
SACATON, ARIZONA

My town was so small that...

Unique rural service-learning experiences in the Indian Health Service

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Community-based service-learning experiences have gained increasing recognition for a critically important role in medical education and training. While all clinical experiences are learning experiences, and the best adult learning comes from providing service, those that are embedded within a community have unique value. These experiences—whether during medical school or residency, or later in a career—can be excellent training and cultural opportunities, and can have major impacts on the specialty, location, and career decisions of physicians.

When I decided to become a physician, my plan was to be a general pediatrician practicing in an area similar to where I lived. I grew up in a residential section of Pittsburgh, and went to college about 35 miles south of New York City, then returned to Pittsburgh for medical school. I never considered what it was like living or practicing anywhere other than a large metropolitan area.

During my junior year of medical school I was on a rotation with a fourth-year student who had just returned from a senior elective on the Navajo Reservation. He was wildly enthusiastic about the experience, and got me interested. He told me that one of my medical school mentors, Dr. Ken Rogers (AΩA, University of Cincinnati College of Medicine 1946), Chair of the Department of Community Medicine, was also the person in charge of this Indian Health Service (IHS) elective at the Fort Defiance Indian Hospital in Arizona. After talking with Rogers, I decided to spend nine weeks there during my senior year. The experience was outstanding. And when I returned to Pittsburgh at its conclusion, I was as excited as the student I met the prior year, and helped spread the word to other students. I also decided to serve in the IHS for two years following my first year of residency.

During that time I worked on the Gila River Indian Community (formerly known as the Pima Indian Reservation), located in the Sonoran Desert about 35 miles south of Phoenix, in the town of Sacaton, Arizona.

Sacaton was like nowhere I had ever lived. It was tiny—with a population of about 3,000. Outside of the three other physicians and a few other health professionals living on the reservation in government provided housing on the hospital grounds, almost all the people living in Sacaton were Pima Indians (Native Americans known as the Akimel O'odham).

The Pima people have one of the highest incidences of diabetes in the world. Many lived in sandwich houses, small log cabin-type homes made with alternate layers of logs with packed dry mud in-between. Outhouses were common. Few had telephones, i.e., landline phones, as this was in the early 1970s, before cell phones. It was also a time when everyone in America was given a free printed copy of a large telephone book, which contained a list of all the families living in the area, along with their addresses and phone numbers.

The IHS, a division of the United States Department of Health and Human Services, is responsible for providing direct health care and public health services for Native Americans throughout the U.S., with most of its facilities and health care workers located in rural areas. Working in the IHS was an outstanding and unique medical experience, as well as a wonderful opportunity to help serve an often forgotten and indigenous underserved population. It was also a wonderful opportunity to learn about another culture, working and living on their reservation.

We provided comprehensive family and community medicine for everyone living on the reservation. We took care of people of all ages in the outpatient clinic and the 26-bed hospital, delivered babies, did minor office procedures, provided emergency care 24/7, and made home visits. The hospital was as modern as where I had trained, and I learned how to provide high quality care in a rural location with more limited medical services and support. If we needed subspecialty advice, we had immediate phone access to the medical staff at the tertiary care Phoenix Indian Medical Center 40 miles away. During my second year, I was asked to be the Clinical Director for the hospital.

I was exposed to a much broader aspect of providing health care than I would otherwise have ever seen. We had X-ray and lab available in the hospital, but I personally took my own X-rays and dispensed prescriptions after hours when the lab technicians and pharmacists were unavailable. When a young man fell off his horse and hurt his arm on the weekend, I evaluated the patient, took the X-rays, developed the X-rays, read the film, and casted the arm. I then went into the hospital pharmacy, counted out the pills I had prescribed, typed the label on the bottle, and gave it to the patient along with a follow up appointment.

Once, after delivering a large baby whose mother had diabetes and who became hypoglycemic, I needed to insert an umbilical artery catheter to provide glucose. This was something I had done during residency, and I asked the nurse I was working with for an umbilical artery pack. She replied, "What's that?" I didn't appreciate that every hospital didn't have the same equipment pre-packaged, and I never considered what the pack contained. We quickly determined the individual items that were needed, and the baby did fine. However, it made me realize how limited my prior training in a tertiary care facility had been.

Working for the IHS was also a unique opportunity to practice medicine in one of the few government-run single payer health care systems in the country. The staff included a wide array of non-physician personnel, many of whom were Native Americans, including nurses, lab and X-ray technicians, pharmacists, social workers, and administrators, as well as public health nurses who made home visits, and IHS-trained community health workers. I learned how to provide health care in a different and unique culture, gaining perspective of the Native culture.

The indigenous health staff seemed to know most of the patients who lived on the reservation, and often provided valuable information regarding their social and extended family history, as well as the culture. Living on the reservation, and making home visits, we were able to observe the impact of the many social determinants of health, and see first-hand their impact on the health of our patients and the community. The impact of poverty, unemployment, alcoholism, and accidents was clearly visible, and often overwhelming.

After I moved back to Philadelphia and finished my pediatric residency, I ended up joining the newly established Department of Family Medicine at Jefferson Medical College (now Sidney Kimmel Medical College at Thomas Jefferson University), based in large part because of my practice experience in the IHS. I was asked to direct their newly developed rural Physician Shortage Area Program (PSAP, a program for rural raised students who planned on rural practice), as I was the only faculty member who had rural practice experience. Already board certified in pediatrics, I also became board certified in family medicine, based on my experience in the IHS as well as passing the examination and requirements of the American Board of Family Medicine.

Over time, I worked with senior medical students and residents, trying to emulate Rogers, encouraging them to spend an elective rotation in the IHS, which more than 100 did throughout my four decades-long career. All had very positive and meaningful experiences, some deciding to then spend two to three years working in the IHS after residency. A few even spent a decade or more working in the IHS.

Community-based service-learning experiences are often critically important in one's training and career. Cross-cultural experiences, and the opportunity to serve, are wonderful teachers. However, few medical schools have such rotations as part of their curriculum, either required or elective, especially in the clinical years.[1] While many medical schools and residency programs do provide volunteer service-learning opportunities, most are located in urban underserved areas often near the medical school and hospital. Few offerings are in rural areas, and even fewer in the IHS.

Rural experiences are not only valuable training and service opportunities, they are critically important for the larger societal role in helping to address the national shortage of rural physicians, including those in the IHS. The rural physician shortage has existed as a major health care problem for more than a century, and has serious consequences in health care and life expectancy. Rural areas contain almost 20 percent of the U.S. population, and one-third of rural people live in a federally designated Health Professions Shortage Area (HPSA); yet fewer than four percent of U.S. medical students plan to practice in rural or small town areas.[2,3]

A small number of longstanding rural medical school programs (the University of Minnesota, the University of Minnesota Duluth, Michigan State University, the State University of New York Upstate, the University of Illinois at Rockford, and Jefferson's PSAP), have been highly successful in increasing the supply and retention of rural physicians, with more than half of their graduates over three decades practicing in rural areas.[3,4] In more recent years, a number of other medical schools have also developed rural programs.[5,6] Jefferson's research has shown that PSAP graduates have been eight to 10 times more likely to enter rural family medicine than their non-PSAP peers, and make up 12 percent of Pennsylvania's rural family physician workforce.[3,7-9] Long-term retention of PSAP graduates in rural family medicine after 20 to 25 years was greater than 70 percent.[10]

Research has consistently shown that growing up in a rural area is by far the strongest predictor of rural practice. And, while other factors such as spouse/partner and children are very important in rural recruitment, three factors present at the time of medical school matriculation before those family issues are usually known—growing up rural, planning rural practice, and planning to be a family physician—identified almost 80 percent of Jefferson graduates who were practicing in rural areas three decades later.[11] These three powerful predictors of rural practice are similar in magnitude to multiple predictive risk factors such as high blood pressure, cholesterol, smoking, and diabetes in predicting heart disease. Other factors, such as rural curricula and mentoring, are also critically important.[12]

While the rural physician shortage persists, projections show that if all U.S. medical schools developed similar rural programs, the number of rural physicians graduating each year could double.[4] In addition to medical school rural programs, residency-based rural training tracks (RTT) have also been shown to increase the rural physician supply.[13] A wide number of other major changes also need to take place at the medical school, and federal, state, and local levels. These include rural pathway programs targeting high school and college students; expanding rural clinical experiences; increasing reimbursement for primary care and rural physicians; and expansion of loan repayment and scholarship programs for the National Health Service Corps, and Indian Health Service.

While there is no comprehensive list of rural experiences for medical students and residents, there are a number of ways to learn more about them. For pre-medical students, there are the lists of rural medical school programs.[5,6] For currently enrolled medical students, almost all medical schools have a cadre of faculty members (often in family medicine) who are familiar with options for rural preceptorships, clerkships, and/or electives. There are also student opportunities listed by the Association of American Medical Colleges (AAMC),[14] and the RTT Collaborative.[15] For residents, in addition to the RTTs,[13] there is a large and growing number of federally funded residency Rural Track Programs in multiple specialties, many of which also provide training opportunities for students.[16]

While training more rural doctors will also help to address the substantial need for IHS physicians, much more is required to achieve this goal. Today, most medical students and residents hear about the IHS from other students, residents, and faculty who have worked on a reservation. More medical schools and residency

programs need to develop rotations with IHS facilities, and all schools and hospitals should make students and residents aware of, and encourage, these experiences. Some medical schools do have a more formal relationship with one or more IHS sites, and a small number of academic health centers have developed special centers focusing on Native Americans (NA) and Alaskan Natives (AN), and offer training experiences. However, there is no comprehensive listing of these programs.

The University of New Mexico has a family medicine residency program based at the IHS hospital on the Navajo Reservation in Shiprock, NM, and offers rotations for medical students and residents.[17] Recently, the University of Arizona has established the American Indian Medical Education Strategies (AIMES) Alliance, a consortia of 24 tribal organizations, medical schools, residency programs, and physician advocates—mostly in the Western U.S.—that focuses on increasing the physician supply in IHS facilities.[18] There is also an organized effort, led by the American Medical Association, to encourage partnerships between academic medical centers and the IHS (the only federal health care system without such ties). This would provide more opportunities for students, and help with the substantial need of the IHS in recruitment and retention of physicians and other health professionals.[19,20]

While all of these programs are important, it is critical to also address the national shortage of NA and AN medical students, many of whom have personal goals to practice on a reservation. Currently only 0.3 percent of all physicians identify as NA or AN (either alone or in combination with other races/ethnicities), and only a small number of medical schools regularly graduate even a handful of indigenous physicians (e.g., University of Oklahoma, University of Minnesota, University of New Mexico, University of North Dakota, University of Washington, and University of Colorado).[21] Recently, the first U.S. Tribal affiliated Medical School, the Oklahoma State University College of Osteopathic Medicine at the Cherokee Nation, graduated its first class, which included 20 percent NA and AN physicians.[19] For students, residents, and other physicians who are interested in learning more about rotations and working in the IHS, information is available, including regarding scholarships and loan forgiveness, on the IHS site.[20]

The experience I had working in the IHS changed my career in many ways. It made me a better doctor, and I ended up becoming a family physician in an academic family medicine department. And, while I did return to the Philadelphia metropolitan area, I ended up directing and evaluating Jefferson's rural PSAP. Over time, this led to my having service and leadership opportunities, including serving as President of the American Board of Family Medicine, and as a Robert Wood Johnson Foundation Health Policy Fellow for U.S. Senator John D. (Jay) Rockefeller IV (WV), and eventually being elected as a member of the National Academy of Medicine of the National Academy of Sciences.

Working in Sacaton, I learned about providing medical care in a small rural area, with few resources. I also learned that providing comprehensive culturally competent primary care can meet the health needs of a large percentage of the population, often allowing for better utilization of resources, while providing high quality care.

Over time, I learned more about rural career choices from the rural PSAP students, including that most doctors who practice in small towns choose to do so primarily because they want to live in a rural area.[22] This differs from physicians who want to care for the urban underserved, and can do so while living in the adjacent suburban or urban areas where they want to live.

When I started to formally evaluate the PSAP graduates' career outcomes, and presented and published the program's results, I began meeting others nationally with similar interests. During those meetings, I noted that rural doctors often started their presentations with the phrase "My town is so small that…." Looking back on my time in Sacaton, I began saying: "My town was so small that… the entire telephone book was on one side of one page."

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