

Robots On Call

Some retailers have invested in prescription-processing automation, but the jury is still out on the future of pharmacy robotics.

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Should retail pharmacies use robots to fill prescriptions?

Retailers have been grappling with that question for more than a decade, but recent developments in robotics technology as well as the movement toward central-fill facilities have spurred a new debate on the merits of automated prescription processing.

Moreover, the aging population that is driving up the volume of prescribed medication, along with diminishing reimbursement payments from the government and insurance companies, may also be tilting more retailers toward the efficiencies offered by automated systems.

The issue will undoubtedly be on the minds of supermarket and drug store pharmacy executives gathering this week at the National Association of Chain Drug Stores' Pharmacy & Technology Conference in Boston.

Robotic pharmacy systems count, pour and label about half of a store's prescriptions (they don't handle liquids or creams, only pills), saving pharmacists and technicians from those painstaking tasks. Not only does this reduce labor requirements, but it gives pharmacists and technicians more time to engage in potentially reimbursable activities such as answering consumers' questions, educating them on medications, pointing out OTC options, assessing how they are complying with their regimens and offering immunizations. Other automation benefits include better workflow and faster customer service. Accuracy and safety are enhanced as well, helped by bar-code scanning before and after the automation process.

Pharmacy automation is about “not wanting to use people for things they are not best equipped to do,” said Nanette Kirsch, senior director of marketing for robotics vendor Parata. “You wouldn't hand-count change out of a cash register so why hand-count pills?”

To be sure, robotic processing of prescriptions is both costly (robots range from \$80,000 to \$200,000) and space-intensive, and is generally reserved for only the busiest stores. Just 10% to 11% of all retail pharmacies, and 5% to 6% of supermarket pharmacies, have installed fully robotic systems, according to Christopher Thomsen, president of The Thomsen Group, Kansas City, Mo., a pharmacy automation consulting firm, and vice president of business development for automation supplier Kirby Lester.

On the other hand, in a 2009 study, the Food Marketing Institute found that 43.1% of food retailers reported using robotic dispensing in at least one pharmacy, an increase from 34.5% the previous year.

In an effort to drive adoption of pharmacy robotics, vendors such as ScriptPro, Parata and Kirby Lester have started offering less expensive, more compact models that address retailers' cost and space concerns. In addition, a number of vendors have developed smaller, less costly semi-automatic systems that handle some pill-dispensing tasks. Meanwhile, many simple pill-counting devices continue to be widely adopted by pharmacy retailers.

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One major vendor, Innovation, believes that the day of the full-blown pharmacy robot is coming to a close — and that retailers are reorienting their automation investments to central fill facilities where they can get greater productivity from these machines.

Hy-Vee's Compact Robot

One of the pioneers in supermarket pharmacy automation, Hy-Vee, West Des Moines, Iowa, has been using prescription-dispensing robots for about a decade. The chain, which operates 231 retail pharmacies, now has robots in 54 stores, with 49 using ScriptPro robots and five smaller pharmacies running Parata robots. ScriptPro, Mission, Kan., has updated Hy-Vee's older models with new parts, making them “essentially new machines,” said Bob Egeland, Hy-Vee's vice president, pharmacy.

Until recently all of the ScriptPro robots were the SP 200, which handles up to 200 high-volume medications. A month ago, Hy-Vee installed a new, streamlined ScriptPro unit, the Compact Robotic System (CRS), which processes the top 75 prescriptions, in one store in the Kansas City area. ScriptPro is introducing the CRS at the NACDS conference this week.

The smaller unit, about 4 feet long, 20 inches wide and 84 inches high, is “a solution for a high-volume pharmacy with a small footprint that is not scheduled for enlargement,” said Egeland. It is well suited to handle the proliferation of generic medications, which “generate a lot of activity with a limited number of drugs,” he added.

In its first test store, Hy-Vee installed the CRS directly behind the filling island in a relatively new pharmacy, replacing a 4-foot-long gondola containing fast-moving drugs.

Another compact robot, the KL60 from Kirby Lester, Lake Forest, Ill., began to be installed in a number of independent pharmacies last year, said Thomsen. The 2½-by-4-foot KL60, which handles the top 60 drugs, or between 30% and 45% of prescription volume, lists at under \$80,000, putting it at the low end of the price spectrum for pharmacy robots; it is suited for stores processing 250 to 300 prescriptions per day. Thomsen said H.E. Butt Grocery, San Antonio, recently began testing the KL60; H-E-B did not respond to a request for comment.

Hy-Vee has purchased pharmacy robots for two primary reasons: To accommodate greater volume without hiring more staff, and to serve markets where the supply of pharmacists is low. If a pharmacy hits a certain volume — about 2,200 prescriptions per week — “We are forced to decide whether to hire [people] or use automation,” assuming the current staff is not able to handle the additional work, Egeland said.

“In rural counties where pharmacists are hard to find, it might make sense to put in a robot” even if the volume is lower than what would normally justify such an investment. (He declined to cite the cost of the automation.) In either case, the SP 200 robot would be expected to process about 55% of the prescriptions in a high-volume store, he said.

Since it handles 75 medications rather than 200, the minimum number of prescriptions processed per week could be less for the CRS, Egeland said. In a small-footprint pharmacy, he added, a

more important factor is the percentage of prescription volume processed with the robot; the CRS would be expected to process between 35% and 45% of volume.

Egeland said he would consider installing the CRS unit in a larger pharmacy where the top 75 medications account for half of the prescription volume. In that case, a larger robot would be more costly yet wouldn't add much to the pharmacy's productivity. "You reach a point of diminishing returns," he said.

Another factor in adopting automation is that a pharmacy's prescription volume trends significantly upwards; otherwise "we wouldn't consider it," Egeland said.

Egeland has analyzed the labor savings produced by robotics, finding that Hy-Vee pharmacies with the technology run 80 basis points lower in labor costs as a percentage of sales than pharmacies as a whole. That would generate an average annual savings equivalent to the salary of a technician.

Mike Coughlin, ScriptPro's chief executive officer, said the rental cost of a robot runs from the equivalent cost of one-half a technician for the CRS to 1¼ technicians for the SP 200. In its 2009 study, FMI found that when pharmacies processed at least 2,000 prescriptions per week, stores with automation reported using fewer technicians than stores without automation.

Robot vendors stress that while automation may reduce additional hiring, it doesn't eliminate existing technicians. Still, noted Thomsen of Kirby Lester, a key challenge in implementing robots is gaining staff buy-in. "They need to know [automation] is coming and that it's not replacing them," he said.

Egeland pointed out additional sources of return for a pharmacy investing in automation. One is that, at least in theory, it "frees up the pharmacist to perform ancillary services and offer customer care," he said. Another is greater accuracy. Robots promise, "with nearly 100% accuracy," that the consumer is receiving the right medication in a correctly labeled bottle." Incidents of undercounting or overcounting medications are avoided, he added. (Pharmacists manually scan the bottle produced by the robot to verify accuracy.) The robots also improve processing speed, which bolsters customer service, while handling 90-day prescription orders.

Robots are not the only prescription-processing technology Hy-Vee uses. In about 30 stores without robots, the chain has equipped pharmacies with counting devices from Kirby Lester (the KL15). All new and acquired pharmacies receive these devices, which also help with inventory counts, said Egeland.

Hy-Vee encourages pharmacists to engage in consulting activity with patients, especially in stores equipped with robots. "When we install a robot, we talk to the pharmacist about utilizing the extra time to talk to patients about drug compliance and immunizations, and follow-through on MTM [medication therapy management] opportunities," said Egeland. "But we have not tracked this." Ultimately it depends on the individual pharmacist. "Some will do it, but others who aren't as focused on that will remain the same with a robot."

While the robots can help pharmacies track and even reduce medication inventory, they can also lead to excess inventory if technicians load the machines with too much supply. "We have to train technicians on how to use the machine to better manage inventory," Egeland said.

Hy-Vee once promoted its use of robotics in pharmacies, but no longer does so because a robot's presence attracts attention by itself. "Patients see it and they ask questions," said Egeland. "And pharmacists and technicians are eager to talk about it." Most pharmacies give their robots female names; one pharmacy in Omaha, Neb., calls its robot "Wilma," posting a name badge on the unit.

United Improves Replenishment

Another food retailer changing its robot configuration is United Supermarkets, Lubbock, Texas. The chain has used first-generation RDS robots from Parata Systems, Durham, N.C., over the past five years in five high-volume stores — out of 43 in-store pharmacies — that process between 1,900 and 2,300 prescriptions per week. But last month, United replaced robots at two of those stores with Parata's second-generation unit, the Max, a smaller, 12-square-foot unit that handles the top 200 prescriptions, between 50% and 65% of total volume. After a 90-day trial, United may update the other three stores as well, said Alfred Moreno, United's pharmacy field support.

The new model, which is leased, has a greatly improved pill-replenishment process, said Moreno. Whereas the RDS robot needed to be refilled daily in a one- to two-hour procedure — which was particularly onerous on busy days, he said — the Max is designed to be restocked weekly (on Friday, a low-volume day), bi-weekly and monthly, depending on the medication; United's Max robots are being tweaked to support that replenishment cycle, he said. The new robots are also more efficient than their predecessors, thanks to a self-cleaning mechanism that prevents the loss of pills in the unit, said Moreno.

Kirsch of Parata noted that the company employed industrial engineers to figure out how to optimize the replenishment of its robots. The upshot is that with training the Max machines are "touched as little as possible," she said. Parata introduced the Max robot in 2008, along with a "semi-automatic" Mini machine that automates just the counting of the top 49 drugs. For a single pharmacy, the Maxi lists for \$160,000 and the Mini for \$55,000, though half the units are leased.

Overall, robotics have helped United expedite the flow of prescriptions, Moreno said, noting that with one pharmacist and one technician a machine can produce 25 prescriptions per hour. "That's quite a bit with two people; it's like having a third person," he said. Without robotics, technicians spend a great deal of time pulling inventory containers off the shelf and replacing them. With the robots, they can focus more on customer service and inventory control — "extra things they may not have done on daily basis," Moreno said.

One large food retailer that has not yet deployed robotic dispensing systems is Winn-Dixie Stores, Jacksonville, Fla. But the chain is considering installing robots in high-volume stores that undergo remodels so that additional space can be added to the pharmacy design. "We'll do the business case," said John Fegan, vice president of pharmacy for Winn-Dixie. "I anticipate we would put it in a couple of stores."

Many other food retailers are also looking at new construction designs for their pharmacies, said Cathy Polley, vice president of health and wellness for the Food Marketing Institute, Arlington, Va. "They're being very open with layout and design," she said. "They're thinking about what they will need in a few years and some of that has to do with having space for electronics."

The Central Fill Approach

Innovation, a pharmacy technology vendor based in Johnson City, N.Y., is taking a decidedly different approach to robotics, emphasizing their role in central fill operations rather than in stores. “We are seeing a move away from retail placement of robots to a central fill model,” said Doyle Jensen, Innovation's executive vice president of sales and business development. “None of the top 20 retail pharmacies are putting full-size robots in stores.”

Central fill, sometimes located in a retail distribution center, has indeed been catching on as a method of consolidating refill processing for retail stores, thereby cutting operational costs, reducing inventory and allowing pharmacists to provide more services. In addition to long-time central fill retailers like H-E-B, Wegmans Food Markets and Costco, chains such as Wal-Mart Stores, Publix Super Markets and Schnuck Markets opened central fill facilities over the past 18 months. Out of the top 20 retail pharmacy chains, including supermarkets, 18 are “engaged in researching, building or expanding central fill operations,” said Jensen, who puts the labor cost per prescription dispensed at central fill at \$2, compared with \$10 at a retail pharmacy.

In Jensen's view, robots are underutilized in stores compared with what they can produce in a central fill facility. “Our robot [the PharmAssist Robotx] can do 240 prescriptions per hour,” he said. “The typical supermarket pharmacy fills 150 per day, so most of the day it's just sitting there.” By aggregating refills in a central fill, retailers can make far better use of robots in concert with supporting technology and achieve a faster ROI, he believes. Supermarkets filling at least 130 prescriptions daily could benefit from central fill, he said. “You can get up to 40% of your store's prescriptions processed there.”

As in stores, smaller robotic systems are now available for central fill operations, said Jensen. These far more affordable models allow retailers to start at 1,500 to 2,000 prescriptions per day and “grow as they need to supply stores.”

Some retailers using in-store robotics are beginning to eye central fill. Hy-Vee, for example, does not currently employ central fill but Egeland acknowledged that he will be looking at it in the future. “We could use three or four [store] robots in a central fill facility vs. a larger commercial unit that cost \$5 million,” he said.

United Supermarket also does not have a central fill facility. “However, we are hoping to move toward opening one in the next couple years,” said Moreno. “I would foresee us including robotics in our facility to help maintain labor.”