Staying Power: Does the Uniformed Services University Continue to Meet Its Obligation to the Nation’s Health Care Needs?

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ABSTRACT
Introduction: The Uniformed Services University F. Edward Hebert School of Medicine just passed its 45th anniversary, opening in 1972. A goal of the medical school, like those nationally, is the production of high-quality physicians. The purpose of this study is to describe the practice characteristics of our USU graduates and to compare data with the national cohort of U.S. MD graduates. Materials and Methods: To accomplish this, we performed a retrospective analysis of U.S. graduates (1980–2009). We used the American Medical Association Physician Masterfile to describe our graduates’ current practice profile and compare them with the national cohort. In order to ascertain if USU is meeting our goal to provide high-quality physicians, we also compare our findings with national allopathic school data to norm-reference our results. Results: Our findings indicate that USU graduates contribute to both primary care and specialty care and they practice in all 50 states. USU graduates continue to serve their nation after their obligation is complete, with 64% continuing to practice in federal hospitals and agencies. USU graduates also have a higher board certification rate (90%) than the national cohort (88%). Conclusion: Following our 45th anniversary, we provide continuing evidence that USU is keeping its contract with society. We provide evidence that USU continues to meet its obligation to the nation’s health care needs by producing high-quality physicians who serve the country in multiple ways after their military obligation is complete, thus extending the definition of staying power. Our study is not without limitations. First, we could not precisely define the cohort to exclude graduates who still had service obligations. Second, the AMA Physician Masterfile had some missing data fields, so nonresponse or misclassification bias is possible in our results. Study strengths include the long period of time and large number of graduates in each cohort.

INTRODUCTION
The Uniformed Services University F. Edward Hebert School of Medicine (USU), founded in 1972, just passed its 45th anniversary. It is the nation’s only federal school of medicine and, like other medical schools across the United States, seeks to produce high-quality physicians. USU is unique in that its graduates are both military officers and physicians. They are asked to serve the nation and the 9.8 million beneficiaries of the Military Health System (MHS) during times of war and peace in a wide variety of practice contexts.

All medical schools in the United States receive federal support and each have an implied obligation to produce physicians to meet the nation’s health care needs. USU’s obligation is unique in that its graduates not only must care for our active duty and retired military personnel and their families but they must do so in practice settings that are spread across the nation (at “military treatment facilities” or MTFs) and multiple other locations around the world. USU physicians care for the same conditions as those who graduate from civilian medical schools and these similarities have been the subject of prior publications.

We previously studied USU’s graduates’ practice characteristics for individuals who have reached 20 or more years of military service. That investigation indicated that nearly all USU graduates choose to continue to serve the country and provide care for patients even after they have completed their service obligations. This finding provided evidence that the return on investment for educating USU medical students is in line with Congressman Hebert’s founding vision for the medical school. This finding is also consistent with Francis D. Moore’s concept of “staying power.” Following the first class of USU graduates in 1980, Moore argued that the success of USU could be measured from the statistic of “staying power.” Moore’s argument echoed the language in the enabling legislation – The Uniformed Services Health Professions Revitalization Act – passed by Congress in 1972 to address the twin problems of physician recruitment and retention. This legislation supported the creation of a federal university to prepare career-oriented physicians who contribute to the “enhancement of the prestige and dignity of a professional medical career in the military.”

This study builds upon our prior study by including all physicians who graduated from USU from 1980 to 2009, have completed their training, and are now in practice. We provide a “snapshot” of USU graduates’ contributions to society as physicians that can serve as a model for other institutions that provide medical education across the nation.

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In this article, we explicitly extend the notion of “staying power” by Moore to include the care rendered to our nation as a whole. We describe our graduates’ practice characteristics by type of practice, location (e.g., state), and specialty board certification. We then contrast this profile with the national cohort of graduates in the same years to provide a snapshot of USU’s “staying power.”

METHODS

Study Design and Population

This is a retrospective cohort study of all allopathic medical school graduates in the United States, including the subset of graduates of USU located in Bethesda, Maryland. We performed a retrospective analysis of USU graduates (1980–2009) using the American Medical Association Physician Masterfile to describe our graduates’ current practice status and to compare this status with national averages. We compared our findings with national allopathic school data to norm-reference our results. In addition to the total cohort (1980–2009), we also studied a restricted cohort (those who graduated between 1980 and 1994) to ensure that graduate training and obligatory active duty service time would be completed. This allowed us to determine the long-term state practice locations well into or near the end of the graduates’ active duty medical careers. Because the data set constituted the population of USU and U.S. graduates, we did not need to use inferential statistics to compare the USU and national graduates. Further, the central question of USU graduates’ “staying power” is focused on the career paths of USU graduates and does not depend on the comparison of USU and U.S. graduates.

Data Sources

We used the 2016 American Medical Association (AMA) Physician Masterfile, which was queried for all graduates of U.S. medical schools from 1980 to 2009. The following data fields were analyzed: (1) medical school, (2) year of graduation, (3) practice state, (4) primary specialty board (for those who were board-certified), and (5) major professional activity (office-based practice, full-time hospital staff, administration, medical teaching, resident, student, research, locum tenens, inactive, and not classified). The version of the Masterfile we used included board certification data from the American Board of Medical Specialties (ABMS), which is compiled and maintained in a proprietary and copyrighted database through ABMS. Given that board certification is linked to the quality of physicians’ patient care, we compared the board certification rates of USU graduates to all U.S. MD graduates (for those who graduated between 1980 and 2009). We calculated board certification rates only for those physicians who were in direct patient care. Board certification was based on any of the 24 ABMS specialties. In contrasting the specialties of USU and other U.S. MD graduates, we only considered the first specialty board listed in the AMA/ABMS data. Although many physicians maintain specialty certification across multiple boards, we believed that our comparisons based on initial specialty were satisfactorily unbiased, so we did not need to consider further USU–U.S. MD contrasts on additional specialties.

RESULTS

Based on the 2016 AMA Physician Masterfile, 4,339 USU graduates from 1980 to 2009 (inclusive) were identified. This is approximately 1% of total number of all U.S. medical school graduates (n = 472,489). Of the 3,431 graduates who were in direct patient care, 89.8% of the USU graduates were board-certified; this compares to 87.7% of all other U.S. MD graduates with comparable graduation years.

Table I lists the specialties for which the graduates are currently in direct patient care and are board-certified. The USU sample had eight specialties that had at least 5% of the graduates and made up 71% of all USU graduates: family medicine (n = 498, 16%), internal medicine (n = 536, 12%), radiology (n = 254, 8%), psychiatry and neurology (n = 167, 5%). In comparison, the U.S. medical school graduates also had seven of these same eight specialties with at least 5% of the graduates, with the only difference being the substitution of obstetrics and gynecology for orthopedic surgery. These eight specialties for U.S. medical schools made up 76% of all graduates: internal medicine (n = 75,982, 21%), family medicine (n = 43,263, 12%), pediatrics (n = 38,532, 11%), anesthesiology (n = 25,423, 7%), radiology (n = 24,599, 7%), psychiatry and neurology (n = 23,346, 6%), obstetrics and gynecology (n = 23,184, 6%), and emergency medicine (n = 21,157, 6%). The largest difference is that a much higher percentage of U.S. graduates (21%) versus USU graduates (12%) entered internal medicine. Conversely, a higher percentage of USU graduates (16%) versus U.S. graduates (12%) entered family medicine.

We were able to test the proposition that the USU graduates had “staying power” by examining the extent to which the graduates continued to serve the nation after the completion of their active duty requirement. To do so, we examined the location of present employment for the graduates from 1980 to 1994, as their active duty requirement would have been completed. We found that 64% of these graduates currently work in federal service for the Army (26%), Navy (20%), Air Force (13%), Public Health Service (3%), or other federal hospitals or agencies (2%). In comparison, less than 5% of graduates in this cohort from U.S. medical schools are employed in federal agencies.

Practice locations for USU graduates included all 50 states, the District of Columbia, and Guam. These locations were derived from the practice or home address provided to the AMA. As seen in Table II, six states each had more than 5% of the graduates and together had 53% of all graduates: California (n = 434, 13%), Texas (n = 361, 11%), Maryland (n = 306, 9%), Virginia (n = 296, 9%), Washington (n = 214, 6%), and Florida (n = 187, 5%). In comparison, only four states were the...
The practice locations for USU graduates and U.S. graduates were compared for those states with the lowest per capita number of physicians in active practice. In 6 of the 11 states with the lowest per capita number, USU graduates provided a greater supply of physicians: Mississippi (USU: 0.74%; U.S.: 0.71%), Idaho (USU: 1.01%; U.S.: 0.44%), Wyoming (USU: 0.21%; U.S.: 0.15%), Nevada (USU: 1.20%; U.S.: 0.59%), Utah (USU: 1.52%; U.S.: 0.90%), and Texas (USU: 10.81%; U.S.: 6.82%).

**DISCUSSION**

Our study confirms and extends the key results of the previous article that followed all USU graduates from 1980 to 1999. This current study included an additional 10 years of graduates to those who completed their degrees through 2009. We were also able to compare the USU graduates to the MD graduates of all other U.S. medical schools and found that, during this 30-yr time period, USU produced about 1% of all physicians.

We found that USU graduates who remained in direct patient care are more likely to be board-certified. This likely reflects the quality of USU and its affiliated graduate medical education programs. We have a single-payer system and electronic health record (EHR) system at our military treatment facilities, which may lead to less time spent by learners on keeping up with administrative matters (e.g., learning about different insurance coverage and EHRs) and more time devoted to patient care.
Additionally, USU graduates serve the nation as a whole by practicing in all 50 states, although, and as expected, there were higher proportions in states with large military treatment facilities (e.g., Texas and Washington) in comparison with the national sample. It is noteworthy that while USU is located in Maryland, only 10% of graduates continue to practice in Maryland; this is consistent with the notion that USU is a national campus as opposed to a state campus, which is the model for most allopathic medical schools. USU graduates, compared with U.S. graduates, supply a greater number of physicians, to states with the lowest number of physicians per 100,000 population, including Mississippi, Idaho, Wyoming, Nevada, Utah, and Texas.10

Further, there was a correspondence between the specialty choices of the graduates of USU and the national sample, although USU graduates were more likely than the national sample to specialize in family medicine, orthopedic surgery, and anesthesiology and less likely to specialize in pediatrics and obstetrics and gynecology. USU specialties selected by graduates appear to be in line with MHS needs with a high percentage of family medicine and also surgical specialties and support (anesthesia), which serve our population in both peace and war.

Finally, 64% of USU graduates from the cohort who are no longer on active duty are still serving in the federal government. This argues that our graduates not only serve for long periods of time, as envisioned by Moore’s original conception of staying power but also go above and beyond what Moore or others had hoped or expected would be seen from our institution to directly serve the nation in federal service.

Our study had several limitations. First, we could not precisely define the cohort to exclude graduates who still had service obligations. For example, the 2009 graduates would still have, had to complete their residencies and the 7-year service obligation. Consequently, their practices would have had to be in the assigned MTFs. Second, the AMA Physician Masterfile had some missing data fields, so nonresponse or misclassification bias is possible in our results. Study strengths include the long period of time and large number of graduates in each cohort.

Following our 45th anniversary, we provide continuing evidence that USU is keeping its contract with society. We provide evidence that USU produces board-certified physicians who continue to serve our country in multiple ways after their military obligation is complete. We have extended the definition of staying power argued by Moore. Not only do our graduates continue to serve in our system beyond military retirement (64% continue in federal service), they also serve in all 50 states. This study can serve as a model for other institutions that provide medical education in that we have explicitly aligned the study outcomes to the founding vision for USU to meet the nation’s health care needs. Likewise, other medical schools have a unique mission and vision for meeting the nation’s health care needs that can be studied by this type of longitudinal research.

REFERENCES