Optimal Management of Diabetes Mellitus in Hospitalized Patients: Case-based Learning Session

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RATIONALE/NEED

- Diabetes Mellitus is present in almost half of all patients admitted to adult general internal medicine (GIM) service.
- Many providers are unaware of dosing standards for insulin and/or not paying adequate attention to glycemic control.
- Order sets in EHR incorporate best practices but are woefully under-utilized.
- Improper dosing of insulin is responsible for almost half the cases of hypoglycemia experienced by patients at VMC.
- Hypoglycemia is a serious adverse event associated with prolonged length of stay and increased mortality.
- Educating providers on appropriate use of diabetes order sets can help improve patient outcomes.

RESULTS

- Residents and students rotate through the GIM inpatient rotation in blocks of 4 weeks each.
- This education intervention was completed in the first week of a new cohort starting the rotation.

EVALUATION PLAN

- Perform a pre-test to gauge baseline understanding and expect improvement on post-test performance. (Done)
- Measure clinical metrics such as order set usage and incidence of hypoglycemia to see evaluate appropriate application of knowledge. (Done as demonstrated by results above)
- Perform a post-test to see if baseline knowledge has been improved and sustained. (Planned for Spring 2015)

PERFORMANCE DATA

- Any Diabetes Order Set Used

  - GIM
  - Baseline: 0%
  - July 2014: 42%
  - Aug 2014: 54%
  - Sept 2014: 48%
  - Oct 2014: 52%
  - Nov 2014: 74%
  - Dec 2014: 64%

  Target = 60%

- Validated Events <50mg/dl

  - 2 South - GIM Only
  - Baseline: 7.5%
  - July 2014: 4%
  - Aug 2014: 2%
  - Sept 2014: 3%
  - Oct 2014: 6%
  - Nov 2014: 4%

  Target = 3.75 events

IMPACT/LESSONS LEARNED

The material developed for this educational intervention applies to all areas where patients with diabetes are admitted (e.g. Family Medicine, Surgery, Cardiovascular services, Oncology etc.). The teaching materials and this method can easily be adopted in all those environments and drive improved care for our patients. Core knowledge, system tools such as order sets in EHR and appreciation for quality outcomes are all competencies needed in our graduates. This educational intervention can be a part of a longitudinal curriculum designed to meet these needs.

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