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Thank you for this opportunity to provide feedback to the HIT Policy Committee Information Exchange Workgroup. In the comments that follow, I have tried to focus my feedback on areas where high priority topics – following a process I use to prioritize day-to-day work. This process dictates that the **priority** of an initiative is a product of the **value** required to implement it – divided by the **work** required to deliver it. The highest priority projects will have enormous value – yet little work. Simply put: $P = V/W$.¹ The “geek” version of “low hanging fruit, perhaps.

Electronic prescribing in the United States is an incredibly successful program that has improved the quality and efficiency of medication prescribing for millions of Americans. It is a program that has grown organically and successfully.

So as we look at the **VALUE** that electronic prescribing represents to the public and the **WORK** that is required to implement it, we are encouraged because the value is very high, and the work could be very low.

As a practicing family physician and the Chief Medical Informatics Officer for Allscripts, my commentary here will attempt to provide some observations of current state – as well as some suggestions for changes that might accelerate the adoption of electronic prescribing in the United States. Through our National ePrescribing Safety Initiative (NEPSI), and our four EHR systems that are certified electronic prescribing solutions, nearly 8 million prescriptions are electronically transmitted by physicians using Allscripts systems every month. Allscripts therefore has a great deal of experience with both the successes and the shortcomings of the current system. I hope to share with you some of this experience – reported through the eyes of an idealistic family doctor who is just doing his best to help design the future of healthcare in the United States.

Thank you again for this opportunity

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¹ Astute readers will recognize that this is borrowed from Slawson and Shaughnessy’s Evidence Based Medicine teaching that the usefulness of medical information is a product of the value, relevance and work: $U = V * R / W$

1. What are the technological challenges surrounding electronic prescribing?

In order for electronic prescribing to work well, there needs to be a reliable data connection between the provider and all of the endpoints that the provider's system needs to interact with. Unreliable data connections make ePrescribing impossible, as real-time formulary information, eligibility, or prescription history would be unavailable. Rural providers, or those with inconsistent connectivity to the Internet will require "batch" processing and locally stored formulary, prescription history, and interaction checking rules. While none of this is technically infeasible, these requirements of a "disconnected" implementation provide technical challenges to implementation that reduce the scalability, implementability, and maintainability of electronic prescribing solutions.

Information access is another technical hurdle. When information (formulary, prescription history, fill history, etc) is intermittently available, there may pose real safety concerns: In the presence of SOME information, providers may not seek additional sources of information when making prescribing decisions. In such a scenario, a partial data feed could be considered more dangerous than an empty one - as it gives a false impression that the relevant data has been captured in its entirety.

2. What are the business case impediments to electronic prescribing?

A primary concern that I have in this domain is the absence of incentive for all of the important participants in the prescribing process to participate: Patients, Providers, Pharmacy Benefit Management Organizations, Health IT Vendors, and Pharmacies.

PATIENTS. While many patients will appreciate the efficiency of electronic prescribing, there are in fact many components of this process that may have negative impact. For example – the patient is required to select the pharmacy at the time of the visit – so loses flexibility in making a pharmacy decision. Patients also report that the absence of the prescription in their hand at the end of a visit represents a cultural change that needs to be understood and anticipated by providers. What additional incentives might include patients as a component of the success of an electronic prescribing initiative? Would a reduction in the co-pay for a prescription enhance a patient's enthusiasm for electronic prescribing? Would "fast-pass" pickup at the pharmacy for electronically prescribed medications provide incentive to patients? What else could be done to enhance the likelihood that patients become part of this solution by expressing their preference for this to their providers? (Choosing providers based on the presence of electronic prescribing.) What would be within the scope of ONC's influence that could engage patients as active participants?

PROVIDERS. Physicians and other providers of patient care have of course had incentives for some time under MIPPA and now ARRA. But are these incentives appropriately focused on the intended outcomes? Or are the incentives focused on milestones on the path toward such objectives? With incentives focused on objectives rather than milestones, the creativity of the providers and the IT vendors can be leveraged to find what may be a more efficient or more effective path. Proscriptive adherence to milestones will alternatively constrain innovation. Some objectives to consider that might motivate providers would include:

- a) Error reduction
- b) Reduced fraud
- c) Reduced call-backs or requests for clarification from pharmacists
- d) Increased formulary compliance

For example – rather than motivate providers to use alerts and reminders, motivate providers to reduce errors. In this way – those of us in the business of finding creative solutions to problems can be trusted to focus on delivering the outcome rather than the milestone – which may be what you understand to be the optimal path toward this objective. This is a very important distinction. Consider my patient who arrives at the office and promptly requests a prescription for an antibiotic for her sniffles. She understands that this is a commonly followed path toward resolution of sniffles. Indeed, she has followed this path successfully before. Yet if I follow her request that I dutifully prescribe the antibiotic, I deny her my medical training, my knowledge of the risks, alternatives and benefits of the various therapeutic alternatives, and so on.

I don't mean to naively imply that ONC believes that an antibiotic will cure sniffles. I do mean to imply that technology vendors such as Allscripts have medical, technical, and psychological training that may enable us to think beyond a reactive method of reducing errors with warning and alerts. Indeed – if we reduce errors in a more proactive manner – wouldn't that be better? Wouldn't the providers suffer less "alert fatigue" and workflow interruption?

I therefore caution you to look carefully at the objectives rather than the milestones – and use these objectives to motivate providers so that you don't constrain the paths toward success.

PHARMACY BENEFITS MANAGERS. (PBMs) While the objectives of electronic prescribing programs are consistent with many the objectives of the PBMs, there remains an important variable that we encourage ONC to consider: Prescription history is not universally provided by PBMs, which leaves providers wondering if they have all of the information that would be available – or not. I would suggest that an appropriate outcome measure here would be that a PBM be required to attest to the fact that 100% of patient prescription history is accessible to electronic prescribing systems using the appropriate technical standards.

ELECTRONIC PRESCRIBING TECHNOLOGY VENDORS. As important participants in this process, there should be clearly defined expectations for what technology vendors should provide. First and foremost, we should provide certified solutions. I would suggest that the certification process of an electronic prescribing solution could mirror the process that would be required of an Electronic Health Record:

- a) **An accreditation process be defined to accredit electronic prescribing certification organizations.**
- b) **Electronic Prescribing certifying organizations should certify such systems in accordance with criteria as defined by ONC, with appropriate input from all stakeholders.**

While Surescripts has done an extraordinary job creating and implementing a certification process, there remains some concern that the development and maintenance of the criteria



for certification is not consistent with the process that will be defined for EHRs, and this will create incongruous certification processes with potentially inconsistent objectives and criteria.

What else can electronic prescribing technology vendors provide? How might electronic prescribing technology vendors be motivated to help providers meet the objectives of the program?

We can provide reports to CMS or State Departments of Health on provider participation, PBM data availability, pharmacy data availability, detectable and prevented errors, call-backs, and corrections. As key participants in this process, we encourage ONC to consider leveraging our pivotal position in this process to reduce the administrative burden on providers, and to enhance the transparency of the process overall.

PHARMACIES. How can pharmacies be motivated to universally participate in ePrescribing programs? Small pharmacies are especially vulnerable to the current business models in place, and we would support incentives or legislation that would assist small pharmacies in acquiring and maintain the infrastructure to support electronic prescribing processes. Until providers can be confident that the pharmacy will be able to accept an electronic prescription, we will continue to have barriers to adoption. Would we put our money in a bank that doesn't support ATMs? Of course not.

3. What are the operational impediments to electronic prescribing?

I reference several operational impediments above.

4. What are the regulatory impediments to electronic prescribing?

While there remain a handful of regulatory impediments, there are two that require focused attention:

- a) There must be harmonization of State and Federal law regarding electronic prescribing of controlled substances. We implore ONC to work with DEA and State Governments to create one set of regulations that will enable controlled substances to be electronically prescribed. Consider that today I can call my local pharmacy and request a five day supply of oxycodone be prescribed to a patient, but I cannot electronically prescribe it. Which is safer? Which has a lower risk of fraud? To physicians and other providers in the United States, these inconsistencies infuriating daily reminders of our dysfunctional regulatory system.
- b) In addition to controlled substance concerns, I would like to call your attention to the varying state requirements regarding medication management in general. An anecdotal example might be a program in Minnesota that intends to facilitate a streamlined "Electronic Drug Prior Authorization Program." (<http://bit.ly/8MpmuR>) While such initiatives are well-intended, I implore ONC to encourage states not to create such initiatives. We simply cannot manage a separate program for every state, as the operational, technical, and administrative burden of such redundancy would be enormous. Imagine the chaos of fifty well-intentioned but separate programs for this (and other components of the electronic prescribing process) and it becomes very clear that this would bring our industry to a standstill, as we work to understand and comply with such an

ocean of varied requirements.

5. What's a priority to facilitate easier/broader adoption and use of electronic prescribing systems even if not immediately actionable?

See above. I think that I have outlined several such opportunities. Feedback from our clients suggests that harmonization of controlled substance policy – and inclusion of controlled substances (even if this includes additional safeguards) should be a key priority. Remember the mantra: $P = V/W$. The value of being able to electronically prescribe controlled substances would be enormous – as all paper prescribing could therefore be eliminated. The work required (so long as the additional safeguards were not prohibitive) would be low.

6. What best practices would you recommend in this area?

See above.

Specific Themes:

7. Where can e-prescribing help with medication reconciliation and adverse drug interaction detection? What works today, and how can this be improved going forward?

We have a great deal of success with reconciliation and adverse interaction detection. What works today is that any client using one of our EHRs or our NEPSI web-based electronic prescribing system is able to leverage reconciliation of medications from external sources to define one authoritative list of a patient's current medications. We have decision support functionality in place with interaction, allergy, disease and dosage checking – and we believe that these capabilities have prevented millions of prescribing errors.

What can be improved?

Give the providers more information. We have recently initiated a program that provides more detail about fill history to the provider so that – at a glance – they can see in the patient's medication list the "fill history" status of a medication. So if a prescription for cholesterol lowering medication was prescribed but never picked up from the pharmacy (or not refilled recently) – a quick glance at the medication list can help a provider understand much more about the context of the medication, and has more data on which to base clinical decisions.

In this example – consider that the same provider may order a cholesterol test and may reflexively increase the dosage of the cholesterol lowering medication in the case that the patient's levels remained too high. With fill history data, prominently displayed in the medication list, the provider can initiate a conversation with the patient and take more appropriate action. It is this sort of activity that can enable technology vendors to innovate and creatively address problems of medication adherence, patient preference, and comparative effectiveness that may otherwise be impossible. Note that there is no certification requirement or government incentive to create such a function. Our job as technology vendors is to present the available information to providers so that they can use it when they need it.



When certification standards are too specific about the location, presentation, or method of HOW we present information to providers, our ability to innovate in this way is threatened.

We cannot present data that we don't have. What we have learned from this program is that we continue to have access to roughly half of the prescription history data that may be available from the pharmacy or PBM data sources. As outlined previously – we ask that ONC work to find methods to require that providers of prescription history data (both PBMs and pharmacies) make it uniformly available to electronic prescribing systems.

8. Where are the main barriers to greater adoption likely to be found?

a. With the workflow and eRX software applications that physicians use?

Usability improvements are always on product roadmaps for technology vendors, and Allscripts is no exception. We agree that workflow can certainly improve as the user experience of our software improves to better anticipate the needs of providers. As mentioned above, I have some concern that both EHR and electronic prescribing certification requirements may in places be too proscriptive about the methods used to present alert information or to capture certain data elements. Wherever possible, we encourage ONC to guide certification organizations to focus on the WHAT is done (inform the user of a potential risk or prevent errors) rather than the HOW ('alert/noise, pop-up window").

b. In the network connecting physicians to pharmacies?

We do see occasional problems in the network connecting physicians to pharmacies, and have processes to troubleshoot these problems, but this is not a main barrier to greater adoption.

c. In the workflow and pharmacy software applications that pharmacists use?

n/a

9. Is affordability of an electronic prescribing system a barrier to adoption?

No. Our NEPSI program is completely free of charge.

10. How can a Drug Enforcement Administration (DEA) proposed rule on electronic prescribing of controlled substances help in the widespread adoption and use of e-prescribing? Another way to phrase might be: in What actions should DEA take to promote the electronic prescribing of controlled substances while also meeting their law enforcement needs?

Please see my comments above. We understand that the DEA has proposed additional



safeguards for the electronic prescribing of controlled substances, and we have concerns that some of the methods under consideration (such as two-factor authentication using a physical token) are prohibitive. There remain technical solutions that do not require physical tokens that would accomplish the security and authentication needs, without the infrastructure needs that would be required for the distribution and maintenance of a program that requires physical tokens.

11. What are the biggest successes and challenges in the implementation and use of e-prescribing systems?

I have addressed this question in my discussion above.

12. Please describe your (or your organization's) experience adopting and using e-prescribing systems. Was the adoption experience user friendly? How could it have been made better?

n/a

14. Please describe your experience with the following eRX transactions

This question seems to be addressing providers rather than technology vendors. Our solutions support all of these functional components

- a. Prescribing
- b. Retrieving and using formulary information
- c. Retrieving and using medication history from claims
- d. Retrieving and using dispensed drug history from pharmacies
- e. Patient initiated electronic refills from the pharmacy

13. How does electronic prescribing help fill status notification?

See above. We leverage this in our reconciliation process to create one authoritative medication list – and in our medication adherence initiative described previously.

14. How can electronic prescribing help with prior authorizations?

Real-time prior authorization (PA) support using electronic standards that define PA processes would significantly improve the efficiency with which prior authorizations occur. However the PA process would still require a great deal of communication between the electronic prescribing system and the PA system – and in some cases, there would need to be human involvement in order to adequately determine a patient's eligibility for a given medication. But let's step back a moment and consider what a prior authorization is – and why it occurs. Perhaps there are other methods of meeting the objectives?

Prior Authorizations are generally "overrides" to rules that PBMs impose on certain prescriptions. An example might be a weight loss medication – or the choice of a brand medication when a generic medication is available. When one of my patients requires (or requests) a medication that requires PA, I generally initiate a paper process:

- a) Find a form – either on the insurance company or PBM website
- b) Fill it out – or ask my nurse to fill it out – using information in the patient's record
- c) Fax the form



- d) Wait (hours or days)
- e) Try to prescribe the medication (electronically or otherwise)
- f) See if it works. If not – repeat (d-e).

But in most cases, the data required to make the PA determination is in the patient's record, and the algorithm used to make the PA determination is in the PBM's computer system or a three-ring binder on a utilization specialist's desk.

What if the PBM's decision support algorithm was instantiated in the electronic prescribing system? In this case – no PA transaction would be necessary. The electronic prescribing system could process the algorithm, capture the data from the provider, and issue a unique code that reflects the fact that the PA criteria were satisfied. The electronic prescription would then carry this code, and the pharmacy would fill the prescription.

In such a scenario – only the cases in which this algorithm could not be locally represented – would PA processes need to be electronically captured and managed. While such a model as I describe here makes only minimal addition to electronic prescribing in general (addition of a PA code) – it achieves the goals of a PA process without adding a complex PA process to the electronic prescribing transaction. This may represent an incremental approach to PA that is consistent with the clinical decision support objectives expressed in the recent NPRM on Meaningful Use of Electronic Health record Technology.

15. What are your views surrounding stand alone vs. integrated EHR solutions?

Allscripts provides both stand-alone and integrated electronic prescribing systems – and we have had great success with both models. Stand-alone systems provide an opportunity for practices to begin working with information technology with minimal risk and significant benefit. $P = V/W$.. Value high – work low.

16. What are your views surrounding the creation, adoption, and widespread use of a standard interface for drug formulation?

I don't understand this question. I'm not sure what you mean by the word "interface" here.

17. How do you see the future of e-prescribing and enhanced or secondary uses of prescription data?

There are extraordinary opportunities for electronic prescribing – and I fully expect that it will become a silent, forgotten component of the HIT infrastructure of the future, just as the electricity in our walls, and (increasingly) ubiquitous Internet access are becoming silent, forgotten and therefore essential to our activities of daily living. Similarly, the secondary uses of this information, carefully leveraged, will reap extraordinary value as we use it in comparative effectiveness research, clinical trials, and quality/performance measures.

It is the very availability of this information – and the creativity of both providers and technology vendors – that excites me most about the future of electronic prescribing. As we create new data visualization tools to expose providers and patients to information that they may not otherwise "see" – providers and patients can make better treatment decisions together.

