The Kent State University Press.

Link, M. & Coleman, H. (1955) *Medical Support of The Army Air Forces in World War II*. U.S. Government Printing Office.

Meiling, R. (1944) Air Evacuation (1944) *The Journal of Aviation Medicine, April*. 93-97.

Further Reading On The Subject

Barger, J. (1984) Rivalry for the Sky: A Prelude to the Development of the Flight Nurse Program in the US Army Air Forces. *Aviation Space Environmental Medicine*, 56(1) 73-78.

Barger, J. (1986) Strategic Aeromedical Evacuation: The Inaugural Flight. *Aviation Space Environmental Medicine*, 57(6) 613-616.

Julian, T. (2015) *A History of Aeromedical Evacuation in the U.S. Air Force*. U.S. Government Printing Office.

Sarnecky, M. (1999) *A History of the U.S. Army Nurse Corps*. The University of Pennsylvania Press.

Skinner, R. (1983) The Making of the Air Surgeon: The Early Life and Career of David N.W. Grant. *Aviation Space Environment Medicine*, 54(1) 75-82.