

Pharmacy: A Prescription for Improving the Healthcare System

A whitepaper on how the pharmacy industry has improved the quality, safety and affordability of prescription drug services for patients and how this should be a model for improving the healthcare system.

The National Council for Prescription Drug Programs





Pharmacy: A Prescription for Improving the Healthcare System

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FOREWORD

by Newt Gingrich
Founder, Center for Health Transformation

At the Center for Health Transformation, we embrace innovative, collaborative models which result in solutions that save lives and save money. We also applaud efforts to improve efficiency through the adoption of advanced of technology.

We are proud of our relationship with the National Council of Prescription Drug Programs (NCPDP) and their continued commitment to help transform health and healthcare in America. Recognizing the need to develop standards for the transmission of pharmacy claims, NCPDP has a thirty year history dealing with the implementation of health information technology solutions. NCPDP's unique perspective provides a model for documented lessons learned.

NCPDP's experience provides an excellent roadmap on how to avoid the pitfalls associated with employing complex technology solutions over a nationwide platform. As a model for the importance of collaborative leadership, NCPDP's standards for pharmacy technology help enhance patient care while protecting the integrity of sensitive patient information. NCPDP's leadership helped ease the difficulty of migrating pharmacies into the electronic age.

This white paper – "Pharmacy: A Prescription for Improving the Healthcare System" – can serve as a blueprint for the rest of healthcare system. As other national organizations wrestle with the myriad of issues associated with the expansion of health information technology, they would be well served to follow NCPDP's leadership for the implementation and management of complex health information technology systems.

As the value proposition which is contained in this white paper reveals, the standards adopted by NCPDP and implemented by the industry have resulted in significant savings for pharmacists, pharmacies, health plans, employers, and patients. From the original paper-based universal claim form standard to the SCRIPT standard for electronic prescribing, NCPDP has demonstrated the value of a collaborative model which is dedicated to improved patient outcomes and enhanced efficiencies. As health information technology strategies and solutions are employed and expanded in other healthcare settings, we commend this white paper to physicians, health systems, clinics, and HIT vendors as a significant resource.

A handwritten signature in blue ink, appearing to read "Newt Gingrich", is positioned below the main text of the foreword.



Value Proposition of Standards in the Pharmacy Industry

The collaborative effort and consensus-based processes used by NCPDP to develop national standards related to the transfer of pharmacy information have yielded many benefits – both clinical and financial – to the healthcare industry over the last thirty years. Primary healthcare stakeholders participating in the value of these standards include patients, health plans, pharmacists and other healthcare practitioners. The white paper that follows briefly presents some of the more prominent standards developed by NCPDP and how they have impacted various stakeholders. Significant value points related to estimated industry savings are listed below.

Universal Claim Form Standard (paper claims)

- NCPDP's involvement in the development of a standard drug identifier (the National Drug Code), standard pharmacy identifier, and the universal claim form resulted in administrative savings of \$1.05 (85%) per paper claim submitted by pharmacies when printed from a pharmacy in-store system compared to manually completing proprietary forms. This reduction in "insurance administration" has allowed pharmacists to spend more time with their patients. An estimated 4.1 billion retail prescriptions will be filled in 2010¹. Of these, 3.7 billion (91%) will be submitted to third-party and government plans. If paper claims were still being used, the savings from the UCF standard would represent more than \$3.9 billion in administrative savings alone, and does not include indirect benefits such as improved cash flow. Health plans also benefited from these standards as they eliminated their costs associated with the maintenance of proprietary identifiers and claim forms, and through the receipt of "cleaner" claims.

Telecommunications Standard (electronic claims)

- Building on the universal claim form, NCPDP developed the Telecommunications Standard for submitting claims electronically and in real time at the point of service. The response time for claim submissions using the NCPDP standard is, on average, less than five seconds. By eliminating paper claims altogether, pharmacists realized an estimated additional \$0.22 per claim, or nearly \$840 million per year.
- Pharmacies have almost entirely eliminated their bad debt on third party claims through the use of the Telecommunications Standard. Assuming a ratio of 2.8% of non-collectable claims to all submitted claims previous to the standard, and assuming a 2010 average prescription price of \$70, the Telecommunications standard saves nearly \$7.3 billion per year in bad debt. Using the standard, pharmacists now receive immediate point-of-service eligibility verification, drug coverage status, and notification of reimbursement amounts, and patient co-payment amounts, all of which have increased patient satisfaction.
- Patient care is improved through electronic messaging from health plans to pharmacies (i.e., drug-drug interactions).
- For health plans, they no longer have prescription claim data entry costs. They save approximately \$11.2 billion per year, assuming an average per paper claim processing cost of \$3.00.

¹ *Industry Facts-at-a-Glance. 2007. National Association of Chain Drug Stores.*



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SCRIPT Standard (electronic prescribing)

- A 2005 study demonstrated administrative savings of \$0.97 for each new electronic prescription and \$0.37 for electronic prescription refills². Adjusted for 2010 pharmacy salary projections, these are \$1.20 and \$0.46 respectively, or \$1.75 billion annually if half of all retail prescriptions are submitted using the SCRIPT standard. There were 240 million electronic prescriptions in 2008.
- Medication errors result in approximately \$3.5 billion in excess healthcare costs each year.³ According to the Institute for Safe Medicine Practices, electronic prescribing can reduce medication errors by 55%. Adjusted for health care inflation through 2010⁴, this represents more than \$2.8 billion in annual savings.
- A Brown University study shows the average time per day spent on prescription renewal processes by prescribers was reduced by 18 minutes, and staff by 44 minutes.
- The SCRIPT standard supports drug formulary messaging. This feature helped the Henry Ford Medical Group, who has 1,000 physicians, improve its generic drug utilization and save \$3.1 million in pharmacy costs in one year.⁵

With just the three major standards highlighted, the conservative value in savings represented above is more than \$29.4 billion per year. Still, there are other NCPDP standards that have resulted in additional industry savings such as the Billing Unit standard, a uniform pharmacy identification card standard, a drug rebate standard, and a post-adjudication or claims history standard. Some of these are discussed in the following white paper. For decades, NCPDP has demonstrated that its collaborative and consensus-based processes have significantly contributed to the goal of creating industry standards which facilitate improved outcomes and increasingly more efficient systems that benefit all stakeholders.

² Rupp, Michael T. *E-Prescribing: The Value Proposition*. April 2005. America's Pharmacist.

³ *The Value of Computerized Provider Order Entry in Ambulatory Settings*, 2003, Center for Information Technology Leadership.

⁴ *National Health Expenditure Projections 2008-2018*. 2008. Centers for Medicare and Medicaid Services.

⁵ *HAP, Henry Ford Health System e-Prescribing Technology Hits 500,000 'Scripts*. 2006. Henry Ford Health System.



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Executive Summary

For more than 30 years, the pharmacy sector of healthcare has been faced with challenges that have threatened the quality and affordability of care for the patients that it serves. These challenges often resulted in administrative burdens that impacted pharmacy operations and patient safety.

Rather than accept more administrative burdens that distracted a pharmacist's attention from providing care to the patient, visionaries in the pharmacy industry chose to collaborate on finding solutions. These visionaries included representatives from pharmacies, health plans, payers and technology vendors, who, by working together, made the pharmacy care delivery system more efficient.

Solutions evolving from needs

In the 1970s, a physician would evaluate, then make a diagnosis and handwrite a prescription for the patient to take to their local pharmacy to be filled. The patient would pay cash for the prescription and, if covered by insurance, would submit a claim along with the receipt. The health plan would process the claim, either paying or rejecting the claim. The effect of this was:

- Patients sometimes did not get the medications needed because they could not afford to pay for their prescription at the time of sale, and
- Health plans were faced with thousands of claims each week to manually process, many times paying or rejecting claims inaccurately and with limited consistency.

This evolved into a process where the health plan entered into a contractual arrangement with the pharmacy to submit the claim and charge a copayment to the patient. Each health plan designed their own claim form and submission process creating a new administrative burden on pharmacy. Eventually, pharmacies and health plans collaborated to create a single form to use for claims submissions – the Universal Claim Form (UCF). This collaboration was the genesis of the National Council for Prescription Drug Programs (NCPDP).

As the pharmacy industry continued to deal with new problems, the need for industry collaboration continued to grow. NCPDP became a permanent forum for this collaboration allowing for consensus driven solutions to be developed. Please see Appendix A for a snapshot of key milestones in NCPDP's history.

Pharmacies became overwhelmed immediately by the growing receivable problems as their cash business transitioned to third party payer plans. At the same time, these payers were faced with increasing numbers of paper claims that were processed manually at huge administrative costs. Again, pharmacies, payers and technology vendors collaborated through NCPDP, this time to develop an electronic real-time framework for the submission and adjudication of pharmacy claims. The result was the creation and publication of the NCPDP Telecommunication Standard Version 1.0 in September, 1988.

The beneficial effects of this development and ongoing enhanced versions of the standard were astounding:

- Within seconds, pharmacies knew the status of the patient and drug eligibility for coverage, and the patient's copayments before the prescription was dispensed;
- Pharmacies knew instantly how much they would be paid for the claim; and
- Real-time clinical alerts, such as potential allergies and interactions with other drugs could be provided to pharmacists who could, in turn, work with the prescribing physician prior to dispensing, thus increasing patient safety.



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Real-time claims adjudication has proven to be the most effective solution for the pharmacy industry, solving a myriad of issues that continue to plague other areas of healthcare today. Today, 99% of all pharmacy claims are submitted and processed with a response via real-time transactions – the entire electronic communication cycle taking less than five seconds. By stark contrast, the medical industry has fewer than 2% of medical claims submitted real-time to an insurer before a patient leaves the doctor's office, and fewer than 60% of those claims are fully processed in real-time⁶.

Building upon the collaborative model to meet future needs

The pharmacy industry, continuing to build upon the collaborative, consensus driven process within NCPDP, has developed solutions for the challenges of today and tomorrow. NCPDP membership has expanded to include representatives from more specialized segments of the healthcare industry, including long term care and workers' compensation. New state and federal regulatory activities have also fueled growth, as the industry addresses issues such as electronic pedigree of pharmaceutical products and the risk evaluation and mitigation strategies (REMS) required under the FDA Amendments Act of 2007.

For more than 10 years, NCPDP has focused on electronic prescribing and other supporting transactions, all designed to improve patient care and leverage technology to drive efficiencies.

Electronic prescribing is moving healthcare from the traditional paper prescription to a model where a prescriber transmits the prescription electronically to the pharmacy. The result is:

- Elimination of prescription errors due to improper interpretation of handwritten prescriptions;
- Elimination of dispensing errors due to similar sounding or similar looking drug names;
- Drug utilization and formulary review results are provided to the physician before sending to the pharmacy, reducing the need for pharmacies to call the physician;
- Increased patient compliance and satisfaction, as patients are more inclined to pick up a prescription that they know will be waiting for them at the pharmacy, rather than having to wait.

Medication history in Electronic Health Records (EHR) is acknowledged as a key item for improving the patient's quality of care. Electronic prescribing functionality has been enhanced and is being utilized by the industry for medication history exchanges to populate EHRs. NCPDP's collaborative model was used to build this information exchange, and the shared industry knowledge supports NCPDP in its work with the Health Information Technology Standards Panel (HITSP) to create standards-based total healthcare solutions.

The pharmacy industry has proven that the problems of healthcare can be solved through collaboration. This approach can be extended to other areas of healthcare, realizing a more cost efficient, patient centered system for all Americans.

⁶ "Practices see slow progress in instant claims Adjudication", by Victoria Stagg Elliott, AMNews staff. Posted Aug. 17, 2009, <http://www.ama-assn.org/amednews/2009/08/17/bil20817.htm>

Transformation and the Use of HIT in Pharmacy

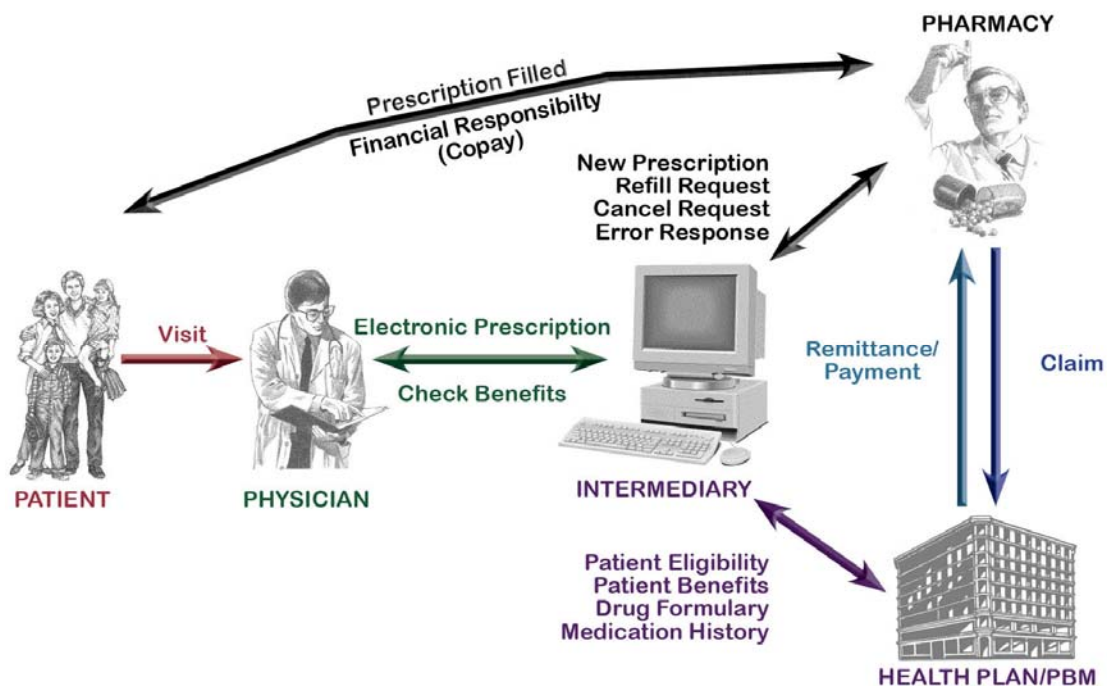
Introduction

Historically, the industry was faced with challenges that included:

- Cash business being replaced by third party insurance programs threatening already tight cash flows
- Disparate insurance forms and insurance cards requiring more administrative effort by all sectors of the industry
- Pharmacies faced with increasing receivables and bad debt due to filling prescriptions for ineligible patients; and
- Patients using multiple pharmacies creating safety issues due to lack of available prescription history.

The pharmacy industry, as illustrated by the diagram below, has evolved into an ever increasing exchange of healthcare information. This white paper provides an overview of how the pharmacy industry came together in a coordinated, collaborative manner to find solutions to the challenges being faced.

Life Cycle of a Prescription





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Establishment of NCPDP

A group representing the manufacturers, pharmacies and third party plans or payers known as the "Drug Ad Hoc Committee" was formed in 1972 to assist the Food and Drug Administration in developing and promoting the use of a numeric National Drug Code (NDC). The NDC would become the standard identifier for pharmaceutical products, used for both prescription and over the counter drugs. Manufacturers and third party payers would adopt the NDC eliminating the multiple drug lists that were confusing to pharmacies.

In 1977 as further needs for standardization surfaced, the "Drug Ad Hoc Committee" expanded and became the National Council for Prescription Drug Programs (NCPDP). NCPDP and the National Association of Boards of Pharmacy (NABP) standardized a national pharmacy identification number, which provides a seven-digit identifier for each pharmacy in the U.S. participating in a third party prescription benefit plan.

In 1981, NCPDP standardized prescription claim forms that eased the burden of third party claims submissions. This resulted in the publication of the Universal Claim Form (UCF) and adoption by most third party payers. Using standardized identifiers such as the pharmacy ID and the NDC with the UCF reduced a great deal of the confusion that previously existed. The pharmacy system software could now print the UCF form on the store's printers, eliminating the labor-intensive handwriting of claim forms. Third party payers found processing the claim forms to be easier and more accurate due to standardized pharmacy and drug identifiers and the improved clarity, completeness and uniform location of data printed on the forms.

In 1996, NCPDP received accreditation from ANSI, the American National Standards Institute, as a Standards Development Organization. Today, NCPDP's membership includes approximately 1,550 members who represent community pharmacies, pharmaceutical manufacturers, software vendors, drug wholesalers, insurance companies, mail service pharmacies, long term care, electronic prescribing organizations, government agencies, professional associations, pharmacy benefit management (PBM) companies and more.

Real-time claims adjudication, eligibility verification, payment reconciliation

By the 1980s, health plans moving toward a managed care model found the increasing volume of paper pharmacy claims to be a barrier to cost containment. Pharmacies saw more cash business transformed into receivables making tight cash flows profoundly tighter. Patients paid their copayments at the pharmacy based upon the information printed on their health ID card, but sometimes were faced with paying additional amounts later because their coverage varied by drug and other benefit limitations.

Exacerbating the problem for pharmacies was the increasing number of unpaid claims resulting from dispensing prescriptions to patients whose drug coverage had changed or expired. The introduction of managed care formularies proved to be challenging in the paper claim environment since coverage rules and patient copayments were becoming increasingly complex. Pharmacists were spending more time on administrative burdens and less time with the patient, thus risking patient safety.

Since many health plans' infrastructures and systems were not designed to accommodate prescription drug information, prescription drug data repositories for clinical analysis were rudimentary at best. There was no good means to manage prescribing trends with physicians, and coverage rules set by health plans were based mostly upon drug cost limits rather than outcomes. Administrative burdens for both the pharmacy and the health plan were contributing to the rising cost of providing pharmacy care.



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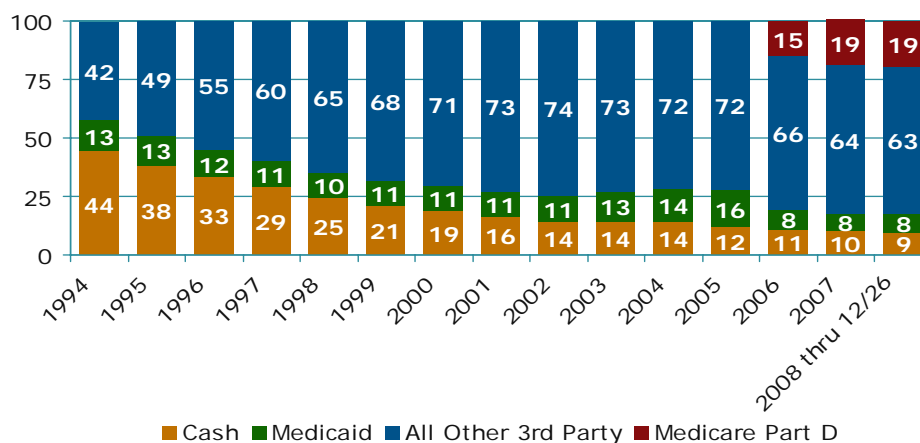
In 1988, pharmacies, health plans, software and telecommunications vendors again came together in the NCPDP standards development forum to build a transaction standard that enabled the pharmacy to electronically transmit a transaction to the health plan and receive the needed information through a real time electronic response while the patient was present in the pharmacy. This standard, called the NCPDP Telecommunication Standard Version 1.0, would provide real-time point of service (POS) patient eligibility verification, claims submission and claims adjudication with messaging from the health plan.

This standard became a universally accepted electronic data interchange standard for pharmacy claims transmission and adjudication, and has enabled the pharmacy's computer system to become the vehicle for pharmacy e-commerce. Now, a pharmacist can fill the prescription, enter the patient, drug and prescriber data into the pharmacy POS system, and within seconds be informed of:

- Patient and drug coverage eligibility;
- The copayment to be collected from the patient; and
- The contracted amount of the reimbursement to the pharmacy.

Decline of cash prescription business 1994 - 2008

% TRx Dispensed



Source: IMS Health: National Prescription Audit (NPA) Plus 7, Xponent PlanTrak

2008 IMS Year in Review

Later, the health plan would collect the claims to create a payment and use an NCPDP Payment Reconciliation Standard compliant electronic file. This standard was developed, using the same consensus driven process as the Telecommunication Standard, to assist the pharmacy in reconciling their outstanding receivables, thereby simplifying administrative tasks.



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Today, nearly 99% of pharmacy claims are submitted real-time. With such high adoption of real-time claims adjudication and the enhancements that have been made to the standard, the benefits have transformed the pharmacy industry.

The NCPDP Telecommunication Standard has evolved with the needs of the pharmacy industry and the industry quickly realized additional benefits. In 1992, NCPDP released the Telecommunication Standard Version 3.2, which became the next widely adopted version of the standard. Health plans were now in a position to build patient prescription profiles that contained prescription histories from all pharmacies used by the patient. These profiles supported clinical programs to improve the quality of patient care and safety.

The standard enabled automated checking of duplicative pharmaceutical ingredients dispensed as a means of improving patient safety and detecting fraud and abuse.

Additionally, this standard provided support to handle unique requirements of Medicaid drug programs and Workers' Compensation plans needs that were brought to NCPDP by representatives of these plans and programs.

HIPAA

The NCPDP Telecommunication Standard Version 5.1, released eleven years after version 1.0, became the first version of the standard named in the Health Insurance Portability and Accountability Act (HIPAA) of 1996 final regulations. The regulation required compliance with this version of the standard by October 16, 2003 at which time it became the third widely adopted version in the pharmacy industry.

By January 1, 2012, the industry will have fully implemented the NCPDP Telecommunication Standard Version D.0 under compliance with the latest HIPAA final rule naming updated standards. NCPDP continues to work with the Department of Health and Human Services (HHS) and the Workgroup for Electronic Data Interchange (WEDI) to coordinate the migration from one version of the standard to another, so as to best meet the needs of the industry and reduce adverse effects to service levels.

Patient Safety

Before the introduction of electronic tools, patients could patronize any number of pharmacies to obtain their medications and risk the adverse effects of drug interactions. Each pharmacy kept their own records and it was the responsibility of the pharmacist to perform safety checks. The introduction of pharmacy practice management systems provided pharmacists with better tools for tracking and managing their patients' medication histories. However, there was still no systematic way for sharing information among pharmacies, or health plans, or physicians. To avoid the risk of an adverse event, a complete record of all of the patient's medications was necessary for review. These events could be minor, or severe enough to require hospitalization or even lead to death. According to the Center for Information Technology Leadership, over 8 million adverse drug events occur each year with more than 3 million of those preventable.⁷

The introduction of pharmacy practice management systems, and the introduction of real-time pharmacy claims adjudication, provided the industry with the tools to track patients' pharmacy utilization. These tools included edits to determine if a prescription was a duplicate, or therapeutically contra-indicated, prior to dispensing to the patient. The sharing of this information occurred in waves; first within the pharmacy, or

⁷ The Value of Computerized Provider Order Entry Systems in Ambulatory Settings, Executive Preview, Center for Information Technology Leadership. (http://www.citl.org/research/ACPOE_Executive_Preview.pdf)



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chain of pharmacies, then to the health plans and now to the physician at the point of prescribing. Today, a physician can access the patient's medication history to see what the patient has had filled and make a decision before sending the prescription to the pharmacy. If the physician did not leverage this opportunity to check the medication history, the pharmacy can check within their own systems and then with the health plan. In many cases, the pharmacies and health plans develop their own criteria for checking a patient's medication history, but these checks are generally built upon clinical criteria from drug information vendors and standards for the exchange of the information.

On average, Americans receive 8-11 prescriptions each year (17-23 for those eligible for Medicare).⁸ If one or two of those prescriptions can be avoided because the physician knows at the point of care that they are a duplicate of something the patient is already taking, or there may be a negative interaction with another medication, the tangible and intangible benefits are evident. There are the cost savings of not dispensing, avoiding additional treatment (whether other medications, office visits or hospitalizations related to adverse drug events) and the implied savings of improved health and patient satisfaction.

ID Cards

In the early 1990s, the pharmacy industry saw a large increase in the number of prescription claims processing companies – each with their own proprietary benefit identification card, or pharmacy ID card. With many different formats for these ID cards, pharmacists were having difficulty finding the essential information on the cards needed to submit electronic prescription claims on behalf of their patients. The time and effort spent hunting for information on pharmacy ID cards significantly reduced the pharmacist's time available to provide patient care.

In 1997, the American Pharmacists Association (APhA) and the National Association of Chain Drug Stores (NACDS) each began initiatives to identify issues associated with pharmacy ID cards. These organizations found two broad issues where improvement was essential. First, there was missing information such as the name of the claims processor, group numbers, and help desk phone numbers. Second, there were too many formats for the information on the card and the general layout of information on the ID card. APhA and NACDS came to NCPDP for assistance in developing a standard for ID cards.

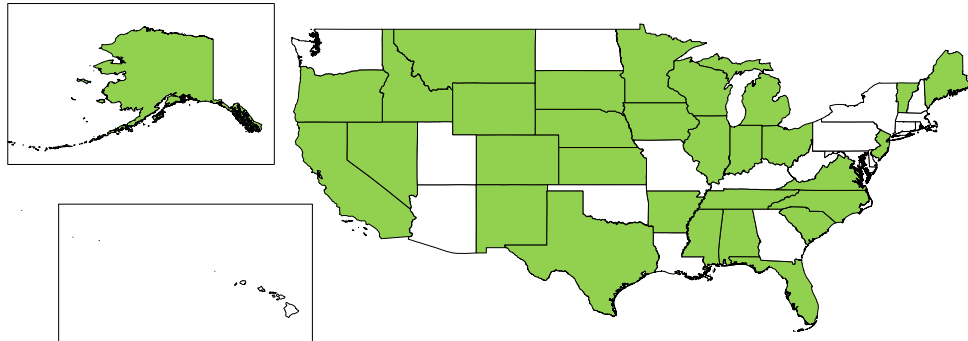
NCPDP created a Pharmacy ID Card Task Group to formulate requirements for a standards document for pharmacy ID cards. The task group soon became aware of a nearly completed standard for healthcare ID cards to be published by the InterNational Committee for Information Technology Standards (INCITS). The INCITS 284 standard was published by the end of 1997 and NCPDP adopted the standard as a basis for uniform pharmacy ID cards. The remaining challenge for the NCPDP task group was to apply stakeholder requirements in the form of an implementation guide for the INCITS 284 healthcare ID card standard. In 1998, NCPDP published its first release of the *Health Care Identification Card - Pharmacy ID Card Implementation Guide*.

Today, more than thirty states (shaded in the map below) have either adopted through legislation NCPDP's implementation guide for pharmacy ID cards or have used the NCPDP guide as the basis for legislation (some states prohibit naming a third party entity such as NCPDP in state legislation) related to pharmacy ID

⁸ "Managed Care Pharmacy Practice, Second Edition", by Robert P. Navarro, PharmD

cards. Most of these states passed their legislation in the five years immediately following the first publication of the NCPDP's Health Care Identification Card – Pharmacy ID Card Implementation Guide.

States with Pharmacy ID Card Legislation



Key in nationwide acceptance and adoption of the NCPDP's Health Care Identification Card – Pharmacy ID Card Implementation Guide was the benefits gained by all stakeholders. Patients have reduced wait times at their pharmacy; patient safety has improved by ensuring proper identification of patients; card issuers have reduced their costs by greatly reducing the number of customized ID cards and by receiving fewer phone calls from pharmacists, and physician offices now can quickly find the information they need on ID cards for submitting electronic prescriptions or querying medication history.

NCPDP continues to work on enhancements to the implementation guide, addressing items such as combined medical/pharmacy ID cards, discount pharmacy cards, and the integration of machine-readable technology. Based on the success of NCPDP's uniform pharmacy ID card guidelines, NCPDP has also collaborated with the Workgroup for Electronic Interchange (WEDI) in the publication of a healthcare ID card implementation guide to be used by medical, dental and vision benefit plans.

Electronic Prescribing

Patients are accustomed to seeing their physician, receiving a small slip of paper with some hard to read notes, presenting it to their pharmacist and getting the medication they assume is what their doctor ordered. This process is fraught with the potential for error – the wrong medicine, the wrong dose – that could adversely impact the patient's health. Electronic prescribing is a tool that profoundly improves patient care and safety. It is the computer-to-computer transfer of prescription data between pharmacies, physicians, and payers. It eliminates the need for difficult to read paper prescriptions, or the risk of misinterpreting the drug or instructions prescribed when a prescription is called into the pharmacy. Using the consensus process between industry stakeholders, NCPDP developed and published an electronic prescribing standard, SCRIPT, in 1997.

Electronic prescribing using the SCRIPT Standard supports the transmission of new and changed prescriptions, refill requests and the sharing of a patient's medication history. These tools, coupled with clinical tools resident in the electronic prescribing application, can provide the physician with accurate, current clinical information about the patient, preventing duplicate or contra-indicated prescriptions, increase formulary compliance and prevent incorrect prescriptions from being ordered and/or dispensed. For these



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reasons, and others, the Institute of Medicine recommends that all physicians and pharmacies use electronic prescribing by 2010.⁹ The industry will not achieve this goal, but important gains are being made daily. In 2005, the SCRIPT Standard was named under Title I of the Medicare Prescription Drug, Improvement and Modernization Act of 2003 (MMA). As with the Telecommunication Standard, NCPDP continues to work with HHS to find ways to ensure that the version named reflects the current needs of the industry.

Updated versions of the SCRIPT Standard include enhancements such as drug utilization review (DUR) alerts, drug formulary or plan preferred drug information, notification to a pharmacy of updated or additional resident information, and additional information such as clinical lab values, patient drug profiles, allergy information and prescription transfers.

There are barriers that must be addressed federally to ensure the widespread adoption and implementation of electronic prescribing functionality. Specifically, all patient care settings, such as long term care, should be required to use electronic prescribing, and the regulatory ban on the use of electronic prescribing for controlled substances needs to be lifted. The ban on the use of electronic prescribing for controlled substances is a significant barrier in the adoption of electronic prescribing because it requires physicians to maintain separate workflows depending upon the type of prescription they are writing.

As the use of electronic prescribing grows, and its benefits become more apparent, it is being embedded into policies and practices throughout healthcare. The Joint Commission, which accredits healthcare organizations and programs, has established National Patient Safety Goals specifically related to the use of medications. Electronic prescribing is a critical tool in helping meet those goals. The Certification Commission for Health Information Technology (CCHIT) requires the ability to support electronic prescribing in their 2008 Ambulatory EHR certification criteria.

Many benefits are realized by the use of electronic prescribing – in improved patient care and financial gains. From a patient care perspective, patients receive the proper medications, avoid redundant treatments, and have better medication compliance due to the improved convenience and satisfaction achieved in obtaining their medications. Financially, benefits include administrative simplification, reduced errors that would otherwise result in additional expenses related to hospital admissions, emergency room visits, medication waste, overuse of medications, etc.

With the current shortages in clinical professionals, such as physicians, pharmacists, nurses and others, a reduction of administrative activity provides additional time to care for patients. The challenge of treating more patients with fewer resources will be upon us for some time to come with the aging of the Baby Boomers, so it is critical that we leverage all of the technology available to allow the focus to be on the patient. The SCRIPT Standard is helping meet this challenge.

Standards Collaboration and the SDO Charter Organization (SCO)

There are other standard development organizations (SDOs) involved in healthcare related standards that have made great use of information technology to improve capabilities and reduce costs. Like NCPDP, these SDOs have grown and evolved over the past several years by enhancing their existing standards and developing new standards as needed by the healthcare industry.

⁹ The Institute of Medicine Reports in 1999 and 2001, "To Err is Human" <http://www.iom.edu/?id=12735> and "Crossing the Quality Chasm" <http://www.iom.edu/CMS/8089.aspx>.



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There has been duplication of efforts among SDOs resulting in more than one standard created to address similar industry needs. SDOs have encountered hurdles in the standard adoption process because there are competing standards. More often than not, one standard may be just as good as another standard, while others fall short of meeting the needs of certain segments of the industry. At some point, the standards may collide likely due to regulatory requirements or endorsements from healthcare-related associations.

The debate of which standard should be “the” standard often involves reviewing the credibility of the SDO, the number and quality of other standards widely adopted by each SDO, the industry stakeholder mix within each SDO (e.g., medical versus pharmacy, payers versus providers, etc.), and more. This process usually results in the desired objective of a single standard, but there have been unnecessary resources expended by the organization whose standard was not selected by the industry.

To address this issue, some SDOs have joined forces on creating standards; formed “memorandums of understanding” between their respective organizations; created dual-membership opportunities for their members (i.e. membership in one organization provides full or some limited version of membership in another organization); and more. NCPDP has participated in several of these collaborative efforts between SDOs and affiliate organizations.

While achieving great strides on the collaborative front, more integration of the various standards into a seamless healthcare technology interoperable unit is needed. Interoperability barriers are often encountered such as differing healthcare terminology and semantics between standards, varying standards development processes employed by SDOs, and key stakeholders focusing on self-serving objectives rather than global objectives.

To address this ongoing issue with interoperability, NCPDP led the formation of a new collaborative organization called the SDO Charter Organization, or SCO. SCO members include NCPDP, Accredited Standards Committee X12, American Dental Association (ADA), American National Standards Institute (ANSI), ASTM International, Clinical Data Interchange Standards Consortium (CDISC), GS1 US, Health Level 7 (HL7), Healthcare Information Technology Standards Panel (HITSP), Integrating the Healthcare Enterprise (IHE), Office of the National Coordinator for Health Information Technology (ONC), the U.S. Social Security Administration and the Workgroup for Electronic Data Interchange (WEDI).

The mission of the SCO is “to provide an environment that facilitates effective coordination and collaboration on U.S. national healthcare informatics standards development, with recognition of the international and multi-industry stakeholder implications and challenges.” Its purposes are to:

- Facilitate the coordination of conventions for enhanced interoperability among diverse standards development organizations in the areas of health data acquisition, processing, and handling systems, and
- Communicate and coordinate when appropriate with the U.S. Technical Advisory Group (US TAG) in order to facilitate a unified representation of US standards.

The SCO is working on methods to remove barriers and improve capabilities and efficiencies which will result in more cost effective healthcare and ultimately, better healthcare outcomes. Specifically, the SCO’s objectives and goals for the standards development community are to:

- Facilitate the creation of a common information model to coordinate the semantics of the data to be exchanged,
- Define a common method for expressing stakeholder commitments,



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- Leverage existing terminology and data types,
 - Use a common approach consistent with ANSI-accredited procedures in standards development to achieve interoperability across the healthcare user community,
 - Recognize the roles and responsibilities of stakeholders, and an effective outreach to subject-matter experts,
 - Coordinate strategies among SDOs (e.g. models, collaboration, vocabularies, etc.)
 - Optimize financial and human resources, and
 - Increase usability and quality of standards and their ability to support meaningful improvement in healthcare outcomes.



Lessons Learned

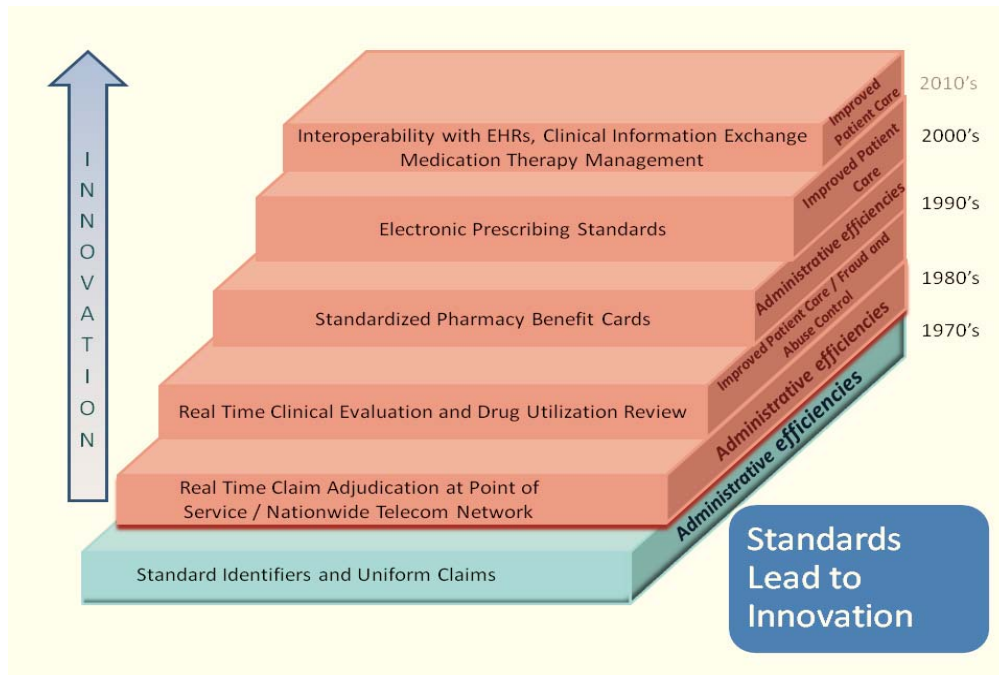
Collaboration

Throughout NCPDP's history, the industry has learned that providing a forum for stakeholders with often diverse needs and opinions leads to honest, open discussion and a willingness to find solutions for the industry as a whole. While at times these stakeholders have had completely different opinions and approaches, the industry has agreed upon the resolution of issues that are in the best interests of the patient and the industry. Encouraging and allowing this dialogue is critical to successful collaboration and consensus. Industry collaboration is critical to the progress and success of standards development and adoption; if any segment of the industry does not support an initiative, it would not have been accepted and implemented. For example, payers had to be willing to adjudicate claims in real-time and pharmacies had to be willing to receive electronic prescriptions from physicians. Adoption of standards requires changes in philosophy, workflow and process, and those changes may not always align with other strategies and objectives of individual organizations.

Importance of Standards

The use of standards has proven to be an enabler of innovation and growth to the pharmacy industry. Agreement among the industry stakeholders on standardized identifiers for products and pharmacies was the basis from which the next steps of growth enablers would follow. The natural evolution of pharmacy standards development is the result of the business needs identified by NCPDP members. Beyond the Telecommunication and SCRIPT Standards previously mentioned, also available are standards for billing quantity language used in pharmacy transactions, manufacturer rebates, claims history and Medicaid subrogation. The standards are continually modified to adapt to changes driven by business needs such as those identified by long term care and workers' compensation, or by state or federal regulation. The adoption of one standard to meet a need allows the industry to avoid the costs that would be inherent with trading partner specific requirements.

Without standards, trading partners would resort to proprietary means of exchanging data to conduct business. Innovation would be limited to a select few, or not be implemented at all because a provider or payer simply could not afford to support multiple proprietary methods. The realization of Medicare Part D prescription programs would have been impossible if the foundation of a telecommunications infrastructure supporting the NCPDP Telecommunication Standard had not been adopted and implemented.



Adoption and Enforcement

Since its inception, NCPDP members have supported and enforced the use of our standards. Generally, as more NCPDP member organizations embrace and adopt a new version of a standard, the rest of the industry will follow. Prior to HIPAA, this had occurred without government mandates, since market forces supported it. New versions of standards are released as the needs of the industry develop and change.

In some cases, state and federal government mandates have proven beneficial to drive adoption of standards – as we have seen with the mandate for electronic prescribing through the Medicare Modernization Act of 2003. However, if government entities mandate the use of a particular version of a standard often the mandate delays adoptions of the newer versions and the expected benefits. The result is that the industry cannot take advantage of the newer versions for many years, costing the industry untold dollars. For example, it will be more than twelve years since the development of the NCPDP Telecommunication Standard Version 5.1 before version D.0 will be implemented per the revised HIPAA final rules. During that time, 21 versions of the standard incorporating new needs of the industry had been approved by the membership of NCPDP. Thus, government mandates of new versions of standards have at times artificially stifled innovation.

While federal mandates can serve as a catalyst for the initial adoption of standards they may also fail to keep pace with the progression of new and enhanced versions deemed necessary by the industry. The lessons learned are to use government mandates where adoption needs to be accelerated, but allow the standards development organizations to determine the timelines for adoption of revisions to the standards.



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Innovation

One of the hallmarks of NCPDP's standards development process is the integration and interaction among the standards. Members bring their ideas to the forum, and often the discussion of a modification to one standard leads to the development or modification of another standard. This type of dialogue is strongly encouraged by NCPDP as it keeps the standards relevant to the needs of the industry, and maintains compatibility across the standards. Leaders from the long term care (LTC) industry joined the membership which led to modifications of the NCPDP SCRIPT Standard, which led to a recommendation to HHS to remove the exemption for LTC in electronic prescribing. The result is better health outcomes for patients through the consistent use of standards regardless of where patients receive care.

Often one set of solutions provides the foundation for the next set of solutions. Each version becomes an enabler of new capabilities, just as the Universal Claim Form helped to standardize the data elements needed for a claim to evolve into an electronic real-time claim submission and processing, with a real-time response. This, in turn, enabled drug utilization review to become a reality and enhancements continue, with federally funded pilots evaluating the use of a structured format for patient instructions.

Leadership

NCPDP has been fortunate to be the premier standards development organization for the pharmacy industry. This is due in no small part to the excellent caliber of its membership, bringing their knowledge and expertise of the industry to a forum to engage everyone's ideas and solutions. Leaders in the industry dedicate some of their best talent to participate in the development of solutions that benefit the patient and the industry as a whole. These are individuals empowered to make decisions on behalf of their own organizations.

Many of the member organizations not only contribute their own talent to the NCPDP forum, but also provide financial support to the organization to further its mission.

NCPDP has also been fortunate to have many of these volunteers be willing to give more of their time to become leaders within the NCPDP organization. This has been a vital key to achieving collaboration and consensus throughout the development of the standards. The sharing of leadership experiences by members has led to the development of leadership training programs that allow other members to grow their talents. Having balanced industry leadership involved in the oversight of the standards development process, whether it is within the NCPDP Board of Trustees, Work Group Co-Chairs or Committee and Task Group leaders, has resulted in overall acceptance of the process and its outcomes by NCPDP's membership.

NCPDP also engages in outreach programs with other organizations, such as WEDI, ASC X12 and HL7 to garner their expertise and to ensure other stakeholders' interests are represented.



Looking Ahead

It is suggested that other segments of the healthcare industry could realize a transformation similar to that achieved by the pharmacy sector by adopting wide spread use of real-time electronic claims transactions. The physician could potentially learn of other procedures previously performed, (i.e. radiology, lab, other diagnostics) avoiding duplicate testing, all while the patient is still in the clinical setting. Implementations of cost containment measures at the point of service are also possible. One item repeatedly referenced in the current national discussion about healthcare reform is the waste that occurs due to the repetition of diagnostic exams and procedures because the information isn't readily available. Developing a similar mechanism to query the patient's complete history across care systems at the time of ordering will prevent duplicative ordering.

Other benefits include the capture of detailed diagnostic data for outcomes analyses. This could lead to defining best practices for diagnoses. The result would be improved patient satisfaction and safety, and a reduction in healthcare costs.

Use of medication profiles is a key element in ensuring patient safety, but there are other elements in the patient's medical history equally important. Real-time access to lab values, allergies and potentially genetic data will also assist physicians and pharmacists in providing the most appropriate medication to the patient.

The idea of an electronic prescription is a concept relatively easy to grasp, and one that can be applied to numerous scenarios. Whether it's the medication ordered by the physician for the patient – while in the office, the hospital, the nursing home, under hospice care – electronic prescribing can be used in any setting. This is akin to ordering tests and treatment. Imagine a physician clicking on a graphical representation of the human body to indicate where the x-ray should be taken, or where a surgical pin should be placed. Such technology could be readily viewed by the patient and/or their family and perhaps prevent some of the tragic "never events" we hear about when someone has surgery on the wrong leg, or worse, the wrong body part is amputated. Hospitals are adopting some of this technology, known as computerized physician order entry (CPOE), but we have just barely begun to touch the tip of the iceberg in terms of what is possible.

As we look to the future and the promise of healthcare reform it is reasonable to suggest that the historical success, experience and lessons learned in the pharmacy sector can and will benefit other segments of healthcare as they move towards greater adoption and use of health information technology (HIT). In fact, many of the successes experienced during pharmacy's migration to HIT provides a surprisingly clear blueprint for the medical community and other major stakeholder groups interested in joining pharmacy at the top of the electronic platform. For example, some specific and desirable goals for healthcare appear to have surprisingly analogous predecessors already developed in or adopted by the pharmacy sector. The following represent just a few examples:



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Healthcare Need	Pharmacy Experience
Health information network infrastructure to support real-time claims adjudication and coordination of benefits	Telecommunication Standard and standardized routing Identifiers.
Standardized health benefit identification cards	NCPDP Health Care Identification Card – Pharmacy and/or Combination ID Card Implementation Guide
Computerized order entry and results reporting	NCPDP SCRIPT Standard used for electronic prescribing, fill status notification
Integration of medical history from other providers	Use of Medication History via the SCRIPT Standard
Real-time clinical evaluation of medical history	Use of Drug Utilization Review elements in NCPDP Telecommunication Standard
Coverage validation before treatment	Use of NCPDP Formulary and Benefit Standard and Telecommunication Standard

Few would argue the positive impact these realized goals would have in improving the quality and efficiency of our healthcare system. As the corresponding accomplishments in pharmacy have proven beneficial, it is important to note they were made possible by utilizing NCPDP's open forum and consensus-building approach and through the applied expertise of multiple stakeholders. The process of bringing together multiple stakeholders and asking them to find common ground and solutions that ultimately improve patient care is a challenge that NCPDP has accepted, and met, for well over three decades.

The results of NCPDP's documented consensus-based processes are favorable and include improved patient care and safety, better patient satisfaction, and significant reduction in administrative costs for multiple stakeholders. NCPDP's consensus process can likely provide a template for success in other segments of healthcare.



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Appendix A

NCPDP TIMELINE OF SIGNIFICANT EVENTS

<p>NCPDP incorporated.</p> <p>Universal Claim Form shipped through wholesalers.</p> <p>NCPDP signs agreement with NABP to maintain pharmacy file list.</p>		<p>NCPDP adopted Telecommunication Standard v3.2.</p>		<p>NCPDP released SCRIPT Standard v1.5.</p>	
1977	1988	1992	1996	1999	2000
	<p>NCPDP adopted Telecommunication Standard Format v1.0.</p> <p>The one billionth Universal Claim Form distributed.</p>		<p>HIPAA signed; the legislation mentions NCPDP as a standards setting organization accredited by ANSI.</p>		<p>HIPAA named Telecommunication Standard v5.1 the official standard for pharmacy claims.</p>
<p>Pharmacy ID Card Implementation Guide v1.7 released.</p>		<p>Work Group 14 formed to focus on Long Term Care.</p> <p>NCPDP SCRIPT Standard Version 5.0 named as standard for ePrescribing by CMS.</p>		<p>NCPDP Telecommunication Standard and Batch Standard named as the Medicaid Subrogation Standard in HIPAA.</p> <p>NCVHS recommended HHS adopt the NCPDP SCRIPT Standard Version 10.5 for voluntary use in the long-term care environment.</p>	
2002	2003	2005	2007	2008	
	<p>NCPDP named in the Medicare Prescription Drug, Improvement and Modernization Act of 2003 (MMA).</p>		<p>WG16 Property and Casualty/Workers' Compensation and WG17 Pharmaceutical Pedigree and Traceability</p>		

Pharmacy: A Prescription for Improving the Healthcare System

A whitepaper on how the pharmacy industry has improved the quality, safety and affordability of prescription drug services for patients and how this should be a model for improving the healthcare system.

The National Council for Prescription Drug Programs