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Health IT Trends: E-prescribing can improve safety, but barriers to adoption remain

by Emily C. Webber M.D., FAAP

Dr. Webber Electronic medical records (EMRs) can contribute to pediatric patient safety in a number of ways. Sharing information between a patient's physician and pharmacy is one such benefit.

The ability to send a prescription directly from a patient's record to a pharmacy can ensure the right medication is sent to the right patient at the right time, reducing the potential for errors or tampering. In addition, families no longer have to worry about losing prescriptions, and notoriously bad handwriting is not a risk point.

However, there still are barriers to the adoption of e-prescribing. One of the most notable problems is a lack of standards to guarantee patient safety. In short, major companies responsible for managing medical data for patients still struggle to agree on what should be sent and how it should be used.

Surprisingly, patient identifiers and clinical details that are critical to safe prescribing such as allergy lists, weight and lab results are not required fields that EMR vendors must build into e-prescribing. These elements also are not required by vendors of pharmacy software management programs that receive prescriptions.

As a result, this information is not passed on routinely from prescribers to pharmacies, preventing safety checks that pharmacies may wish to put in place. This problem is not unique to pediatrics, although pediatric patients are at disproportionately higher risk.

Patient weight not appearing on a prescription is particularly alarming to physicians treating pediatric patients. Many medications, such as antibiotics, anti-epileptic drugs and even basic over-the-counter medications, are dosed by patient weight. This information is critical for both efficacy and to avoid toxicity.

Lack of information on patient weight may be one reason pediatricians have demonstrated lower adoption of e-prescribing (http://pediatrics.aappublications.org/content/135/1/e7) and have developed creative workarounds. In large pediatric centers like hospitals and health systems, customization of a field of the electronic prescription to pull in the patient's weight has become the most common workaround.

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Efforts among physicians and other health care providers to bring this important safety gap to the attention of health technology vendors have been ongoing for quite some time. Even with clear evidence that exchanging patient weight can improve accuracy, especially for pediatric patients, vendors of systems that send and receive e-prescriptions have not yet been able to make this exchange a standard practice.

In the U.S., most EMR companies and pharmacies use standards developed by the National Council for Prescription Drug Programs (http://www.ncpdp.org/), particularly the SCRIPT standard. Developed in 1997 and now in version 10.6, the SCRIPT standard was approved by the Centers for Medicaid & Medicare for e-prescribing for meaningful use in 2010 (http://bit.ly/1X76Ba3). Because of its wide use, updating the SCRIPT standard - even to make elements that are " suggested" become "recommended" - can be a lengthy process.

For example, most EMRs do not allow medication orders to be placed without an updated weight. However, pharmacies receiving the weight may not have the means to store the information in their system. Additionally, pharmacy systems might utilize clinical data such as weight differently in different settings. Some pharmacies and pharmacists may resist receiving the medical data due to lack of storage ability, unclear adoption of clinical decision support or concerns about liability.

One could argue that thoughtful design can be applied to overcome barriers. For example, EMR technology on both ends could address the question of how often prescribers would have to update weight by requiring a shorter timeframe during infancy and a longer timeframe for adults.

Physicians must continue to advocate directly to vendors building their health information technology. Connecting with technology companies outside clinic and hospital walls leads to better care for patients and is an important step in addressing other determinants of health. Without strong leadership, there will not be the necessary change required of vendors to prioritize best clinical practice.

Dr. Webber is a member of the AAP Council on Clinical Information Technology Executive Committee.

Resource

AAP technical report *Pediatric Aspects of Inpatient Health Information Technology*

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Systems, http://pediatrics.aappublications.org/content/135/3/e756

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