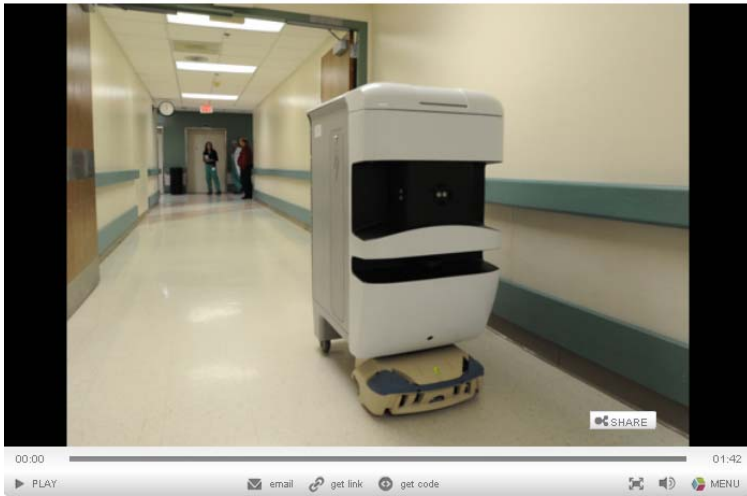


RoboNurse: Coming soon to a hospital near you?

by Rita Rubin

WASHINGTON – Watch "Bond" roll down the hall, and, if you're of a certain age, at least, you might flash back to *The Jetsons*, *Lost in Space* or *2001: A Space Odyssey*.



Bond bears a passing resemblance to a headless Rosie, the *Jetsons'* robot maid, or an armless Robot — "Danger, Will Robinson!" — on *Lost in Space*. And it (he?) speaks in the mellifluous tones of HAL, the rogue computer in *2001*.

This robot is no sci-fi character, though. Bond is one of three TUGs (named for what they do — tugging carts and other things) that are employed by the Washington Hospital Center pharmacy here. They can work 24/7, ferrying drugs throughout the hospital without a human tagging along.

More than 100 U.S. hospitals lease TUGs, according to Aethon, the Pittsburgh company that makes them. And later this year, the first RoboCourier, a TUG competitor made by Swisslog Healthcare Solutions, will roll into a California hospital.

Besides drugs, these robots can transport medical equipment, blood samples, meal trays, linens and other supplies. They're not meant to replace humans, their makers and employers say, but rather to free them to do the work that only humans can do.

'The robot doesn't get bored' in routine jobs

At Washington Hospital Center, pharmacy Director Jay Barbaccia says he wanted technicians to get out of the delivery business. "It seemed like a non-productive use of their time," he says. "We wanted to have the tech staff perform more of a supportive role for nursing."

Stationed on patient floors, instead of hiking back and forth from the pharmacy in the basement, technicians can relieve nurses of having to do "hunting and gathering" of medications and supplies, Barbaccia says.

Geisinger Medical Center's five TUGs transport supplies, small equipment and medications throughout the hospital, says Deborah Templeton, vice president of supply chain services for



Pharmacist Trinh Nguyen takes a delivery from a TUG at Washington Hospital Center.

Geisinger Health System in Danville, Pa. Each one makes up to 17 deliveries and covers about 2-4 miles every day, she says. "These are routine tasks. The robot doesn't get bored doing them. To put people in these routine jobs, sometimes that gets a little monotonous."

At [Children's Hospital Boston](#), six TUGs pull carts carrying patient meals from the kitchen in the basement to patient floors.

Before the hospital leased the robots last year, food service employees had to push the carts, and their trek from the kitchen to the patients could take up to 10 minutes, says Shawn Goldrick, head of patient support services.

Now, Goldrick says, TUGs decorated like trains — even programmed to say "choo-choo" — do the heavy lifting, so food service workers can interact more with patients and their families.

And that's fine with registered nurse Nancy Hughes, director of the American Nurses Association's Center for Occupational and Environmental Health.

"We'd be all for anything that makes life easier for nurses, particularly when you need supplies," says Hughes, who worked at Geisinger when that hospital leased its first TUG several years ago. "If you can keep the health care workers at the bedside delivering the human touch, I think that's a great thing."

TUGs are programmed with a map of the hospital, and onboard sonar, infrared and laser sensors prevent them from running into people and other obstacles. When they encounter closed-off areas, they can sound a doorbell-like chime to alert hospital staff to let them in.

They can communicate with elevators, so they can, in effect, "push the button" for their desired floor. TUGs enter only unoccupied elevators, but in case people board behind Bond at Washington Hospital Center, it politely reminds them to press the button for their desired floor.

A monitor next to their battery-charging stations in the pharmacy allows staff to keep track of the TUGs' whereabouts.

Rival robot species fill different niches

When Swisslog's RoboCourier first arrives at a hospital, a staff member will steer it through the facility with a joystick, says project manager Jeff Barber, who works in the company's North America division in Denver. The robot, using a laser scanner, measures distances along the way to create its own map.

Although RoboCourier won't start working at a hospital until later this year, its fraternal twin, SpecIMinder, already is circulating in three hospital pathology laboratories, Barber says. Unlike RoboCourier, SpecIMinder can't navigate beyond one department, and its payload compartment isn't lockable.

Like TUG, RoboCourier talks. If the robot is sitting still and someone touches its bumper, Barber says, "you might hear, 'What did I ever do to you?' " Sometimes, people will talk right back to it. Says Barber: "They accept it as a workplace associate in a very rapid fashion."

Patients apparently embrace the robots as well. Although the TUGs at Children's Hospital Boston don't go into patient care areas (they wait in the elevator bay — aka the train station — and page the food service worker stationed on that floor), children have spied them.

Goldrick says parents tell him that their kids want to go down to the kitchen at mealtime to see the TUGs come and go.

Says a surprised Goldrick: "I didn't think they would be a showstopper."