# eGlycemic Management Solution Safely Achieves Multiple Prescribed Glycemic Targets with Rare Hypoglycemia for Geriatric Inpatients

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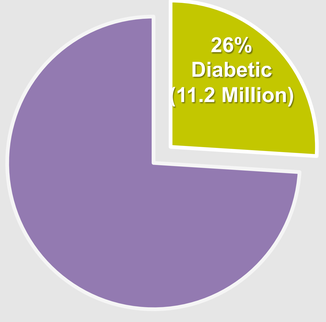
## OBJECTIVE

The aging population and the number of older persons with diabetes is rising in the United States. Approximately 26% of people over age 65 have diabetes (11.2 million elderly adults). The American Diabetes Association and other agencies endorse maintaining blood glucose below 180 mg/dl during inpatient care, yet challenges remain to achieving these goals. This study will attempts to determine if Glucommander, a computerized insulin dosing algorithm, can safely improve glycemic control using 3 different target ranges for patients 80-100 years of age on intravenous insulin (IVI).

### People Over Age 65




## METHODS

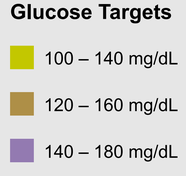
This retrospective study examined 678 patients aged 80-100 years requiring IVI to treat hyperglycemia. Patients were identified by eGMS GlucoSurveillance™,a best practice alert triggered when 2 blood glucose (BG) values exceed 180 mg/dl over a 24-hour period. The following glucose targets were evaluated: 100-140, 120-160 & 140-180 mg/dL. Measured outcomes were (1) Average glucose reduction (2) % of glucose readings in target (3) mild hypoglycemia <70 mg/dL (MH) and severe hypoglycemia <40 mg/dL (SH) and (4) average glucose day of discharge.

## RESULTS

Patients had an average age of 84 years. Patients with a target BG of 100–140 mg/dL had an average initial BG of 202 mg/dL with an average reduction of 85 mg/dL, 92.3% of readings within target range, hypoglycemia rates of 0.79% MH, 0.03% SH, and day of discharge glucose average of 117 mg/dL. Patients with a target BG of 120–160 mg/dL had an average initial BG of 183 mg/dL with an average reduction of 44 mg/dL, 89% of readings within target range, hypoglycemia rates of 0.54% MH, 0.0% SH, and day of discharge glucose average of 138 mg/dL.

Patients with a target of 140–180 mg/dL had an average initial BG of 289 mg/dL with an average glucose reduction of 135 mg/dL, 89.7% of readings within target range, hypoglycemia rates of 0.3% MH, 0.0% SH, and day of discharge glucose of 154 mg/dL.

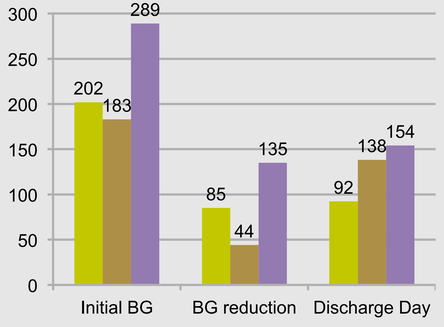
| Demographics | |
|---|---|
| Patients | 678 |
| Age Range | 80 – 100 |
| Average Age | 84 |
| Average starting BG 100-140 mg/dL | 202 mg/dL |
| Average starting BG 120-160 mg/dL | 183 mg/dL |
| Average starting BG 140-180 mg/dL | 289 mg/dL |



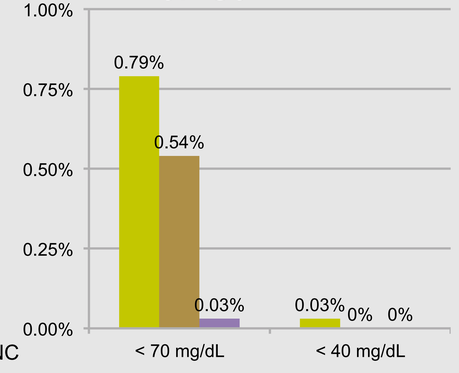

## AFFILIATIONS

1. Wake Forest Medical Center, Winston Salem, NC
2. Sentara Health, Norfolk, VA
3. Glytec LLC, Waltham, MA

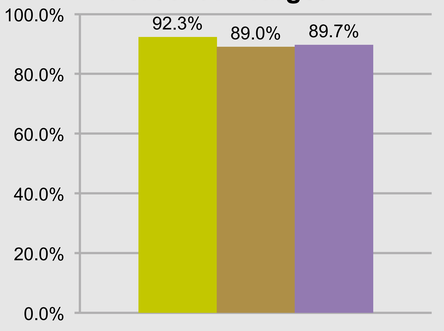
### Average BG Values (mg/dL)




### Hypoglycemia




### Percent in Target




## DISCUSSION

Our results suggest multiple glucose targets are safely obtained and maintained using treatment with IVI managed by Glucommander for geriatric patients 80 – 100 years of age with an average age of 84 years.

## CONCLUSION

All 3 BG targets resulted in a high percentage of blood glucose values < 180mg/dL, day of discharge blood glucose average around the midpoint of the respective target range, and overall very low rates of MH or SH during treatment with Glucommander.