You become ill. You are not quite sure what is wrong, and you are away from home. In fact, you are in the middle of nowhere, miles from any shoreline and hours from any hospital.

Is this something the medical service officer aboard ship can treat, or do you need to be hospitalized? You may not be fortunate enough to be aboard one of the Navy’s two hospital ships when you get sick, so what can you do?

On July 24, the answer to this question may have gotten a little bit easier: A new blood analyzer was installed aboard USNS Big Horn.

About a year ago HMCS(SW) Troy Flury, USN, shipboard medical program coordinator, saw a demonstration of the Careside Analyzer™ — a blood diagnostic system — during a technology fair and since then has worked fervently to test the system aboard a Military Sealift Command ship.

“The system uses cutting edge technology. I saw the opportunity to help our medical service officers on the ships achieve faster, more accurate lab results when they have sick personnel on board,” said Flury. “This can make the decision to transfer to a shoreside hospital easier or rule out serious disease processes. Additionally, our MSOs can monitor chronic conditions that require monthly blood tests.”

Big Horn was chosen as the test ship because the MSO on board, Al Miciano, has had experience prototyping medical equipment on board U.S. Navy ships while he was on active duty. Miciano was an independent duty corpsman, or IDC, in the Navy for 21 years prior
to his May 1999 retirement and subsequent employment with MSC. At the Regional Support Organization under Commander, Naval Surface Forces Pacific, Miciano assisted and was instrumental in prototyping the use of video telemedicine on board various ships. This pilot program enabled the IDC to have real-time access to specialty care during any medical emergency underway or in port by using video teleconferencing to link with doctors at the Naval Regional Medical Center, San Diego, Calif.

Most MSC ships currently use a manual laboratory test to determine the complete blood count. This test can only determine the total amount of white blood cells. If the white blood cell count is elevated, a second test, a cell differential, can be performed. During this procedure, a blood sample is taken from a patient, fixed to a slide, stained and analyzed under a microscope.

“These procedures are done manually and can take a tremendous amount of time,” said Miciano. “The Careside Analyzer H-2000 Hematology Analyzer™ on the other hand, is multifaceted, reliable, fast and provides the results needed to diagnose and treat patients quickly.”

The system can perform more than 55 chemistry, electrochemistry, immunoochemistry, coagulation and hematology tests — enabling routine tests to be conducted almost anywhere they are ordered and providing rapid, accurate results.

“Currently, we are very limited in doing any chemistry tests on board most ships,” said Miciano. “With the addition of the analyzer machine, we can do extensive chemistry tests previously available only in a hospital or laboratory. Now, the test can be done with results in minutes — next to the patients — where it counts.”

The new system provides accurate lab results quickly, replacing 1950s manual methods and should eventually save thousands of dollars spent on reagents — a substance used in a chemical reaction to detect, examine, measure or produce another substance — that are messy and considered hazardous to the environment. It also reduces the amount of blood and blood-borne pathogens to which an MSO is exposed, as well as biological hazardous waste costs.

“The unit is expandable so it can interface with a computer system, and we can actually email results to a doctor shoreside doing a phone consultation on a patient at sea,” said Flury. “This gives the doctor real-time lab results and a trained set of eyes and ears to make an accurate and quick decision that best serves the patient’s needs. Quality care for our mariners is the end result.”

The testing phase aboard Big Horn will run about six months.

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