

# PREPARING TO JOIN HEALTH CARE LABOR POOL:

# ROBOTS

## Tracking Technology

By Tom Leonidas, Jr., P.E.

In the next 10 years, anyone subject to a hospital stay will likely have robots participating in his or her medical care, whether it's in the operating room, through the delivery of medications or even during a physical therapy session. Sound far-fetched? It shouldn't.

The fact is that there's growing demand for having robots play an integral role in health care. For example, Virginia Mason Medical Center in Seattle is using a robot to assist in laparoscopic surgery for removing the prostate in cancer patients in a minimally invasive way. Other area hospitals are using robots to act as an extension of surgeons' hands for heart surgery and other delicate operations.

The success of robots' role in the health care environment will depend largely on how well facilities and their infrastructures are planned with these technologies in mind.

Barriers to more wide-spread use of robots include costs of equipment and infrastructure, underscored by the fact that hospitals don't get reimbursed by insurance providers when making these investments. But this should change as robotic technology continues to advance and show its financial and logistical value.

One exciting aspect of robots is

that they will essentially become an extension of a hospital information system as the robots are integrated into care delivery. Thus, planning now for the impact that robots will have on systems is critical to future-proofing today's buildings as much as possible. Parameters to consider are:

- Developing and implementing a scalable IT platform that can accommodate the integration of robots with the health information system and electronic medical records. This requires a robust infrastructure of cabling to operating rooms and fiber backbone.

- Planning scalable wireless systems that could be used for robotic guidance systems in the future; this means allowing widespread coverage throughout a facility and allotting bandwidth for robotic use.

- Planning future spaces where robots can be charged and serviced.

- Planning redundant data and communication pathways into a facility and the operating room, especially if telepresence or telerobotic surgery that allows a surgeon to perform operations remotely is part of the hospital's future.

Already, robots are playing a part in surgical suites and physician-training efforts. And in a short time they'll be integrated into physical therapy rooms

and other areas where skilled health care labor is hard to find. Forward-thinking medical facilities shouldn't narrowly focus their strategy solely on robotics, but rather plan accordingly to lessen costs when robotic-based technology becomes more commonplace.

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