Glytec®

TIME TO TARGET

The Glycemic Management Journey

Preparing for CMS Glycemic Measures

Leveraging Quality Improvement

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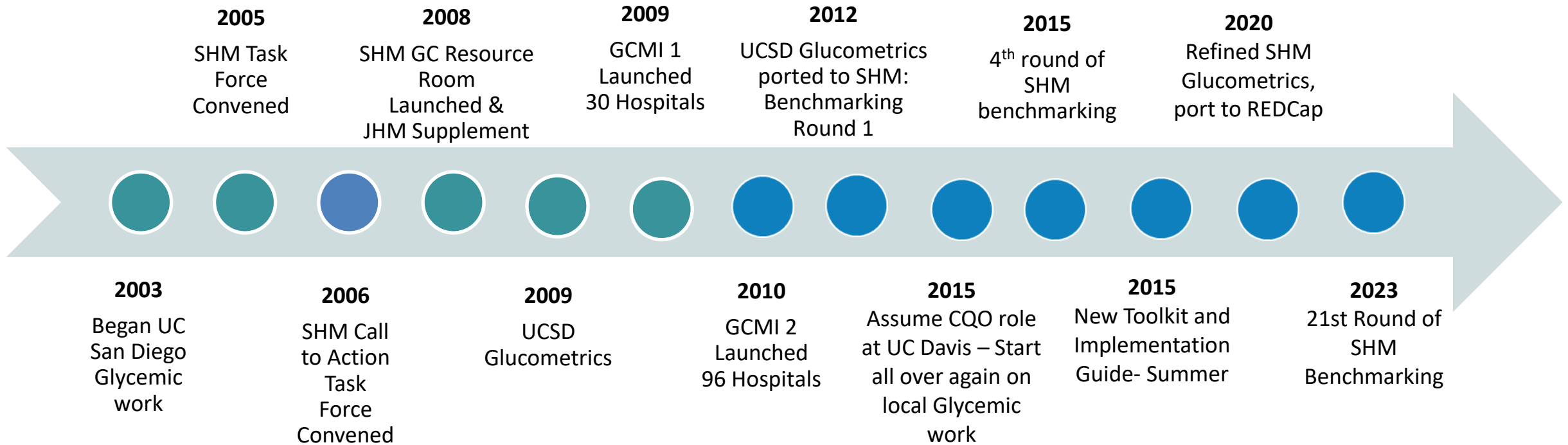
10.25.2023

Inpatient Glycemic Control
Preparing for CMS eCQMs and NHSN Metrics

The CQO Perspective

Greg Maynard M.D., M.Sc., M.H.M.   Chief Quality Officer, UC Davis Health
Society of Hospital Medicine Subject Matter Expert, Safe Inpatient Glycemic Control
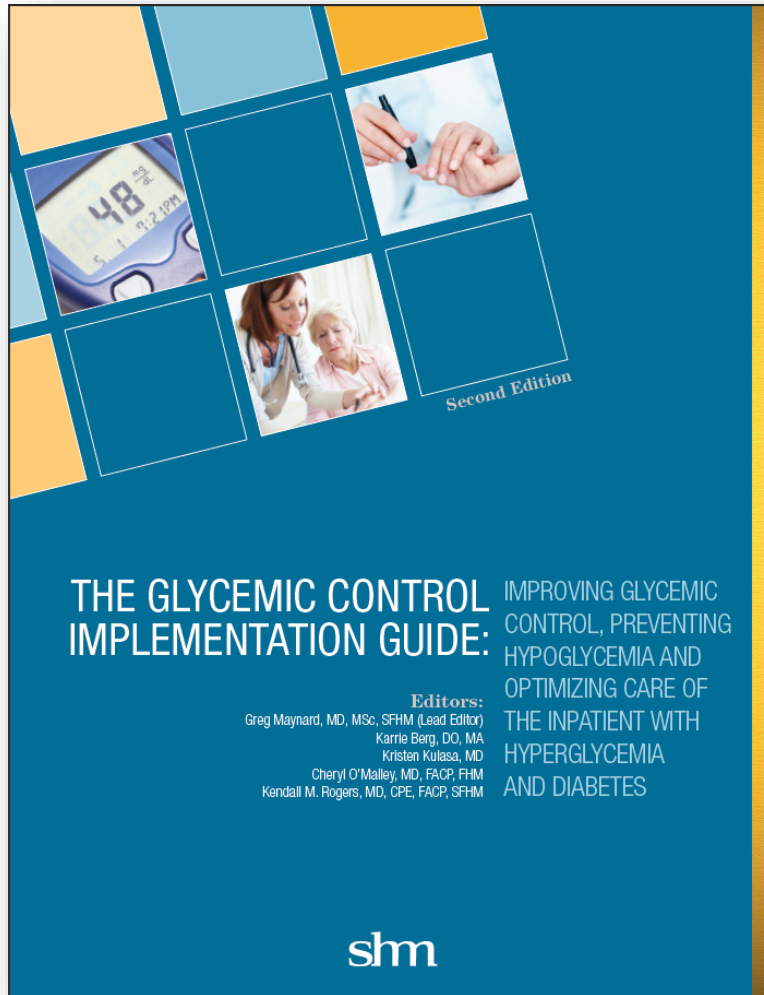
Glucometrics Timeline

My history is intertwined with the Society of Hospital Medicine (SHM)

2005
SHM Task Force Convened

2008
SHM GC Resource Room Launched & JHM Supplement

2009
GCMI 1 Launched 30 Hospitals

2012
UCSD Glucometrics ported to SHM: Benchmarking Round 1

2015
4th round of SHM benchmarking

2020
Refined SHM Glucometrics, port to REDCap

2003
Began UC San Diego Glycemic work

2006
SHM Call to Action Task Force Convened

2009
UCSD Glucometrics

2010
GCMI 2 Launched 96 Hospitals

2015
Assume CQO role at UC Davis – Start all over again on local Glycemic work

2015
New Toolkit and Implementation Guide- Summer

2023
21st Round of SHM Benchmarking

Available at No Charge

THE GLYCEMIC CONTROL IMPLEMENTATION GUIDE: IMPROVING GLYCEMIC CONTROL, PREVENTING HYPOGLYCEMIA AND OPTIMIZING CARE OF THE INPATIENT WITH HYPERGLYCEMIA AND DIABETES

Second Edition

Editors:
Greg Maynard, MD, MSc, SFHM (Lead Editor)
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Kendall M. Rogers, MD, CPE, FACP, SFHM

shm

- Best Practice Review
- Assess Current State
- **Metrics and Data Collection**
- High Performing Teams
- SC Insulin Orders / Protocols
- Insulin infusion protocols
- DKA protocols / order sets
- Perioperative DM management
- Transitions and Reliability
- Education programs
- Hypoglycemia reduction bundle
- Coordination of nutrition / insulin
- Insulin pens
- Insulin pumps
- Example order sets and tools

Glucometrics - Why Measure?

- Assess baseline, garner support

- Assure staff of safety and effectiveness of change

- Track progress over time

- Compare like units to each other

- Prioritize efforts

- Assess trade-offs hyper- and hypo- glycemia

- Benchmark, compare yourself to other hospitals

- Use real time measures for active surveillance (aka measure-vention)

Example Terrible Ten Site - Critical Care   Note Extreme Variability Ranking Bar Chart

Critical Care - Hospital Rank by Percent Stays with Day Weighted Mean >= 180

Critical Care
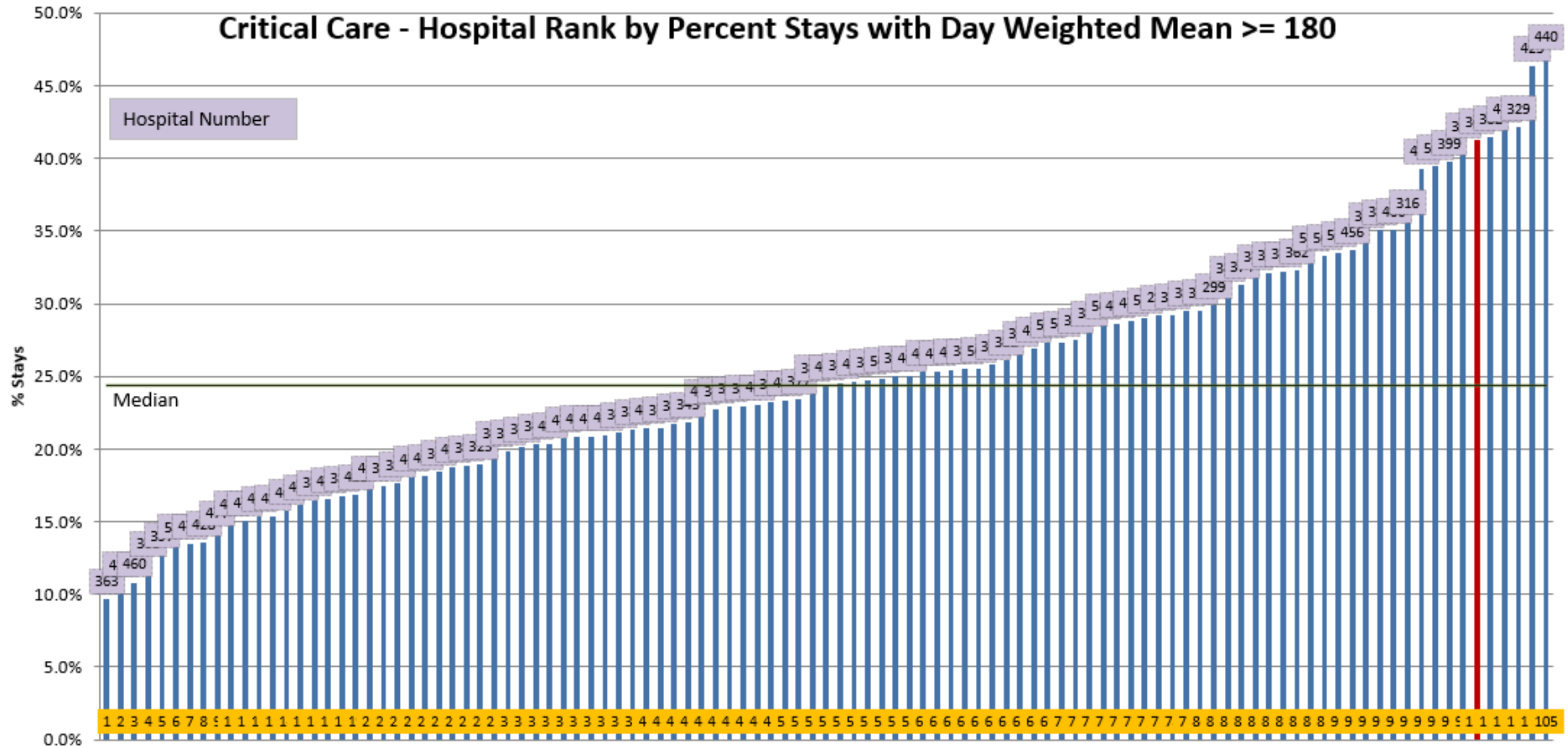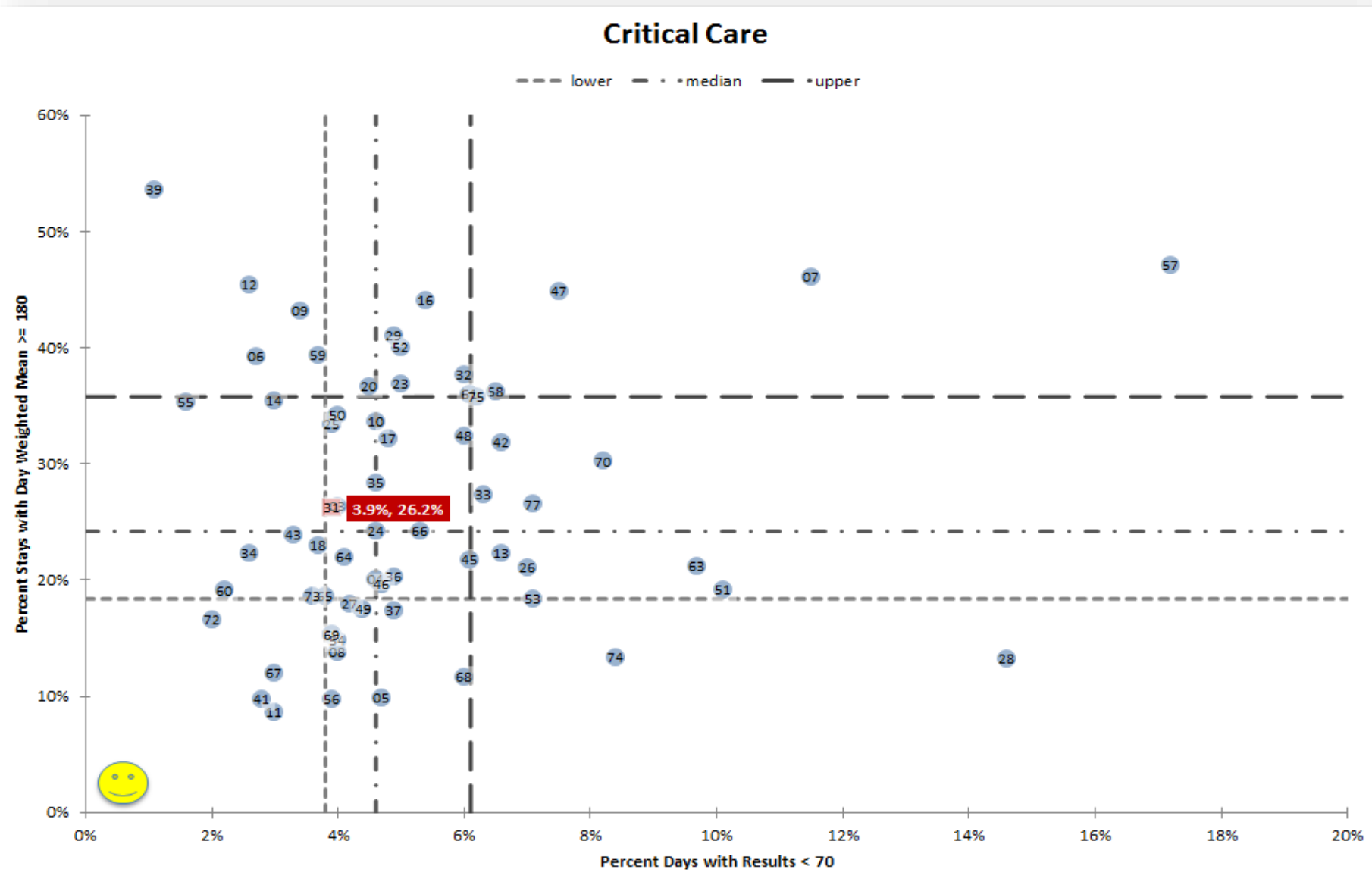
Glycemic control: Y axis

Hypoglycemia: X axis

Inpatient Glycemic Control and Hypoglycemia
Huge variation across hospitals

- Prioritization varies

- Until now, no national metrics

- Not publicly reported, not part of HAC Reduction programs

- Multiple inpatient providers with variable training, knowledge, and interest

- Only a minority of hospitals have reliable metrics to gauge performance

- High performing sites have passionate leaders with dedicated time, an interdisciplinary work group, support for metrics and EHR tools with standardization

- Support for glycemic control efforts dependent on local environment and history

  – Prior serious adverse drug event
  – Influential staff or patient have made it a priority
  – Availability of effective leadership
  – Institutional will to standardize care
  – Availability of tools to help standardize care and monitor results

Includes both laboratory and POC BG values.

Numerator

- Number of **admissions** with BG < 40 mg/dL preceded by an ADD within 24 hours of event

Denominator

- Number of inpatient **admissions** with ≥ ADD administered

Exclusions

- Possible spurious events (repeat read within 5 minutes > 80 mg/dL)
- Patients < 18 years of age

NQF 3533e
Hospital Harm – Severe Hyperglycemia

Balancing measure approved by NQF –
Events in first 24 hours and day of discharge excluded

Numerator

- Number of inpatient **days** with a BG > 300 mg / dL

Denominator

- Qualifying inpatient hospital **days** for patients 18 years of age or older at admission

Population

- ≥ 18 years on admission and discharged during measurement period
- Either a diagnosis of DM OR
- Administration of at least one dose of ADD   OR
- At least one BG ≥ 200 mg/dL at any time during encounter

Impact on Hospitals
Hospital Inpatient Quality-Reporting (IQR) Program

How eCQMs are used

- P4R quality program that reduces payments to hospitals that fail to meet program requirements
- Subject to 25% reduction of Annual CMS payment for failure to report
- CMS is removing 5 measures (that are now routinely met) and replacing them with 5 new metrics, including the Severe Hypo- and Hyper- glycemia measures
- Reporting begins CY 2023 / FY 2025 payment determination

- Hospitals need to pick 3 measures to report on, in addition to mandatory opioid metric
- They will have 7-9 to pick from, so not all hospitals will choose to report on the glycemic metrics

Impact on Hospitals
Financial, Reputational, and Reporting Impact

Your results may vary

- Financial impact of not meeting measures varies by size of hospital and proportion of patients with Medicare

- Impact can easily run into the millions

- Measures can be included in CMS Stars reports, Leapfrog, Vizient, HAC Reduction programs, and more

- Expect the eCQMs to garner more interest and support for glycemic control teams and tools that encourage more appropriate use of insulin

- Fairly straightforward to follow all eCQMs at your site, even if you don't report to CMS (providing you adhere to standard build from your EHR vendor)

CQO view – Metrics raise visibility whether we choose the 2 new metrics or not

CQO view – Metrics raise visibility whether you choose the 2 new metrics or not.

2023 ORYX® Performance Measure Reporting Requirements:
Hospital Accreditation Program (HAP) and Critical Access Hospital Accreditation (CAH) Program

FACILITIES REQUIRED TO SUBMIT DATA TO THE JOINT COMMISSION

1. Facility Type: Hospitals with ≥26 Licensed beds OR ≥50,000 Outpatient visits

Measure	Measure Short Name	2023 ORYX Measures	Measure Data Source	Publicly Reported (Quality Check)	CMS Hospital IQR CY 2023	Additional Comments
REQUIRED CHART-ABSTRACTED MEASURES [1,2]						
PC-01	Elective Delivery	Required if HCO provides OB services	Chart	Yes	Yes	[2] HCOs that do not provide Obstetrical services are not required to submit alternative chart-abstracted measures but may do so if they wish.
PC-02	Cesarean Birth	Required if HCO has ≥ 300 live births annually	Chart	Yes		
PC-05	Exclusive Breast Milk Feeding		Chart	Yes		
PC-06	Unexpected Complications in Term Newborns		Chart	Yes		
OPTIONAL CHART-ABSTRACTED MEASURES						
ED-1	Median ED Arrival to ED Departure-Admit	Optional	Chart	Yes	No	If an organization submits optional measures 1Q2023, they are required to submit those measures for the remainder of the calendar year.
ED-2	Admit Decision Time to ED Departure-Admit	Optional	Chart	Yes	No	
HBIPS-2	Physical Restraint	Optional	Chart	Yes		
HBIPS-3	Seclusion	Optional	Chart	Yes		
HBIPS-5	Antipsychotic Medications at Discharge	Optional	Chart	Yes		
OP-18	Median ED Arrival-ED Departure at Discharge	Optional	Chart	No	OQR	
OP-23	Head CT or MRI Scan Results-Stroke	Optional	Chart	No	OQR	
IMM-2	Influenza Immunization	Optional	Chart	Yes		
SUB-2	Alcohol Use Intervention	Optional	Chart	Yes		
SUB-3	Alcohol & Drug Use Treatment at discharge	Optional	Chart	Yes		
TOB-2	Tobacco Use Treatment	Optional	Chart	Yes		
TOB-3	Tobacco Use Treatment at discharge	Optional	Chart	Yes		
VTE-6	Hospital Acquired VTE	Optional	Chart	No		
AVAILABLE eCQMs: Select 4 measures for all four (4) quarters (new measures are bolded)						
eED-2	Admit Decision Time to ED Departure-Admit	Available	eCQM	No	Yes	
eOPI-1	Safe Use of Opioids	Available	eCQM	No	Yes	
ePC-01	Elective Delivery	Available	eCQM	No		[1] See notes in eCQM/CAM sections on page 2 regarding submitting eCQM instead of CAM to meet PC requirement
ePC-02	Cesarean Birth	Available	eCQM	No	Yes	
ePC-05	Exclusive Breast Milk Feeding	Available	eCQM	No	Yes	
ePC-06	Unexpected Complications in Term Newborns	Available	eCQM	No		
ePC-07	Severe Obstetric Complications	Available	eCQM	No	Yes	
eSTK-2	Discharged on Antithrombotic Therapy	Available	eCQM	No	Yes	
eSTK-3	Anticoagulation Therapy	Available	eCQM	No	Yes	
eSTK-5	Antithrombotic Therapy / Day 2	Available	eCQM	No	Yes	
eSTK-6	Discharged on Statin Medication	Available	eCQM	No	Yes	
eVTE-1	Venous Thromboembolism Prophylaxis	Available	eCQM	No	Yes	
eVTE-2	ICU Venous Thromboembolism Prophylaxis	Available	eCQM	No	Yes	
eHH-01	Hospital Harm—Severe Hypoglycemia Measure	Available	eCQM	No	Yes	
eHH-02	Hospital Harm—Severe Hyperglycemia Measure	Available	eCQM	No	Yes	
eOP-40	ST-Segment Elevation Myocardial Infarction (STEMI)	Available	eCQM	No	OQR	

Green –
Reported chart-abstracted measures

Blue –
Reported eCQMs

Yellow –
Under validation, considering for future reporting

Impact on Quality Improvement

CQO Perspective

You need more than these eCQM measures

- These measures only tell you how often you have "run off the road" (never) events
- Helpful in gaining support and attention, but not very helpful for informing improvement
- No analyses by units or services (eCQMs lump critical care and acute care units together)
- No risk adjustment (hospitals with more complex patients and longer LOS will be penalized)
- No measures for < 70 mg/dL or < 54 mg/dL (neuroglycopenia)
- No measures for timeliness of treatment or recurrent hypoglycemic events during an admission
- No measures for in-range
- No measures for insulin use patterns

You Need Robust Local Metrics to Drive Improvement

Home grown or purchased

- Monthly / quarterly reporting

- Benchmarking against others

- Real time reporting (active surveillance or measure-vention)

- Separate reporting for critical care and acute care units (or infusion vs subcutaneous insulin)

Glycemic Control Teams

If you have them, add support, if not, get them

- Dedicated, empowered, interdisciplinary team
- Protocols and standardization, embedded in to EMR order sets and workflows
- Tools that nudge and provide clinical decision support
- Active surveillance
- Multiple areas (critical care, acute care, perioperative setting, transitions)
- Institutional support and aligned incentives

NHSN Hypoglycemia Initiative – Goals & Objectives

- **Goal:** To establish an EHR- and vendor-neutral standard for submitting inpatient hypoglycemia data electronically to NHSN

- **Objectives:**
  - Support U.S. hospitals in measuring hypoglycemia to improve glycemic management
  - Facilitate benchmarking of hypoglycemia rates for U.S. hospitals

- **Partners:**
  - Hospital clinician, healthcare quality improvement, and patient safety stakeholders
  - EHR system vendors, HL7/healthcare standards and public health groups
  - Lantana Consulting Group

HL7   Health Level Seven
NHSN National Healthcare Safety Network

NHSN Adverse Drug Event Inpatient Hypoglycemia Module

- NHSN recognizes shortcomings of current eCQMs

- They will replicate eCQMs, and will also add-

  - Measures by patient-day **and** patient-stay units of analyses
  - Measures with more cut-offs (<54 mg/dL, <70 mg/dL)
  - Analyses by individual units and groups of like units
  - Risk adjustment (institutional and patient variables)
  - More measures aligned with SHM methodology

- HL7 Implementation guide has been published for hospitals and vendors

- This will turbocharge interest in inpatient glycemic efforts and broaden public reporting

- ETA- Beta-testing now. Roll out slated to start later this year.

Inpatient Hypoglycemia as a Patient Safety and Quality Improvement Aim — Focusing *First* on Internal Use of Performance Measures by Hospitals

☑ Hospital's internal analysis of its own performance measure(s) <u>without</u> reference to performance measures at other hospitals

☑ Hospital's internal analysis of its own performance measure(s) <u>with</u> reference to performance measures at other hospitals

☑ Health system or health agency analysis of hospital performance measure(s) without public reporting of measures

☐ Public reporting of hospital performance measures

☐ Pay for performance using hospital performance measures

☐ Regulatory or accreditation actions using hospital performance measures

Jump Start Improvement Efforts
Algorithms and Order Set Revision and Alignment

- Review your Subcutaneous Insulin Order sets and Insulin infusion order sets, making sure they offer the correct clinical decision support to reinforce best practice

- Align Order sets with written out best practice algorithm

- Revise order sets in the EMR if required

INPATIENT HYPERGLYCEMIA MANAGEMENT OF THE NON-PREGNANT ADULT

Target inpatient blood glucose levels: 100-180 [1]

Consider a diabetes/ endocrine or medicine consult.

Step 1: Discontinue non-insulin antihyperglycemic agents[2]

Step 2: Calculate the estimated total daily dose (TDD) of insulin patient may require; consider adjusting this up or down based on pt's home regimen and their A1C:
- Standard (pt w/ normal body habitus): 0.4 units/kg/day
- If pt very lean, on hemodialysis or very sensitive to insulin (hypoglycemia risk factors): 0.3 units/kg/day
- If pt overweight: 0.5 units/kg/day
- If pt obese, on steroids, or known to be insulin-resistant: 0.6 units/kg/day (or more)
- If transitioning off of an iv insulin infusion, call pharmacy for assistance and take the average hourly rate over the last 6 hours and multiply by 20:
  - if pt was receiving nutrition (tube feeds, TPN, D5 > 50 mL/hr or eating), this is the estimated TDD
  - if insignificant nutrition during the last 6 hours, double the number to determine estimated TDD

Step 3: Determine the *distribution* of the TDD calculated above based on nutrition regimen.

If pt eating or receiving bolus tube feeds[3]:
Check blood glucose qac and qhs
Basal insulin: glargine (Lantus) -- 0.5 x TDD, Given once daily
Nutritional insulin: lispro (Humalog) -- 0.16 x TDD, Give with each meal
Correction insulin, in addition to nutritional insulin: use CPOE default values (adjust if necessary)

If pt receiving continuous infusions of tube feeds or parenteral nutrition[4]:
Check blood glucose q6h
Basal insulin: glargine (Lantus) -- 0.5 x TDD, dosed once a day
Nutritional insulin: regular insulin -- 0.125 x TDD, given q6h
Correction insulin, in addition to nutritional insulin: use CPOE default values (adjust if necessary)

If pt NPO (or nearly NPO, taking Zero Carb clear liquids only)[5]:
Check glucose qac/hs or q6h
Basal insulin: glargine (Lantus) -- 0.5 x TDD, dosed once a day
Nutritional insulin: none (discontinue previous)
Correction insulin: recommend regular insulin scale q 6 hours if pt NPO > 24hrs, otherwise lispro is OK
Consider starting low-dose dextrose infusion ($D_5\frac{1}{2}$NS at 75mL/hr)

Step 4: Re-evaluate & adjust the TDD daily based on the glycemic control of the previous 24h:
- If any glucose > 180, and no threat of hypoglycemia, increase TDD by 10-20%
- If glucose consistently > 180-200, increase TDD by 30%
- If any episodes hypoglycemia (FS < 70), decrease TDD by 20% and consider starting D51/2NS at 75cc/hr

UC San Diego HEALTH SYSTEM

See reverse for special situations[6] & more information about footnoted items

Insulin Terminology:

Basal insulin: long-acting insulin required **at all times** in patients with Type 1 diabetes (and in most patients with Type 2 diabetes) to maintain euglycemia, **even when NPO** (hepatic gluconeogenesis can serve as a continuous source of blood glucose).

Nutritional insulin: scheduled short-acting insulin given with a meal, to prevent the glycemic spike that occurs due to carbohydrate ingestion (given even when the pre-meal blood sugar is in the normal range). Also refers to scheduled insulin given to cover the carbohydrate load from tube feeds or parenteral nutrition.

Correction insulin: short-acting insulin meant to lower high blood sugars given in addition to scheduled nutritional insulin, also given to treat hyperglycemia in NPO patients. If correction insulin dose is consistently required, consider increasing TDD insulin.

1- Target blood glucose range
For patients on insulin, pre-meal blood glucose target is 100-140 mg/dL with a random blood glucose target of less than 180 mg/dL. Less stringent targets may be appropriate in patients with severe comorbidities (i.e., end-stage disease or in whom hypoglycemia is a significant concern.)

2- Stopping oral medications
Oral anti-hyperglycemic agents and injectable non-insulin therapies are not indicated for the management of inpatient hyperglycemia. Adjustments in these oral medications take too long to be effective in the hospital and most oral medications have significant side effects or contraindications in the hospital setting.

3- For patients eating meals or receiving bolus tube feeds
Glargine insulin is the most physiologic basal insulin and is recommended in these patients. Lispro insulin is more appropriate than regular insulin for nutritional doses due to its shorter, more predictable half-life and correspondence with meal times. Using the subcutaneous insulin orderset will allow for adjusted doses based on percent nutritional intake.

4- For patients receiving continuous enteral or parenteral nutrition
A. Consider using an insulin infusion for optimal control in this setting. Keep insulin separate from TPN until a stable dose is reached.
B. Glargine insulin is the most physiologic basal insulin and is recommended in these patients. Regular insulin is recommended as the nutritional insulin. Because of its longer half-life, it is better suited to continuous nutritional sources and can be dosed q6h Instead of q4h.
C. If the tube feeds or parenteral nutrition are held or interrupted, the nutritional regular insulin doses should also be held. See: "Nutrition on Hold Unexpectedly Guideline."

5- For the NPO patient
Glargine insulin is the most physiologic basal insulin and is recommended in these patients. Nutritional or scheduled short-acting insulin should not be given to patients without a nutritional source. Correction insulin should be used to correct hyperglycemia when a patient is NPO. If NPO greater than 24 hours, regular insulin is recommended.

6- Special Situations
A. If patient is receiving nocturnal tube feeds, utilize the Nocturnal Tube Feeding orderset with scheduled regular insulin coverage.
B. If transitioning off of IV insulin infusion, see Step 2 of chart, call pharmacy for assistance, utilize the insulin drip calculator, and/or reference "Transition from IV to SQ Insulin Protocol."

7– Discharge Planning
A. Consider Endocrine/Diabetes consult for diabetes management and education.
B. Reference "Transition Guide: Inpatient to Outpatient Regimen" when determining discharge medications/home regimen.

Jump Start Improvement Efforts
Make Glycemic Control and Hypoglycemia Prevention Visible Institutional Goals

- Engage key physician groups (hospitalists, pulmonary critical care physicians, important surgical groups, and residency PDs / chief residents)

- Consider targets, goals, and incentives around glycemic control, appropriate insulin use

- Demonstration projects that confirm the order sets, used appropriately, are safe and effective. (Prove it works safely then spread)

- Set expectation that order sets will be used and not inappropriately bypassed

- Discourage use of sliding scale insulin as sole therapy for patients with Type 1 DM or persistent hyperglycemia > 180.

- Support an actionable glycemic target, e.g., if BG > 180 mg/dL x 2, patient should be started on insulin infusion (if in ICU) or basal / bolus insulin (if on acute care unit).

  – PR campaign the reinforces the actionable glycemic target, for example:
    "Let's Do a 180!"   or   "180 x 2, there's something to do!"

Jump Start Improvement Efforts
Active Surveillance and Hypoglycemia Prevention

- Support nursing and physician education re: most common causes of iatrogenic hypoglycemia

- Support EMR / nursing changes to build assessment of contributors to hypoglycemia into hypoglycemia management protocol, along with steps to mitigate risk of subsequent hypoglycemia

- Support real time identification of uncontrolled hyperglycemia and pending / current hypoglycemia, along with personnel to triage these cases and intervene in near real time

STROKE CODE - June 10

Recurrent hypoglycemia on same insulin doses for several days preceding stroke code
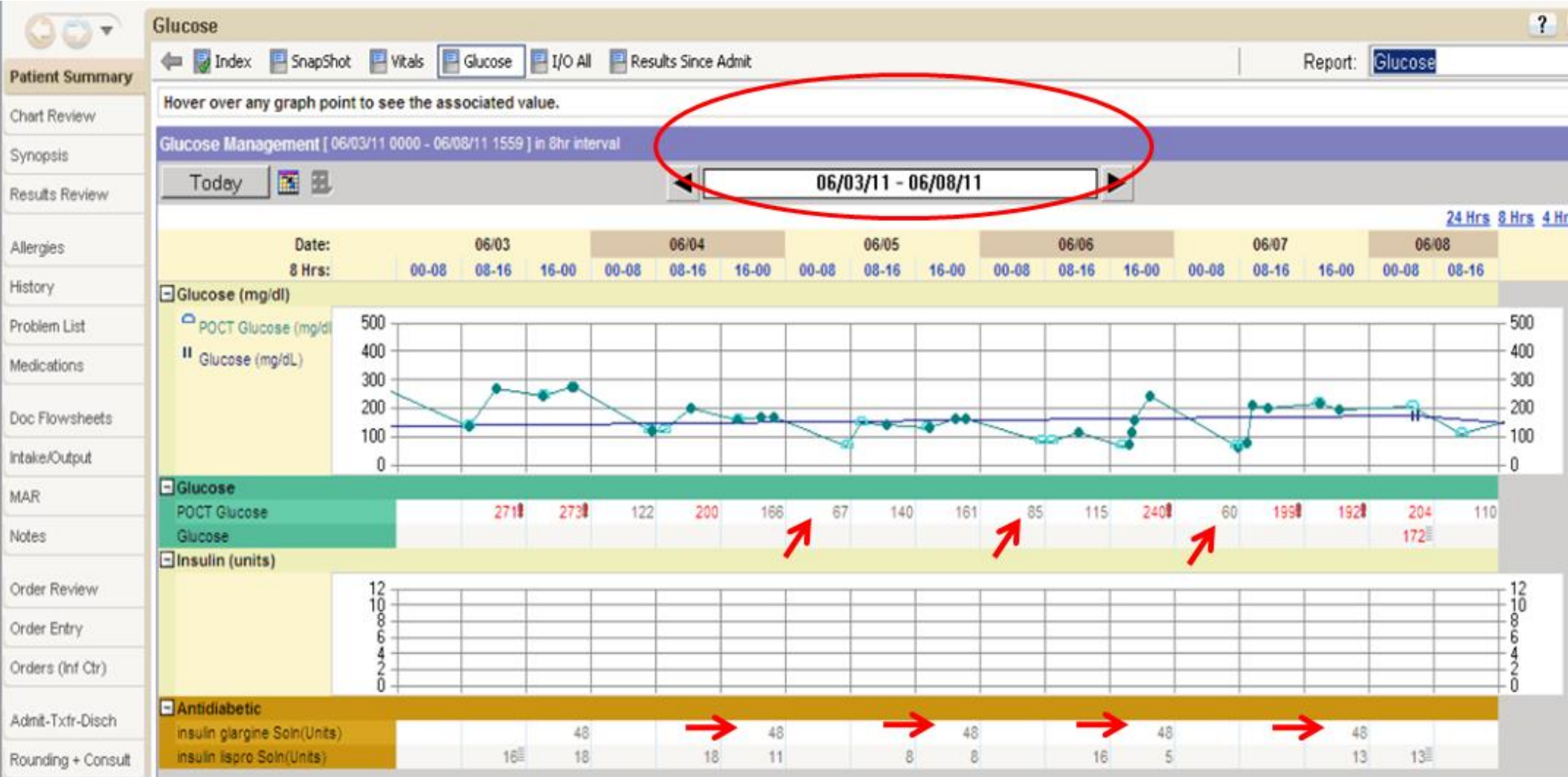
Proposed CDS Display for hypoglycemia evaluation – Federal Interagency Workgroup to prevent ADE

Report etiology of hypoglycemic event after event resolution

Etiology of hypoglycemic event
Nutritional interruption without reducing insulin or adding carbohydrate
Prior hypoglycemic event without medication or carbohydrate adjustment
Excessive basal insulin dosing that inappropriately covered nutritional needs, as well as basal needs
Glycemic target that is too stringent for patient condition/co-morbidities
Failure to discontinue oral hypoglycemic agents in the inpatient setting
Time interval between testing was too long
Other failure mode: _____
No preventable factors detected.

Report ACTION taken to MITIGATE hypoglycemia

ACTION
Call to reduce hypoglycemic agent
Call to increase CHO
Education/reinforcement of policy/protocols
Other

UC San Diego HEALTH SYSTEM — Nutrition on Hold Unexpectedly Guideline

This algorithm is a guideline. Contact physician for orders.

Patient is unexpectedly made NPO and/or nutrition is on hold or interrupted.

Patient on insulin drip

Consider starting D10 at tube feed/TPN infusion rate*
(caution patients with cerebral edema or hyponatremia)

↓

Resume q 1 hour glucose monitoring until glucose in range for 3 consecutive readings, per protocol

↓

If BG<70 mg/dL or 70-79 mg/dL and symptomatic, Follow hospital hypoglycemia protocol.
•••Recheck BG within 15-30 minutes per protocol•••

↓

If >2 consecutive BG<80 mg/dL, notify MD. Pharmacy may be contacted for further consultation.

↓

Continue q 1-2 hour glucose monitoring per protocol.

Patient on subcutaneous insulin

For patient with glargine insulin order:

Continue glargine insulin. Consider reducing the dose by 20% if tight control or high risk of hypoglycemia

For patient with routine scheduled nutritional insulin (regular or lispro):

If dose of scheduled nutritional insulin given in past 1-6 hours, increase frequency of glucose monitoring q 1-2 hours until insulin action complete

↓

Hold future nutritional insulin until nutrition resumes but continue correction insulin.

↓

If BG<70 mg/dL or 70-79 mg/dL and symptomatic, Follow hospital hypoglycemia protocol.
•••Recheck BG within 15-30 minutes per protocol•••

↓

Notify MD. Consider starting D10 at tube feed/TPN infusion rate. Pharmacy may be contacted for further consultation.

↓

Resume q 4-6 hour and prn glucose monitoring.

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*Alternatives:
1. Decrease Rate of Insulin Drip - Contact pharmacy to decrease insulin drip Insulin Sensitivity Coefficient (ISC):
   If drip > 6 units/hr → decrease ISC by 50% and adjust per insulin protocol
   If drip < 6 units/hr → decrease ISC to 0.01 and adjust per insulin protocol

2. Stop insulin drip and start subcutaneous insulin correction scale insulin with q2-4h monitoring. Suggest administering lispro q4h or regular insulin q6h. (Patients with Type 1DM need basal insulin at all times, do not use correction scale only for Type 1DM.)

3. Call Pharmacy for assistance

Nutrition on Hold Unexpectedly (5-29-14)

Active Surveillance

- **Identify** patients with a potential deficit in care, who are in the hospital *right now.*

- **Triage** tools to quickly determine if the patient is truly uncontrolled or "off protocol".

- **Intervene** to bring onto protocol, reduce risk of glycemic excursions and continued deficits in care, provide 'just in time' education.

aka "measure-vention"   or "active surveillance"

Iatrogenic Hypoglycemia

- Inappropriate prescribing
  - Standardized orders with embedded CDS – mandatory use
  - Ongoing monitoring for inappropriate prescribing, just in time intervention

- Failure to respond to unexpected nutritional interruption
  - Protocols and Education
  - Methods to reduce interruptions in tube feeding

- Poor coordination of nutrition delivery, monitoring, and insulin delivery
  - Clear directions in protocols and order sets
  - Regular education / competency training
  - Redesign process

- Failure to respond to a prior hypoglycemic day
  - Make sure ASSESSMENT is part of hypoglycemia protocol
  - Competency and case based-training
  - Monitor recurrent hypoglycemia rates

- CMS eCQM metrics raise awareness, but can't drive improvement efforts
- NHSN metrics coming soon – high quality metric that can drive change and lead to benchmarking
- Improved metrics will lead to inclusion of glucometric performance in P4R and P4P programs in the future
- Start now! This is a barge, not a speed boat.
- Use proven strategies and tools to jump start improvement.

Thank You! Questions?

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Agenda

- Why the momentum?
- What will the regulatory landscape look like?
- How Glytec uses data to drive change

Why the momentum?

Growing population of diabetes & hyperglycemia

- 11% US population
- 30-40% in the hospital
- 50% in the critical care area with hyperglycemia

We are not paying attention

- Lack sufficient glycemic data
- Known solutions often not implemented

We are not doing well

- High variation in outcomes
- Preventable Hypoglycemia

https://www.cdc.gov/diabetes/data/statistics-report/index.html. Accessed [10/19/23]
Umpierrez G et al, J Clin Endocrinol Metabol 87:978, 2002
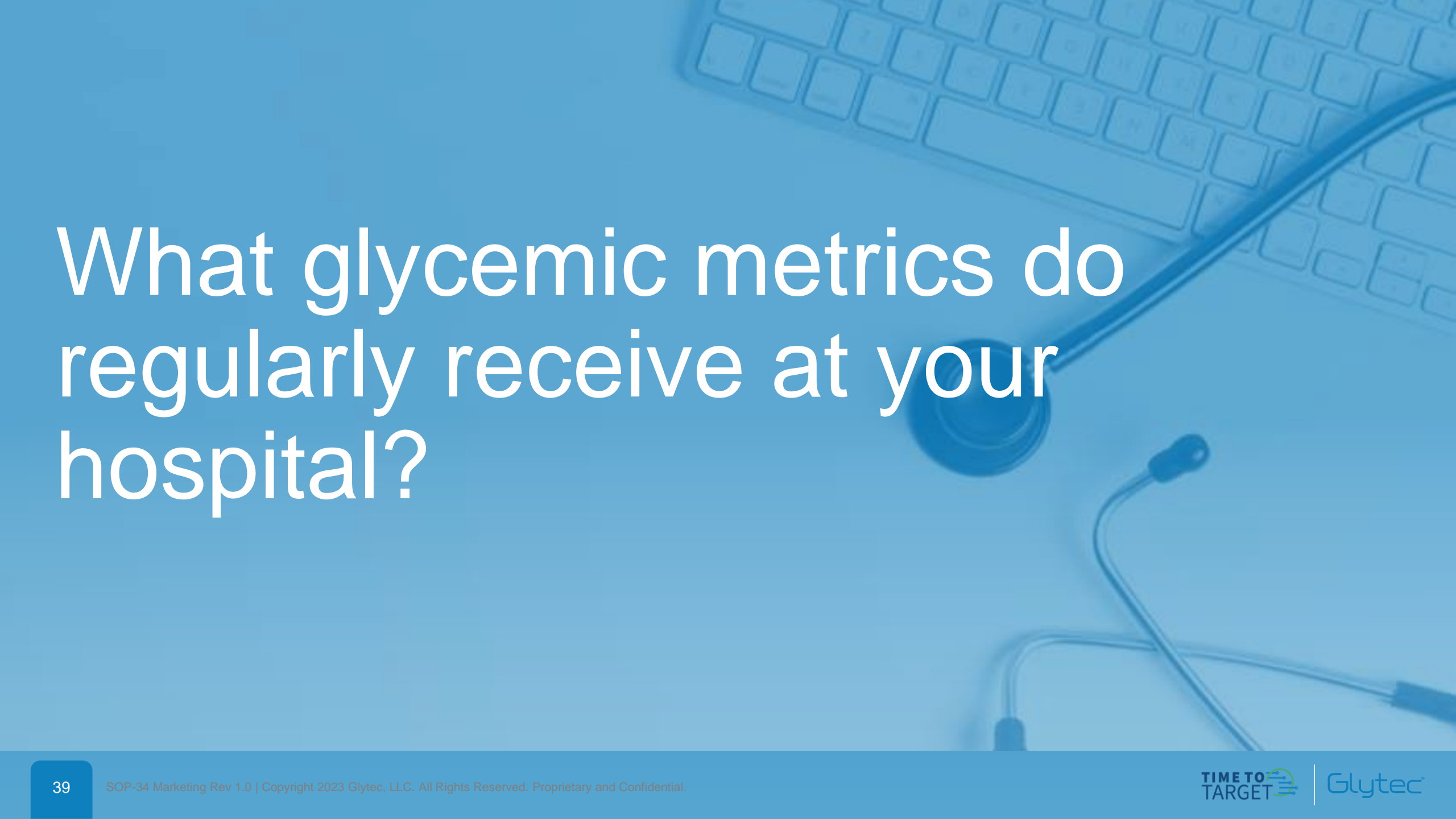
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➢ Hospital Metrics
➢ eCQMs
➢ The Joint Commission Certification

TIME TO TARGET Glytec®

- Hospital Metrics
- eCQMs
- The Joint Commission Certification

- CDC/NHSN Measures
- Leapfrog Certification
  Announced Fall 2023
- CMS eCQM Updates Likely
  - Mandatory instead of elective
  - Pay for Reporting
  - Pay for Performance

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Glucometrics
with Glucommander Analytics & Dashboards

What glycemic metrics do regularly receive at your hospital?

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Often very minimal

2 measures
- <40 mg/dl
- <70 mg/dl

1 format
- %BGs

Few filters
- Hospital
- Unit

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Analytics lifecycle
Evolving from information to actionable insights

Data → **Information** → **Insights** (Knowledge) → **Decisions** (Wisdom)
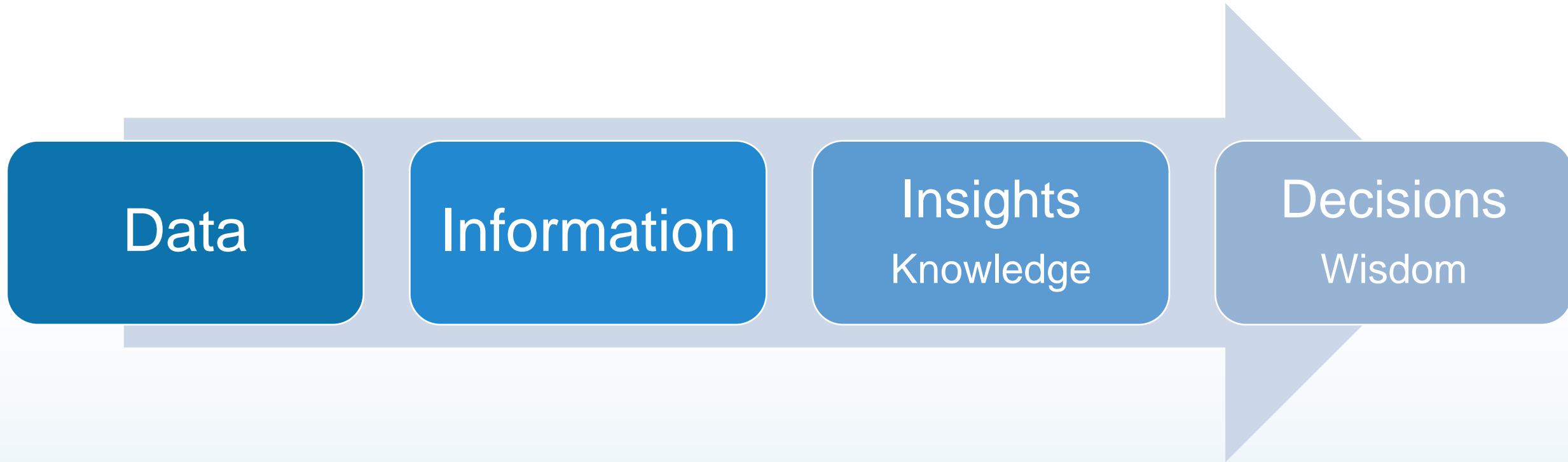
Types of Measures
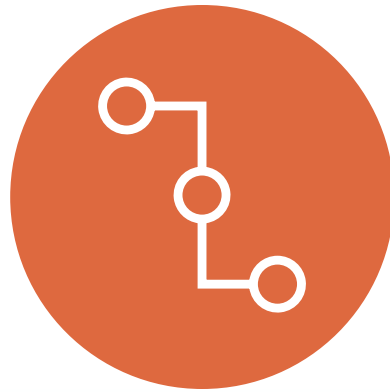
- Structure
- Process
- Outcomes
- Balancing

Forms of Data
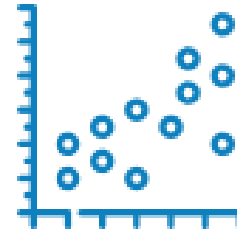
Scatter Plots (comparisons)

Run Charts (over time, control limits)
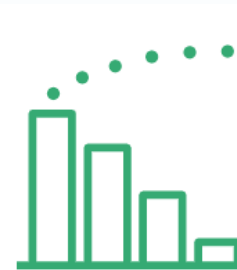
Pareto Charts

GlucoMetrics powered by Glytec
Numerous metrics, multiple formats and filters

- **Utilization**
- **Patient Day, Stay, % BGs**
  - Hypoglycemia (<40, <54, <70)
  - Hyperglycemia (>180 >250, >300)
  - In Range
- **Outcomes by Target Range**
- **BG Timeliness (IV Insulin)**
- **Average Admission/Discharge BG**
- **Average BG**
- **# of BGs**
- **Other Reports**
  - Real Time Data
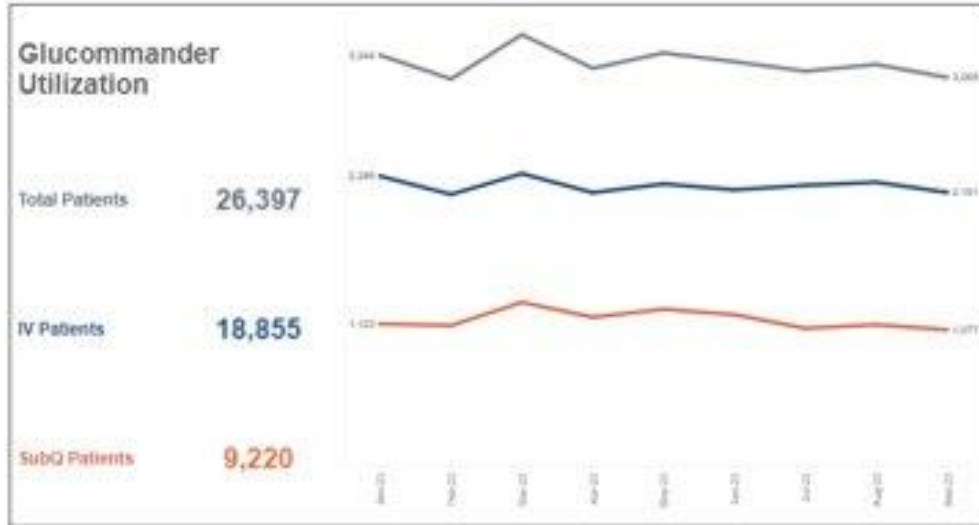 - Time to Target
  - Hypoglycemia Recheck

FILTERS
1. Date Range
2. Treatment type (IV, SubQ)
3. Unit
4. Facility
5. Category
6. Specialty

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GlucoMetrics

Overview Dashboard
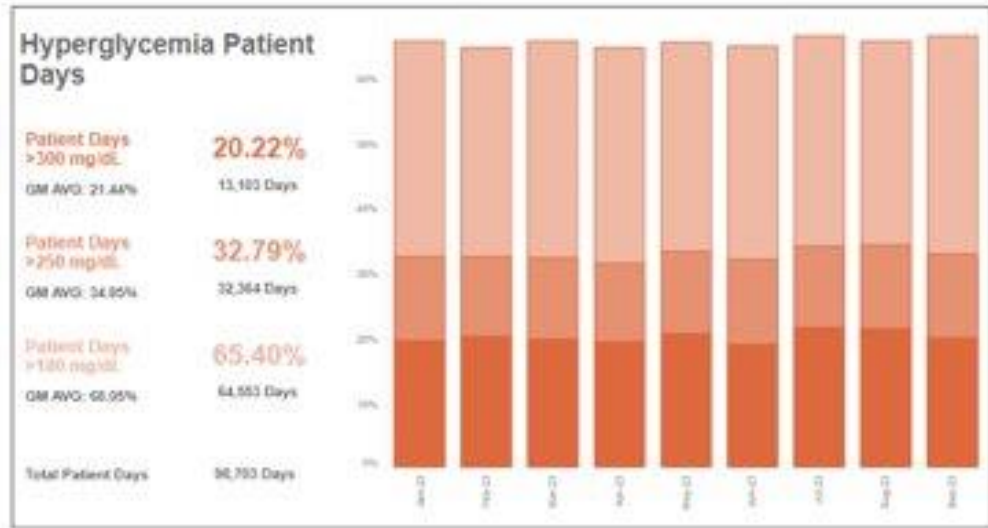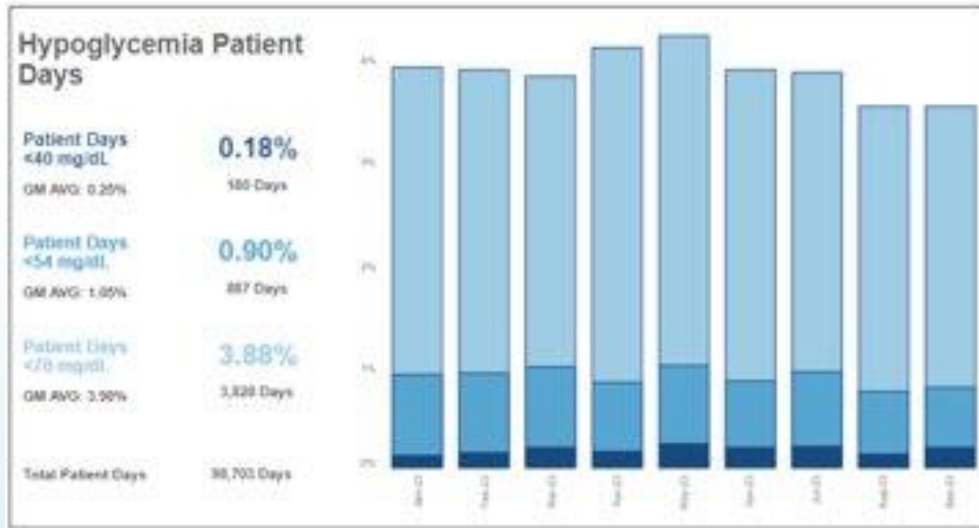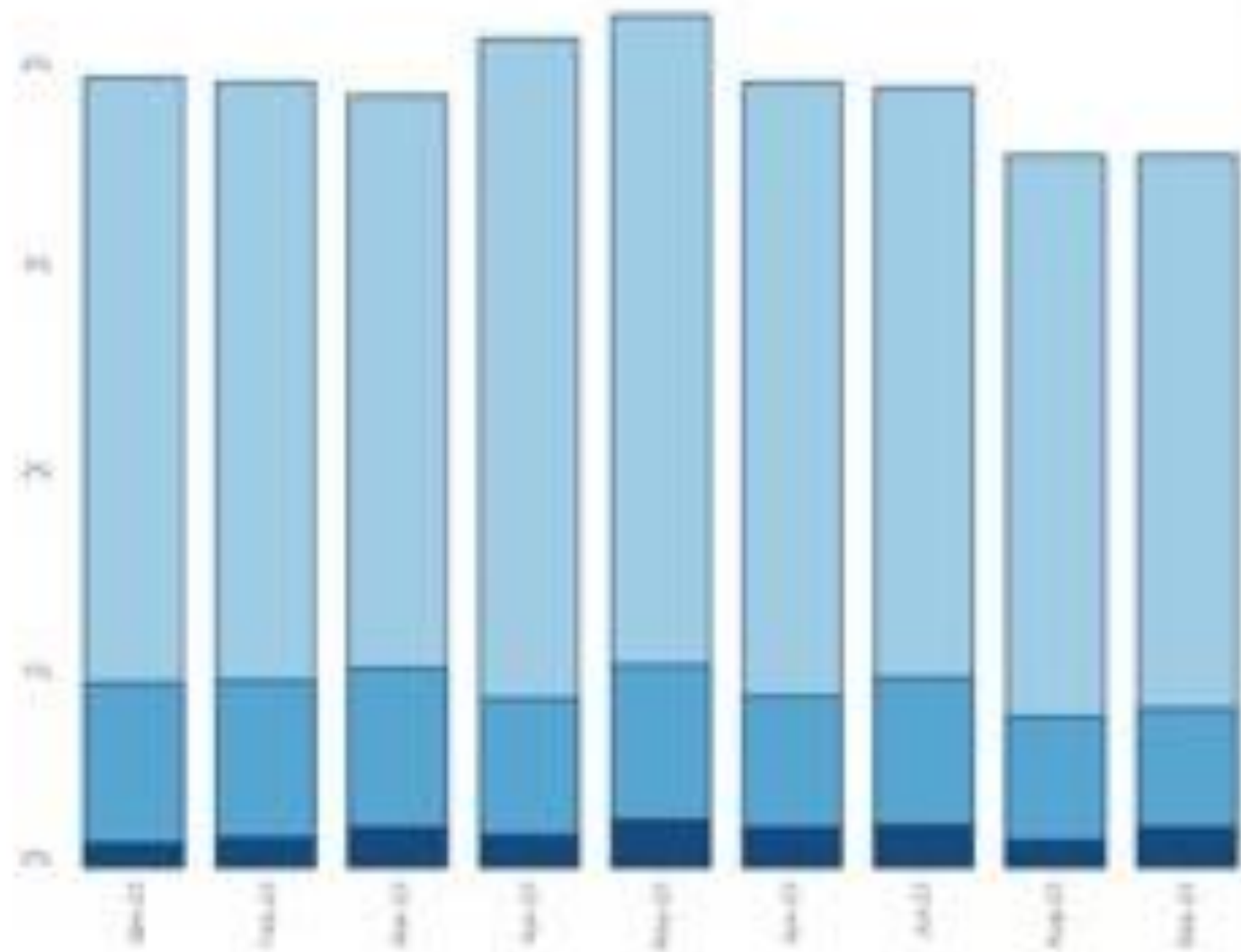
GlucoMetrics Future State: Improved Analytics

- Dashboards aligning with CMS measure
  - >300 mg/dl exclude 1st 24 hours (patient day)
  - <40 mg/dl exclude if within 24 hours of insulin (patient stay)
- Baseline analysis
  - Outcomes prior to implementing Glucommander
- Additional process metrics drive actionable insights
  - Ordering information
  - Workflows (e.g. mealtime triad)
  - Hypoglycemia Recurrence and Recheck Timeliness

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GlucoMetrics Roadmap: What's next for you?

Be sure to tune in to our GlucoMetrics customer-only session tomorrow

Customers

Still learning?

Schedule a demo! We would love to show you more and answer questions!

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