

# Maintaining and sustaining a highly reliable quality improvement strategy

---

*Closing the gap: Structures, processes and outcomes*  
May 29, 2024



**EQIC**

EASTERN US QUALITY  
IMPROVEMENT COLLABORATIVE

# Today's learning objectives



- Discuss approaches for mining data.
- Understand how to:
  - use a gap analysis/rapid-cycle assessment to identify areas for improvement; and
  - create a strategy to address gaps.

# Data analysis resources and tips

---

Joseph Gentile  
Senior Healthcare Informatics Analyst

# EQIC harm areas

## EQIC-provided harm areas:

- CAUTI
- CLABSI
- *c. difficile*
- SSI
- MRSA
- Readmissions
- ADE
- Opioids
- Sepsis
- Falls
- Pressure injury

## Questions to answer:

- How do you continue to track these?
- How to interpret the data you do have?

# Public resources

- Care Compare
  - <https://www.medicare.gov/care-compare/?providerType=Hospital>
  - Data from the inpatient quality reporting program
  - Shows hospital measurement value and how it compares to national benchmarks
  - Ability to compare your hospital with other hospitals to see how you compare
  - Harm area examples: CAUTI, CLABSI, MRSA, SSI, *c. diff*, readmissions, etc.
- NHSN HAI Benchmark Report

# How to use Care Compare

- Access the website using this link:
  - <https://www.medicare.gov/care-compare/?providerType=Hospital>
- Enter the location or name of your hospital and select search.
- You can then click the “compare” button next to your hospital and any other hospital you are interested in comparing.
- Inpatient measures can be found under the drop-down menus for:
  - complications and deaths; and
  - unplanned hospital visits.



Welcome



Doctors & clinicians



**Hospitals**



Nursing homes including rehab services



Home health services



Hospice care

## Find hospitals near me

Find and compare information about the quality of care at over 4,000 Medicare-certified hospitals, including over 130 Veterans Administration (VA) medical centers and over 50 military hospitals, across the country.

MY LOCATION \*

NAME & TYPE (optional)

**Search**

[Show past search results](#)

Or want to learn more about ambulatory surgical centers (ASC)? [Visit the ASC data on](#)

< Back

What's new Print

MY LOCATION \*  SELECT PROVIDER TYPE \*  NAME & TYPE (optional)

Denver Health & Hospital Authority  Saint Joseph Hospital

Showing 1 - 15 of 30 hospitals

Sort by: Closest

1. Denver Health & Hospital Authority

0.8 mi



ACUTE CARE HOSPITALS

777 Bannock St  
Denver, CO 80204  
(303) 436-4927

Overall star rating



Patient survey rating



2. Saint Joseph Hospital

0.9 mi



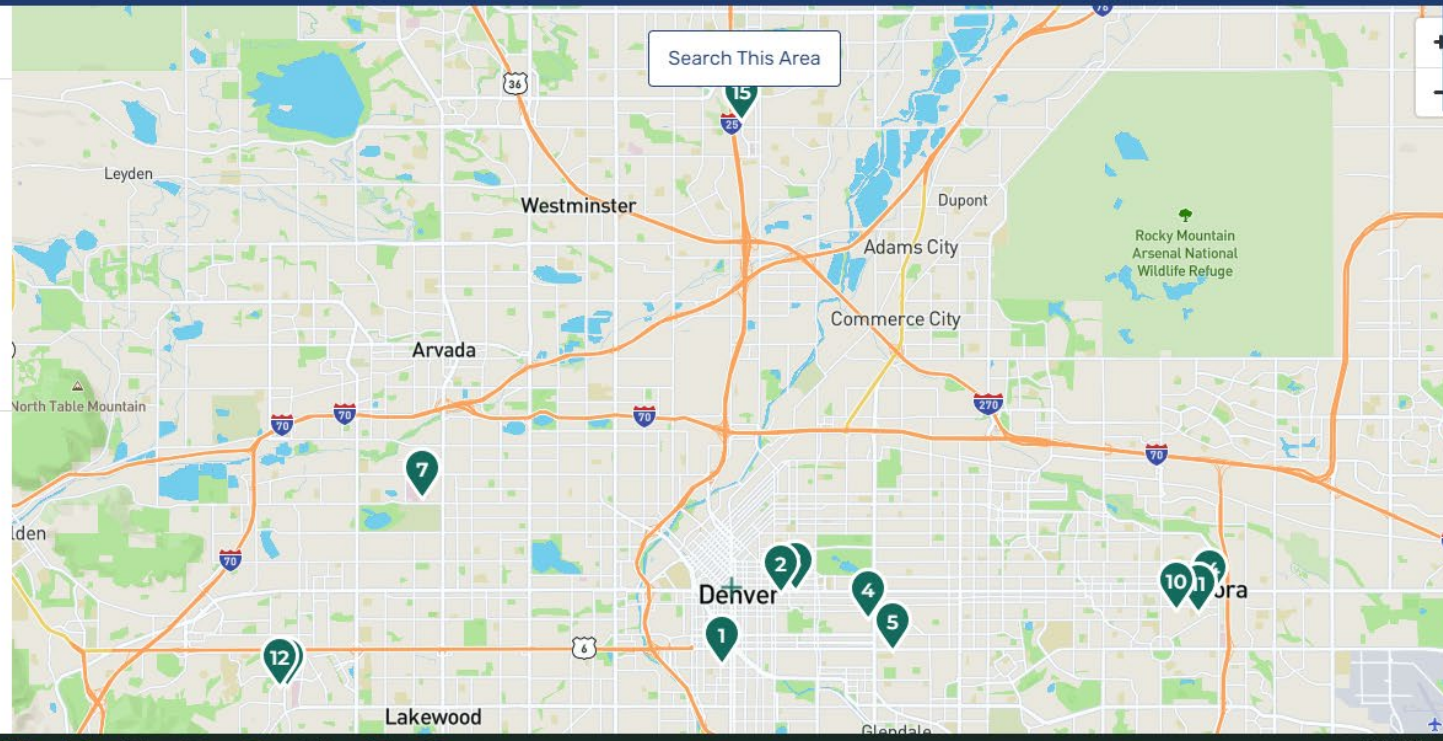
ACUTE CARE HOSPITALS

1375 E 19th Ave  
Denver, CO 80218  
(303) 812-2000

Overall star rating



Patient survey rating





### Saint Joseph Hospital

1375 E 19th Ave  
Denver, CO 80218

(303) 812-2000



Save to Favorites

### Denver Health & Hospital...

777 Bannock St  
Denver, CO 80204

(303) 436-4927



Save to Favorites

#### HOSPITALS

### Overview

Distance from Denver, CO	0.9 miles	0.8 miles
Overall star rating	★★★★★	★★★★☆
Patient survey rating	★★★★☆	★★★★☆
Hospital type	Acute Care Hospitals	Acute Care Hospitals

Patient survey rating



Timely & effective care



Complications & deaths



Unplanned hospital visits



Maternal health



Psychiatric unit services



Payment & value of care



# Care Compare output examples

## Infections

Central line-associated bloodstream infections (CLABSI) in ICUs and select wards

↓ Lower numbers are better

National benchmark: 1.000

**1.005**

No different than national benchmark

**0.130**

Better than the national benchmark

Catheter-associated urinary tract infections (CAUTI) in ICUs and select wards

↓ Lower numbers are better

National benchmark: 1.000

**1.158**

No different than national benchmark

**0.378**

No different than national benchmark

Surgical site infections (SSI) from colon surgery

↓ Lower numbers are better

National benchmark: 1.000

**2.130**

Worse than the national benchmark

**0.844**

No different than national benchmark

## Unplanned hospital visits



Returning to the hospital for unplanned care disrupts patients' lives, increases their risk of harmful events like healthcare-associated infections, and costs more money. Hospitals that give high quali...

[Read more](#)

Rate of readmission after discharge from hospital (hospital-wide)

National result: 14.6%

**13.9%**

No different than the national rate  
Number of included patients: 477

**14.9%**

No different than the national rate  
Number of included patients: 806

### By medical condition

Rate of readmission for chronic obstructive pulmonary disease (COPD) patients

National result: 19.3%

**Not available** <sup>1</sup>

Number of cases too small

**20.7%**

No different than the national rate  
Number of included patients: 30

Rate of readmission for heart attack patients

National result: 14%

**Not available** <sup>1</sup>

Number of cases too small

**14.4%**

No different than the national rate  
Number of included patients: 28

# Tools to use your own data

National Healthcare  
Safety Network



# NHSN

- The NHSN system can make run charts and export data directly out of the system.
- NHSN generates run charts to let you view your hospital's rates over time for harm areas such as CAUTI, CLABSI, *c. diff*, MRSA and SSI.
  - Limited to run charts that are specific for each unit you have entered data for. There is no overall run chart for your hospital.
  - No run charts are available for SIR data.
- Can download data directly from NHSN as an Excel file to do your own data analysis.

# NHSN run charts

**NHSN Home**

- Dashboard ▶
- Reporting Plan ▶
- Event ▶
- Procedure ▶
- Summary Data ▶
- COVID-19 ▶
- Surveys ▶
- Analysis ▶
- Users ▶
- Group ▶
- Logout

## Analysis Reports

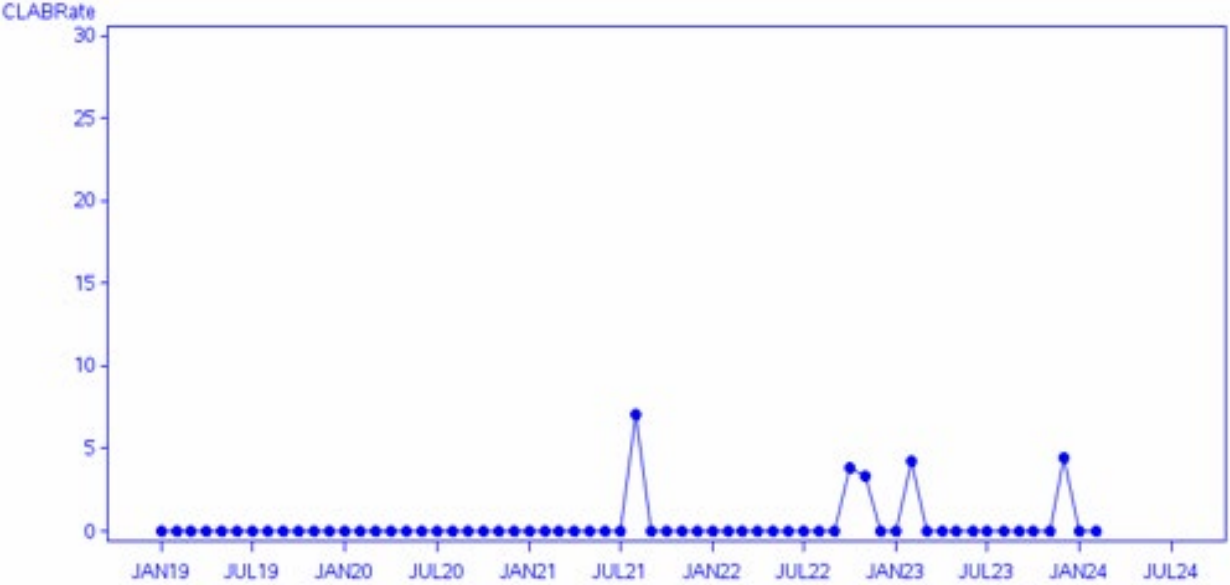
Expand All
Collapse All

- CLABSI
        - Line Listing - All CLABSI Events
        - Line Listing - BSI Events Excluded from the CLABSI SIR Numerator
        - Frequency Table - All CLABSI Events
        - Bar Chart - All CLABSI Events
        - Pie Chart - All CLABSI Events
        - Rate Table - CLABSI Data for ICU-Other
        - Run Chart - CLABSI Data for ICU-Other
        - Rate Table - CLABSI Data for NICU
        - Run Chart - CLABSI Data for NICU
        - Rate Table - CLABSI Data for SCA/ONC
        - Run Chart - CLABSI Data for SCA/ONC
- MBI-LCBI
  - VAP
  - VAE
  - PEDVAE
  - CAUTI
  - CLIP
- Procedure-Associated (PA) Module
  - HAI Antimicrobial Resistance (DA+PA Modules)
  - MDRO/CDI Module - LABID Events
  - MDRO/CDI Module - Infection Surveillance
- CMS Reports

### National Healthcare Safety Network Run Chart for Central Line-Associated BSI Data for ICU-Other


As of: April 24, 2024 at 9:14 AM  
Date Range: All BSI\_CLABRATESICU  
if (orgid = )

orgID=      location=  
●●●●● CLABRate



NOTE: Strata with fewer than 2 data points have been omitted.

# Downloading as Excel

 **Analysis Reports**

**Expand All** **Collapse All**

- [-] HAI Risk Adjusted Measure Reports (SIRs, SURs)
- [-] HAI Detailed Reports (Line Lists, Rate Tables, etc.)
  - [-] Device-Associated (DA) Module
    - [-] CLABSI
      - Line Listing - All CLABSI Events
      - Line Listing - BSI Events Excluded from the CLABSI SIR Numerator
      - Frequency Table - All CLABSI Events
      - Bar Chart - All CLABSI Events
      - Pie Chart - All CLABSI Events
      - Rate Table - CLABSI Data for ICU-Other**
        - ▶ Run Report
        - ⚙️ Modify Report
        - 📄 Export Data Set
      - Run Chart - CLABSI Data for SCA/ONC

CLABSI SIR Numerator

**Export Analysis Data Set**

Analysis Data Set: bs2\_CLAB\_RatesICU

Export Format:

**Export** **Cancel**

# Working in Excel

AutoSave Off | CLAB RATE Testing | Search | Joe Gentile

File Home Insert Draw Page Layout Formulas Data Review View Automate Help Power Pivot

Clipboard: Paste, Copy, Format Painter | Font: Calibri, 11, Bold, Italic, Underline, Color, Background Color | Alignment: Wrap Text, Merge & Center | Number: General, Currency, Percentage, Decimals, Fractions | Styles: Normal, Bad, Good, Neutral, Calculation, Check Cell | Cells: Insert, Delete, Format | Editing: AutoSum, Fill, Clear, Sort & Find & Filter, Sensitivity | Add-ins: Add-ins, Analyze Data | Comments, Share

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	
1	orgID	summaryYr	locBeds	numCLDays	numPatDays	numSampPatDay	numSampCLDay	CLABCount	locBedsSize	location	locCDC	PSSummaryID	locLabel	locationType	modifyDate	scriptDate	scriptID	createDate	numAPRVDay	noEventVAE	noEventP	
2	TESTHOSP	Dec-18	10							BURN	IN:ACUTE:CC:B	TEST	BURN	CC								
3	TESTHOSP	Jan-19	10	42	160				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	2/1/2019 11:49			2/1/2019 11:49	Y	Y		
4	TESTHOSP	Feb-19	10	10	138				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	3/1/2019 10:53			3/1/2019 10:53	Y	Y		
5	TESTHOSP	Mar-19	10	0	166				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	4/3/2019 11:21			4/3/2019 11:21	Y	Y		
6	TESTHOSP	Apr-19	10	0	116				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	5/1/2019 11:26			5/1/2019 11:26	Y	Y		
7	TESTHOSP	May-19	10	23	199				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	6/3/2019 11:10			6/3/2019 11:10	Y	Y		
8	TESTHOSP	Jun-19	10	16	136				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	7/2/2019 10:45			7/2/2019 10:45	Y	Y		
9	TESTHOSP	Jul-19	10	10	139				1 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	8/2/2019 10:04			8/2/2019 10:04	Y	Y		
10	TESTHOSP	Aug-19	10	2	26				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	9/4/2019 9:34			9/4/2019 9:34	Y	Y		
11	TESTHOSP	Sep-19	10	0	74				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	10/1/2019 11:35			10/1/2019 11:35	Y	Y		
12	TESTHOSP	Oct-19	10	0	69				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	11/7/2019 13:27			11/7/2019 13:27	Y	Y		
13	TESTHOSP	Nov-19	10	11	71				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	12/4/2019 14:13			12/4/2019 14:13	Y	Y		
14	TESTHOSP	Dec-19	10	3	46				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	1/7/2020 8:13			1/7/2020 8:13	Y			
15	TESTHOSP	Jan-20	10	0	68				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	2/5/2020 11:20			2/5/2020 11:20	Y			
16	TESTHOSP	Feb-20	10	11	54				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	3/4/2020 11:20			3/4/2020 11:20	Y			
17	TESTHOSP	Mar-20	10	25	53				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	4/23/2020 11:51			4/2/2020 8:54	N			
18	TESTHOSP	Apr-20	10	1	32				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	5/5/2020 14:46			5/5/2020 14:46	Y			
19	TESTHOSP	May-20	10	0	22				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	6/3/2020 8:16			6/3/2020 8:16	Y			
20	TESTHOSP	Jun-20	10	0	48				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	7/7/2020 8:35			7/7/2020 8:35	Y			
21	TESTHOSP	Jul-20	10	6	35				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	8/5/2020 14:05			8/5/2020 14:05	Y			
22	TESTHOSP	Aug-20	10	24	45				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	9/3/2020 13:21			9/3/2020 13:21	Y			
23	TESTHOSP	Sep-20	10	20	46				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	10/5/2020 10:40			10/5/2020 10:40	Y			
24	TESTHOSP	Oct-20	10	0	35				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	11/4/2020 10:16			11/4/2020 10:16	Y			
25	TESTHOSP	Nov-20	10	8	68				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	12/4/2020 10:41			12/4/2020 10:41	Y			
26	TESTHOSP	Dec-20	10	7	52				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	1/7/2021 9:47			1/7/2021 9:47	Y			
27	TESTHOSP	Jan-21	10	2	12				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	2/8/2021 10:00			2/8/2021 10:00	Y			
28	TESTHOSP	Feb-21	10	16	52				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	3/8/2021 12:21			3/8/2021 12:21	Y			
29	TESTHOSP	Mar-21	10	20	84				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	4/6/2021 10:29			4/6/2021 10:29	Y			
30	TESTHOSP	Apr-21	10	7	56				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	5/5/2021 9:21			5/5/2021 9:21	Y			
31	TESTHOSP	May-21	10	21	47				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	6/7/2021 9:19			6/7/2021 9:19	Y			
32	TESTHOSP	Jun-21	10	0	51				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	7/2/2021 10:58			7/2/2021 10:58	Y			
33	TESTHOSP	Jul-21	10	4	118				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	8/10/2021 9:12			8/10/2021 9:12	Y			
34	TESTHOSP	Aug-21	10	0	146				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	9/7/2021 11:49			9/7/2021 11:49	Y			
35	TESTHOSP	Sep-21	10	29	105				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	10/1/2021 10:59			10/1/2021 10:59	Y			
36	TESTHOSP	Oct-21	10	52	159				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	11/4/2021 10:39			11/4/2021 10:39	N			
37	TESTHOSP	Nov-21	10	53	128				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	12/9/2021 8:33			12/9/2021 8:33	N			
38	TESTHOSP	Dec-21	10	34	149				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	1/5/2022 8:24			1/5/2022 8:24	Y			



# Working in Excel

AutoSave [On] CLAB RATE Testing Joe Gentile

File Home Insert Draw Page Layout Formulas Data Review View Automate Help Power Pivot

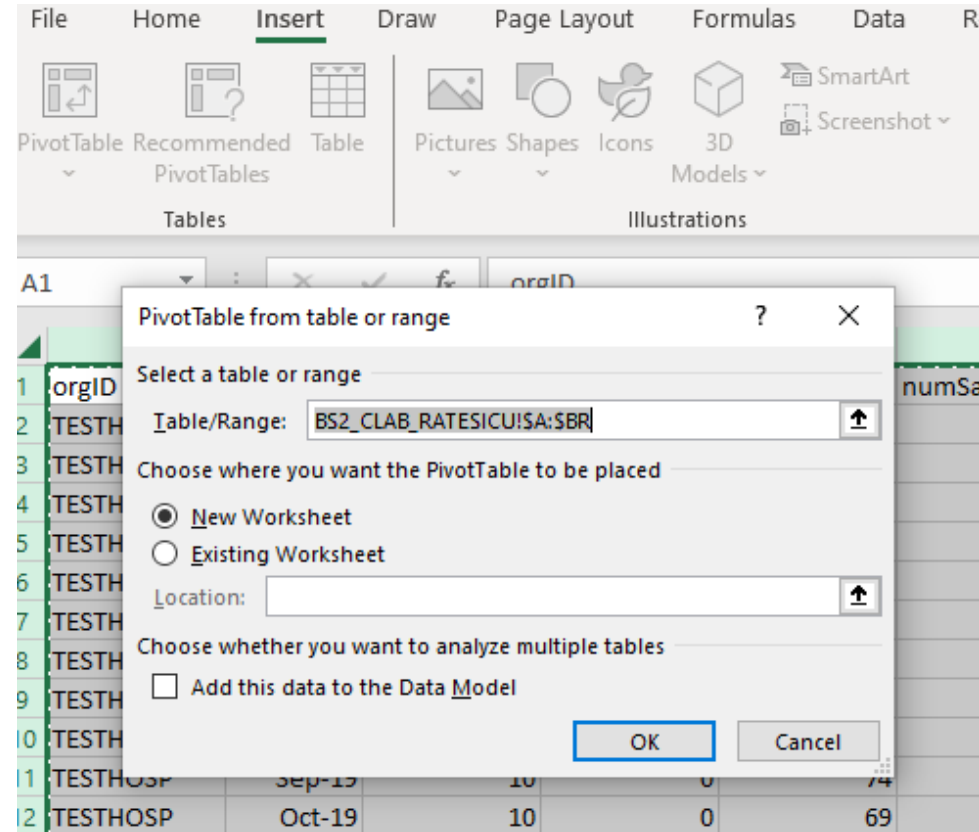
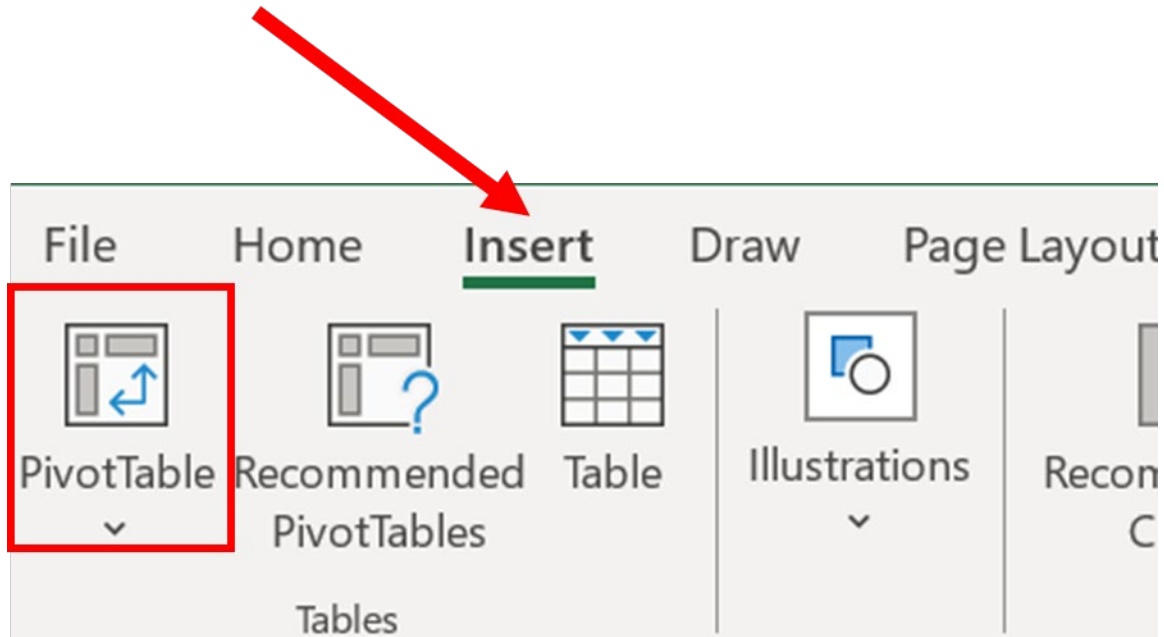
Clipboard Font Alignment Number Styles Cells Editing Sensitivity Add-ins Analyze Data

orgID

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	summaryYr	locBeds	numCLDays	numPatDays	numSampPatDay	numSampCLDay	CLABCount	locBedsize	location	locCDC	PSSummaryID	locLabel	locationType	modifyDate	scriptDate	scriptID	createDate	numAPRVDay	noEventVAE	noEventF	
2	TESTHOSP	Dec-18	10						BURN	IN:ACUTE:CC:B	TEST	BURN	CC								
3	TESTHOSP	Jan-19	10	42	160			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	2/1/2019 11:49			2/1/2019 11:49		Y	Y	
4	TESTHOSP	Feb-19	10	10	138			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	3/1/2019 10:53			3/1/2019 10:53		Y	Y	
5	TESTHOSP	Mar-19	10	0	166			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	4/3/2019 11:21			4/3/2019 11:21		Y	Y	
6	TESTHOSP	Apr-19	10	0	116			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	5/1/2019 11:26			5/1/2019 11:26		Y	Y	
7	TESTHOSP	May-19	10	23	199			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	6/3/2019 11:10			6/3/2019 11:10		Y	Y	
8	TESTHOSP	Jun-19	10		136			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	7/2/2019 10:45			7/2/2019 10:45		Y	Y	
9	TESTHOSP	Jul-19	10	10	139			1 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	8/2/2019 10:04			8/2/2019 10:04		Y	Y	
10	TESTHOSP	Aug-19	10	2				0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	9/4/2019 9:34			9/4/2019 9:34		Y	Y	
11	TESTHOSP	Sep-19	10	0	74			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	10/1/2019 11:35			10/1/2019 11:35		Y	Y	
12	TESTHOSP	Oct-19	10	0	69			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	11/7/2019 13:27			11/7/2019 13:27		Y	Y	
13	TESTHOSP	Nov-19	10	11	71			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	12/4/2019 14:13			12/4/2019 14:13		Y	Y	
14	TESTHOSP	Dec-19	10	3	46			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	1/7/2020 8:13			1/7/2020 8:13		Y		
15	TESTHOSP	Jan-20	10	0	68			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	2/5/2020 11:20			2/5/2020 11:20		Y		
16	TESTHOSP	Feb-20	10	11	54			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	3/4/2020 11:20			3/4/2020 11:20		Y		
17	TESTHOSP	Mar-20	10	25	53			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	4/23/2020 11:51			4/2/2020 8:54		N		
18	TESTHOSP	Apr-20	10	1	32			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	5/5/2020 14:46			5/5/2020 14:46		Y		
19	TESTHOSP	May-20	10	0	22			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	6/3/2020 8:16			6/3/2020 8:16		Y		
20	TESTHOSP	Jun-20	10	0	48			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	7/7/2020 8:35			7/7/2020 8:35		Y		
21	TESTHOSP	Jul-20	10	6	35			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	8/5/2020 14:05			8/5/2020 14:05		Y		
22	TESTHOSP	Aug-20	10	24	45			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	9/3/2020 13:21			9/3/2020 13:21		Y		
23	TESTHOSP	Sep-20	10	20	46			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	10/5/2020 10:40			10/5/2020 10:40		Y		
24	TESTHOSP	Oct-20	10	0	35			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	11/4/2020 10:16			11/4/2020 10:16		Y		
25	TESTHOSP	Nov-20	10	8	68			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	12/4/2020 10:41			12/4/2020 10:41		Y		
26	TESTHOSP	Dec-20	10	7	52			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	1/7/2021 9:47			1/7/2021 9:47		Y		
27	TESTHOSP	Jan-21	10	2	12			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	2/8/2021 10:00			2/8/2021 10:00		Y		
28	TESTHOSP	Feb-21	10	16	52			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	3/8/2021 12:21			3/8/2021 12:21		Y		
29	TESTHOSP	Mar-21	10	20	84			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	4/6/2021 10:29			4/6/2021 10:29		Y		
30	TESTHOSP	Apr-21	10	7	56			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	5/5/2021 9:21			5/5/2021 9:21		Y		
31	TESTHOSP	May-21	10	21	47			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	6/7/2021 9:19			6/7/2021 9:19		Y		
32	TESTHOSP	Jun-21	10	0	51			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	7/2/2021 10:58			7/2/2021 10:58		Y		
33	TESTHOSP	Jul-21	10	4	118			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	8/10/2021 9:12			8/10/2021 9:12		Y		
34	TESTHOSP	Aug-21	10	0	146			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	9/7/2021 11:49			9/7/2021 11:49		Y		
35	TESTHOSP	Sep-21	10	29	105			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	10/1/2021 10:59			10/1/2021 10:59		Y		
36	TESTHOSP	Oct-21	10	52	159			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	11/4/2021 10:39			11/4/2021 10:39		N		
37	TESTHOSP	Nov-21	10	53	128			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	12/9/2021 8:33			12/9/2021 8:33		N		
38	TESTHOSP	Dec-21	10	34	149			0 <=15	BURN	IN:ACUTE:CC:B	TEST	BURN	CC	1/5/2022 8:24			1/5/2022 8:24		Y		



# Working in Excel



PivotTable1

To build a report, choose fields from the PivotTable Field List

### PivotTable Fields

Choose fields to add to report:

Search

- orgID
- summaryYM
- locBeds
- numCLDays
- numPatDays
- numSampPatDays
- numSampCLDays
- CLABCount
- locBedsSize
- location
- locCDC
- PSSummaryID
- locLabel

Drag fields between areas below:

Filters Columns

Row Labels	Sum of CLABCount	Sum of numCLDays
<12/1/2018		
2018		
2019	340	531102
2020	431	494409
2021	508	570162
2022	486	555040
2023	425	548529
2024	80	126628
<b>Grand Total</b>	<b>2270</b>	<b>2825870</b>

### PivotTable Fields

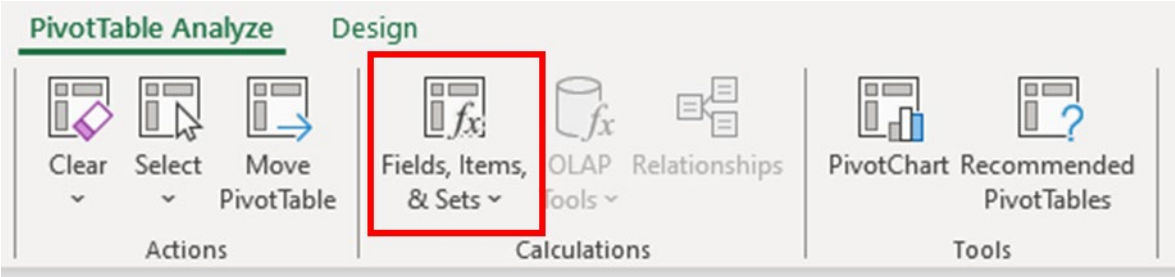
Choose fields to add to report:

Search

- orgID
- summaryYM
- locBeds
- numCLDays
- numPatDays
- numSampPatDays
- numSampCLDays
- CLABCount
- locBedsSize
- location
- locCDC
- PSSummaryID
- locLabel



# Adding a measurement field

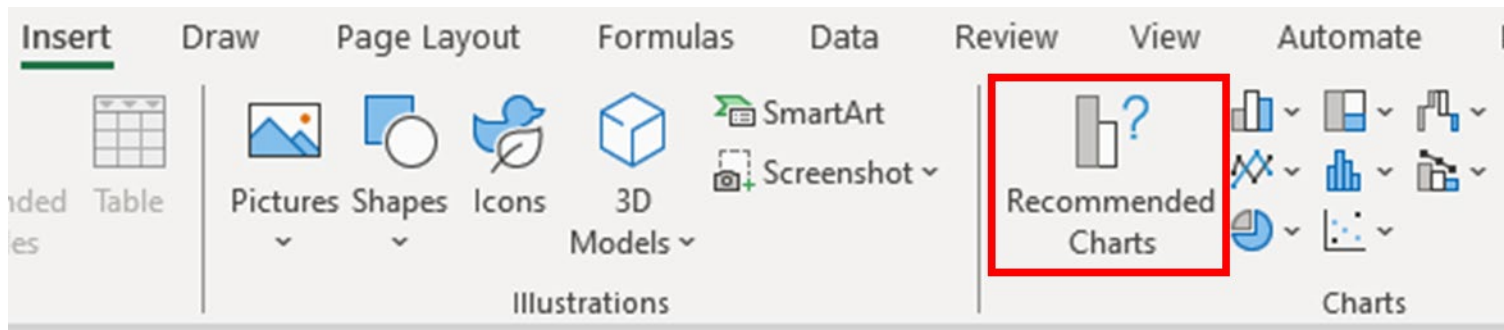


The image shows an Excel spreadsheet with a PivotTable. The PivotTable has 'Row Labels' with values from '<12/1/2018' to '2024' and 'Grand Total'. The columns are 'Sum of CLABCount' and 'Sum of numCLDays'. The 'Insert Calculated Field' dialog box is open, showing the formula 
$$= ( \text{CLABCount} / \text{numCLDays} ) * 1000$$
 and a list of fields including 'numCLDays', which is highlighted. A red arrow points to the formula field in the dialog box.

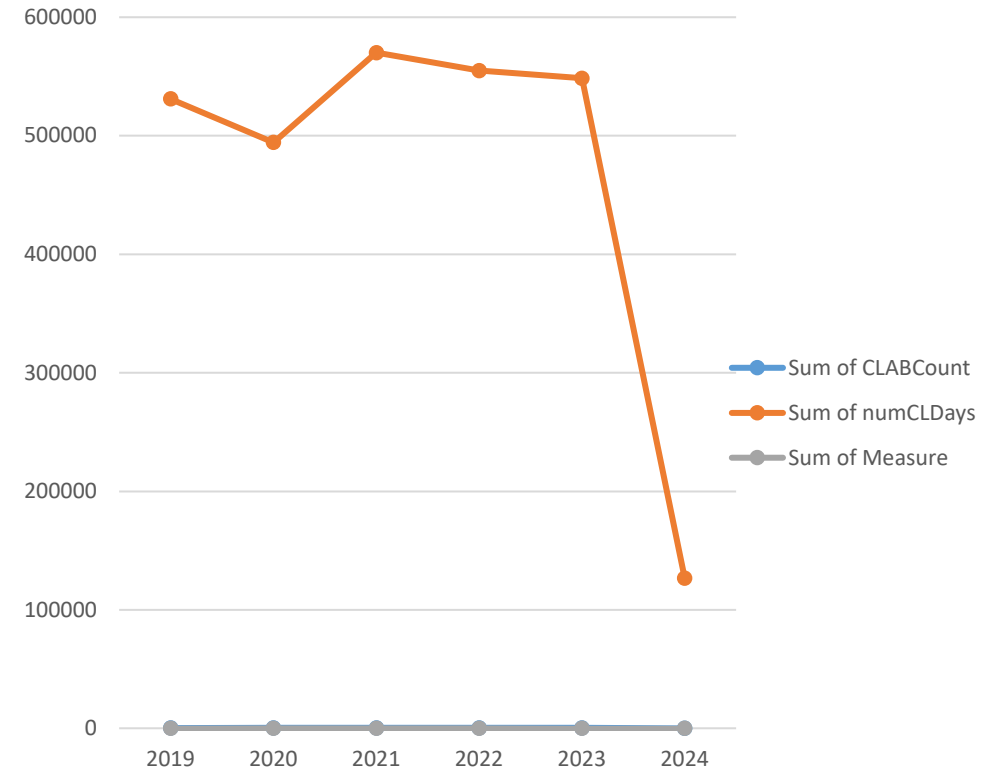
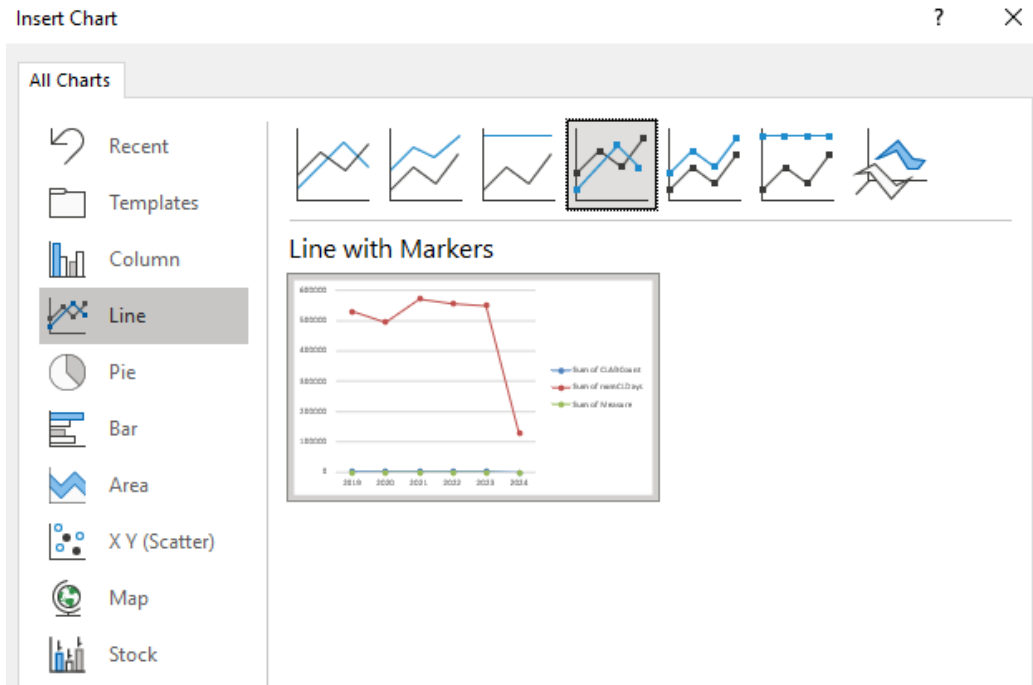
Row Labels	Sum of CLABCount	Sum of numCLDays
<12/1/2018		
2018		
2019	340	531102
2020	431	494409
2021	508	570162
2022	486	555040
2023	425	548529
2024	80	126628
Grand Total	2270	2825870

# Chart creation

Row Labels	Sum of CLABCount	Sum of numCLDays	Sum of Measure
+ 2019	340	531102	0.640178346
+ 2020	431	494409	0.871747885
+ 2021	508	570162	0.890974846
+ 2022	486	555040	0.875612568
+ 2023	425	548529	0.774799509
+ 2024	80	126628	0.631771804
<b>Grand Total</b>	<b>2270</b>	<b>2825870</b>	<b>0.803292437</b>

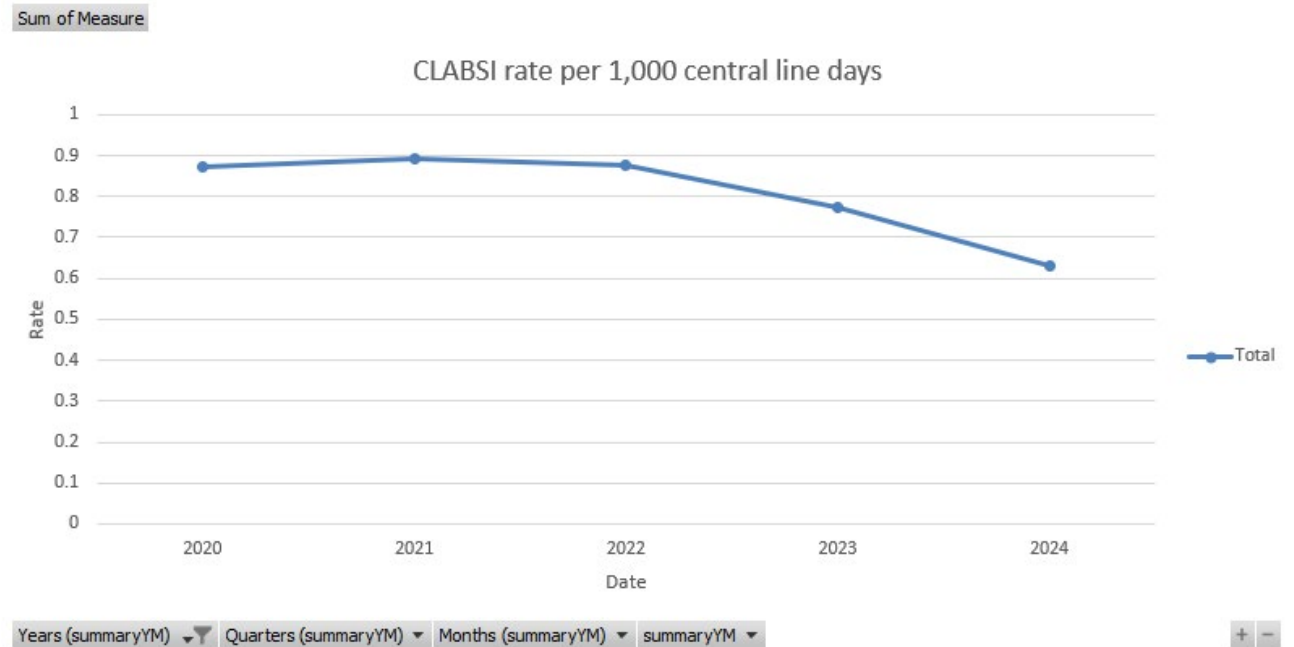


# Chart creation



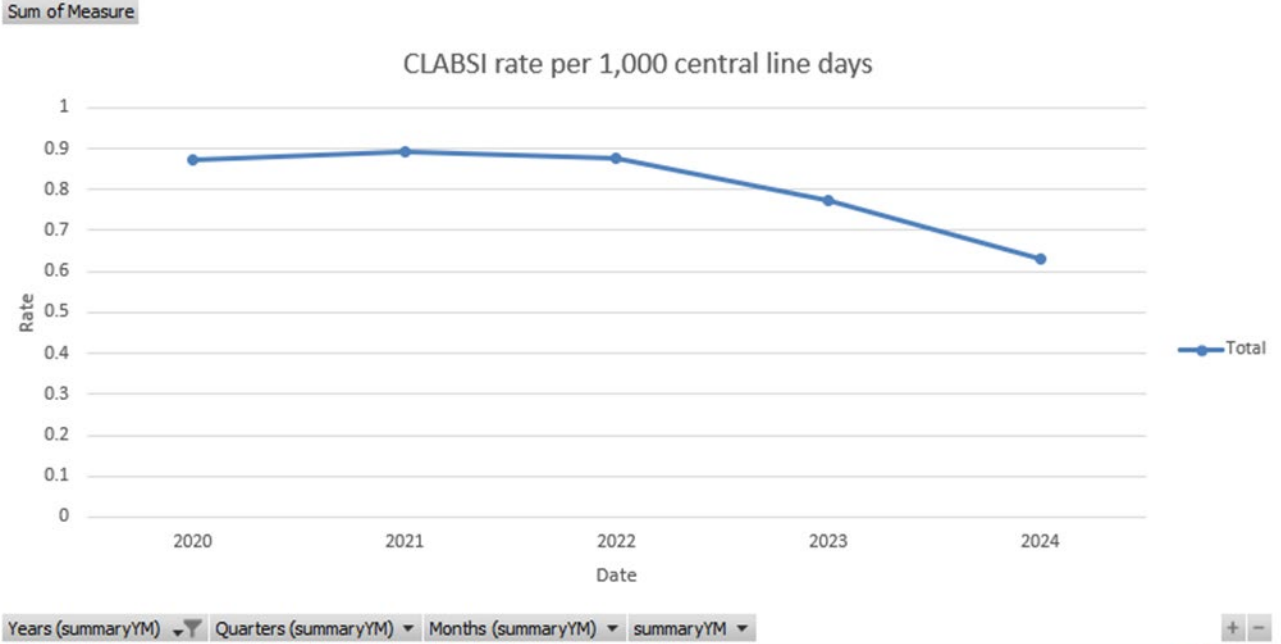
# Run chart by year

Row Labels	Sum of Measure
2019	0.640178346
2020	0.871747885
2021	0.890974846
2022	0.875612568
2023	0.774799509
2024	0.631771804
<b>Grand Total</b>	<b>0.803292437</b>



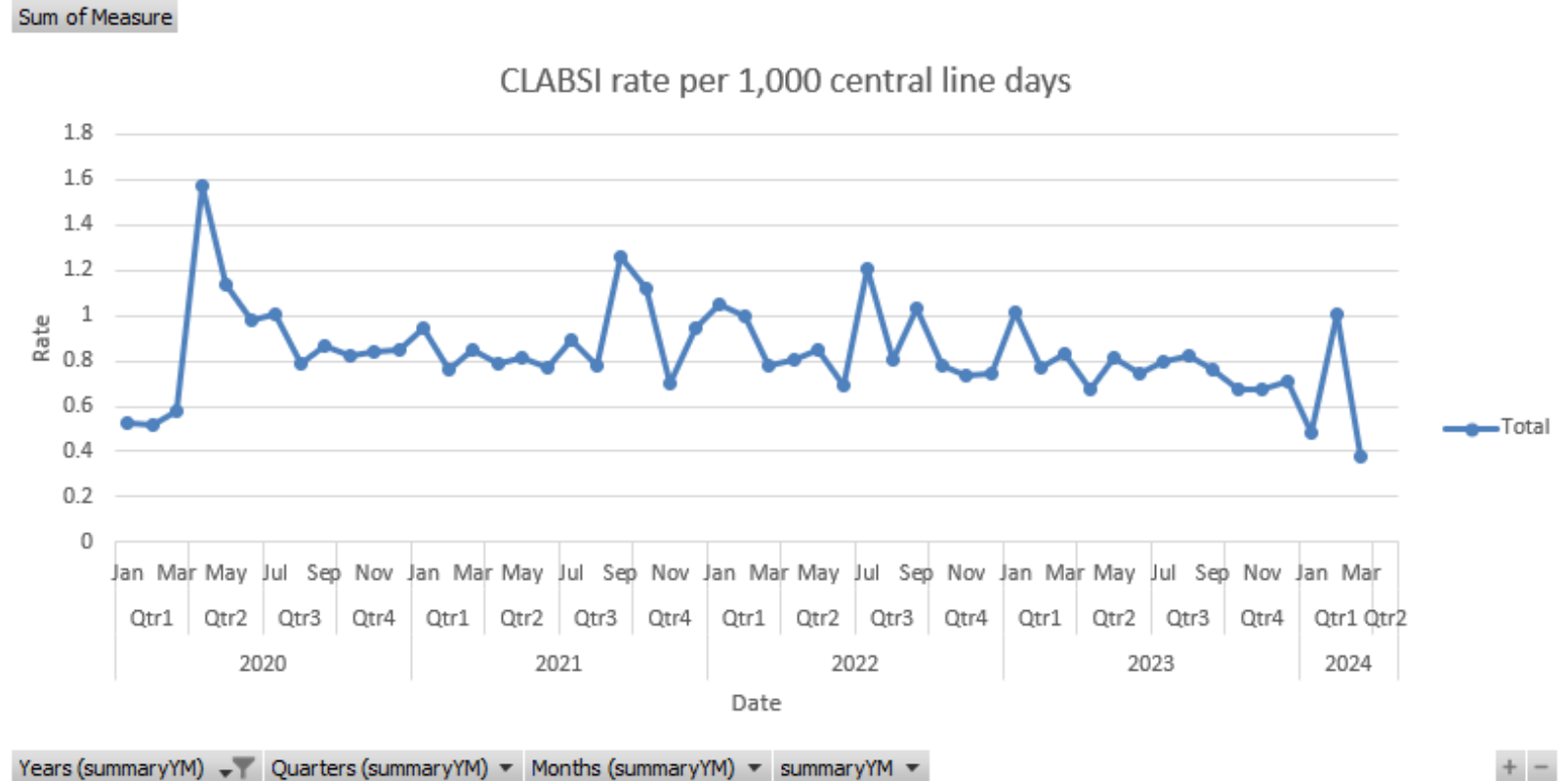
# Run chart by year

Row Labels	Sum of Measure
2019	0.640178346
2020	0.871747885
2021	0.890974846
2022	0.875612568
2023	0.774799509
2024	0.631771804
<b>Grand Total</b>	<b>0.803292437</b>



# Run chart by month

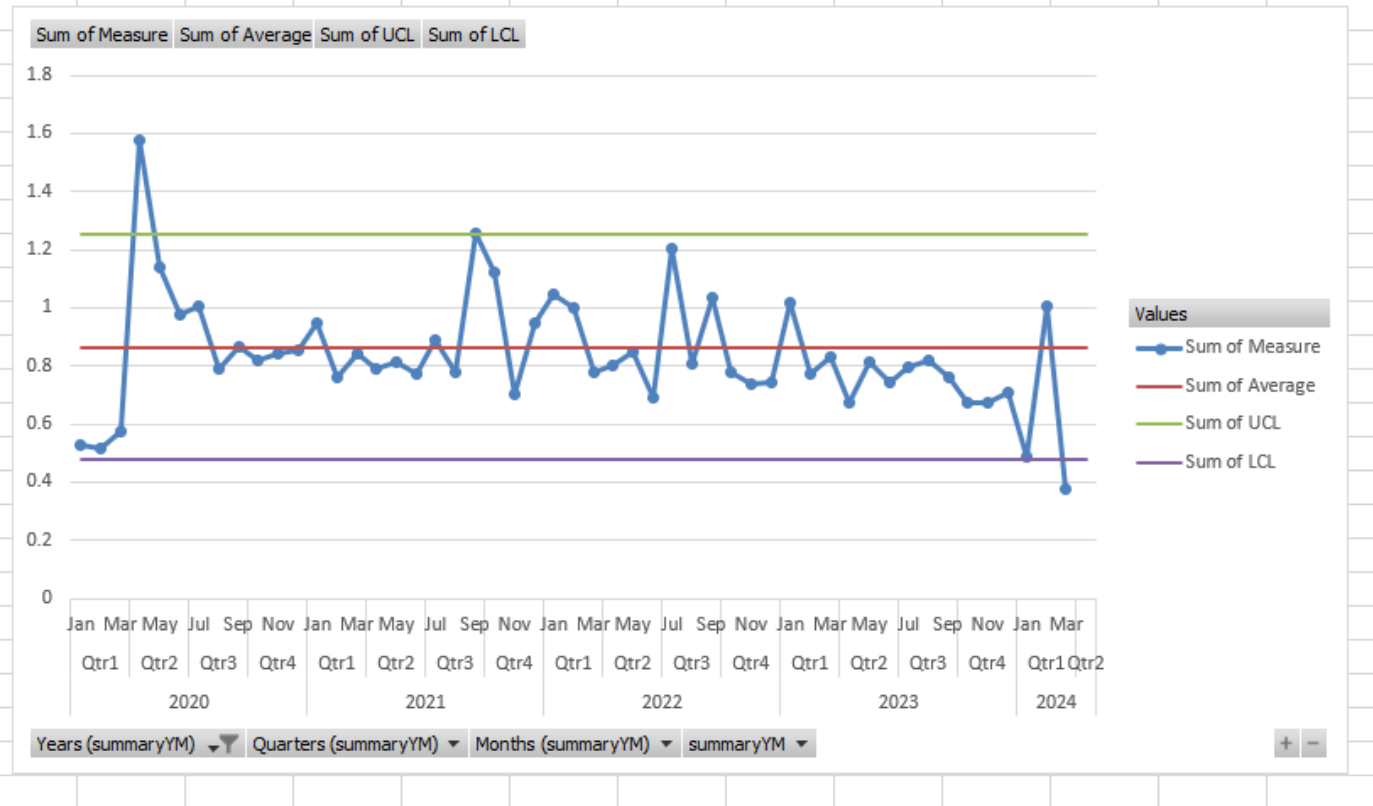
Row Labels	Sum of Measure
2020	
Qtr1	
Jan	0.52554884
Feb	0.519170366
Mar	0.577233895
Qtr2	
Apr	1.574112304
May	1.140560504
Jun	0.97793885
Qtr3	
Jul	1.008318629
Aug	0.788519161
Sep	0.867648438
Qtr4	
Oct	0.820911644
Nov	0.842383262
Dec	0.851452661
2021	
Qtr1	
Jan	0.948572491
Feb	0.762278123
Mar	0.84505852
Qtr2	





# SPC chart

Average	0.864547809			
Standard Devia	0.129014528			
Upper Confide	1.251591393			
Lower Confide	0.477504225			
Row Labels	Sum of Measure	Sum of Average	Sum of UCL	Sum of LCL
2020				
Qtr1				
Jan	0.52554884	0.86	1.25	0.48
Feb	0.519170366	0.86	1.25	0.48
Mar	0.577233895	0.86	1.25	0.48
Qtr2				
Apr	1.574112304	0.86	1.25	0.48
May	1.140560504	0.86	1.25	0.48
Jun	0.97793885	0.86	1.25	0.48
Qtr3				
Jul	1.008318629	0.86	1.25	0.48
Aug	0.788519161	0.86	1.25	0.48
Sep	0.867648438	0.86	1.25	0.48
Qtr4				
Oct	0.820911644	0.86	1.25	0.48
Nov	0.842383262	0.86	1.25	0.48
Dec	0.851452661	0.86	1.25	0.48
2021				
Qtr1				



# Self-collected data

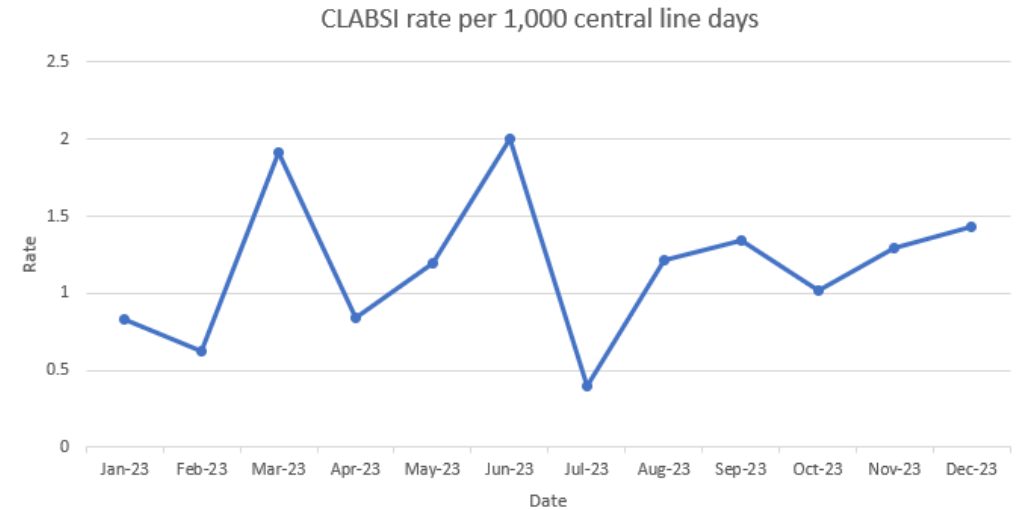
	Numerator	Denominator
Date	Number of observed CLABSI infections	Number of central line days
Jan-23	4	4826
Feb-23	3	4799
Mar-23	10	5226
Apr-23	4	4748
May-23	6	5006
Jun-23	10	5000
Jul-23	2	5044
Aug-23	6	4934
Sep-23	7	5200
Oct-23	5	4931
Nov-23	7	5403
Dec-23	7	4881

D5    X    ✓    fx    =B5/C5\*1000

	A	B	C	D
		Numerator	Denominator	Measure
	Date	Number of observed CLABSI infections	Number of central line days	CLABSI rate per 1,000 central line days
1				
2				
3				
4				
5	Jan-23	4	4826	0.828843763
6	Feb-23	3	4799	0.625130235
7	Mar-23	10	5226	1.913509376
8	Apr-23	4	4748	0.842459983
9	May-23	6	5006	1.198561726
10	Jun-23	10	5000	2
11	Jul-23	2	5044	0.396510706
12	Aug-23	6	4934	1.216051885
13	Sep-23	7	5200	1.346153846
14	Oct-23	5	4931	1.013993105
15	Nov-23	7	5403	1.295576532
16	Dec-23	7	4881	1.43413235

# Self-collected data cont'd

Date	Numerator Number of observed CLABSI infections	Denominator Number of central line days	Measure CLABSI rate per 1,000 central line days
Jan-23	4	4826	0.828843763
Feb-23	3	4799	0.625130235
Mar-23	10	5226	1.913509376
Apr-23	4	4748	0.842459983
May-23	6	5006	1.198561726
Jun-23	10	5000	2
Jul-23	2	5044	0.396510706
Aug-23	6	4934	1.216051885
Sep-23	7	5200	1.346153846
Oct-23	5	4931	1.013993105
Nov-23	7	5403	1.295576532
Dec-23	7	4881	1.43413235



# Data wrap-up



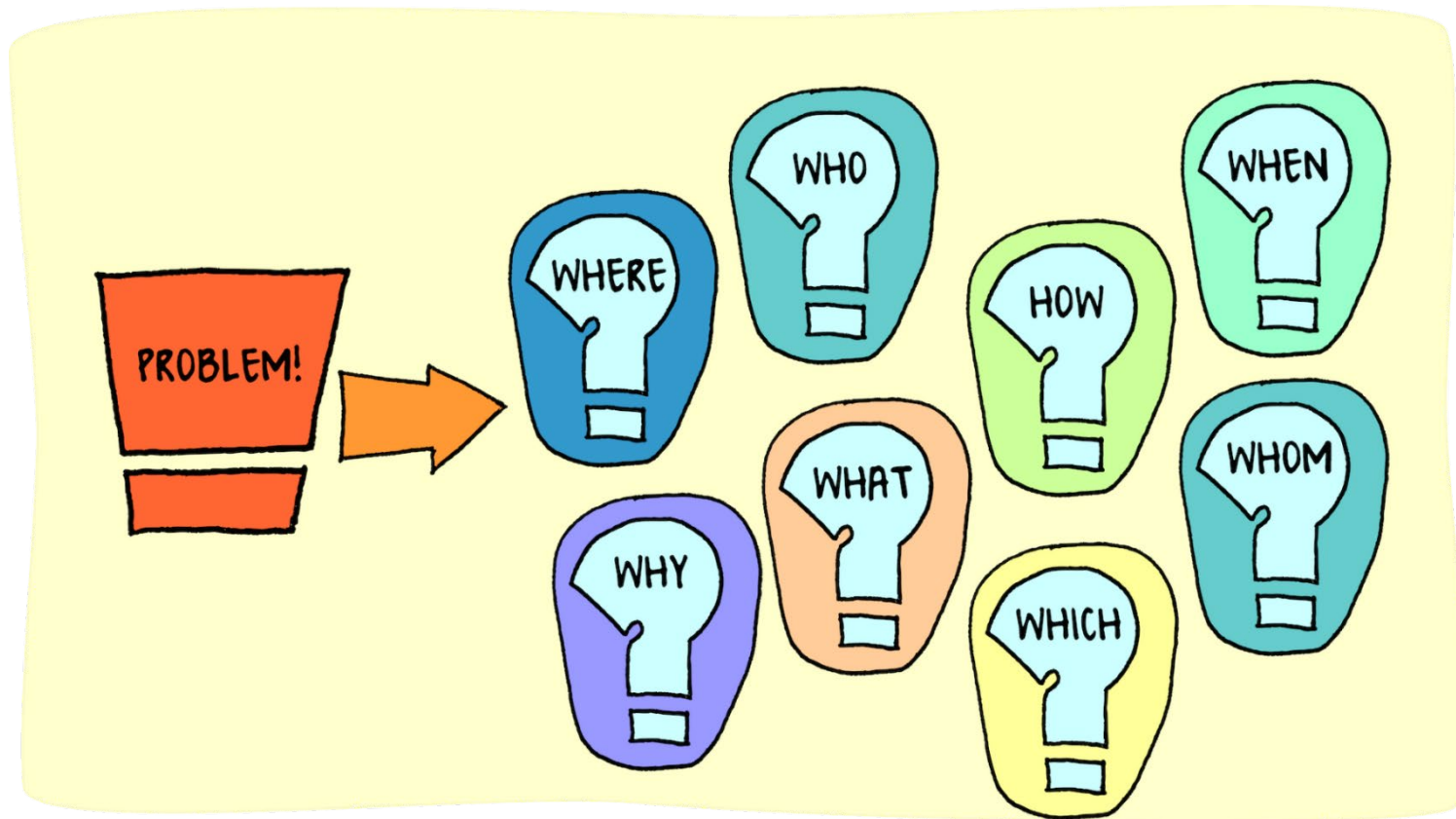
- What data are currently being tracked at your facility?
- Are there any dashboards available within your facility?
- Is your facility already aligned with any value-based care programs?
- Talk to coworkers about available resources for data and data analysis.

# Closing the gap: Structures, processes and outcomes

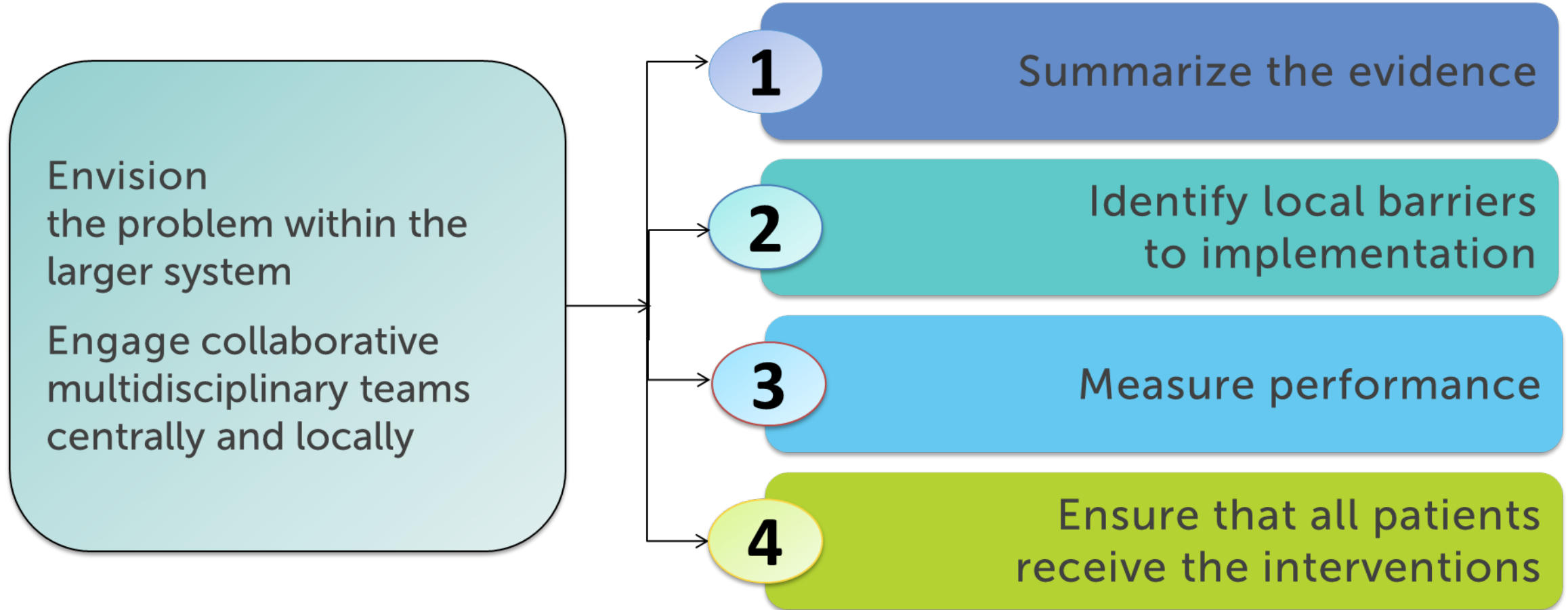
---

Nicole Ford  
EQIC project manager

# How do you solve a problem within your system?



# Do these steps look familiar?



# THE PROBLEM

Traditionally, quality improvement efforts are driven by the STEPS in the process rather than by the IMPROVEMENTS themselves.



FIGURE 2.

## FOCUS:

FIND	.....→	What are we trying to accomplish?
ORGANIZE	.....→	How will we know the change is an improvement?
CLARIFY	.....→	What are we trying to accomplish?
UNDERSTAND	.....→	How will we know the change is an improvement?
SELECT	.....→	What changes can we make that will result in an improvement?

FIGURE 3.

## Improvement comparison

### TRADITIONAL QUALITY IMPROVEMENT

Pros	Cons
High level of comfort with familiar processes and methods.	Longer cycles of decision-making in the FOCUS-PDSA model.
Larger samples analyzed.	Delays in making changes.
Intermittent, retroactive data collection.	Impact of improvement measures are not realized on a timely basis.
Longer process allows for the multiple levels of communication.	Potential for resistance.
Adaptations can occur to measures taken when failures occur.	Adaptations lag due to process and retroactive data collection.

### RAPID CYCLE QUALITY IMPROVEMENT

Pros	Cons
Quick improvements noted with small tests that can be disseminated. Goals reached in 6 to 12 months.	Discomfort from new processes and "rapid" testing.
Failures are noted quickly and affect few cases.	Several small tests necessary to achieve desired results.
Measurement is concurrent and on small samples.	Concurrent data collection requires continuous commitment.
Testing small populations before spreading change increases confidence in the success of the process and minimizes resistance.	Without leadership buy-in, this process is difficult to initiate from the grassroots level.



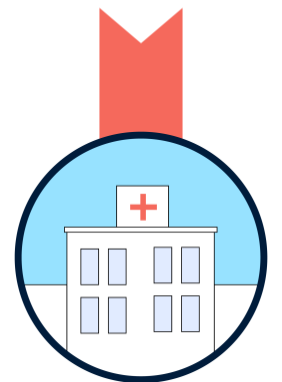
# Identifying *where and why* gaps exist

Examples of gaps in healthcare include:

1. Disparities in healthcare access and outcomes among different populations.
2. Variation in care delivery for a specific disease or treatment.
3. Lack of adherence to clinical guidelines or best practices.
4. Inefficient communication and coordination between healthcare providers.
5. Incomplete documentation and lack of data sharing among healthcare providers.

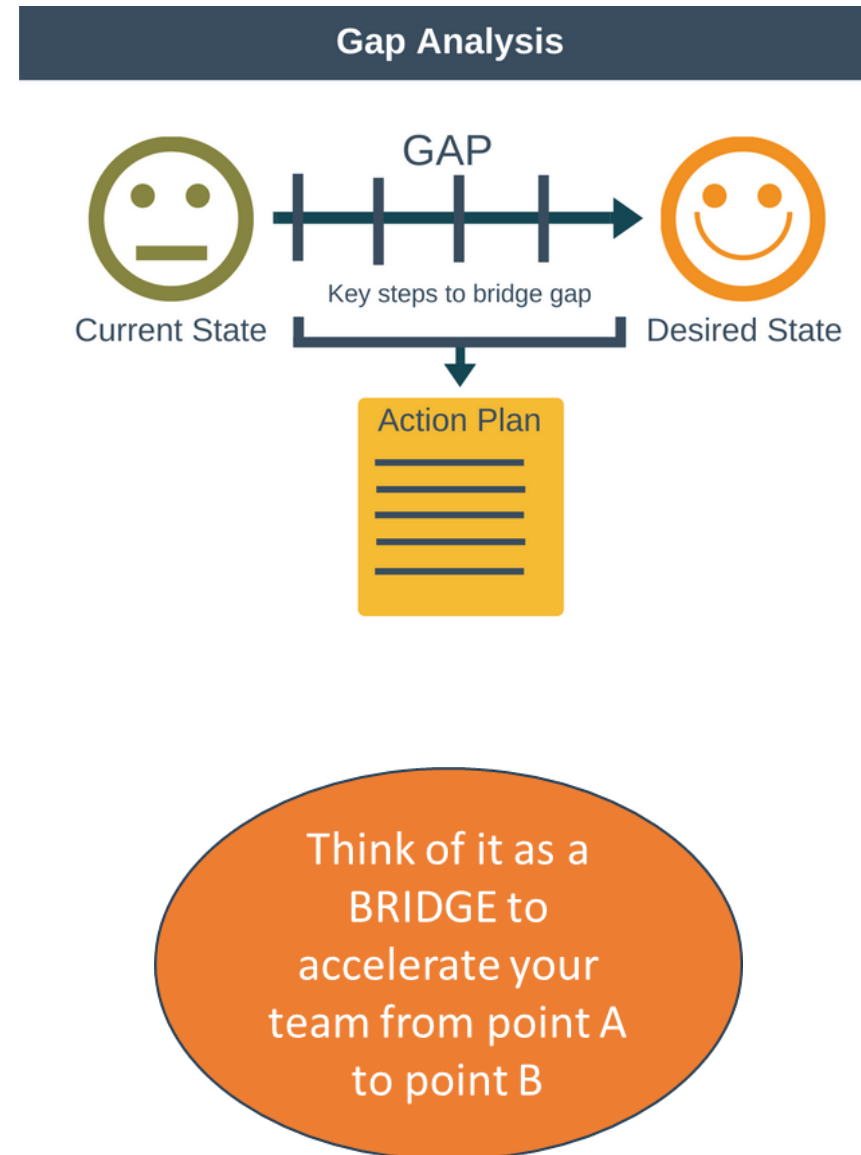


Gaps in Care are disconnects between patient experience and evidence-based best practices.

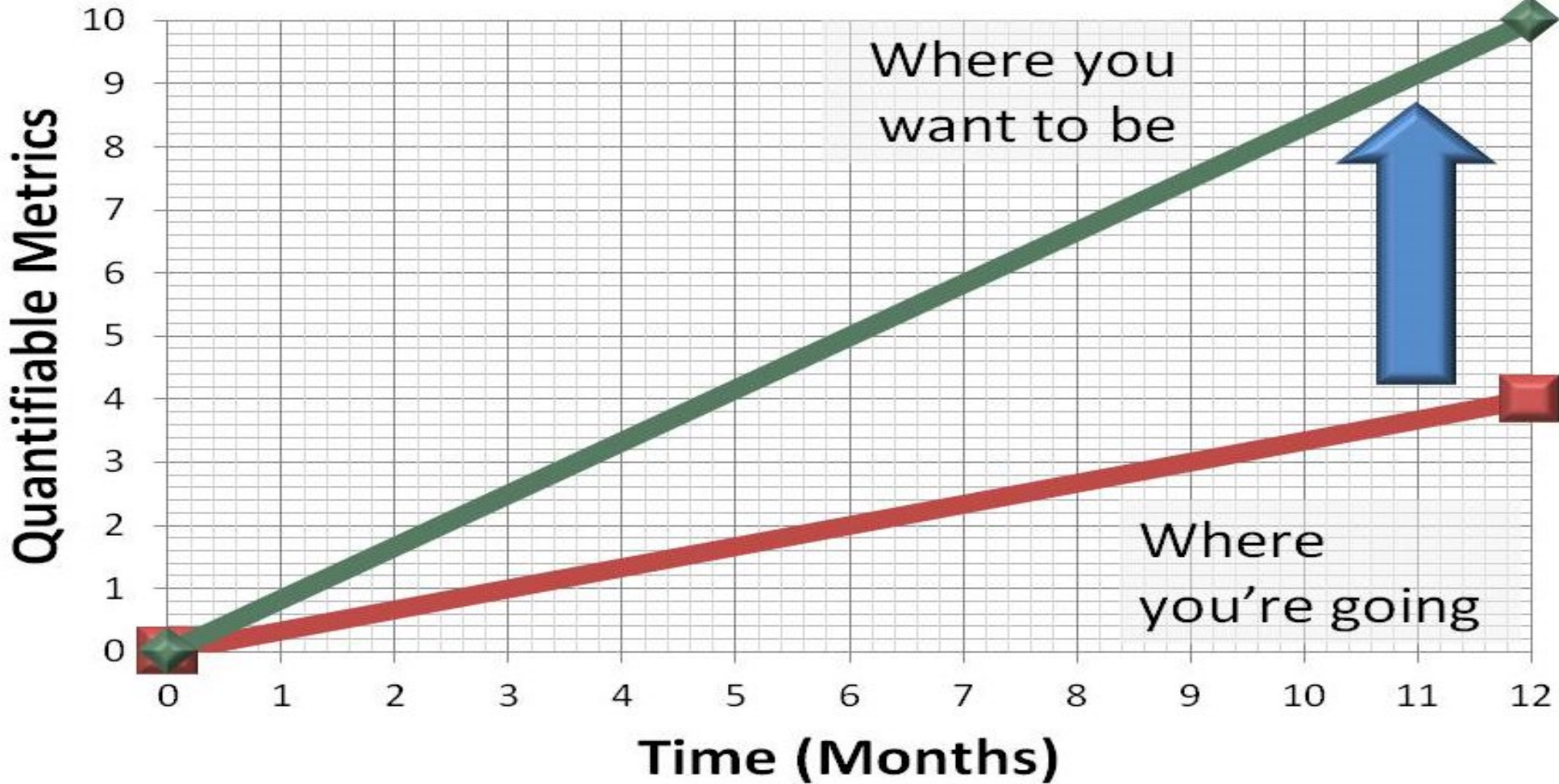


# THE SOLUTION: Shining a light on the space in between

A gap analysis or rapid-cycle assessment is an examination and assessment of your performance for the purpose of identifying the differences between your current state of operation and where you'd like to be.



# How do we close the GAP?



# The gap assessment:

A powerful tool in strategic planning



# Let's walk through the steps!

Step 1: Identify area(s) for improvement

Step 2: Analyze your current state

Step 3: Define your end goal

Step 4: Understand your gap(s)

Step 5: Determine a plan of action

# Step 1: Identify areas for improvement

## Rapid-cycle Improvement Program Sepsis Assessment



### WHAT IS THIS TOOL?

This assessment allows hospitals to identify opportunities for improvement to reduce the risk of a patient developing sepsis. Use this tool to interview unit-based staff and compare current practices with recommended evidence-based best practices.

### WHO SHOULD USE THIS TOOL?

Hospital-based quality improvement teams focused on reducing sepsis.

### ASSESSMENT PROCESS:

- Review the hospital's internal policies and protocols.
- Review electronic medical records for selected patients to evaluate the presence of documented assessments and interventions.
- Complete the assessment with unit-based staff from multiple hospital areas to ensure that unit-to-unit variation is accounted for in any hospital-wide action plans developed as a result of the assessment.
- Review responses with your EQIC project manager for additional guidance and next steps.

# Review internal policies, protocols and processes

EVIDENCE-BASED PRACTICE	PRACTICE IN PLACE?	NOTES
<b>ORGANIZATIONAL STRUCTURE AND CULTURE</b>		
An interdisciplinary team or committee focused on sepsis prevention meets regularly.	<input type="radio"/> Yes <input type="radio"/> No	
This team reports to the hospital quality improvement committee or board of directors.	<input type="radio"/> Yes <input type="radio"/> No	
The hospital has identified an executive sponsor.	<input type="radio"/> Yes <input type="radio"/> No	
There are designated unit-based champions across the hospital.	<input type="radio"/> Yes <input type="radio"/> No	
The hospital has a performance improvement program in place.	<input type="radio"/> Yes <input type="radio"/> No	
Policies/protocols have been developed and updated with current guidelines/evidence-based recommendations.	<input type="radio"/> Yes <input type="radio"/> No	
New treatments, equipment designed to assist with treatment and prevention are frequently evaluated.	<input type="radio"/> Yes <input type="radio"/> No	
Patient stories are shared with frontline staff and board members.	<input type="radio"/> Yes <input type="radio"/> No	
<b>DATA COLLECTION AND REPORTING</b>		
Rates are tracked regularly.	<input type="radio"/> Yes <input type="radio"/> No	
Rates are delineated by unit location.	<input type="radio"/> Yes <input type="radio"/> No	
The hospital uses a standardized reporting mechanism (i.e., dashboard) to track incidence and outcomes.	<input type="radio"/> Yes <input type="radio"/> No	
Data are shared with clinicians, frontline staff and key stakeholders.	<input type="radio"/> Yes <input type="radio"/> No	
<b>STAFF EDUCATION</b>		
Staff that receive education and training on sepsis prevention strategies include (check all that apply):	<input type="checkbox"/> Providers <input type="checkbox"/> Frontline staff <input type="checkbox"/> Clinical support staff <input type="checkbox"/> Transport staff <input type="checkbox"/> Environmental staff	



# Review EMR to evaluate select patient documentation and interventions

EVIDENCE-BASED PRACTICE	PRACTICE IN PLACE?	NOTES
<b>STAFF EDUCATION (CONTINUED)</b>		
Staff education about sepsis prevention and treatment is provided:	<input type="radio"/> At orientation <input type="radio"/> Annually <input type="radio"/> Other; describe: _____	
A sepsis educator or champion is available to staff at all times for questions and real-time education.	<input type="radio"/> Yes <input type="radio"/> No	
A patient and family advisory council or another committee with patient representation is involved in sepsis education.	<input type="radio"/> Yes <input type="radio"/> No	
<b>EARLY IDENTIFICATION AND TIMELY TREATMENT</b>		
A sepsis screening tool (i.e., Systemic Inflammatory Response Syndrome, National Early Warning Score or Modified Early Warning System) is used.	<input type="radio"/> Yes <input type="radio"/> No	
All patients suspected of having or presenting signs of sepsis are screened.	<input type="radio"/> Yes <input type="radio"/> No	
An early alert warning system is utilized in: <ul style="list-style-type: none"> <li>• ED;</li> <li>• ICU; and/or</li> <li>• Med/Surg unit.</li> </ul>	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No	
Code Sepsis or Sepsis Rapid Response Team is activated when sepsis is suspected and/or a patient demonstrates signs of imminent clinical deterioration in: <ul style="list-style-type: none"> <li>• ED and/or</li> <li>• inpatient units.</li> </ul>	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No	
<b>SEPSIS CARE BUNDLE IMPLEMENTATION AND COMPLIANCE</b>		
The Hour-1 bundle is implemented upon sepsis/septic shock recognition.	<input type="radio"/> Yes <input type="radio"/> No	



# Interview staff to assess knowledge and understanding of best practices

EVIDENCE-BASED PRACTICE	PRACTICE IN PLACE?	NOTES
<b>ORDER SETS</b>		
Sepsis standard order sets are in place and used consistently by providers.	<input type="radio"/> Always <input type="radio"/> Sometimes <input type="radio"/> Never	
Clinician documentation includes appropriate information (e.g., definitions of sepsis, severe sepsis, septic shock, time zero, treatment bundle components with a timeline for meeting requirements).	<input type="radio"/> Always <input type="radio"/> Sometimes <input type="radio"/> Never	
Lab testing is available and timely: <ul style="list-style-type: none"> <li>• Lab lactic acid turnaround time is 30 minutes or less.</li> <li>• Point-of-care lactate testing is available.</li> <li>• Resources are available for a potential increase in blood cultures.</li> </ul>	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No	
Antimicrobial stewardship strategies are used to achieve optimal duration of therapy (e.g., de-escalation protocols).	<input type="radio"/> Yes <input type="radio"/> No	
<b>HANDOFF COMMUNICATION</b>		
Handoffs of care readily incorporate the status of bundle element treatment.	<input type="radio"/> Always <input type="radio"/> Sometimes <input type="radio"/> Never	
Handoffs of care readily incorporate appropriate sepsis language (e.g., systemic inflammatory response syndrome criteria met, suspected source of infection, most recent patient assessment, recommendations).	<input type="radio"/> Always <input type="radio"/> Sometimes <input type="radio"/> Never	
<b>GOALS OF CARE AND DISCHARGE PLANNING</b>		
Sepsis education is provided to patients, families and care partners (i.e., verbal and printed/written materials).	<input type="radio"/> Yes <input type="radio"/> No	
Goals of care are documented and discussed with the patient and family.	<input type="radio"/> Yes <input type="radio"/> No	
Care planning includes tailored interventions appropriate to the level of care (i.e., high-risk rounding, increased frequency of monitoring and reassessment).	<input type="radio"/> Yes <input type="radio"/> No	

EVIDENCE-BASED PRACTICE	PRACTICE IN PLACE?	NOTES
<b>GOALS OF CARE AND DISCHARGE PLANNING (CONTINUED)</b>		
Principles of palliative care are integrated into the treatment plan as appropriate.	<input type="radio"/> Yes <input type="radio"/> No	
Discharge summary includes: <ul style="list-style-type: none"> <li>• Information about the ICU stay, sepsis and related diagnoses, key treatments (e.g., mechanical ventilation, dialysis).</li> <li>• Common impairments, including post-ICU/post-sepsis syndrome prior to discharge.</li> <li>• New impairments, follow-up with clinicians able to support and manage new and long-term sequelae.</li> </ul>	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No	
<b>HEALTH EQUITY CONSIDERATIONS</b>		
A screening process is in place for assessing health-related social needs.	<input type="radio"/> Yes <input type="radio"/> No	
Appropriate referrals are made.	<input type="radio"/> Yes <input type="radio"/> No	
Care team identifies specific patient population(s) and considers demographic variables (i.e., race, ethnicity, language, social needs) when developing and targeting interventions to reduce health disparities.	<input type="radio"/> Yes <input type="radio"/> No	

# Drill down – right to the unit level!



# Step 2: Analyze your current state

Now it's time to determine your starting line for improvement. This step answers the question, *"Where are we now?"*

- Gather stakeholders to review findings and garner consensus.
- Discuss identified gaps, opportunities and contributing factors – *be specific and detailed!*
- Reflect on cross-cutting themes to inform priorities for ACTION.

# Analyze your current state

🔍 There are numerous tools, methodologies, and internal/external analysis frameworks you can use to assess your current state (*like SWOT Analysis, McKinsey 7-S, etc.*).

These do not replace your gap analysis!

WHO is involved  
in the PROCESS?

Medical Staff-  
Frontline/Leadership

C-Suite Leadership

Quality, Safety, &  
Risk Management

Unit-Level Staff/–  
Directors/Managers

IT/Clinical  
Informatics/  
Technical Experts

# Step 3: Define your end goal

After understanding where you currently stand, it's time to define quantifiable goals to strive for. This step answers the question, *"Where do we want to be?"*

1. What are the top two or three findings that are most important for us to address in the short term? In the long term?
2. What are our strengths and where do we have the greatest opportunities for improvement?
3. What are our goals? Are they measurable and achievable?
4. What is our timeframe? Is it realistic and feasible?

## SMART

### GOALS

#### SPECIFIC

Plan effectively with specific targets in mind.



#### MEASURABLE

Track your progress and reevaluate along the way.



#### ATTAINABLE

Set realistic goals that are challenging but achievable.



#### RELEVANT

Ensure the goal serves a relevant purpose.



#### TIME-BOUND

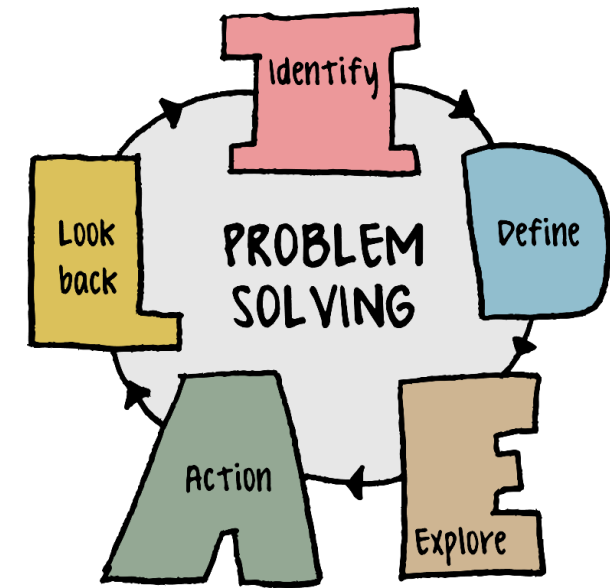
Specify a deadline, monitor progress and reevaluate.



# Step 4: Understand your gaps

You've analyzed your current state and defined your future state. Now, compare the two to understand the gap you're trying to close. This step answers the question, *"What is the extent of our gap(s)?"*

- ❑ *Systematically examine* each gap, identify factors and assess barriers toward best practice implementation.
- ❑ *Gauge the impact* each factor contributes to your performance (*i.e. organization-wide, unit-specific*).
- ❑ *Map factors* to what they will look like once your future state is achieved.



Assessing how your organization is performing *on the road to high reliability* is an important step to help create a robust, prioritized action plan.

## 5 Principles of High Reliability Organizations <sup>[1]</sup>

- 01** High reliability organizations are sensitive to operations.
- 02** High reliability organizations are reluctant to accept "simple" explanations for problems.
- 03** High reliability organizations have a preoccupation with failure.
- 04** High reliability organizations defer to expertise.
- 05** High reliability organizations are resilient. This trait could also be called relentlessness.

[1] Gamble, Molly. "5 Traits of High Reliability Organizations: How to Hardwire Each in Your Organization." Becker's Hospital Review, 29 Apr. 2013, [medicine.arizona.edu/sites/default/files/5\\_traits\\_of\\_highly\\_reliable\\_organizations.pdf](http://medicine.arizona.edu/sites/default/files/5_traits_of_highly_reliable_organizations.pdf).

# Step 5: Determine a plan of ACTION

Now it's time to determine a plan of action to bridge the gap. This step answers the question: *"How will we get from point A to point B?"*

- ❑ Review focus areas for improvement, prioritize action steps and determine a timeline for completion.
- ❑ Discuss change management tools and techniques to achieve stated objectives.
- ❑ Solicit feedback from stakeholders to ensure buy-in, build momentum and accelerate change.

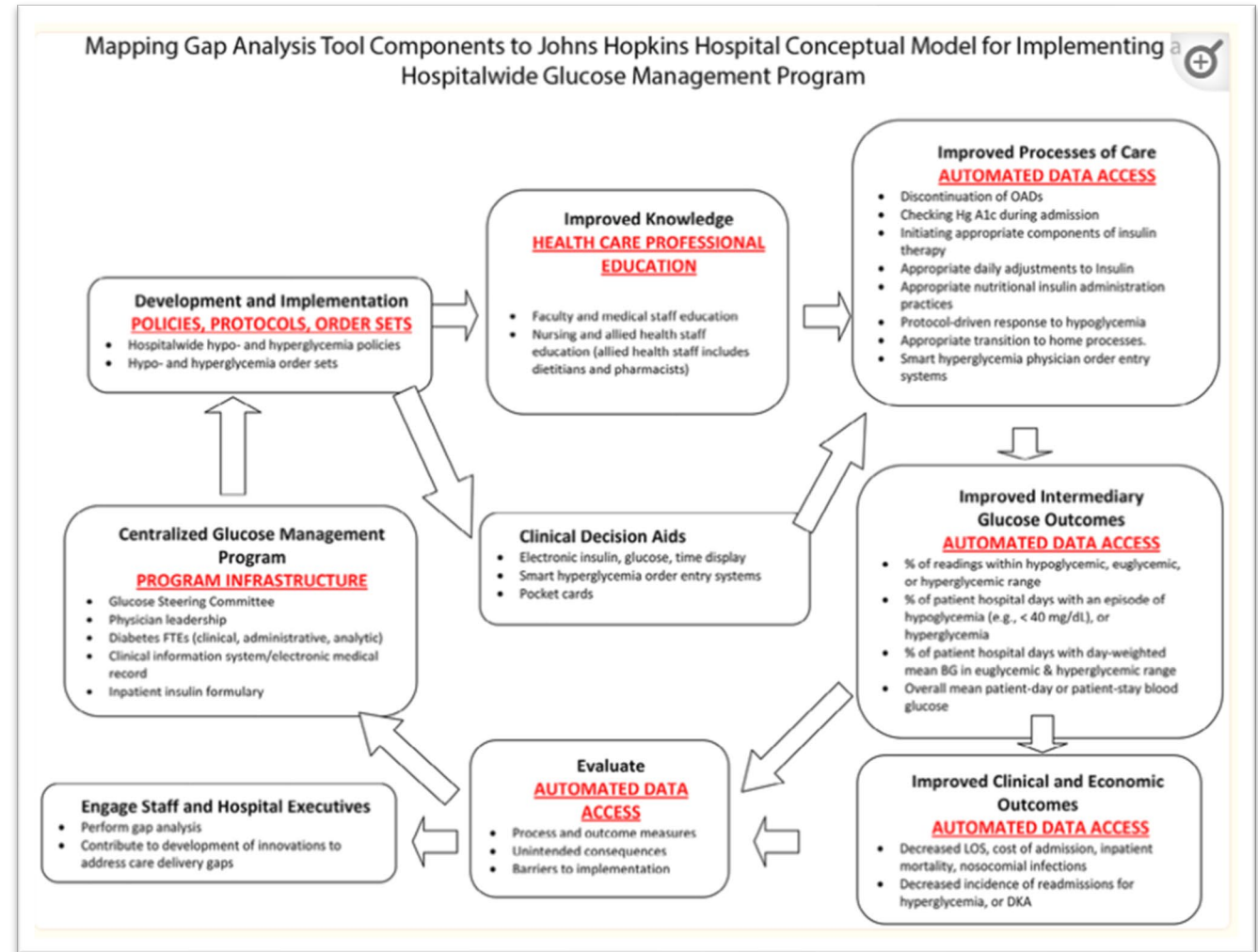




# Johns Hopkins gap analysis tool: Inpatient diabetes care in ACTION

The team conducted a gap analysis and addressed the following areas for improvement:

- program infrastructure;
- protocols, policies and order sets;
- patient and healthcare professional education; and
- automated data access.



\*Gaps were defined as those instances in which local resources, infrastructure or processes demonstrated a variance against the current national evidence base or institutionally defined best practices.

# Final thought: Design your system with *reliability* in mind!

1. Segmentation
2. Visualization
3. Standardization/simplification
4. Back-up planning



Your ACTION PLAN: Creating and *sustaining* reliable processes, requires thoughtful planning and execution!

*Remember: There is no "one way" to solve a problem; different people will solve it differently!*

## Standardize and Simplify

- 1) Determine which defect you want to standardize and why.
- 2) Ask people who do the work to contribute ideas.
- 3) Standardize the processes by answering the following questions:
  - a. Who will complete the task? (Answer with a named role, not a named individual.)  
\_\_\_\_\_
  - b. What is the task they will complete?  
\_\_\_\_\_
  - c. When will they complete the task? (Try to make it part of normal or existing workflow if possible.)  
\_\_\_\_\_
  - d. Where will they complete the task? (Answer in terms of physical location.)  
\_\_\_\_\_
  - e. How will they complete the task? (Answer in practical terms: What will the person physically do to complete the task?)  
\_\_\_\_\_
  - f. With what will they complete the task? (Is there a tool, template, or checklist needed to support completion of the task?)  
\_\_\_\_\_

## Develop a Back-up Plan

- 1) Identify which process steps require a back-up plan.
- 2) Develop your back-up plan using the principles described above (standardization and simplification) by answering the following questions:
  - a. Who will complete the task? (Answer with a named role, not a named individual.)  
\_\_\_\_\_
  - b. What is the task they will complete?  
\_\_\_\_\_
  - c. When will they complete the task? (Try to make it part of normal or existing workflow if possible.)  
\_\_\_\_\_
  - d. Where will they complete the task? (Answer in terms of physical location.)  
\_\_\_\_\_
  - e. How will they complete the task? (Answer in practical terms: What will the person physically do to complete the task?)  
\_\_\_\_\_
  - f. With what will they complete the task? (Is there a tool, template, or checklist needed to support completion of the task?)  
\_\_\_\_\_
- 3) Incorporate your back-up plan into the existing workflow.

# EQIC Unit-Based Patient Safety and Quality Improvement Toolkit and MORE!

- Intro to UBS and culture of quality
- Planning your QI project
- Getting started: How to improve
- Data collection and reporting
- Maintaining momentum and sustaining change
- **Tools and guides for success**

The collage features three main documents from the EQIC toolkit:

- Unit-based Patient Safety and Quality Improvement Toolkit:** A cover page with a photo of healthcare professionals and the title in bold teal and white text.
- Quality improvement primer:** A document with a teal header and a photo of a healthcare professional. It includes sections for 'Unit-based safety', 'Process improvement', and 'Anticoagulation and venous thromboembolism'.
- Leading a Quality Improvement Project:** A document with a teal header and a photo of a healthcare professional. It includes sections for 'Pre-initiative work before involving staff', 'Pre-staff meeting work', 'Seek frontline input', and 'Ask probing questions to encourage participation of all unit members and broader perspectives'.

# Thank you.

REGISTER TODAY!

**Nicole Ford**

[nford@hanys.org](mailto:nford@hanys.org)

Wednesday, June 26

Session 3: Data in action: Ready, set,  
go!

1 - 2 p.m.



**EQIC**

EASTERN US QUALITY  
IMPROVEMENT COLLABORATIVE