

Review of IV workflow managers in preventing errors in the IV compounding room

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Objectives: For many years now, the error rates in IV (intravenous) preparation have been concerning regarding its impact on patient safety because of factors such as the inappropriate drug or diluent being used, or the distribution of expired or recalled products. This project was designed to evaluate whether using an IV (intravenous) workflow manager to prevent error in the IV compounding room is efficient.

Methods: Methods: The key words "i.v." and "barcode" were used on Embase to search relevant articles concerning barcode verification and errors created in the IV room during medication preparation.

Results: At one hospital, implementation of automated IV workflow manager resulted in detected error rate of 0.68%, which was much lower than previously reported paper-based documentation systems without barcode verification (9%). While the system was able to reduce error, it was inefficient in that it introduced errors mainly related to the picture taking capability as well as aseptic technique. Other problems with implementing the system is the difference in amount of time it takes to prepare the product. It takes an average of 7 minutes and 24 seconds for preparation by tech, and 16 minutes and 45 seconds for preparation using the workflow manager. By contrast, it takes 3 minutes and 13 seconds for pharmacists to manually verify the product, while using only 1 minute and 20 seconds using the workflow manager.

Conclusions: The issue of how much error can be prevented while taking into consideration the time factor is something that needs to be looked at further when considering orders with high time-sensitivity, such as cardiac medications. From various studies, it is shown that IV workflow managers do reduce the number of errors created in the IV room during medication preparation. IV workflow managers help to decrease the number of errors created in the IV room, and can help with patient safety.