Intravenous clinical integration (IVCI): Connecting electronic records, prescription, smart infusion pumps, and barcodes | 1


Abstract:

Adverse drug events resulting from errors in prescribing or administering medications are preventable. Within a hospital system, numerous technologies are employed to address the common sources of medication error, including the use of electronic medical records, physician order entry, smart infusion pumps, and barcode medication administration systems. Infusion safety is inherently risky because of the high-risk medications administered and the lack of integration among the stand-alone systems in most institutions. Intravenous clinical integration (IVCI) is a technology that connects electronic medical records, physician order entry, smart infusion pumps, and barcode medication administration systems. It combines the safety features of an automatically programmed infusion pump (drug, concentration, infusion rate, and patient weight, all auto-programmed into the device) with software that provides visibility to real-time clinical infusion data. Our article describes the characteristics of IVCI at WellSpan Health and its impact on patient safety. The integrated infusion system has the capability of reducing medication errors, improving patient care, reducing in-facility costs, and supporting asset management. It can enhance continuous quality improvement efforts and efficiency of clinical work flow. After implementing IVCI, the institution realized a safer patient environment and a more streamlined work flow for pharmacy and nursing.