Improving Glycemic Control in an Inpatient Setting Through Implementation of a Glycemic Control Team

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Description of the Program
Seven essential elements of a successful glycemic control program:
1. Institutional/Administrative Support
2. Multidisciplinary Team/Steering Committee
3. Data Collection/Metrics
4. Specific Aims/Goals
5. Standardized Insulin Order Sets
7. Comprehensive Education

Institutional/Administrative Support
- SWMC Board endorsed "Glycemic Control" as the Quality goal for 2007
- Funding provided for the Glycemic Control Team, Data Collection, and Education

Multidisciplinary Team/Steering Committee
Glycemic Control Team Members—Responsible for daily management of patients seven days a week:
- Full-time hospital diabetes education (HDE) — Provides education and coordinates discharge
- Physician oversight/available on call

Benefits of improved glycemic control in an inpatient setting include:
- Reduced Mortality
- Reduced Morbidity
- Infection
- Renal Failure
- Reduced Costs of Care
- Length of Stay
- Cost of Inpatient Complications
- Reduced Re-hospitalization

Goal of the Glycemic Control Team:
- Improve the overall daily glucose management of inpatients

Initial focus of the Glycemic Control Team:
- Management of surgical patients with diabetes or hyperglycemia
- Referrals of patients whose glucose control was difficult to manage

Experience with the Program
Glycemic Control Team started October 2006 and is staffed seven days a week between the hours of 7:00 am and 5:30 pm
- 6 pharmacists trained to be members
- Average of 14 patients a day
Average blood glucose level decreased from 165.4 mg/dL to 148.5 mg/dL

Data Collection/Metrics
- Average length of stay of surgical patients
- Average of 14 patients a day
- 6 pharmacists trained to be members
- 3-hour nurse education to 614 nurses
- 3 Physician Grand Rounds on Glycemic Control
- Medical Staff Meetings: Medicine, Cardiology, Surgery
- 3 hour nurse education to 614 nurses
- Pharmacist education/training to pharmacists on the Glycemic Control Team

Discussion/Conclusion
- Incorporating essential elements can result in breakthrough levels of improvement in glycemic control in an inpatient setting
- Use of a Glycemic Control Team to assist with the daily management, education, and coordination of care of diabetic and hyperglycemic patients can significantly improve outcomes
- Pharmacists are critical to the success of a glycemic control program

Overall Average Glucose Level
Overall Percent Glucose Readings By Range

Average Length of Stay
Surgical Patients Receiving Insulin

Percent of glucose readings in range in the Intensive Care Unit increased from 68% to 74.4%
Percent of glucose readings on Non-Critical Care Units increased from 62.4% to 72.5%

No change in percent of hypoglycemia events
Percent of patients on insulin receiving a basal insulin increased from an average of 42.4% to 52.6%
Average length of stay of surgical patients receiving insulin decreased from 9.8 days to 7.8 days