A Conversation with Vice Admiral Matthew Nathan, M.D. Surgeon General, U.S. Navy and Chief, Bureau of Medicine and Surgery

The U.S. Department of the Navy's Bureau of Medicine and Surgery has a long and cherished tradition of serving and safeguarding the health of its service members and their families. In fact, the foundation of Navy Medicine is force health protection—that is, ensuring the availability of a medically ready, healthy, and fit force; it is what it does and why it exists. Whether at sea, on the battlefield, or at home, Navy Medicine also plays a central role in the most effective joint casualty care and management system in military history, a system that has saved thousands of lives that otherwise would have been lost on the battlefield.

What are Navy Medicine's strategic priorities? What is force health protection? How is the continuum of care for military personnel being enhanced and strengthened? How is medical research and development helping Navy Medicine? Vice Admiral Matthew Nathan, Surgeon General of the U.S. Navy, joined me on The Business of Government Hour *to explore these questions and so much more. The following provides an edited excerpt from our interview. – Michael J. Keegan*

On the History and Mission of Navy Medicine

Navy Medicine was formally established in the 1840s as the Bureau of Medicine and Surgery to support the mission of the U.S. Navy—encompassing our sea and land-based elements. We are also responsible for the care of our service members and their families; this includes the U.S. Marines as well. We were designed at first to basically coordinate health care at sea, but throughout history our mission evolved into taking care of the sailors, the Marines, their families, and those who have retired and left a legacy for us to follow. I like to tell folks that our medical service is responsible for providing care on the ocean, above the ocean, below the ocean, and on land.

When people ask me what business I am in, I like to tell them I am in the readiness business. My job is to be ready for the next improvised explosive device that goes off in Afghanistan. My job is to be ready for the next mom who has gone into labor. I consider both to be paramount in readiness to be there when they need us and to absolutely provide the best care, anytime, anywhere.

As a maritime-centric force, we call ourselves the away team. Our job is to be away from home, unlike, perhaps, the Army and the Air Force, which are more garrison-based services. The Navy's job is to be out and about most of the time, controlling the waterways and putting out small fires before they become big ones, be it in the Persian Gulf or the South China Sea or the Atlantic or the Pacific. Therefore, Navy Medicine must be just as agile as the folks we support.

That said, we're organized within regions at home. We have the Navy Medicine East Region headquartered out of Portsmouth, Virginia, a personal care facility there; Navy Medicine West Region out of San Diego, Navy Medical Center San Diego; and the National Capital Authority Region out of the Bethesda area. These are our three regions that support and headquarter all of our military treatment facilities, which include tertiary hospitals, family practice teaching hospitals, and smaller hospitals scattered throughout the world.

On Crafting a Strategic Vision for Navy Medicine

We've tried to be as concise and succinct as possible with our strategic vision. I always worry about somebody who outlines a strategic vision of 10 or 12 things and then people say, well, where do I start? I wanted to keep it simple so when I walk around any of my battalions, my hospitals, my ships, and talk to my medical personnel, they could understand and tell me my three key strategic goals.

It starts with readiness. Readiness is job one for us. I am in the readiness business as we are expected to answer the call anywhere, anytime around the world. My second strategic focus is on value; we have to constantly analyze what we do, how we do it, and how much bang for the buck we are able to derive. It's really a fraction described as: quality times capability divided by cost: quality x capability/cost. What does that mean? It means if I am doing a certain procedure in a certain hospital and I do it fairly rarely but it costs me a pretty penny to do it, as much as I might like being able to have that procedure in my portfolio, does it make more sense to export that … to a local hospital nearby? Or do I need that procedure to maintain skills for my doctors when they go overseas? In the past when cost was not at the forefront of the military medical leaders, we simply put safety and we put readiness as job one; we didn't worry too much about the cost. Now we have to evaluate everything we do and determine if the activity is worth doing. Whatever we do, we're going to do first-class and safely, but let's make sure our portfolio includes only those things that really bring value to our system.

My third strategic focus is emphasizing the importance of joint activities. I need my people to recognize the value and importance of operating jointly. I am a believer because of my experience at Walter Reed Bethesda where we sort of built this—I call it a Reese's peanut butter cup—one hospital brings the chocolate, the other brings the peanut butter. We put them together; we have this synergy of best practices that occurred. I have seen the utility and the value of doing things jointly.

In addition, it doesn't make good business sense for the Army, the Air Force, and the Navy to have three different medical systems that use three different types of technologies, pharmaceutical systems, or education training systems. Why not figure out a way to standardize those, create best practices, share those among the services, reduce redundancies, and create more [joint functioning]?

We need to preserve the traditions and the cultural ethos of the services, but we can certainly do that while creating much more alignment and much more joint care. When I

run into resistant audiences at times, I remind them that the person who has been critically injured on the battlefield, neither that soldier or sailor or airman or Marine or their family is worried one bit about what uniform the person is wearing who is going to save their life. We're operating jointly in war, so if you are injured, you may be treated on the field by a Navy corpsman. You may be medevaced by an Army helicopter. You may be medevaced to an Air Force hospital, and then you may be shipped back to an Army, Navy medical center.

On the Guiding Principles that Frame Navy Medicine's Strategic Vision

The guiding principles that frame my strategic vision emphasize ship, shipmate, and self. In the Navy, we've got to take care of the ship because if you don't and you lose the ship, nothing else matters. You yourself are now lost and the mission is lost. From the ship we turn to the shipmate; we've got to look after each other—shipmates taking care of shipmates. We have the ship, your shipmate, and now it is critically important that you take care of yourself; this involves raising your hand when you need help, letting people know if you're not doing well, and letting people know if you need help either because of a personal or a professional issue is critically important. I have tried very hard to create an environment where somebody can raise their hand and say, I need help, where somebody can be constantly vigilant about the people they work around and notice subtle or dramatic changes, and recognize that they have to take care of the mission around them.

On the Importance of Medical Research and Development

Many advances in medical care have derived from our research and development efforts. For example, we were looking for a vaccine for malaria. We don't think of this infectious disease in the U.S., but it ravages other populations. The origins of our research started in trying to protect our troops, but eventually [we are also] protecting others. The model for trauma care in this country comes from our experiences in Vietnam. That's where we learned about the golden hour. From recent conflicts, through research and development of trauma care, we're learning about clotting agents, artificial blood, body armor, or tourniquet therapy. Some of these lifesaving breakthroughs will make it onto a civilian ambulance, making it possible to save even more lives. Though much of our research and development is done to protect our forces, we recognize that many of these advances carry over beyond their initial purposes. As a result, we get a twofer in our research.

These efforts are varied and wide in scope, from researchers at Walter Reed who are looking at new and innovative ways to treat cancer to researchers in Lima, Peru, who are looking at genetic variation so that mosquitoes no longer carry certain diseases. Yes, that is going to make a difference in the lives of our troops, but there is also going to be a young child born in the near future somewhere in the world who is not going to suffer something because of the Navy research. Military medicine has always been a great soft power—a tool in the toolkit because the agenda is health and wellness; often it can be a great icebreaker around the world.

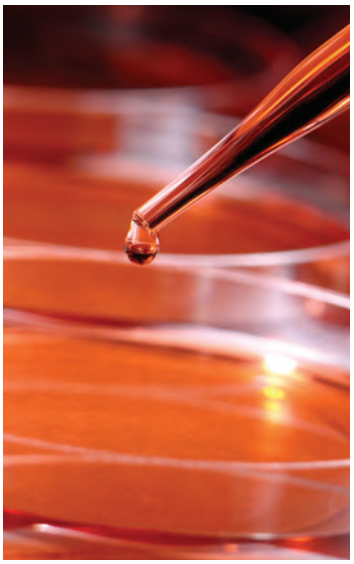
On the Joint Medical Evacuation System

One of the greatest honors of being in Navy Medicine is the mission of supporting the Marines on the battlefield. The continuum of care encompasses what could be described as sort of a ballet or an orchestra of care that is facilitated across the joint spectrum. You are a warrior who is significantly injured by an explosive device or by a gunshot wound. Well, here is what has changed. The corpsman or the medic who is there on scene now has updated tourniquet therapy with quick clotting substances that can give one a better chance at survival. We have a survivability rate of nearly 97 percent. We have a medical evacuation system that is highly responsive; we're very good at getting people within that first 15 minutes to 75 minutes of what we call a platinum/golden hour of care to a resuscitative station for treatment. This truly reflects a ballet of joint forces; it's to package up the injured, stabilize the injured, and then on to Landstuhl Regional Army Medical Center where further stabilization is done. This is not definitive therapy; it is just enough to have the injured stable for the flight back home. The U.S. military excels in the medical evacuation of our injured.

On Harnessing Technology Advances and Innovation

Whether you are leading Navy Medicine or the Cleveland Clinic, we are all confronted with critical questions: How are we going to improve access? How are we going to improve health outcomes while also reducing costs? What's today's game-changer?

I believe that the answer lies in truly harnessing technology—creating and delivering more virtual care. When



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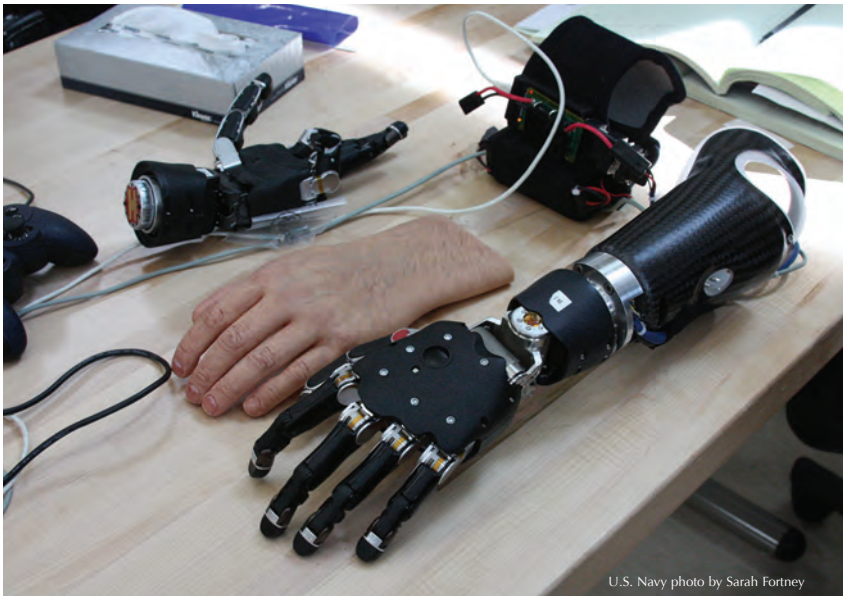
you look at history, some of the biggest game changers really transformed the way the masses either survived or received their care. We can start with the infectious theory of germs and antibiotics, and all of a sudden, people who were dying of simple things stopped dying. It changed the game. The next might be anesthesia. It provided the ability to do intricate operations. That changed the game. We could then consider imaging—the ability to see into the tiniest recesses of the human body. Pinpointing radiation into the tiniest recesses using imaging has changed the game.

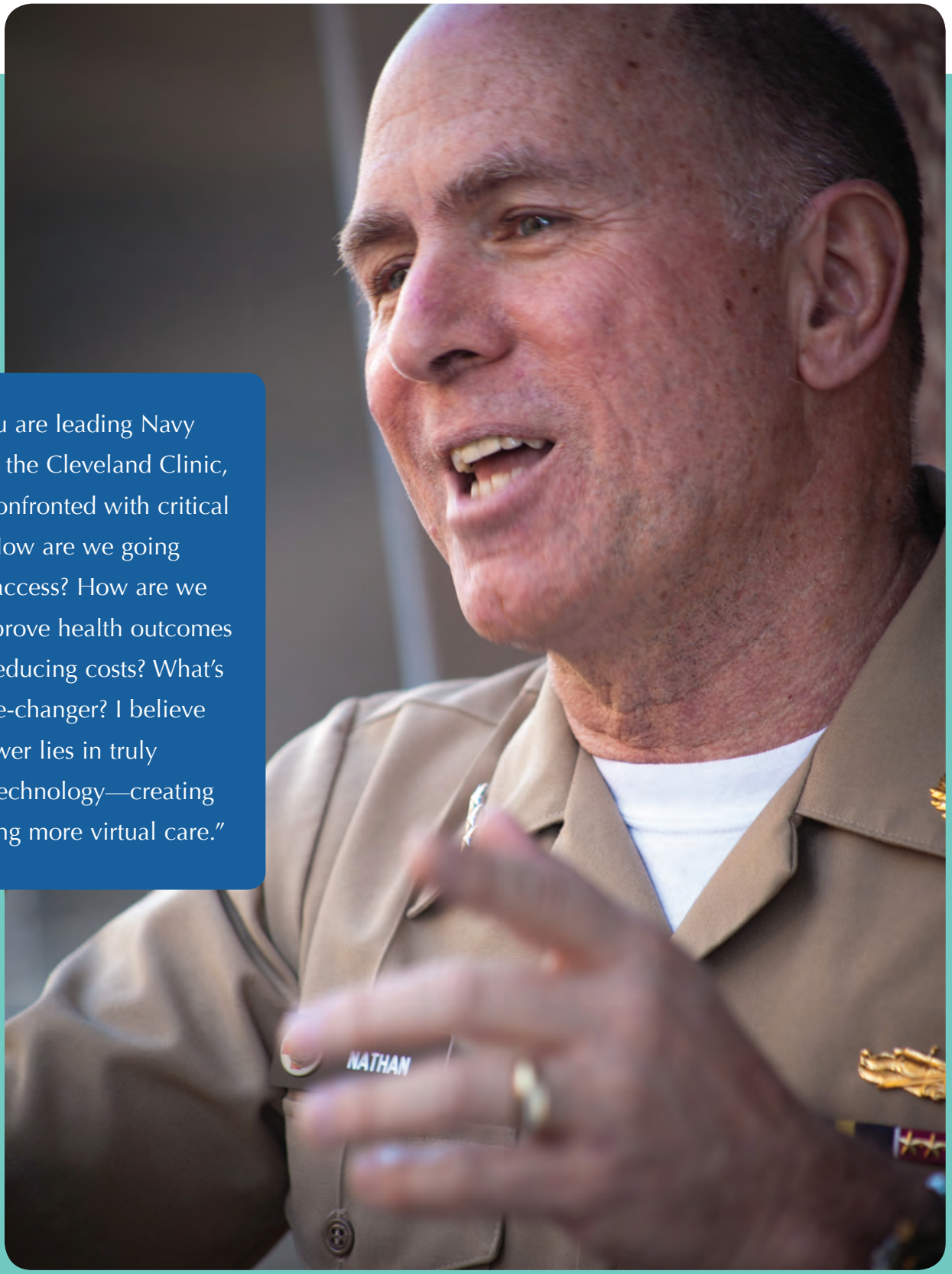
The current great tectonic change in medicine is genomics—diagnosing and treating illnesses using gene theory and gene manipulation to target tumors. The next great sea change for us would be virtual medicine—the ability to get more and more of your care done in a location away from a hospital, only having to go to the hospital as a last resort of sorts. We currently have a health care system that largely addresses illness rather than cultivates healthiness. I like to tease and say we should be more like the 15th-century Chinese who used to pay their physicians while they were healthy. When they become sick the patient would stop paying. Therefore, doctors were vitally concerned with making sure their patient didn't become ill.

We're trying to do this in our organization, looking at new and innovative ways to reward and recognize our providers based on how healthy they keep their patients. This is not a novel concept, but there are a few ingredients needed to make it happen. You need an established electronic medical record. Second, you need a population that is insured that can come to your hospitals and receive care when they need it. Third, you need providers that are rewarded for keeping their patients healthy. We have that in our system. All physicians, all providers want their patient to be as healthy as possible, but we're putting the emphasis on health instead of health care.



The Modular Prosthetic Limb (MPL) was developed as part of a four-year program by the Johns Hopkins Applied Physics Laboratory, along with Walter Reed National Military Medical Center and the Uniformed Services University of the Health Sciences. The brain-controlled prosthetic has nearly as much dexterity as a natural limb, and allows independent movement of fingers. The MPL was used by wounded warriors at the Walter Reed National Military Medical Center for the first time on January 24, 2012.

We also look at innovative ways to deliver care with our Medical Home Port Program, which increases the continuity of care for a patient. When you are there you feel like you are home. The patient is known and has access to practitioners who they know and who know them. This program is an approach to health care delivery that fosters partnerships between providers and patients with the goal of maximizing health outcomes. We emphasize a team approach to providing comprehensive care to an actively involved patient. I would also add that harnessing the power of digital and telemedicine is critical, as I have so many medical facilities dispersed all over the world on ships. If I have a doctor



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on a ship that is in the South China Sea with a patient who may have a cardiac issue, I want to equip him with the ability to transmit vital information to a place like Bethesda or Portsmouth, so we can provide the medical firepower of a tertiary care hospital to a small ship that is out in the middle of the ocean.

There has also been a tremendous impetus to address what I call a good-news problem. We had soldiers and Marines returning as multiple amputees. For these heroes, new technologies and innovations are coming to the fore. There was a double-arm transplant that took place at John Hopkins recently. We're learning something new every day about the physically devastating injuries with innovative prosthetics, regenerative medicine, and transplant medicine. These advances I think will give people their lives back. This is a unique period as we've never seen the extent of such kinds of injuries, but it is a direct result of our survivability rate.

Then you get into the traumatic brain injury which can vary from mild, concussive injury, to the major, open head injury, to the post-traumatic stress, and how do we approach that? We're looking very hard at innovative sciences. We have found … complementary alternative medicine … when I was in medical school if somebody had said we have an acupuncturist here and they want to put some needles in for your headache, I would say get out of here. Now when I get a bad headache, where is that needle? We're finding that these kinds of things, biofeedback mechanisms, hypnosis—I'm not saying that's where the center of gravity of the care is, but I am just saying that we've opened the aperture to any and all possibilities to take care of our wounded.

On the Importance of Partnerships and Collaboration

Clearly, the more you can learn from, share, partner, team, become joint with other marquee organizations, the more you're going to accelerate the ability to provide care in a professional and cost-effective way. We want to leverage this country's great patriotic desires and work with academic institutions and the private sector. I am encouraged by the collaboration that is going on today. I am not yet satisfied by it though. It is still, in my opinion, in its infancy; it can be much more robust, but we are getting there.

U.S. Navy photo by Mass Communication Specialist 3rd Class Michael Feddersen

On a Career in Public Service

Those who want to go into medicine or the health care professions define themselves as a person who wants to make a difference. I would tell any young person today that the health professions are a noble occupation; you're putting service above self. Secondly, if you want to do it in the venue of the federal health care system, in my case the military health care system, I think you'd be very surprised at the numbers of opportunities afforded you to practice in a range of areas in dynamic settings. I also think it's a way to give back and at the end of the day make a difference. ▫

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