Averting Alert Fatigue to Prevent Adverse Drug Reactions

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Although various electronic health records (EHRs) have different features, nearly all seem to have alerts for potential problems with drug prescribing. It’s one thing that many believe that EHRs do very well. However, a recent study warns that when it comes to opioids and benzodiazepines, we shouldn’t always assume that such alerts work as intended.

The Centers for Disease Control and Prevention warns that prescribing opioids and benzodiazepines together can lead to overdoses. The agency’s 2016 guidelines for the treatment of chronic pain, published in JAMA, recommended against using them together. Despite this recommendation, almost 1 in 5 opioid users also receives a prescription for a benzodiazepine.

In the new study, published just a few months ago, researchers analyzed data from Fairview Health Systems in Minneapolis-St Paul. In October 2017, the EHR began to alert physicians attempting to prescribe an opioid to a patient already receiving a benzodiazepine and vice versa. A physician could easily dismiss the alert, but it was hoped that it would reduce co-prescribing.

The researchers collected data from April 2017 (before the intervention, the initiation of the co-prescribing alert) through April 2018 (after the intervention). Over the study period, there were more than 211,000 visits for patients with an opioid prescription and more than 85,000 for patients with a benzodiazepine prescription.

The alert had almost no effect. It’s possible that the physicians who were adding new drugs believed that the co-prescribing was clinically appropriate. This is unlikely, though, given the strong recommendations against this practice. What is more likely is that physicians overrode the alerts and ignored their content, likely because of alert fatigue.

Alert Overload, Alert Fatigue

Alert fatigue refers to the desensitization that occurs when physicians are presented with too many warnings. They start to ignore them because if everything causes an alert, then they stop having any real meaning.

Given the current focus on the opioid crisis, it’s especially concerning that physicians might ignore alerts that involve these painkillers. Unfortunately, there’s a great deal of evidence suggesting that this is occurring. A study published in 2016 showed that in an emergency department setting, opioid drug alerts were more likely than alerts for nonopioid drugs to be overridden. The reason for this was that most of the alerts were inconsequential. About 99% of the alerts did not result in an actual or anticipated adverse drug event. More than 96% of the alerts were overridden.

Those who are conversant with the literature on drug alerts might be surprised by this finding, given that a wealth of studies show that drug alerts work. A 2008 systematic review of the effect of electronic prescribing on errors and adverse drug events found that the vast majority of studies concluded that alerts significantly reduced medication error rates. Six of 9 studies that focused on potential adverse drug events and 4 of the 7 that focused on actual adverse drug events found significant reductions as well. However, the study authors cautioned that these studies differed greatly in terms of setting, design, and quality. Most were in nongeneralizable settings, and the results might not hold in real-world practice, especially as more and more interventions were added together.

A more recent review focusing on hospital settings came to similar conclusions, as did an earlier one published in JAMA Internal Medicine. Most studies showed a benefit, but they were weakly designed and they often examined small, home-grown systems or alerts in isolation.

Addressing the Problem

In most clinical settings, alerts are ubiquitous, and they don’t always work. That doesn’t mean we don’t have any ideas about how to make things better.

A 2015 study examined the factors associated with alerts, finding, unfortunately, that warnings were least acknowledged when they were potentially most important. It advised being more thoughtful about how to deploy alerts, using them for the sickest patients, for physicians with the least amount of experience, and when the potential prescription had the most potential for harm.

Another study showed that tiering alerts, with different presentations for different levels of potential harm and with harder stops for the most severe alerts, led to significantly more compliance. Certainly, at a baseline level, we should be able to distinguish between possible minor issues and likely catastrophic life-threatening ones.

Such changes need to be balanced against the concerns about litigation, however. Often, blanket alerts are used to comply with policies that might protect institutions from lawsuits. Such concerns can run contrary to desires to avoid harms and improve quality, though.

The opioid crisis is real, and the prescription pad, electronic or not, is still a recognized issue. It’s likely that many hospital systems are turning to EHR alerts in an attempt to reduce overprescribing. Adding those alerts may be easy. Making them work may be much harder.

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