To assess the difference in pharmacy error detection rates when using a manual process compared to an intravenous workflow management system for the preparation of parenteral medications" Wright et al (2017).

Abstract:

Objective: To assess the difference in pharmacy error detection rates when using a manual process compared to an intravenous workflow management system for the preparation of parenteral medications.

Methods: Baseline error data were collected by staff using a standard form over a four-day time period before intravenous workflow management system implementation and compared to 48 weeks of electronically collected data following implementation. The chi-square test was used for statistical comparisons.

Results: The ability to detect an error during the intravenous preparation process increased immediately following implementation, but this difference was not sustained and was not statistically different when the entire post-implementation time period was compared to the baseline sample. The most prevalent errors at baseline were wrong drug amount (36.4%) and wrong base solution (22.7%). Post-implementation product expiration (26.1%), wrong diluent or base (17.9%), and wrong drug amount (19.2%) were the most prevalent errors. Barcode scanning technology detected 60% of the errors during the post-implementation period. A

decrease in error detection over time was observed post-implementation and was attributed to corrections and additions to the intravenous workflow management library and better prospective identification of potential errors by staff as they adjusted to the system. The use of serial imaging enabled pharmacists to detect errors prospectively, which may have previously been undetected using the traditional intravenous preparation process.

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Conclusion: The implementation of intravenous workflow management technology was unable to detect a statistically significant greater percentage of sterile product preparation errors compared with the baseline time period. Statistical significance was achieved during three of the first four months following implementation ($P < 0.05$); however, this statistically significant increase was not maintained when the entire post-implementation sample was included.

Reference:

Wright, K.R., Dekarske, B., Clark, J.S. and Chaffee, B.W. (2017) Parenteral product error detection before and after implementation of intravenous workflow management technology. Journal of Oncology Pharmacy Practice. January 1st. .

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