

# Roving BMETs: Improving Patient Safety and Satisfaction

Jill Schlabig Williams

**Subject:** Oregon Health Sciences University  
**Location:** Portland, OR  
**Size:** 501-bed, two-hospital academic health center.  
**Staff:** 20-person in-house clinical technology services department

When Keith Waters, a biomedical equipment technician (BMET) with Oregon Health Sciences University (OHSU), was told that he had to start making rounds to check equipment in patient rooms, he was not thrilled with the idea. Take time away from his usual repair and preventive maintenance duties? Interrupt patients during their hospital stay and bother them with questions about equipment? But with the encouragement and help of his boss, Waters and his fellow technicians overcame their hesitation. Now, one year later, the program is an unqualified success, with kudos coming from patients, nurses, and even the technicians. “It was a super idea,” Waters now says. “It’s improved our relationship with nurses, cut down on repair calls, improved patient safety, and personalized the business for us by putting a human face with the equipment.”

## Challenge

The idea of BMETs making rounds in patient rooms came from Lori Ellingson, a nursing director at OHSU. She



Making rounds to check equipment in patient rooms is a regular part of the job for OHSU BMET Keith Waters. Here, he and staff nurse Jenny Henderson check out equipment in an ICU prior to admission of a patient. Photo credit: Willy Endres, CBET, OHSU clinical engineer.

was frustrated hearing nurses’ complaints about equipment problems and having nurse managers solve the problems themselves. “From nursing management meetings and surveys of nurse satisfaction, we knew that nurses were frustrated with not having the equipment to do their job.”

Even though the biomed department at OHSU reports to nursing in the hospital structure, the relationship between nurses and the biomed department—which hadn’t had a director for years—was not good. “The nurses were steeped in the past—we had been getting no good response from biomed, so we just didn’t bother reporting problems,” says Ellingson.

Two years ago, Dennis Minsent come on board as director of clinical

technology services at OHSU and immediately began working to improve his department’s services. Hospital management wanted to elevate the department manager position to the director level and Minsent was a perfect fit for the job. With 30-plus years of experience in clinical engineering, Minsent put his skills to work adjusting preventive maintenance schedules, evaluating department procedures, and surveying patient equipment.

As a first step, he assigned teams of BMETs to hospital areas and had all technicians begin making regular rounds on patient units to talk to nurses and check equipment.

“We found lots of wear and tear that hadn’t been addressed,” says

Minsent. “Nurses were very innovative in finding solutions to equipment problems, swapping parts and using medical tape in creative ways to allow them to provide care to patients. We wanted to proactively identify ways to solve these problems and give nurses more time for patient care.”

Ellingson says that it became her team’s goal to develop a new approach to equipment problems. She came up with the idea of BMETs making rounds in patient rooms at a management team meeting. “We invited Dennis into the meeting and asked if he would be willing to do a pilot project. He was very excited about the idea right away.”

### Solution

Since biomed reports to nursing at OHSU, Minsent and Ellingson did not have to get any other formal approval for the pilot program. And, through Minsent’s efforts, no extra biomed personnel were needed to begin the program. By streamlining the preventive maintenance schedule his department had been following, Minsent freed enough time for each biomed to make the biweekly rounds.

The five-month pilot program was launched in Ellingson’s surgical and oncology units. Under the pilot, BMETs made rounds in each patient room once every two weeks, surveying each room for safety and operational problems of equipment, including nurse call systems, beds, TVs, suction, oxygen, sphygmomanometers, and other devices. “They carried spare parts on carts with them as they made rounds, often fixing minor problems on the spot to the delight of nurses and patients,” says Minsent. Problems that couldn’t be corrected were identified and corrected as soon as the room or equipment became available. Facility or IT issues were reported to those divisions for correction. Written checklists detailing issues identified were given to the department manager and to Ellingson as the division director.

“We were initially uncomfortable because it seemed we would be bothering patients, giving them one more interruption,” says Waters. “We trusted Dennis, though, who assured us that it would be okay. He gave us each a white lab coat to identify us to patients and a script to follow.”

Armed with coat, script, and parts cart, Waters ventured onto the patient floor the first day of the pilot. He was surprised to find that patients were glad he had visited. “Most patients don’t realize that things in the hospital break. They seemed comfortable knowing someone was working on equipment.”



BMET Tim Heining and staff nurse Laural Foster work together to ensure that equipment in patient rooms is ready. Photo credit: Willy Endres, CBET, OHSU clinical engineer.

He uncovered problems with TV channels, oxygen outlets, cluttered rooms, and dripping faucets. What he couldn’t fix on the spot, he either reported to another division or slated for repair. Perhaps just as importantly, his efforts that day and on subsequent patient rounds highlighted the end goal of the pilot program: improved patient care.

The program has evolved over time. While the technicians no longer use a script, they do follow the same routine when they make rounds. They first check with nursing to see if there are any rooms or patients they do not want disturbed. When they enter the patient’s room, they introduce themselves and tell the patient they are making rounds performing routine operational checks to ensure they have a good stay. They ask if the TV, bed, and nurse call systems are working satisfactorily, and if there are any problems with lighting or other facility items. The technicians still bring with them a parts cart for repairs. “Most of our systems are standardized. As a result, we can carry a small stock of parts with us and take care of 90% of common issues on the spot,” says Minsent.

### Outcome

BMETs conducting rounds in patient rooms have uncovered and corrected a variety of equipment problems and potential patient safety issues to date, from fraying

power cords to broken nurse call systems to damaged oxygen connectors. Frequent problems with wall-mounted sphygmomanometers were identified—nurses had been shuffling pieces and parts of the equipment and not reporting problems to biomed.

Minsent has found that it takes about 15% of staff time to do the rounds and make corrective actions, time that in his opinion is well spent in terms of patient satisfaction, patient safety, and revised equipment PM and repair schedules. “When the Joint Commission began allowing preventive maintenance to be scheduled based on risk, a lot of low-risk items fell out of the program,” says Minsent. “No one looks at these items unless they’re broken. We’re finding that they’ve undergone a lot of wear and tear that hasn’t been addressed.

“The major impact of this effort is increased nursing and patient satisfaction,” says Minsent. “We do not yet have enough data to forecast cost savings or workload reductions.”

Nurses have been unanimous in their support of the project, Minsent reports. “It’s been a huge benefit to nurses,” he says. “It’s been uplifting for the nursing staff to find that they can spend more time on patient care and less time on equipment problems.”

“We’ve also gotten very positive feedback from patients,” he says. By fixing minor items that patients may not have complained about, the program has improved their perception of the hospital. The program, he says, gives patients the impression that somebody is checking on the hospital environment and caring for them as a whole, not just for their medical condition.

“I could see a huge benefit for the biomedics as well,” says Minsent. “Since they were already making rounds on the department floors, they had established good relationships with the nurses. Interacting more with patients has helped them take the next step and gotten them more engaged as part of the patient care team with the clinicians.”

Waters believes that by proactively identifying problems on rounds, the technicians are spending less time on repair calls and have gotten more involved as part of the clinical team. “It has really helped that we don’t have to primarily repair equipment in an emergency,” he says. From his perspective, it has improved his department’s relationship with the nursing staff. “It offers more visibility for each technician, and for the department as a whole.” He’s also seen the technicians’ attitude change for the better. “The frequent patient contact has per-

sonalized the business, and put a human face with the equipment.”

Ellingson reports that the hospital’s nurses are also very happy with the program. “We’ve gotten a lot of informal feedback from patients that they liked it and noticed the proactive approach. I can tell that equipment is working better from the round reports—there are now more ‘OK’s than ‘needs repair’s, and fewer things broken or missing.” Ellington also cites improved patient safety from the program, with fewer patient falls occurring. “It really helps give credibility to that department,” she adds. They are more visible, more credible, no longer hidden behind the scenes. They are more accessible to staff, and they are a great resource—staff can ask questions.

Minsent says he likes his department’s unusual reporting structure, with biomed working for nursing. “I absolutely love reporting to nursing,” says Minsent. “I never would have imagined it but once I was in this environment, it made so much sense. So much of what we do is directly related to nursing. In my opinion, it’s a mistake to move CE into the IT world. The equipment is so closely tied to the clinical world, our jobs are more clinically related than IT-related. This keeps the focus on patient care.”

The fate of the pilot program was decided at a recent nurse manager meeting. When Minsent and his colleague attended the meeting to pitch the program for hospitalwide rollout, they got an ovation. Ellingson recalls: “Everyone said ‘Thanks for doing this, it will be great.’” BMETs are now making rounds hospitalwide. ■

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