How many professionals does it take to steer the sugar ship away from the rocks?

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Objectives

- **The Need to Steer a Sugar Ship**
  - The importance of glycemic control for hospitalized patients

- **Establishing the Crew of the Ship**
  - Finding the right people to be at the table and to lead the initiative

- **Jumping on Board or Jumping Over Board (Walking the Plank)**
  - Leading through change, moving the project forward, and staying focused

- **Knowing the Crew is Accomplishing Its Mission**
  - Tracking progress and identifying success
Potential Harms of Uncontrolled Blood Glucose Levels in Hospitalized Patients with Type 2 Diabetes

- **Increased risk of infections** – sepsis, pneumonia, wound infection in postop patients with one blood glucose level >220 on post-op day one

- **Decreased neurologic recovery** – observational studies show an association between hyperglycemia and worsened outcomes in patients with acute stroke

- **Higher mortality with acute MI** – 1 year mortality rate 19.3% with admission blood glucose <101 compared to 44% with an admission blood glucose >200

- **Longer hospitalization**

- **Delayed procedures**
The Target

- Literature review for leading practices for glycemic control in hospitalized patients
- Non DKA Patients
- Decrease episodes of hyperglycemia
- Avoid episodes of hypoglycemia
- Have majority (80%) of blood sugars be within the range of 70-180
- January 2016
  - <70 2%
  - 70-180 49%
  - >180 49%
The Crew

Finding The Right People to Participate and Lead

- Subject matter experts
- Currently doing the work
- Excited and optimistic
- Willing to share ideas
- Open minded
- Committed to the team
- Willing to trial change
- Uses critical thinking
- Active listener
- Committed to the work
All Aboard!

Jumping on Board or Walking the Plank

Learning Curves
Raytheon Professional Services

Does your "Welcome Aboard" make folks want to jump ship?
“The” Captain
How To Avoid The Rocks

- Insulin
- Engaged Patients
- Providers
- Hypoglycemia
- Hyperglycemia
- Data
- Staff

Better. Together.
Steering the Ship

The PDSA cycle

Act
Identify adaptations & next steps for the new PDSA cycle.

Plan
Investigate the problem. Identify the change.

Study
Review. How successful was the change?

Do
Test the change.

Gemba Board
The Voyage

Just Some of the Many Changes Tried!

- Hospitalist chart review process
- CHO meal menu in grams
- CHO in the MAR
- Real time chart review
- Sliding scale and basal insulin orders
- New calculation for basal insulin dose
- Red tray delivery of meals
- Signs in patient rooms re: guest food
- Insulin drip for non DKA ICU patient
The Voyage

Timely Administration of Prandial Coverage

Act
- Education About New Standard
- Gemba Board KPI

Study

Plan
- Meals on Red Trays
- MSU Nutrition ICU

Do

RB
The Voyage

Simultaneous BS and Insulin Administration

Plan

Do

Study

Act

- Move to CNA Approach
- BS at Meal Time
- Nurse Does All Tasks
- Trial By Nurse

RB
The Voyage

Delivery of Meals

Act
- CNA Support
- Take BS and Deliver Tray

Plan
- Education About New Standard
- Gemba Board KPI

Study

Do

Nutrition Services: Red Trays
Nurse Educator: Skills/Knowledge
Providers: Order Consistency
Beyond the Rocks

Overall - Blood Glucose Samples 70-180

Goal

*
Overall - Blood Glucose Samples < 70
Of the Blood Sugars Greater >180

- No Steroids
- Steroids
### Total Times Correction Insulin Given in the Month
Divided by the Total Number of Patients in the Month

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<th>2</th>
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<th>6</th>
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*Pen Bay Medical Center*
*Waldo County General Hospital*
CHO Coverage Insulin Given Within 30 Minutes
Correction Insulin Given Within 30 minutes
So….How Many?
166 People / 1178 Days

Workgroup (19)
- Nutritionists (2)
- Hospitalists (2)
- Nurse Managers (3)
- Diabetes Educator (1)
- Nurse Educator (1)
- Quality (1)
- CMO (1)
- Bedside Nurse (4)

In Addition to Workgroup (147)
- Providers (17)
- Bedside Nurse (60)
- Bedside CNA (39)
- House Supervisors (6)
- Nutrition Services (25)
- Inpatient Care Committee (4)
- Discharge Planners (2)
- aICU Providers (?)
Finding the Treasure

Knowing That the Crew Has Accomplished It’s Mission
Glucose Management in Hospitalized Patients, Charles Kodnet, MD; Laurie Anderson, MD; and Katherine Pohlgeers, MD; University of Louisville School of Medicine, Louisville, Kentucky; American Family Physician, Volume 96, Number 10, November 15, 2017

Diabetes Care; Standards of Medical Care in Diabetes, 2019