

Glytec®

TIME TO TARGET *The Future of Glycemic Management*

Reducing Hospital Harm: The Pharmacists' Perspective

Uniting pharmacists around
a culture of safety

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Introductions



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Agenda

- Highlight the impact diabetes has on our hospitals
- Discuss the role pharmacists play in optimizing insulin in the hospital
- Introduce the 3 main challenges to improving insulin use in the hospital
- Introduce the 3 key strategies pharmacists can use to create a culture of safety around insulin utilization in the hospital

Diabetes In The Hospital

Highlighting the impact diabetes has on our health systems

- The last CDC report estimated **37 million people** in the United States have diabetes
 - 96 million have prediabetes
- Patients with diabetes or hyperglycemia make up more than **30%** of the adult inpatient population
- People with diabetes have an estimated **14.4–22.7%** risk of readmission to the hospital
 - Readmission risk in people without diabetes: 8.5–13.5%
- **Hyperglycemia**, **hypoglycemia**, and **glucose variability** in the hospital are tied to adverse patient outcomes

Why Insulin Management is Important

Reviewing the Research

- As early as **1998**, insulin was associated with **11%** of all harmful medication errors in hospitals
- In **2004**, a state reporting program estimated that 25% of all reported medication errors involved high-alert medications, and **16%** involved insulin alone
- Data published in **2008** showed that insulin was the leading drug involved in harmful medication errors, representing **16%** of all medication error events with reported harm
- A **2010** study found that the most common medical errors in critical care patients were insulin administration errors

Reference

[2017 ISMP Guidelines for Optimizing Safe Subcutaneous Insulin Use in Adults](#)

Insulin: High Alert Medication



Pharmacists ranked
40 high-alert medications

By causing concern¹:

#1 IV
Insulin

#9 SubQ
Insulin

By confidence in effectiveness of hospital-wide
precautions to prevent serious errors:

#40 SubQ
Insulin **(Last)**



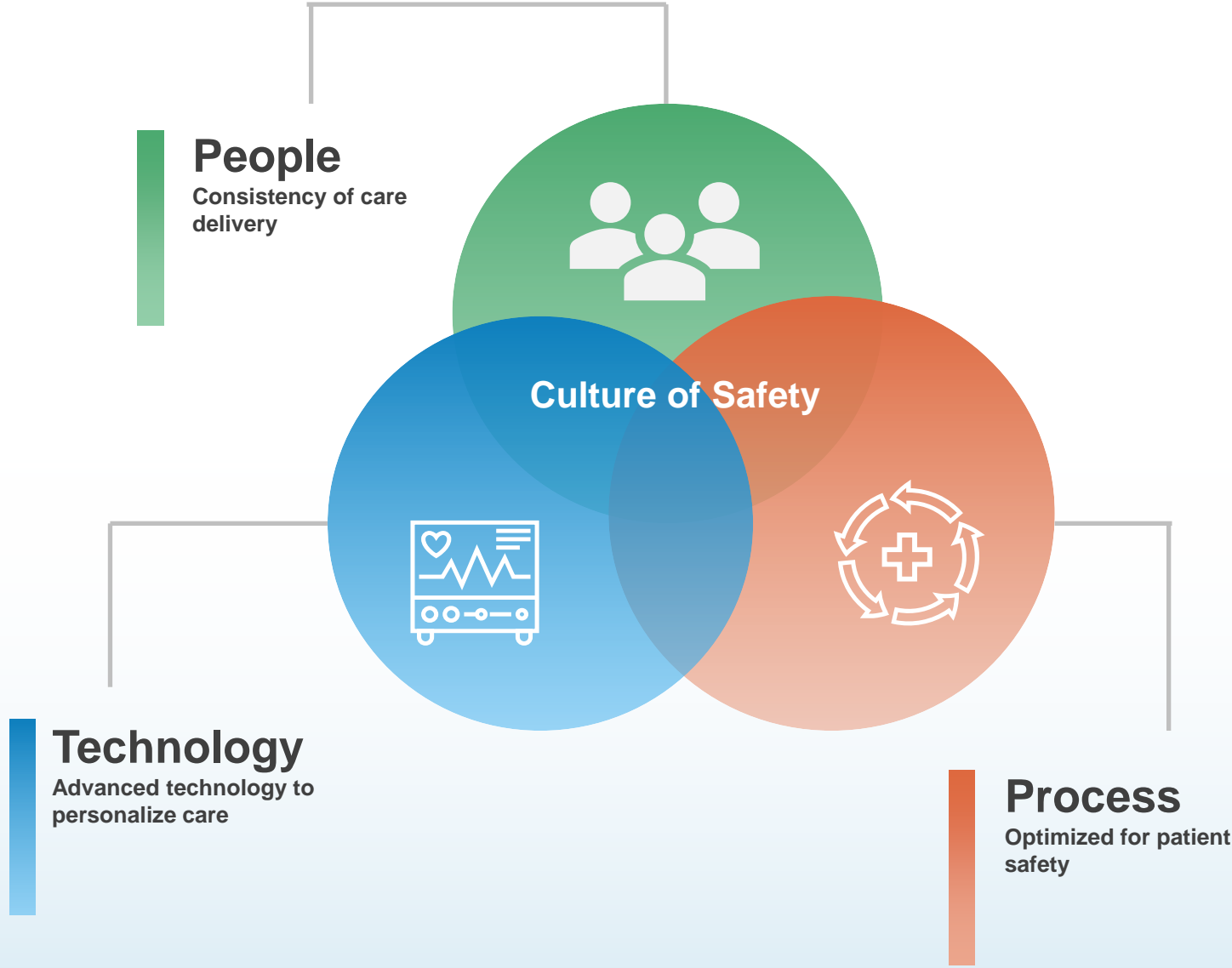
**RISKS with
SubQ Insulin:**

- Prescribing
- Dispensing
- Preparation
- Monitoring
- Education of Patients

Challenges to Insulin Management

1. Lack of **basic knowledge** around inpatient diabetes management or insulin management
2. Lack of **standardization**
3. Lack of **technology** to aid in insulin management

Creating a Culture of Safety



What Makes a Culture of Safety?

■ People

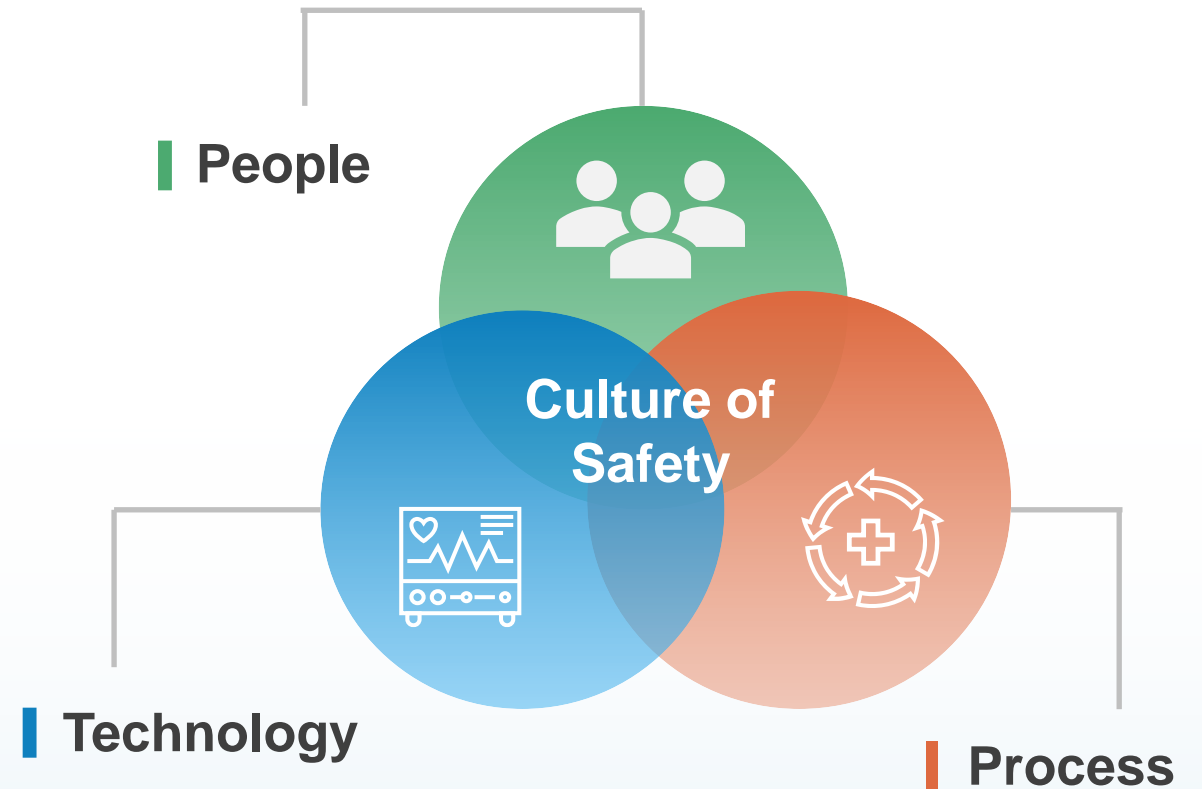
- *Consistency of care*
 - Knowledge of diabetes and insulin management

■ Processes

- *Optimized for patient safety*
 - Standardized approach for reviewing insulin regimens
 - Separating insulin types in the fridge, distinct color differences

■ Technology

- *Safer, more personalized care*
 - Guide insulin dosing practices
 - Prevent insulin administration errors
 - EHR alerts/flags/BPAs



People:

- *What are the expectations of your pharmacists' role in insulin therapy management for a patient?*
- *How are these expectations communicated to a new pharmacist?*
- *What education, training, and resources are provided to a new pharmacist? Who provides them?*
- *What is the process for training and assessing a new pharmacist on your hospital's insulin management protocols?*
- *What about education to assess their inpatient diabetes knowledge?*



Case Example | Pharmacists Role in Patient Care

- Decentralized pharmacist model with pharmacists on most of the inpatient units
- Utilized IV insulin dosing software to manage IV insulin infusions
- Standard weight-based dosing protocol to initiate subQ insulin
 - The protocol also included guidance on how to adjust insulin doses up or down based on blood glucose trends
- Standardized order sets for initiating IV, transition to subQ, and subQ insulin
- Verified insulin orders, reviewed and recommended adjustments to a patient's insulin regimen if the patient experienced hypoglycemia or the blood glucose was below 100 mg/dL
- Pharmacists assisted Providers with adjusting insulin doses in the setting of steroids and at the time of discharge

Case Example | Education and Training

- *Formalized Process*

- Development of a formal process for educating new pharmacists on inpatient glycemic management or insulin management

- *Training Guide*

- Covered basic inpatient diabetes management and inpatient insulin dosing protocols

- *Training Plan*

- Scheduled training sessions with new pharmacists every 2-3 months

- *Care Standards*

- Reviewed hypoglycemic events and insulin regimens for a blood glucose less than 100 mg/dL and how to report insulin-related safety events
- Supported providers in dosing and adjusting insulin therapy, and nurses at the bedside

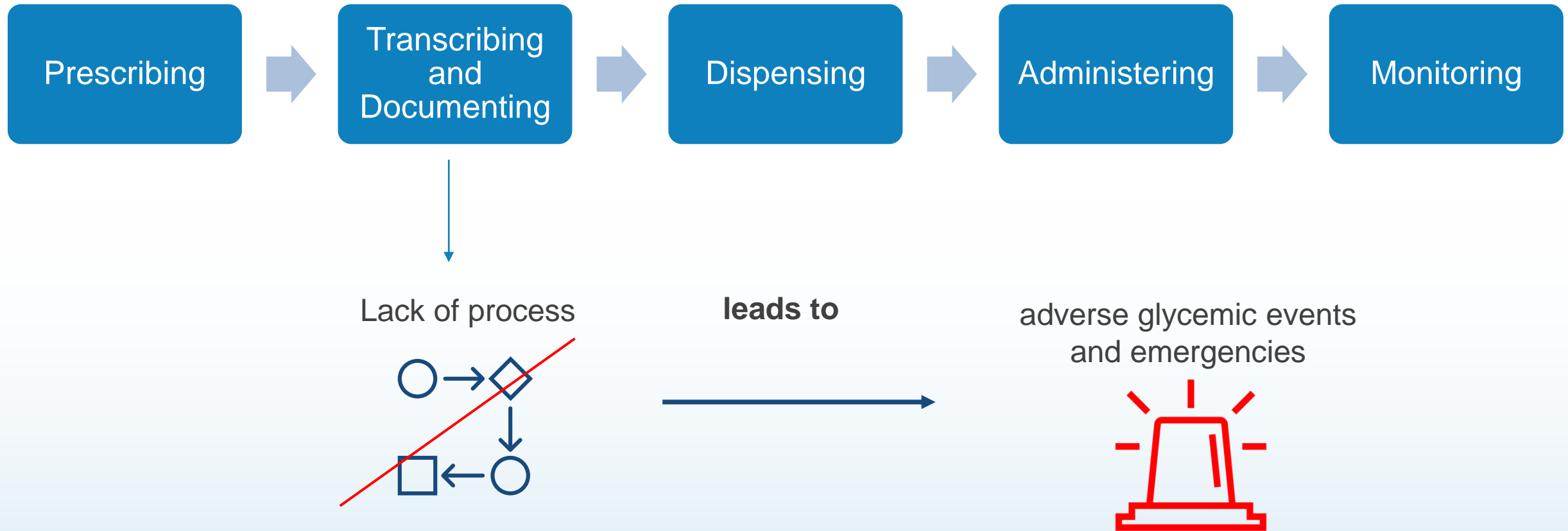
Training Guide

- This guide was created with patient safety at the forefront
- Assess new pharmacists' knowledge and skill of inpatient diabetes and insulin management
- Customize the guide for your health system needs
- All attendees of this session will receive the guide template in their inbox
- Explore more pharmacy resources
 - www.glytecsystems.com/hospital-pharmacy-resources



PROCESS

Medication Use Process



Case Scenario

- 55-year-old male is admitted to the general medicine floor due to acute pancreatitis
- A brief medication history was completed when the patient was in “extreme pain”.
- At admission, weight-based dosing of insulin glargine was started at 20 units subcutaneously in the morning with insulin lispro 0-12 units per correctional scale subcutaneously four times per day.
- These orders were entered as separate orders, not through an order set.
- On Day 1, he had a NPO dietary status.
- On Day 2, the patient’s glucose level was 75 mg/dL (0731), and the nurse held the morning dose of insulin glargine

Case Scenario

- On Day 3, there was clinical improvement and nutritional orders were adjusted to consistent carbohydrate order of 45-60 grams per day.
- A glucose level was 268 mg/dL (1530) in which the 12 units of insulin lispro was administered to the person.
- The meal tray was delivered at 1801 in which the person was found unresponsive and glucose level was 58 mg/dL.
- The nurse provided rescue medication from the Omnicell as an override, but no additional alerts were triggered in the electronic medical record, as the hypoglycemia protocol was not ordered.
- The person was discharged on insulin glargine and insulin lispro, despite having no insurance.

Why do adverse glycemic events occur?

- Omission or delayed initiation of protocol
- Medication administration issue
- Misalignment of insulin with dietary status / intake
- Lack of order or no notification of glucose levels
- Lack of or incomplete medication history

Process Improvement

In general, how can a hospital or health care system improve processes?

- Development and review of policies and protocols
- Availability of rescue agents for proper and quick administration
- Review of formulary insulin products
- Update to labeling, lettering, and storage of insulins

Process Improvement | Hospital Admission

How can a hospital or health care system improve processes upon admission?

- Timely and thorough medication history and reconciliation
- Assessment of risk for hypoglycemia
- Identification of hyperglycemia
- Initiation of protocols with monitoring

Process Improvement | Hospitalization

How can a hospital or health care system improve processes during a hospitalization?

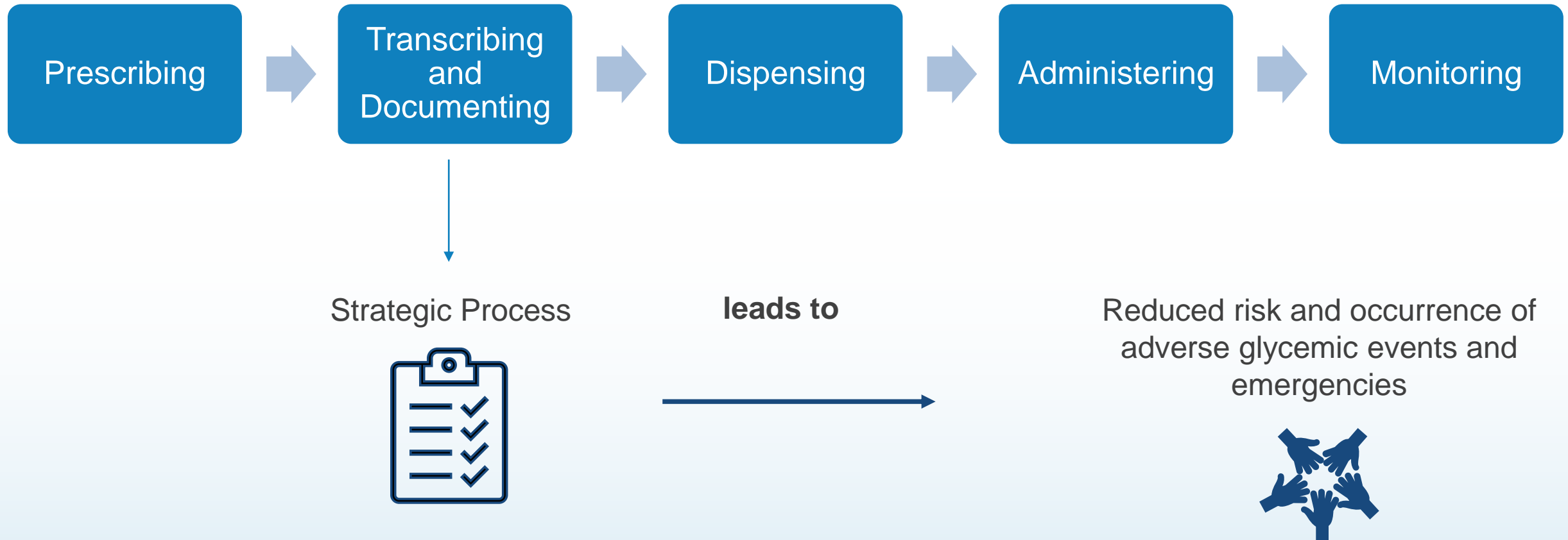
- Coordination of meal trays with insulin
- Frequent assessment of dietary intake
- Barcode scanning of medications
- Communication to providers / medical teams on critical values

Process Improvement | Hospital Discharge

How can a hospital or health care system improve processes at discharge?

- Comprehensive medication management
- Education from diabetes care and education specialist
- Timely and thorough care coordination for transition

Medication Use Process





TECHNOLOGY

Technology:

Are you using the most advanced technology to personalize care?

- Technology is a tool NOT a strategy



Technology-Driven Insulin Dosing Decision Support

eGlycemic Management Software® (eGMS)

Benefits of eGMS:

- Quicker time to target range
- Longer maintenance of glucose in tighter target ranges
- Lower glycemic variability
- Fewer calculation errors
- Built-in alert systems
- Data analysis
- FDA-cleared



Glucommander™ Timeline at Grady

- IV Insulin with meal bolus & hypoglycemia treatment
- Non-DKA and DKA protocols
- **Phase I** implementation in 2016
 - Non-DKA and DKA protocols, only in the ICUs
 - Across all 4 ICU's - Neuro, Burn, Trauma/Surgical (CV Surgery), MICU
- **Phase II** implementation in 2018
 - Non-DKA and DKA protocols expansion to IMUs (intermediate care unit)
- **Phase III** implementation 2021
 - Non-DKA and DKA protocols expansion to OR/PACU and ED
- **Phase IV** implementation planned for 2022-2023
 - Non-DKA and DKA protocols expansion to Obstetrics

Care Prior to Glucommander

- Non-DKA paper-based protocol

NON-DKA Critical & Intermediate Care Continuous Insulin Infusion Protocol for BG Target: 140 – 180 mg/dL

Insulin infusion is recommended if patient's **BG > 180 mg/dl** for two consecutive levels
Do NOT initiate insulin infusion if patient is on oral diet - **CALL MD**
 Caution in patients on tube feeds - initiate dextrose-based fluids (as ordered by MD) if TF not at goal or on hold/stopped

BG Target = 140-180 mg/d. Check BG every 1 hour.

Start **dextrose-based fluids** (i.e. D5W½NS, as ordered by MD) any time patient is **NPO/TF** not at goal rate, on hold or stopped

Initial Insulin Infusion rate: **units/hr = ml/hr = BG/100** (round to the nearest 0.5 units)

Refer to IV insulin infusion titration table below **AFTER EACH BG CHECK**

Call MD for BG > 400 and < 100

BG (mg/dL)	Insulin infusion titration AFTER EACH BG CHECK
> 180	BG decreased by ≤ 30 mg/dL from previous BG = Increase rate by 1 unit/hr, Check BG every 1 hour
	BG decreased by > 30 mg/dL from previous BG = NO CHANGE . Check BG every 1 hour
140 – 180	NO CHANGE . Check BG every 1 hour
100 – 139	Decrease rate by 50 %. Check BG every 1 hour. Ensure Dextrose based fluids if patient is NPO/TF not at goal, on hold or stopped
< 100	HOLD insulin infusion and ensure dextrose based fluids. Check BG every 1 hour. Give dextrose per hypoglycemia protocol Notify MD.

BG (mg/dL)	Hypoglycemia Protocol	
51-99	Stop insulin infusion and give ½ amp of D50% IV, notify MD Check BG Q15 min until BG > 70, then Q30 min until > 100, then Q1hour	Resume insulin drip at 50% of most recent rate when BG >180
≤50	Stop insulin infusion and give 1 amp of D50% IV, notify MD Check BG Q15 min until BG > 70, then Q30 min until > 100, then Q1hour	

Glucommander | Non-DKA protocol in EHR

NON-DKA Glucommander Insulin Infusion and hypoglycemia protocol Personalize ⌵

General

Nursing Interventions

- NON-DKA Glucommander Insulin Infusion and hypoglycemia protocol
Routine, UNTIL DISCONTINUED, starting today at 1151, Until Specified

General

For Administrative Use Only

- NON-DKA Glucommander Insulin Infusion and hypoglycemia protocol Order Set Used
Details

Labs

Labs

Please order Hemoglobin A1C if last result date greater than 90 days.
- Results review

- POCT Glucose
Routine, PRN, starting today at 1150, Until Specified
- Hemoglobin A1C
Routine, ONE TIME
- Chem 8, Metabolic Panel
Routine, ONE TIME

Medications

IV Fluids

- dextrose 5 % in lactated ringers (D5LR) IV fluid
at 40 mL/hr, Intravenous, CONTINUOUS, Starting today at 1300
Infuse D5-containing solution if patient is NPO; if TPN stopped / on hold; or if tube feeds (TF) not at goal rate / stopped / on hold. Infuse at same rate as TF goal rate. If TF is not yet at goal rate, infuse D5-containing solution at 40 mL/hr until TF is at goal, then stop D5-containing solution.

NON-DKA Glucommander Insulin Infusion and hypoglycemia protocol

- NON-DKA Glucommander Insulin infusion and hypoglycemia protocol
insulin regular (NOVOLIN/HUMULIN R) 100 Units in sodium chloride 0.9 % 100 mL infusion-Glucommander
0-40 Units/hr (0-40 mL/hr), Intravenous, TITRATED, Starting today at 1300
Initiate, titrate, or hold insulin as directed by Glucommander. Monitor Q 1 hr. Infuse D5-containing solution if patient is NPO; if TPN stopped / on hold; or if tube feeds stopped / on hold. Infuse at same rate as TF goal rate. If TF is not yet at goal rate, infuse D5-containing solution at 40 mL/hr until TF is at goal, then stop D5-containing solution.

And

- dextrose 50 % IV soln
10-50 mL, Intravenous, PRN, Low blood sugar, For hypoglycemia (BG<70) per Glucommander recommendation, Starting today at 1250
25 g = one 50 mL vial of D50.
For hypoglycemia (BG<70) per Glucommander recommendation

NON-DKA Glucommander Insulin infusion and hypoglycemia protocol Acc

insulin regular (NOVOLIN/HUMULIN R) 100 Units in sodium chloride 0.9 % 100 mL infusion-Glucommander Accept Cancel Remove

Reference 1. Drug Information
Links:

Initial Multiplier (Insulin sensitivity Factor):

- Sensitive (renal disease, elderly): Multiplier 0.01, Target Range 140-180 mg/dL
- Standard Adult: Multiplier 0.02, Target Range 140-180 mg/dL
- Cardiac Surgery-postop: Multiplier 0.05, Target Range 100-140 mg/dL

Dose: Units/hr

Administer Dose: 0-40 Units/hr

Route:

Frequency:

For:

Starting:

At:

Starting: **Today 1300 Until Discontinued**

Scheduled Times ⌵

02/11/20 1300

Admin. Inst.: ⌵ Initiate, titrate, or hold insulin as directed by Glucommander. Monitor Q 1 hr. Infuse D5-containing solution if patient is NPO; if TPN stopped / o...<....

Prod. Admin. Inst.: (none)

Note to Pharmacy: + Add Note to Pharmacy (F6)

Rate: mL/hr
0-40 Units/hr × 100 mL / 100 Units
0-40 mL/hr

Next Required Acc

DKA Protocol Flowsheet

- Requires dual verification on initial bolus, programming Smart Pump (initial rate and any subsequent rate changes)
- Check BG EVERY 1 HOUR for first 4 hours, followed by EVERY 2 HOURS while on insulin infusion
- Contact MD for BG <40 mg/dL OR >400 mg/dL
- Insulin drip should NOT be turned off without specific MD order

Blood Glucose (mg/dL)	Action
	<ul style="list-style-type: none"> • Initiate Insulin drip at 0.1 unit/kg IV bolus, followed by 0.1 unit/kg/hr infusion • Check BG every 1 hour while on insulin infusion • Do not adjust insulin drip rate until BG \leq 250 mg/dL • Then, titrate as indicated below:
First BG \leq 250	<ol style="list-style-type: none"> 1) Decrease insulin drip rate by 50%. Check BG every 1 hour 2) Change IV fluid to D5LR at 150ml/hr or per MD order (If D5LR not on med profile, contact MD for order)
201 – 249	Increase insulin drip rate by 1 unit/hour. Check BG every 1 hour
151 – 200	NO CHANGE in insulin drip rate or IV fluids. Check BG every 1 hour
101 – 150	<ul style="list-style-type: none"> • If current insulin drip \geq 2 units/hr \rightarrow Decrease drip by 1 unit/hr • If current insulin drip < 2 units/hr \rightarrow a) Continue drip at current rate AND b) Change IVF to D10 @ 150 mL/hr or per MD order
70 – 100	<ol style="list-style-type: none"> 1) Check BG every 30 min until BG > 100 mg/dL 2) Give 25 mL D 50% IV every 30 min until BG > 100 mg/dL 3) Adjustments based on current insulin drip rate: <ul style="list-style-type: none"> • If current insulin drip \geq 2 units/hr \rightarrow Decrease drip by 1 unit/hr • If current insulin drip < 2 units/hr \rightarrow a) Continue drip at current rate AND b) Change IVF to D10 @ 150 mL/hr or per MD order (If D10 already infusing: Give additional 25 mL D50% IV)
<70	<ol style="list-style-type: none"> 1) Check BG every 15 min until BG > 70 mg/dL, then every 30 min until BG > 100 mg/dL 2) Give 50 mL D50% IV q 15 min until BG > 70 mg/dL 3) Follow insulin drip / IVF adjustments per orders for BG 70-100mg/dL

Care Prior to Glucommander

- DKA paper-based protocol

Glucommander | DKA protocol in EHR

▼ Glucommander DKA Intravenous Insulin Therapy

- insulin regular (NOVOLIN/HUMULIN R) 100 Units in sodium chloride 0.9 % 100 mL infusion-Glucommander
0-40 Units/hr (0-40 mL/hr), Intravenous, TITRATED, Starting today at 1730
Initiate, titrate and hold insulin as directed by Glucommander. Monitor BG as directed by Glucommander. First BG<250: Change IV fluid to D5LR at 150ml/hr or per MD order. (If D5LR not on MAR profile, contact MD for order) First BG<150: Change IV fluid to D10W at 150ml/hr or per MD order. (If D10W not on MAR profile, contact MD for order)
- dextrose 5 % in lactated ringers (D5LR) IV fluid
at 150 mL/hr, Intravenous, CONTINUOUS PRN, Starting today at 1713, for FIRST BG < 250
First BG<250: Change IV fluid to D5LR at 150ml/hr or per MD order.
- dextrose 10 % IV fluid
at 150 mL/hr, Intravenous, CONTINUOUS PRN, Starting today at 1713, for BG 101-160
First BG<150: Change IV fluid to D10W at 150ml/hr or per MD order.
- dextrose 50 % IV soln
10-50 mL, Intravenous, PRN, Low blood sugar, For hypoglycemia (BG<70), Starting today at 1713
25 g = one 50 mL vial of D50.
For hypoglycemia (BG<70) per Glucommander recommendation.

▼ Potassium Replacement in DKA

Potassium Chloride is the preferred K replacement.
Potassium Phosphate is **NOT** indicated unless serum phosphate is < 1 mg/dL. May be associated with a reduction free calcium.

For Serum phosphorus \geq 1 mg/dL, use Potassium Chloride.
For Serum phosphorus < 1 mg/dL, use Potassium Phosphate.

Caution in patients with renal dysfunction.

- Phosphorous \geq 1 mg/dL
- Phosphorous < 1 mg/dL

insulin regular (NOVOLIN/HUMULIN R) 100 Units in sodium chloride 0.9 % 100 mL infusion-Glucommander Accept Cancel

⚠ DKA Multiplier: 0.01, Target Range 140-180 mg/dL

Dose: Units/hr

Administer Dose: 0-40 Units/hr

Route:

Frequency:

For: Hours Days

Starting: At: [Show Additional Options](#)

Starting: **Today 1300** **Until Discontinued**

Scheduled Times: [Hide Schedule](#)
5/10/18 1300

Admin. Inst.: Initiate, titrate and hold insulin as directed by Glucommander. Monitor BG as directed by Glucommander. First BG<250: Change IV fluid t...

Prod. Admin. (none)

Inst.:

Note to Pharmacy: [Click to add text \(F6\)](#)

Rate: mL/hr
0-40 Units/hr × 100 mL / 100 Units
= 0-40 mL/hr

Volume: mL

Medications

insulin regular Units/mL

Calc. Dose = 100 Units
1 Units/mL × 100 mL
= 100 Units × 1 mL/100 Units
= 1 mL × 100 Units/mL
= 100 Units

Base (Selection Required)

sodium chloride 0.9 % mL

Priority:

Dispense: Dispense every hours [Label comments: Click to add text](#)

Do not dispense doses

Calculate rate from volume and duration

Medication Administration Record (MAR)





Wednesday September 21, 2022


◀ | 0300 | 0400 | 0500 | 0600 | 0700 | 0800 | 0900 | 1000 | 1100 | 1200 | 1300 | 1400 | ▶

Call medical provider for additional orders if patient requires rate titration above the range that has been ordered (usual infusion rate is 25-300 mcg/hr).

Product Instructions:
 Waste of partially used infusions / PCA syringes is done on the area, with 2 nurse witnesses and completion of the Narcotic Waste form that is tubed by secure transaction to pharmacy.
 NOTE FOR airborne / droplet precautions:
 Partially used infusions / PCA syringes should not be removed from isolation room. Waste must still occur with 2 witnesses, EITHER both inside the patient room or one nurse will observe from outside the room through the window (if available) the volume to be wasted and will witness the primary nurse wasting the bag down the sink. The infusion should NOT LEAVE the patient room. The narcotic waste form is still completed /signed by the two nurses OUTSIDE the room, and sent via secured transaction in the pneumatic tube to pharmacy.

Last Admin: Today 09/21/22 at 0800
(Rate/Dose Verify) | Dispense Location: 7KIS PYXIS

insulin regular (NOVOLIN/HUMULIN R) 100 unit/100 mL NS infusion-Glucommander ☐ Dose: 0-40 Units/hr :    




0-40 mL/hr : Intravenous : TITRATED : 


0324 Rate/Dose Change 1 Units/hr				0716 HANDOFF						

Admin Instructions:
 Initiate, titrate, or hold insulin as directed by Glucommander. Monitor Q 1 hr. Infuse D5-containing solution if patient is NPO; if TPN stopped / on hold; or if tube feeds (TF) not at goal rate / stopped / on hold. Infuse at same rate as TF goal rate. If TF is not yet at goal rate, infuse D5-containing solution at 40 mL/hr until TF is at goal, then stop D5-containing solution.

Frequency: TITRATED Route: Intravenous Ordered Dose: 0-40 Units/hr Ordered Infusion Rate: 0-40 mL/hr	Last Admin: Today 09/21/22 at 0800 (Rate/Dose Verify) Order Start Time: Yesterday 09/20/22 at 1200 Expected Dispense Volume: 100 mL	Dispense Location: MAIN INPATIENT PHARMACY References: Patient Education/Drug information Managing Hypoglycemia Drug Information Patient Drug Information Order Questions/Answers Initial Multiplier Sensitive (renal disease, elderly): (Insulin sensitivity Multiplier 0.01, Target Range 140- Factor): 180 mg/dL Linked Line: Not Linked
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Recent Actions: [09/20 2241](#) | [09/21 0324](#) | [09/21 0716](#)

NORepinephrine (LEVOPHED) 32,000 mcg in sodium chloride 0.9 % 500 mL - DOUBLE concentration ☐   

Dose: 0-150 mcg/min : 0-140.63 mL/hr : Intravenous : TITRATED : 

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Blood Glucose Integration


Enter Blood Glucose Value

MRN: M129316441... NAME: BRADDIX, CHAD

Verify current blood glucose value:

Enter BG Value: mg/dl [Edit BG](#)

BG Resulted: 03/24/2016 at 10:55



There is an interface with the lab to send over glucose results from the glucometers. This interface will send the value after the glucometer has been docked.

If you choose to use another value other than the one displaying in orange, select the blue “Edit BG” button. You will then be prompted to enter the BG value.

Enter Blood Glucose Value

MRN: M129316441... NAME: BRADDIX, CHAD

Please enter the current blood glucose value

Enter BG Value: mg/dl **Meter MIN** **Meter MAX**

Re-Enter BG Value: mg/dl

Elevated Anion Gap & DKA

- Abnormal Anion Gap

NAME: BRADDIX, CHAD 	CURRENT INSULIN 1.5 units/hr	LAST BG 158 mg/dl	14:27
MRN: M129316441... DOB: 05/23/1962		ANION GAP 17.6 meq/L	Enter BG Start Meal
HEIGHT: 182 cm WEIGHT: 110 kg			
BMI: 33 A1C: 10.3	TARGET RANGE 120-160 mg/dl	MULTIPLIER Initial Last 0.01 0.01563	
FACILITY: General Hospital			
UNIT: ICU			

- Normal Anion Gap

NAME: FITZGERALD, MACK 	CURRENT INSULIN 1.8 units/hr	LAST BG 132 mg/dl	14:15
MRN: M131451238... DOB: 05/23/1957		ANION GAP 10.3 meq/L	Enter BG Start Meal
HEIGHT: 172 cm WEIGHT: 94 kg			
BMI: 32 A1C: 8.7	TARGET RANGE 120-160 mg/dl	MULTIPLIER Initial Last 0.01 0.02443	
FACILITY: General Hospital			
UNIT: ICU			

Elevated Anion Gap & DKA

Discontinue Treatment?

X

Warning:

Patient is at risk for DKA. Last anion gap recorded was 17.6 mEq/L.

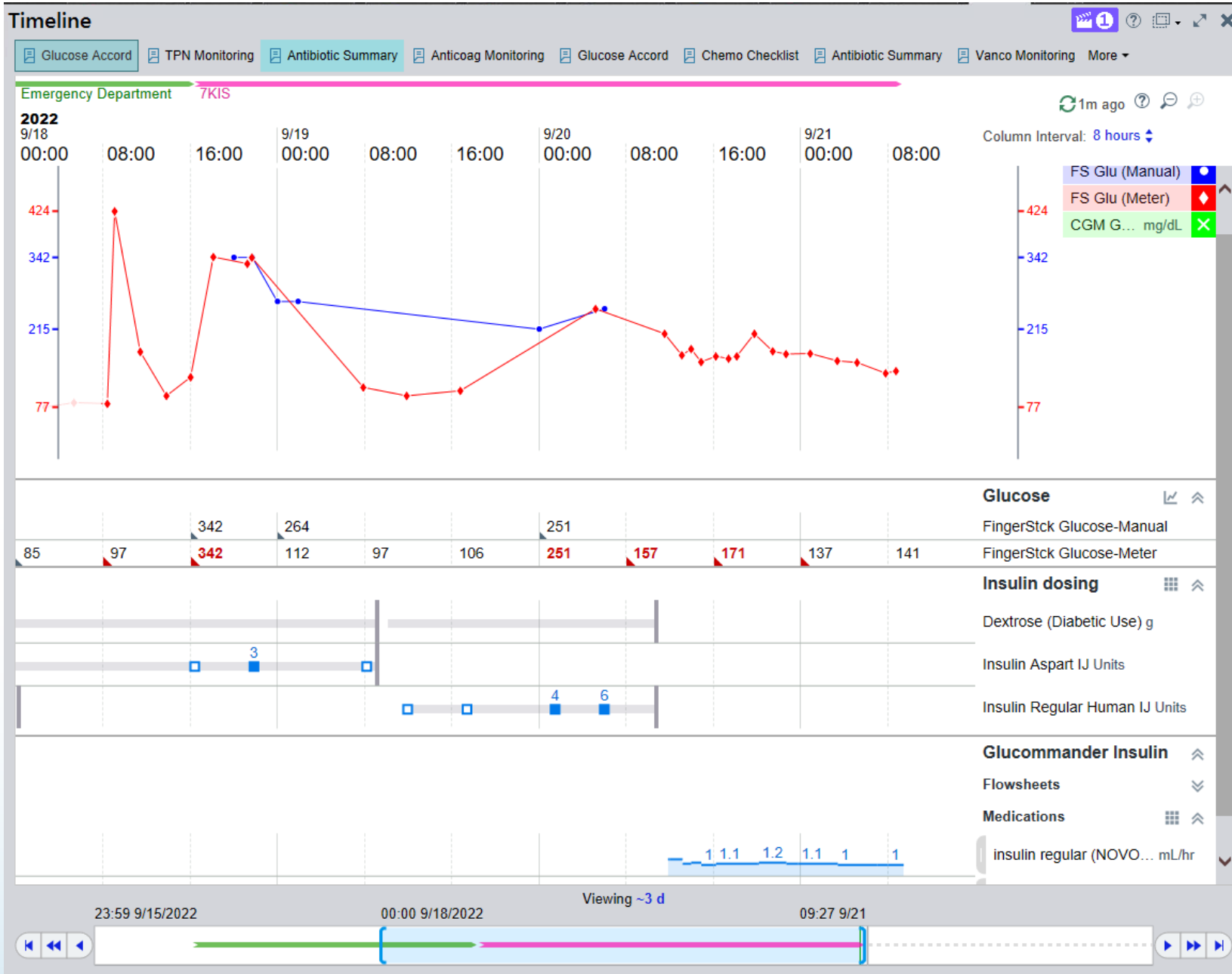
It is recommended that IV insulin be discontinued when:

- Blood glucose \leq 180 mg/dl
- Anion gap \leq 12 mEq/L

Are you sure you want to discontinue?

Discontinue

Continue on Glucommander



NAME: [Redacted] [Edit](#)
 MRN: [Redacted] DOB: [Redacted]
 HEIGHT: 170.18 cm WEIGHT: 68.6 kg
 BMI: 24 A1C:
 FACILITY: Grady Memorial Hospital
 UNIT: GHS 7K15

CURRENT INSULIN
0.6
 units/hr

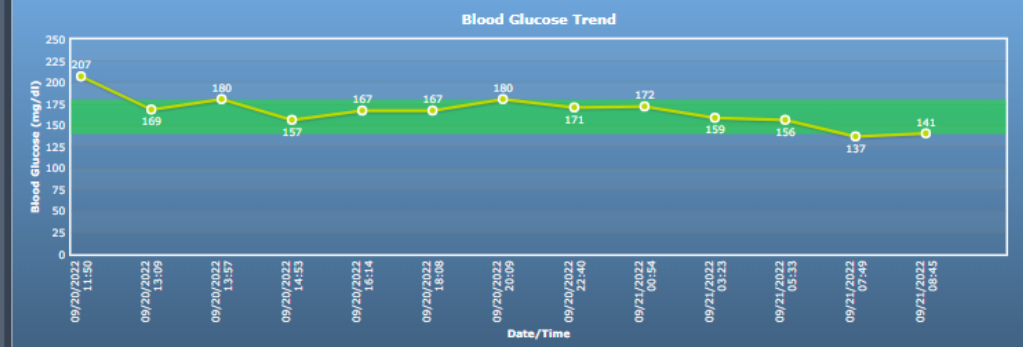
LAST BG
141
 mg/dl

BG DUE!
[Enter BG](#) [Start Meal](#)

TARGET RANGE
140-180
 mg/dl

MULTIPLIER
 Initial 0.01 Last 0.008

Trend ● All ○ IV Refresh

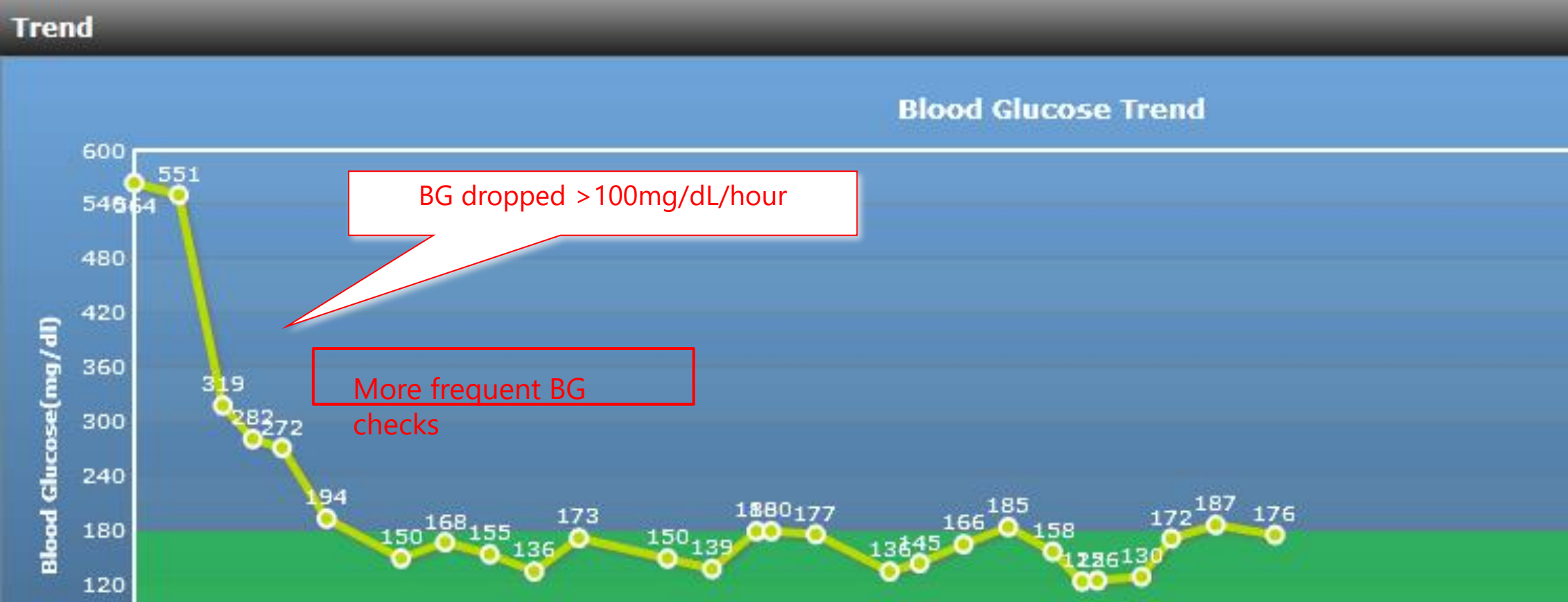


Red dot • indicates Meter limit

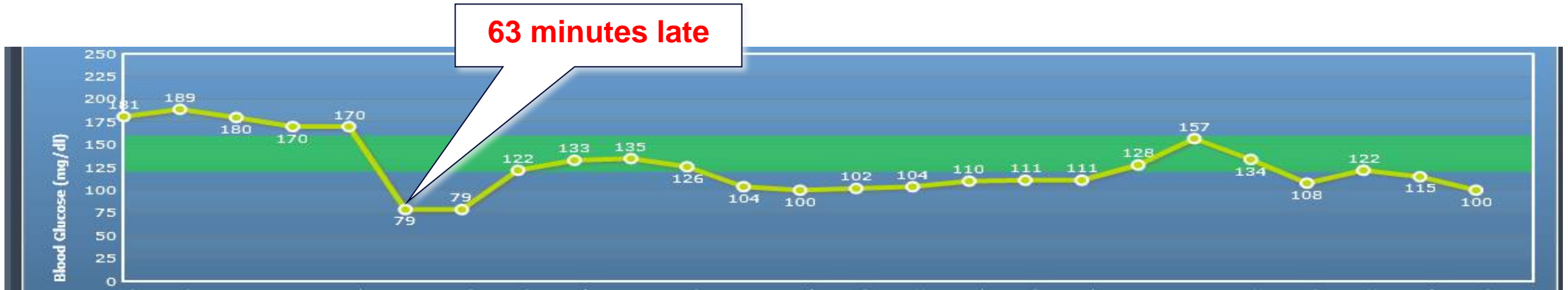
IV History	Glucometrix™	Notes (0)	History			
Date	BG Value	Insulin Rate	Carbs	Nurse	D50	Next BG Due
09/21/2022 08:45	141 mg/dl	0.6 units/hr	N/A	Chase Hall	0 ml	09/21/2022 09:45
09/21/2022 07:49	137 mg/dl	0.6 units/hr	N/A	Chase Hall	0 ml	09/21/2022 08:49
09/21/2022 05:33	156 mg/dl	1 unit/hr	N/A	Shawna Wright	0 ml	09/21/2022 07:33
09/21/2022 03:23	159 mg/dl	1 unit/hr	N/A	Shawna Wright	0 ml	09/21/2022 05:23
09/21/2022 00:54	172 mg/dl	1.1 units/hr	N/A	Shawna Wright	0 ml	09/21/2022 02:54
09/20/2022 22:40	171 mg/dl	1.1 units/hr	N/A	Shawna Wright	0 ml	09/21/2022 00:40
09/20/2022 20:09	180 mg/dl	1.2 units/hr	N/A	Shawna Wright	0 ml	09/20/2022 22:09
09/20/2022 18:08	167 mg/dl	1.1 units/hr	N/A	Shirley Jackson	0 ml	09/20/2022 20:08
09/20/2022 16:14	167 mg/dl	1.1 units/hr	N/A	Bernard Hyppolite	0 ml	09/20/2022 18:14
09/20/2022 14:53	157 mg/dl	1 unit/hr	N/A	Shirley Jackson	0 ml	09/20/2022 15:53
09/20/2022 13:57	180 mg/dl	1.2 units/hr	N/A	Bernard Hyppolite	0 ml	09/20/2022 14:57
09/20/2022 13:09	169 mg/dl	1.1 units/hr	N/A	Bernard Hyppolite	0 ml	09/20/2022 14:09
09/20/2022 11:50	207 mg/dl	1.5 units/hr	N/A	Shirley Jackson	0 ml	09/20/2022 12:50

Glucose Velocity

- Prevention of drops >100 mg/dL/hr



Timeliness of BG Checks - Prevention of Hypoglycemia



- Timeliness of BG checks is critical for optimal glycemic outcomes.
- Case Study: This patient was post-operative CABG being transferred from the OR to the ICU. The last BG before transfer was 176. GlucoView alerted the nurse that the BG was late on admission to the ICU. The next BG had dropped almost 100 mg/dL and was close to hypoglycemia.

Monitoring Patients with GlucoView™

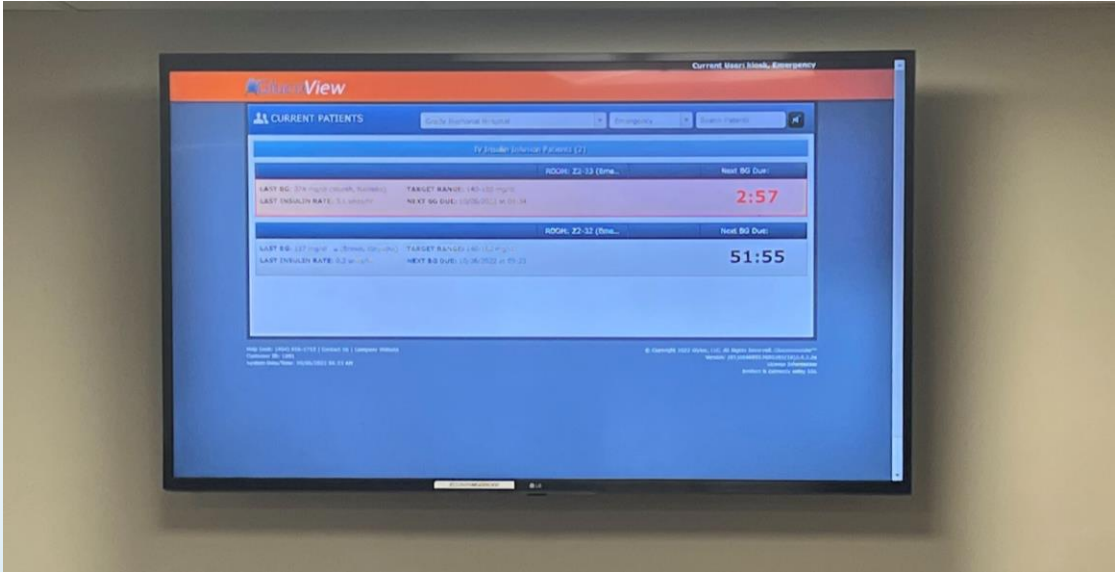
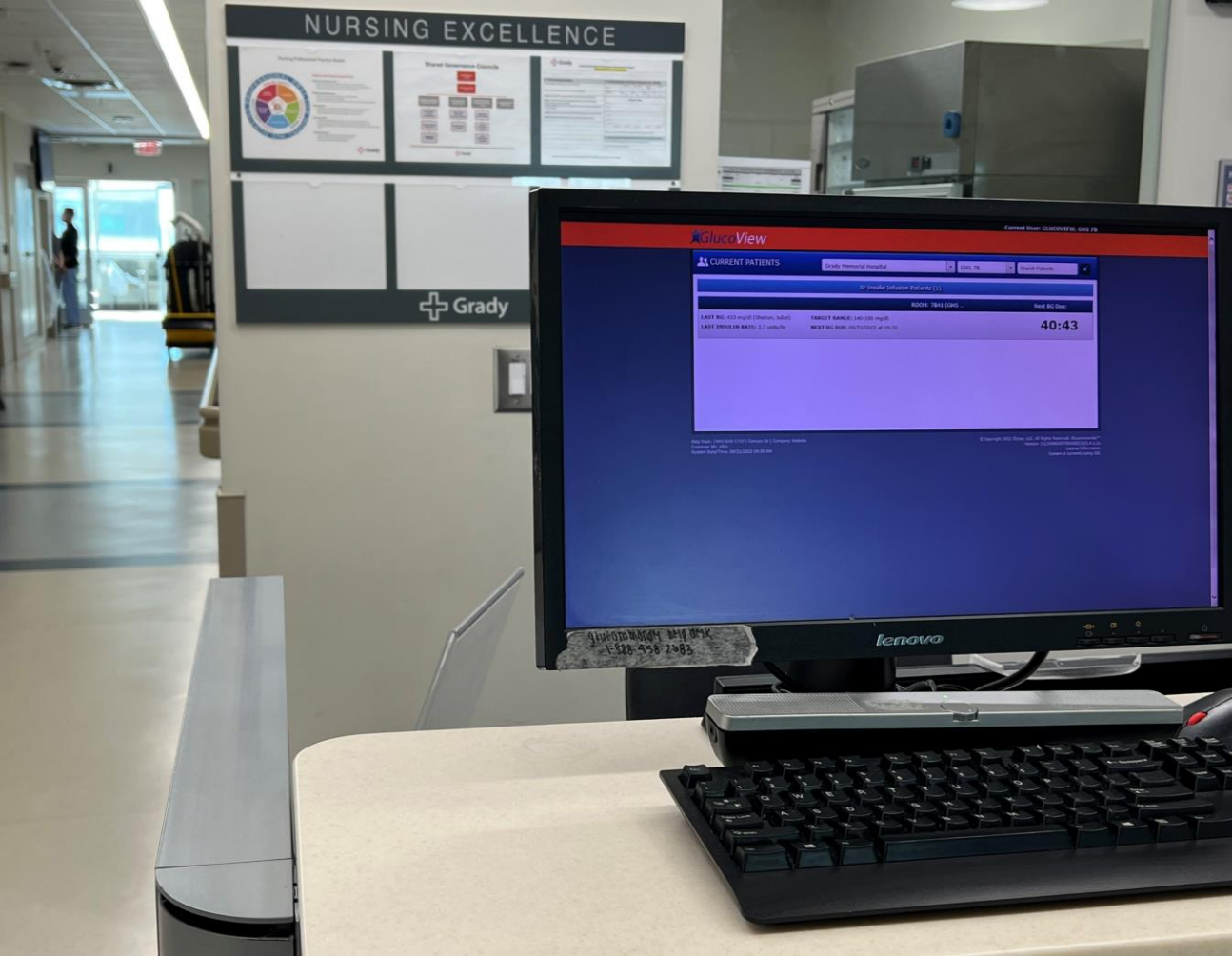
Glucoview Logout

CURRENT PATIENTS Heart Hospital ICU Search Patients

IV Insulin Infusion Patients (5)

PATIENT NAME	LOCATION	NEXT BG Due:
FITZGERALD, M LAST BG: 130 mg/dl (Ohanuka, Emily) LAST INSULIN RATE: 0.7 units/hr	ICU	57:23 TARGET RANGE: 120-160 mg/dl NEXT BG DUE: 10/24/2014 at 16:07
POWERS, J LAST BG: 121 mg/dl (Ohanuka, Emily) LAST INSULIN RATE: 0.9 units/hr	ICU	57:23 TARGET RANGE: 100-140 mg/dl NEXT BG DUE: 10/24/2014 at 16:07

PEDIATRIC



GLYCEMIC DASHBOARD

Print PDF Excel Filter

Reports

Dashboard

Hyperglycemia

Hypoglycemia

Patient History

IV BG Entry Delays

Time to Target Range

Percent Of BGs In Target Range

Patient Usage

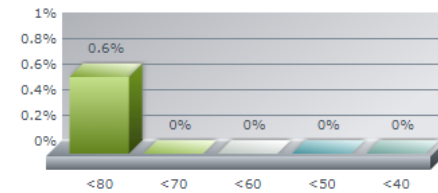
Hypoglycemia Recheck Compliance

Total Patients	11
Average BG	181 ±68 mg/dl
Average Initial BG	342 ±85 mg/dl
Average Time To Target	7 hours 18 Minutes
Average Time On Glucommander	35 hours 44 Minutes
Hypoglycemia (<70 mg/dl)	0.00% (0 BGs)
Hypoglycemia (<60 mg/dl)	0.00% (0 BGs)
Hypoglycemia (<50 mg/dl)	0.00% (0 BGs)
Hypoglycemia (<40 mg/dl)	0.00% (0 BGs)
Hyperglycemia (>250 mg/dl post D50)	0.00% (0 BGs)
Total BGs	331

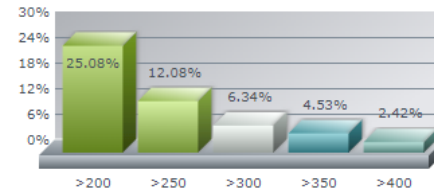
Number Of Patients

IV Only	SubQ Only	IV and SubQ
12	0	0

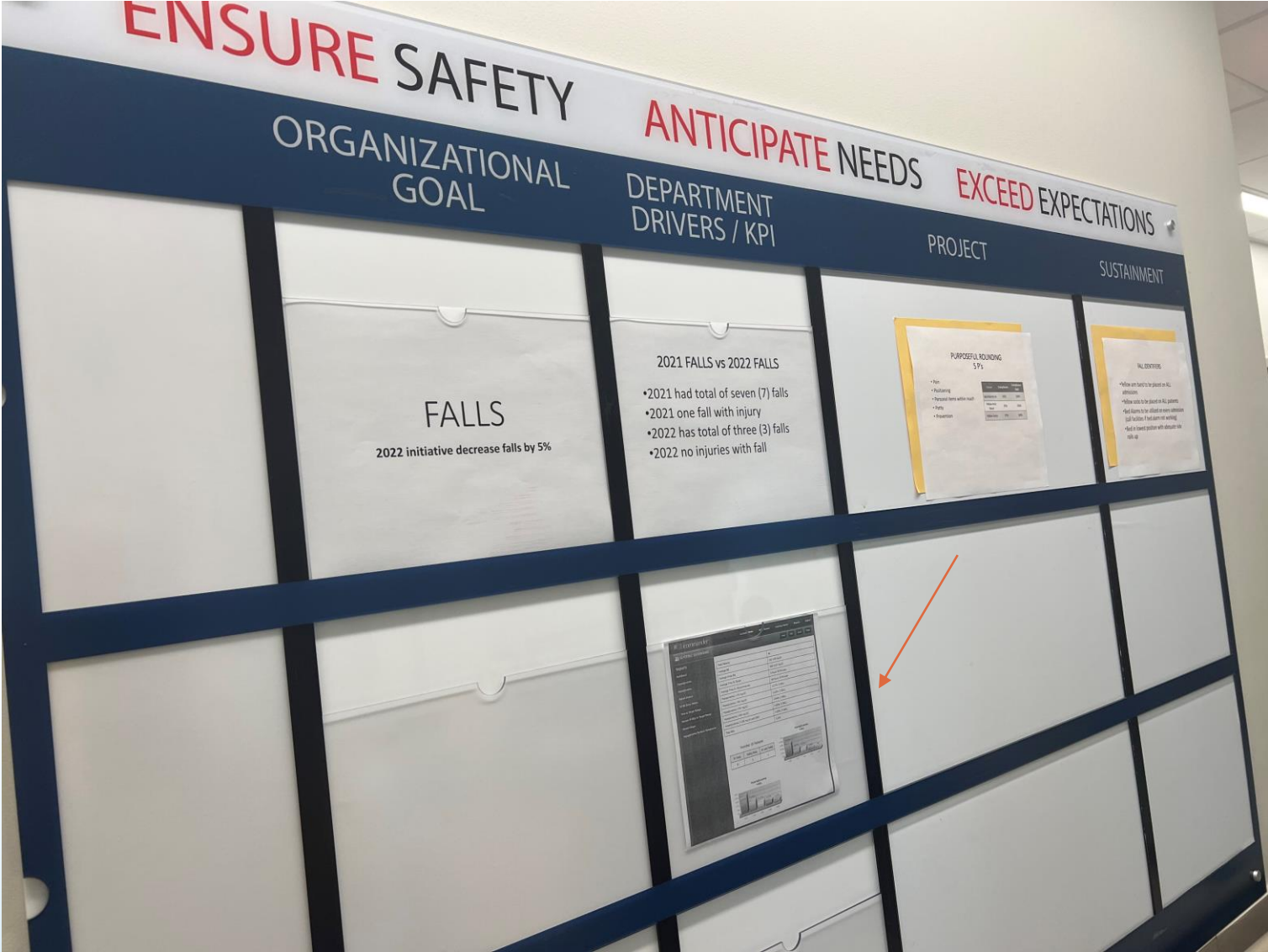
Hypoglycemia %BGs



Hyperglycemia %BGs



Communication Throughout the Hospital











On-Going Technical Support | E-Learning

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SELECT APPROPRIATE SECTION BELOW TO VIEW / DOWNLOAD RESOURCE MATERIALS.

 General Information	 Glucomander IV	 Glucomander Transition
 Glucomander SubQ - Basal/Bolus	 Glucomander SubQ - Insulin:Carb	 Provider Education
 Online Learning Modules	 Download User Manual	 Glytec Evidence

Thank You!

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