

White Paper

February 2008

The Three M's: Mobility, MEDITECH and Motion C5

Island Hospital

Anacortes, Washington



The Three M's: Mobility, MEDITECH and Motion C5

Island Hospital is a 43-bed Level III Trauma hospital based in Anacortes, Washington. It is a tax-supported facility that provides medical-surgical services to Fidalgo Island, north Whidbey Island, San Juan County and western Skagit County.

Island has been recognized for being one of 100 hospitals displaying the greatest progress in improving hospital-wide performance over five years (2000-04). Top 100 organizations have shown consistent improvement in clinical outcomes, safety, hospital efficiency, financial stability and growth. Findings from the third edition of Solucient's 100 Top Hospitals: Performance Improvement

Leaders study which appeared in the May 1, 2006 issue of Modern Healthcare magazine. Island was established as a public hospital district in its present location in 1962 and their mission is *"We will deliver quality, compassionate and personalized health care to the communities we serve."*



Island serves as a leader in the use of implementation of technology to improve the quality of patient care. They implemented the MEDITECH Magic system in 1992. MEDITECH is known as a leading software vendor in the health care informatics industry for 38 years, providing integrated software solutions that meet the information needs of health care organizations worldwide. In 2006, Island added bar-coded bedside scanning for tracking medication administration. Initially clinicians implemented computers on wheels (COWs) with hand-held scanners. Island was scheduled to open a new larger hospital facility in the middle of 2007 and required additional devices for the emergency room and inpatient rooms. Prior to the opening, clinicians and hospital IT staff evaluated the Motion C5 mobile clinical assistance (MCA) device to determine if would be a suitable option to compliment or replace the existing COWs.

Rick Kiser, Assistant Director of Information Systems for Island Hospital, was actively involved with the selection and implementation of the Motion C5 MCA devices. Though initially Island's process design team had recommended adding COWs for every patient room, staff had concerns about the COWs limitations. "The single biggest issue was the COWs were impossible to clean," said Kiser. "The sanitary aspect was a nightmare."

Holly Hoskinson, RN and Clinical Informatics Specialist also noted the COWs were difficult to maneuver from room to room. "The COWs are really heavy," said Hoskinson. "We had trialed a variety of cart styles but they are all still big and heavy."

Another Island RN and Clinical Informatics Specialist Chris Storm agreed the COWs were cumbersome. "We wanted a device in each room and based on our budget we would have to

move COWs from room to room,” explains Storm. “The COWs were cumbersome and that option was not acceptable.”

Kiser noted concerns about the amount of floor space the COWs required, both in the patient rooms and in the hallways. The COWs also required clinicians to log in and out of the system multiple times a shift and the COWs often lost their battery charge. Additionally, clinicians complained that the bar code scanners attached to the COWs would lose their configuration. As they reviewed options for their new facility, all these factors were considered, though compatibility with their MEDITECH system was the number one requirement.

Introduction of the Motion C5 Mobile Clinical Assistant

Hoskinson became aware of the Motion C5 MCA units from a posting on a Meditech listserv. “After reading about them I searched online and as soon as I saw the C5 I wanted to get one,” says Hoskinson. “The C5 had all the functions built into one unit and was sealed for infection control. It was very lightweight and portable and the size of a notebook. I thought it would be perfect for nursing, and the fact that it was designed by clinical nurses versus technical people was a nice change.”

Kiser says that Island reviewed other brand tablets but in the end determined the Motion C5 MCA best suited their needs. “The thing that clinched it was that this tablet was designed for the medical environment,” says Kiser. “They are drop resistant and easy to clean and other tablets didn’t offer anything near what we needed.”

The Island technical staff knew that they would be one of the first MEDITECH sites to use the Motion C5 MCA devices. “The folks at Motion were great about making sure everything worked,” says Kiser. “They have been with us through the whole process including the initial set up and working with the bar code readers. We get instant response when we call.”



Island Super Users at Training Class

Motion C5 MCA and MEDITECH Magic Compatibility

Though the Island was the first MEDITECH facility to utilize the Motion C5 MCA tablets on the West Coast, the implementation was smooth. “It worked immediately with MEDITECH,” says Storm. The Island staff did note a couple of “glitches” initially but acknowledge Motion was very responsive to address problems. “They leaned over backwards to make it work,” says Kiser.

One feature of the MEDITECH Magic software is the use of various keys to perform different operations such as ESC and F9. In order to improve the user experience, Motion provided Island with instruction for creating a Windows toolbar that would provide easy to use tap buttons as shown in below.



Screen shot of new toolbar to facilitate use of Meditech with Motion C5

Mary Selting is an RN and clinical informatics specialist at Island and works primarily in the ED. She believes the MEDITECH integration is solid. “In the ED we are able to pull in data and do

everything on the tablet just like we do on the PCs.” Kiser states they had no need to contact MEDITECH with the tablet set-up since the Motion C5 MCA runs on the Windows operating system and the mouse and pen were the same as far as the MEDITECH application was concerned.

The Flexibility of a Personal, Mobile Device

Island is currently using Motion C5 MCA units in the emergency department (ED) and for in-patient care. Every patient room has a docking station, which provides battery charging and gives the clinicians keyboard access for free-text documentation. In the ED, clinicians use the Motion C5 MCA's for nurse documentation, medication scanning, and order entry.

Intel® was instrumental in formulating the original MCA reference design based on its ethnographic research. The C5 benefited from Intel's research findings as well as similar research Motion had completed during the previous five years. The C5 was then developed and commercially manufactured by Motion Computing as the Motion C5 mobile clinical assistant. Created to meet the demands of the acute care environment, the Motion C5 provides a sure-grip handle, a sealed case for easy cleaning and disinfecting, a lightweight design for portability, a 10-in screen for easily viewing clinical information with minimal scrolling, rugged construction that minimizes the impact of dropping the device, and pen and stylus input so clinicians can enter text and navigate the software without being tied to a keyboard. The Motion C5 also includes features such as integrated barcode and RFID readers for patient identification and/or electronic medication administration, an integrated camera, and built-in Wi-Fi* and Bluetooth* for wireless connectivity. Based on continued learning, the composite knowledge of Motion and Intel have improved the mobility ecosystem in healthcare. MEDITECH worked to validate the performance of the Motion C5 with their products.

Using the Motion C5 changed the nurses' relationship with technology in several important ways:

- Island modified its device provisioning model in the ED so each nurse participating received a lightweight and portable Motion C5 MCA for the duration of his or her shift. They gained unimpeded access to patient information, and no longer had to contend with other clinicians for access to a device. The time and consternation previously associated with searching for COWs or desktops could be reallocated to patient care, and nurses could document and access information when and where their workflow called for it.
- Since the Motion C5 was a personal rather than a shared-access device, nurses remained logged into their MCA between patients as they made their rounds. Instead of having to log in to MEDITECH each time they approached a device, each nurse reduced his or her need to log in from between 12 to 24 times per shift to two to four times. “I will sign on and pull up my ED tracking application and secure it by suspending my session,” explains Selting. “I then just tap in my password when I need it. Once I have patients I carry the computer from room to room with me.”

The devices proved to be truly mobile and easily portable. Nurses often carry them between rooms and used them in a variety of settings such as the break room, medication room and

nursing station. This additional agility and portability has improved nursing productivity and satisfaction.

“In the ED the first thing we do is triage the patient and use the tablet at that point to enter nurse documentation,” says Storm. “We then bring the patient back to the room and take the computer with us and document at the patient bedside. In every room there is a docking station and all the nursing stations have docking stations with keyboards.”

Selting finds the Motion C5 MCAs portability is a big plus. “I really like that I can go into the patient room and set it down on the bedside table right by the patient. It saves me a whole lot of steps and allows me to really talk to the patient. I don’t have to walk across the room to look at lab values or update documentation. Sometimes in the past we would write notes on a paper towel and chart later. Now we can do real-time charting.”

The ease of infection control has been popular. “We really like the fact that we can spray with an anti-viral spray and clean it up,” says Hoskinson. Storm adds “We wipe them down every time we come out of the room. It is pretty simple and we weren’t doing that with the COWs.”

Patients have also reacted favorably to the technology. “I tell patients my computer is all about their safety, that I can see all their medications and it’s all up to date,” says Selting. “The patients are pretty impressed with it.”

Planning for the Future

For inpatient care, clinicians are using the Motion C5 MCAs primarily for medication entry, though as they increase their online documentation they anticipate tablet usage to increase as well. “We have been using CPOE for almost a year now,” says Selting. “We will be encouraging doctors to use the tablets to make rounds and then to begin using for CPOE. We think having docking stations in every room will help the doctors with data entry.”

Barbara Ringhouse, RN and Assistant Administrator for Patient Services believes the Motion C5 MCA can also be used as a patient education tool. “I showed the system to our medical staff and pulled my X-ray from our PACS system, wirelessly and real time in about a minute. It was very impressive and I emphasized to the staff they could use the device as a teaching tool at the bedside.”

Conclusion

With the huge change of moving to a new building and having new devices at that same time some Island clinicians have yet to begin using the Motion C5 MCA, but all the ED nurses and an increasing number of inpatient nurses are regular users. The clinical informatics specialists are encouraged that more nurses are adopting them and are confident that over time more will embrace the new technology. “It’s working its way into the culture,” says Kiser.

The Island staff believes that the Motion C5 MCA has met their need for a mobile device that integrates with their MEDITECH Magic applications and is easily sanitized and light-weight. Additionally, users find the docking and battery charging option easy, like the flexibility of using

it with the pen or a keyboard, and are benefitting from the built-in barcode scanner. Finally, Island has valued the support provided by Motion.

“We are a small hospital and tend to get lost in the shuffle with large companies,” says Hoskinson. “But with Motion support has been phenomenal. “

© 2007 Motion Computing, Inc. All rights reserved.

Magic is a registered trademarks of MEDITECH Corporation. Motion Computing is a registered trademark; Motion and C5 are trademarks of Motion Computing Inc. in the United States and other countries. Intel, the Intel logo and the Intel Health logo are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

* Other names and brands may be claimed as the property of their respective owners.

This white paper was prepared by Cheryl D. Parker, RN, PhD, Michelle Noteboom, Holly Hoskinson RN, Rick Kiser, Dennis Richards , Barbara Ringhouse, RN, & Mary Selting, RN