Imperfections in the design, implementation and use of ePrescribing systems can give rise to unintended consequences, including safety threats" Mozaffar et al (2017).

Abstract:

Objective: Hospital electronic prescribing (ePrescribing) systems offer a wide range of patient safety benefits. Like other hospital health information technology interventions, however, they may also introduce new areas of risk. Despite recent advances in identifying these risks, the development and use of ePrescribing systems is still leading to numerous unintended consequences, which may undermine improvement and threaten patient safety. These negative consequences need to be analysed in the design, implementation and use of these systems. We therefore aimed to understand the roots of these reported threats and identify candidate avoidance/mitigation strategies.

Methods: We analysed a longitudinal, qualitative study of the implementation and adoption of ePrescribing systems in six English hospitals, each being conceptualised as a case study. Data included semistructured interviews, observations of implementation meetings and system use, and a collection of relevant documents. We analysed data first within and then across the case studies.

Results: Our dataset included 214 interviews, 24 observations and 18 documents. We developed a taxonomy of factors underlying unintended safety threats in: (1) suboptimal system design, including lack of support for complex medication administration regimens, lack of effective integration between different systems, and lack of effective automated decision support tools; (2) inappropriate use of systems—in particular, too much reliance on the system and introduction of workarounds; and (3) suboptimal implementation strategies resulting from partial roll-outs/dual systems and lack of appropriate training. We have identified a number of system and organisational strategies that could potentially avoid or reduce these risks.

Conclusions: Imperfections in the design, implementation and use of ePrescribing systems can give rise to unintended consequences, including safety threats. Hospitals and suppliers need to implement short- and long-term strategies in terms of the technology and organisation to minimise the unintended safety risks.

Reference:

Mozaffar, H., Cresswell, K.M., Williams, R., Bates, D.W. and Sheikh, A. (2017) Exploring the roots of unintended safety threats associated with the introduction of hospital ePrescribing systems and candidate avoidance and/or mitigation strategies: a qualitative study. BMJ Quality & Safety. 26, p.722-733.

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