

Multidisciplinary Approach to Decreasing Hypoglycemia in an Urban Academic Hospital

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Objective:

The goal was to minimize iatrogenic hypoglycemic events in adults at an 800-bed hospital. Creation of a multidisciplinary program examining factors that contribute to hypoglycemia assured the thoroughness of our ability to identify practice changes to achieve this goal.

Method:

Using quality improvement methods, we sought to address the incidence of medication related hypoglycemia in hospitalized patients by implementing evidence-based practice changes. Following an extensive literature review and internal practice audit, we identified important components of a comprehensive plan to trial. Interventions were trialed over time using Plan-Do-Study-Act (PDSA) cycles on a pilot unit to optimize performance and improve outcomes. Final approaches included provider and patient education; initiating a new meal time insulin process; and enhanced multidisciplinary communication, e.g. huddles, order sets; pharmacy scoring tool; and real time alerts.

Result:

The FY19 goal was to reduce the rate of inpatient medication-related hypoglycemia from the baseline of 3.97 events per 1,000 medication days to 3.73 events per 1,000 medication days. The FY-19 goal was surpassed with an overall 3.18 events per 1000 medication days. Timing for insulin administration at meals improved by 25%. Rates for FY18 to FY19 for BG<70 improved by 5% and BG<40 decreased by 23%.

Conclusion:

Targeted interventions such as patient and staff education, door signage for every patient receiving insulin, timely insulin administration, insulin ordering guidelines and alerts have all contributed to a substantial reduction in hypoglycemic events. In addition, input from all involved disciplines including ancillary dietary and nursing staff was crucial to success. Continued attention to real time feedback and analysis of events provides sustained improvement.