

## Editorial

# Medication Alert Fatigue: The Potential for Compromised Patient Safety

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Overriding a medication alert warning is a common occurrence in the world of computerized records in pharmacies and physicians' offices.<sup>1-9</sup> The latest published study in the February issue of the *Archives of Internal Medicine* illustrates the frequency of these overrides in physicians' offices.<sup>1</sup> Isaac et al conducted a retrospective of 3,570,378 prescriptions written by 2,872 prescribers in 3 states over 9 months in 2006. All the prescribers used an electronic prescribing software program made by the same vendor. The software generated 233,537 medication safety alerts during this period related to 6.6% of all attempted electronic prescriptions. The prescribers overrode 90.8% of the drug interaction alerts and 77% of the drug allergy alerts. The acceptance rates of drug interaction alerts varied a little based on the level of severity; the acceptance rate for high-severity alerts was 10.4%, whereas the acceptance rates for moderate-severity (7.3%) and low-severity (7.1%) alerts were slightly lower.

A smaller study conducted in 2007 over 1 month found that ambulatory prescribers overrode allergy alerts 97% of the time.<sup>2</sup> The justifications for these allergy overrides were as follows: the patient had tolerated the medication previously (49%), the benefit out-

weighed the risk (29%), the medication was therapeutically appropriate (24%), and various other reasons (8%).

These numbers are not much different than those observed in studies conducted since 2000.<sup>5,6,9</sup> A study conducted in 2000 found that prescribers overrode 91.2% of the drug allergy alerts and 89.4% of the high-severity drug interaction alerts in a primary care practice.<sup>9</sup> Another study conducted in 2004 found that prescribers overrode 80% of the alerts in a hospital practice.<sup>6</sup> Yet another study conducted in 2006 found that prescriptions in a Veterans Affairs health care system were overridden on 87% of the occasions compared to 88% in 2001, whereas 81% of drug allergy alerts were overridden in 2006 and 69% were overridden in 2001.<sup>5</sup>

The implementation of a tiered drug interaction warning system has helped decrease the number of overrides but still does not prevent overrides from occurring in an inpatient setting.<sup>8</sup> The tiered system classifies the drug interaction alerts by severity, and it improved acceptance rates among prescribers, especially for alerts classified as severe. Of those classified as severe, 100% were accepted using the tiered alert system compared with 34% in the nontiered system. The acceptance rate for alerts classified

as moderately severe was 29% in the tiered system compared with 10% in the nontiered system.

Let us hope that each of these overrides, like all others, was made with a critical assessment of the information provided in the warning, as well as the patient's well-being in mind, and not just to save time. Many practitioners believe that the threshold used to issue some of these warnings is set too low, meaning that a number of these warnings are considered nuisance and not informative or helpful in protecting the patient from a potential dangerous situation. We also must remember that these systems are not designed as part of an artificial intelligence network. They are designed to assist a practitioner in identifying potential harmful situations and to provide a brief background on why the issue might be applicable to a particular situation. The practitioner's role is in determining if the threat is real or if the potential benefits of the therapy outweigh the risk associated with the warning. Each situation is different and the level of risk also varies. We cannot assume that when a warning appears on the pharmacy's computer screen that it has already been seen or considered by the prescriber.

It is vital that we learn how to refine these systems to ensure that they are not a nuisance and that the

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warnings are not being ignored. Using feedback from practitioners and the results from the types of studies described previously is the first step in refining the system and determining if a threshold for a particular warning or group of warnings should be adjusted. The next time you decide to override a warning, ask yourself the following questions:

Why did I receive this warning?

Is my patient profile complete? Do I have a comprehensive list of all the patient's allergies, prescription and nonprescription medications, and herbal/dietary supplements the patient is currently taking?

Is there something I am missing?

Is there a piece of information that the computer or pharmacy benefits manager knows about the patient or their drug profile that I do not?

Did the prescriber know about this warning before writing this prescription?

How much risk is involved for the patient and are they aware of that risk?

If I override the warning:

- What documentation should I put into the patient's profile?
- Should I notify the prescriber and the patient?

- Does the company that developed the software receive a message so that they can use this information as part of their continuous quality improvement?
- Should I periodically send a message to the company that developed the software asking them to reconsider the thresholds used for each of these warnings?
- Is my override justified or do I have "alert fatigue"?

The only way we can improve these systems and protect patients is by ensuring that each warning is taken seriously and that continuous quality improvement programs are in place to make the appropriate modifications in the alert thresholds used by the monitoring software. Until such time, we must remain aware that alert fatigue is a real issue and that it must be avoided to protect patient safety.

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