# E-prescribing: A work in progress

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In today's world, advances in technology are designed to streamline processes and increase the quality of patient care. Although hospitals, clinics, and pharmacies across the country have switched to electronic medical records, improvements still need to be made. In fact, a recent study published in *JAMA Internal Medicine* found a high incidence of ambiguity and inaccuracy in the optional "notes" section of electronic prescriptions (e-prescriptions) in ambulatory and outpatient settings.

## Notes field

In "Analysis of Prescribers' Notes in Electronic Prescriptions in Ambulatory Practice," researchers performed a retrospective, qualitative analysis of free-text content in the prescriber notes field of e-prescriptions transmitted through the Surescripts network during a 7-day period in 2013. More than 66% of the prescriptions in which the free-text field was used by prescribers were found to contain inappropriate notes, ranging from irrelevant or redundant information; conflicting information found elsewhere in the message, particularly relating to dose and instructions; and information that would be more appropriate in designated standard fields of the e-prescription message.

"Pharmacists should pay careful attention to the content that is sent in the prescriber notes within the electronic prescriptions," said lead study author Ajit Dhavle, PharmD, MBA, vice president of clinical quality at Surescripts, in an interview with ***Pharmacy Today.***

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The notes field is intended to allow prescribers the option of including additional patient-specific information that is relevant to the prescription but for which a dedicated field does not exist in the currently implemented version of the National Council for Prescription Drug Programs' (NCPDP) SCRIPT standard. Most e-prescriptions exchanged between prescribers and pharmacies use the SCRIPT standard, a message format that is maintained by NCPDP.

Dhavle and his colleagues noted that the optional 210-character notes field is known to be a source of miscommunication, with implications for workflow disruptions for both the pharmacies that receive ambiguous prescription information and the prescribers who must answer calls to clarify any questions, dispensing delays, and—most seriously—medication errors and adverse patient outcomes.

## Inappropriate content

Dhavle noted that a low number of e-prescriptions contain prescriber notes—just 15%, suggesting that the structured fields in the SCRIPT standard allow prescribers to communicate their intent to pharmacists effectively. "That said, we were somewhat surprised by the relatively high proportion of notes that contained inappropriate content," explained Dhavle. "The study allowed us to quantify the incidence rate and make recommendations to help improve the process. Our goal is continuous quality improvement of e-prescribing processes and workflows to ensure the benefits of this technology are fully realized."

A research team consisting of pharmacy technicians, pharmacists, physicians, vendors, and pharmacy association representatives analyzed the notes of the e-prescriptions from a 7-day period and categorized them as appropriate; inappropriate content for which a standard, structured data-entry field is available; or unnecessary and irrelevant to dispensing pharmacists. Researchers then applied a classification scheme to further characterize content.

Of the 26,341 free-text notes reviewed, 17,421, or 66.1%, contained inappropriate content; 7,522 (28.6%) contained appropriate content; and 1,398 (5.3%) contained unnecessary information.

## Pharmacy workflow disruption

Examples of ambiguous notes include information that is redundant. "There is a field called quantity and quantity qualifier where the prescriber can send 90 tablets. But sending this same information again [in the notes field], 'dispense 90 tablets,' doesn't make any more sense. In fact, it can cause disruption because now the pharmacist has to interpret what is being sent in the notes field," said Dhavle. "If contradicting information is sent in both a structured field and the notes field, then the pharmacist is uncertain about the prescriber's intent and must call to get clarification—a best-case scenario—but if the pharmacist, without consulting, makes a wrong assumption, then it could lead to patient harm."

According to Dhavle and the study's coauthor, Michael Rupp, PhD, BSPharm, professor of pharmacy administration at Midwestern University–Glendale, the study identified four important needs:

1. Adoption of new e-prescribing message types, such as RxChange and RxCancel, to facilitate bidirectional communications between the pharmacy and the prescriber and the adoption of subsequent versions of the SCRIPT standard
2. Well-designed e-prescribing applications for prescribers and pharmacies that consider input from clinicians
3. Continuous user training and support by electronic health record vendors
4. Responsiveness by vendors to make improvements in their systems

The study also drew attention to usability issues and urged premarket and postmarket testing and surveillance to monitor the effectiveness of the software to make the most of prescribers' and pharmacists' time and reduce mistakes and confusion.

### Software improvements

In an accompanying commentary, Jeffrey L. Schnipper, MD, MPH, noted that another area of process improvement could be the automatic transmission of complete, accurate, and up-to-date medication regimens to pharmacies. He explained that transmission of a patient's complete regimen, instead of pharmacists receiving one medication at a time as they are prescribed or renewed, "would improve the concordance between prescribed and dispensed medication regimens, allow better detection of nonadherence, and provide greater opportunities for patient education."

### Pharmacist interventions

Although e-prescribing software improvements are needed, pharmacists have a critical role to play. Dhavle noted that pharmacists should use caution when filling e-prescriptions and consider the circumstances that the prescriber might face as they write them. Doing so could prevent misunderstandings that impede time and put patients at risk.

"Pharmacists should be cognizant of the potential pitfalls that prescribers might encounter as they are generating these prescription orders or new electronic prescriptions," said Dhavle. "Pharmacists and staff should make every effort to report discrepancies through established support protocols so that corrective actions can be implemented by the electronic health record vendors."

### Perfect e-prescribing?

According to Rupp, the study was part of an industry initiative to move toward a more perfect e-prescribing system. "Prescriber notes is just one of a number of sensitive fields in the e-prescription message that represent the focus of continuous quality improvement efforts led by Surescripts. At the end of the day, it is pharmacists and prescribers who are at the sharp end of the spear, and we're the ones who are responsible for the patient," he told *Today*.

He noted that pharmacists should be part of the solution. "Identify those problem areas that are threatening quality or safety, and provide that information back to your vendors," Rupp said. "Continuous quality improvement is a team sport, and we will realize our shared vision of the perfect e-prescription much sooner if everyone participates."

**Amy K. Erickson, MA,** Senior Editor, and **Rachel Balick,** Assistant Editor

### New York e-prescribing requirements in effect March 27

Prescribers in New York state are now required by law to prescribe using an electronic system that is directly connected to pharmacies.

In 2012, the New York State Legislature passed the Internet System for Tracking Over-Prescribing (I-STOP) Act, which requires all prescriptions to be submitted to pharmacies electronically. Although Minnesota already mandates electronic prescribing (e-prescribing), New York is the first state to assess penalties to physicians and other health professionals who do not adhere to the new rules. Noncompliant prescribers could be subject to fines, loss of license, or jail. This provision of the law took effect on March 27, 2016.

While Minnesota's e-prescribing mandate had no incentives or penalties and thus had little effect on adoption of the electronic prescription of controlled substances (EPCS), New York's penalties "appear to have had a very dramatic effect in terms of stimulating the adoption and utilization of EPCS," said Ken Whittemore, BSPharm, MBA, senior vice president of professional and regulatory affairs of Surescripts, a nationwide health information network.

He added that Massachusetts and Maine are two other states with bills "that would do something similar to what New York did with I-STOP."

New York's requirements are aimed at reducing overprescription of opioids and preventing paper prescription fraud. The law includes language that established a prescription drug monitoring program, an online registry that tracks a patient's history of opioid use.

"This has decreased doctor shopping by those addicted to pain medications," said Kathy Febraio, CAE, executive director of Pharmacists Society of the State of New York. The shift to e-prescriptions is also expected to cut down on errors caused by illegible handwriting.

While 95% of pharmacies and 47% of prescribers in the state are equipped to handle e-prescriptions for controlled substances, according to a March 25 news release from Surescripts, Febraio predicts some "glitches" as New York transitions from paper prescriptions. She believes, however, that the involvement of public policy agencies will help patients, prescribers, and pharmacies adjust.

"Although there is a lot of trepidation as we implement e-prescribing, there is a tremendous level of support from our legislators, State Board of Pharmacy, State Department of Health, the Bureau of Narcotic Enforcement, and technology vendors that makes this possible," she said.

Febraio provided a March 16 letter from New York Commissioner of Health Howard Zucker, MD, JD, that outlined "exceptional circumstances" that warrant a waiver of the new requirements. These include medications to be administered intravenously, subcutaneously, or via intraspinal infusion; those prescribed in response to a public health emergency; and durable medical equipment.

Febraio explained that pharmacists are not required to verify that a prescriber properly falls under one of the exceptions from the requirement to e-prescribe. Pharmacists may continue to dispense medications from valid written, oral, or faxed prescriptions that are consistent with current laws, regulations, and Medicaid policies.

"At the forefront of our thoughts is making sure patients get timely and safe access to the care and medications they need," she said.

—**Rachel Balick,** Assistant Editor