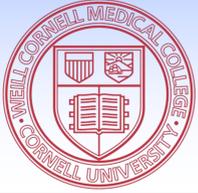


# Using Computer Order Sets to Improve Inpatient Glycemic Control

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## Background and Aims

- Introduction:
- What is the problem? It is estimated that one-third of inpatients have known diabetes or hyperglycemia during hospitalization.
- What do we already know about the problem? The appropriate initiation and titration of insulin therapy is an ongoing challenge.
- Where is our gap in knowledge? It is unknown if a computer based insulin algorithm would improve inpatient glycemic management.
- What is your hypothesis? The implementation of an insulin order set would decrease the rate of hypoglycemia and improve inpatient glycemic control
- What were the aims of this project? To evaluate the safety and efficacy of a comprehensive insulin order set in the inpatient computer-based provider order entry (CPOE)

## Methods

- Sample: All the adult inpatient units that utilize subcutaneous insulin at New York Presbyterian Hospital/Weill Cornell Campus.
- Method of data collection: Laboratory Point of Care Testing reports are analyzed on a monthly basis.
- Description of the intervention: Five comprehensive subcutaneous insulin order sets were launched on November 1,2010. Insulin dosing was based on patient's weight and expected sensitivity to insulin. Each Insulin Order Set Auto-Calculates Insulin Dose. There are 5 dosing levels: Low, Medium, High, Poor Intake (Less than 50% of tray) or NPO.
- Metrics used/Outcomes measured: Rates of hypoglycemia and hyperglycemia from January to October 2010 were compared to the same period in 2011 to evaluate the safety and efficacy of the order set.

Figure 1: Bolus Dosing: Low Dose Order Set

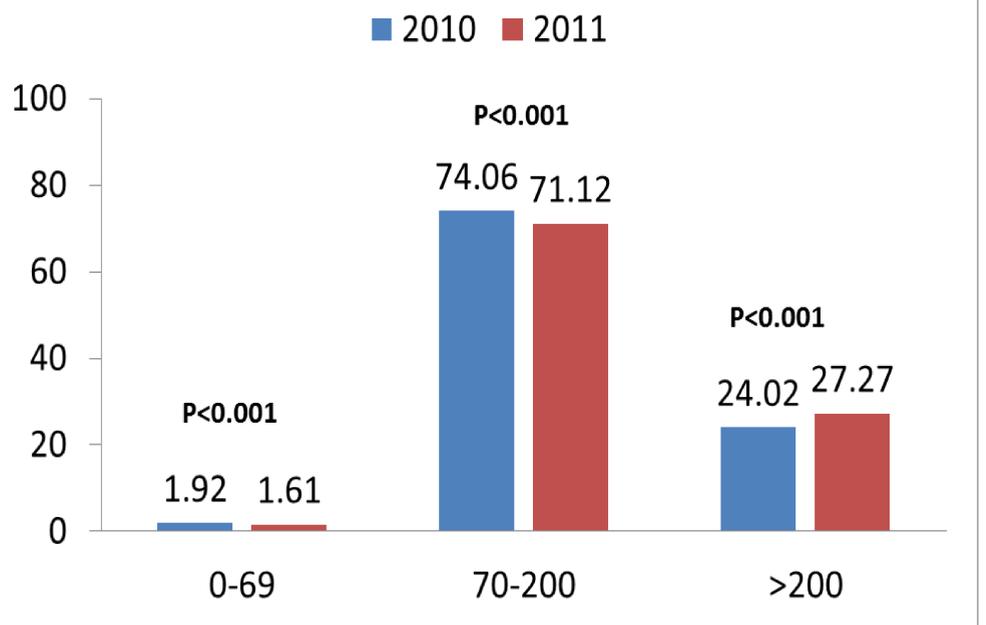
## Results

Table 1: Rates of Hypoglycemia, Target Range & Hyperglycemia

Medical and Surgical Units (P2, 5N, 5C, 10N, B15,14N,8C,14S,6C,2N)

Frequency	Table of test_y by BG				
	test_y	BG			
Row Pct		0-69	70-200	>200	Total
Col Pct					
	<b>2010</b>	1422	54799	17776	73997
		1.92	74.06	24.02	
		55.68	52.28	48.09	
	<b>2011</b>	1132	50027	19186	70345
		1.61	71.12	27.27	
		44.32	47.72	51.91	
	<b>Total</b>	2554	104826	36962	144342

Figure 1: Comparison of 2010 and 2011



## Discussion

- Key findings from your project: Percentage of Hypoglycemia was significantly reduced from 2010 to 2011. The percentage of patients in target decreased from 2010 to 2011. This was associated with an increase in patients with BG>200 mg/dL.
- Lessons learned from implementation: The use of an insulin order set may result in increased patient safety due to decreased rates of hypoglycemia.
- Analysis of project and results: The increased rates of hyperglycemia may indicate the need for incorporating titration of insulin dosing into the order set.
- Next steps: Creation of Auto-Calculation for dose increases depending on glucose values to be added to next generation of order set.

## References

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