Responses to Additional Web Conference Questions
E-Prescribing and Medication Management: The New Paradigm for Provider and Pharmacist Interaction
Agency for Healthcare Research and Quality (AHRQ)
June 23, 2009

Questions for all:

Q: Will this almost completely eliminate a paper script given to the patient by the provider?

A (Dr. Rupp): In all likelihood e-prescribing will eventually eliminate paper prescription orders entirely such that outside of legitimate emergency situations they will no longer be accepted as a legal prescription order. However, some prescribers may still issue a paper copy of the e-prescription to the patient as a way of informing them about their therapy and reinforcing key aspects of care. These copies would be clearly marked as void and for informational use only.

A (Dr. Kaufman): Paper scripts will still be required for several reasons. Currently, controlled drugs must be printed out and wet-signed. Schedules 3-5 can then be manually faxed to a pharmacy, except in rare cases, prescriptions for Schedule 2 drugs must be hand-carried to the pharmacy. Also, patients sometimes request a paper prescription because they are not sure which pharmacy they will use. Finally, prescriptions are sometimes contingent on other factors; for example, to be filled only if the patient is not improved.

A (Mr. Simenson): The goal would be yes. Currently class 2 narcotics would not be affected. Also schedules 3-5 need to be addressed by the DEA (Drug Enforcement Agency) to initiate rules that allow paperless scheduled drug prescriptions to be e-prescribed. I have heard they are working on it and it will happen in the near future. Lastly, and I believe will come rules for schedule 2.

Q: Many prescription errors occur in hospitals because of inaccurate patient information regarding medications and a lack of communication between hospital physicians and primary care physicians. Are there any studies that are looking at using EHR and primary pharmacists to work with ER and hospital staff doctors to avoid prescription errors?

A (Dr. Rupp): I am not aware of any but it certainly sounds like a fruitful area for research.

A (Dr. Kaufman): Not that I am aware of; however, many hospitals are using data provided by SureScripts and other electronic sources to complete the initial JCAHO (Joint Commission on the Accreditation of Healthcare Organizations) requirement for medication reconciliation and improving accuracy.

A (Mr. Simenson): Drug reconciliation and EMR (electronic medical record) studies are being conducted. Pharmacists should play a key role in medication reconciliation through MTM (medication therapy management) services between primary care, hospitals , rehabilitation stays and long term care. Patients and health care providers need to know someone is providing these services. A common electronic documentation and charting platform accessible by all health care providers involved in a patients care is critical to the quality and consistency of these services.

Q: Can the panelists talk to inherent safety that is being incorporated into e-prescribing? (Making it harder to make mistakes.)

A (Dr. Rupp): Clearly, the improved legibility of e-prescriptions alone is a huge advance in inherent safety when compared to hand-written prescriptions. The term "legible handwriting" is an oxymoron. It simply doesn't exist. As we gain experience with e-prescribing and collect more empirical data on the continuing problems (via mechanisms like SureScripts' PEER portal {Pharmacy E-Prescribing Experience Reporting Portal}, for example) our understanding of the causes of errors will improve as will our ability to anticipate and avoid them with changes to e-prescribing software applications and better training of users. Safety-improving standards that software vendors will be strongly encouraged or required to adopt will almost certainly follow. Adequate training of users and making appropriate use of decision-support software that are resident in many e-prescribing applications but are not currently being optimally used would go a long way toward improving patient safety now.

A (Dr. Kaufman): There are several levels of safety built into e-prescribing. First, available formulations and strengths are displayed to the prescriber, decreasing the likelihood of incorrect dosing — and dosing can be checked for appropriateness after the prescription is written. While prescriptions are being written, they are checked for drug-allergy, drug-drug, and drug-diagnosis interaction. Legibility of the final product is improved, especially if it is directly entered into the pharmacists' computer system.

A (Mr. Simenson): E-prescribing is continually being improved and tweaked to improve patient safety. More patient information including diagnosis, Last patient visit and pertinent labs would contribute greatly to patient safety and decrease medication errors.

Q: Instead of a meaningless paper prescriptions build into the system should there be a disease state or therapy related materials that providers can discuss with patients at POC (point of care)?

A (Dr. Rupp): I disagree that a paper copy of the e-prescription that could be given to the patient at POC and which would serve as an opportunity for the physician to personally reinforce his/her therapeutic plan to the patient is "meaningless". Moreover, it's probably unrealistic to expect e-prescribing to carry the weight of providing patients will all the information they need to fully understand their disease or condition.

A (Mr. Simenson): Absolutely, including prescriber goals and outcomes of therapy.

Q: Do you have any suggestions with the pharmacies/pharmacists in their training?

A (Dr. Rupp): Assuming your computer system is adequate in terms of receiving e-prescriptions and alerting pharmacy staff that they are in the queue and awaiting action, the other thing I would recommend is to look carefully at dispensing procedures to ensure that e-prescriptions integrate smoothly and seamlessly into workflow. Some computer systems make this easier than others but a lot of it depends on how well staff are trained and supervised.

A (Dr. Kaufman): Training should occur as close before actual electronic prescriptions begin arriving as possible, so the training is "burned in" by actual use.

A (Mr. Simenson): Strive to properly provide clinical based solutions to medication problems to prescribers when they are identified. Cultivate positive relationships with all health care providers before they are needed to help with patient care decisions. Make yourself an indispensable part of the health care team, taking responsibility for medication outcomes.

Q: A successful transaction requires correct patient identification. How are pharmacy systems ensuring a correct patient match with incoming prescriptions? (We just had a pharmacy that mismatched an electronic prescription with the result that the wrong patient took the wrong medication.)

A (Dr. Rupp): As you are probably aware, there is no universally accepted, nationally recognized patient ID in the United States. Therefore, e-prescribing applications typically send additional patient demographic information within electronic prescriptions such as the patient's address, date of birth and telephone number, which the pharmacist can use to positively identify the patient to whom the prescription should be dispensed. This system appears to work well in the majority of cases. If there is any doubt, it is recommended that the pharmacist and/or technician not prepare the prescription for dispensing until a positive ID can be made with either the patient or their representative.

A (Dr. Kaufman): Patients are matched electronically in prescriber systems by using first name, last name, date of birth, ZIP code, and gender. I do not know how this matching is done in pharmacy systems.

A (Mr. Simenson): Birthdays and addresses have to be an important part of the prescription check process both at the order entry point, and especially at the point of distribution and counseling

Q: I'm entirely in favor of having the diagnosis on the prescription, but we consistently run into HIPAA *(*Health Insurance Portability and Accountability Act) and privacy restrictions that prevent this. Are there legislative changes that will allow this in the future?

A (Dr. Rupp): I'm not aware of anything in HIPAA that prevents physicians from sharing patient information or pharmacists receiving and using it to fulfill their OBRA (Omnibus Budget Reconciliation Act) '90-required DUR (drug utilization review) activities. That said, any pharmacy that is routinely receiving such information should have internal policies, procedures and supervision necessary to ensure that the information is kept secure. Staff should have access to such information only on a need-to-know basis. That may exclude pharmacy technicians and/or other support personnel.

A (Dr. Kaufman): There are certification requirements being enacted over the next few years that systems must allow diagnosis to be linked to the prescription, but I am not aware that diagnosis will be required on each prescription. A pharmacist is a professional health care provider and this is a patient safety issue.

A (Mr. Simenson): I have not seen this in Minnesota, that is, any areas of confidentiality and access that cannot be addressed to properly follow HIPPA guidelines. I do not believe that this has any validity to share all necessary patient health record details to any health care provider involved in a patient's care, and in fact, actually creates more risk by not having it.

Q: The first round of (clinical decision support) CDS is quite helpful but constant alerts leads to alert fatigue. How are modern systems evolving to improve CDS while minimizing alert fatigue?

A (Dr. Rupp): The high sensitivity and low specificity of clinical decision support applications in pharmacy have made them susceptible to many false positive alerts. The resulting "cry wolf" syndrome has had the effect of desensitizing pharmacy staff. Assuming a similarly indiscriminate approach is used on prescriber-side applications it is likely that a similar effect will be observed there. This is a problem that will require the collective and collaborative effort of system vendors, users and the purveyors of the data bases that are used by CDS applications. I don't have the answer but I agree that it's a problem. At the end of the day, however, these systems are advisory only. The ultimate responsibility for ensuring safe and effective care is the provider's.

A (Dr. Kaufman): Most SureScripts-certified e-prescribing systems allow alerts to be filtered; for example, drug-drug interaction checking can be set to exclude alerts of "medium" level or less. Studies have shown that these excluded alerts are clinically relevant only 0.1% of the time (1 in 1,000) — looking at 1000 alerts to find the one relevant one is unlikely to be successful.

A (Mr. Simenson): Yet to be resolved, "*The failure to warn*" legal concept is still an overriding factor in implementing practical CDS alerts.

Q: Is NDC (National Drug Code) replaced by RxNorm?

A (Dr. Rupp): Theoretically the NDC could be replaced by RxNorm, but the RxNorm drug identification system is still being tested for this use. My understanding is that the industry will probably not be ready to implement RxNorm for at least another year.

A (Dr. Kaufman): Not yet, but RxNorm is currently being tested to see how accurately it could replace NDC codes for e-prescribing in the future. It is likely that NCD codes will continue to be used by pharmacies for billing purposes.

A (Mr. Simenson): Not at any level that I am involved with.

Q: Is there inherent safety in the e-prescribing design?

A (Dr. Rupp): See response above.

A (Dr. Kaufman): Yes, as described above, but one must consider that no system is perfect.

A (Mr. Simenson): Legibility is being eliminated as a safety concern but new areas of errors are occurring and need to be addressed, selecting the medication, the wrong strength of the medication and a sound alike medication. All of these we continue to see. Also errors in SIG (signature) codes still occur. Transmittal of diagnosis codes and prescriber care plans would help address these safety concerns. Date of provider follow-up and assessment would also help.

Questions for Dr. Rupp:

Q: For slide number 9 what are the time units [slide titled: Rx Processing Time: e-prescription's vs. All Other]?

A: Time units are in seconds. Trained and dedicated observers timed each part of the prescription processing and dispensing process with stop watches.

Q: How do you decide which patients will receive intensive MTM? Seems like it would be very time-consuming?

A: MTM is not needed or appropriate for many patients. There must be clear operational criteria established to guide clinicians in determining which patients are sufficiently at risk for medication-related problems to warrant the time, effort and expense of MTM. Everyone seems to agree with this statement but the different criteria used by Medicare Part D MTM programs (for example) vary widely so there is clearly no consensus in the industry. More research needs to be done to establish eligibility criteria that have empirical support and justification. How many chronic meds? How many different

diseases or prescribers? What other things need to be considered? These are questions that have not been fully answered yet.

Q: I am surprised that pharmacies are charged on average $.50 per script. NACDS (National Association of Chain Drug Stores) claims that the average profit per script is $.84. Can you comment?

A: It must be recognized that the fee charged to pharmacies to receive an e-prescribing should really be amortized over the life of the prescription. So, for example, if the prescription comes in with 4 eligible refills then the fee should be amortized over 5 fills, making it an average of $.10 in this case. Still, Pharmacy is not pleased about being asked to pay the freight for e-prescribing, especially considering the very tight margins they have in most insurance programs. Moreover, these margins are likely to get much tighter with the implementation of proposed new reimbursement formulas that would replace the current ingredient benchmark average wholesale price (AWP) with average manufacturer price (AMP).

Q: Pharmacists still have to re-key prescription information into the pharmacy system. Will codification and standardization of the patient SIG break down this final barrier to seamless transfer of information?

A: A structured and codified SIG would go a long way toward eliminating remaining problems in this area IF system vendors would universally implement it. This has been a recognized need for many years in NCPDP (National Council for Prescription Drug Programs) and the industry but a solution continues to be elusive.

Q: What is the cost of e-prescriptions that are not picked up and must be returned to inventory?

A: Good question. Assuming there are some (many?) circumstances in which patients would not have elected to get the prescription filled, one would expect that they may decide not to pick them up at pharmacies after the prescriber sends it electronically. Even if they do pick it up the first time, they may feel coerced and resentful so they may not get them refilled at the same rate as one they voluntarily brought to the pharmacy. The data are not available to answer this question but it is one that is worthy of research if we are truly interested in calculating the full economic impact of e-prescribing.

Q: Can someone explain how CHIX (Clinical Health Information Exchange) is involved with e-prescribing. And repeat the name of the contact for CHIX?

A: The CHIX task group within NCPDP is tasked with developing the ability within the e-prescribing environment to allow for the efficient two-way exchange of clinical information between prescribers and pharmacies, including making and responding to queries. The basis of the query is a

transaction within the SCRIPT Standard, but they are exploring current clinical information exchange mechanisms. People interested in participating in this work should contact Lynne Gilbertson, Vice President of Standards Development at NCPDP. Telephone: 480-477-1000 x120, Email: lgilbertson@ncpdp.org

Questions for Dr. Kaufman:

Q: Who is responsible for promoting interoperability of e-prescription software and EHR (electronic health record) and PHR (personal health record) software and medical management/administrative software in order to achieve efficiency across systems locally, statewide, nationally?

A: CMS (Centers for Medicare & Medicaid Services) has pushed certain standards for e-prescribing that have enhanced interoperability between e-prescribing and pharmacy systems. Standards for data exchange between EHR, PHR, and PMIS applications have mostly been done by HL7 (Health Level Seven) in the past, but are complicated and some older standards lack the strict delineation of fields to limit work between vendors trying to interface (that is, variable fields often require direct communication between each vendor trying to work with each other vendor). Newer standards, both from ASTM (the Continuity of Care Record, or CCR) and the HL7 (including their version of the CCR, the CCD {continuity of care document}) are very strict and make interfacing easy, but these standards are limited in their scope.

Q: Are the current U.S. e-prescribing standards compatible with international standards?

A: The SCRIPT standard and formulary and benefit standard are US-based. Due to the differences in prescribing laws, requirements, practices, in different countries, there has not been any work thus far to make them international, as the workflow and requirements would be different.

Q: When do you think that the CanRx/CanRes be able to begin?

A: I have no idea. Many e-prescribing vendors can do this now but we need the pharmacies to participate, too.

Q: Will there still need to be a paper trail for scheduled products even if e-Rx is allowed for scheduled products?

A: The DEA is planning on a security digital audit trail, which should eliminate the need for a paper trail when the prescription can be transmitted electronically. Just as with legend prescriptions, some controlled-drug prescriptions will still be delivered on paper, as noted above.

Q: Pharmacists still have to re-key prescription information into the pharmacy system. Will codification and standardization of the patient SIG break down this final barrier to seamless transfer of information?

A: Yes. Some newer pharmacy systems already minimize re-keying prescription information. The Structured and Codified Sig, part of the SCRIPT standard, is currently being tested and will probably require some mild changes, delaying use.

Q: Any idea when the NCPDP standard will support allergy and severity information transfer?

A: The NCPDP SCRIPT standard supports allergy and severity information transfer now, as well as other DUR functionality.

Questions for Mr. Simenson:

Q: The NCPDP standard allows for multiple types of product ID codes, yet the product code qualifier that identifies what index the product ID belongs to is optional. Is there a business practice within pharmacies to preferentially use a single product identifier such as the NDC code?

A: We definitely prefer NDC codes.

Q: What is the plan for patients who have an e-prescription at pharmacy "x" but for whatever reason now need to go to pharmacy "y" - examples supply or service issues, i.e., is there a provision for choice AFTER the Rx has been transmitted?

A: We will always transfer the prescription for the patient in a timely professional manner. This is not a problem.

Q: Great, however I still see problems with the pharmacists who have been around for a while and getting them to check for e-prescriptions.

A: Internal systems need to be implemented to remind all staff to check for e-scripts on a regular basis, until they are a natural part of their everyday workflow.