The AMEDD Historian

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Contents

Welcome to Issue #45 of *The AMEDD Historian*! This issue has several biographical pieces, and of note are articles on former Surgeons General LTG Bernhard T. Mittemeyer (SG 1981-1985) and MG Raymond W. Bliss (SG 1947-1951). Each would be formed by wartime experiences and worked to build the AMEDD either during wartime or preparing for the next conflict. Read to see the organizational shifts and pushes for improvement during their tenure. LTG Bernhard T. Mittemeyer pushed to improve Army Medicine during the Cold War and post-Vietnam rebuilding era. MG Raymond W. Bliss managed components of the huge AMEDD during World War II, its significant draw-down, and then restart with urgency during the Korean War.

Other biographical articles include information on 1LT Sharon A. Lane, the only Army nurse killed in Vietnam from hostile fire, and COL Bailey K. Ashford and his service during the Spanish-American War. In addition to his other medical duties, Ashford worked on improving sanitary conditions and fighting parasitic anemia. Also read about mass casualty treatment for chemical weapons during World War I, early veterinary partnering with other countries, and medical equipment artifacts.

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LTG Bernhard T. Mittemeyer, Surgeon General 1981-1985: An Appreciation

Sanders Marble, ACHH

In the early 1980s, Surgeon General Bernhard Mittemeyer worked to raise the AMEDD's readiness for a large war. For a decade his predecessors had dealt with personnel and administrative turbulence, with the end of the draft/beginning of the All-Volunteer Force and creation of Health Services Command, and had prioritized garrison healthcare. Mittemeyer could build on the work they had done, and try to raise standards while re-emphasizing wartime medical requirements.

Born to Dutch missionary parents in the Dutch colony of Suriname in 1930, Bernhard Mittemeyer emigrated to the U.S. in 1944. After college, he attended medical school and was selected for the 'doctor draft.' He volunteered for a commission rather than serve as a private, became a First Lieutenant in 1957 and was assigned to the 101st Airborne Division. His division commander (MG, later GEN, William Westmoreland) helped him become a U.S. citizen so Mittemeyer could join the Regular Army. After general surgery residency, he had an abbreviated course at Command and General Staff College, before six years of clinical duties including urology residency. In 1968 he deployed to Vietnam double-hatted as the division surgeon for the 101st Airborne and commander of the division's medical battalion. During his year there, he received

a Bronze Star with V device and Distinguished Flying Cross. After a year with senior clinical and administrative responsibilities at Kimbrough Army Hospital (named for a urologist), he attended Army War College before undertaking further clinical and administrative duties at Walter Reed, where the new hospital was being built. Next he was quintuple-hatted in Korea as commander of the 121st Evacuation Hospital, commander of Army Medical Command-Korea, and Surgeon, United Nations Command/U.S. Forces Korea/Eighth U.S. Army. Next he was both director of professional services and Chief of Medical Corps Affairs in the Surgeon General's Office. After two years of that, he was commander of Walter Reed for just over a year before confirmation by the Senate as The Surgeon General in October 1981. After not quite four years, he resigned as Surgeon General and retired in February 1985. After first working in Los Angeles, he moved to Lubbock, Texas, where he was an administrator and clinician at the Texas Technical University Medical Center for many years. As administrator he rose to being president of the medical school, and as clinician he established a urology residency and department. He practiced medicine until he was almost 80, and led a community effort for an expanded Veterans Administration clinic in Lubbock after retirement. He died on 25 January 2023.

As Surgeon General, Mittemeyer established clear priorities: "First and foremost, I want the Army Medical Department to be prepared for war. This includes selected reorganization of units, resolution of personnel shortages/imbalances, and the modernization and replacement of equipment." Second was improving the quality and image of AMEDD, third better support to clinicians, and fourth fitness of the whole Army.

Congress was worrying about the quantity of medical care in theater. In May 1982 Senator Roger Jepsen said there had been at least ten years' neglect for the combat support part of military medicine. In 1984 the Assistant Secretary of Defense for Health Affairs, Dr John Beary, escalated the rhetoric: "The sober fact is that if we went to war today in Europe, in Southwest Asia, or in Korea, we could provide surgery for less than 20 percent of our wounded. … Eight out of ten combat casualties would die or be maimed with our current system resources." There was external pressure, too, with a former Chief of the Army Reserve publishing a report "Will America Be Able To Treat Its Battlefield Wounded?"

Mittemeyer created a Force Modernization Branch in OTSG, and supported moves around the AMEDD to increase forward medical care. Part of that was reorganizing forward hospitals, so there were more operating rooms and beds allocated per division. Part of that was training; the Combat Casualty Care Course was in early phases, and Mittemeyer had an Emergency War Surgery Training Program started to increase capacity. Enlisted training was also being expanded, with the 91B basic medic training going from 6 weeks of training to 10 weeks, with the extra time spent on combat trauma and shock; the newly-trained medics were expected to be able to hold patients up to six hours after injury. Another course was being developed to increase clinical skills among NCO medics, who previously had only had on-the-job training after AIT. Combat Lifesavers were introduced in the Army at this time as well. There were also material solutions under development. Researchers were trying to develop longer-lasting blood that did not need freezing. Chemical defense received significant attention, with 2-PAM Chloride receiving FDA approval in December 1982, and collective protection shelters for battalion aid stations being tested. There were also preliminary studies about how to bring telemedicine to the battlefield. Deployable Medical Systems (DEPMEDS) equipment was being designed as the inter-service standard, but it would not be fielded for several years.

The Army was largely focused on WWIII scenarios against the Warsaw Pact, which allowed focusing

war plans, and medical support. In spring 1982 agreement was reached with the Germans, who would activate five battalions (totaling nineteen companies) of train and bus ambulances to move U.S. patients in the theater. The Joint Chiefs of Staff had to get involved (this was several years before Goldwater-Nichols changed how 'joint' the U.S. military was) with an Ad Hoc Medical Steering Committee looking at bed-sharing between service hospitals in Europe. Pentagon-level pressure also had the service spend more in Europe, pre-deploying the equipment for all hospitals scheduled to arrive within 30 days, and establishing 'warm-base' hospitals (equipment established in a facility, lacking only personnel and pharmaceuticals) in Britain, Belgium, and the Netherlands. There were further host-nation support agreements as well. Thinking through the continuum of medical support, the volume of casualties from a Third World War would have exceeded military hospital capability, and the DOD was developing the Civilian-Military Contingency Hospital System, what is now the National Disaster Medical System.

But at the same time, Congress was increasingly concerned about the price of military medicine. Part of the problem was inflation, but new equipment for hospitals, such as CT scanners, had to be bought. Congress considered user fees for dependents and retirees, but did not implement those. Instead, smaller moves were taken, including providing more appointments in military hospitals instead of using the civilian referral network. Savings efforts were pursued, such as inter-service regionalization (where multiple DOD hospitals and clinics would avoid duplicating specialty care) and some trials were undertaken in the San Francisco Bay area (where Army and Navy both had large hospitals) and the Delaware Valley (where all three services had hospitals) but it ended with only modest progress. Some R&D work was consolidated, and plans were made for a standard DOD medical computer system, TRIMIS (Tri-Service Medical Information System). There was also a study about establishing a Defense Health Agency, which met little support, as did merging the three military health systems and the VA medical system. Mittemeyer supported more integration; speaking at the Army War College in November he "stressed the need for consolidation, cooperation, and cross-training among the medical services."

On personnel issues, Mittemeyer benefited from the increase in Health Professions Scholarships in the late 1970s and increasing numbers of PAs. More high-quality applicants helped and more specialists could be moved from medical centers to community hospitals, spreading advanced care. More PAs also allowed increasing specialty training for them, and they started being assigned to hospitals and clinics. The Professional Officer Filler System, PROFIS, was developed to fill deploying units with clinical personnel from hospitals, and while it looked good on paper, there was no test of its effectiveness until 1990, when it had problems. When Aviation Branch was formed in 1983 Mittemeyer supported that, but made sure that medevac units and MSC aviators stayed in the AMEDD; he successfully argued that the medical function of evacuation should be under medical control. He was also aware of how few doctors had experience in divisions, and began assigning two doctors per year as commanders of divisional medical battalions. (Independent medical battalions retained MSC commanders.) Since the division medical battalion commander was typically double-hatted as division surgeon, that would provide a few leader-development opportunities for physicians. In this, he bucked Congressional pressure to reduce the number of physicians in 'administrative' positions.

Mittemeyer had goals, but there were also distractions. Several times medical problems caused by poor-quality physicians (including ones who had faked their medical degrees) drew national attention. In his previous role as Chief of Medical Corps Affairs Mittemeyer had worked on personnel quality issues, and he had 13 physicians dismissed from the Army in 1981, with another 18 losing credentials. In 1983 both the DoD and OTSG started quality-assurance offices, and Mittemeyer openly said "The tree must be pruned of those who do not meet our high standards and this can only be done at the unit level." Without the increasing number of physicians joining the Army (due to generous scholarships and increased pay) there would have been more pressure to retain low-performers.

Problems with doctors led to Mittemeyer retiring somewhat early. An anesthesiologist at Walter Reed had been involved in drug trials without permission, while Mittemeyer was in command. Vice Chief of Staff GEN Maxwell Thurmond reprimanded Mittemeyer, who applied to resign in the fall of 1984; unsurprisingly, the request was accepted. It was ironic that another aspect of the problem of physician standards that he worked hard to fix eventually tripped him up.

There were few deployments to disrupt plans. The invasion of Grenada needed less than one hospital deployed, and training teams sent to Central America were small numbers of personnel. Probably more per-

sonnel had to 'deploy' to Fort Irwin because the National Training Center opened before the post hospital was ready and medical units rotated to cover, which got those hospitals some field training. Dietitians and PTs went on field exercises, as they would in wartime, rather than just working in hospitals.

In health promotion and fitness Mittemeyer called reducing smoking the "single most effective life-style change" soldiers could adopt. In October 1983 he established Health and Fitness Advisory Teams at all hospitals, and had a Task Force on Fitness. Health Fitness Centers were established at the Sergeants Major Academy and Army War College, so fitness was top-down. The Army in general was emphasizing fitness, increasing drug testing and being stricter on alcohol, although Mittemeyer was criticized for false-positive results from Army drug tests in 1982-3. Mittemeyer stayed fit himself, running even though he was hit by a truck while running at Ft. Bliss.

In summary, LTG Mittemeyer was buffeted by significant pressure about the quality of AMEDD personnel (and thus care) but was able to show progress. He continued and expanded programs for AMEDD combat readiness that fortunately were not tested in a world war. His efforts to get more AMEDD officers experience with line units would prove inadequate in Desert Storm, and branch-immaterial command would result. The cost pressures of the mid-80s continued, turning first into the Defense Health Program with a centralized budget (1989) and ultimately into the Defense Health Agency in 2013.

Sources

Jim Stewart, 'Woes nag military hospitals,' *Austin American-Statesman*, 28 January 1985, 1.
LTG Bernhard T. Mittemeyer, "Army Medical Department," *Military Medicine* 147:11 (November 1982), 918-928.
LTG Bernhard T. Mittemeyer, "Army Medical Department," *Military Medicine* 148:11 (November 1983), 833-840.
Mittemeyer biographical file, ACHH.
MG (Ret) Henry Mohr, "Will America be able to treat its battlefield wounded?," Heritage Foundation Backgrounder, 18 December 1984.
ACHH biographical files

Mittemeyer (right) and other distinguished visitors being shown operating room equipment at the new Bayne-Jones Army Community Hospital, 1983. Courtesy National Archives.

First Lieutenant Sharon Ann Lane

"See you sooner."

Just four days before being mortally wounded by enemy fire while working in the 312th Evacuation Hospital in Chu Lai, Republic of Vietnam, 1LT Sharon Ann Lane signed a letter to her parents in her characteristically upbeat manner, "See you sooner."

Writing to them about the heat, the GIs in her care, and the movie she missed the night before, Lane assured her parents that things were "still very quiet around here…haven't gotten mortared in a couple of weeks now." Ironically, within days of writing her parents, she was killed in a rocket attack upon the hospital where she was stationed.

Sharon Ann Lane was born 7 July 1943 in Zanesville, Ohio. Two years later the Lane family moved to Canton, where Sharon spent the remainder of her childhood. She graduated from Canton South High School in June 1961 and decided to pursue her dream of becoming a nurse by attending the Aultman Hospital School of Nursing in Canton. She graduated on 25 April 1965 and worked at a local hospital for two years before trying her hand in the business world. She made it through three quarters at the Canton Business College before deciding to join the U.S. Army Nurse Corps Reserve on 18 April 1968.

Training for 2LT Lane began on 5 May 1968 at Fort Sam Houston, Texas. She graduated on 14 June 1968, and just three days later reported for duty at the Army's Fitzsimons General Hospital in Denver, Colorado. Her first assignment was with three tuberculosis wards, but after receiving a promotion to first lieutenant, she was placed in the Cardiac Division's Intensive Care Unit and Recovery Room. She worked in the ICU until 24 April 1969, when she reported to Travis Air Force Base, California, with orders sending her to Vietnam.

1LT Lane arrived at the 312th Evacuation Hospital at Chu Lai on 29 April. She was originally assigned to the Intensive Care Unit, but a few days later was reassigned to the Vietnamese Ward.

Nursing the Vietnamese in Ward 4 was often physically and emotionally challenging, yet Lane repeatedly declined transfers to another ward. She worked five days a week, twelve hours a day in Ward 4, and spent her off-duty time taking care of the most critically injured American soldiers in the Surgical ICU. She thrived despite the demanding schedule, and was adored and respected by co-workers and patients alike.

On the morning of 8 June 1969, the 312th Evacuation Hospital was struck by a salvo of 122mm rockets fired by the Viet Cong. One rocket struck between Wards 4A and 4B, killing two people and wounding another twenty-seven. Among the dead was 1LT Lane, who died instantly of fragmentation wounds to the chest. She was one month shy of her twenty-sixth birthday.

Though one of eight American military nurses who died while serving in Vietnam, Sharon Lane was the only American nurse killed as a direct result of hostile fire. A memorial service was held in Chu Lai 10 June 1969 and a Catholic mass followed the next day. Lane was buried with full military honors at Sunset Hills Burial Park in her hometown of Canton, Ohio.

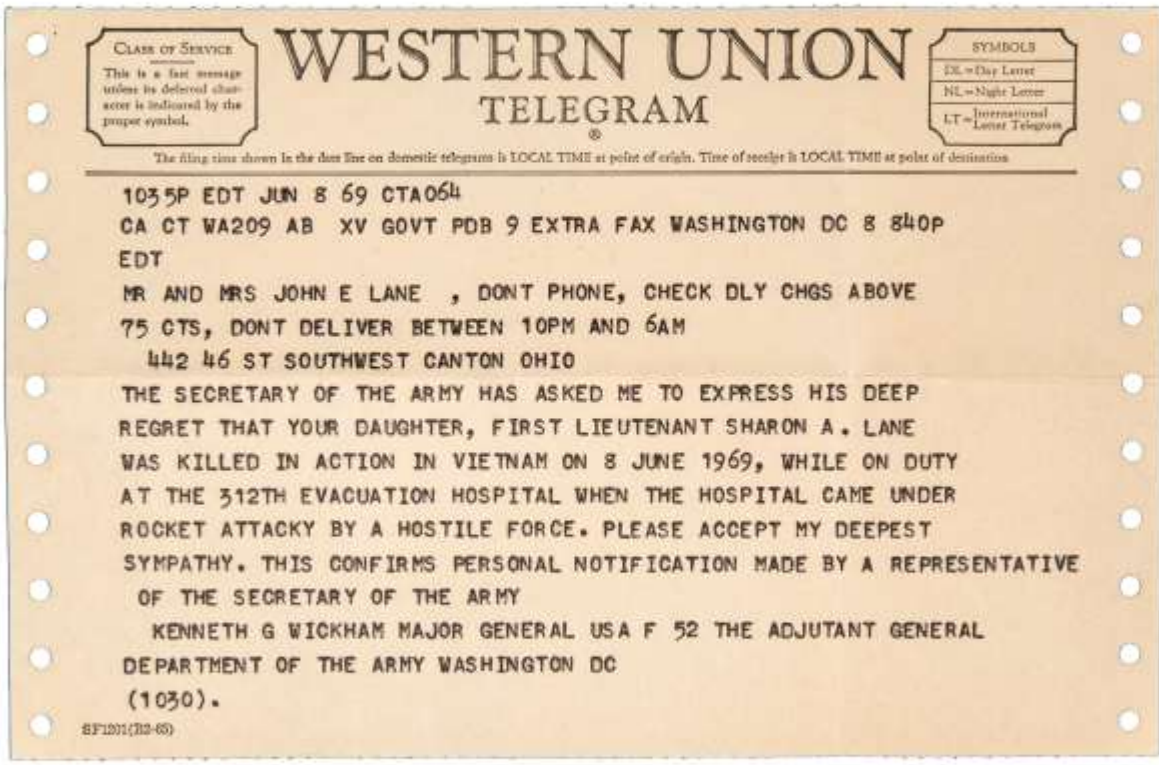
For her service in Vietnam, 1LT Sharon Ann Lane was awarded the Purple Heart, the Bronze Star with "V" device, the National Defense Service Medal, the Vietnam Service Medal, the National Order of Vietnam Medal, and the Vietnamese Gallantry Cross (with Palm).

In the years that followed her death, various individuals and organizations honored Lane in a variety of ways. On 11 November 1969, the Fitzsimons Hospital named its recovery room the Lane Recovery Suite and put a plaque and a picture on display. In that same year, the Daughters of the American Revolution named her Outstanding Nurse of the Year, and posthumously awarded her the Anita Newcomb McGee medal in 1970. In 1973 a statue of Lane was dedicated in front of Aultman Hospital, and in 1986, the Hospital opened

the Sharon Lane Woman's Center in its front lobby. The Canton Chapter of the Vietnam Veterans of America officially changed its name to the Sharon Lane Chapter #199, and roads in Denver, Colorado, and at Fort Belvoir, Virginia, have been named in her honor. Despite the fact that over thirty years have passed since her death, 1LT Sharon Ann Lane remains an important symbol representing the sacrifices and service of the thousands of American women who served in the Vietnam War.

General Orders No. 598
4 July 1969

Citation:
For heroism in connection with military operation against a hostile force. Lieutenant Lane distinguished herself by exceptional valorous actions during a rocket attack on the 312th Evacuation Hospital. Since her arrival at the hospital, her untiring efforts as a general duty staff nurse have made her ward a particularly outstanding one. It was through the application of rare foresight and sound principles of management that Lieutenant Lane overcame and minimized the problems inherent in providing medical support in a combat environment. As the sounds of the first incoming rockets reported throughout the hospital, Lieutenant Lane, thinking only of the welfare of her patients, rushed to her ward in an effort to protect her charges from harm. At this time, the ward took a direct hit from an enemy 122mm rocket. The resultant explosion produced metal fragments that stuck Lieutenant Lane, taking her life. As a result of Lieutenant Lane's courageous actions in the face of adversity, total disaster to the ward was prevented and many lives were saved. Lieutenant Lane's personal bravery and devotion to duty were in keeping with the highest traditions of the military service and reflect great credit upon herself, her unit and the United States Army.



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AT THE 312TH EVACUATION HOSPITAL WHEN THE HOSPITAL CAME UNDER
ROCKET ATTACKY BY A HOSTILE FORCE. PLEASE ACCEPT MY DEEPEST
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COL Bailey Kelly Ashford, MC: Service in Puerto Rico 1898- 1900

Dr. J. Edwin Nieves, DHA and CPT Blade Umstead, DO

Bailey Kelly Ashford was born in Washington D.C., September 23, 1873. His father was Dr. Francis Ashford, a physician who had served in the Confederate army. His mother, Mrs. Isabella Walker Kelly, of Newbury Massachusetts, was deeply religious, a descendant of British Devonshire puritans that migrated to the U.S. in 1635. They inspired in him an interest in medicine and deep commitment to help others.

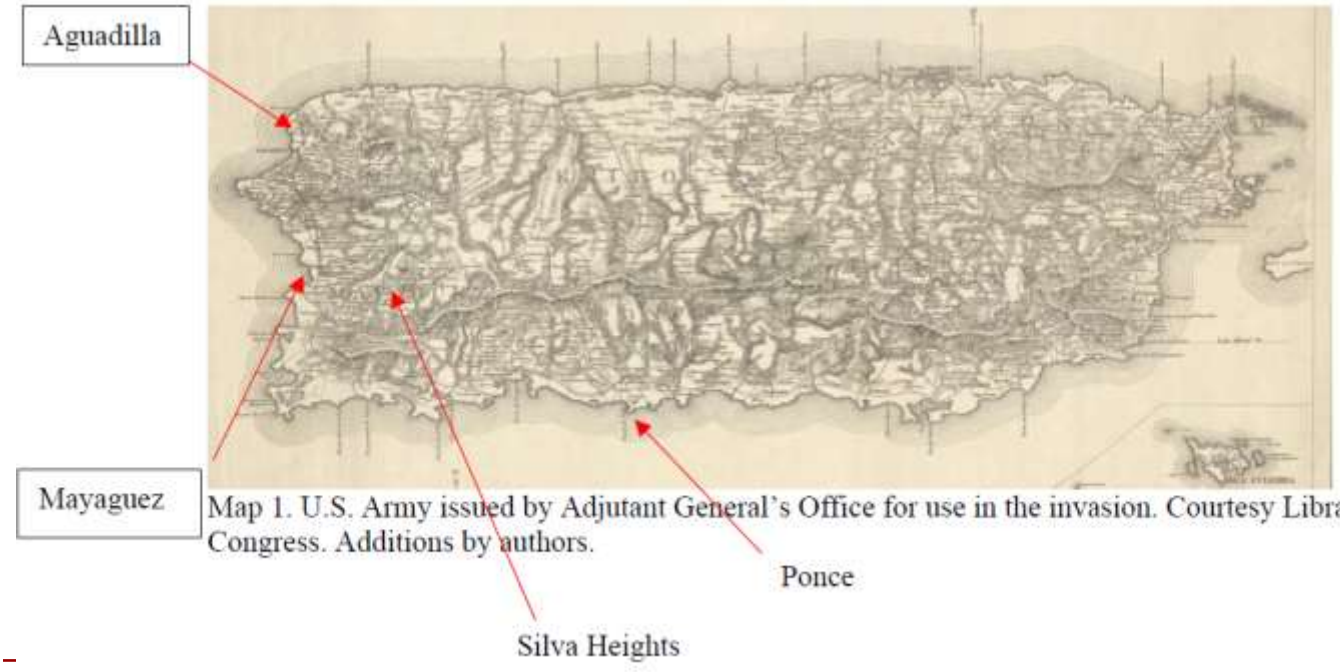
He completed his medical training at Georgetown University Medical School in 1897 and after passing the Medical Corps entrance examination, was commissioned a lieutenant. His first duty station was Fort Saint Phillip, on the lower Mississippi River. When war with Spain broke out, he was ordered to Tampa, Florida, and embarked as a medical officer in Brigadier General Theodore Schwan's Independent Regular Brigade. The Independent Brigade was slated to land in Puerto Rico.

Bailey Ashford, circa 1918. Courtesy National Library of Medicine.

1898: Invasion, Combat Wounds, Logistical Problems

Schwan's troops landed at Guanica on the south coast of Puerto Rico on July 27, 1898. However, Ashford was not able to land with the brigade that day. He remained aboard his transport ship treating over 400 troops with typhoid fever acquired from unsanitary mainland mobilization camps. He landed a few days later when the ship eventually docked in the city of Ponce. There, the sick soldiers were transferred to the Army hospital ship *Relief.* Once he landed, he traveled by wagon train, joining his command in the town of Yauco to the west of Ponce. The brigade was bivouacking there, getting ready to travel west towards the city of Mayaguez through the small village of Hormigueros.

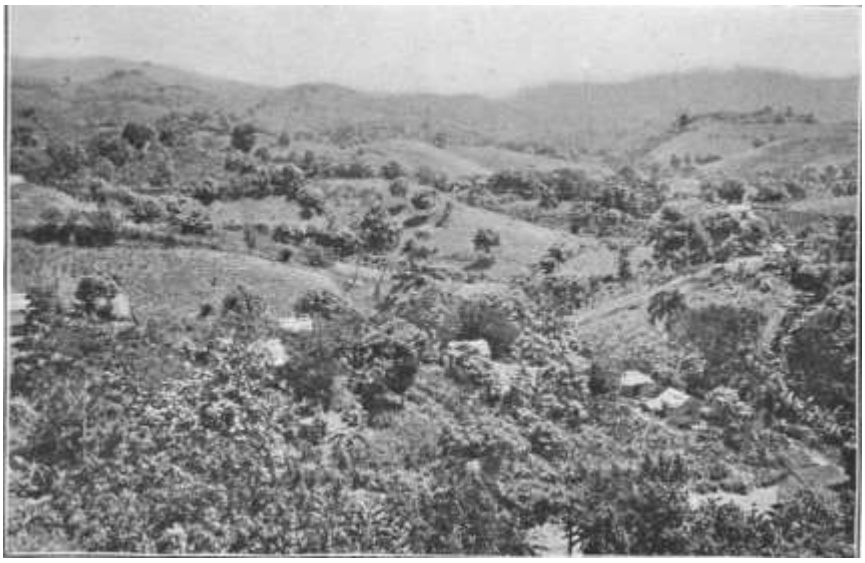
It was on the march towards Hormigueros, through a ravine dominated by some hills known as 'Altos de Silva' (Silva Heights) that 1LT Ashford encountered his first combat casualties. The Spanish garrison in Mayaguez under Col. Villanueva had received information from scouts of the approaching U.S. force. Villanueva advanced his troops to meet them, occupying the Silva Heights ridge near a sugar mill overlooking the valley and trail leading to Mayaguez. There, they waited for the approaching Americans. The Spanish force consisted of about 1500 soldiers, a combined force of regulars Puerto Rican militia.



Map 1. U.S. Army issued by Adjutant General's Office for use in the invasion. Courtesy Library of Congress. Additions by authors.

A few U.S. cavalrymen were hit by Spanish rifle gunfire. The soldier next to Ashford was wounded in the face. Having "nothing to work with," he used the "old fashioned grip of his suspenders" as clamps to stop the bleeding. As casualties mounted, he was ordered to establish an aid station in a local sugar mill behind the front. He soon began to receive the first casualties, 10 Spanish and 16 U.S. wounded.

Like many physicians in the field, he had to improvise. The AMEDD experienced several logistical barriers during the Spanish American War. Medical equipment sets were often incomplete, as ammunition and weapons were often prioritized over medical equipment when unloading transport ships. Surgical chests were often left behind as they were too heavy and hard to transport with the limited resources available. Portable surgical kits were used instead. In addition, infrastructure on the south coast of Puerto Rico was nonexistent, it consisted mostly of trails.



"Altos de Silva" or Silva Heights ca. 1898. Courtesy Library of Congress

Thankfully, wounds during the Puerto Rican campaign were few and less lethal than those of the American Civil War. The muzzle velocity of the new metal jacketed round was much higher. Rounds would go through the bone rather than producing the bone comminution seen in prior conflicts that often led to amputation. Abdominal and head gunshot wounds continued to be nearly always fatal.

There were other medical advantages as well. X-ray machines were deployed for the first time. They did away with the time-honored tradition of digital exploration of bullet wounds. This reduced infection and provided precise imaging of the bullet location improving surgical outcomes.

Soldier being taken off an ambulance wagon for evacuation, Mayaguez Port. 1898. Courtesy National Library of Medicine.

Like every other combat environment of that war, infectious diseases accounted for most of the casualties. However, unlike Cuba, the Puerto Rican landings and initial campaigns happened in dry plains instead of the low-lying jungle and marsh of southeastern Cuba. Typhoid fever caused most of the infectious disease casualties. As the campaign progressed, and the troops reached the central mountains and the urban areas of Ponce and Mayaguez, malaria and dengue fever began to appear. Thankfully, yellow fever, which caused high morbidity and mortality on both sides in Cuba, was not prevalent in Puerto Rico.

Ashford had an unusual interest in preventive medicine for the times and applied newly acquired discoveries to his practice. He was an avid proponent of basic sanitary measures. He would establish field hospitals on high ground, so that water would not stagnate and decrease accumulation of flying insects. He also established sanitary slit trenches (latrines) down wind, and at a lower level, away from water sources and the hospital. This also kept flying insects as far away as possible.

End of War, Disaster Relief, Anemia Research

As Schwan's cavalry pushed on to the city of Mayaguez on the west coast of Puerto Rico, Ashford moved his field hospital casualties into the town's theater, using it as a makeshift hospital for casualties of both sides. Ashford followed the infantry pursuit of the retreating Spanish towards the town of Las Marias. This would be the last armed engagement of the campaign, as the last Spanish infantry unit surrendered. Ashford acquired a Spanish army surgeon's kit as a war prize, and he readily put it to use.

Ashford remained stationed with the occupying forces in Mayaguez tending to the sick and wounded. Most of the sick had typhoid fever; dengue and malaria fevers were present but less common. The port of Mayaguez had been opened by then, and the more serious cases were evacuated by water to either the *Relief*, the local military hospital, or back to the U.S.

After a few weeks in Mayaguez, Ashford was tasked to ride through the mountains to the town of Aguadilla, north of Mayaguez. His mission, to reconnoiter and report on the terrain and populace state of health. He noticed the pallor and unhealthy look of the locals and initially attributed this to the lack of meat in the diet. Unfortunately, he acquired malaria and was himself hospitalized aboard the *Relief* and evacuated to New York for further treatment. He remained there for a few months. Once recovered, he returned to Puerto Rico in the spring of 1899 and was ordered to assume command of the military hospital in Ponce. While Ashford was in command of the hospital, the San Ciriaco hurricane struck Puerto Rico on 8 August. After the winds subsided, the hospital became both a shelter and medical care center for the displaced local population. Many had suffered severe lacerations and traumas from flying debris or were in a state of shock. They sought refuge in the hospital not just for medical care, but also for food and shelter from the elements.

The military hospital in Ponce, built by the Spanish in 1896-97, which Ashford commanded. Left photo circa 1940, courtesy National Park Service. Right photo circa 2017, courtesy Dr Nieves.

Ashford received authority to use his medical supplies to treat the civilian population; he also obtained rations for them. He opened a field hospital for the growing number of refugees and continued to offer both shelter and food. Dr. Ashford again noticed the pallor, emaciation, and that the refugees did not gain weight when fed. Although at first, he thought the root cause of the pallor and lack of weight gain was malnutrition, he soon noticed that it persisted even after they were fed with rations and other local foodstuffs. Anecdotally referred to as the 'Puerto Rican Anemia' it was a well-known cause of morbidity and mortality in nearly 30% of the farm laborer population. He decided to find out the root cause.

He began by looking at the blood of the affected. The blood samples showed the tell-tale signs of anemia (decreased hemoglobin and lowered hematocrit), he also noted a marked eosinophilia, with patients having up to 40% eosinophils in their white blood count. This was known to be elevated by parasitic infections. Next, he decided to examine a stool sample of one of the anemic patients. It was here that he identified the eggs of the ankylostoma duodenale. He treated the patient with 15 grains of thymol (1 grain approximately equivalent to 65mg) which produced the desired effect of expelling the worms. He reported his discovery on an issue of the *New York Medical Journal* in 1900. Ashford shared his discovery and treatment success with the local medical community and they began the treatment of the local populace.

In a period of 2 years, and between the ages of 25 through 27 years old, 1LT. B.K Ashford performed the basic duties of forward deployed medical corps officer in an austere combat environment and those of a lead peacetime medical officer stationed overseas. He initially provided casualty care for a brigade size unit (and that of its enemies) during combat operations with limited resources. He adapted, improvised, and im-

plemented basic 'force health protection' sanitary measures uncommon at the time. During peacetime, he assumed command of a military treating facility which he led in the provision of disaster relief, care, and support to the local population after a major natural disaster. He also identified a serious local public health problem, identified its source, treatment for it and took the initial steps to disseminate these discoveries for the benefit of the local population. It is not surprising that the swanky "Condado" area in San Juan named its main avenue after this young Soldier.

Back in Puerto Rico, he continued to advocate for a comprehensive approach to the treatment of the 'Puerto Rican Anemia.' It would not be until 1904 that the Puerto Rico Anemia Commission would be created, and funds allocated for an island wide, organized eradication campaign.

Mayaguez city theater, used as makeshift hospital in 1898. As a large building without internal walls, the theater was a goof choice for a hospital and additional beds could easily be established. Photo courtesy Library of Congress.

Sources

Bailey K. Ashford, A Soldier in Science. NY: William Morrow and Company, 1934.
Bailey K. Ashford Memorial Lecture Committee, https://md.rcm.upr.edu/bkamemorial/bailey-k-ashford-biography/
Bailey K. Ashford, "Ankylostomiasis in Puerto Rico," *New York Medical Journal* 14 April, 1900, pp 552-556.
Jose Amador, "The Pursuit of Health: Colonialism and Hookworm Eradication in Puerto Rico". Southern Spaces Journal, 2017. https://southernspaces.org/2017/pursuit-health-colonialism-and-hookworm-eradication-puerto-rico/
Karl S. Herrmann. A Recent Campaign in Puerto Rico by the Independent Regular Brigade under the command of Brig. General Schwan. Boston: E.H. Bacon, 1907.

Raymond W. Bliss, TSG June 1947-June 1951

In the aftermath of WWII, Raymond Bliss made key decisions that shaped AMEDD policy for decades. His decisions about personnel policy made residencies, and thus medical centers, a center of gravity in the AMEDD. He also dealt with a large number of challenges to the AMEDD as the Department of Defense was created and study groups looked at combining various Federal hospital and medical systems.

Bliss joined the Medical Reserve Corps in 1911 and attended the 1912-13 iteration of the Army Medical School. After two brief assignments to hospitals, from August 1917 to August 1919 he commanded four different hospitals including General Hospital No. 35 where he oversaw conversion of a leased hotel into a 1,000-bed general hospital. From then until 1940 he was always working in hospitals or hospital administration and policy except for one assignment as a camp surgeon and medical supply officer. (After retirement Bliss noted he was never a field doctor.) He never had any professional military education, but was sent to Harvard for a year's further surgical training, and was detailed to the Veterans' Bureau (a predecessor of the VA) to help establish their hospital program. He was briefly a Military Observer in England (1940), then commanded the Fort Sill post hospital. From February 1942 to June 1943, he was Surgeon of Eastern Defense Command (the organization established to defend the East Coast, that dealt with civil defense and civil governments) and First Army, based in New York City. In that role, he oversaw healthcare during troop mobilization, training, and deployment as well as hospitalization. In June 1943 Norman Kirk, the new Surgeon General (and his Army Medical School roommate), picked Bliss to head the new Operations Service in OTSG. In that role he oversaw hospitalization for the bulk of WWII patients; led a campaign to simplify paperwork in hospitals; and headed plans, operations, training (of hospital units and personnel), hospital construction, and patient movement for all the general hospitals in the US. He maximized air evacuation from overseas, and spearheaded the establishment of convalescent hospitals to free up beds in general hospitals for the wounded. In 1944 he was appointed an Assistant Surgeon General.

In 1945 he became the second Deputy Surgeon General, and would establish a pattern of DSGs becoming Surgeon General. As DSG he was involved in demobilizing the wartime AMEDD and establishing postwar plans. Kirk gave Bliss wide latitude. Bliss persuaded the Army (and Congress) to give physicians special pay of $100/month, and the Army approved specialty pay for Board-certified physicians. Bliss worked to rebuild the reserve by getting medical (plus dental, veterinary, and pharmacy) ROTC units restarted, and he worked to get medical schools to re-establish "affiliated reserve" units where the school provided the bulk of the professional staff and the Army would add administrators and enlisted men on mobilization.

His most important move was to start a residency program in the AMEDD, starting in late 1945. (He also restarted internships, another recruitment effort.) Bliss argued that Army clinicians had to be on par with civilian clinicians – times had changed since Merritte Ireland focused on having generalists in the Medical Corps and sending as many as possible to Army schools. Now, Army doctors had to practice in the mainstream of American medicine, and that meant residency training. That would also keep the standard of treatment in the Army the same as in civilian life, and remove a complaint that non-RA doctors had made during WWII, that they knew more about medicine than the Regulars who were in command did. Having the residencies in Army general hospitals was better than having them in civilian hospitals, since it increased clinical capacity in Army hospitals for both wartime and peacetime, and was a recruiting and retention incentive. The residencies were quickly approved, and civilian specialists supplemented Army personnel as instructors until the Medical Corps had qualified personnel. Some Army physicians were also sent to civilian residency programs, and the Army doctors sent as instructors to the medical ROTC programs were also put in residency programs at those medical schools. Requiring civilian credentials for Army doctors meant the AMEDD shifted its focus to large

hospitals (that could sustain a large range of specialties) and away from line units. However, Bliss did not prioritize professional military education. Few doctors attended Army schools (outside AMEDD courses) and doctors' command experience was overwhelmingly of TDA facilities rather than TOE medical units.

In mid-1947 Bliss was sworn in as Surgeon General, and largely continued the policies he had begun as DSG. Using Ft. Leavenworth's *Military Review* to announce his priorities to the whole Army, he enunciated three:

- Prevention, both psychological and physical
- Therapy, for those cases that could not be prevented
- Research, to support both prevention and therapy.

He identified one means accomplish all these, a clinically-advanced Medical Corps. (Passing mention was made to keeping hospitals, laboratories, and other facilities up to date for diagnosis, treatment, and research, but his concern was more people than facilities.) While manpower was a problem, Bliss argued to expand rather than curtail residencies, said cutting dependent and veteran care would hurt residencies, and argued that dependent care should not be cut since it was an implicit part of a soldier's overall compensation. (This was before medical care, or insurance coverage, was an explicit part of military compensation.) There were efforts beyond graduate medical education; more preventive medicine was taught at schools around the Army, including West Point. R&D was focused on military-specific topics, since the government was investing more in general medical research.

The national security environment in which Bliss was working was extremely turbulent. A National Military Establishment was created in 1947, which became the Department of Defense in 1949. With the central authority, there was some medical oversight of the services. Starting in December 1945 there were efforts to run military medicine economically, with such low-key starting points as joint medical procurement, standardization of paperwork, and joint utilization of hospitals – i.e. sending Army or Navy patients to the other services' hospitals, avoiding the WWII situation of three substantial hospitals (one Army, one Navy, and one Army Air Forces) on small islands. (Bliss, with his Navy counterpart, personally went TDY to observe where hospitals could be shut.) There were several years of outside committees scrutinizing the AMEDD and Navy, requiring a great deal of work to explain what the AMEDD was doing and why it was doing it: one committee had no less than 22 subcommittees, each of which needed reports and AMEDD representatives. Bliss had to show the AMEDD was efficiently using its personnel, especially physicians, and he had TO&Es reviewed to validate physician requirements, further cut hospital paperwork, substituted officers from the new Medical Service Corps for some MC officers in administrative positions (and the new Women's Medical Specialist Corps for some clinical positions), and he accepted some further joint utilization at the referral hospital level. However, the outside studies continued, including a proposal from the Joint Chiefs to have a single military medical service, advanced by Chairman of the JCS Eisenhower. The outside 'advice' culminated with a proposal to merge the CONUS military hospital system (minus one hospital per service) with the VA and Public Health Service (which then ran hospitals) in a single Federal Health Service. Bliss thought an AMEDD having field units with GMOs but no general hospitals for Board-certified physicians would be a second-rate service.

Despite a warning from Army Chief of Staff Omar Bradley to avoid political lobbying, Bliss oversaw a campaign of proxies contacting influential Congressmen. Bliss accepted gradual change, but would not accept radical change. He accepted unity of effort, but rejected a unified military medical service. Bliss repeatedly argued that the medical departments had to be different to support different forces in the field, thus limiting the extent of unification. It is not clear that Bliss' campaign was decisive in stopping the proposal, but it obviously was stopped..

There were quite a number of other challenges during Bliss' tenure. The USAF was established in 1947, with the Air Force Medical Service following in 1949. The USAF, with its atomic bombs, was the mainstay of defense, although President Truman argued for Universal Military Training. Instead of UMT, a draft was reestablished in 1948, although physicians were specifically excluded. (Nuclear weapons would bring the AMEDD into advising on civil defense planning.) Military operations were few, as most of the Army was in the occupation of Germany and Japan, although the Berlin blockade crisis of 1948 caused the creation of NATO in 1949 and a renewed focus on readiness for field operations. Also in 1949, the Chinese Communists

would win the Chinese Civil War, and the US established a small Korean Military Advisory Group; geopolitics in the Far East were changing. However, Europe was seen as more important to American interests, and such resources as came available were focused on Europe rather than Japan and Korea.

Closer to home, the AMEDD budget (and manpower) shrank as President Truman used a 'remainder' method to budgeting. Truman was convinced national strength came from fiscal solvency, and equally convinced the military always asked for more money than they really needed. Thus, he placed them last in line for money: after estimating Federal revenues, civilian government programs were funded, with the military getting the remainder. By the spring of 1950, Bliss had to choose several general hospitals to mothball and chop both internships and residencies. He simply lacked the resources for even his signature programs. The summer of 1950 would be a particularly tight time for physicians, as residents would not have finished their programs while post-WWII GMOs would be leaving. (While Bliss did not want to interrupt the residencies, in an emergency he would: he saw both interns and residents as a reserve of deployable personnel.) Bliss could only work on reducing paperwork and contemplate reducing dependents' access to Army healthcare.

The Korean War dominated the end of Bliss' tenure as Surgeon General. General hospitals that closed in June 1950 (the end of the fiscal year) re-opened a few months later to support the enlarged Army. While the AMEDD had significant problems in mobilizing personnel and units to Korea, those problems mirrored the rest of the Army, which lacked ready personnel and equipment. The AMEDD would produce good results in Korea, including lowered Died Of Wounds rates in hospitals, would deploy a first-generation artificial kidney to support both wounded soldiers and Korean Hemorrhagic Fever patients, and would introduce new vascular surgery techniques that saved limbs. All of these were facilitated by Bliss' program to improve the quality of medicine in Army hospitals. Bliss visited Japan in October 1950, and returned with Douglas MacArthur's blessing to send more helicopter units. Bliss also got a surgical research team to Korea in November 1950 where they tested antibiotics, burn therapy, bone pinning, and using methadone rather than morphine.

Bliss wanted to make a major change in the AMEDD that would set it on a different course for generations. Facing a variety of existential challenges to the organization, he fought them all off and stayed true to his intent. He refocused the AMEDD from the line Army towards training hospitals, although he deployed interns and residents for field service in an emergency. He provided the Army highly trained clinicians, and the healthcare infrastructure to support those doctors. He could not predict how that would be sustainable in the long term, but believed it was a change that had to be made.

Sources

Bliss biographical file, ACHH

Bliss oral history interview, ACHH

Speeches of Raymond Bliss, National Library of Medicine.

Albert Cowdrey, The Medics' War: United States Army in the Korean War. Washington DC: US Army Center of Military History, 1987.

Bliss, "Solving the Problems of the Postwar Medical Department," *Military Review* 28/5 (August 1948), 3-12.

Bliss, "The Army Medical Department Faces the Future," Bu*lletin of the U.S. Army Medical Department*, 8/1 (January 1948), 31-37.

George Armstrong, "The United States Army Medical Corps and Medical Education," *Journal of the Association of American Medical Colleges*, 23/5 (September 1948), 289-96.

Anon. "Proposed Postwar Medical Department Plan," *Bulletin of the U.S. Army Medical Department*, 5/1(January 1946), 43-47.

Gas and Mass Casualties

On the night of 7-8 August 1918, the 89th Division was relieving the 82d Division in a quiet sector of the line in France. Apparently realizing many troops were moving and better targets, the Germans fired an estimated 8-10,000 gas shells. There were many casualties, especially among the troops leaving the front, who apparently relaxed their anti-gas discipline. Unsurprisingly, the one unit in the area assigned to treat gas patients was overwhelmed.

The AMEDD knew gas warfare would be a problem. Gasmasks were part of the solution against inhalation agents. A "salve anti-gas" was part of the solution, by protecting the skin against blister agents. (However, it could become saturated with gas after several hours, becoming part of the problem.) Some medical personnel received special training, forming "Gas Teams" to reinforce where needed.

For blister agents, the treatment was removing the gas-soaked uniform and cleaning the skin. There was nothing more to do, except keep patients as comfortable as possible and wait; it could be six weeks before they could return to duty. For inhalation agents, oxygen therapy was possible, at least for some. Oxygen cylinders were heavy, and potentially explosive, and oxygen masks were not plentiful. (A British chemist and inventor had developed a four-masks-from-one-cylinder device, but it does not seem to have been adopted.)

One unanticipated problem was "gas fright" where troops reported they had been gassed. Some were malingerers, others were over-afraid of gas or under-trusting of their masks. There were ways of detecting malingerers: their sense of smell was not dulled, and they would refuse a gassed cigarette; they were likely to throw up food. But the malingerers required triage resources, and at least some treatment time, even if they needed no real treatment.

Chemical weapons still cause extra fear. During Operation Desert Shield/Desert Storm training against known

Iraqi chemical weapons caused concern, and caused higher-than-expected rates of combat stress. Such fear could recur in a large scale combat operation in future.

Sources

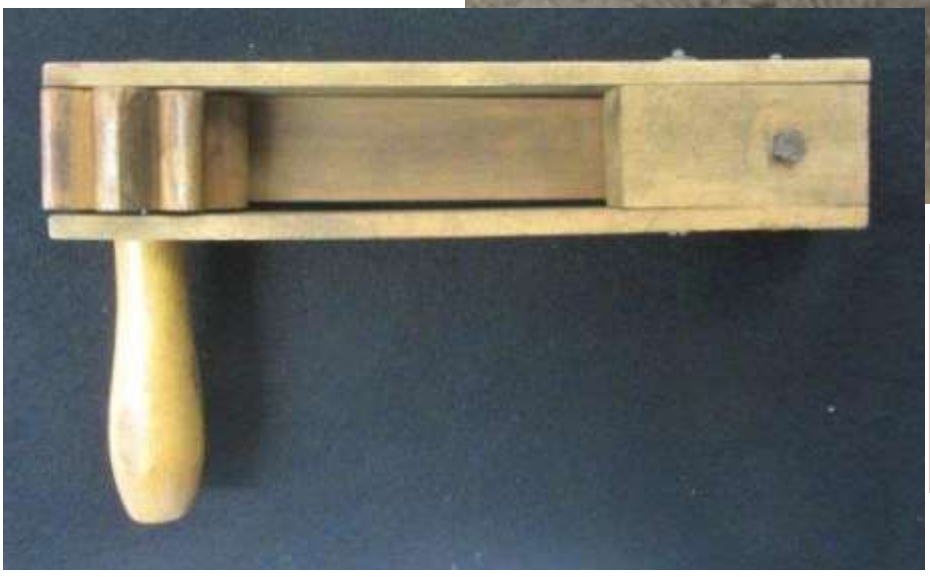
https://collection.sciencemuseumgroup.org.uk/objects/co142997/haldanes-oxygen-apparatus-oxygen-injection-apparatus

Charles Lynch, Joseph Ford, Frank Weed. Medical Department U.S. Army in the World War, vol. VIII, Field Operations. Washington, DC: GPO, 1925.

Right: Oxygen cylinders on wooden supports in a field hospital.

The quantity of supports hints at how many gas cases there could be at any one time, and the limited number of oxygen cylinders at the logistical problems.

U.S. Army photo.



Left: Troops used low-technology ways to warn comrades about gas. Gas rattles like this one were based on children's toys and were used in the trenches. The frequency of the noise could be heard even amid shell explosions.
AMEDD Museum

Early Partnering Origins with U.S. Army Veterinary Medicine
By Nolan A. Watson, ACHH

"Partnership develops trust, improves interoperability, and builds shared understanding as our Soldiers positively influence host-nation forces, leaders, populations, and other government agencies. This partnership produces enduring positive effects for regional stability and effective deterrence."

-Army Doctrine Publication 1

Recently, there have been several news stories describing the connection between U.S. Army veterinary personnel and allied nations, highlighting their coordination and successes for animal and human health. There are global health rewards as well when diseases such as Ebola are curbed, or agricultural pursuits thrive. Food production and disease prevention are easy wins, longer term goals but also important, are building lasting bonds between countries and people. While there are numerous benefits from these experiences and tangible results, the coordination between U.S. Army veterinary personnel and other countries is not a new arrangement.

Wartime efforts

Early partnering was more tactical and was in direct support of American allies during wartime. Although the efforts were needed to build support and assist in operations, they were hampered by their short duration. U.S. Army veterinary assistance persevered through interesting and trying situations.

As the American Army entered World War II, it was utilizing less equine strength and more motorized vehicles. Horse and mule use was not unheard of, particularly in the jungles of Burma or hills of Italy, but generally these examples were exceptions. In the case of the China Burma India (CBI) Theater, there was a way for America to utilize its supply of government animals as well as work with its allies. Horses and mules were used to move much needed supplies including portable hospitals for missions within the CBI.

America's largest ally in the area, China, also had a considerable need to use these animals for military operations. In addition to providing equines, U.S. Army veterinary detachments and liaison personnel were attached to the Chinese Army. They began programs for improved medical care, horseshoeing, and packing gear. The supply of horses and mules sometimes came from local purchases as well as U.S. Army shipments. There was even a massive airlift of equines during the war to transport the animals to the region.

Chinese troops observe U.S. veterinary personnel branding a vaccinated mount during WWII. U.S. Army photo.

Later, after World War II, there were efforts in rebuilding infrastructure in Korea. From 1945-1949 there was a direct American and United Nations presence in the peninsula. As North and South Korea divided along communist and non-communist lines, the area was beset by disease. Cholera, smallpox, and rabies were serious problems. During this time, detachments of

U.S. Army veterinary personnel worked with military and civil authorities to assist in curbing disease as well as coordinating with Korean veterinarians to develop strategies to improve agricultural efforts. Unfortunately, progress was halted due to the invasion of South Korea by North Korea in 1950. During the war there was also some sponsorship of Korean veterinary professionals within the United States for additional veterinary education.

Building on previous experiences, veterinary personnel serving during the Vietnam conflict would be part of an expansive program. In addition to support for American personnel, Army veterinary expertise was provided to Army Republic of Vietnam (ARVN) personnel and for South Vietnamese civil programs. Projects to improve livestock business (and sanitary conditions) were enacted in cities, and outreach in the form of VETCAPs or veterinary civic action programs. VETCAP missions to rural areas improved the livelihood of the residents as they greatly depended on their animal's well-being.

During the Vietnam War, veterinary personnel and U.S.A.I.D. assisted in establishing a Vietnamese National Institute of Bacteriology. U.S. Army photo.

While these programs were of benefit, there were other examples of cooperation and long-term partnering with South Vietnam. The Vietnamese National Institute of Bacteriology was formed in cooperation with the U.S. Agency for International Development. Located in Saigon, and staffed with both South Vietnamese and U.S. veterinarians, the facility performed research and training. Additionally, it produced vaccines for livestock diseases within Vietnam.

To solve the deficit of veterinarians in South Vietnam (due to the lack of a veterinary school) a program was established to allow Vietnamese veterinary students to attend Thailand's School of Veterinary Medicine. As an example of three allied countries partnering together, there were some successes. However, the length of study hampered the number of graduates.

Growth from Conflict

Each iteration of veterinary partnering during these conflicts provided lessons. Starting early, as in the case of the veterinary school during the Vietnam War, and before conflict disrupts normal education or training opportunities is important. Trust built during war is a strong bond, but cooperation between countries providing assistance and during rebuilding, as in the case of post-World War II Korea is also very important.

Current partnering utilizing Army veterinary personnel is much more connected to other countries. In the years since Vietnam, exchanges of troops and VETCAPs during operations have expanded. Similarly, there are more opportunities for training with other countries. As mentioned, there are numerous global health benefits from working together. Current efforts to work with global partners is now pro-active rather than reactive, as it was during early wartime operations.

Sources

Army Doctrine Publication 1, July 2019.
Caldwell GL. U.S. Army Veterinary Services in World War II. Washington, DC: OTSG, 1961.
"Cholera Fighters! United States Army Military Government in Korean 1945-1947", Diary and letters of Richard S. Bagnall, M.D., ACHH Archives, 2010.
"Training for Korean Veterinarian," *American Veterinary Medical Association Journal*, November 1947.
Huck LG and Burke RL. Military Veterinary Services, Textbooks of Military Medicine, Borden Institute, 2019.

AMEDD history reading list

Stimson Library at the Medical Center of Excellence has a history reading list available for professional development. Dozens of books and other publications are grouped for general readers through senior leaders, and broken out by corps.

Many are available online so you can get started right away!

AMEDD History Recommended Reading - Professional Military Reading Lists - Stimson Library LibGuides at Stimson Library, AMEDD Center & School

https://amedd.libguides.com/c.php?g=566155&p=10205977

— 27 July 1775 —

New to the ACHH Research Library:

Becker, Ann M. *Smallpox in Washington's Army: Disease, War, and Society during the Revolutionary War*. Lanham: Lexington Books, 2023.

Covid Crisis Group. *Lessons from the COVID War: An Investigative Report*. New York: PublicAffairs, 2023

Egan, M. David. *U.S. Go Home: The U.S. Military in France, 1945 to 1968.* Atglen: Schiffer Military, 2022.

Greene, Rebecca Schwartz. *Breaking Point: The Ironic Evolution of Psychiatry in World War II*. New York: Fordham University Press, 2023.

Hampton, Ellen. *Doctors at War: The Clandestine Battle Against the Nazi Occupation of France*. Baton Rouge: Louisiana State University Press, 2023.

Odrowski, James R. *Battle of Buffalo Wallow: The Japanese Attack on the 44th General Hospital in World War II - Leyte, Philippines December 1944*. Lenexa: Seven Cedars Press, 2020

During the invasion of Leyte, in late 1944, heavy rains made overland evacuation slow. This casualty is being loaded from an amphibious tractor into a floatplane to be flown to care. Courtesy National Archives.

Bag vs. Belt: WWI Medical Field Equipment

Paula Ussery and Chuck Franson, AMEDD Museum

For AMEDD personnel assigned to combat units, getting medical equipment into the forward areas is crucial. Mobility is the dominant factor, as well as durability. The container or carrier overwhelmingly used in the past consists of some form of pouch or knapsack or box, with one exception, which is World War I.

From the Civil War through 1904, medical supplies that were carried onto the battlefield travelled in a variety of knapsacks or companions. There were at least four such designs used during the Civil War. The first one, recommended in 1858, was a wicker and tarred-cloth knapsack. Most likely due to the fragility of the wicker, this was replaced in 1862 by the Hospital Knapsack, which had a wooden frame and leather cover. It contained drawers with tourniquets, anesthetics, bandages, and various medicinal compounds. It weighed approximately 20 pounds and was usually carried by a hospital orderly accompanying the surgeon. In 1863 a kidney shaped leather 'Surgeon's Companion' was issued. It rode on the hip and had both a waist strap and a diagonal shoulder strap and was usually carried by the surgeon. By around 1900 a Hospital Corps Pouch made of canvas with a web shoulder strap was carried by enlisted AMEDD personnel. As was noted in the official history, "the pouch possessed many advantages, but it also had a few rather serious disadvantages. Unless the web shoulder strap was passed under the belt, the pouch would swing to the front and was in the bearer's way while ministering to the needs of a patient. ... Under those conditions it was to be removed and placed on the ground where it was apt to become soiled or upset and its contents spilled."

Civil War hospital knapsack, wooden frame with drawers. AMEDD Museum.

Civil War surgeon's companion leather case. AMEDD Museum.

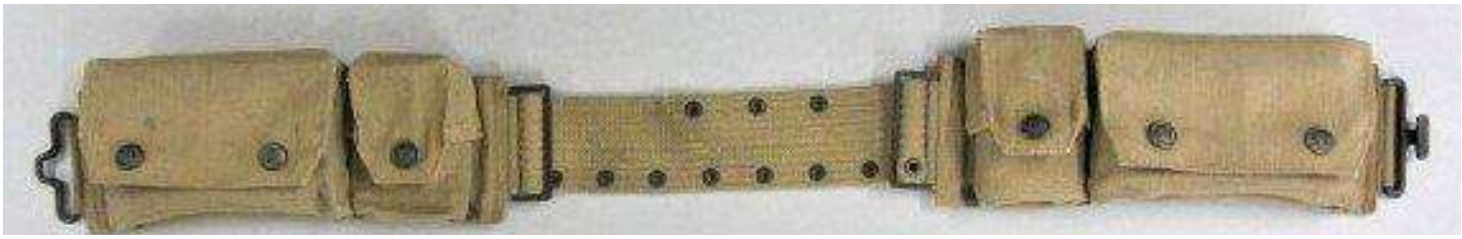
Spanish-American War canvas web pouch issued to Acting Hospital Steward William Osbourne. AMEDD Museum.

This canvas pouch was a small component of the Army's holistic effort to move away from leather (less than optimal in wet weather) and replacing it with cotton canvas and webbing. This evolution began in the 1870s with the adaptation of a leather and woven cotton web rifle cartridge belt for carrying ammunition. This belt, with each round of ammunition stored individually in a loop on a webbing waist belt, was eventually succeeded by a webbing belt that had pockets for ammunition clips.

With the Army adopting pocketed canvas belts for infantry and cavalry troops, Surgeon General George H. Torney pushed for new equipment for the AMEDD. Torney appointed a board of three medical officers to investigate whether the waist belt with pockets could also be utilized for AMEDD personnel. From 1913 to 1915, this board revised the individual field equipment for the Hospital Corps and also individual field equipment for medical officers.

The enlisted belts (AMEDD Historian #1) carried an abundance of first aid supplies: sterile dressings, a flask of ammonia salts, a packet of diagnosis tags, a tourniquet, and iodine swabs. As the official history notes, "During the decade prior to the World War, the conception that the medical officer with combat troops would perform operations on the field of battle or at the dressing or aid stations was gradually abandoned. The conception that it was the duty of such officer under combat conditions simply to protect the wound by a suitable occlusive dressing, relieve pain and shock ... and to supervise and expedite the removal of the wounded ... gradually grew."

The officer's belt adopted in 1916 was made of olive drab canvas and webbing and contained pairs of pockets on each side of the center line. Officially carried in the pockets were the following items: a Case, Instrument, containing; a scalpel and bistoury; an Abbey's artery and needle forceps; a Jone's hemostatic forceps and a Liston's mouse-tooth forceps; straight scissors; sutures both catgut and silk; a combined aneurism needle and grooved director; and 12 assorted surgical needles.



Additionally, the medical officer carried a "Case, Medicine" of five bakelite bottles holding: Acetphenetidinum (painkiller); mixture glycyrrhiza composita (licorice compound for bronchitis, congestion, and sore throat); pilulae catharticae compositae (laxative); pulvis ipecacunanhae et opt (opium for pain, mixed with ipecac to prevent overdosing); quininae sulphas (quinine for malaria and as a general antifebrile). However, "Any medical officer may make such substitutions in the contents of his own case as he may desire." Completing the contents were a package of diagnosis tags, a hypodermic syringe and case with extra hypodermic needles, a thermometer, and a morphine solution.

Since all web belts were similar, the Ordnance Department was also responsible for production of the medical belts. When war was declared in April 1917, estimates were for 15,000 officers' belts. The manufacturer of the medical belts (both enlisted and officer) promised the officer belts would be delivered in three months. Perhaps not surprising, delivery did not meet the deadline. On August 15, the Medical Supply Depot, Washington, DC had only 1,840 officer belts, and it would be April/May 1918 before the contracts were satisfied. During WWI 36,000 officers' belts were ordered, for a Medical Corps of around 30,000 officers, many of whom would not be issued the belt. All but one of the contracts were awarded to the Mills Woven Cartridge Belt Company, for a total cost of $113,711.52, roughly $2.5 million in 2024.

The official history blandly stated, "The medical officer's belt is useful with combat troops." Meanwhile, under combat conditions the enlisted medical belt was "a source of much dissatisfaction both as to contents and methods of packing, etc." Thus, the Equipment Laboratory at the Medical Field Service School designed new gear that would be used in WWII. A standard pouch was worn in pairs on yoke-style suspenders, with different contents depending on a soldiers' role.

Hypodermic syringe case with needles, issued in WWI. The body had a reservoir for alcohol and a wick to create heat for sterilization. AMEDD Museum

Sources

Charles Franson, "A Civil War Medic's Knapsack," *The AMEDD Historian* Number 3, Summer 2013.
R.B. Miller, "Proposed Equipment for the Hospital Corps Soldier," *Military Surgeon* 38 (1916), 421-427.
Sanders Marble, "Medical Support for the Meuse-Argonne," in The Long Haul: Historical Case Studies of Sustainment in large Scale Combat Operations*:* Edited by Keith R. Beurskens. Army University Press, Ft. Leavenworth, KS, 2018.
Peter C. Wever, "The U.S. Army Medical Belt for Front Line First Aid: A Well-Considered Design that Failed the Medical Department During the First World War" *Military Medicine* 181/10 (October 2016), 1187-1194.
Paula Ussery, "The World War I Medic's Belt," *The AMEDD Historian*, No. 1 Winter 2013.
Joseph Ford, ed. The Medical Department of the United States Army in the World War, vol. II Administration American Expeditionary Forces*;* Edwin Wolfe, ed. vol. III Finance and Supply, U S Government Printing Office, Washington, DC, 1927 and 1928.
"The dedication of the Medical Department Equipment Laboratory, Museum of Field Equipment at Carlisle Barracks, Pennsylvania," digital copy national Library of Medicine https://collections.nlm.nih.gov/catalog/nlm:nlmuid-14221110R-bk

MAJ Charles Tripler was Medical Director of the Army of the Potomac in 1861-62. During the Peninsula Campaign in the summer of 1862 the force lacked enough ambulances, and Tripler improvised by using railroad wagons to evacuate wounded to the hospital at the forward logistical base. Some times he was able to put surgeons (or hospital stewards) on trains, other times it was purely CASEVAC, but after patients had been seen at a hospital, so presumably they had been assessed as being safe to travel without medical attendants. This photo was taken of some of the wounded—apparently walking wounded—waiting for evacuation to the hospital at White House, Virginia, probably in late May 1862.
Courtesy Library of Congress.

Quinine was the only effective medicine against malaria in the Civil War, but its bitter taste meant troops did not want to take it. Mixing it with whiskey improved compliance, and it was common to offer them together. The AMEDD purchased tons of quinine, and began producing its own to control quality and price, but malaria was endemic in the southern states, and many troops got malaria at some point during the war.

Image courtesy National Library of Medicine.

Writing for *The AMEDD Historian*

We are seeking contributions! We believe variety is the way to attract a variety of audiences, so we can use:

- Photos of historical interest, with an explanatory caption
- Photos of artifacts, with an explanation
- Documents (either scanned or transcribed), with an explanation to provide context
- Articles of varying length (500 word minimum), with sources listed if not footnotes/endnotes
- Book reviews and news of books about AMEDD history

Material can be submitted usarmy.jbsa.medical-coe.mbx.office-of-medical-history@army.mil Please contact us about technical specifications.

The opinions expressed in The AMEDD Historian are those of the authors, not the Department of Defense or its constituent elements. The bulletin's contents do not necessarily reflect official Army positions and do not supersede information in other official Army publications or Army regulations.

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