

148: A systems approach to managing medication risks

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Objective:

To identify the delivery systems and potential risk areas of medication use in a specialist acute hospital, and to manage them via a novel, system-based approach.

Methods:

The problems of medication errors are well documented. Many methods have been proposed for managing these risks, although no comprehensive model has yet been demonstrated to be sufficiently robust and effective.

The 9-Step process described by Leape¹, provides a framework for identifying delivery systems and areas of potential risk where error can occur. The content was modified to reflect our processes, and a step was added that identifies risk in discharge planning and continuity of care. All possible sources of medication risk within our organisation were identified, using the 10-Step process. To permit a speedy and accurate risk assessment, all events were assigned to these categories. Medication risk data was captured electronically in a manner that could rapidly disseminate information to those making assessments. Historical data automatically informs the decisions made in future incidents. Risk was assigned by historical, as well as anticipated frequency recurrence, and severity of outcomes. A small, expert group categorised the incidents, initiated immediate improvements where possible, and reported more complex or costly changes to the hospital executive for action. The decisions and outcomes of interventions were fed back into the system to inform future events.

Results:

By breaking down and examining all the processes that relate to medication use and risk, we were able to assign every reported incident over a 12-month period to the failing of one or more pre-identified systems. A level of risk assigned to each incident gave equal weight to the probability of recurrence, and the severity of each event. This ensured that frequent, minor incidents were taken just as seriously as rare, catastrophic ones. With a clear framework for processing and analysing incidents, interventions are now implemented rapidly. Early data indicates a trend to fewer repetitions of similar errors. Incidents recorded since the implementation of this system are more likely to have received follow-up focusing on future prevention rather than just an explanation of what went wrong. With a small, senior team responsible for management that meets on an ad hoc basis, decisions can occur in hours rather than months, with a high degree of ownership. Now that incidents are grouped within narrow categories, along with any interventions made, the success of those interventions are readily assessed.

Conclusions:

Having a framework for cataloguing and assessing medication incidents has removed much guesswork from incident analysis. With a rapid and informed incident response system focused on improvement, consistent plans of attack can be formulated, sometimes within minutes of incidents being received. By the very nature of the feedback introduced to the process, the ability to assess the success of interventions is readily evident. We have demonstrated that a system-based approach to managing medication risk aids incident analysis, permits better allocation of resources to correct errors, and encourages underlying system faults to be addressed.

1. Leape LL, Kabacoff A, Berwick DM et al (1998) Institute for Healthcare Improvement Reducing Adverse Drug Events Breakthrough Series Guide. Institute for Healthcare Improvement, US.