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Uniting Around Patient Safety

CMS Glycemic Management Measures:

What You Need To Know

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CMS Glycemic Management Measures: What You Need To Know

With their new FY22 eCQM metrics, CMS is making it clear that they believe hospitals have a responsibility to improve how they manage severe hyperglycemia and prevent severe hypoglycemia in the inpatient setting.

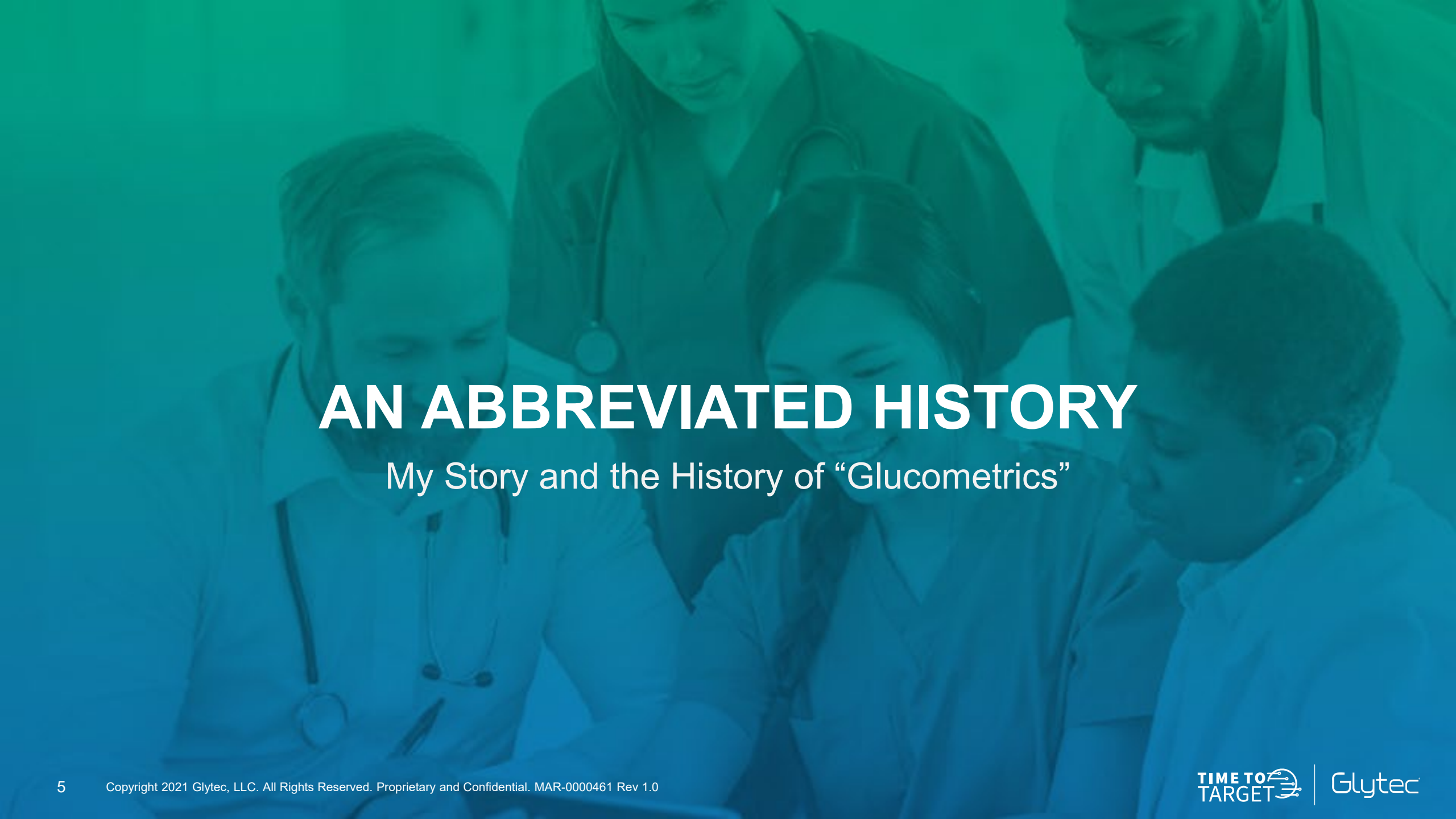
- What do you need to know about the new glycemic management eCQMs?
- How will the eCQMs impact hospitals' people, process and technology?
- How will the eCQMs impact hospitals' finances?
- What other measures reflecting glycemic management are on the horizon?
- Actionable insights for hospital leaders to prepare

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
- Benchmark, compare yourself to other hospitals

BUT about one third of hospitals have no metrics to track the quality of inpatient glycemic control and 59% did not have a reliable method to extract and analyze their data.

Cook et al. Endocrine Practice;16(2):219-30



AN ABBREVIATED HISTORY

My Story and the History of “Glucometrics”

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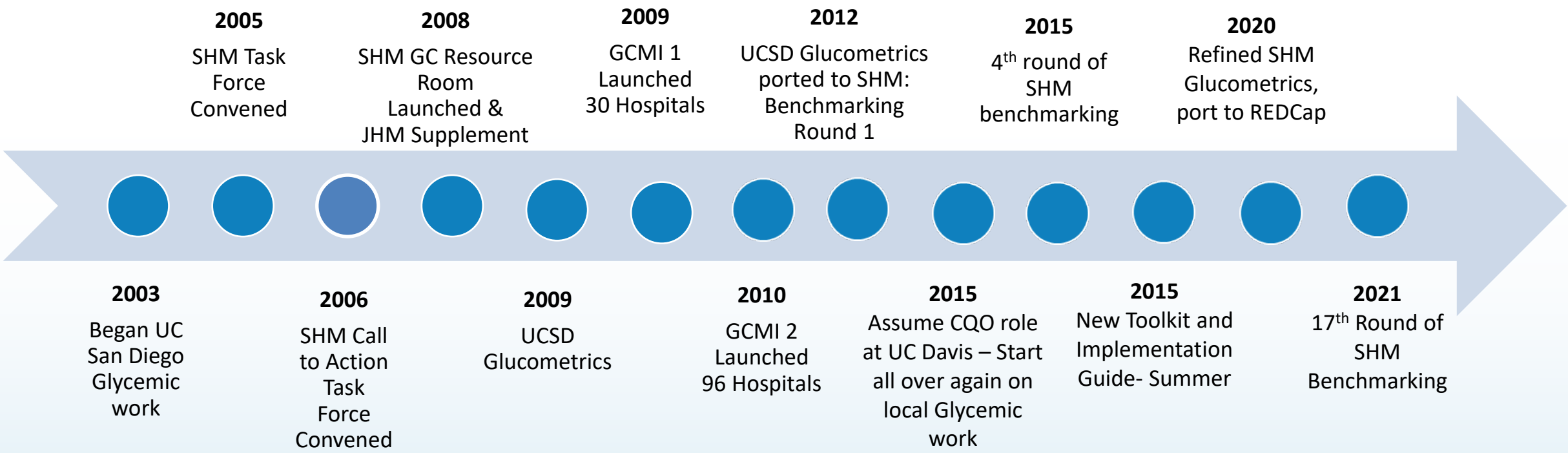
Glucometrics Timeline

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



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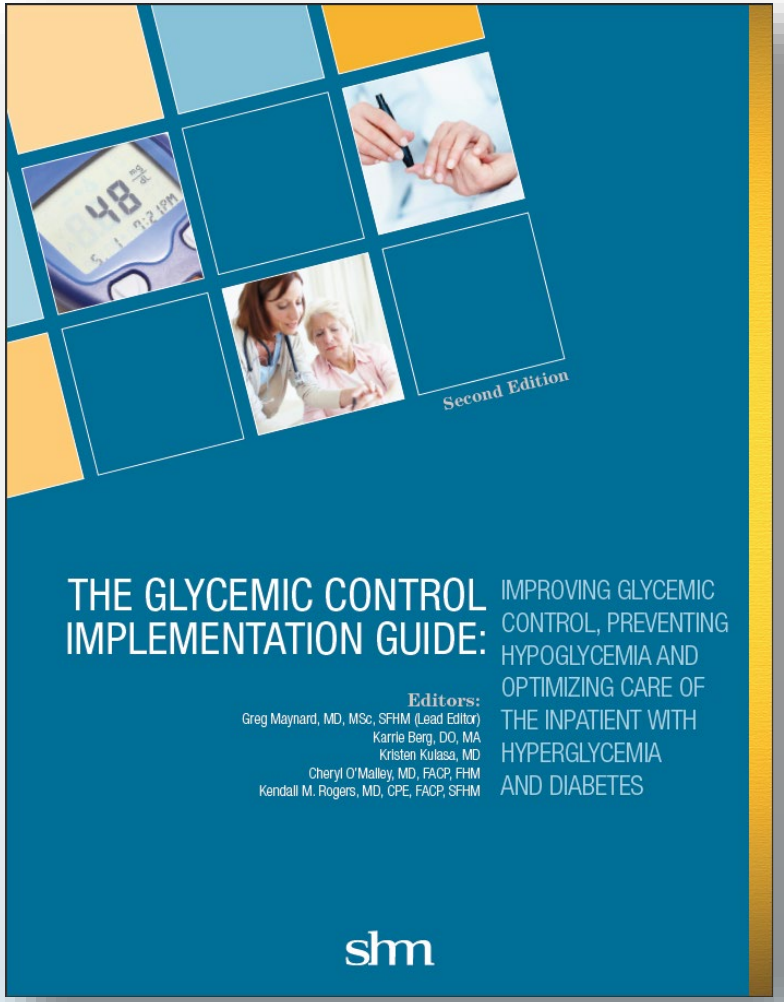
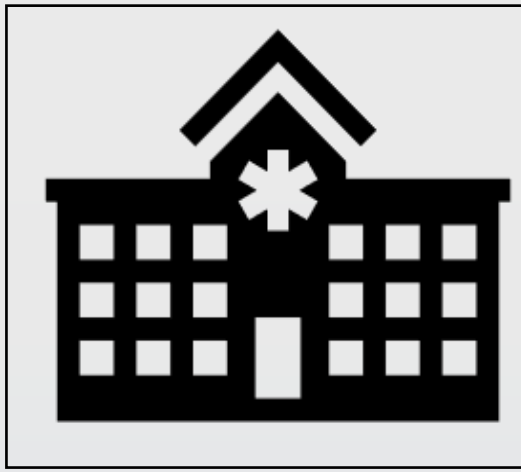
www.hospitalmedicine.org/gc



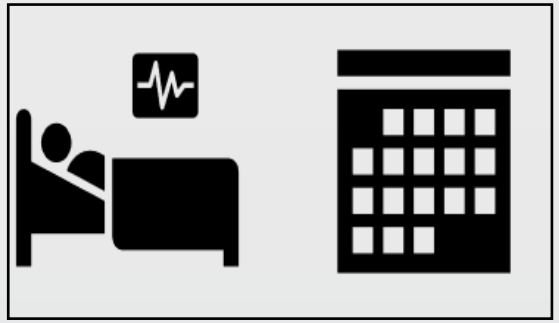
- Best Practice Review
- Assess Current State
- **Metrics and Data Collection**
- High Performing Teams
- SC Insulin Orders / Protocols
- Insulin infusion protocols
- DKA protocols / order sets
- Perioperative DM management
- Transitions and Reliability
- Education programs
- Hypoglycemia reduction bundle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

Units of Analysis



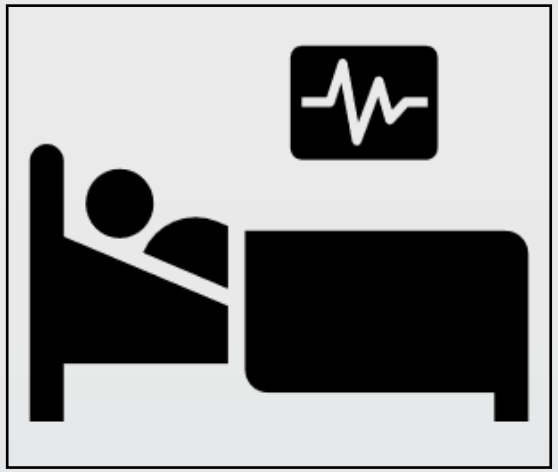
EVENT: All BGs

Large denominator
Least clinically relevant



PATIENT DAY

Accounts for LOS
Most clinically useful



PATIENT STAY

Easy to interpret
“X number of patients”

On Demand Reports: Glycemic Summary

New Report

Site	University of California Davis
Care Type	Critical Care Inpatient
Unit Type	Mixed Medical / Surgical (Includes Transplant) Medical (Includes Oncology and BMT Units) Surgical Orthopedics
Units	All
Start Month	2021-05
End Month	2021-10

Print Query + Results | Print Results

Export to CSV

Glycemic Summary Overview

		University of California Davis			
		Patient-Stays		**Patient-Days**	
Glycemic Exposure	Number (count)	1130		6196	
	Mean (mg/dL)	154.20		152.60	
	Median (mg/dL)	144.82		142.19	
Glycemic Control	Percent Day Weighted Mean ≥ 180	21.86%		20.63%	
	Readings In Range (Stay-weighted)	75.70		(n/a)	
Safety	Count With Glucose < 40	15	1.33%	16	0.26%
	Count With Glucose < 54	51	4.51%	63	1.02%
	Count With Glucose < 70	145	12.83%	193	3.11%
	Count With Glucose ≥ 300	233	20.62%	375	6.05%
	Count Of Hypoglycemic Patients with a recurrent hypoglycemic day	35	24.14%	(n/a)	
		Totals			
Hypoglycemic Management	Count of Hypoglycemic events	297			
	Mean time between Glucose < 70 and next documented Glucose	52.94 min			
	Median time between Glucose < 70 and next documented Glucose	36.00 min			
	Mean time between Glucose < 70 and documented resolution of Hypoglycemia	61.89 min			
	Median time between Glucose < 70 and documented resolution of Hypoglycemia	41.00 min			
	Count Glucose < 70 and next Documented Glucose within 15 mins	14		4.71%	
	Count Glucose < 70 and next Documented Glucose within 30 mins	109		36.70%	

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On Demand Reports: Patient-Day Unit of Analysis

Care Type	Critical Care Inpatient
Unit Type	Mixed Medical / Surgical (Includes Transplant) Medical (Includes Oncology and BMT Units) Surgical Orthopedics
Units	All
Start Month	2020-10
End Month	2021-10

Print Query + Results | Print Results

Download CSV

Glucometrics by Patient-Day

Show All entries

Previous 1 Next Search:

Period	Days	Count of Results	Day Weighted Mean Blood Glucose for the Population (mg/dL)	Days with Results < 40	Percent Days with Results < 40	Days with Results < 54	Percent Days with Results < 54	Days with Results < 70	Percent Days with Results < 70	Days with Results ≥ 300	Percent Days with Results ≥ 300	Days with Day Weighted Mean ≥ 180	Percent Days with Day Weighted Mean ≥ 180
2020-10	929	5429	150.75	4	0.43%	11	1.18%	34	3.66%	58	6.24%	182	19.59%
2020-11	1109	7184	153.39	2	0.18%	15	1.35%	42	3.79%	74	6.67%	237	21.37%
2020-12	1351	9695	153.94	5	0.37%	20	1.48%	58	4.29%	109	8.07%	271	20.06%
2021-01	550	1149	150.25	0	0.00%	0	0.00%	5	0.91%	15	2.73%	87	15.82%
2021-02	1326	9084	153.53	2	0.15%	13	0.98%	38	2.87%	77	5.81%	289	21.79%
2021-03	1277	7804	151.74	6	0.47%	19	1.49%	53	4.15%	67	5.25%	223	17.46%
2021-04	1299	8111	154.12	4	0.31%	14	1.08%	46	3.54%	93	7.16%	288	22.17%
2021-05	1146	6494	151.62	5	0.44%	16	1.40%	35	3.05%	72	6.28%	240	20.94%
2021-06	1194	7564	157.55	2	0.17%	8	0.67%	38	3.18%	78	6.53%	305	25.54%
2021-07	1274	8238	148.47	5	0.39%	14	1.10%	40	3.14%	65	5.10%	225	17.66%
2021-08	1249	8894	153.91	2	0.16%	14	1.12%	39	3.12%	87	6.97%	246	19.70%
2021-09	1333	9048	151.73	2	0.15%	11	0.83%	41	3.08%	73	5.48%	262	19.65%
Report Population	14037	88694	152.73	39	0.28%	155	1.10%	469	3.34%	868	6.18%	2855	20.34%

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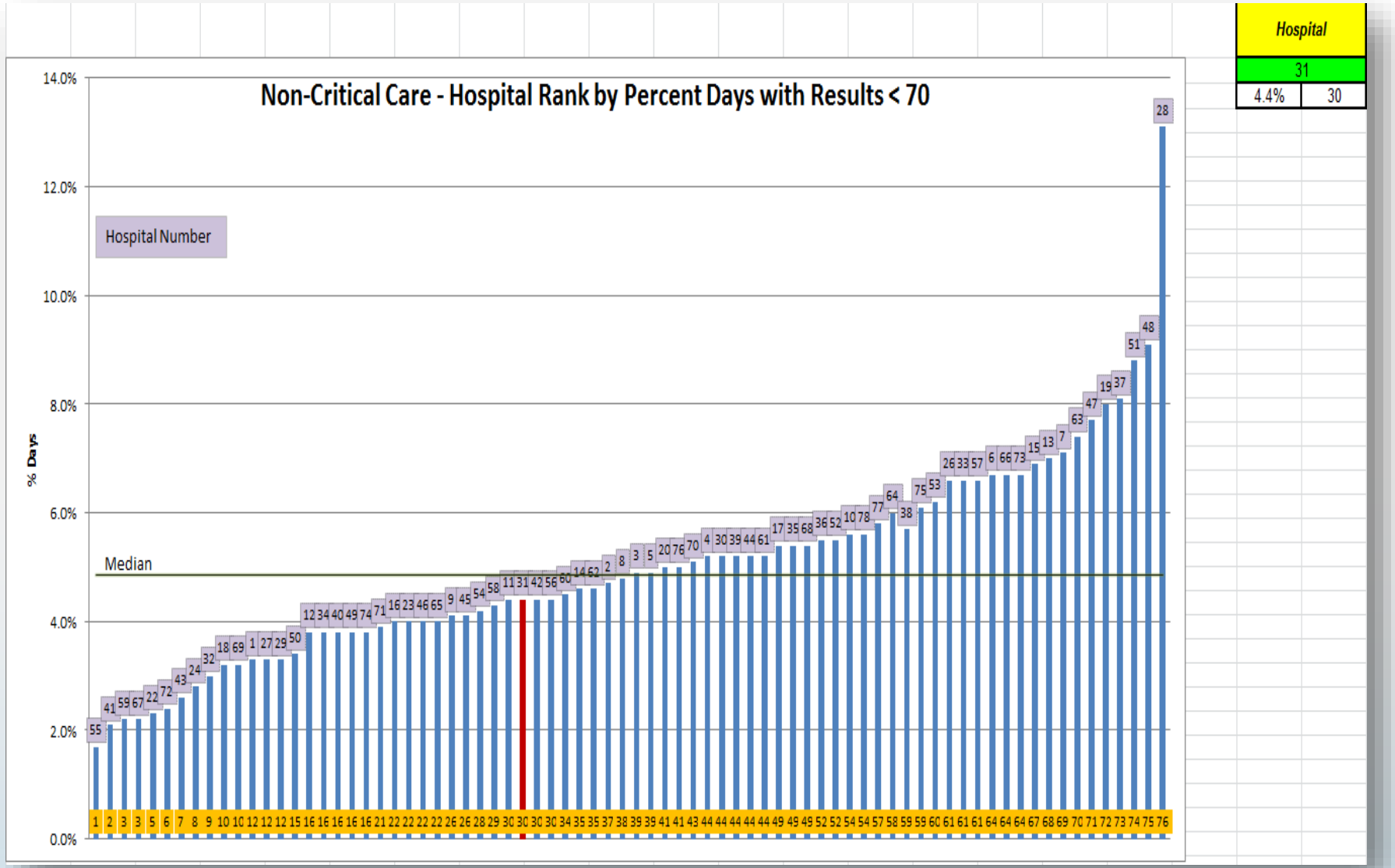
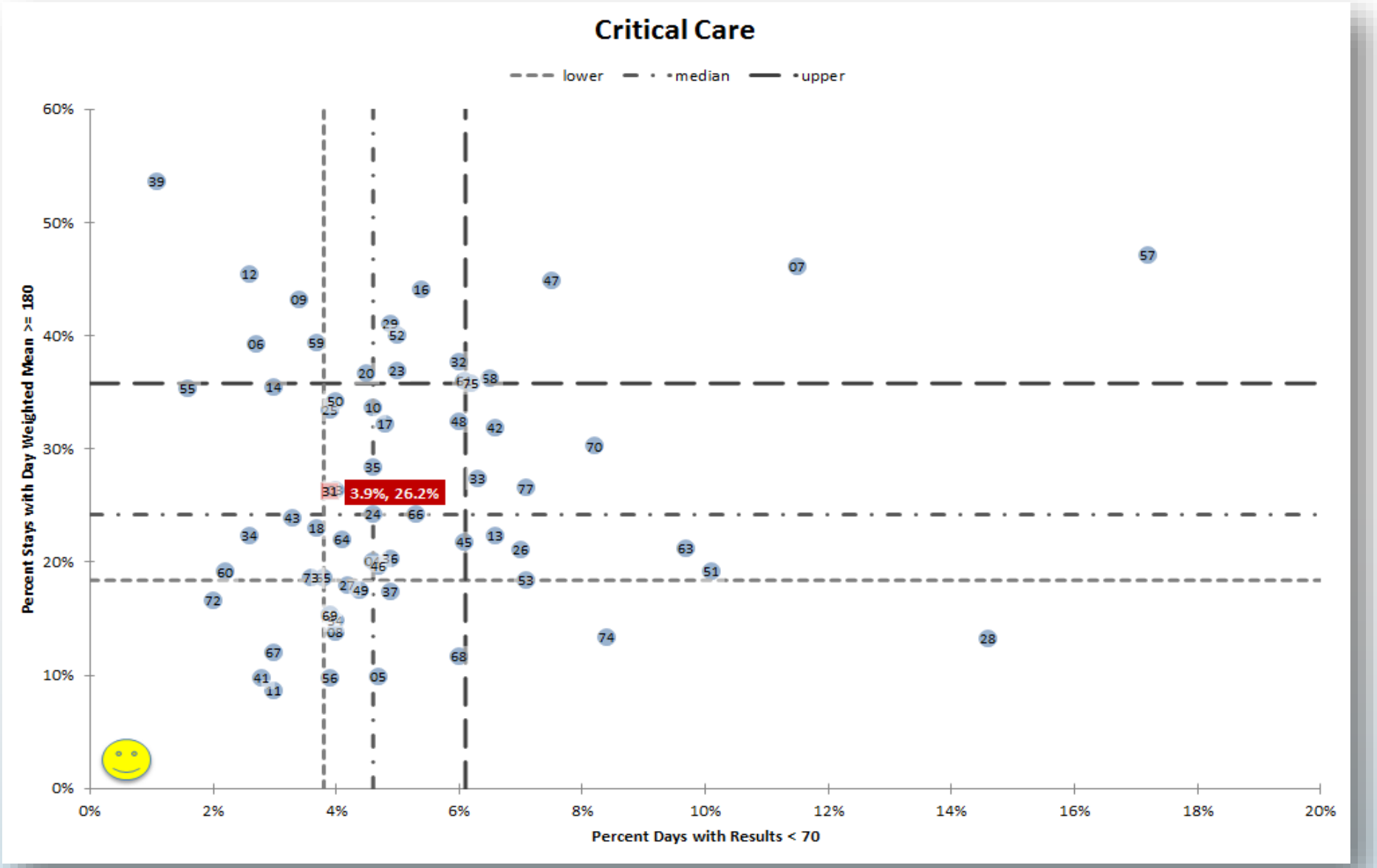
Benchmarking: Hypoglycemia Ranking Bar Chart



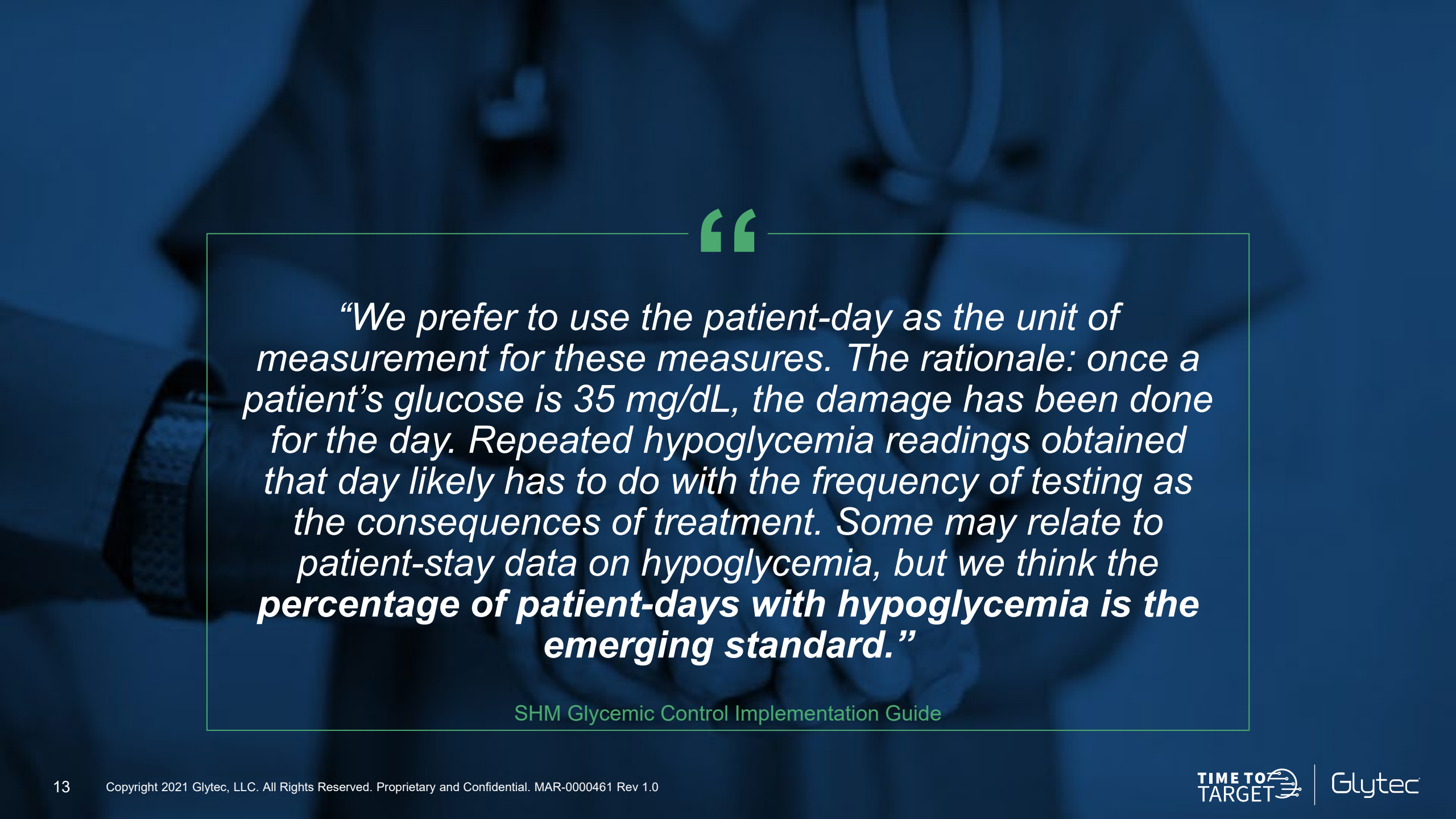
Hospital	
31	
4.4%	30

SHM Benchmarking Scatterplot



Glycemic control:
Y axis

Hypoglycemia:
X axis



"We prefer to use the patient-day as the unit of measurement for these measures. The rationale: once a patient's glucose is 35 mg/dL, the damage has been done for the day. Repeated hypoglycemia readings obtained that day likely has to do with the frequency of testing as the consequences of treatment. Some may relate to patient-stay data on hypoglycemia, but we think the ***percentage of patient-days with hypoglycemia is the emerging standard."***

SHM Glycemic Control Implementation Guide

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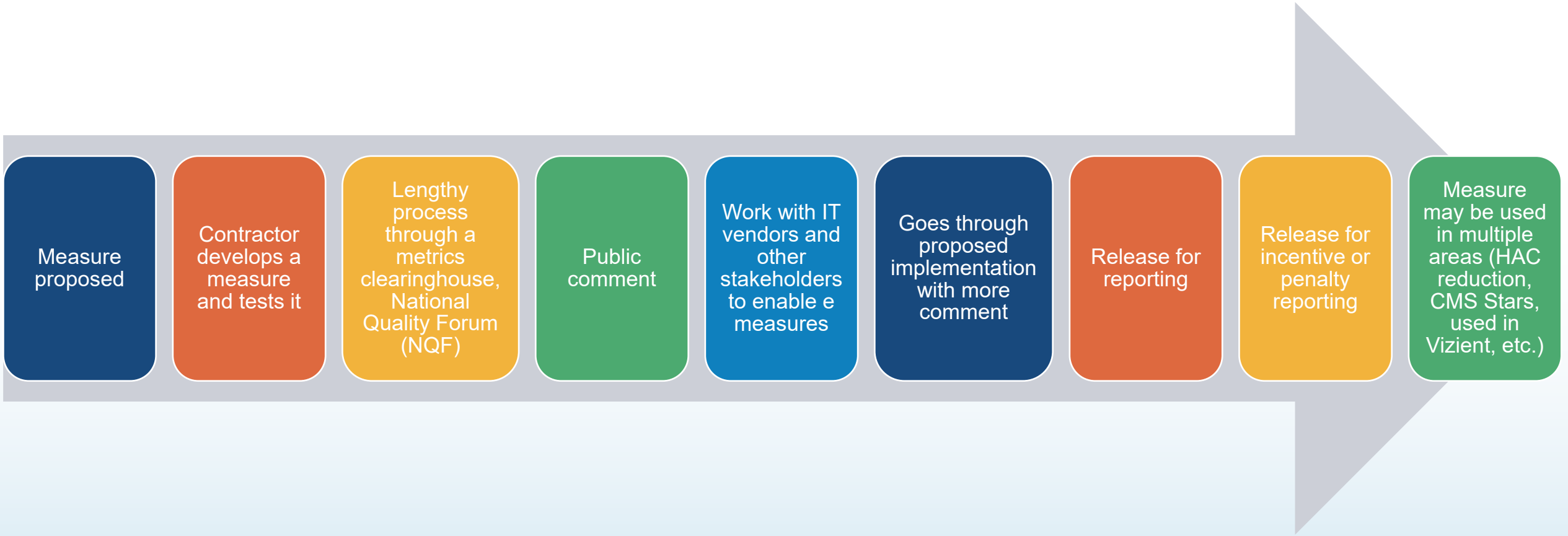
CMS eCQMS

Process to Add Metrics for P4R and P4P Programs



2014 NQF 2363
Glycemic Control - Hypoglycemia

We thought an eCQM was just around the corner……nope!

Numerator

- Severe hypoglycemic events (BG < 40 mg/dL) preceded by an anti-diabetes drug (ADD)

Denominator

- Number of inpatient **days** with ≥ ADD administered
  - Regular or RAA-I within 12 hours preceding event
  - Other insulin or oral medicine within 24 hours of event

Exclusions

- Admits with LOS > 120 days
- Possible spurious events (repeat read within 5 minutes > 80 mg/dL)
- Events within 20 hours of prior event (possible repeat event)
- Patients < 18 years of age

NO LONGER ENDORSED BY NQF

NQF 3503e
Hospital Harm – Severe Hypoglycemia

Endorsed by NQF in 2019, intended to be “simpler”.
Final proposed rule October 2021

- Includes both laboratory and point-of-care tests from blood
- Time of event reflects time of BG draw time, not result time

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 – Final rule Oct 2021

- Events in first 24-hour period excluded.
- 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

IMPLICATIONS FOR FINANCE, REPORTING, REPUTATION, AND IMPROVEMENT

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

Financial, Reporting, and Reputational 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)

Timeline: FY22 Rules

Even if a hospital chooses to NOT report the severe hypo or severe hyper data to CMS/publicly visible, there will be greater visibility INTERNALLY.

New proposal goes into effect

Hospitals work with EHR providers to implement reporting packages

FY22 eCQM rules Data Collection Period

Hospital quality & executive teams review data and decide which eCQMs to report

Likely deadline to report 2023 data

2023 data likely available publicly: Too Late To Change 2023 data

financial penalties begin for those who don't report eCQMs

In the future, CMS may decide to make reporting this data mandatory, or could develop a penalty based on outcomes, similar to readmission rates and hospital-acquired infections.

HOW TO PREPARE: ACTIONABLE INSIGHTS

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Impact on Quality Improvement

You need more than these 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

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

CDC / NHSN Efforts to Enhance ADD ADE Reporting

Help is on the way

NHSN Adverse Drug Event Inpatient Hypoglycemia Module

- CMS and CDC are actively partnering
- CDC recognizes shortcomings of current eCQMs
- They will replicate eCQMs, and will also add-
  - Measures by patient-day and patient-stay
  - Measures with more cut-offs
  - Analyses by individual units and groups of like units
  - Risk adjustment
  - 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? Hope for 2023 or 2024 CY

Thank You!

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eCQMs

Removed CY 2024

ED-2	Admit Decision Time to ED Departure Time for Admitted Patients
PC-05	Exclusive Breast Milk Feeding
Safe Use of Opioids*****	Safe Use of Opioids – Concurrent Prescribing
STK-02	Discharged on Antithrombotic Therapy
STK-03	Anticoagulation Therapy for Atrial Fibrillation/Flutter
STK-05	Antithrombotic Therapy by the End of Hospital Day Two
STK-06	Discharged on Statin Medication
VTE-1	Venous Thromboembolism Prophylaxis
VTE-2	Intensive Care Unit Venous Thromboembolism Prophylaxis
HH-01******	Hospital Harm—Severe Hypoglycemia Measure
HH-02******	Hospital Harm—Severe Hyperglycemia Measure

Added FY23 eCQMs

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