

Abstract

Introduction: Healthcare providers are shown numerous alerts while using electronic healthcare records and computerized physician order entry. The quantity of alerts shown can lead to alert fatigue, where important alerts on drug interactions, allergies, or inappropriate dosing can be lost in irrelevant or redundant pop-ups. Pharmacy informaticists can use their pharmacy expertise in combination with alert data to determine what alerts are most relevant for providers, and how to filter out unnecessary alerts while ensuring key alerts are still seen.

Methods: A Microsoft SQL server® query was performed and repeated to gather twelve weeks of all alerts shown to providers. This data was identified and compiled into a single Excel® spreadsheet containing 954,777 alerts. Each alert contained important descriptors such as provider type, alert status (i.e., whether the alert was filtered or shown to the provider for further action), alert type (i.e., a duplicate therapy interaction or an allergy concern), and medications involved in the alert. These alerts were grouped and analyzed to gather information on which alerts were already being filtered and how to deprioritize irrelevant alerts for providers while prioritizing useful, actionable alerts.

Results: 748,976 (78.5%) of the total 954,777 alerts fired were filtered, leaving 205,801 alerts (21.5%) that were not filtered. Alerts with lower importance levels were filtered at higher rates. Pharmacy providers were shown the most alerts, totaling 416,519 (44%). *Drug-Disease* status alerts were filtered the most often (94.5%), while *Duplicate Medication Order* (5.0%), *Drug-Allergy* (3.3%), and *Duplicate Therapy* (3.0%) status alerts had low filtration rates.

Conclusion: The alert override rate (66.7%) found is in-line or better than previous studies from other healthcare systems. As such, adjustments on a micro-scale, such as in drug-drug category alerts, could be more effective than large-scale changes to help combat provider alert fatigue.