Glycemic Control Mentored Implementation Program

Optimize Glycemic Control and Minimize Hypoglycemia in Your Hospital.

The Society of Hospital Medicine’s (SHM’s) Glycemic Control Mentored Implementation (GCMI) Program supports the development and implementation of glycemic control programs at hospitals nationwide. The ultimate goal of the program is to optimize the care of inpatients with hyperglycemia and diabetes and prevent hypoglycemia.

GCMI provides data analysis and benchmark reporting resources along with online tools, education, peer networking and coaching programs that provide one-on-one mentorship by a physician leader to support your work in glycemic management.

“We have improved the overall institution’s glycemic control over the year and increased awareness in our healthcare workers of the significance of controlling blood glucose levels during the patient’s stay. Overall, the participation was invaluable to the development of our Diabetic Program.”

— Robin Stevens, HealthAlliance of the Hudson Valley

“We used the SHM workbook as the guide to revise our diabetic care. It made the process much easier. The workbook certainly contributed to us becoming a Certified Diabetic Center with a perfect score from the JCH.”

— Jeffrey Barnum, MD, Community Hospital of the Monterey Peninsula

APPLY TODAY

For information or to register, visit www.hospitalmedicine.org/gcprogram or contact Ann Nolan at anolan@hospitalmedicine.org.
Glycemic Control Online Community and Education — designed to enhance the efficiency and reliability of your quality improvement efforts in order to close the gap between best practices and methods for caring for the inpatient with hyperglycemia:

**Tuition is $24,000 per hospital team.**

Glycemic Control Mentored Implementation Program sites receive one year of individualized mentoring including:

- **Monthly coaching calls with the mentor** to develop, modify and implement interventions; establish evaluation processes; and monitor performance over time

- **SHM-facilitated calls with live webinars** with other mentored sites in the collaborative to share success stories and experiences

- **Two-year access to the online Web-based Glycemic Control** collaborative to share ideas, documents and other resources via an active discussion forum, document sharing and other Web-based tools

- **Data collection and analysis tools** generate on demand reports with ease of use and benchmark against other program participants

  *Tuition is $24,000 per hospital team.*

Glycemic Control Online Community and Education — designed to enhance the efficiency and reliability of your quality improvement efforts in order to close the gap between best practices and methods for caring for the inpatient with hyperglycemia:

- **Online Glycemic Control Resource Room** including clinical tools and interventions, research materials and literature review, informational papers and case studies, teaching slide sets and more

- **Implementation Guide** providing step-wise instruction for improving glycemic control, preventing hypoglycemia and optimizing care of the inpatient with hyperglycemia and diabetes

- **Access to the Glycemic Control Online Community**
  - Glycemic Control Library of site-created tools and documents: View sample order sets and protocols, awareness campaigns, patient education materials and various articles
  - National Discussion Forum: Share professional questions and discuss topics related to the planning, implementation and evaluation of Glycemic Control interventions
  - Access to on-demand Webinars in the Glycemic Control community

- **Glycemic Control Data and Performance Tracking Center**: Track performance on project milestones and outcomes, and benchmark performance

  *Pricing is $5,000 per hospital, ($2,500 per year), with a minimum of two years.*

Apply Online [www.hospitalmedicine.org/gcprogram](http://www.hospitalmedicine.org/gcprogram)
Glycemic Control Program
Informational Webinar
August 14, 2014

Presenters

• Greg Maynard, MD, MSc, SFHM
  Clinical Professor of Medicine, Director, Center for Innovation and Improvement Science- University of California, San Diego
  CMO, Society of Hospital Medicine

• Ann Nolan, Senior Project Manager, Center for Hospital Innovation and Improvement- Society of Hospital Medicine
Agenda

- Overview of SHM and Quality Initiatives
- Why Glycemic Control?
- SHM’s History of Glycemic Control Efforts
- Mentored Implementation
- Data Center & Glucometrics Reports
- Additional Program Offerings
- Q&A

About SHM

- A membership organization with 14,000 members and growing
- Open to both physicians and non-physicians
- For those who are practicing or interested in hospital medicine

Mission Statement

SHM is dedicated to promoting the highest quality care for all hospitalized patients. SHM is committed to promoting excellence in the practice of hospital medicine through education, advocacy and research.
The Hospitalist Role in Quality

- Hospitalists are well positioned to play a leadership role in Quality Improvement
- Rather than focusing on guidelines, SHM focuses on IMPLEMENTATION, recognizing that every hospital is different
- SHM programs offer a road map, help with measurement, and QI / leadership training to maximize the chances of success.

The Hospital Medicine “Movement”

The fastest growing medical specialty in history

- Approximately 44,000 hospitalists
- Presence at almost 70% of US hospitals
- Attending/consulting MDs for 65% of Medicare medical-surgical discharges
Toolkits & Implementation Guides

- Free virtual toolkits of resources and best practices
- Detailed step-by-step instructions for how to kickoff a quality initiative
- Sections include:
  - Gaining institutional support
  - Forming a multi-disciplinary team
  - Developing a comprehensive measurement plan
  - Detailed interventions
  - Creating sustainability
- Provide foundation for mentored implementation programs

Current Toolkits
- Project BOOST (care transitions)
- Glycemic Control
- Medication Reconciliation
- Venous Thromboembolism
- Atrial Fibrillation

Coming Soon:
- Acute Coronary Syndrome
- COPD
- Pain Management

SHM’s Glycemic Control History

2005
Task Force Convened

2008
GC Resource Room Launched & JHM Supplement

2010
GCMI 2 Launched 96 Hospitals

2014
Over 160 GC Participants & Counting

2006
Call to Action Consensus Conference

2009
GCMI 1 Launched 30 Hospitals

2012
Upgraded glucometrics program and reporting capability
w2  insert timeline all on one page
wnickel, 11/21/2012
Why Glycemic Control?
(It’s about more than infusion insulin glycemic targets!)

• DM / Hyperglycemia Very Common
• Opportunity to identify and intervene
  – poorly controlled DM, previously undiagnosed DM, stress hyperglycemia (pre-diabetes)
• Hypoglycemia and extreme hyperglycemia
  – Safety problem and a Quality problem
• Public reporting, regulatory guidelines etc.
• Inpatient Care - Complex w/ unique challenges
  – Education alone insufficient, need systems change
• Huge Implementation Gap - Chaotic baseline

Essential Elements
Successful PI Efforts

• Institutional support – buy in
• Teams and Culture of Improvement
• Understand Current Process
• Willingness to Redesign process
• Defined goals
• Metrics – reliable, practical, rapid feedback
  – At least some measures are “real time”
• Reliable Interventions
• Ongoing informed improvement
• Educational programs
Iatrogenic Hypoglycemia
A Top Source of Inpatient Adverse Drug Events (ADEs)

- ADEs are most common cause of inpatient complications
  - affecting 1.9 million stays annually
  - costing $4.2 billion / year
  - responsible for 1/3 of hospital acquired conditions (HACs).
- 50-60% of ADEs are preventable
- 57% of ADEs are from hypoglycemic agents
- > 10% of those on a hypoglycemic agent suffer at least one hypoglycemic ADE

Classen DC et al. JAMA 1997;277:301–6.

Common Etiologies: Inpatient Iatrogenic Hypoglycemia

- Inappropriate prescribing
- Failure to respond to unexpected interruptions in nutrition / carbohydrate
- Failure to adjust regimen after first hypoglycemia episode
- Poor coordination of nutrition delivery, monitoring, and insulin delivery

### Failure Mode / Problem Area

**Inappropriate prescribing**
Standardized order sets for subcutaneous insulin, IV insulin, transitions, and monitoring. Pre-formatted insulin regimens to match nutritional intake patterns. Forcing functions to mandate use of protocol-driven orders. Intelligent clinical decision support (CDS) in order sets. Elimination of free text insulin orders and CDS discouraging correction/sliding scale insulin as primary strategy to control hyperglycemia. Educational tools for physicians, nursing, pharmacists, and patients.

**Glycemic target too low**
CDS to tailor glycemic targets for those at risk of hypoglycemia.

**Matching nutritional intake to insulin dosing**
Policies, protocols, and order set CDS for managing unexpected interruption of nutrition. Coordination of nutrition delivery, glucose testing, and insulin administration, working closely with nursing and nutritional services. Patient and family educational tools.

**Failure to manage hypoglycemia and adjust regimen appropriately**
Hypoglycemia management protocol that features a structured assessment of the etiology, and suggests mitigation strategies. Regular feedback on glucometrics, tracking timeliness of hypoglycemia management, and the percentage of patients with one hypoglycemic event that suffer recurrence.

**Monitoring deficiencies and failure to proactively recognize and manage glycemic excursions**
Tracking, trending, and feedback of glycemic control, hypoglycemia, and hypoglycemia management parameters on a monthly basis. EHR daily reports of glycemic outliers serve as a stimulus for concurrent intervention, aka measure-vention. Glycemic control flow sheets that graphically display glycemic trends and insulin dosing, and pull together other pertinent parameters to assist with management (eg serum creatinine, A1c) assist in measure-vention and also raise awareness of glycemic control issues for the primary inpatient team.

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### Hypoglycemia Reduction Bundle Strategies and Solutions

#### UC San Diego Health System
**Nutrition on Hold Unexpectedly Guideline**

1. **Patient is unexpectedly made NPO/water only nutrition:**
   - Patient on insulin drip
   - Consult starting D10 at tube feed/TPN infusion
   - Infusion + patient with unconditioned or hypoglycemic
     - Resume q 1 hour glucose monitoring until glucose is within target range
     - For patient not requiring insulin or transition
     - For patient with glucose insulin order
     - For patient with transition subcutaneous insulin (regular or lente)

2. **If BG < 70 mg/dL, or 70-79 mg/dL, and asymptomatic,**
   - Follow hospital hypoglycemia protocol
   - Recheck BG within 15-30 minutes
   - If BG > 70 mg/dL, or 70-79 mg/dL, and asymptomatic, follow hospital hypoglycemia protocol
   - Recheck BG within 15-30 minutes
   - Notify MD: Consider starting D10 at tube feed/TPN infusion +1D. Pharmacy may be contacted for further consultation.

3. **Patient on subcutaneous insulin**
   - Patient is on insulin drip
   - Consult starting D10 at tube feed/TPN infusion
   - Infusion + patient with unconditioned or hypoglycemic
     - Resume q 1 hour glucose monitoring until glucose is within target range
     - For patient not requiring insulin or transition
     - For patient with glucose insulin order
     - For patient with transition subcutaneous insulin (regular or lente)

4. **If BG > 70 mg/dL, or 70-79 mg/dL, and asymptomatic,**
   - Follow hospital hypoglycemia protocol
   - Recheck BG within 15-30 minutes
   - Notify MD: Consider starting D10 at tube feed/TPN infusion +1D. Pharmacy may be contacted for further consultation.

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*Normative:*
1. **Decrease Rate of Insulin Drip** - Contact pharmacy to decrease insulin drip-insulin sensitivity coefficient (ISC)
2. **If BG > 70 mg/dL, decrease ISC by 10% and adjust per protocol**
3. **If BG < 70 mg/dL, increase ISC by 10% and adjust per protocol**
4. **If BG < 70 mg/dL, decrease ISC by 10% to 2:1 and adjust per protocol**
5. **If BG > 70 mg/dL, increase ISC by 10% to 2:1 and adjust per protocol**

*Table continued...*
Integrate Best Practice into protocols, order sets, documentation

- Actionable glycemic target
- Constant carbohydrate / dietary / consult
- A1c
- Education plan
- Hypoglycemia protocol
- Guidance for transitions (linked protocols)
- Coordinated monitoring / nutrition / insulin
- DC oral agents, insulin preferred
- Insulin regimens for different conditions
- Dosing guidance
Insulin order sets – only way to order sustained insulin. Separate versions for 1st time order and revision.

Note prompt to DC oral agents, instructions for out of range glucose values, multiple versions of SC insulin orders for different forms of nutritional intake.
Guidance for calculating TDD, warning against correction only insulin regimens for Type 1 DM and those with hyperglycemia.

A Series of Linked Protocols: Reinforce protocols by multiple methods, hardwire whenever possible

<table>
<thead>
<tr>
<th>Basic Protocols</th>
<th>Always More to Do</th>
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</thead>
<tbody>
<tr>
<td>SC insulin</td>
<td>SC Insulin Pumps</td>
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<tr>
<td>IV infusion insulin</td>
<td>Monitoring</td>
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<tr>
<td>Periop management</td>
<td>Coordination: CHO / BG test / insulin</td>
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<tr>
<td>Hypoglycemia Management</td>
<td>Transitions</td>
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<tr>
<td>Patient Education</td>
<td>Provider Education / competency</td>
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SHM’s Glycemic Control Mentored Implementation Program

• Physicians with expertise in glycemic management and quality improvement are trained through SHM’s Mentor University
• Participating sites receive a year of one to one coaching from expert physician, along with additional supplementary tools:
  – Community website
  – Data portal
  – Active listserv
  – Educational webinars
• Over 150 total participating sites
• Eisenberg Award Winner

The Center’s Mentored Implementation & eQUIPS Sites

As of March 2014

BOOST (192) GC (166) VTE (81) MARQUIS (6)


Performance Improvement

Glycemic Control Mentored Implementation: Creating a National Network of Shared Information

Kendall M. Rogers, MD, CPE, FACP, SFHM; Diana J. Childers, MD, FHM; Jordan Messier, MD, SFHM; Ann Nolan, Wendy K. Nickel, MPH; Gregory A. Mancardi, MD, MS; SFHM

Sidebar 1. Mentors’ Key Lessons Learned*

- Sites with hospitalist/physician and nursing or GI project leadership pairings were more successful and sustained.
- The design and implementation of an insulin order set within the ambulatory care setting were challenging but imperative to the success of a project.
- Having mentorship provided external “authority” to suggest and achieve changes in culture and to overcome local roadblocks.
- Most successful institutions followed similar patterns of improvement with subcutaneous insulin: defining a team, developing clear goals and metrics, choosing intervention areas, developing order sets/policies, increasing use of basal and nutritional insulins, then focusing on nursing efforts around insulin timing and response to hyperglycemia.
- Successful sites had actively engaged administration, real-time awareness and response to hyper/hypoglycemia outliers, and active IT involvement for both data collection and robust IT solutions.
- A community of participants enabled each site to avoid having to work from the ground up and gave them the ability to learn from and build on each other’s successes and challenges.

*QI, quality improvement; CPOE, computerized provider order entry; IT, information technology.

Online GC Community

Online GC Community

SHM’S GLYCEMIC CONTROL COMMUNITY

Welcome, Ann
Profile | Communities | Login

Welcome to the Glycemic Control Community website! This community provides access to a variety of resources, data collection tools, discussion forums, and webinars. Read More

Post to the Glycemic Control Community

Click Here to post to the Glycemic Control group

LATEST DISCUSSIONS

RESOURCES
SHM’s Data Center - QuesGen

- Online Data Registry
- Customizable Reporting
  - Date Ranges
  - Care Type
  - Unit Type
- Benchmarking against other program participants

Data / Reporting for Glucometrics, Community, and More
Run chart – Hypoglycemia and Severe Hypoglycemia Rates
Run chart - Secondary prevention
Recurrent Hypoglycemia Rates

Benchmarking - Ranking bar chart
Hypoglycemia Management
Benchmarking – Ranking bar chart
A glycemic control measure

Benchmarking - Ranking Bar Chart
Hypoglycemia Rates
Program Offerings

- **GC eQUIPS- Data Registry and Peer Collaborative**
  - Online Data Registry, Gluometrics and Benchmark Reports
  - Virtual Library with seminal articles and literature
  - Detailed Step-by-Step Implementation Guide
  - Active listserv to share professional questions and feedback on a variety of topics
  - 4 Live webinars and on demand webinars about topics such as:
    - Intro to Glycemic Control
    - Subcutaneous Insulin Strategies
    - Transition from IV to Subcutaneous Strategies
    - Joint Commission Disease-Specific Care Certification for Inpatient Diabetes Care

$5,000 for a two year subscription
Program Offerings

• **Individualized Coaching (Mentoring):**
  – All offerings included in first option
  – Access to one year of mentoring by experts in quality improvement and glycemic management
  – Regular one-to-one mentor phone calls, ad hoc e-mail communications and group webinars

$24,000 for one year of mentoring & 2 years access to online data registry

Program Offerings

• **High Impact Site Visit:**
  – High-impact site visit conducted by expert physician
  – Self-assessment tool to evaluate current practice
  – 90-Minute intake assessment call with physician expert
  – Feedback on self-assessment findings
  – Comprehensive full day site visit with hospital, its QI team, senior leadership, the medical staff and other key stakeholders
  – Grand Rounds or other educational conference
  – Detailed, comprehensive and individualized follow-up report from physician expert

*Contact Ann Nolan for more details*
Program Offerings

- **Full-Day Educational Workshop:**
  - Program development and leadership of full day, in-person meeting/workshop
  - Curriculum development
  - Coordination/participation in planning of overall activities via telephone and email
  - Assistance with interpretation of organizational self-assessments or data
  - Planning and leading the one-day in person meeting/workshop
  - Materials disseminated electronically

  *Contact Ann Nolan for more details*

SHM’s GC Program Offerings & Important Dates

- Glycemic Control Mentored Implementation Program
  - Apply now!
- GC eQUIPS
  - Open enrollment- subscribe now!
Additional SHM Program Topics

• Readmissions/Transitions of Care (Project BOOST)
• VTE
• Atrial Fibrillation
• COPD
• Medication Reconciliation
• Other key quality and safety topics

Contact Information

For more information please contact:
– Ann Nolan, Senior Project Manager
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  • anolan@hospitalmedicine.org
Thank You

Questions?