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Data-driven predictive alert stratification and optimization

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Adverse Drug Events (ADE) account for approximately more than 100,000 deaths in the US. In addition about 250,000 preventable ADEs results in harm to patients. Even though EMR systems with embedded clinical decision support alerts providers of these ADEs, they are neglected about 50 to 95% of the cases. The main reason for this is attributed to a very low signal (critical alerts) to noise (insignificant alerts) ratio. This result in the providers being driven to a state described as alert fatigue, where they are overwhelmed and become unresponsive to alerts. This has been attributed to consistent patient safety issues. Multiple organizations have tried to tackle the issue of alert fatigue with only marginal success. This idea combines the extensive analytical tool that would guide the users as to which alert parameters to fine tune. It also provides the predictive modeling tool that would predict the behavior of the provider, whether the provider is going to cancel or modify the order based on the alert or ignore the alert all together. Based on the severity of the alert and predicted behavior, a rule stratification score is generated and passed on to the EMR, that would display the alert in one of the three different display options. Eg: Prominent obtrusive or prominent non-obtrusive or subtle manner. The idea is not to intrude a compliant provider and to intrude non-compliant one who has been neglecting severe alerts to minimize the alert fatigue and improve patient safety.

Notes: