

Technology Reduces the #1 Adverse Medication Safety Events (AMSE) in the Hospital

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Objective:

AdventHealth Waterman, a 269 bed- community hospital, realized an opportunity to lower the number of dangerous hypoglycemic events. Using insulin to control blood glucoses while avoiding hypoglycemia is an essential but often challenging aspect of quality inpatient medical care. Hypoglycemia defined as a blood glucoses (BG) < 70 mg/dl has been identified as the third most common adverse medication safety event (AMSE) resulting in frequent patient harm. An interdisciplinary glycemic team identified and led implementation of glycemic management improvements to reduce hypoglycemia related AMSE.

Method:

A retrospective analysis was completed to compare baseline pre-glucommander ((Pre-GM) April 1, 2016 – March 31, 2017) data to post-glucommander ((Post-GM) April 1, 2018-March 31, 2019) data. During the pre-glycemic management improvement period the hospital used EndoTool, an IV insulin software to support the management of severe hyperglycemia. To achieve effective glucose control, a tool to support IV and subcutaneous insulin management was identified as the top priority. Revising order sets and providing physician/nurse education were the hypoglycemia reduction strategies used in conjunction with the implementation of the Glucommander eGlycemic Management System (eGMS).

Result:

After implementation of Glucommander eGMS the percent of patient days (%PDs) <70 mg/dL decreased significantly (7.19%) compared to the Pre-GM period. Glucose delta between admission and discharge showed a statically significant difference between the Pre-GM to Post-GM average admission BG compared to the average discharge BG. Mortality comparison between the two groups showed statistically significant reduction (41%) in the Post-GM patients.

Conclusion:

Implementation of eGMS showed significant improvements in hypoglycemia rates, hospital glucose control and mortality. This study supports the efficacy and safety of eGMS.