MEDICATION ALERT FATIGUE: THE DESIGN AND USE OF A MEDICATION ALERT DASHBOARD AS PART OF A COMPREHENSIVE APPROACH TO DRUG-DRUG INTERACTION ALERTS

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Background: Pop-up medication alerts are a commonly implemented form of clinical decision support in the electronic health record (EHR) to prevent adverse outcomes from drug allergies, overdoses and drug-drug interactions (DDIs).1 Many hospitals implementing EHRs elect to have most or all medication alerts turned on, resulting in frequent alerts with high sensitivity but low specificity. In response, clinicians override many alerts,2 which can lead to alert fatigue and missing alerts that can prevent errors and adverse drug events.3

Objectives: To develop an analytic dashboard for a children’s hospital to evaluate medication alerts in near real-time and determine (a) the volume and types of alerts presented to clinicians and (b) the override rates of alerts for DDI, maximum dose, drug-allergy and duplicate medication alerts.

Methods: We created a dashboard using both SQL queries of our EHR database and enterprise analytical software to track drug-allergy, DDI, maximum dose and duplicate medication alerts presented to clinicians in the Epic EHR at The Children’s Hospital of Philadelphia. The dashboard facilitates the rapid analysis of alert volume, alert types, override percentages and various patient and clinician characteristics.

Results: Drug-drug interaction alerts had the highest firing frequency and tied with duplicate medication alerts for the highest override rates. Maximum dose alerts, created using local clinical expertise, had both the lowest firing frequency and override rates.

Conclusion: The volume of alerts and the override rates were exceedingly high for several alert types. The area with the greatest potential for improvement is DDI alerts, for which for most institutions rely on third-party data vendors for content. Standards and best practices for pediatric DDI alerts are needed in order to limit content to that which will be most clinically meaningful. This data and dashboard will be an integral part of a project to reduce our medication alerting.
References