



**RXHUB<sup>SM</sup>**

*Where the Prescribing Industry Connects*

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## **The Challenges of Today's Prescribing Process**

*Prepared by RxHub LLC  
August 2002*



## The Challenges of Today's Prescribing Process

### The Importance of Prescriptions

The writing of a prescription is one of the most common—and important—therapeutic interactions between physician and patient. According to the National Association of Chain Drug Stores (NACDS), almost 3 billion prescriptions were filled in 2000. This represents nearly a 50% increase since 1992. The number of filled prescriptions is expected to reach 4 billion by the year 2005. NACDS also reports that four out of every five patients who visit a doctor leave with a prescription, sometimes for more than one drug.<sup>1</sup> In 2000, 10.4 prescriptions were written for the average American.<sup>2</sup>

Pharmaceuticals can deliver improvements in mortality, quality of life, and relief of symptoms, as well as reduced employee absenteeism and increased productivity. Evidence exists that pharmaceuticals can also reduce expenditures in other parts of the health care system.<sup>3</sup> With each prescription comes not only the opportunity for these benefits, but also the risk of unintended consequences, including medication errors and adverse clinical consequences.

### A Complex Process

Today's prescription process involves numerous participants: patient, physician, pharmacist, and third parties, such as health plans and pharmacy benefit managers (PBMs) who pay for and manage the pharmacy benefit. The entrance of PBMs and health plans, with the introduction of a managed drug benefit, has added new processes and altered the source of payment for prescriptions, streamlining a formerly manual administrative process as well as creating additional work and introducing different inefficiencies. Yet despite the increasing complexity and volume of prescriptions and dramatic advances in health care and technology, the tasks of the prescription writing and fulfillment remain largely manual, much as they were 50 years ago.

### Under Pressure

A number of broad health care trends are stretching the capabilities of the current prescribing process to the limit. The widely publicized escalation in pharmaceutical costs means that payers of pharmacy benefits (typically employers) are pressuring health plans and PBMs to control costs. For those health plans and PBMs, then, there is strong and growing incentive to ensure that prescriptions are written and fulfilled in the most cost-effective way.

Typically, cost is managed using formularies of preferred drugs, strong incentives for the use of generic drugs, prior authorization, patient incentives via tiered co-pays, and other similar tools. These tools, in turn, place demands upon physicians and pharmacists to comply. These demands come at a time when physicians are squeezing more patients into each day and pharmacists are in short supply, and as a result, both groups are ill-positioned to spend more time on the prescribing process. Meanwhile, patients are concerned about quality health care, demanding better service, and reacting against restricted choice.

The highly-publicized release of the 1999 Institute of Medicine

(IOM) report, *"To Err Is Human: Building A Safer Health System,"* has only heightened public awareness of patient safety concerns by describing the overloaded health care system and the alarmingly high cost of medical errors. The report stated that medical errors could result in as many as 44,000 to 98,000 deaths each year, while non-fatal medication errors occur even more frequently.<sup>4</sup>

The IOM report also maintained that most medication errors occur due to systemic failures, not careless people. Instead, these errors represent the failure of a complex health care system. Safety is improved to the extent the system is improved.

This White Paper reviews some of the health care industry changes that are influencing the prescription process, and highlights how these changes affect patient safety and process efficiency at each stage of the prescription process, keeping today's model from reaching the ideal. Finally, the paper concludes with recommendations for improving today's process, and help move it closer to the ideal.

## INDUSTRY PRESSURES

### The Patient/Consumer

For patients/consumers, the continuous introduction of new pharmaceuticals means greater opportunity for improved health and quality of life. Today, people are taking more prescriptions and living longer. Yet the emergence of an older population taking numerous drugs—often too many for them to reliably recount to their physician and pharmacist—increases the risks of drug-drug interactions and other adverse outcomes. Today, up to 12% of older Americans—more than 4 million people—are taking at least 8 different drugs.<sup>5</sup> Indeed, a 1999 study of physician prescribing habits showed that physicians were 43 percent more likely to prescribe multiple drugs per patient visit than they were in 1985.<sup>6</sup> The increasing discussion in the media about medication errors has patients concerned.

Patients are also extremely concerned about drug coverage and affordability. Clearly the public debate surrounding a Medicare drug benefit is one reflection of this, but even those who have drug coverage find themselves facing higher co-pays, higher insurance costs, and unaffordable prices for non-preferred drugs.

Health plans and PBMs hope to share more of the cost—particularly of non-compliance to formulary—with patients. For many patients, adhering to formulary restrictions is at odds with the direct-to-consumer advertising messages of pharmaceutical companies, with which consumers are being bombarded. Patients often struggle with seeming inconsistencies: how can they feel confident when their TV says take Drug X, their physician says take Drug Y and their PBM says they will only pay for Drug Z? Given that physicians and pharmacists are pressed for time, and that pharmaceutical regimens are increasingly complex, many patients are confused or resentful.

Finally, the patient is affected by the inefficiencies of the prescribing and fulfillment processes. When rework is required to get a prescription approved and filled, the patient must wait at each step along the way.

*“The demands imposed upon the physician from the prescribing process are significant”*

### The Physician

There was a time when many patients enjoyed a long—even life-long—bond with the physician of their choice. They trusted their physicians completely—listening and adhering to their advice and recommendations, and effectively putting their lives in their hands. Physicians had fewer issues to consider other than treating and caring for their patients—and were free to pursue whatever course of treatment they thought was best.

Today, that autonomous relationship is virtually a thing of the past. Health plan coverage may or may not include the patient's chosen physician, meaning that physicians may be less familiar with a patient's medical and medication history. And, as already noted, patients may be taking multiple prescriptions as directed by several physicians, leaving each physician uninformed about the patient's full drug regimen.

By and large, physicians are motivated to write formulary-compliant prescriptions. Doing so provides their patients with treatment while minimizing the patient's cost. Not doing so means that the physician and/or their staff will likely be forced to deal with calls from the patient, pharmacy, or PBM requesting authorization for a change.

But physicians struggle to keep track of current formulary information in order to prescribe the clinically and economically optimal drug for the patient. Many patients do not know which formulary applies, formularies change, and physicians are forced to wade through books, which frequently disrupts their workflow. Manually checking a patient's formulary information adds significant time to the typical 20 to 30 seconds it takes most physicians to write a prescription.

Even if formulary information is available, a physician does not typically have access to information about a patient's concurrent medications. Electronic approaches to providing this valuable information including formulary and other restrictions, medication history, as well as concurrent medications—have yet to take off.

The demands imposed upon the physician from the prescribing process are significant. One study showed that in one 15-physician clinic, 67% of all incoming phone calls were related to prescriptions.<sup>7</sup> These demands are exacerbated by other challenges that physicians face. Reimbursement pressures of managed care have meant that physicians must see more patients per day to keep up. Meanwhile, they are being inundated by pharmaceutical company information and representatives, trying to influence their prescribing habits. Given the increase in the number of prescriptions written per patient, the problem is sure to get worse.

### The Pharmacist

Pharmacy, too, is a profession being pressured by macro trends in the health care industry. First, pharmacies are becoming busier. As noted previously, prescription volume has jumped almost 50% since 1992. NACDS estimates that in 2001 chain pharmacists filled an average of 92 prescriptions during a normal work shift, up from 57 in 1993<sup>1</sup>—an increase of 61 percent.

While growth is good for the pharmacy business, pharmacies are constrained in their ability to handle the volume due to a shortage of pharmacists. According to NACDS, pharmacy chain stores employ about 100,000 pharmacists and have 6,500 open positions.<sup>1</sup> As the population ages and the prescription volume continues to grow, the pharmacist labor pool is not expanding to keep up with this growth. A recent report by the Health Resources and Services Administration warned that there is a severe shortage of pharmacists that is expected to be long-term.<sup>8</sup>

The shortage of pharmacists is exacerbated by the amount of time spent on unproductive pharmacy management tasks. When physicians do not write prescriptions that are compliant with payer requirements, legible, and safe for the patient, management of the problems shifts downstream to the pharmacist. When a prescription reaches the pharmacy that is, say, inconsistent with the patient's formulary, typically it is the pharmacist who identifies the problem, contacts the physician's office, waits for a reply and resubmits the prescription.

Pharmacists make more than 150 million calls annually to physicians to verify prescriptions.<sup>9</sup> This burden has grown over time as the percentage of patients covered by third parties has grown—and now exceeds 70%.<sup>1</sup> Approximately 20% of pharmacy personnel time is spent solely on activities directly related to third party issues.<sup>10</sup> These extra process steps take time away from patient care. Depending upon the approach taken to providing a Medicare drug benefit, that percentage of prescriptions may jump considerably.

Pharmacies are frustrated by the demands of these mundane tasks and because it limits their abilities to provide higher value-added patient care services. A 1999 study estimated that pharmacists spend only 31 percent of their time on the types of activities that ought to require a pharmacist's attention.<sup>10</sup> Thus far, attempts to electronify and simplify processes are still in early stages and fundamentally depend on changes in physician behavior—before the prescription ever reaches the pharmacy.

### Health Plans and PBMs

Health plans exist because employers believe that health plans can provide superior administrative, clinical and cost control than an employer could do on its own. Similarly, PBMs exist because employers and/or health plans believe that PBMs provide analogous expertise with the pharmacy benefit.

Health plans and PBMs have played an increasing role in the prescription process over the last 10 to 15 years. At one time PBMs were administrators facilitating the conversion of a manual process (adjudication, remittance) to an electronic one. Then they moved into a more active role in prescription management. PBMs use a variety of mechanisms to encourage more appropriate use of medications and to control costs. Some of these mechanisms include encouraging generic and therapeutic substitution, creating and requiring adherence to drug formularies, and providing disease management programs.

As employers and health plans experience double-digit rises in the cost of drugs, they turn to PBMs to tighten cost controls. Recent efforts such as multi-tiered co-pays have focused on sharing higher expenses with patients. Many of the tasks required for working with health plans and PBMs have created a substantial amount of additional work for physicians and pharmacists, while at the same time, lowering costs and improving utilization.

*"Pharmacists make more than 150 million calls annually to physicians to verify prescriptions"*

## THE RESULT

**The net result of the increasing complexity and challenges of the health care industry is an overloaded prescribing system. Despite the differences in roles and perspectives of patients, physicians, pharmacists, health plans, and PBMs, they share several common problems in the prescribing process:**

1. Annoyance and inefficiency due to a largely manual process, a process that lacks the ability to share important information across constituencies at the point of decision-making. These annoyances and inefficiencies translate into higher costs and lower patient satisfaction, and potentially, lower patient compliance
2. Increased risk of medical errors

In light of these shared problems, let's look for opportunities to transform a manual process that is subject to human error, into a process that is more systematic—one that provides benefits to all participants in the prescribing process.

## TODAY'S PRESCRIBING PROCESS

**The prescribing process can be broken down into these basic steps:**

1. The prescription is written based on physician—patient decision
2. The prescription is delivered to a pharmacy
3. The prescription is processed at the pharmacy
4. The patient takes the prescription and orders a refill, if appropriate

Medication errors and/or process inefficiencies can occur at any or all stages of the prescribing and fulfillment process, from an illegible handwritten prescription to a patient who fails to take the drug therapy as prescribed. For the most part, inefficiencies and errors in the prescribing and fulfillment process result from not having the right information at the right time to make the best decision for the patient.

This section highlights how the complexities and pressures of the health care system affect patient safety and process efficiency at each step of the prescription process. It outlines how an ideal prescription and fulfillment system might look at each step of the way. It also identifies shortcomings and obstacles to reaching that ideal system — and their impact on safety and efficiency.

## Step 1. The Prescription is Written based on Physician-Patient Decision

### Ideal Model

During the patient visit, the physician examines and assesses the patient. The physician discusses treatment options with the patient, and if the decision is to prescribe a medication, he/she reviews the patient's medication history, concurrent medications, appropriate demographic and clinical information before choosing an appropriate drug. (Note that in addition to physicians, other clinicians may have prescribing authority: Physician Assistants, Nurse Practitioners, Optometrists, etc.) The physician checks for drug allergies, and drug-drug and other interactions. The physician verifies and considers any constraints placed upon drug selection by the patient's insurance coverage (formulary, step therapy requirements, prior authorization, etc.) to ensure that the patient's coverage will apply. Finally, the physician selects the appropriate drug, schedule, and dosage, and generates a prescription.

The patient is then asked how and where they would like their prescription filled. Prescriptions can be submitted to a pharmacy by fax, electronically, mail, phone, or a simple print-out which can be taken by the patient to the pharmacy. Under this scenario, handwritten prescriptions become obsolete.

### Obstacles

Numerous obstacles prevent the ideal scenario from being widely accepted. First, physicians often do not have the patient's medication history and concurrent medications. Their own chart should include the medications that they have prescribed, but will not typically include prescriptions from other physicians. Patient memory—particularly with elderly patients on a battery of medications—is not a reliably comprehensive source.

Second, physicians typically do not know a patient's pharmacy benefits eligibility and coverage. A patient's health plan benefits card—if they have it with them—does not contain all of the relevant information such as current formulary. In some cases, the physician can manually check a basic drug formulary—typically an integration of formulary information from many sources—prior to selecting the actual drug to be prescribed. These basic published (or electronic) formularies, when available, are often out-of-date, may not exactly match the current coverage benefits of the patient, and interrupt the physician's workflow. Even if formulary information is available, other conditions such as step therapy requirements often are not.

### Impact: Safety and Efficiency

Deficiencies as the prescription is written can contribute to medication error and inefficiency:

Activity	What Can Go Wrong	Impact on Safety and Efficiency
Identify patient	<ul style="list-style-type: none"> <li>Improper identification (mistaken patient identity)</li> </ul>	<ul style="list-style-type: none"> <li>Selection of inappropriate, even dangerous drug</li> <li>Selection of drug not consistent with patient benefits, requiring re-work by pharmacy or physician</li> </ul>
Select drug	<ul style="list-style-type: none"> <li>Unavailability of important patient-specific clinical information, including drug history, concurrent medications prescribed from other physicians and allergies</li> <li>Unavailability of patient benefit information</li> <li>Confusion between sound-alike drugs</li> </ul>	<ul style="list-style-type: none"> <li>Selection of inappropriate, even dangerous drug</li> <li>Selection of incorrect dose and schedule</li> <li>Selection of drug not consistent with patient benefits, requiring re-work by pharmacy or physician</li> </ul>
Generate prescription	<ul style="list-style-type: none"> <li>Illegible handwriting</li> </ul>	<ul style="list-style-type: none"> <li>Fulfillment of inappropriate, even dangerous drug</li> <li>Re-work required by pharmacy to clarify</li> </ul>
Communicate with patient	<ul style="list-style-type: none"> <li>Misunderstood or ambiguous instructions</li> <li>Instructions given without knowledge of patient's complete medication history</li> </ul>	<ul style="list-style-type: none"> <li>Patient noncompliance to therapy, resulting in failure of therapy to achieve results or even patient harm</li> <li>Patient calls to pharmacy or physician to clarify instructions</li> </ul>

## Step 2. The Prescription is Delivered to a Pharmacy

### Ideal Model

In an ideal world, patients would have the flexibility to choose the pharmacy as well as the method used to deliver the prescription to that pharmacy (faxed, phoned-in, sent electronically, hand-delivered, or even mailed—for mail service pharmacy).

### Obstacles

Typically patients are free to choose their pharmacy unless their pharmacy benefit coverage is configured around a very restrictive network, which is less common than it used to be. Most of the routing methods—fax, phone, hand-delivery or mail—are available (note that mail order pharmacy is more applicable to chronic therapies, not acute conditions). Electronic transmission, however, is available for only a small percentage of practices and pharmacies. The key obstacle is widespread automation, both within the physician's practice and at the pharmacy.

Few physicians have embraced electronic prescribing for a variety of reasons, including workflow interruption, cost, and inability to cover a critical mass of patients. While a number of physician office automation companies have endured a dramatic industry shakeout, and are still actively pursuing deployment of electronic prescribing capabilities at the point of care, fewer than 5% of the nation's physicians are prescribing electronically.<sup>9</sup> Without significant demand from physicians prescribing electronically, pharmacies (and their pharmacy system vendors), have no compelling reason to invest in systems that will allow them to receive prescriptions electronically.

### Impact: Safety and Efficiency

Several errors with the potential to affect patient safety and process efficiency can be introduced as the prescription is routed by most methods:

Activity	What Can Go Wrong	Impact on Safety and Efficiency
Hand-deliver prescription by patient	<ul style="list-style-type: none"> <li>Lost, misplaced, forgotten or purposely unfilled prescription</li> <li>Patient alteration of prescription dose or quantity, especially with painkillers or mood-altering drugs</li> </ul>	<ul style="list-style-type: none"> <li>Patient noncompliance to therapy, resulting in failure of therapy to achieve results or even patient harm</li> <li>Abuse of pharmaceuticals, risking danger or death</li> </ul>
Deliver prescription via fax	<ul style="list-style-type: none"> <li>Failed communication</li> <li>Poor quality of received fax, leading to misinterpretation</li> <li>Faxed to wrong pharmacy</li> <li>Faxed to wrong destination, (e.g., not a pharmacy), breaching patient confidentiality and privacy</li> </ul>	<ul style="list-style-type: none"> <li>Re-work required at pharmacy to verify or clarify prescription</li> <li>Patient noncompliance to therapy, resulting in failure of therapy to achieve results or even patient harm</li> <li>Dispensing of inappropriate, even dangerous drug</li> <li>Faxed prescriptions still require re-keying into the pharmacy information system</li> <li>Unclaimed prescriptions waste pharmacy time</li> </ul>
Deliver prescription via phone/voicemail	<ul style="list-style-type: none"> <li>Failed or lost communication</li> <li>Message miscommunicated or misunderstood</li> <li>Confusion between sound-alike drugs</li> </ul>	<ul style="list-style-type: none"> <li>Patient noncompliance to therapy, resulting in failure of therapy to achieve results or even patient harm</li> <li>Dispensing of inappropriate, even dangerous drug</li> <li>Re-work required at pharmacy to verify or clarify prescription</li> </ul>
Deliver prescription via mail	<ul style="list-style-type: none"> <li>Lost communication</li> </ul>	<ul style="list-style-type: none"> <li>Patient noncompliance to therapy, resulting in failure of therapy to achieve results or even patient harm</li> </ul>
Deliver prescription electronically	<ul style="list-style-type: none"> <li>Failed or lost communication</li> <li>Fraudulent generation of prescriptions</li> </ul>	<ul style="list-style-type: none"> <li>Patient noncompliance to therapy, resulting in failure of therapy to achieve results or even patient harm</li> <li>Abuse of pharmaceuticals, risking danger or death</li> </ul>

The current prescription routing process puts the transfer of prescription from physician to pharmacist at risk. In fact, it is estimated that up to one-third of the prescriptions are never filled.<sup>11</sup> Wherever re-work is required, the chances increase of a patient choosing not to fill their prescription, adding to the problem of patient noncompliance. Any improvements to streamline the system will increase the odds that a patient will indeed fill their prescription.

### Step 3. The Prescription is Processed at the Pharmacy

#### Ideal Model

In an ideal world, from the pharmacy's perspective, prescriptions would be sent electronically and interface directly to the pharmacy's management system. The physician would have made their prescribing decisions based on full knowledge of the patient's history and their coverage information, so most checking of the prescription (coverage eligibility, formulary, etc.) would be simply for validation. No longer would the pharmacy have to deal with the problem of legibility of handwritten prescriptions.

Instead, pharmacists could focus on clinical value-added services: double-checks for allergies, drug interactions, duplications, or other contra-indications. If no problems are found, the pharmacist can fill

the prescription; generate the label with instructions and refill information; dispense the prescription to the patient; and counsel the patient on the medication, its use, and the conditions for which it is being prescribed. Information exchanges, and the time to educate the patient, are the two key factors that can best influence high compliance. The informed patient will most likely understand the prescribed medication regimen and be prone to follow it.

Lastly, payment for the prescription is collected. If the patient is only paying part of the prescription cost, the pharmacist has electronically filed the prescription claim with the correct health insurance agent to collect the remainder due.

#### Obstacles

Most of the safety and efficiency benefits associated with the ideal process come by enabling the physician to write a clean prescription the first time around. At a minimum, this would eliminate a large part of the re-work for pharmacies. Additionally, electronic generation and transmission of prescriptions can reduce the risk of certain safety concerns and streamline operations. Achieving these benefits would rely upon a physician office automation and industry-wide information-sharing infrastructure that does not exist today.

The current manual prescription process leaves little time for pharmacists to educate or counsel the patient. In addition, significant clinical information exists in various unconnected places within the health care system, and in a manual process this information is difficult to access and share.

#### Impact: Safety and Efficiency

For the pharmacy, each task is fraught with the potential for medication safety issues and rework:

Activity	What Can Go Wrong	Impact on Safety and Efficiency
Enter prescription in pharmacy system	<ul style="list-style-type: none"> <li>• Transcription error, such as an incorrect keystroke or misspelling</li> </ul>	<ul style="list-style-type: none"> <li>• Dispensing of inappropriate, even dangerous drug (drug, strength, dose)</li> </ul>
Verify eligibility and formulary, file claim with payer/PBM	<ul style="list-style-type: none"> <li>• Mistaken patient identification and eligibility determination</li> <li>• Inaccurate eligibility information, claim is rejected</li> <li>• Prescription not covered under benefit, or covered at higher co-pay or with some other restriction</li> <li>• Failed or interrupted transmission</li> <li>• Pharmacy not in health care network</li> </ul>	<ul style="list-style-type: none"> <li>• Dispensing of inappropriate, even dangerous drug</li> <li>• Re-work by pharmacy to contact physician to discuss changing a prescription, while patient waits</li> <li>• Inconvenience to pharmacist and patient if patient is required to choose another pharmacy to comply with networks</li> </ul>
Check concurrent medication Drug Utilization Review	<ul style="list-style-type: none"> <li>• Incomplete patient drug history</li> </ul>	<ul style="list-style-type: none"> <li>• Dispensing of inappropriate, even dangerous drug</li> <li>• Re-work to contact physician to discuss a more suitable prescription</li> </ul>
Fill prescription	<ul style="list-style-type: none"> <li>• Misinterpretation of the drug, dose, quantity, and/or instructions for use and refills</li> <li>• Misinterpretation of sound-alike and look-alike medication names, metric versus apothecary dosing, symbols, abbreviations, and decimal points</li> </ul>	<ul style="list-style-type: none"> <li>• Dispensing of inappropriate, even dangerous drug</li> </ul>
Dispense prescription to patient	<ul style="list-style-type: none"> <li>• Medication history of patient is not always complete, patients may have prescriptions from multiple pharmacies</li> <li>• Patients may be taking one or more over-the-counter drugs</li> </ul>	<ul style="list-style-type: none"> <li>• Dispensing of inappropriate, even dangerous drug</li> </ul>
Collect payment	<ul style="list-style-type: none"> <li>• Wrong eligibility and coverage information</li> </ul>	<ul style="list-style-type: none"> <li>• Re-work to assess and re-submit prescription claim</li> <li>Economic risk to pharmacy and patient of paying too much or too little</li> </ul>

## Step 4. The Patient Takes the Prescription

### Ideal Model

In the ideal situation, the patient takes the medication as prescribed and has a positive outcome. If refills were prescribed, the patient simply contacts the pharmacy that filled the original prescription to generate a refill by whatever method the patient chooses: in-person, telephone, fax, or web.

### Obstacles

Compliance means taking the correct amount of the prescribed medication at the right time. Patient non-compliance is a significant and common problem. Studies have shown that non-compliance causes 125,000 deaths annually in the US.<sup>12</sup> Statistics from the U.S. Chamber of Commerce indicate that 50% of all prescriptions filled are taken incorrectly.<sup>13</sup>

Non-compliance occurs for a variety of reasons: misunderstood or incomplete instructions given at the time of prescribing or dispensing; patient aversion to therapy for reasons of cost or unpleasant side effects; and, patient forgetfulness to take the right dose at the right time.

While some issues driving non-compliance are beyond the prescribing process itself, there are areas in which an improved process could help. Examples include: freeing up pharmacists' time for patient counseling; adhering to formulary and other coverage parameters to ensure that patient costs are as low as possible; providing better information about concurrent medications at the time of prescribing to minimize the risks of unpleasant interactions and side effects; and minimizing hassle in the prescribing and fulfillment processes so as not to discourage patients from getting necessary refills.

### Impact: Safety and Efficiency

Activity	What Can Go Wrong	Impact on Safety and Efficiency
Read the label instructions	<ul style="list-style-type: none"> <li>• Instructions misunderstood</li> <li>• Instructions misinterpreted</li> <li>• Instructions too difficult</li> </ul>	<ul style="list-style-type: none"> <li>• Failure of therapy to achieve results or even patient harm</li> </ul>
Take the right dose	<ul style="list-style-type: none"> <li>• Overuse or underuse</li> <li>• Administration errors</li> <li>• Using old, possibly expired medication</li> </ul>	<ul style="list-style-type: none"> <li>• Failure of therapy to achieve results or even patient harm</li> </ul>
Taking the prescription at the right time	<ul style="list-style-type: none"> <li>• Skipping treatments and trying to catch-up</li> <li>• Taking multiple-scheduled doses all at once</li> <li>• Not finishing medication course of therapy</li> </ul>	<ul style="list-style-type: none"> <li>• Failure of therapy to achieve results or even patient harm</li> </ul>

At some point, especially in the case of chronic therapy, the patient may need a prescription renewal. Renewal prescriptions are necessary once a prescription has no refills remaining, or it has expired. In the case that the patient contacts the pharmacy, the pharmacist generates the renewal request to the physician. The renewal is much like a new prescription and requires many of the same steps in the original prescribing process.

### Impact: Safety and Efficiency

The renewal triggers earlier steps in the prescription process along with all the same error opportunities. In the case where the patient may have changed health care insurance or the benefit plan has changed, renewals may require physicians and pharmacists to alter the drug therapy.

## SUMMARY

The current manual prescription process is increasingly vulnerable to the pressure of the dramatic changes affecting the health care system. Process inefficiency costs the health care system millions of dollars in re-work, and the increase in errors costs human lives.

How can the prescribing process evolve to facilitate and promote patient safety, process efficiency, and true coordination of care?

In their white paper, *"A Call to Action: Eliminate Handwritten Prescriptions Within Three Years!"*, the Institute for Safe Medical Practices (ISMP) builds the case for a re-engineered medication management system using technology to minimize medication errors. They believe that information technology is integral to a new, safer and more efficient process to inform, create, and transmit prescriptions.<sup>9</sup> This hinges upon the physician, ensuring that they have better information at the point of care in order to write a clean prescription the first time.

In order to reduce and eventually eliminate the inefficiencies of today's prescribing process, two industry-wide changes must occur. First, a critical mass of all participants in the prescribing and fulfillment process—physicians, pharmacists, health plans and PBMs—must agree to common standards and processes. Second, the industry must work together to create an infrastructure that connects the *"islands of information"* in today's prescribing process. Through cooperative initiatives, members of the prescribing and fulfillment industry can reduce the complexity, inefficiency, and cost of today's process, and provide a new level of coordinated patient care nationwide.

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### Acknowledgements:

Special recognition goes to Sarah Gladke and Andy Groebner for their outstanding research and editing.

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