

HP and TROY SecureRx Printing Solution

The First Step in an e-Prescribing Solution



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Executive Summary

The adoption of electronic origination and sending of medical prescriptions to pharmacies is in an early stage, but will soon become a widespread practice. E-prescribing is predicted to improve patient safety, improve prescriber and pharmacist efficiency, and help to reduce prescription fraud. Before these benefits can be realized, there are significant barriers that need to be overcome to implement full e-prescribing. This whitepaper examines the benefits of e-prescribing, the barriers to adoption and the reasons paper prescriptions will be needed for the foreseeable future. It also shows how laser printed prescriptions help to realize many of the benefits associated with full e-prescribing and explains why the new HP and TROY SecureRx Printing Solution is the best choice.

Medication Prescriptions in the United States – Facts and Trends

- Americans made 964 million visits to physicians' offices in 2005.
- According to the National Association of Chain Drug Stores (NACDS), four out of five patients who visit a doctor leave with at least one prescription.
- Prescription medications are used by 59% of the under-65 population and approximately 80% of the over-65 population.
- More than 3.52 billion prescriptions are now written annually in the United States, with continued growth at over 4.3% year over year.

A Case for Change

The 2004 eHealth Initiative study showed that over 80% of prescriptions are handwritten, while the majority of the 20% "electronic" prescriptions were actually sent by fax to pharmacies. While handwritten prescriptions continue to dominate prescription issuance, the problems associated with this method continue including:

- **Patient Safety** - Many errors result from miscommunication due to illegible handwriting, unclear abbreviations and dose designations, unclear telephone or verbal orders, and ambiguous orders and fax related problems. The Institute of Medicine of the National Academy of Science estimates that 7,000 Americans die annually due to preventable medication errors and 1.5 million are injured. The Institute also claims that 1.5% to 4% of prescriptions are in error with serious health risks and that 5% to 18% of ambulatory patients experience adverse drug events. The cost of these errors is estimated to exceed \$2 billion per year.
- **Prescriber and Pharmacy Efficiency** - Pharmacy staff typically initiates more than 150 million calls to busy physician practices each year to discuss possible errors or otherwise clarify prescription information. Physicians and their staff, and pharmacists and others in the pharmacy, spend hours each day returning phone calls and following up on faxes as they try to ensure that patients receive their prescriptions in a safe and timely manner. In fact, the Medical Group Management Association found that these tasks cost practices on average \$19,444 a year for a ten-physician practice. This figure is based on the time and cost associated with manually processing refills and resolving issues related to formulary as well as issues related to dosage and legibility. Of course, there are additional costs associated with managing fax communication with pharmacies.
- **Prescription Fraud** - a December 2007 report by the Coalition Against Insurance Fraud showed that drug diversion costs health insurers up to \$72.5 billion a year in bogus claims involving opioid abuse alone, private health insurers lose up to \$24.9 billion annually, diversion costs individual private insurance plans up to \$857 million annually, and nearly half of Aetna's member/pharmacy anti-fraud team's caseload involved prescription benefits in 2006. According to NACDS, forged and altered prescriptions are the second ranked (behind doctor shopping) method of fraudulently obtaining prescriptions.

Expenses of suspected doctor-shopping members of Medco Health Solutions were nearly seven times higher than the monthly cost of members without excessive prescription claims.

Electronic Prescriptions: The Solution & Barriers to Adoption

The healthcare industry now looks to E-Prescribing as a solution to many of the problems and risks associated with prescribing of medical prescriptions. The Centers for Medicare and Medicaid Services (CMS) defines E-Prescribing as -

A prescriber's ability to electronically send an accurate, error-free and understandable prescription directly to a pharmacy from the point-of-care

The qualitative benefits of e-Prescribing are summarized in the results of a 2008 survey conducted by the Medical Group Management Association:

1. Preventing significant drug-drug, drug-allergy or drug-lab interactions
2. Reducing adverse drug events (ADEs)
3. Reducing avoidable emergency department visits or hospital admissions
4. Eliminating transcription or legibility errors
5. Assuring more complete and up to date medication list for each patient is available
6. Increasing practice efficiency (particularly medication renewal requests)
7. Increasing prescriber efficiency (e.g. fewer call-backs from the pharmacy)
8. Improving medication reconciliation across multiple settings of care
9. Increasing patient service and satisfaction

A recent Center for Information Technology Leadership (CITL) study shows that full E-Prescribing will reduce adverse drug events alone by over 60%. CITL also estimates that national savings from universal adoption could exceed \$27 billion. As a result, it is widely accepted that E-Prescribing should be adopted as quickly as possible to help improve patient safety, to improve prescriber and pharmacy efficiency, and significantly reduce healthcare costs. In July 2006 the Institute of Medicine recommended that all prescriptions be written electronically by 2010.

However, E-Prescribing adoption remains very low. 2007 CMS estimates show that up to 18% of physicians use e-prescribing and only 3% of prescriptions are initiated and transmitted to pharmacies electronically. Despite financial incentives from the Federal Government, major concerns and barriers to adoption remain. Seven of the barriers reported by industry leaders at the 2008 National E-Prescribing conference are:

1. Cost of buying, installing and supporting a system
2. Lack of reimbursement for costs and resources / lack of ROI
3. Reduced productivity due to the learning curve during the implementation phase
4. Challenge of creating complete, accurate patient medication history from multiple sources
5. Time required to review medications, warning, alerts and recommendations
6. DEA restrictions of e-prescribing on controlled substances
7. Not yet a common / mainstream practice.

Of the seven, the only legal barrier to e-prescribing is the current prohibition by the federal Drug Enforcement Administration on e-prescribing of controlled substances, which the AMA indicates account for approximately 20% of all prescriptions.

Paper Prescriptions in an E-Prescribing World

Even at the stage of full e-prescribing adoption, paper based prescriptions are likely to remain in use to support several common scenarios. Here are three examples discussed at the 2008 E-Prescribing conference:

- Advance prescriptions - filled in the future (e.g. several 3 month refills, patient only able to be seen yearly)
- Conditional prescriptions – scripts to be filled only if a test is positive, the condition does not improve, or to give the patient the choice due to their personal level of discomfort
- Patient flexibility – patient is unsure which pharmacy in which they will want the prescription filled.

As a result, paper-based medical prescriptions will be in use for some time. Considering the barriers to adoption, one industry expert predicts 50% e-Prescribing in 5 years and 90% in 10 years. Regardless of the forecast, it is appropriate for the healthcare industry to eliminate as much of the current problems with paper-based prescription as possible. The two main opportunities for improvement in paper-based prescriptions are fraud reduction and improving patient safety by eliminating hand written prescriptions.

Fraud Reduction

Effective October 1 of 2008, CMS required all paper-based prescriptions to be written on tamper resistance prescription paper containing at least one security feature in each of three categories of tamper resistance:

- Copy resistance – features that reveal the a prescription is an unauthorized photocopy
- Modification/erasure resistance – tamper evident features showing that information on an original prescription was altered
- Counterfeit resistance – a unique feature that would allow a pharmacist to determine if the prescription is authentic

The law, which is part of the U.S. Troop Readiness, Veteran’s Care, Katrina Recovery, and Iraq Accountability Appropriations Act of 2007, denies federal reimbursement to states for Medicaid patient’s prescriptions that are not written on tamper-resistant prescription pads. The legislative objective is to save the Medicaid program money and prevent patients from illegally obtaining controlled drugs. The Congressional Budget Office projected that the requirement would save taxpayers \$355 million over the coming decade, mainly through preventing fraudulent prescriptions. The new requirement does not apply to prescriptions that doctors call in, fax or send by computer to pharmacies. However, this tamper resistant prescription paper is very expensive, often costing 20 cents per sheet (compared to office laser bond paper which costs less than ½ cent per sheet).

Improving Patient Safety by Eliminating Handwritten Prescriptions

Computer generated prescriptions are a simple way to eliminate handwritten prescriptions. The investment in printing prescriptions from a computer is relatively modest and is easy to implement. As shown in the following diagram, a simple fill and print form software could allow any practitioner to eliminate all the risk associated with illegible handwriting. All that would be needed is a computer, a digital printer and off-the shelf forms printing software.

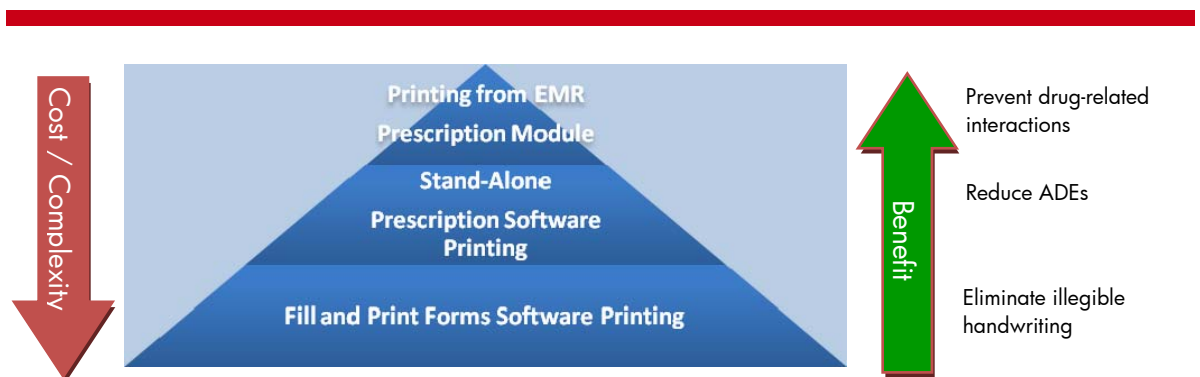


Figure 1. Three system approaches to computer generated prescriptions

Many healthcare systems have already made the investment in an Electronic Medical Record (EMR) system in support of broad-based healthcare modernization objectives. While many of these healthcare systems are e-Prescribing to the internal pharmacy for admitted patients, they commonly print prescriptions to digital printers at all the points of patient discharge and in their clinic environments. As a result, they already realize many of the benefits associated with e-Prescribing.

Latest Technology in Prescription Printing Saves Time and Money

As previously stated, the CMS compliant security prescription paper is very expensive. Many large healthcare systems have seen their annual supplies costs jump by well over \$100,000 as a result of the new regulation. In addition, printing computer generated prescriptions to a digital printer using tamper resistant prescription paper creates some unforeseen problems:

- **Chain of custody issues** - Since it is important to keep pre-printed security prescription paper under lock and key, workflow inefficiencies occur as caregivers struggle to locate the prescription printer, unlock the paper trays, and transport the prescription paper to physician or nurse on a timely basis.
- **Workflow bottlenecks** – Printers used for prescriptions using special prescription paper have to be dedicated to this function. This can create hidden IT costs to assure the prescription data is only printed on prescription paper. Some prescription printers require a special prescription workstation to integrate the printer with the host system, creating a bottleneck while a physician waits for the workstation to be freed-up.

The new HP and TROY Secure Rx Printing Solution allows providers to leverage their investment in HP by enabling them to print prescriptions on plain paper with the tamper resistant security features required by CMS. Workflow and efficiency improves with having legible printed prescriptions that reduce calls from pharmacist to physician. Printing prescriptions on plain paper allows the provider to save time by printing the entire collated patient discharge package directly from most electronic medical record systems (e.g. Epic, Cerner, GE, Siemens, Meditech, and McKesson). Cost reductions are realized as plain paper is used in place of expensive preprinted tamper resistant prescription paper (\$.05 - \$1.00 per sheet). Pharmacists' who are receiving HP TROY Secure Rx prescriptions also benefit from the "pharmacy friendly" prescriptions security features that have been rated as exceeding the CMS requirements for fraud prevention.

CMS Requirement	HP / TROY SecureRx Features
One or more industry-recognized features designed to prevent unauthorized copying of a completed or blank prescription form	<ul style="list-style-type: none"> • Primary: Print on-demand copy pantograph exposes unauthorized photocopying. • Secondary: Customizable microprint allows for a unique message that cannot be photocopied and makes the document more difficult to counterfeit.
One or more industry-recognized features designed to prevent the erasure or modification of information written on the prescription by the prescriber	<ul style="list-style-type: none"> • Primary: TROYMark™ based variable print allows prescription-specific information (e.g. name, drug, dose) to be printed in a repeating diagonal pattern, making alteration practically impossible. • Secondary: Special software / EMR generated characters are also printed to provide additional security
One or more industry-recognized features designed to prevent the use of counterfeit prescription forms	<ul style="list-style-type: none"> • Primary: Customizable warning box highlights security features on the prescription to assist pharmacist with verification and to warn against prescription counterfeiting.

Figure 2. CMS Requirements versus SecureRX Features

Each primary security feature is easily evaluated by the naked eye, saving pharmacist time on reviewing each script. Secondary features provide an extra layer of fraud protection at no additional cost. HP is the only print vendor to offer this level of compliance in a plain paper solution, and is the only print vendor that maximizes current investment of HP printers by allowing easy upgrades to existing LJ 3005, LJ 4014, LJ 4015, LJ 4515, LJ 4250, and LJ 4350 printers.

HP and TROY Secure Rx printing case study:

A Texas healthcare system with two hospital locations and 20 satellite clinics:

- Prints 1.5m prescriptions annually using 200 printers across the system
- Pays 12c / sheet for secure paper or \$180k per year for printing (plus printers and toner) and must track and inventory special paper
- Pre-printed paper cost averages \$900 per printer per year

Solution:

- Upgraded printers to print plain-paper prescriptions with SecureRx features - average \$795 per printer (retail list – before volume discounts)

ROI

Financial payback: 11 months

- 200 printers x \$795 upgrade cost / printer
- (1.5M prescriptions/12 months) x (\$0.115 savings / prescription)

Additional benefits of the HP and TROY SecureRx plain paper solution:

- Pharmacy friendly features are fast and easy to evaluate by a pharmacist
- No chain of custody cost, no inventorying and auditing of special paper
- No locking trays required
- Direct EMR printing – no extra middleware software license cost or fees for each prescription
- Simplified workflow
- One printer, one tray, one paper for all print jobs
- Enhanced patient care
- Less time spent printing = more time with the patients
- HP Tested and Certified Solution

Accredited Solutions 
Business Partner
Tested and Certified Solution

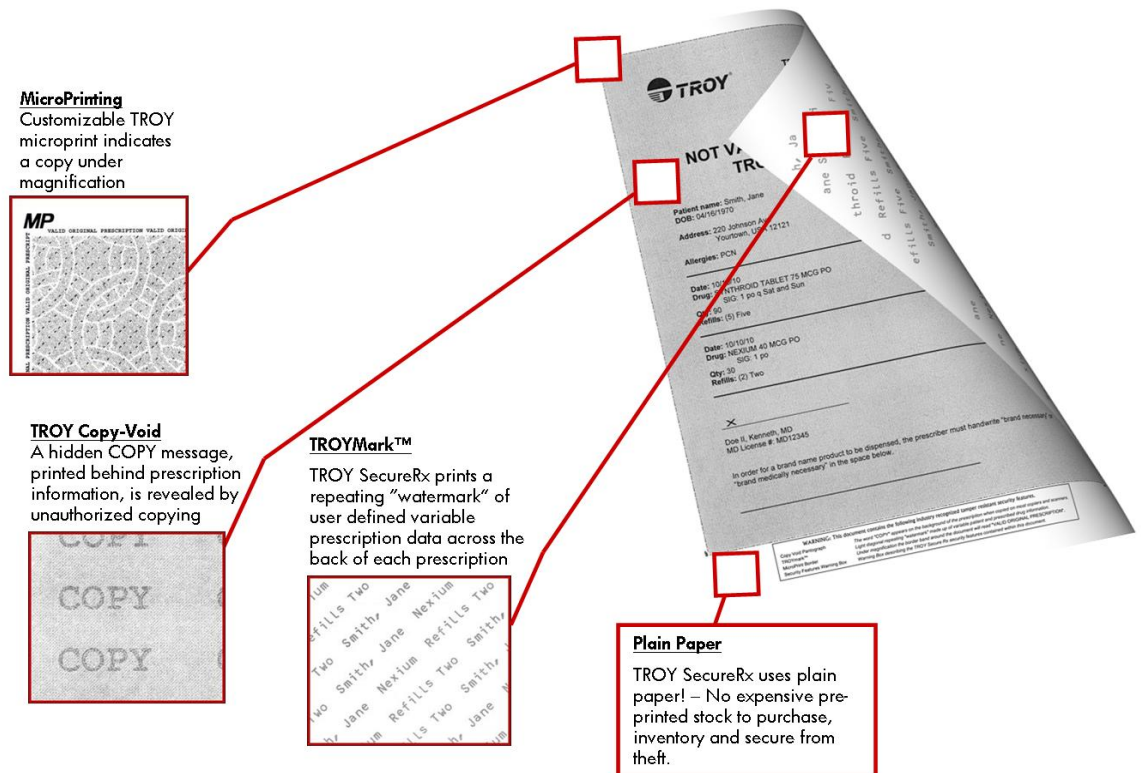


Figure 3. SecureRx Prescription Features

For more information

www.hp.com/go/gsc or www.hp.com/large/ipg

Call to action

Contact your HP sales representative for more information.

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