



HIT Perspectives

Perspectives and Updates on Health Information Technology

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Medication Management

New Study Finds ePrescribing Saves Lives, Reduces Costs of Care

by Tony Schueth, Editor-in-Chief

Despite the national push for ePrescribing adoption, critics and prescribers sitting on the fence have pointed to a lack of empirical evidence to support the promise of improved patient safety and reduced costs of care. Now the science is catching up. A new study, published in the September 14 issue of *Archives of Internal Medicine*, found that ePrescribing does indeed save lives and money.

An expert panel studied the impact of 279,476 alerted prescriptions written electronically by 2,321 Massachusetts ambulatory care clinicians in the first half of 2006. Based on their estimates, electronic drug alerts likely prevented 402 adverse drug events (ADEs), including 49 potentially serious, 125 significant and 228 minor ADEs. Accepted alerts may have prevented a death in 3 cases, permanent disability in 14 and temporary disability in 31. This potentially resulted in 39 fewer hospitalizations, 34 fewer emergency department visits, and 267 fewer office visits, for a cost savings of \$402 619.

Despite this good news, there are some other cautionary learnings. Based on the panel's estimates, 331 alerts were required to prevent one ADE, and a few alerts (10%) likely accounted for 60% of ADEs and 78% of cost savings. As a result, the researchers suggested that ePrescribing systems should suppress low-value alerts.

This is the most sophisticated study to date assessing the impact of electronic drug-drug interaction alerts in an ambulatory setting. The researchers used a fairly large sample size with sound study design and statistical techniques. This well-written study was then published in a top-tier peer-review journal. For all intents and purposes, this study is the defining point where the effect of ePrescribing is proven to decrease ADEs. No longer can critics point to a lack of "real" evidence.

To be sure, this study certainly does not answer every question. For example, the effects of other types of electronic alerts (drug-allergy, drug-disease, drug-supplement, etc.) need to be studied. The sensitive line between what is a "low value" alert and one that really saves lives and money needs to be better understood, so prescribers are not barraged with all kinds of alerts that may or may not be useful in their particular practice setting. This, as we know, leads to alert fatigue and is a valid criticism of ePrescribing systems that needs to be addressed.

However, we believe this study is the tip of the iceberg, where solid empirical evidence of ePrescribing benefits is finally catching up with the publishing lag of the peer-reviewed literature. Furthermore, we think that this study is awfully conservative. For example, this study found users acting upon 15% of alerts whereas we know that in the Southeastern Michigan ePrescribing

Initiative (SEMI), we have seen 30%. Also, one of our clients observed that the study may underestimate savings because it counted average hospital cost at \$9,000 when the average US hospital cost per stay is around \$26,000.

Anyway, we will continue to monitor the ePrescribing landscape and keep you posted.

For complete findings, see Weingart SN et al. (2009, September 14). An Empirical Model to Estimate the Potential Impact of Medication Safety Alerts on Patient Safety, Health Care Utilization, and Cost in Ambulatory Care. *Archives of Internal Medicine*. 2009;169(16): 1465-1473; available at <http://archinte.ama-assn.org/cgi/content/full/169/16/1465>.

Odds and Ends: SureScripts just announced that more than 140,000 (23 percent) of all office-based physicians, nurse practitioners and physician assistants in the United States are now ePrescribing. If the current pace holds up, Surescripts projects that its total number of active ePrescribers in 2009 will more than double the 74,000 active ePrescribers at the end of 2008....December promises to be a busy month for federal rulemaking regarding meaningful use, standards and certification requirements under the American Recovery and Reinvestment Act (ARRA). The Centers for Medicare and Medicaid Services (CMS) is expected to issue a notice of proposed rulemaking (NPRM) regarding meaningful use; following a public comment period, a final rule should be issued in the spring. Also in December, the Department of Health and Human Services Office of the National Coordinator (ONC) is expected to issue an interim final rule regarding certification criteria and standards, followed by a final rule in the spring. Similarly, ONC should issue an NPRM defining the certification process in December; again, following a public comment period, a final rule is expected to be issued by spring....On September 24, the Certification Commission published the final approved criteria and test scripts, and other technical guidance, for both its CCHIT Certified® 2011 comprehensive certification program and its preliminary ARRA 2011 certification program. The commission will launch both of these new programs on October 7. The certification handbook containing the policies governing these programs and the certification agreement will be available by late day on October 2.

HIT Hides in Health Reform Bill

Health Reform & HIT

While policymakers continue to arm wrestle about how to reform health care and health insurance in the five pending Congressional bills, some of us noted that “administrative simplification provisions” — to use the Health Insurance Portability and Accountability Act (HIPAA) term — were also included in the current Senate version, also known as the Baucus bill or “Chairman’s mark.” The provisions would help standardize operating rules for HIPAA transactions as well as create the long-needed process for updating HIPAA transactions and code sets. We applaud these goals and believe they would give a much-needed shot in the arm toward advancing adoption of the claims attachments and prior authorization standards.

It is fair to say that everyone in the industry has chafed at the significant variations in how health plans and clearinghouses have implemented HIPAA transactions and code sets. The Baucus bill would address that by creating operating rules for HIPAA transactions that have been implemented. They would be developed by a nonprofit entity through a consensus-based process involving all stakeholders, then reviewed by the National Committee on Vital and Health Statistics (NCVHS). Adoption would be accelerated by federal issuance of interim final rules (instead of the usual notice and comment rulemaking). The difference is that interim final rules basically take effect on the day of publication in the *Federal Register*. Any comments received afterward will be considered; in truth, however, they would rarely make a compelling enough case to require changes. The Baucus bill would add

electronic funds transfer (EFT) of health claims payments as a HIPAA transaction and provide for the adoption and enforcement of a standard for EFT.

The first priority would be adoption of a single set of operating rules for eligibility verification, claims status, claims remittance/payment and electronic funds transfer. The bill also would require adoption of unique health plan identifiers and the development and adoption of HIPAA transactions that have never been implemented, such as claims attachments, enrollment/disenrollment, health plan premium payments, referral certification and prior authorization.

Aggressive timelines are set for adoption of these operating rules, spanning July 1, 2011 to July 1, 2014. Specific target dates are also set in which health plans must certify their compliance with the standards and operating rules in groupings of specific requirements that span December 31, 2013 through December 31, 2015. Failure to do so would result in penalties. An enhanced enforcement process would also include a more rigorous complaint review and resolution process, also with penalties against health plans not in compliance. The bill also establishes an NCVHS process for reviewing, updating and improving standards and operating rules.

POCP is monitoring these developments with great interest — not only because of our consulting business, but also because of our significant, ongoing work in the standards arena, particularly the prior authorization standard. Despite the philosophical and operational differences of the various health reform proposals, we believe the administrative simplification provisions in the Baucus bill are likely to have legs and could well survive the legislative process. The reasons are simple: the provisions are needed, they are good for the industry, they are good for the government and they will continue to lay the groundwork for the advancement of health information technology. Stay tuned.

Health Information Exchanges

Special Report: HIEs Circa 2020 — A Look at Two Very Different Possible Futures

by Ed Daniels, Contributing Editor

For those of us helping to create health information exchanges (HIEs), it is important to “build for the future.” But what will HIEs look like 10 or more years from now? Some of our non-HIE clients argue that HIEs are a “money pit” and basically just a short-term phenomenon — good for soaking up federal bailout money, but with no long-term significance.

We don’t buy that argument. We think some sort of local, regional and central authority is necessary to both facilitate and regulate health care data exchange within the fragmented US health care system. The need for HIEs will only increase as more and more clinical transactions become automated.

HIEs, as currently conceived, are formal organizations with a geographically defined territory that provide the standards, contractual agreements and security tools to support the process of clinical data exchange. Today’s HIEs also provide the physical network and database infrastructure to forward, store, log and access clinical transactions. Is this physical infrastructure really necessary and if it is now, will it be in the future?

So, let’s look more closely at the following:

- ***In the long run, will HIEs facilitate, implement, manage, own and operate the information transfer infrastructure as they are now attempting to do?***

Or, alternatively,

- ***Will HIEs serve facilitation, implementation and management functions but not actually own or operate the fully distributed infrastructure?***

These give rise to two scenarios: one in which HIEs evolve into clinical data clearinghouses and another in which HIEs manage, regulate and facilitate the clinical information exchange process but do not operate infrastructure.

Scenario #1: HIEs Own and Operate the Data Exchange Infrastructure

The HIEs that are being developed today are transaction businesses with similar fundamentals to credit card processors (like Visa®) and health care electronic data interface (EDI) clearinghouses (like RelayHealth® or Emdeon®). Many of today's successful health care EDI clearinghouse businesses endured a long and expensive startup period. However, they became very profitable as their volume scaled up and their business matured.

If HIEs can define a solid value model for the producers and consumers of data, and if HIEs have enough strength in their market to dictate pricing, then perhaps they can follow in the footsteps of their predecessors, the medical claims clearinghouses, and become sustainable, successful transaction processing businesses.

In fact, at least one health care EDI expert, John Osberg of www.informedpartners.com, predicts that if those conditions can be met, today's major medical claims clearinghouses are likely to enter the clinical transaction business and become HIEs. If this scenario comes true, HIEs will grow in transaction volume and revenue and are likely to consolidate into a few large clinical transaction clearinghouses that charge each of their trading partners a per-transaction fee proportionate to the value of the transaction. Eventually, all clinical data in the US travelling outside of a corporate boundary will be exchanged through an HIE. This scenario would fulfill a dream expressed by many to create a financially viable, privatized solution to the clinical data exchange problem. It would also be a great boon to HIE investors by providing them with lucrative exit scenarios.

But is this scenario realistic? Consider the alternative view.

Scenario #2: HIEs Manage and Facilitate the Data Exchange Process But Do Not Own or Operate the Infrastructure

Increasing computing power gives every hospital, physician practice and insurance company incredible computing capacity. Google and Microsoft have jumped into the pool with their own Web-based health record solutions sporting easy-to-implement data interfaces and wielding nearly unlimited computing power. The proliferation of connectivity and standards for data interchange gives everyone the ability to communicate directly with everyone else. Is it realistic to think that all clinical transactions transmitted among health care providers are going to be processed through a few HIEs?

Look at what was accomplished through ubiquitous worldwide adoption of the Internet Protocol (IP), e-mail (SMTP) and the World Wide Web (HTML). Those standards enable 1.6 billion Internet users throughout the world to communicate directly with each other without going through any centralized processor or clearinghouse. Why must clinical data go through a few local, regional or national HIE pinch points? Under this scenario, HIEs become legal, regulatory and facilitating entities but own none of the technology to effect these transactions. Instead, the centralized network is replaced by a completely decentralized network of peer-to-peer connections.

While this approach may appear to take the meat out of the HIE opportunity, does it really? There is still a lot of work to be done other than moving bits around. Someone has to facilitate and implement these connections. Some entity needs to establish and enforce standards and resolve differences among vendors and providers. Some entities need to build normalized data vaults for epidemiological research and disease management. Perhaps, HIEs will serve these roles even if the bits are processed in the "cloud." They would be more of a "professional services" type of business as opposed to a "product" business, and thus less attractive to outside investors, but would be essential nevertheless.

Which Will It Be and What Does It Matter?

Centralized networks and databases are needed today for HIEs to gain control, establish universal connectivity and create a steady revenue stream. But in the long run, there is no guarantee that HIEs will own, control and operate the technology infrastructure through which all clinical transactions flow. We believe that HIEs will be able to maintain their own centralized network infrastructure only if one or more of the following conditions are met:

1. Participants (the "clinical data trading partners") find it much more efficient to transmit data through the HIE than to do it directly themselves. This advantage must be so great that participants can save a significant amount of money on personnel costs.
2. Participants share in a significant amount of revenue or other financial benefits (such as pay for performance) resulting from the sale or sharing of clinical data.
3. The HIE, by agreement or law, becomes the exclusive broker of patients' authorization to exchange data. In other words, to obtain the patients' permission to share clinical data, a participant must go through the HIE.
4. Laws, regulations or contracts require participants to transmit clinical data through the HIE.
5. EMRs automatically transmit data through the HIE, taking the participants out of any decision-making role.

If one or more of these conditions are met, HIEs will remain in control of the infrastructure. If not, we think it is likely that before 2020, participants will start communicating directly with each other in a peer-to-peer network configuration governed, but not operated, by the HIEs.

Why should the reader care whether the clinical data infrastructure is hub-and-spoke or peer-to-peer? For those building and investing in HIEs, there is a big difference regarding where and whether to allocate resources. For those building software or services, there are important architectural decisions to be made. For politicians and policy makers, laws and regulations may be more or less effective depending on the technological approach, and the wrong legislation will stifle innovation.

POCP believes that HIEs could evolve in either direction. Wise decision makers guiding HIEs and those working within and around them need to be aware and informed about the implications of both of these possible directions.

Making wise decisions in this complex environment requires an understanding of the nuances associated with the technological, regulatory, clinical, economic and political environment. Making decisions without adequate information is likely to be costly. Point-of-Care Partners' team of seasoned business strategists and operators are in the trenches working

every day with HIEs and key health information technology stakeholders. Our HIE work now focuses on three key areas of need: helping new and struggling HIEs succeed; working with payers, providers and vendors; and helping investors understand and position themselves with respect to HIEs.

Newly Updated State Law Compendium is Available

Medication Management

POCP has just released the most comprehensive, up-to-date compendium of state and federal pharmacy statutes and regulations related to ePrescribing. The compendium, updated for the third quarter of 2009, is a must-have for ePrescribing policymakers, vendors, intermediaries, retail and specialty pharmacies, and others who need to have the latest state-specific information on the changing regulatory landscape affecting ePrescribing and the exchange of prescription information within and across state lines.

The timing for this updated compendium has never been better, given the wide variations and constant realignment of requirements among jurisdictions and boards of pharmacy (BOP) and the growing use of ePrescribing and exchange of health information.

Updated quarterly by Sherry Neuman, PharmD, the new database has the most current information as of Q3 2009, gleaned from BOP Web sites and other published materials, such as pharmacy association and BOP newsletters, state health and safety codes, and Medicaid rules and regulations (where applicable). It also includes:

- State-by-state citations of the rules, regulations and statutes pertaining to electronically transmitted, faxed or printed prescriptions
- Digital signature requirements
- Addresses, Web sites and contact information
- Actionable spreadsheet summarizing each board's requirements
- Indication of which states require written and/or in-person approval
- Security Rx paper requirements for printed prescriptions

State pharmacy-related regulations and statutes are forever changing and often ambiguous. That's why persistent monitoring and in-depth analyses are critical. POCP is in a unique position to interpret and analyze the rules and regulations and to work with clients to utilize the information to further their business goals.

In addition to the compendium and its quarterly updates, Dr. Neuman and other POCP staff are available to create value-driven assessments, drill down issues specific to individual market situations, and assist product development and implementation teams. Give us a call or drop us a line to see how we can help you navigate the state pharmacy law labyrinth.

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