

# Management of the Postoperative Patient with Glucose Dysregulation in Ambulatory Care Settings: A Policy Proposal



WASHINGTON STATE UNIVERSITY

Jennifer Adams, DNP-FNP Student, BSN, RN, CCRN, FNTF

## BACKGROUND

- Perioperative dysglycemia is linked to adverse outcomes, such as hypoglycemia, infections, and increased mortality.
- Hyperglycemia affects 20-40% of surgery patients, with 35% lacking a diabetes diagnosis (Dogra & Jialal, 2022; Ylikoski et al., 2020).
- Outpatient surgeries are becoming increasingly complex, and postoperative dysglycemia can last up to 21 days (Lamanna et al., 2022), leading to higher rates of adverse outcomes. Such as infection, hospital readmission, and increased mortality (Law et al., 2018).
- A practice gap existed at a multi-hospital system in the Pacific Northwest where patients with dysglycemia were not getting blood glucose levels measured before discharge.

## CLINICAL QUESTION

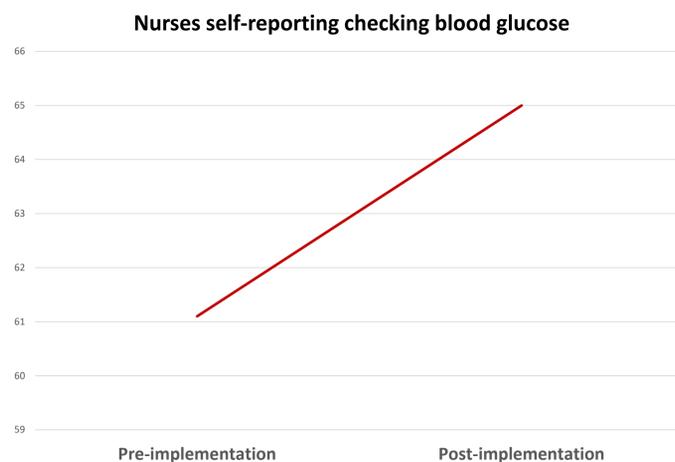
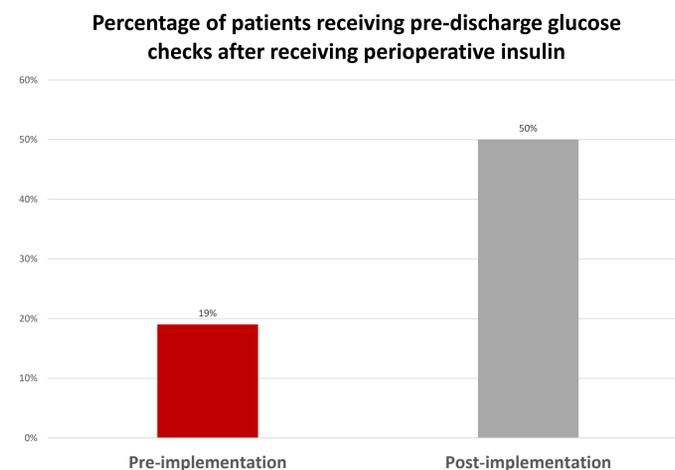
Does implementing a policy directing the management of the postoperative patient with glycemic dysregulation increase the incidence of blood glucose checks before discharge in an ambulatory care setting?

## OBJECTIVE

The objective is to develop and implement a comprehensive policy addressing postoperative glucose management for patients undergoing outpatient surgical procedures across a large hospital system. This involves adding a glucose check before discharge for outpatients receiving insulin perioperatively. Additionally, it will assess the impact on length of stay and nurse workload.

## GOALS AND AIMS

- **Aim #1:** Improved patient safety by increasing the percentage of patients with perioperative dysglycemia receiving blood glucose checks before discharge by >50%.
- **Aim #2:** Patients with blood glucose levels < 70 and > 180 will decrease by 25% within the first three months of policy implementation.
- **Aim #3:** Nurses' perception of their workflow will not be affected post-policy implementation as assessed through pre- and post-surveys.
- **Aim #4:** Staff will achieve compliance with the new policy changes at least 80% of the time.

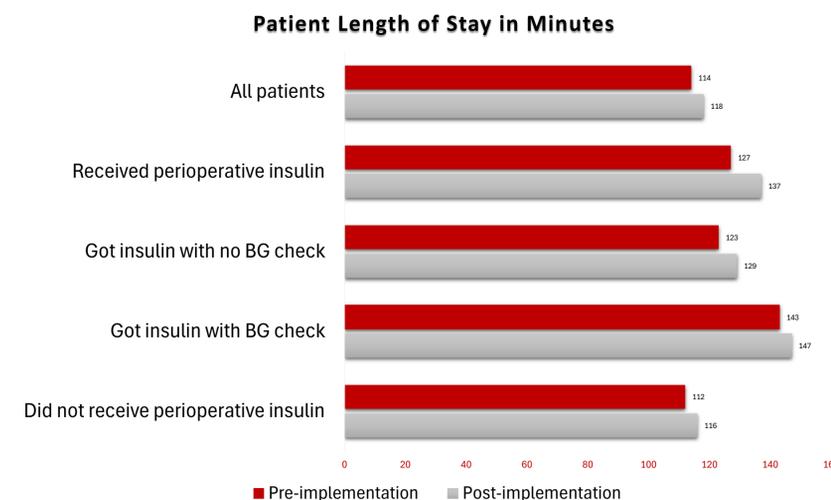


## METHODS

- Interdisciplinary meetings with stakeholders.
- Quantitative data collected from direct observation and chart audits conducted before and after policy implementation. ( $N_{pre}=562$ ,  $N_{post}=593$ ).
- Qualitative data collected via
  - direct observation
  - Nurse surveys conducted pre- and post-implementation
- Rounding on units to answer questions, provide support, and listen to feedback.
- Intervention: Updating the postoperative glucose management guidelines to include a point-of-care blood glucose check before patient discharge after receiving perioperative insulin therapy.

## FRAMEWORKS

- CDC's Policy Analytical Framework
- Neuman's System Theory



## DISCUSSION & RECOMMENDATIONS

- Barriers that contributed to the results of this project
  - Change in anesthesia providers with differing practice
  - Knowledge base regarding stress hyperglycemia
  - Belief that patients without diabetes do not need insulin therapy for hyperglycemia
  - No standardized workflow
  - Data needed to be acquired manually.
- Recommendations
  - Build a popup practice advisory about blood glucose monitoring before discharge into the electronic health record
  - Build an auditing tool into the electronic health record to reduce the time needed for gathering audit data.
  - Create a self-learning module or in-service education about stress hyperglycemia, the differences between patients with and without diabetes, and the importance of maintaining glucose levels < 180 mg/dL.

## OUTCOMES

- The number of patients with dysglycemia who received a pre-discharge blood glucose check increased from 19% to 50%.
- The number of patients with blood glucose levels > 180 mg/dL in short-stay units decreased from 10.8% to 3.3%.
- No cases of hypoglycemia were documented in insulin administration.
- Overall, the patient's length of stay did not significantly increase with the addition of a pre-discharge glucose check.

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References and Contact Information