

Pharms in arms: Pharmacy responds to the call to duty Pharmacists in the military

By: [Domenic Sammarco, R.Ph.](#), Drug Topics, March 19, 2007



Injured G.I. in Italian campaign (WWII)
given blood by field medic, August 1943

Any combat veteran will acknowledge that the two most important members of his squad are the radioman and the field medic, the two prized targets for any enemy sniper. Pharmacists have played an indispensable role in all too many wars and are an important part of the field medical team.

The famous World War II correspondent Ernie Pyle did a good job of describing the feeling of soldiers receiving care from the military medical team: "These men lived a rough-and-tumble life. They slept on the ground, worked ghastly hours, were sometimes under fire, and handled a flow of wounded that would sicken and dishearten a person less immune to it. Time

and again as I lay in my tent, I heard wounded soldiers discussing the wonderful treatment they had at the hands of the medics. They'll get little glory back home when it's over, but they had some recompense right there in the gratitude of the men they treated."

It's generally held that pharmacists and medical personnel are part of the rear echelon and do not experience the danger of combat. Nothing could be further from the truth. Pharmacist Robert Knecht of Cincinnati was killed in action on the Anzio beachhead on Feb. 7, 1944. During World War II alone at least 131 pharmacists and pharmacy students died serving our country.

Paul Stanley Frament, a 1939 graduate of Albany College of Pharmacy, was assigned to the Marine First Division for the first invasion of Guadalcanal. The endless sound of Marines crying for medical care drove him to respond, in the process sustaining mortar fatal wounds from Japanese naval gunfire. Awarded the Silver Star for bravery, Frament died before the age of 25 and was one of the most highly decorated R.Ph.s in U.S. Navy history.

The early days

As of 1932, pharmacy education required a baccalaureate degree. This did not result in a military commission. Despite the proven assessment of pharmacist interventions during WWI and the new education standard set in 1932, the value of pharmacists was not always in accordance with their military rank and pay. The military view of pharmacy service was more aligned with one of operating a business and not necessarily delivering the best system of medical checks and balances as well as collaborative practice.

In 1930 at Fort Leavenworth, Kan., a dispensing error made by an untrained Army corporal resulted in the deaths of two children of two enlisted men. This created a public relations nightmare for the Army. The general feeling of the American public was best represented by the following *El Dorado Times* editorial: "Surely the lives of soldiers and their dependents are entitled to be safeguarded against ignorance and inexperience. The Army certainly needs the services of pharmacists who know their business."



Plasma being administered at Korean
M.A.S.H. unit

Pharms in arms: Pharmacy responds to the call to duty

Military recognition

Medicine had evolved to mandate additional standards of safety and effectiveness. However, it was not until 1943 that President Franklin D. Roosevelt signed the Durham-Reynolds bill as Public Law 130, which established the Pharmacy Corps in the Army. The struggle of pharmacy professionalism and Army recognition ended in a positive, united direction.

The struggle started by Atlanta pharmacist George Payne in 1894 (first VP of the National Association of Boards of Pharmacy from 1904 to 1905) was finally concluded in 1943 as the U.S. Army recognized pharmacy as a profession. Recognized or not, roughly 14,000 R.Ph.s or pharmacy students served their country during World War II in all positions in all branches. However, only 16% were commissioned in some officer capacity but not necessarily as pharmacy officers.

Post-war America and its returning veterans desired the best care from their medical specialists. With the need for professional supply and administration personnel ever growing in the Army Medical Department, the Pharmacy Corps was replaced with the establishment of the Medical Service Corps (MS Corps) on Aug. 4, 1947. While R.Ph.s were unable to elevate the status of the profession during the time of the Pharmacy Corps, they proved themselves able leaders in the MS Corps. The first chief of the corps, Col. Othmar F. Goriups, was, in fact, a pharmacist, who had served in various positions in military medicine.

Korean conflict

As the Korean War was fought under the constant threat of an atomic weapon strike, the military medical system feared the casualties of Hiroshima and employed all aspects of medicine to prepare for the worst. Pharmacists and the pharmaceutical industry were advancing with the synthesis and production of new and more effective drugs. With complexity came opportunity for the pharmacy officer to secure a place of importance in formulary development.

The fast-forward Mobile Army Surgical Hospital (M.A.S.H.) was refined in the Korean War. In many cases, injured soldiers were transported from the battlefield to a fully assembled army hospital with a fully staffed pharmacy and pharmacy officer, bypassing the congested battalion aid station and ground ambulances.

Just as plastic and thoracic surgery came of age in the two world wars, vascular surgery and peripheral nerve repair as well as pharmacy refinement of intravenous fluid therapy was the Korean War's contribution to civilian life.

Postgraduate degrees



Valuable pharmaceuticals being inventoried

In the late 1950s and early 1960s, pharmacy officers began to compete for postgraduate training, and finally in 1958, they completed the first master's degree program in hospital pharmacy. In 1962, the Pharmacy Specialist Course was introduced to provide a formal training program for enlisted technicians.

Col. Ralph D. Arnold, then Pharmacy Consultant to the Surgeon General, began petitioning the Department of the Army to recognize the need for pharmacists in greater numbers. In 1966, the Secretary of Defense, Robert S. McNamara, acquiesced and decreed that all major medical treatment facilities would be staffed with licensed pharmacists.

Pharms in arms: Pharmacy responds to the call to duty

In 1973, the Health Services Command was established, with Robert Tweito named as the first Pharmacy Staff Officer. During this time, unit-dose and IV-admixture programs were expanded throughout the command. Later, the Pharmacy Sterile Products Course was added to support the IV-admixture program.

As the Vietnam War created controversy, the military medical services simply improved in specialization and speed. Three factors appear paramount: a system of medical evacuation, highly trained medical specialties in sufficient numbers, and biomedical research to include R.Ph.s and sophisticated delivery systems. Had the soldiers in World War II received the care Vietnam soldiers received, 118,000 fewer men would have died.

In the 1980s, clinical pharmacy began to take shape. In the Army, the Doctor of Pharmacy (Pharm.D.) degree became a recognized degree for promotion and was offered through long-term civilian education training. As Army pharmacy moved into the 1990s, the professional practice of clinical pharmacy both by R.Ph.s and techs was firmly established. However, the question remained: Does Army pharmacy have a role in a combat deployment? Operations Desert Shield and Desert Storm, Somalia, Haiti, and Bosnia provided pharmacists and technicians with opportunities to prove their value, both by clinical intervention and close proximity.

The fight continues

Today, more than ever, all branches of military medicine have joined forces to meet the needs of homeland security. "Pharmacy and other healthcare issues that affect one branch of the military affect all of the Armed Services," said Capt. David Price, pharmacy consultant to the U.S. Navy Surgeon General. "Pharmacy leaders work jointly to solve problems and plan strategies," he reported last year.

Pharmacy officers today, regardless of branch, are responsible for pharmacy operation as well as assigned personnel and, often, entire ambulatory healthcare facilities. Col. Isaiah Harper Jr., pharmacy consultant to the U.S. Army Surgeon General, expects his R.Ph.s to be clinically proficient as well as leaders and trainers. "Military pharmacists, more than ever before, are playing a major role in medication logistics and inventory activities," he stated last year.

Military pharmacists will continue to play an important role in protecting our country both abroad and in homeland defense readiness. As fellow pharmacists, we must honor their sacrifices by respecting our profession in what we do and say.

References are available upon request.

Dedicated to Edward Edmund Goodmaster (U.S. Navy WWII), Frederick Vegliante (U.S. Army Postwar Europe), and Robert Guynn (U.S. Army Vietnam), fellow pharmacy commissioners and most of all fellow military pharmacists.

THE AUTHOR is a community pharmacist in Connecticut and owner of Palmer Pharmacy in Greenwich and Professional Pharmacy in Stamford. He was a commissioned officer in the U.S. Army Reserve and held the rank of Lt. Colonel.

History of Army Pharmacy

The Apothecary

Army Pharmacy has its beginning with the very birth of the Nation itself. The first U.S. Army Hospital was organized on 27 July 1775. At that time, one Apothecary (Andrew Carnegie) was appointed with the duties of making up and dispensing medications.

On 7 April 1777, the Army Medical Department (AMEDD) was reorganized and enlarged. Based on this expansion, one Apothecary General was appointed per district served. Their duties included: receive, prepare, and deliver medications and other articles of their department to the hospitals and the Army as shall be directed by the Director General. Also, the concept of the Pharmacy Technician was born in that the Apothecary was allowed as many mates as the Director General deemed necessary.

In 1821 the Apothecary was discharged and little was heard from Pharmacy from this period until the early 1900s. The formal education of pharmacists was just beginning, and as yet had not made its mark in terms of the recognition of pharmacists as healthcare professionals.

The first real chance for Pharmacy to become recognized in any form in the military came with the outbreak of WWI. Corps such as the Quartermaster Corps and the Ordnance Corps needed experienced commissioned officers to help take care of large number of inductees. Therefore, they recruited and commissioned NCOs from throughout the Army. The Surgeon General of the Army realized that the AMEDD was suddenly losing its most experienced people.

To hold on to the administrative experience the AMEDD needed to function, the Sanitary Corps was created in 1918. Now experienced NCOs were able to gain commissions and be retained in the AMEDD, to include some pharmacists. Unfortunately, most of those who did served in non-pharmacy jobs.

Birth of the Pharmacy Corps

With the end of the First World War, the AMEDD was reverted to its original structure. With this reorganization came a temporary loss of rank for many Sanitary Corps NCOs commissioned during the conflict. To prevent these soldiers from being forced to retire without their commissions, the Medical Administrative Corps was created in 1920. The pharmacy education process was gaining acceptance and recognition across the country and, in 1936, Congress passed the National Defense Act. It stated that only pharmacists with certain educational qualifications could be commissioned in the Medical Administrative Corps. The Army commissioned its first 16 pharmacists that year; unfortunately, most continued to perform supply and administrative duties within the AMEDD.

World War II began, and there was still little validation of the skills of the Army Pharmacist. The civilian pharmacy sector began to realize that bringing recognition to military pharmacists would bolster their own credibility. They, along with representatives from

History of Army Pharmacy

pharmacy organizations such as the National Association of Retail Druggists and the American Pharmaceutical Association started lobbying Congress on their behalf.

In May 1943, the pharmacy organizations introduced a bill for the establishment of a Pharmacy Corps. Representative Carl Durham of North Carolina brought the bill before Congress and, on 12 July 1943, the Pharmacy Corps was established. The Corps initially consisted of 72 officers; however, 58 of those came from the Medical Administrative Corps and not all were pharmacists. The Pharmacy Corps peaked at a strength of 500, but never had more than 47 pharmacists assigned.

The Medical Service Corps and beyond...

With the need for professional supply and administration personnel ever growing within the AMEDD, the Pharmacy Corps was replaced with the establishment of the Medical Service Corps on 4 Aug 1947. While pharmacists were unable to elevate the status of the profession during the time of the Pharmacy Corps, they proved themselves as able leaders in the MS Corps. The first Chief of the Medical Service Corps, COL Othmar F. Goriups, was in fact a pharmacist.

In the late 1950s and early 60s pharmacy officers began to compete for postgraduate training and finally, in 1958, pharmacy officers completed the first Masters Degree Program in Hospital Pharmacy. In 1962, the Pharmacy Specialist Course was introduced to provide a formal training program for enlisted technicians.

COL Ralph D. Arnold, then Pharmacy Consultant to the Surgeon General, began petitioning the Department of the Army to recognize the need for pharmacists in greater numbers. In 1966 the Secretary of the Army, Robert McNamara, acquiesced and decreed that all major medical treatment facilities would be staffed with licensed pharmacists.

In 1973, Health Services Command (HSC) was established with LTC Robert Tweito named as the first Pharmacy Staff Officer. During this time, Unit Dose and IV Admixture programs were expanded throughout the command. Later, the Pharmacy Sterile Products Course was added to support the IV Admixture program.

In the 1980s Clinical Pharmacy began to be the new initiative for pharmacy practice. Within the Army, the Doctor of Pharmacy (PharmD) degree became a recognized degree for promotion and was offered through Long Term Civilian Education Training. As Army Pharmacy moved into the 1990s, the professional practice of clinical pharmacy both by pharmacists and technicians was firmly established. However, the question remained: does Army Pharmacy have a role to play in a combat deployment? Operations Desert Shield and Storm, Somalia, Haiti, and Bosnia provided the pharmacists and technicians with opportunities to prove their value and they did so with distinction.

Today Army Pharmacy, like its civilian counterpart, has moved into the realm of Pharmaceutical Care where pharmacists are becoming more responsible for patient outcomes. Pharmacists are working as healthcare providers in clinics while technicians have assumed more responsibility for the distribution process. Outpatient pharmacies have been redesigned into multi-window configurations to allow for direct patient care involvement. The DoD Pharmacoeconomic Center focuses on formulary issues and uses

History of Army Pharmacy

clinical Ambulatory Care Pharmacists to communicate with local providers. Finally, Army Pharmacy can address issues at the Department of Defense level as a member of the DoD Pharmacy board of Directors.

Army Pharmacy has served with pride from the birth of our Nation to the present. The future holds much uncertainty with downsizing and reconfiguring. However, it also offers many challenges as we seek ways to assure that our soldiers are pharmaceutically prepared to serve our nation in times of peace as well as war. At each stage in our history, Army pharmacists and technicians have met the challenge. With pride we will continue to take care of our soldiers to "CONSERVE THE FIGHTING STRENGTH".

Pharmacy Trivia!

Betcha didn't know...

- Some of the scales used in pharmacy are so sensitive they can weigh individual grains of salt.
- The first female pharmacist was Susan Hayhurst, who graduated from the College of Pharmacy in 1883 as both a pharmacist and a doctor. Until that point, women were thought not to be physically strong enough to pound the substances used in compounding with enough force to crush them properly.
- Jean Francois Pilatre de Rozier, a pharmacist from Metz, France, became acquainted with Joseph and Etienne Montgolfier - experimenters with hot air balloons. Rozier convinced King Louis XVI to allow him to be the first to venture into the earth's atmosphere. On October 15, 1783, Rozier became the first human to experience aerial flight. On June 15, 1785, he died in a hydrogen balloon accident.
- In colonial Ste. Genevieve (Missouri) maple syrup was often used a cure for colds and tuberculosis.
- More than half of ancient Egypt's home remedies contained honey. That included a contraceptive poultice that also used a bit of camel dung and beeswax.
- The popular drink '7-Up' was originally a version of a "lithiated" patent medicine, containing small amounts of lithium. Ironically, it was introduced to the U.S. markets in the 1930s - during the time of the Great Depression!
- Benedict Arnold began his pre-military career as a pharmacist in New Haven, Connecticut. From 1761 to 1775 he sold such products as "pectoral Balsam-Honey" and "Frances' Female Elixir".
- Until recently, the state of Florida required all pharmacies to own and display a fancy jar of colored water before they could get their license.
- In 1888, Atlanta pharmacist John S. Pemberton developed a "Esteemed Brain Tonic and Intellectual Beverage," which contained: caffeine, "secret" ingredients, and cocaine. Modified for today's taste (and laws), the product is a staple, billion-dollar seller. What was Pemberton's concoction? None other than Coca-Cola.
- The symbol 'Rx' is actually a corruption of the ancient symbol for the Roman god Jupiter, whose blessing was invoked upon every prescription to ensure its purity. Others believe that the 'R' in the symbol used to be an eye, the 'Eye of Horus' - an Egyptian god considered to be the "father of pharmacy." The Eye of Horus (or 'udjat') became a very powerful symbol in ancient Egypt. It was worn as an amulet to ensure good health and ward off sickness.