PREPARING FO

As the inaugural chief medical officer of FEMA, Andre Pennardt, MD '91, is establishing protocols to protect and support the health of those responsible for the nation's disaster preparedness and response.

When the COVID-19 pandemic hit the United States in early 2020, most job sectors came to a halt except for essential workers. That included the 22,000 employees of the Federal Emergency Management Agency (FEMA). In order to protect its workforce and maintain its readiness for disaster response, FEMA created the new position of chief medical officer to provide in-house medical guidance and expertise.

"Hurricanes, wildfires, tornadoes, and floods do not stop occurring just because a contagious virus is wreaking havoc around the globe, says Andre (Andy) Pennardt, MD '91, who was tapped to serve in the inaugural role. An emergency medicine physician, Dr. Pennardt's unique career has included service in the military, training in wilderness medicine and disaster management, and hurricane and wildland fire response. "That combination fit the bill for what FEMA felt it needed," he says.

Dr. Pennardt on the back ramp of special operations MH-47 off the Korean peninsula, during his military service

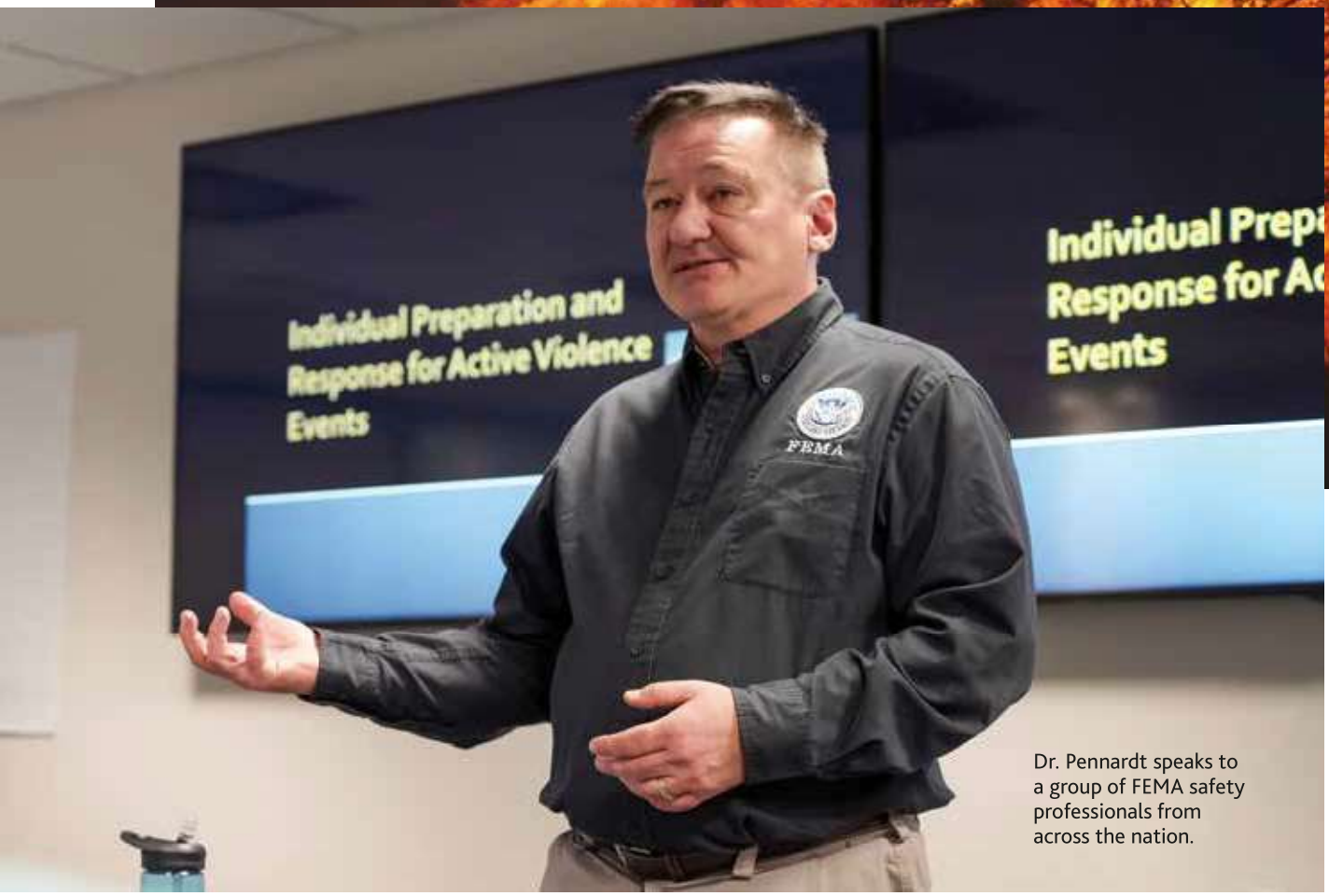
As the chief medical officer, Dr. Pennardt is responsible for the health and well-being of FEMA employees across the nation. He also serves as chief of FEMA's Medical Branch, overseeing the work of contact tracers, epidemiologists, nurses, and licensed clinicians.

While his initial focus was on COVID-19, Pennardt began his new role by conducting a needs analysis to identify where attention was needed most. One area that emerged was mental health care. "The social isolation from the pandemic, coupled with the intensive disaster response cycle, created a very real need for a comprehensive mental health and wellness program to address burnout and other issues for our workforce," he says.

Subsequently, FEMA has added full-time mental health professionals to its staff and began providing a wide variety of stress counseling sessions and workshops and started a peer support program. Other areas of focus include emergency medical services and disaster medical support, occupational medicine, health informatics and public health/epidemiology, which in each case required the creation of comprehensive medical programs from the ground up—developing policies, obtaining approval for new positions, finding funding outside the existing budget, and navigating complex statutes, rules, and regulations.

"An average day may consist of tasks such as operational briefings, staff meetings, analyzing epidemiological data to ensure proper safety procedures have been implemented, developing EMS protocols, or arranging an evacuation from a remote deployment site," Pennardt says.

R DISASTER



Dr. Pennardt speaks to a group of FEMA safety professionals from across the nation.

"I also regularly liaise with my counterparts at other components within the Department of Homeland Security and other federal agencies and serve as a member of various interagency medical working groups focused on topics such as medical preparedness, EMS system integration, and high-threat casualty care guidelines."

But the disaster response nature of FEMA's work extends to Pennardt's as well. "A routine workday could suddenly be disrupted by an earthquake, major tornadoes, or terrorist attack," he says. "One moment I may be focused on developing a program and the next moment I must refocus on ensuring FEMA responders deploying to a new disaster are properly supported," he says.

A LIFETIME OF PREPARATION

That's a challenge he's been preparing for most of his life. Pennardt's interest in medicine began in high school when he started volunteering with a local ambulance service. During college at the University of Rochester, he became certified as an Emergency Medical Technician. Unsurprisingly, he gravitated toward emergency medicine during medical studies at Upstate Medical University.

As a fourth-year student, Pennardt completed both an acting internship and a research elective in emergency medicine, both times mentored by W. John Zehner, Jr., MD. His research project evaluated the ability of paramedics to apply clinical clearance algorithms for patients with potential cervical spine injuries, research that was

ultimately published in *Prehospital and Disaster Medicine*. "It was very exciting to get a medical school project published in an academic journal," he says.

Having attended Upstate on a U.S. Army Health Professions Scholarship, Pennardt began his military career after earning his medical degree, completing a categorical general surgery internship at Walter Reed Army Medical Center in Washington, DC. In the Army, emergency medicine residency slots are typically assigned and completed after interns complete a two-year operational tour. Pennardt's assignment was as a battalion surgeon to the 5th Special Forces Group (Airborne) at Fort Campbell, Kentucky. He completed Army parachutist training at Fort Benning, Georgia, and flight surgeon (aviation medicine) training at Fort Rucker, Alabama, then deployed to the Middle East.

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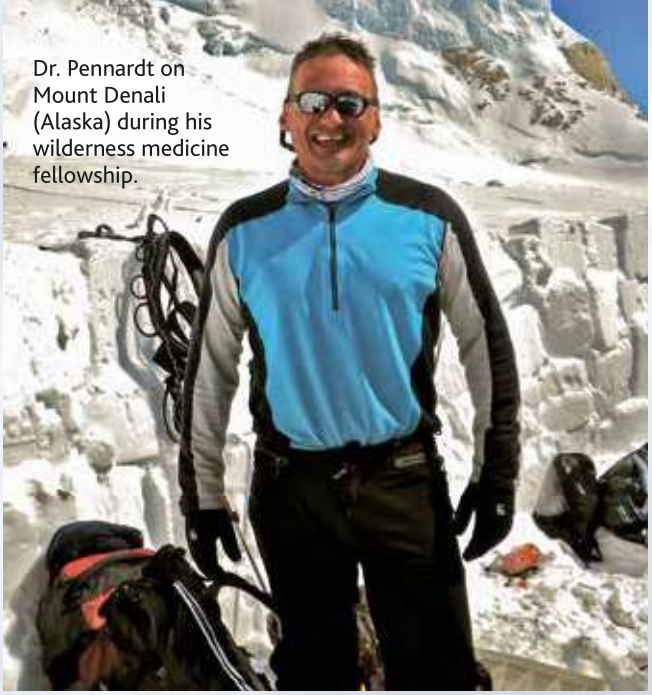
— ANDRE (ANDY) PENNARDT, MD '91

"Whether riding in a Zodiac assault raft with U.S. Green Berets in the Persian Gulf or jumping from airplanes with our Jordanian Special Forces partners, two years of adventure flew by quickly," he says. At the end, he was fortunate to be selected for his top-choice residency program at Fort Sam Houston in San Antonio, Texas.

Pennardt thrived under the high-pressure training and was selected to serve as chief resident for his final year. After residency, his program director pushed to keep him on as junior faculty. However, the chair of Emergency Medicine, who was a former Ranger with extensive special operations experience, insisted there was only one place Pennardt should be assigned—Fort Bragg, North Carolina, the home of the Airborne and Special Forces.

Although initially assigned as the EMS medical director for Fort Bragg, Pennardt was quickly drawn back into the world of special operations and was reassigned to support some of the Nation's most elite fighting forces. "It was here that I learned much about the medical management of casualties from weapons of mass destruction," says Pennardt, who became qualified as a Navy dive medical officer, was sent to Survival, Evasion, Resistance and Escape (SERE) school, and participated in his first clandestine operations overseas.



Dr. Pennardt on Mount Denali (Alaska) during his wilderness medicine fellowship.

It was also during this time that the defining event of his young military career occurred—the 9/11 terrorist attack on the World Trade Center and the Pentagon. "As special operations forces, we knew we would lead America's response and we were eager and willing," says Pennardt.

That fall, he was deployed to Southeast Asia and soon called into duty. On December 5, 2001, a small team under Pennardt's command responded after a 2,000 lb. Air Force bomb had erroneously struck friendly positions deep in Afghanistan, killing and wounding dozens of U.S. and allied troops. "We inserted by air into hostile territory during daylight, triaged and extracted the most seriously injured, and for the first time in history, performed in-flight surgery and resuscitation aboard a C-130 transport as it was rocked by enemy surface-to-air missiles and antiaircraft fire for much of the 5.5-hour evacuation flight," he recounts. "Many lives were saved that day, and during the coming months we continued to operate in the mountains of Afghanistan, providing the sole medical support for some of America's finest warriors as they pursued Osama bin Laden and his followers."

One special operations assignment followed another as Pennardt sequentially became the senior medical officer for the 160th Special Operations Aviation Regiment (Airborne); the 10th Special Forces Group (Airborne); the Combined Joint Special Operations Task Force-Arabian Peninsula, the Army's most elite counterterrorism unit; and the Special Operations Command-SOUTH overseeing all special operations forces missions in Latin America and the Caribbean.

TRANSFERRABLE SKILLS

In early 2005, three of Pennardt's best friends asked if he wanted to join them on a climb to the top of Mount Kilimanjaro, the highest peak in Africa. A native of Munich, Germany, who had moved to the United States at age 10, Pennardt loved mountains and enthusiastically agreed. Not long after, in a bit of serendipity, the Army reassigned him to Colorado, which provided the oppor-

tunity to train on Pike's Peak and other parts of the Rocky Mountains. "All of us successfully summitted after a four-day climb but two of my friends developed acute mountain sickness in the process," he says.

Pennardt had learned some of the challenges of practicing emergency medicine at high altitude while conducting rescue missions in the Hindu Kush Mountains of Afghanistan during Operation Enduring Freedom. After the Kilimanjaro experience, he became intrigued with high altitude physiology and mountain medicine. He enrolled in mountaineering and glacier rescue courses and was almost killed by an avalanche himself in 2009. "I put what I learned into practice as I spent my military leave adding the highest peaks in Europe, South America, and North America to my climbing resume," he says. "One of my dreams remains to one day get to the Himalayas and at least support a Mount Everest expedition."

In 2010, one of those friends from the Kilimanjaro climb—also an emergency medicine doc—started the Army's first (and only) austere and wilderness medicine fellowship at Madigan Army Medical Center in Tacoma, Washington. Pennardt became his first fellow. "My main task was to develop and implement the first approved Diploma in International Mountain Medicine (DIMM) program in the United States," he says.

A decade later, that program continues to train dozens of Army physicians and medics each year to assume expeditionary support roles in some of the highest and most remote parts of the world. Pennardt continues to be active in wilderness medicine, currently involved with efforts to create a Wilderness Paramedic certification.

The following year, while still on active duty with the U.S. Army, Pennardt became involved with an inter-agency initiative to teach the lifesaving skills learned at high cost on the battlefields of Afghanistan and Iraq to law enforcement officers at the federal, state, and local levels. "We recognized that law enforcement officers had the unique role of rushing into an unsecured area to the sound of gunfire to stop an active shooter or a terrorist from taking innocent lives," he says. "They could not rely on conventional firefighters and EMS medics to play that role in a high-threat environment, but instead needed the same lifesaving skills as our military's special operations and combat medics."

Pennardt retired from the Army in 2014 as a Colonel after 23 years of active duty. During his military career, he was awarded the Legion of Merit, three Bronze Star Medals, and four Air Medals for his combat service. He was recognized for his contributions to military medicine with the Order of Military Medical Merit, Aeromedical Order of Merit, Distinguished Member of the Army Medical Department Regiment, and the Surgeon General "A" Proficiency Designator in Emergency Medicine.

Intrigued by his experiences working with law enforcement officers—and to gain a better understanding of their challenges—Pennardt completed the Florida basic law enforcement academy, followed by agency field training and SWAT training. Ultimately, he became a sworn deputy and the medical director of the Lake County Sherriff's Office in Tavares, Florida. "While I was able to respond to all types of emergency calls, my primary focus was to work in the emergency management bureau to better prepare my community for all hazards, as well as oversee the first responder training for our deputies," he says. "It is deeply satisfying when one of our deputies saves the life of the victim from an accident, overdose, or cardiac arrest."

Concurrently, Pennardt spent nearly five years as regional medical director for the U.S. Forest Service, a part-time position providing medical oversight, training, protocol development, quality assurance, online medical control, and critical incident field medical support for all U.S. Forest Service and Bureau of Land Management fire, EMS, and aerial rescue personnel in Idaho, Montana, North Dakota, South Dakota, Arizona, and Oregon. He also served as medical director of the Board for Critical Care Transport Paramedic Certification, executive director of the National Tactical EMS Initiative and Council, and held academic appointments in emergency medicine at the Medical College of Georgia, the Herbert Wertheim College of Medicine at Florida International University, and the emergency medicine residency program at Aventura Hospital, in Aventura, Florida.

Then came COVID-19 and the call from FEMA.

DISASTER READY

The role of FEMA is to prepare for, protect against, respond to, recover from, and mitigate the hazards of all manner of natural and man-made disasters across the nation. For Pennardt, that entails translating that mission into a comprehensive medical support program. He is committed to ensuring the continued health and well-being of those called into action when disasters strike.

"Being a part of the national system that helps people before, during, and after disasters is an incredible honor," he says. "Taking a fresh look at how to not only make our communities better prepared, but also ensuring that our responders are properly protected in the process of helping those communities in the aftermath of a disaster, is an opportunity that few physicians have."

He invites his peers to get involved. "There is a great need for physicians to assist in preparing their own communities against a wide variety of natural and man-made threats," he says. "Please consider working with the emergency managers, first response agencies, hospitals, and schools where you live and work to aid in this task." ■