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## UNIFORMED MEDICAL STUDENTS AND RESIDENTS IN EMERGENCY MEDICINE

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**Abstract**—“Uniformed medical students and residents” refers to medical school enrollees and physicians in training who are obligated to serve in the military after graduation or training completion. This is in exchange for 2 forms of financial support that are provided by the military for individuals interested in pursuing a career in medicine. These programs are offered namely through the Uniformed Services University of Health Sciences (USUHS) and the Health Professions Scholarship Program (HPSP). Uniformed medical school graduates can choose to serve with the military upon graduation or to pursue residency training. Residency can be completed at in-service programs at military treatment facilities, at out-service programs, at civilian residency training programs, or via deferment programs for residency training at civilian programs. Once their residency training is completed, military physicians should then complete their service obligation. As such, both USUHS and HPSP students should attend a basic officer training to ensure their preparedness for military service. In this article, we elaborate more on the mission, requirements, application, and benefits of both USUHS and HPSP. Moreover, we expand on the officer preparedness training, postgraduate education in the military, unique opportunities of military medicine, and life after completion of military obligation.

## INTRODUCTION

The military currently provides 2 financial support programs for medical students: the Uniformed Services University of Health Sciences (USUHS)—the military medical school—and the Health Professions Scholarship Program (HPSP). Each program has benefits that may be attractive to students with particular circumstances, and both offer benefits in return for a contract to provide medical care on active duty after the completion of medical school.

## THE USUHS

### History and Mission

The USUHS, also known as the F. Edward Hebert School of Medicine, was established in 1972 by U.S. Congress. Since then, the nation's federal school of medicine has yielded >5000 graduates.

It aims at training future physicians in the unique aspects of military medicine and public health while meeting all requirements for general medical licensure in the United States. Unlike other medical schools, education and research at the USUHS is continuously correlated to military medicine, military medical readiness, and disaster medicine.

Each of the 4 uniformed services is represented at the USUHS—the Army, Navy, Air Force, and Public Health Service (PHS). While attending the USUHS, students enter as commissioned officers in one of the aforementioned uniformed services. Accordingly, students receive a salary and benefits without paying tuition fees. In exchange, after graduation, the new military physician is obligated to serve in the military for 7 y (10 y for PHS) in a nontraining status after completion of the postgraduate year 1 (internship) year. Any commitment previously incurred through either the Reserve Officer Training Corps or any of the military academies is added to this obligated service (1,2).

### Admission Requirements

Admission requirements include general, academic, test and commissioning requirements.

As for the general requirements, admission is not limited to individuals on active duty (i.e., no previous service is required). Eligibility extends to include civilians. In addition, applicants must have U.S. Citizenship (which cannot be waived for any reason) and must be between 18 and 36 years of age at the time of matriculation.

Although the academic requirements include a cumulative grade point average of 3.0, the last incoming class has a grade point average of 3.6. Moreover, applicants must complete all the academic prerequisites and obtain a baccalaureate degree by June 1 of the year of planned matriculation.

For the test requirements, applicants are expected to take the Medical College Admission Test. Medical College Admission Test scores >496 are required (the average score for last incoming class was 508–509). The test must be taken within 3 years of the year of planned matriculation.

In addition, applicants must also meet all requirements for active military service (commissioning requirements), including a medical screening examination and background security investigation before being unconditionally accepted into the USUHS (1,3).

### Application

Application to the USUHS is through the American Medical College Application Service. Submissions are typically open from June 1 until November 1 of the year of planned matriculation (1,4).

### Benefits

All tuition, fees, medical supplies, and books are provided. Free medical care, a yearly 30-day paid leave, and a housing allowance are also provided. In addition, students are commissioned on active duty as Second Lieutenant (Army and Air Force) or Ensign (Navy and PHS) and receive military pay for that rank. Medical students are then promoted to Captain (Army and Air Force) and Lieutenant (Navy and PHS) upon graduation (1).

### “Molecules to Military Medicine” Curriculum

The curriculum was reshaped in fall 2011 to focus on the link between clinical and basic sciences. This ensures that medical students attending the USUHS meet all the requirements for medical education, while getting exposed to both “life in the military” and “military medicine.” Classes are given in military unique medicine, the military decision-making, process combat medical skills, etc. In addition, an Antietam Battlefield experience as well as 2 field exercises are conducted over the 4-y curriculum, giving the student a concentrated and intense introduction to medical support during simulated combat operations (1,5).

### Future and Vision

The USUHS aims to be “recognized as the preeminent national educational institution for the creation of career uniformed services leaders in the health sciences who are prepared to serve the nation” by the end of 2021 (1).

### THE HPSP

The HPSP is a scholarship program that provides financial assistance to attend a civilian medical school. In exchange, the new graduate is obligated to serve as an active duty officer for 4 y after graduation. The applicant has the choice of joining the Army, Navy, or Air Force. Periods in which officers are in a training status (such as internship, residency, or fellowship) do not count toward fulfillment of a contract with the military but count towards military retirement (1,6).

## Admission Requirements

HPSP eligibility requirements include U.S. citizenship (dual citizenship not permitted), physical qualification for a commission in the military, acceptance into an accredited school in the U.S. or Puerto Rico, and age <42 y at the time of commissioning on active duty (1,6).

## Application

Applicants should apply via the service specific medical recruiting district (1).

## Benefits

The military provides HPSP scholarship recipients with full tuition, all fees, medical supplies, books, and a stipend of \$2200 per month. Participants get 45 days of active duty for training each year and are paid full entry-level officer pay and allowances during that time. At time of publication, a signing bonus of \$20,000 is offered. Time in HPSP does not count for retirement or pay purposes (1,6,7).

## OFFICER PREPAREDNESS TRAINING

All medical officers attend 4 to 6 weeks of basic officer training. For USUHS students, this occurs before the first year of medical school. For HPSP students, this can occur at any time before graduation or immediately upon graduation. These courses are designed to give the new medical officer an orientation to military life as well as military customs and courtesies (1). Currently, the Army conducts its “Basic Officer Leader Course” (BOLC) at Fort Sam Houston, Texas (8). The Navy’s “Officer Development School” (ODS) is located in Newport, Rhode Island (9), and the Air Force conducts its “Commissioned Officer Training” (COT) course at Maxwell Air Force Base, Alabama (10).

## POSTGRADUATE EDUCATION IN THE MILITARY

Residency training in the military typically follows 1 of 2 pathways: (1) in-service programs at military treatment facilities (MTFs), (2) deferment programs for residency training at civilian programs, or (3) out-service programs at civilian residency training programs. For any given specialty, a graduate medical selection board is convened either in late November or early December to determine the program selection and the number of years of training for every applicant. Selection board results are published in mid-December (11). One study in 2008 showed that USUHS graduates completed residencies mostly in surgery, family medicine, internal medicine, and pediatrics. Four percent of graduates completed a residency in emergency medicine (12).

## In-Service Residency Training Programs at MTFs

Various Army, Navy, and Air Force MTFs around the country sponsor in-service residency training programs. They are all fully accredited by the Accreditation Council for Graduate Medical Education. While in a dedicated postgraduate training program (internship, residency, or fellowship), payback towards the initial service obligation is on “hold.” The service commitment resumes upon graduation from training. In-service training counts toward retirement, but generally incurs additional obligated service time that may be served concurrently with medical school and undergraduate educational obligations. Appendix 1 displays the MTFs with in-service residency training EM programs (11).

## Deferment Programs for Residency Training at Civilian Programs

Some graduating medical students are selected for deferment for their entire residency. This means that the student can match as a civilian intern/resident and complete his/her training in a civilian program. Upon such completion, s/he then enters or returns to military service as a civilian residency-trained emergency physician. In some cases, similar deferment of service obligation is permitted for graduating medical students or Medical Corps officers who are already in the process of completing or have completed an internship.

Other graduating students are, however, granted only a 1-year deferment to complete an internship in a civilian program. They are then expected to serve in general medical practice as general medical officers, flight surgeons, or diving medical officers for 1–3 years before applying for further in-service, out-service, or deferred training.

Application to this program follows the normal civilian “match” guidelines after approval from the respective service. Using the deferment route to postgraduate training incurs no further military service obligation, but neither does it count toward payback for the initial obligation. USUHS students are eligible for deferment training programs.

## Out-Service Programs for Residency Training at Civilian Programs

Out-service training allows Medical Corps officers already on active duty the opportunity to train at a civilian institution while remaining on full-time active duty status. Unlike members in a deferment program, outservice trainees continue to draw their military pay. In addition, like in-service training, time served in outservice training counts toward retirement.

The number of out-service training slots awarded each year varies depending on the particular need for residency or fellowship-trained specialists for the respective branch of service. Graduating medical students are generally not eligible for outservice training.

## UNIQUE OPPORTUNITIES OF MILITARY MEDICINE

The military offers unique opportunities not normally available in civilian medical practice and training. There is the opportunity to practice medicine in a variety of geographic locations

spanning the globe. Military physicians can readily take part in both combat and humanitarian medical missions. In addition, the military offers unique training for physicians in undersea/hyperbaric, flight, tactical and wilderness medicine, and other nontraditional fields. The practice environment is vastly different from civilian medicine with near-universal health care coverage of the patients you treat as well as significant protections of the individual physician from malpractice and litigation. Finally, there is a significant financial benefit and security to be gained from a military retirement pension with an automatic annual cost-of-living adjustment.

## LIFE AFTER COMPLETION OF MILITARY OBLIGATION

A study that looked at the first 20 years of USUHS graduates showed that almost all continued clinical practice and most continued to work for the federal government. In addition, the study showed that USUHS graduates in full-time practice had a higher rates of board certification compared to graduates of U.S. medical schools (13).

## CONCLUSION

The military offers a unique and exciting perspective to the practice of emergency medicine. As recognized leaders in resuscitation, stabilization, and triage, emergency physicians are uniquely qualified to provide the medical support needed for either wartime or peacetime missions. In addition, they play a leading role in training tomorrow's medics and corpsmen.

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## SUPPLEMENTARY DATA

Supplementary data related to this article can be found at <https://doi.org/10.1016/j.jemermed.2019.08.011>.

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