

# Use Of eGlycemic Management System Safely Achieves Optimal Subcutaneous Glycemic Control with Low Hypoglycemia in Patients without Diabetes

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## OBJECTIVE

Hyperglycemia, regardless of its cause, is clearly associated with adverse outcomes in hospitalized patients. Hyperglycemia in patients with no known history of diabetes and having an A1c < 6.5%, are typically defined as having illness-related or stress-induced hyperglycemia. During hospitalization, patients may not tolerate a diet and may be NPO or placed on alternative feeding methods. Illness-related hyperglycemia can result due to the need for tube feeding, TPN, or dextrose containing intravenous (IV) fluids.

## METHODS

A retrospective, observational study was conducted comparing Glucommander (GM) SubQ treated patients to standard order (SO) sets at a community-based hospital involving 186 adult, ICU NPO patients, having an A1c < 6% and no confirmed diabetes diagnosis on admission or post discharge. Glucommander SubQ™, an FDA-cleared, computerized, predictive dosing algorithm was used to calculate daily basal and correctional insulin requirements and Basal Correction was used in the control group through CPOE orders and titrated by clinicians. Many patients had been transitioned from IV insulin treatment with Glucommander IV to SubQ™ transition module in the GM arm. The SO group were transitioned by clinicians.

## RESULTS

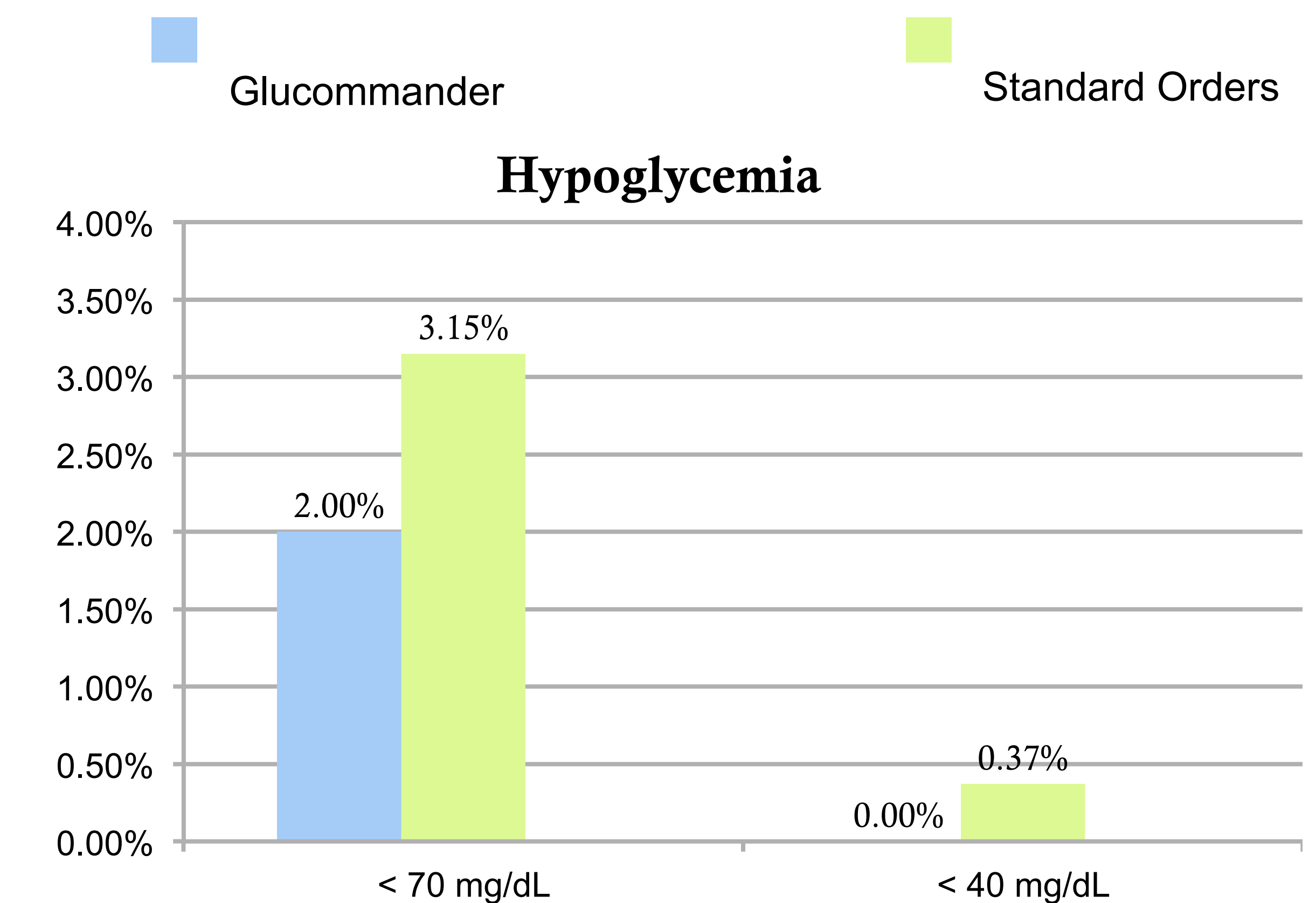
The average A1c was 5.6±0.4% for GM and 5.5±0.6% for SO. The average initial blood glucose concentration was 156 ±58 mg/dL for GM and 143 ±62 mg/dL for SO. Using Glucommander SubQ™, patients were able to reach an average morning BG of 128 mg/dL and 127 mg/dL for SO. The average BG of 144 mg/dL was seen for GM and 134 mg/dL for SO. The average number of point of care glucose tests per patient was 17±24 for GM and 21±25 for SO. There were no incidents of severe hypoglycemia < 40 mg/dL, and 2% < 70 mg/dL for GM and 0.37% <40 mg/dL, 3.15% < 70 mg/dL for SO.

Table 1		
Method	Glucommander	Standard Orders
Patients	91	95
Average A1c	5.6±0.4%	5.5±0.6%
Average Initial BG	156±58 mg/dL	143±62 mg/dL
Average Morning BG	128 mg/dL	127 mg/dL
Average BG	144 mg/dL	134 mg/dL
Average # Glucose Test	17±24	21±25

## AFFILIATIONS

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Figure 2. Comparison rates of Hypoglycemia



## CONCLUSION

In conclusion patients who either transitioned from IV to SubQ or those started on SubQ who do not have a diagnosis of diabetes on admission or post discharge were able to achieve target glucose with no severe hypoglycemia and lower incidence of mild hypoglycemia with Glucommander™ compared to Standard Order sets.