

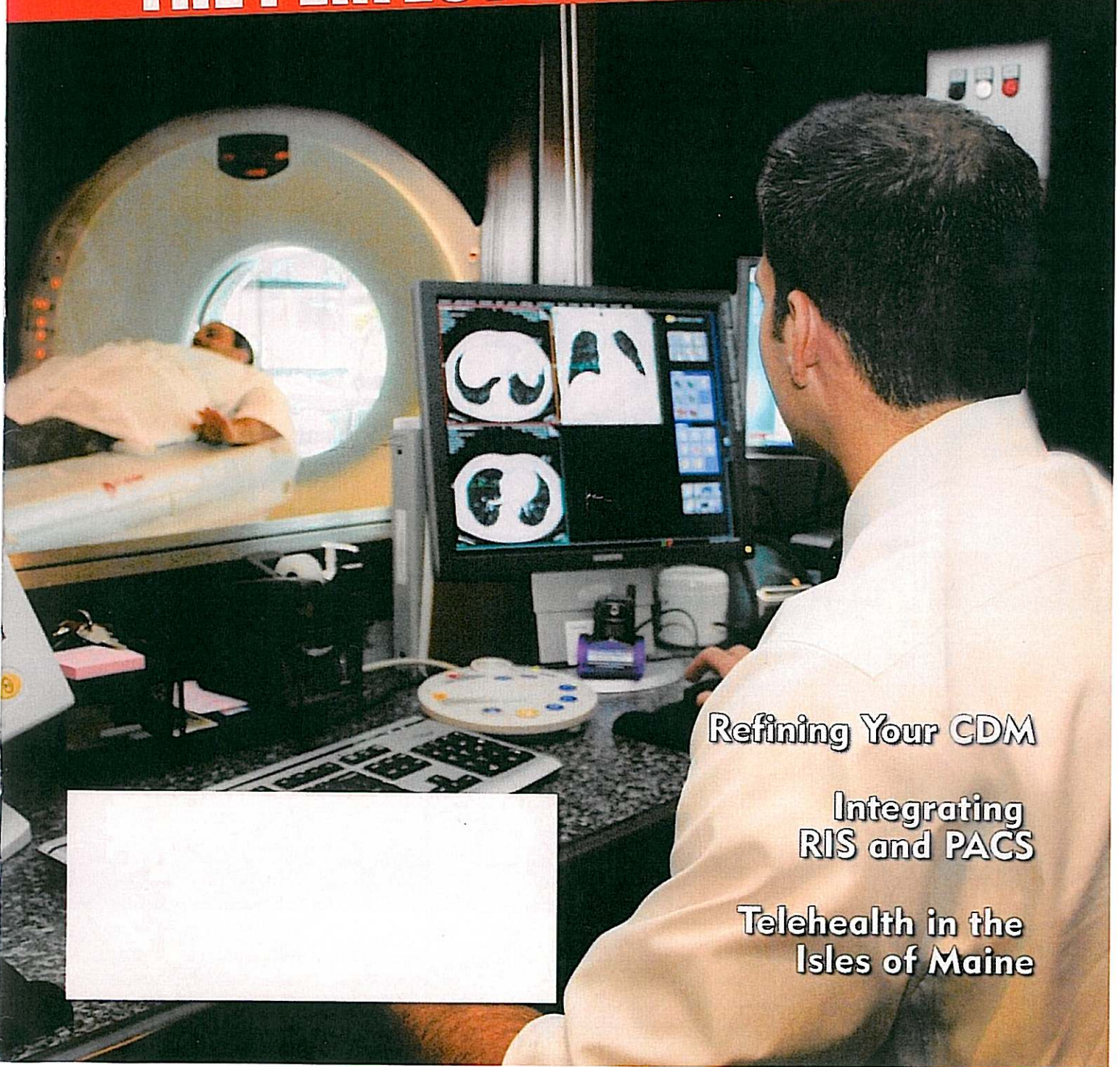
# T Health Management TECHNOLOGY

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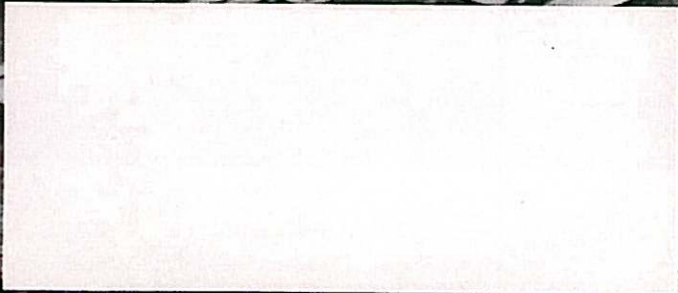
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**Telehealth in the  
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# Riding the Technological Wave



A Maine non-profit uses ship-born teleconferencing for diagnosis on remote island locations.

By Sharon Daley, RN

There are rural geographies all over the United States to which delivering healthcare is a serious challenge and the subject of much debate. In the state of Maine, reaching remote areas to provide primary care is further complicated by the maze of islands off its coast that must also be served. In the winter, ferries visit these islands only once a month, and, while there is air service to leave the island, inclement weather often precludes operation, making travel to the mainland difficult.

Given these obstacles, traveling to the mainland for routine doctor visits is often a hardship. An organization that has long been addressing the challenges faced by Maine's island residents is the Maine Sea Coast Mission. A non-denominational religious organization funded primarily by individuals and foundations, the Maine Sea Coast Mission recently celebrated its 101st year of providing spiritual and medical care to residents of the islands and the coast of Maine. The 75-foot long, 250 horsepower Sunbeam V, is one of the primary forms of outreach for the organization, cruising at up to 10 knots between mainland Maine and its island communities.

## Challenges of Island Care

Obtaining primary care for the inhabitants of Maine's islands is a struggle with many barriers. Given the fact that a lot of the island residents do lobstering work—and it's a short season—taking two days off to go to the doctor on the mainland is money out of their pockets. Additionally, there's also significant cost involved with traveling for primary care.

Flying to the mainland for a medical appointment from Matinicus, for example, costs \$40 each way; added to this are boarding and food costs. In its entirety, the sum adds up to an amount significantly steep for many of the island residents.

Recognizing the huge challenge access to healthcare poses on the islands, the Maine Sea Coast Mission decided six years ago to equip the Sunbeam with state-of-the-art video telemedicine equipment to facilitate virtual doctor visits. Today, the thriving telemedicine program is called Sunbeam Island Health Services and provides primary care at a distance. The Maine Sea Coast Mission has partnered with Mount Desert Island Hospital (MDI) to offer the Sunbeam to island residents of Frenchboro and Swan's Island, doctor's offices on Vinalhaven island to reach residents of Matinicus, and in Hallowell to serve Isle au Haut residents.

The vessel has an examination room equipped with Polycam VSX video conferencing systems, a television and camera, connecting us and our patients to hospital physicians in each area in real time using a high-speed ISDN line. We also make use of peripheral medical

equipment such as an otoscope and electronic stethoscope at our disposal for examining patients, or as we term it, "being the hands for the doctor."

### A Shipshape Solution

Weather permitting, the Sunbeam travels twice a month to the islands to facilitate virtual visits with primary care physicians. We orchestrate the entire process for Sunbeam Island Health Services, which includes scheduling between residents and doctors, and planning the voyage. Planning the voyage is no easy task as it includes scheduling around the ferry so that we do not show up on the day everyone is taking it to the mainland. We also need to keep in mind the ebb and flow of the tides, since the Sunbeam must arrive and depart two hours before the tides come in or recede.

Once we reach the island, we connect patients using a Polycom VSX video conferencing system installed on the Sunbeam to physicians on the mainland at seven locations also equipped with Polycom video solutions. After the initial checkup on board the Sunbeam, we fax examination notes to an MDI hospital-affiliated physician prior to their videoconference.

Regular doctor appointments are for both acute and chronic issues including visits with pediatricians, a diabetes specialist, respiratory therapist, and most recently, the vessel has been able to bring dental hygienists to the island residents for checkups and oral care. Besides providing doctor visits for patients of all ages, the Sunbeam also offers access to behavioral healthcare professionals such as psychiatrists and counselors to several islands' residents. With an appointment, residents can meet with a psychiatrist in a private exam room without leaving the island.

In addition to medical prognosis, the Sunbeam has long been a gathering place for island residents. People often drop by for blood pressure screenings, ask for advice on medical insurance or to participate in health education. We have found that some residents have become so comfortable with the medical services, staff and access to care on the Sunbeam, that they are more likely to come in when they suspect something is wrong instead of ignoring it or delaying care, or when they just want to know how to live better.

Adding video capability to the Sunbeam has allowed us to expand educational content. As an example, Isle Au Haut has a very high rate of Lyme disease, so we've brought in physicians from the mainland to educate park rangers, teachers and emergency medical technicians over video.

### A Safe Harbor

Offering virtual physician visits to those people living on Maine's sparsely populated islands is helping the Mission achieve its goal of delivering critical services to those most in need.

While it is true that offering video telemedicine on the Sunbeam offers huge cost savings to people, more importantly, it's often the first step in accessing medical care. Even if a patient's condition requires more care than can be provided over video, the follow-through is much greater after taking this first step.

For example, one man saw the Sunbeam docked and decided to come in to discuss what he thought was indigestion. After learning his symptoms, we persuaded him to do a quick consult using video conferencing. He was connected over video to a physician and was able to discuss his symptoms and medical history. Because of this quick access to professional care through video, the physician was able to diagnose him as having a serious cardiac issue and recommended that he go to the mainland for urgent care.

There are also many diabetics who often do not check blood sugar levels regularly or take their prescribed medications. They now enjoy regular access to a provider through telemedicine on the Sunbeam and, as a result, take better care of themselves. Having more reasonable access to a nurse and physicians makes follow-up appointments easy, and encourages residents to come in more regularly. As the only nurse, I check in regularly with the mainland physicians to make sure follow-up procedures are handled appropriately.

Taking advantage of the Maine Sea Coast Mission's expertise and access to the Sunbeam, one diabetic patient came aboard for a routine checkup, but during the course of the initial consultation, we found a lesion that needed a doctor's diagnosis. With real-time access to doctors via video, we were able to take a close up view of the lesion and magnify it for the physicians to diagnose. The quality of the video technology worked so well, that the physician was able to successfully diagnose skin cancer and get the patient to schedule treatment on the mainland.

We were pleasantly surprised at just how little patient reluctance we encountered when we introduced telemedicine on the Sunbeam. Contrary to popular belief, people are not uncomfortable accessing primary care via visual communications. In fact, video conferencing on the Sunbeam has been so well received that there is great interest among the residents in land-based video units so doctors are accessible even more frequently.

In the future, we would like to see another video system added to the main gathering area of the boat so that more people could attend our video education sessions.



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