

Abstract

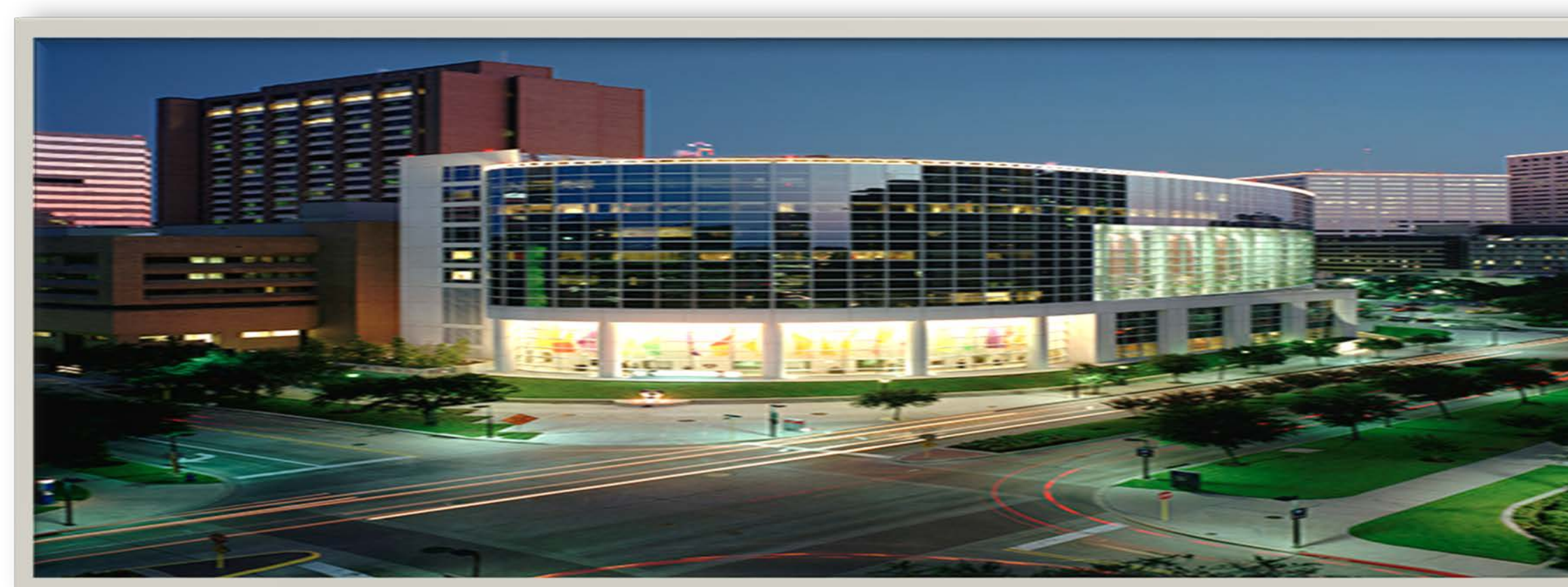
Insulin remains the most common medication used for glycemic control in hospitals with hypoglycemia being the primary adverse effect associated with its use. Hypoglycemia has been linked to adverse outcomes, such as increased morbidity and mortality. It has also been related to an increased length of stay and cost of patient care. Quality diabetes (DM) care requires standards that ensure safe delivery of care which is best implemented using order sets. These strategies can improve safe care for patients experiencing hypoglycemia. Standardizing hypoglycemic care via protocols can also improve patient safety and hospital metrics. Research shows that the use standardized hospital-wide nurse initiated hypoglycemia treatment protocol can support safe care

Background

Based on hospital reported hypoglycemic incident reports the DM Nurse educators recommended the development of a hypoglycemia protocol for patients with and without diabetes. This recommendation was presented to the DM Collaborative Practice Team which is a multi-disciplinary healthcare team that was established to support evidence based care of the DM patient in the hospital. The hypoglycemia protocol was developed with the support of the Chief of Endocrinology. This protocol was presented to multiple hospital committees, revisions were made, and Pharmacy Nutrition Therapeutics Committee recommended that it be implemented as a "Standing Order" and piloted on a unit prior to its approval as a protocol. It was implemented for 5 months

Conclusion

Hypoglycemia is often preventable and delay in care can have dangerous consequences. The development of a simplified protocol that can be easily followed is needed for nurses as they are the primary providers of patients with hypoglycemia. Nurses need ongoing education and support when implementing protocols. In order for hospitals to move forward with safe care, it is important that hospital follow the Evidence Based Research and thus the development and implementation of a "Nurse Driven" Hypoglycemia Protocol. This protocol should support care for patients with and without diabetes



Educational Model

- Retrospective design: Pre & post-intervention study: 2 months pre-intervention and 3 months post-intervention
- The patients were divided into 2 groups: Those with DM and those without DM
- The DM Educators and Unit Director provided education to staff nurses on the use of the protocol
- Hypoglycemia Standing Order was placed on every chart
- Metrics for hypoglycemia pre-intervention and post intervention were captured
- Chief of Endocrinology coordinated evaluation of the findings
- Endocrinology fellow evaluated data from IT and chart reviews
- Results were presented to the DM CPT with recommendation that a simplified version be developed so that it can be easily followed by all nurses

Barriers

- Feasibility: Difficulty following a complex protocol
- Hospital Red Tape: Delay in ability to obtain data from IT and re-submit to committee for approval as a Hypoglycemia Protocol
- The COVID-19 pandemic started in January, and the COVID patients were placed on the piloting unit.
- The pandemic posed added challenges such as complex patients, agency/travel nurses, new and limited hospital staff, and graduate nurses with less than 1 year experience
- World Pandemic affecting chain of supply and demand that also affected hypoglycemia care, such as decreased availability of Dextrose and Glucagon
- DM Educators were furloughed in the mist of the pandemic

References

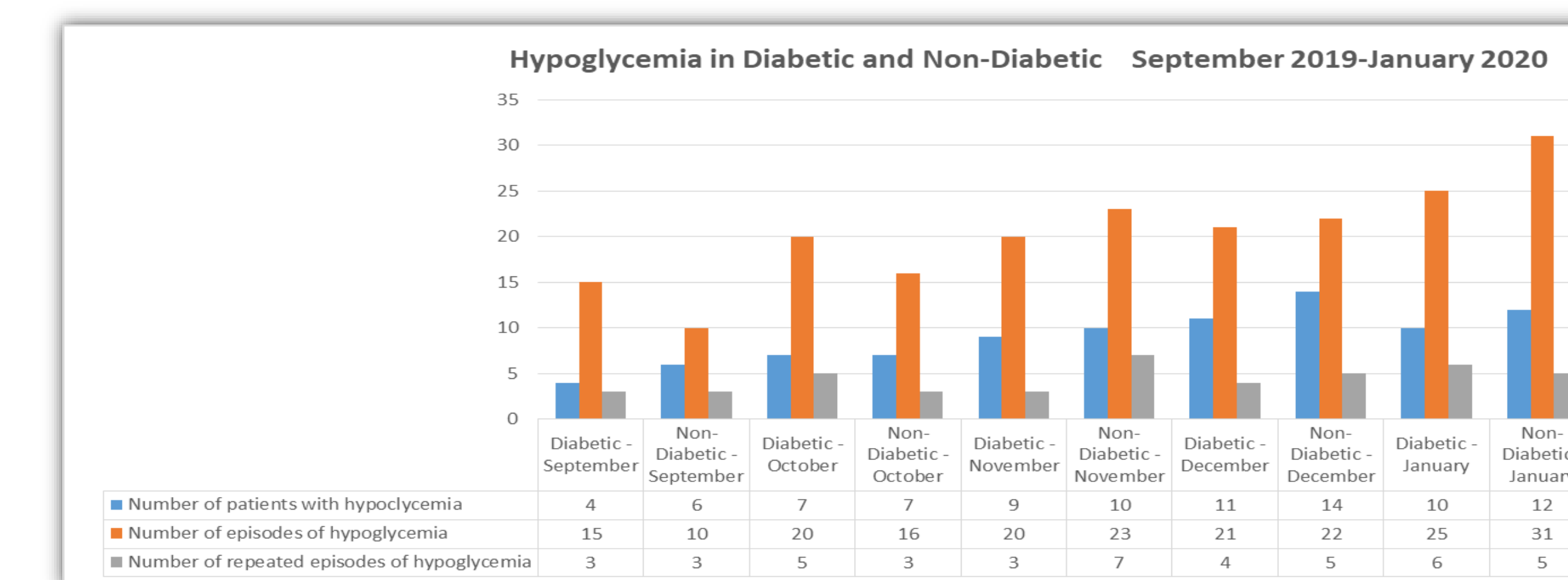
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Evaluation

- Documentation and treatment of hypoglycemia was higher after implementation
- Mean glucose in patients who experienced hypoglycemia was not significantly different before and after treatment even after the implementation of the hypoglycemia standing order
- Repeat blood glucose checks after hypoglycemia were not higher and recurrence of hypoglycemia was lower
- Hypoglycemia in the patient with and without diabetes were similar
- Retrospective review of the protocol showed that the protocol was not consistently followed by all nurses
- Nursing feedback showed the need for simplification of protocol
- Hypoglycemia increased in January with the pandemic



Recommendations

- Simplify the Hypoglycemia Stand Alone Protocol for ease of use
- Identify unit DM champions for continual educational reinforcement
- Incorporate education on hypoglycemia during orientation with yearly mandatory hypoglycemia education for all nursing staff within the national hospital system
- Nurses with less than one year of experience need close and experienced mentorship
- Implement a Pre-meal Humalog Hard stop in the electronic medical record as a data-driven decision tool preventing hypoglycemia related to mealtime insulin
- Hypoglycemia should be documented in the medical records and tracked for quality improvement
- Nurse driven stand alone protocols should be developed and implemented in order to support Evidence based and DM Standards of Care