SPECIAL ARTICLE

A history of PAs in the US Public Health Service

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ABSTRACT

Since 1798, the men and women of the Commissioned Corps of the US Public Health Service (USPHS), one of the seven US uniformed services, have served on the front lines of public health. Two hundred years after the start of the USPHS, the first physician assistant (PA) entered the service to carry on the tradition of protecting, promoting, and advancing the health and safety of the nation. These dedicated clinicians are involved in healthcare delivery to underserved and vulnerable populations, disease control and prevention, biomedical research, food and drug regulation, and national and international response efforts for natural and man-made disasters. This article describes how PAs in the Commissioned Corps of the USPHS have impacted the health and safety of not only the United States but also the international community.

Keywords: US Public Health Service, uniformed services, physician assistant, 50th anniversary, underserved, disaster response

The US Public Health Service (USPHS) Commissioned Corps is organized under the US Department of Health and Human Services (HHS). The Corps is a uniformed service comprising more than 6,750 commissioned officers. These public health professionals are from every discipline within the medical and public health arena and care for the most vulnerable and underserved populations, domestically and abroad. As the physician assistant (PA) profession enters its 50th year, it is paramount that the contributions of PAs in the USPHS are documented.

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The origins of the USPHS trace back to the Act for the Relief of Sick and Disabled Seamen, signed into law by President John Adams on July 16, 1798. The US government designed this law to improve the healthcare provided to sick and injured seamen around the nation. In 1870, the Department of Commerce reorganized the network of locally controlled hospitals serving this population into a centrally managed Marine Hospital Service (MHS). This reorganization consolidated the administration of the MHS under a single individual, the supervising surgeon. In time, this supervising surgeon became what is known as the Surgeon General of the United States. Dr. John Maynard Woodworth, the first supervising surgeon, relying on his military experiences, adopted a military model for his medical staff, creating a cadre of mobile career service physicians assigned to areas of need.[1]

In 1889, Congress formalized the MHS into a uniformed commissioned corps with the establishment of the Commissioned Corps of the MHS. The Commissioned Corps maintains nautical roots through its continued use of the sea services' rank structure and traditions. Unlike the other uniformed services, it is an all-officer corps. Initially the MHS only accepted physicians, but over time, nurses, scientists, dentists, dietitians, health service officers, pharmacists, engineers, environmental health officers, veterinarians, and therapists joined the ranks—all as commissioned officers within the MHS.[1]

As the professionals within the MHS became more diverse, the scope and breadth of their missions expanded to encompass screening immigrants arriving at Ellis Island and other ports of entry; oversight and eradication of contagious diseases such as yellow fever and smallpox; and providing continuous healthcare to underserved populations, including Alaska Natives and Native Americans. This continued expansion of the service led Congress to rename the US Public Health and Marine Hospital Service, and so it became the USPHS in 1912.[2] Since this time, the USPHS Commissioned Corps has operated nationally and internationally, evolving and responding to the needs that emerge after global disasters whether natural or manmade. This continual evolution and commitment to a global mission has solidified the USPHS

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Commissioned Corps as a cornerstone of public health in the United States and abroad.

USPHS MISSION

The mission of the USPHS Commissioned Corps is to "protect, promote, and advance the health and safety of the nation."[3] As the only uniformed public health service in the world, the Commissioned Corps achieves its mission through rapid and effective response to public health needs, leadership and excellence in public health practices, and advancement of public health science.

The entry of PAs into the USPHS has been relatively recent compared with their entry into other uniformed services. PAs entered the Air Force in 1986, Navy in 1988, USPHS in 1989, and Army in 1990.

Rear Adm. Kenneth Moritsugu, MD, MPH, a 37-year career officer in the USPHS, was key in ensuring the successful entry of PAs into the USPHS Commissioned Corps (**Figure 1**). Between November 1, 1983, and January 20, 1987, while Rear Adm. Moritsugu served as director of the Division of Medicine and Dentistry in the Health Resources and Services Administration (HRSA), his division was responsible for providing grants to numerous PA programs across the United States. He thus had significant interactions with the fledgling profession and came to realize that PAs could expand access to healthcare for vulnerable populations. Later, as the federal Bureau of Prisons medical director, Rear Adm. Moritsugu quickly saw that PAs could improve the quality of healthcare provided to prison inmates to match community standards. During his tenure in each of these positions, he recognized that the healthcare needs of underserved populations were not being met and that shortages of health professionals could be remedied through augmenting the health professions workforce. This observation directly influenced his decision to champion commissioning PAs in the USPHS Commissioned Corps.

At the inception of PAs into the Corps, they could not rise in the ranks beyond lieutenant commander. In 1997, the assignment of one PA officer to the Commissioned Corps headquarters in Washington, D.C., rectified this deficit through the production of updated clinical job descriptions for Corps PAs. This rewrite expanded job descriptions to encompass administrative and clinical career tracks through the rank of captain.

The USPHS infrastructure has changed significantly over the years. For example, in 1966-1967, the authority for the USPHS was transferred from the Surgeon General to the Secretary of Health, Education, and Welfare and finally transferred to the Assistant Secretary for Health and Scientific Affairs.[4,5] Additionally, with the advent of the Reinventing Government Initiative in 1995, the line authority of Assistant Secretary for Health over the eight agencies of the USPHS was transferred to the HHS secretary, and

FIGURE 1. Rear Adm. (ret.) Kenneth Moritsugu, MD, MPH, of the USPHS speaks with a group of PAs at the 1993 AAPA conference in Miami.

the agencies began to function as operating divisions.[4] As such, the USPHS infrastructure is interwoven within the 26 HHS and non-HHS agencies where the officers serve.

Prospective USPHS officers typically apply upon graduation from an accredited PA training program or after years of professional practice in the civilian sector or other government agencies. Prospective USPHS officers must then be screened and boarded by the USPHS Commissioned Corps and undergo Senate confirmation. In addition, prospective and current officers must find positions within the HHS and non-HHS agencies that the Commissioned Corps serves in order to obtain orders. The individual agencies are responsible for paying for the salary and benefits of the officers as well as for providing a per capita stipend that supports the operations of the Commissioned Corps headquarters. This level of authority in securing their own day-to-day positions has allowed for tremendous opportunity for PAs within the USPHS. As of 2015, about 160 PAs serve in HHS and non-HHS agencies while serving as commissioned officers in the USPHS. **Table 1** shows HHS and non-HHS agencies where PAs were assigned as of June 2015 and their roles and responsibilities.

EMERGENCY AND DISASTER RESPONSE

In 2006, Public Law 109-417, or the Pandemic and All-Hazards Preparedness Act (PAHPA), gave the HHS secretary the broad authority to mobilize and direct the USPHS in times of an urgent or emergent public health need as well as in response to disasters.[6] Although Corps officers work in a variety of HHS and non-HHS organizations and federal agencies, the secretary can direct the Commissioned Corps to deploy for temporary duty in response to health threats or disasters presenting a significant threat to the public health of a state, tribe, or local community.

The Commissioned Corps deployment process begins with an official request from any state, federal agency or department, tribal nation, or a foreign government to the Commissioned Corps. These requests may come directly to the Corps or may be vetted and coordinated by the

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TABLE 1. Agencies to which PAs are routinely assigned and their roles and responsibilities as of June 2015

	PA roles and responsibilities						Number of PAs in this agency
	Clinical	Administration	Preparedness and response	Research	Regulatory	Health policy	
Assistant Secretary for Preparedness and Response		x	x				
Bureau of Prisons*	x	x		x			56
Centers for Medicare and Medicaid Services					x	x	4
CDC		x		x			2
Coast Guard*	x	x					3
Department of Defense*	x	x					4
Department of Homeland Security	x						15
FDA				x	x		9
Health Resource Services Administration		x					1
Health Service Corps	x						
Immigration and Customs Enforcement*	x	x					
Incident Response Coordination Teams							
Indian Health Service*	x	x					32
National Disaster Medical System							
National Institutes of Health							4
National Oceanic and Atmospheric Administration*	x	x					5
National Park Service	x						1
Office of Emergency Preparedness			x				4
Office of the Secretary		x					5
Regional Emergency Coordination		x					
Regional Health Administration		x				x	1

* Most PAs stationed in these agencies are serving in clinical roles, with some taking opportunities for upward mobility through transitioning to and assuming administrative roles that maintain oversight of clinical settings.

Assistant Secretary for Preparedness and Response Emergency Management Group. The requests for assistance are evaluated to ensure that deployment of Corps officers will be the most effective and appropriate response to the identified emergency or urgent public health crisis. The Corps will then seek approval from the HHS secretary, who may then authorize the activation of the Corps for deployment. Response teams and ready rosters are alerted and activated upon the approval of a deployment, and appropriate assets for the mission are identified and deployed. The Corps evaluates individual skill sets, officers, and mission assets for the development and mobilization of teams that may deploy for days to months.

In the deployment role, the PAs in the Commissioned Corps have responded to specific requests for primary services and for backfilling medical voids in the United States and abroad. These voids have included humanitarian missions abroad. The Corps PAs have previously served under the management of the Commissioned Corps Readiness Force and occasionally assisted the National Disaster Medical System as part of medical assistance teams when deployed for various natural or manmade disasters.

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In the deployment environment, the primary PA role in the Commissioned Corps is that of provider. Their generalist training permits PAs the flexibility to work with diverse patient populations. Other deployment roles that PA officers have assumed include some in the incident command structure, including incident commander, response team leadership and administrative positions, case management, local and national coordinators of care and resources, mental health provider, logistics, clinical epidemiology, industrial hygiene, and education. Deployed physicians from the Corps form supervisory relationships with the PAs.

PAs also assume clinical and administrative roles when deployed to national and international disasters as well as provide support for high security events. The first recorded response of PAs in the Commissioned Corps was in 1989 for Hurricane Hugo and the Loma Prieta, Calif., earthquake. Some of the disasters responded to by PAs since that time include September 11, Florida hurricanes of 2004 (Charley, Frances, Ivan, and Jeanne), and Hurricane Katrina in 2005. Finally, PAs are regularly deployed in teams to support special security events in the national capital, including presidential inaugurations, State of the Union addresses, and mass gatherings such as the Fourth of July and the Cherry Blossom Festival. PAs have also supported events such as President Reagan's state funeral in 2004.

In 2014, new types of deployments for Corps officers occurred. PAs found themselves in new and even more highly visible roles while attending to specific healthcare needs for unaccompanied minors traveling across the border into the southwestern United States and West African healthcare workers stricken by the Ebola virus (**Figure 2**). During the Commissioned Corps' Ebola response, Rear Adm. Epifanio Elizondo, PhD, PA-C, served as one of four commanders in Liberia, overseeing officers deployed.

FIGURE 2. Robin Hunter-Buskey, DHSc, MPAS, PA-C, and Dr. David Shih in Liberia in 2015 with USPHS to help with the Ebola outbreak.

OPPORTUNITY AND LEADERSHIP

The freedom to seek positions in HHS and non-HHS agencies has presented Commissioned Corps officers with an opportunity to independently choose their own career paths not available within other uniformed services. Some Commissioned Corps PAs continue to identify with their roots in the sea-based services. They may provide direct care in the medical clinics of the US Coast Guard and National Oceanic and Atmospheric Administration (NOAA) or work as clinically practicing PAs or medical officers aboard ships, often as the sole provider. In many of those instances, the telemedicine support consists of a physician that the PA may or may not have a relationship with; furthermore, telecommunication is not always available because of remoteness or weather. Cmdr. Michelle Pelkey, PA-C, has devoted much of her career to NOAA. As of June 2015, she was regional director of health services for Marine Operations Center Pacific with oversight of the providers on all of the seven West Coast ships as well as oversight of a medical clinic at the NOAA Daniel K. Inouye Regional Center in Hawaii.

Over the years, the USPHS began to provide care to numerous underserved populations such as inmates in the Bureau of Prisons, immigrants in the Department of Homeland Security, and Native Americans using the Indian Health Service (**Figure 3**). In fact, most PAs begin their career in the Commissioned Corps in one of these underserved communities. Although many start by providing patient care, they also take on numerous other responsibilities, such as infection control officer, safety officer, and clinical consultant. Additionally, some have transitioned into administrative roles, becoming the assistant health service administrator or the health service administrator for the medical unit at their respective location. In one instance, a PA served as an associate warden in the Bureau of Prisons, providing oversight for medical and correctional service missions such as fiscal management, hiring of staff, credentialing of clinical staff, regulatory reviews and accreditation, and inmate oversight (including deciding about potential reduction in sentences).

In more recent years, PAs have taken on clinical roles in nontraditional HHS and non-HHS agencies. In 2011, one PA assumed the role of clinical PA at Yosemite National Park, often serving as the sole provider at a small clinic in the remote wilderness with limited physician communication and hospital care available only through helicopter support. This PA also has assumed the role of assistant medical director for Yosemite's emergency services and search and rescue operations as well as Devil's Postpile National Monument.

Some USPHS PAs have entered uncharted territories through taking on administrative roles with other HHS and non-HHS agencies. In 2006, the first PA was selected to undergo a 2-year rigorous training in epidemiology to become a CDC epidemic intelligence service officer. In this

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role, he led or participated in a number of domestic and international projects. These included investigating outbreaks of histoplasmosis, tuberculosis, and vaccinia in the United States and collaborating internationally on projects involving histoplasmosis in Guatemala and cryptococcosis in Mozambique. This PA now leads the CDC's Division of Tuberculosis Elimination, which provides data management, biostatistics, health economic, and program evaluation expertise to internal and external partners throughout the United States.

Another PA joined the Office of the Assistant Secretary for Preparedness and Response in 2007, an office newly created under HHS as part of the Pandemic and All-Hazards Preparedness Act. As a regional administrator, he is responsible for leading all-hazards disaster preparedness and response activities for HHS as well as the public health and medical community. Assistant Secretary for Preparedness and Response regional administrators and regional emergency coordinators have been involved in every major disaster to occur domestically. Examples of federal response efforts this PA has been involved in or led include the 2008 Democratic National Convention in Denver, Colo., multiple flooding and wildfire events throughout the six states in his region (Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming), and H1N1 and Ebola outbreaks.

Several PAs have worked for the Centers for Medicare and Medicaid Services (CMS) and more recently in the Affordable Care Act-created CMS Innovation Center designed to support the development and testing of innovative healthcare payment and service delivery models. One PA began work with the innovation center in 2013 as a senior improvement advisor and later as the acting director of the center's division responsible for disseminating lessons learned from promising models designed to achieve better care, smarter spending, and/or healthier people. In the improvement advisor role, she designed and managed complex learning systems to accelerate the adoption of improvements in primary care delivery systems through providing rapid and skillful application of quality improvement science. Another PA began serving as the director of the division of payment models with oversight of the bundled payments for care improvement initiative in 2014. In this initiative, organizations will enter into payment arrangements that include financial and performance accountability for episodes of care that may lead to higher quality and more coordinated care at a lower cost to Medicare. Current testing includes about 2,000 organizations nationwide, including acute care hospitals, physician group practices, skilled nursing facilities, home health agencies, and inpatient rehabilitation facilities.

PA UNIFORMED SERVICE CAREER PROMOTIONS

The opportunity to seek out and assume positions with increasing responsibility and impact as well as the increasing authority and visibility offered through PAs assuming leadership roles while on deployment have directly translated to a larger footprint within the USPHS. PAs were first commissioned in the USPHS in 1989, and by 1998 the first USPHS Commissioned Corps PA, Donald H. Gabbert, PA-C, received a promotion to the rank of captain. In 2003, Capt. Michael Milner, DHSc, PA-C, assumed the position of HHS regional health administrator for HHS Region 1. He was responsible for prevention, preparedness, and agencywide coordination overseeing the operations of the HHS regional Offices of Women's Health, Minority Health, Population Affairs, Medical Reserve Corps, and the HIV/AIDS policy program. He supports all-hazards emergency preparedness activities for the region under the national response framework and leads post crisis recovery activities for the region on behalf of the department. With respect to deployments, he served as the deputy commander of the Secretary's emergency response team in New Orleans, La., and led three of the four Florida hurricane responses in 2004 on behalf of the HHS. He also led the public health and medical preparedness and response operations for the 2004 Democratic National Convention in Boston, Mass. In 2006, Rear Adm. Michael Milner, DHSc, PA-C, became the first PA in all of the uniformed services to achieve the rank of rear admiral and Assistant Surgeon General (**Figure 4**).

FIGURE 3. Ben Olmedo, MMSc, PA-C, after being commissioned in the USPHS, worked in rural Alaska with Alaska Native populations. Photograph courtesy of the *Alaska Dispatch News*.

Similarly, in 2007, then-Capt. Epifanio Elizondo assumed the position of HHS regional health administrator for HHS Region 6 and was promoted to rear admiral and Assistant Surgeon General that same year. In addition to his regional health administrator responsibilities, Rear Adm. Elizondo served as deputy commander of the Secretary's emergency response team in 2005 during Hurricane Rita and as commander of the Secretary's emergency response team during part of the Hurricane Katrina response later that same year. During the early response to Hurricane Katrina, Rear Adm. Elizondo was assigned, by then-Surgeon General Vice Adm. Richard H. Carmona,

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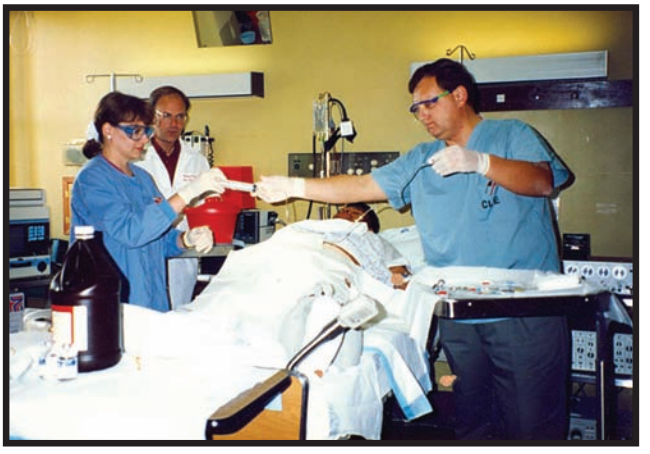

FIGURE 4. Rear Adm. Michael Milner, DHSc, PA-C, in surgery. He was made the highest-ranking PA in the USPHS in 2006 when he was promoted to rear admiral.

as the lead for the federal response associated with the care of evacuees housed in the Dallas-Fort Worth area. When the rapid deployment force teams were established, Rear Adm. Elizondo was appointed as the first commander of the Commissioned Corps Rapid Deployment Team Force 4, comprising officers from Texas and Oklahoma. In 2012, Rear Adm. Elizondo became the first PA to achieve the rank of rear admiral, upper half, and Assistant Surgeon General.

Since 1989, when PAs were first eligible to be commissioned in the USPHS Commissioned Corps, PAs have had the opportunity to directly affect the care of the underserved and the communities and regions they serve. In just 27 years, they have demonstrated their capability and leadership capacity in HHS and non-HHS roles as well as while on national and international deployments. In return, these PAs have been richly rewarded with increasing leadership and responsibility in positions that are affecting the health of the nation. **JAAPA**

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