

By Gary Buss

Technology EMPOWERS Caregivers

**Untethered,
Yet in Touch,
They Can
Work
Efficiently
and Provide
High-Quality
Care**

**Wireless devices,
like the 2-ounce
Vocera communica-
tions badge, can
help caregivers
stay in touch.**

Remember when the overhead paging system was heard regularly throughout hospital corridors? It was an integral part of the environment but certainly not an ideal way to communicate.

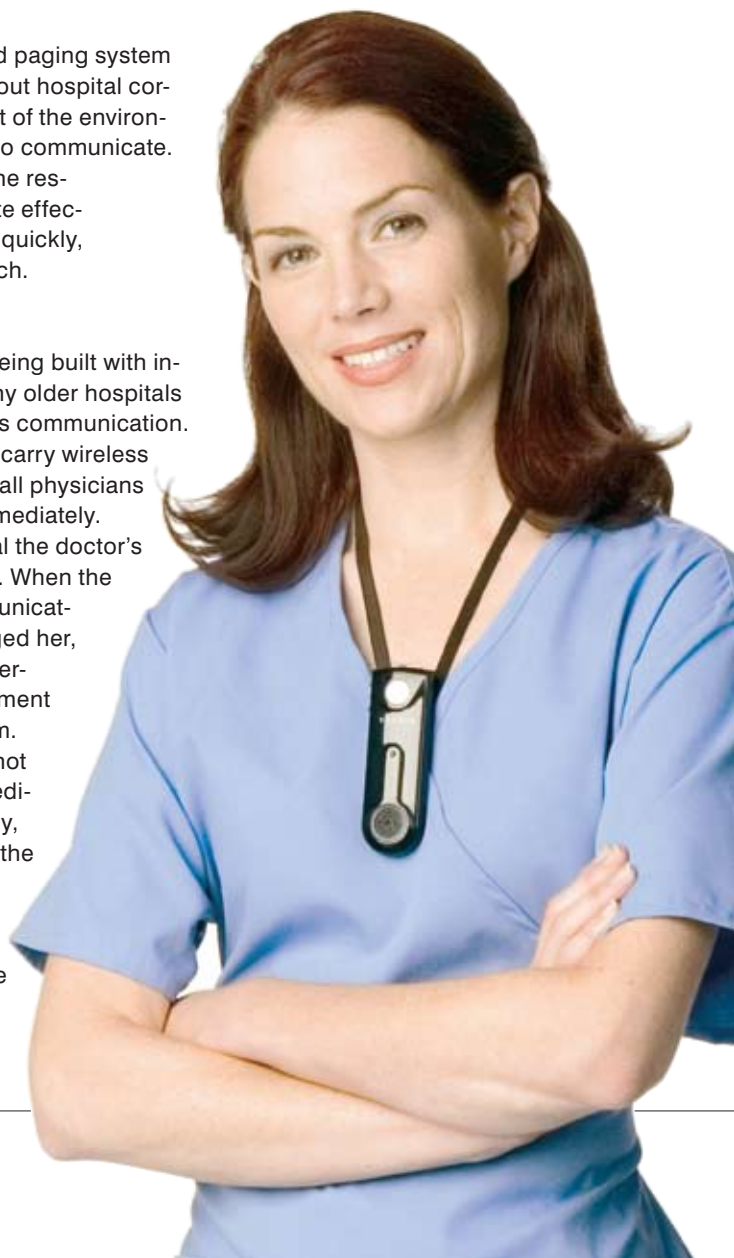
Today, technology is coming to the rescue. It helps caregivers communicate effectively, locate people and equipment quickly, and stay mobile while staying in touch.

Better Communication

Most new hospitals in the U.S. are being built with in-building wireless networks, and many older hospitals are being updated to enable wireless communication. In these high-tech hospitals, nurses carry wireless communication devices. They can call physicians directly, often resolving an issue immediately.

Another option: the nurse can dial the doctor's pager and leave a call-back number. When the doctor returns the call, she is communicating directly with the person who paged her, not an intermediary. It's person-to-person communication—a big improvement over the old overhead paging system.

In situations when the nurse cannot answer the doctor's return call immediately, it rolls over to the unit secretary, who quickly determines who paged the doctor based on the phone number the doctor was asked to call. The secretary locates the nurse via a computer screen and uses the nurse call system to tell the nurse that the doctor is on the line. At that point



the nurse can prioritize: she can take the call, ask the secretary to relay a message, or ask the doctor if she can call back in 10 minutes. Technology puts the caregiver in control.

Locating Caregivers

How was the secretary able to use her computer to locate the nurse? The nurse was wearing a location beacon, part of the hospital's locator system—something like an in-building global-positioning system that uses infrared light or RF identification.

Location tracking can help handle call traffic optimally. If a caregiver is in a situation where she should not be interrupted—confering with a patient's family or working in a VIP room, for example—location information helps others know not to direct calls to that person.

Locator systems are still fairly expensive, so it makes sense to invest in a good communication system first. But location systems do far more than enhance communication. In the emergency department, for instance, knowing the location of the closest caregiver can be crucial.

Finding Equipment

Location systems also help keep track of equipment. It seems there are certain pieces of equipment, such as wheelchairs, that staff can never find. Why not tag the wheelchairs? Then, instead of going up and down the hall looking for them (or even renting or buying more wheelchairs), caregivers locate them quickly via a computer. A map on the screen indicates the exact locations of all wheelchairs. Staff can usually tell a chair is in use by its location or movement.

Infusion pumps, PCA pumps, feeding pumps and digital thermometers are examples of other types of equipment that, when tagged, make life easier for caregivers.

Many people make the mistake of thinking that since the locator tag costs about \$80, it should not be put on less expensive equipment. But consider how much it costs in time and frustration when staff can't find the tools they need. It can certainly be cost-effective to tag equipment that is less valuable than the tagging device itself.



Tracking Patients

The ability to tag patients is another advantage of a locator system. On a telemetry unit patients are up, walking around, attached to portable cardiac monitors. A patient suffering a cardiac event is not necessarily in her room. She could be in the cafeteria, the stairwell or the hallway. Caregivers can find her quickly if he is wearing a locator badge.

Also, patients sent for testing can be assigned badges. That way, caregivers know when the patient goes to radiology and how long she has been there, and they can find her when it's time to do a blood test or give medication.

Being able immediately to locate staff, equipment and patients makes the caregiver's life better. It helps them work more efficiently, reduces overtime and increases staff satisfaction.

Wireless communication devices can help caregivers stay in touch.

Keeping track of equipment electronically saves caregivers both time and frustration.



Improving Processes

A locator system is also a tool for both improving processes and recording activity. For example, if a patient needs to be seen every hour, and a caregiver with a badge hasn't been in that room in over an hour, the system will page the caregiver and signal her to go to that room. Rules and events are built in, and the system knows what time it is and where the badge is.

The locator system also can record activity. Even if the patient doesn't remember or was asleep when the nurse was in the room, the locator record can assure family members and the patient that someone was checking in. This is particularly important in the case of children and the elderly.

One caution: it is a mistake to use a tracking system to monitor whether staff members are where they should be or to use it as a disciplinary tool. When the system is used in that manner, staff will simply stop wearing their badges.

From COWs to PDAs

Computers on wheels (COWs) automate and streamline data processes while the caregiver is in the patient room. With a barcode reader, the nurse can scan the patient ID bracelet, her own ID, and the medication she's giving the patient. The information is captured for billing and for medical records.

A PDA with symbol technology can perform the same function. And now with wireless voice-over IP (wVoIP) telephones, a scanner can be built into the nurse's telephone. The phone becomes the scanner and the local information input portal. While these devices are not commonly in use now, they are just around the corner.

One problem with a handheld device is the limited amount of information visible on the small screen. It is difficult to see the full patient medical record or a scanned document. Many companies are working to resolve this problem. Since the caregiver often does not need to see the full patient record, software is in the works that will report subsets of the clinical information that can be viewed easily—critical information such as labs that are out of normal range or the trend of labs for the last 24 hours. The hardware to do this exists today. Deciding what information gets displayed, building in all the rules, deciding what information is critical for which type of caregiver and how to pull it out of the right system are all involved in developing the software.

Tools for Improved, Efficient Care

Hospital caregivers are mobile. They don't have an office, a dedicated extension, voice mail or email—the tools that other businesses take for granted. As technology becomes smaller and more mobile, caregivers too will have these tools. Mobility software will allow caregivers to take their profiles along wherever they go. They will sign in on portable devices and have access to their messages and documents.

With nurse shortages expected to continue for the foreseeable future, technology's power as a force multiplier is a critical asset. It helps nurses spend more time with patients while keeping them connected and in communication. And it saves time and energy, empowering caregivers to work more efficiently and, at the same time, to provide better care. ■



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