“Retrospective analysis of dose preparation outcomes was conducted to evaluate the effectiveness of the i.v. workflow manager in detecting compounding errors and to categorize detected errors.” Moniz et al (2014).

Reference:


Abstract:

Purpose: Patient safety enhancements achieved through the use of an automated i.v. compounding workflow management system are reported.

Summary: Automated systems integrating barcode verification of ingredients and the capture of serial images of all steps of the admixture process have the potential to improve the accuracy of parenteral i.v. medication dose preparation. About 18 months after the implementation of such a system at a large pediatric hospital, a retrospective analysis of
dose preparation outcomes was conducted to evaluate the effectiveness of the i.v. workflow manager in detecting compounding errors and to categorize detected errors. In verifying the accuracy of 425,683 medication doses prepared during the approximately 13-month evaluation period, dispensing pharmacists detected preparation or documentation errors affecting 2,900 doses (0.68%); 1,223 of those doses (0.29%) required reworking, and 1,677 (0.4%) were rejected and destroyed. Roughly 23% of the detected errors were classified as undetectable via the pharmacy’s previous verification practices, with 167 errors judged to pose the potential for adverse drug events resulting in moderate (n = 146) or severe (n = 21) harm. Among the reworked and rejected doses, 43.8% and 31.3%, respectively, were due to newly emergent problems not seen with traditional paper-based verification systems; however, most of these errors involved blurry or missing images and were not judged to be clinically significant.

Conclusion: Implementation of an i.v. workflow management system that integrates barcode verification, automated calculations, and image-capture capabilities led to increased detection of errors in the sterile product compounding process.

Other intravenous and vascular access resources that may be of interest (External links – IVTEAM has no responsibility for content).
