



CDC Connects > Inside Story > USNS Comfort

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The *USNS Comfort* sailed back to Norfolk earlier this week, after a four-month deployment to 12 countries of Latin America and the Caribbean. On board the returning US Naval hospital ship were some of the CDC staff who were part of the complex and challenging humanitarian mission.

Craig A. Shepherd, RS, MPH, DAAS, (CAPT, USPHS) is a senior environmental health officer with CDC's National Center for Environmental Health, Coordinating Center for Environmental Health and Injury Prevention and the Chief Environmental Health Officer of the US Public Health Service (USPHS). He has been on ship for the entire trip, June 15-October 15, 2007, serving as the Officer-in-Charge (OIC) for the USPHS and provided continuity for the four USPHS teams which have rotated through the mission. Each team came for about a month and saw duty in about three countries. In all, there were 71 USPHS officers that participated in the mission.



The *USNS Comfort* was deployed on its humanitarian mission as a demonstration of US continued commitment to South and Latin America and the Caribbean. *Photo by Kathy Nellis*



The USPHS teams represented the Department of Health and Human Services (DHHS) from a number of agencies, including CDC, Indian Health Service, Food and Drug Administration, Health Resource Services Administration, National Institutes of Health and other agencies and programs outside DHHS, including; the US Department of Agriculture, US Environmental Protection Agency, Department of Homeland Security and Bureau of Prisons.

It's been a busy but rewarding experience for Shepherd, whose first priority after returning is to spend time with his 20-month-old grandson. "They grow so fast at that age, I just can't wait to see him," said the proud grandfather.

Craig A. Shepherd is a senior environmental health officer with NCEH and the Chief Environmental Health Officer of the US Public Health Service (USPHS). He was on ship for the entire trip, June 15-October 15, 2007, serving as Officer-in-Charge (OIC) for the USPHS and provided continuity for the four USPHS teams which have rotated through the mission.
Photo by Kathy Nellis

Shepherd, who has been at CDC 5 years and with USPHS for more than 28 years, environmental health officer with says this was a big job with long hours. "But it's been wonderful to see the outstanding work that the USPHS officers have done. To see each team bond, to see how professional they are, to see how well we mesh with the other services, has been a wonderful experience. Even more rewarding is the respect and visibility (USPHS). He was on ship for we have gained."

The USPHS is often not as well-known or well-recognized as the five larger uniformed services of the US which are the US Army, Air Force, Navy, Coast Guard and Marines (The smallest service is NOAA, the [National Oceanic Atmospheric Administration](#)). However, this deployment went a long way to change that, Shepherd says. "Our work helped people realize that USPHS is an elite military corps, capable of fulfilling important public health missions. People saw that in the countries we visited. And the other services recognized how skilled and highly trained our teams are."

The ship brings together a wealth of experienced and highly-skilled medical personnel and other staff.

Massive, Collaborative Public Health Mission

The Public Health Service and US Navy, Air Force, Coast Guard, Army, and Canadian Forces, along with non-governmental organizations (NGOs) helped provide health care services to the people of the region both on and off this giant, floating hospital. More than 200 organizations were represented on Comfort. Services included adult and pediatric primary care, preventive medicine, dental care, optometry and more. There is a pharmacy, a physical therapy and burn care center and a huge laundry facility.

The ship's galley is one of the largest galleys afloat and can feed 2,500 patients and crew three times a day. And the food is good! While you get MRE's (meals ready to eat) in the field, there's a variety of food on the ship, everything from hamburgers to mashed potatoes to mango cheesecake.



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A little girl in Guyana is all smiles after her surgery. During the Comfort's tour 98,658 patients were treated and 1,170 surgeries were performed. *Photo by Kathy Nellis*

The *USNS Comfort* was deployed to the region as a demonstration of US continued commitment to South and Latin America and the Caribbean. The deployment is a collaborative effort between the US, partner nations and NGOs to provide humanitarian assistance, in support of the US Southern Command's Partnership for the Americas initiative.

Partner nations for this mission included:

- Belize
- The Republic of Colombia
- The Republic of Ecuador
- El Salvador
- Guatemala
- The Cooperative Republic of Guyana
- The Republic of Haiti
- Nicaragua
- The Republic of Panama
- The Republic of Peru
- The Republic of Suriname
- The Republic of Trinidad and Tobago

Giant Hospital Ship Boasts Impressive Health Facilities

The ship has a highly-trained, dedicated crew and medical personnel. The ship itself is a first class facility, very much a floating city.

It's designed to receive 300 surgical patients a day. And while many patients are treated on the ship, many more are seen in at various medical locations in each of the countries. Over the course of the mission, 98,658 patients were seen.

The ship is about as long as three football fields and has a total bed capacity of 1,000 patients. There are 12 operating rooms and four X-ray rooms. It also has a dental suite and it maintains up to 5,000 units of blood aboard.



Jeff Lowell, (CDR, USPHS) performs surgery on a little boy who had a club foot.

The *USNS Comfort* is one of the largest trauma facilities in the US and, even at sea, it offers a full spectrum of surgical and medical services. Patients arrive onboard by helicopter or small boat. Patients are assessed for medical treatment in casualty receiving, then routed to surgery or other services depending on the severity of their wounds or medical condition.

Surgical capabilities include general, orthopedic, dental, cardiac and thoracic, obstetrics and gynecology, plastic, neurosurgery, maxillofacial, ophthalmic, ear/nose/throat, and urology.

Non-surgical medical capabilities include internal medicine, dermatology, dialysis, psychiatry, respiratory therapy, and angiography.

Ancillary and support services include: dental prosthetics, lens fabrication, laboratory, burn treatment physical therapy, medical equipment repair, barber shop, radiology, pharmacy, blood bank, dietary, medical supply and laundry.

- 98,658 patients were treated
- 32,322 patients were immunized
- 122,245 pharmaceuticals were dispersed
- 24,242 pairs of glasses were dispersed
- 1,170 surgeries were performed
- 17,772 veterinary encounters
- 386,217 total patient encounters

Besides providing care to so many patients, the mission served to train US personnel in humanitarian assistance and disaster relief.



The *USNS Comfort* is one of the largest trauma facilities in the US and, even at sea it offers a full spectrum of surgical and medical services. Patients arrive onboard by helicopter or small boat.
Photo by Kathy Nellis



CDC Connects reporter Kathy Nellis traveled with the *Comfort* for part of its mission. The ship itself is a first class facility, very much a floating city. It's about as long as three football fields.
Photo by Craig Shephard

A Sizable Impact

The ship is a converted supertanker, and it's so large it could just make it through the Panama Canal. It's 894 feet long and has a speed of 17.5 knots. In size, it's equivalent to a 10-story building, with a distance of 124 feet from the mast to the water line when the ship is fully loaded.

The ship's flight deck is certified to land the world's largest military helicopters. There are ten lifeboats, two capable of evacuating 105 people and eight capable of evacuating 112 people, including 16 litter patients per lifeboat) and 84 life rafts, each capable of evacuating 25 people.

She has a single screw propeller and two boilers. She consumes 110 gallons of fuel oil per mile and is capable of traveling 13,420 nautical miles without refueling. She has a 33 foot draft, which is the distance from the waterline to the bottom of the keel. The *Comfort* had to be anchored miles away at some locations, because the ports were too shallow to allow her to come in to dock. That's why patients in some countries were flown by helicopter or sailed in small boats to the hospital ship.



A sleepy Nellis gets ready to muster at 4 a.m. after another 18-hour day in the field. "I don't know how the teams did it day after day, week, after week. They are incredibly dedicated, professional and hard-working. It was impressive to see how devoted they are to public health."



Shepherd says, "It was just amazing to listen to the people cheering 'We love you America, thank you for coming.' They might be lined up for hours in the hot sun waiting to be seen but they were grateful we were there."

Photo by Kathy Nellis

But despite the heat and dirt, the less than ideal working conditions and the exhausting schedule, Shepherd is enthusiastic about the mission. "It's a great opportunity to help people in other countries. It's a chance to help change people's lives. And it gives you a perspective that will last a lifetime."



Shepherd's days included a wide variety of tasks, including slogging through landfills to provide feedback on environmental health issues. *Photo by Kathy Nellis*

You'll notice huge red crosses painted on the ship, to identify its hospital mission. Each arm of the nine red crosses is 27 feet long.

The 35,000 tons of sea water used as ballast to stabilize the ship weighs more than the ship itself.

Four distilling plants turn 300,000 gallons of sea water a day into fresh water. But take note! You can still only take a very short shower and you need to get wet, turn off the water and apply soap, then rinse. It's no luxury liner and water is a precious resource.

You sleep in bunks and muster comes early. The days are often 17 to 18 hours, by the time medical teams gear up for transport out on the helicopter and fly back much later, after a full day in the field.

But while the work is grueling, the rewards are great.

"It was just amazing to listen to the people cheering 'We love you America, thank you for coming.' They might be lined up for hours in the hot sun waiting to be seen but they were grateful we were there."

Shepherd said it was personally rewarding for him "to see the USPHS officers work side-by-side with our sister service personnel and be accepted as one of them. There have been some great friendships made between USPHS officers and other uniformed service personnel. For each of the 70 USPHS officers that came aboard the *USNS Comfort* I'm sure all would count this mission as a highlight of their USPHS career."

Shepherd's days included a wide variety of tasks, from slogging through landfills to provide feedback on environmental health issues to touring water treatment plants; from meeting with health officials to working hand in hand at sites with the host nations; from helping new public health teams get plugged in to their assignments to answering streams of emails on a ship where there just aren't enough computers and communication by phone runs from iffy to zilch.

We'll hear more from Shepherd and the other USPHS officers who took part in this deployment. In the coming months, we'll continue our series on The *USNS Comfort* and its humanitarian mission. What's it like to live on a ship, to be seasick, to eat MRE's, to help a child smile again or to walk again, to get bedbugs, to be hugged by a grateful parent, to fall asleep exhausted but exhilarated all at the same time? Stay tuned for more on this mission, coming soon in **CDC Connects**.

This *Inside Story* by **CDC Connects** reporter **Kathy Nellis**.



Shepherd meets with Captain Edward J. Nanartowich, Master, *USNS Comfort*, on the bridge. Nanartowich was also Master of the hospital ship when it deployed to Manhattan, following the terror attack against the World Trade Center. *Photo by Kathy Nellis.*