



Title	Technologies to Reduce Errors in Dispensing and Administration of Medication in Hospitals: Clinical and Economic Analyses
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Aim

To assess the clinical and economic impact of adopting technologies designed to facilitate medication dispensing and administration in hospitals.

Conclusions and results

Limited quality data from available literature indicates the potential to reduce medication errors in some hospital settings. Findings indicate that the use of bar coding for medication dispensing and administration systems, and the simultaneous use of technologies and ward-based automatic dispensing devices, could reduce the risk of medication errors in hospitals. The evidence is insufficient to reliably estimate the impact of implementing pharmacy-based automatic dispensing devices, or predict how automation affects the rate of adverse drug events, near misses, morbidity, and mortality. Ward-based automated dispensing devices in medical-surgical patient care units can reduce costs and error rates. Reliable estimates of the economic impact of other technologies were not possible due to lack of evidence.

Recommendations

Not applicable.

Methods

We systematically reviewed the clinical and economic literature to assess the impact of automated technologies on medication errors. Mathematical modeling was used to compare the cost effectiveness of manual (with medication cassettes) to unprofiled and profiled ward-based automated drug distribution systems.

Further research/reviews required

More research is needed to better evaluate the effect of technologies and the association between their use and a reduction in adverse drug events.