

Benefits and risks of using smart pumps to reduce medication error rates: a systematic review.

December 19, 2014

Ohashi K, Dalleur O, Dykes PC, et al. Benefits and risks of using smart pumps to reduce medication error rates: a systematic review. *Drug Saf.* 2014;37(12):1011-1020. doi:10.1007/s40264-014-0232-1.

<https://psnet.ahrq.gov/issue/benefits-and-risks-using-smart-pumps-reduce-medication-error-rates-systematic-review>

Smart infusion pumps, which contain pre-programmed libraries with standardized dosing for commonly used intravenous medications, are considered an integral component of efforts to prevent [medication errors](#). This systematic review found evidence that smart pumps can effectively prevent medication administration errors and clinical adverse drug events. However, the authors uncovered problems associated with smart pump implementation as well, including [alert fatigue](#) and failure of clinicians to use the system as intended. In particular, as discussed in a recent [qualitative study](#), nurses frequently employ workarounds that may bypass some safety features of smart pumps. The role of smart pumps in medication safety was discussed in more detail in an AHRQ WebM&M [perspective](#).