Pennsylvania's Investment in Quality: Electronic Medication Management Systems

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The Centers for Medicare and Medicaid Services (CMS) and other payors are aggressively moving toward pay-for-performance in the hope that investing in quality improvement systems will produce better outcomes for patients as well as financial benefits for providers. This article reviews cogent issues in medication management today and touches on several initiatives being undertaken by the Commonwealth of Pennsylvania.

Medication errors are among the most common medical errors, harming at least 1.5 million people every year, according to a report from the Institute of Medicine (IOM).[1] Studies indicate that 400,000 preventable drug-related injuries occur each year in hospitals; the extra costs of treating these injuries have been estimated at $3.5 billion a year. (This estimate does not take into account lost wages and productivity or additional health care costs.) Another 800,000 preventable drug-related injuries occur in long-term care settings, and roughly 530,000 occur among Medicare recipients in outpatient clinics. While these numbers may seem shocking, they likely underestimate the extent of the problem.

Problems regarding medication management typically fall into one of the following categories:[2] untreated indications; improper drug selection; sub-therapeutic dose; failure to receive drugs; overdose; adverse drug reactions; drug interactions; and drug administration without an indication.

Electronic prescribing (e-prescribing) is one innovation that promises to reduce medication error and is the most heavily promoted segment of electronic medication management. Studies have consistently found that paper-based prescribing is associated with high error rates, due to pharmacists' challenges with prescription legibility. When combined with decision-support tools, e-prescribing can automatically alert prescribers to possible interactions, allergies, dosage, and other potential problems.

It should be noted that a comprehensive e-prescribing system is one that includes prescribing, dispensing and administering medications through use of an electronic platform.

While the problem of medication errors is well-known, and has an identified solution (electronic medication management), there are significant barriers that hinder wide-spread implementation of these systems. Some of these barriers include provider reluctance, unfamiliarity with new technology, lack of capital resources, and misaligned financial incentives.

According to a report from the IOM,[1] by 2008 all health care providers should have plans in place to write prescriptions electronically. However, the IOM has acknowledged that significant regulatory issues and problems with automated alerts still need to be resolved. In a 2007 report, IOM recommends that by 2010, all providers should be using e-prescribing systems and all pharmacies should be able to receive prescriptions electronically. The Department of Health and Human Services appears ready, through its information technology (IT) initiatives, to push the implementation of electronic systems used in ordering, administering, and monitoring drugs. This is being accomplished through the American Health Information Community (AHIC), a federal advisory body that was chartered in 2005 to make recommendations to the Secretary of the U.S. Department of Health and Human Services on how to accelerate the development and adoption of health information technology.[3] The Commonwealth of Pennsylvania has also taken positive steps to encourage the successful implementation of electronic medication management systems through the following notable initiatives:

The Hospital Quality Care Investment Grant Program
The Hospital Quality Care Investment Grant Program and the Hospital Quality Incentive Pilot Program, its companion incentive pilot, were created as part of a legislative initiative [36 Pa.B. 2235]. The purpose of the program is to provide an incentive for acute care general hospitals to initiate quality improvement projects by offsetting some of the costs related to implementing these initiatives.

Jefferson Medical College and the Pennsylvania e-Health Technology Consortium
Jefferson Medical College has been an active participant in a consortium of 28 health care organizations with a goal of building a Pennsylvania electronic patient data network. Established in 2005, the Pennsylvania e-Health Technology Consortium aims to build and standardize a secure national electronic medical record network, toward improving patient safety, save on health care spending, and help doctors treat patients faster. This network is linked to a national system so that patients and their doctors can

securely access medical records from any part of the country. Similar, smaller-scale initiatives have also been started within the Commonwealth, including a $750,000 grant from Blue Cross of Northeastern Pennsylvania in Wilkes-Barre to enable a local hospital to develop a computerized physician order-entry system.

Institute for Safe Medication Practices

Finally, no article regarding medication safety would be complete without mention of Pennsylvania's Institute for Safe Medication Practices (ISMP). The ISMP, based in suburban Philadelphia, is the nation's only 501(c)(3) nonprofit organization devoted entirely to medication error prevention and safe medication use. ISMP represents several decades of experience in aiding healthcare practitioners to keep patients safe, and it continues to lead efforts to improve the medication use process. The organization is known and respected worldwide as the premier resource for impartial, timely, and accurate medication safety information.

While much work remains in order to meet the IOM's projected timetable for universal adoption of electronic medication management systems, much progress has been made. Pennsylvania is doing its part to actively meet the challenge.

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