# EIIC Coffee Data Team

## March 26, 2024

University Hospitals
Rainbow Babies & Children's
Cleveland | Ohio

# Measurement for Quality Improvement

- You can’t improve what you can’t (or don’t) measure
- A **critical** enabler in achieving desired improvement goals is the ability to **measure improvement**
- Measures tell a team if the changes they make are making a difference (and if the difference is an improvement)

# Measures Used in Health Care

- **Donabedian Framework**

# Measures Used in Health Care

## Balancing Measures

- Looks at the system from a different direction or dimension

- Are the changes designed to improve one part of the system causing a new problem in other parts of the system?

# Measure Summary

| Type of Measure | Description | Perioperative Example |
|---|---|---|
| **Outcome** | • **A voice of the patient (effect of healthcare delivery on patients/populations)**<br>• How the system is performing?<br>• What is the result? | • Percentage of patients harmed<br>• Percentage of unplanned returns to the emergency room (mental behavioral conditions) |
| **Process** | • **The voice of the workings of the process/system (actions that make up healthcare delivery)**<br>• Logically linked to obtaining the outcomes<br>• Address how key parts or steps of the system are performing | • On time follow-up for mental health treatment after hospital discharge.<br>• Enroll more providers to the program enabling greater volume of patients effectively improving access to care, reducing readmits. |
| **Balancing** | • **Look at the system from different directions or dimensions (i.e. any unanticipated effects?)**<br>• What happened to the system as we improved the outcome and process measures?<br>• Could be related to unintended consequences or competing explanations for project success | • Consult Line and enrollments |

# Developing Improvement Project Measures

## 1. Basic Information

- Name of Measure
- Objective of Measure
- Numerical Target or Goal
- Type of Measure: Outcome, Process, or Balancing

## 2. Operational Definition of the Measure

- What actual data elements need to be collected? Define the numerator and denominator, if appropriate.
- Is this definition different from standard definitions used in other places? Benchmarks?
- List inclusions & exclusions to the data you will collect.
- Will you sample to obtain the data? If so, describe the sampling plan.
- Define the measurement unit for each data element. (ex. Length of Stay in days, hours, or minutes?)
- If the data involves making a judgement such as "late" or "appropriate," list the criteria for making this judgement.

# Developing Improvement Project Measures

## 3. Administration

- Where are the data located?
- How frequently will you measure? (ex. daily, weekly, monthly)
- Who will collect the data?
- How will the data be displayed? What graph(s) will be utilized?
- Who will make the graph(s)?
- Who will review the graph(s) and in what setting? How often?

## 4. Additional Information

- Do you have baseline data for this measures? If yes, what is it and what time frame is it from?
- What other measures will complement this measure as part of the measurement set for the improvement project.

# Deriving Meaning from Data

# Defining a Numerator & Denominator

Using a ratio or rate minimizes confusion from variation in the data which may be a result of changes in volume of workload rather than changes in the key measures.

**Numerator:** the key measure

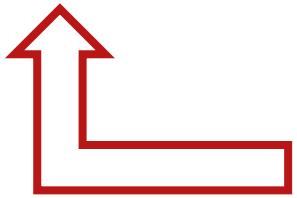
**Denominator:** some appropriate unit of production or volume

| Key Measure | Standard Unit | Possible Ratio Measure |
|---|---|---|
| # of consults completed by the pr ovider with the PMHCA program | Total enrolled providers in the PMHCA program. | # consults completed/ total enrolled providers |
| # of readmitted patients | # of patients discharged | Readmits/ total discharges |

# How to Compute a Rate

$$\text{Rate} = \frac{\textbf{Numerator:}\ \text{number of events}}{\textbf{Denominator:}\ \text{number of opportunities}} \bullet \textbf{Multiplier}$$

*(ex. Patient days, Central-line days, Ventilator days, Employee/Staff work hours)*



***Why "patient days" rather than "patients"?***

# Understanding Multipliers

$$\text{Rate} = \frac{\text{Numerator}}{\text{Denominator}} \bullet \text{Multiplier}$$

Per 100, 1000, 200000? Why do we do this?

**205 CLABSIs and 163,418 central line days**

- Instead of… 0.001254 CLABSIs per central line days
- Better… 1.254 CLABSIs per 1,000 central-line days

$$\frac{205}{163{,}418} \bullet 1{,}000 = 1.254$$

**4 consults and 345 enrolled providers**

- Instead of… 0.01159 consults per enrolled provider
- Better… 1.159 consults per 100 enrolled providers

$$\frac{4}{345} \bullet 100 = 1.159$$

# Live Example Activity!

University Hospitals
Rainbow Babies & Children's

# Next TA Webinars

| | | |
|---|---|---|
| **May 2** | Office Hour: Meet with a QI Coach and Data Analyst: Considerations for Data Software Platforms | 3pm - 4pm ET/ Zoom link |
| **May 7** | Webinar: Pediatric Needs During Times of Disaster – Part 2 with Trevor Covington | 2pm - 3pm ET / Zoom link |
| **May 14** | Webinar: Presenting Your Work Publicly – How to Create an Abstract and Poster Presentation with Dr. Snyder | 4pm - 5pm ET / Zoom link |

# Any Questions?

Please reach out to Anna.Goldman@UHhospitals.org or jen@essential-pm.com