ScriptPro®

Technology Evaluation Guide

Volume I: Robotic Prescription Dispensing Systems

Dear Colleague:

Community pharmacies dispense billions of prescriptions in the U.S. every year. They continue to be the most accessible source of healthcare products, services, and information.

Today, many community pharmacies face serious challenges that threaten profitability and operational stability. Prescription profit margins are being squeezed from every possible direction. Unfair tactics are diverting prescriptions to mail order where patients forego the personal interaction with their pharmacist that is so vital to whole health outcomes. Qualified pharmacists and pharmacy technicians are in short supply and are often forced to work with inefficient and antiquated systems. Stress on pharmacy staff is severe, and job dissatisfaction and burnout is becoming more common. Dispensing errors are occurring at an unacceptable rate.

On the positive side, there are many outstanding opportunities for motivated community pharmacy operators. The healthcare needs of society are growing and people are looking for more complete approaches to their health and well being. Today's pharmacy customers are looking for information and suggestions from their pharmacist, not just about their prescriptions, but also regarding a wide range of complementary healthcare products. When these dialogues occur, more products are sold, there is a growing base of satisfied customers, and profits increase for the pharmacy. This is what every retailer wants.

ScriptPro's sole business is providing powerful systems to help community pharmacies meet operational challenges and capitalize on the many opportunities for growth and profit. In 1994, ScriptPro began developing the first robot for community pharmacy prescription dispensing. Today, thousands of installations worldwide have demonstrated that robotics is a powerful solution for this industry. Robotic technologies have the potential to reduce operating costs, reduce errors, increase the efficiency and professional satisfaction of pharmacy staff, and provide the time for quality interaction with patients. This is a proven recipe for success. A technology revolution is now underway.

ScriptPro offers this *Guide* to help pharmacy executives evaluate robotics, the heart of the technology revolution in community pharmacy. Important safety, accuracy, and reliability features of dispensing robots are examined. The service and support that pharmacy operators need and should expect from technology providers is also addressed.

We hope that you will find this *Guide* helpful in making informed decisions as you evaluate and implement robotic systems to meet your long-term prescription dispensing needs.

Sincerely,

Michael E. Coughlin
President and CEO
ScriptPro

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Focus on Robotics

The ScriptPro *Guide* is intended to serve as an executive reference guide for evaluating operational technologies for community pharmacies, particularly robotic prescription dispensing systems. Robotic systems provide the highest level of automation. These are systems that perform complete tasks, unattended. For example, a robotic system automatically selects a prescription vial, counts tablets or capsules into the vial, labels the vial with patient, drug, and dosing information, and presents the finished product to a pharmacist or pharmacy technician for dispensing. Economic analysis and real life experience have shown that partially automated systems requiring personnel to operate, such as pill counting systems, have limited value for pharmacies that dispense a large number of prescriptions. Robotic systems, performing complete tasks without the assistance of personnel, are the most cost effective way to dispense prescriptions in busy pharmacies.

The following are some important factors to consider in selecting a robotic prescription dispensing system and the automation vendor that stands behind it. ■

Dispensing Safety and Accuracy

This is a list of important safety and accuracy questions to be considered in evaluating the design of a robotic prescription dispensing system. ■

Key Questions	ScriptPro			
1. Is the drug cross-contamination risk absolutely avoided? **Note:** A system that uses a common delivery chute, counting device, or one that expels pill dust onto adjacent medication cells may endanger patients that have drug allergies or that otherwise need to avoid a particular drug.	✓			
2. Does the system avoid using ambient air to manipulate the pills or force them through a counting orifice? **Note:** If pressurized ambient air comes in contact with the pills, it must be filtered. This necessitates the changing of filters and introduces risks if filters are not changed or cleaned on a timely basis.	✓			
3. Does the system require positive barcode scan and operator identification during all drug replenishment, return-to-stock, and verification tasks?	✓			
4. Does the system automatically print auxiliary warnings on the label?	✓			
5. Can the system print auxiliary warnings on the label in Arabic, Chinese, English, French, and Spanish?	✓			
6. Does the system automatically print a line drawing and description of the drug on the label?	✓			
7. To ensure accuracy, does the system display images of the drug during all replenishment, return-to-stock, and verification functions?	✓			
8. Is the drug information used by the system updated automatically with new brand and generic drugs, including drug and package images and auxiliary warning label requirements?	✓			
9. Does the drug information database include multiple drug versions so that positive drug identification is possible when multiple versions of the same NDC are in use?	✓			
10. Are drug information updates performed automatically by the vendor? **Note:** Manual updates are time consuming to perform and may not be reliably kept up-to-date.	✓			
11. Can the automation vendor provide independent studies to verify the end-to-end accuracy of its system operating in a community pharmacy?	✓			
12. Does the system label partial fills correctly? **Note:** A vial that is labeled prior to filling puts you at risk for a mislabeled partial fill going out the door.	✓			

Other Key Design Issues

Here are other important features to look for in evaluating the design of a robotic prescription dispensing system. ■

Key Questions	ScriptPro			
1. Are drug cells "universal" - i.e. can they handle all tablets and capsules with simple on-site adjustments by pharmacy staff? Note: Factory calibrated drug cells must be sent out for recalibration when drugs change. There is often an extra charge for this.	✓			
2. Does the counting mechanism avoid abrasive handling of the drugs? Note: Tablets and capsules can be damaged by high-pressure air handling and high speed singulation through die slots. Broken tablets and excessive pill dust indicate problems.	✓			
3. Does the system provide a work area for replenishment?	✓			
4. Will the system accommodate the major vial makes and models, including the newer cognitive and reversible safety cap designs?	✓			
5. Can the system hold at least 500 vials when fully loaded? Note: The system should not require vial dispenser refilling during the busy part of the day.	✓			
6. Does the system function without requiring air filter changes? Note: Systems utilizing air pressure may require HEPA air filters to avoid drug contamination. Check on the cost of these filters and frequency of changes.	✓			
7. Does the system deliver the prescription vial uncapped? Note: Capped vials must be manually uncapped for pharmacist inspection.	✓			
8. Do cell calibration screws lock in place to prevent drifting? Note: Cell calibration screws that do not lock are subject to movement which could affect the counting accuracy of the robotic system.	✓			

Other Key Design Issues
(continued)

Key Questions	ScriptPro			
9. Do the medication cells hold up to 1,900 cc's of drugs? Note: If the medication cells are too small, the system will require cell refilling during the busy part of the day.	✓			
10. Will medication cells typically hold the contents of a stock bottle? Note: If medication cells will not hold the contents of a typical stock bottle, users may have to count out tablets or capsules from the stock bottle to add to the cell.	✓			
11. Can the system dispense large and chalky tablets without breakage and excess pill dust? Note: When compressed air or vacuum pressure is used to dispense large and chalky tablets, pill dust may be generated and can cause cross-contamination and corrosion of system electronics.	✓			
12. Does the system have a small operational footprint? Note: Operational footprints include working space for system operation. Systems that require access from three sides have a larger operational footprint.	✓			
13. Does the robot design allow users to easily access internal parts for troubleshooting and cleaning?	✓			
14. Are all prescriptions viewable and retrievable from a comfortable height?	✓			
15. Are system reports available to assist with inventory management?	✓			

Service and Support

A robotic prescription dispensing system becomes an integral part of the pharmacy operation and must be dependable. Here are some service and support questions to be addressed. ■

Key Questions	ScriptPro			
1. Is the system sold, manufactured, and supported by the same company? Note: If multiple vendors are involved, each should be checked out and responsibilities must be clearly defined.	✓			
2. Does the vendor provide a call center for problem resolution 24x7, including holidays and weekends? Note: Pharmacies that depend on robotic systems require support during all hours of operation.	✓			
3. Is service and support all-inclusive "bumper-to-bumper" coverage for a fixed monthly payment? Note: Per-incident service charges may lead to unpredictable operating costs.	✓			
4. Are software updates and upgrades, including maintenance of the software interface to other systems, included in the fixed monthly payment? Note: Robotic systems must interface with other systems. Requirements for interface to other systems sometimes change without advance warning.	✓			
5. Are software interface changes implemented directly by the vendor? Note: Manual software upgrades and interface changes may not be reliably implemented by pharmacy staff. Failure to maintain software may cause errors or disable the robotic system.	✓			
6. Can the vendor provide references to show a consistently high level of support to a large and diversified customer base including institutions, large chains, regional chains, and independents?	✓			

Implementation

A robotic prescription dispensing system can automatically fill and label over half of the pharmacy's prescriptions. Its positioning in the workflow should be carefully planned. Installation must be quick and efficient to avoid interruption of the pharmacy's ability to serve patients. Implementation is not complete until all users are trained and the system is fully loaded. ■

Key Questions	ScriptPro			
1. Will the robotic system vendor assume total responsibility for implementation planning and execution?	✓			
2. Does the vendor perform on-site workflow and software interface analysis prior to installing the system?	✓			
3. Can the vendor demonstrate a working software interface prior to delivery of the system?	✓			
4. Will the system be installed and training begin immediately upon arrival at the site?	✓			
5. Will vendor personnel remain on-site until all users are trained and all drugs have been loaded?	✓			
6. Does the vendor offer weekend training?	✓			

Software Interface

The robotic prescription dispensing system receives its dispensing instructions from the pharmacy management system. The interface must be maintained at all times or the robot will not work. ■

Key Questions	ScriptPro			
1. Will the robotic system vendor take total responsibility for implementing the initial software interface? Note: If support is required from the pharmacy management system vendor, this should be arranged in advance.	✓			
2. Will the robotic system vendor take total responsibility for maintaining the software interface? Note: If not, continuing support will be required from the pharmacy management system vendor.	✓			
3. Can the robotic system vendor maintain the software interface via remote access?	✓			
4. Are all software interface changes included in the fixed monthly support payment?	✓			
5. Can you verify that the robotic system is currently interfacing successfully with your pharmacy management system in other pharmacies?	✓			

Company and Product Orientation

The robotic prescription dispensing system depends on the company that stands behind it. Technology decisions have a long-term impact on the pharmacy. ■

Key Questions	ScriptPro			
1. Is pharmacy automation the vendor's core competency? Note: Pharmacy automation companies that are controlled by drug wholesalers may be using dispensing technology as a loss leader to secure drug supply contracts.	✓			
2. Is the pharmacy automation purchase independent of drug supply contracts? Note: Pharmacy technology decisions are long-term commitments. Drug supply contracts may be changed in response to current prices, terms, and service levels.	✓			
3. Does the vendor have a record of standing behind its equipment with continuing support and upgrades?	✓			
4. Does the robot have over 10 years of market experience?	✓			
5. Does the robot have thousands of installations worldwide?	✓			
6. Will the system still be operational in 10 years? Note: Buying a system with no market experience may force you to buy a different model in a few years.	✓			

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