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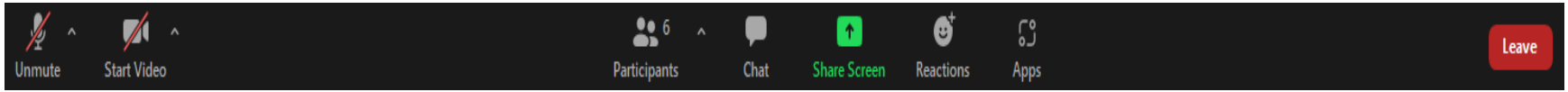
# Sepsis Affinity Group

September 2, 2021

# Logistics – Zoom Meeting




To ask questions, click on the **Chat** icon.

**Raise your hand** if you want to verbally ask a question by clicking on the **Reactions** icon and then clicking on “Raise Hand”.

You may adjust your audio by clicking the caret (^) next to the **Unmute** icon.

A recording and slides from today’s session will be shared after the call.

# Today's Speaker

**Deb Smith, MLT (ASCP), BSN, CIC, CPHQ**

**Rachel Schade, BS**

Health Quality Innovation Network

# Session 3: Audit, Measure, & Feedback for Success

# Recap Session 1: Early Screening Strategies

1. Quality Improvement process
2. Building you TEAM
3. Setting your goal
4. Identifying patients at risk for Sepsis
5. Identifying Sepsis in the ED
6. Identifying Sepsis in the ICU and floors
7. Follow up and homework

# Recap Session 2: Implementation of Sepsis Bundles

1. Bundle Basics
2. Raising Awareness
3. Addressing Barriers
4. Success Factors/Facilitators
5. Keeping Things in Perspective
6. Questions

# Session 3 Agenda: Audit Measure and Feedback for Success

1. **Discuss Auditing strategies for Sepsis**
2. **Understand the HQIC Measures for Sepsis**
3. **Learn the importance of providing Feedback**

# Gap Analysis Starting Point

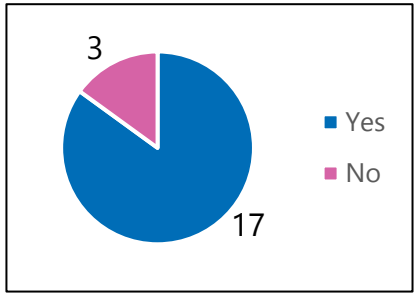
**Hospital Sepsis Gap Analysis**

| Element | Yes | No | N/A | Unsure | Comments |
|---|---|---|---|---|---|
| **Leadership Support** | | | | | |
| 1. Do you have a sepsis program? If yes, please describe in comments | | | | | |
| 2. Does your sepsis program have leadership support, i.e. administrator, medical director, medical staff, clinical staff? | | | | | |
| 3. Is your medical staff actively involved in sepsis prevention? | | | | | |
| **Committees** | | | | | |
| 4. Do you report on sepsis at? | | | | | |
| a. Quality Committee | | | | | |
| b. Infection Control Committee | | | | | |
| 5. Do you share infection or sepsis data with staff? If yes, list type of data under comments. | | | | | |
| 6. Do your share information with patients and families? List how under comments. | | | | | |
| **Education** | | | | | |
| 7. Do you have a sepsis early recognition training program? | | | | | |
| a. If No, do you need assistance setting up a training program? | | | | | |
| 8. Does hospital staff have an annual competency for sepsis? | | | | | |
| 9. Do you utilize skills days for nursing assistant sepsis training? | | | | | |
| 10. What are the tools you use to train staff, i.e., INTERACT, Seeing Sepsis 100, or other? List under comments. | | | | | |
| a. Do you have sepsis education materials for staff? | | | | | |
| b. Do you have sepsis education materials for patients and families? | | | | | |
| **Early Identification of Sepsis & Infection Risk** | | | | | |
| 11. Does your admission assessment include an infection and sepsis risk assessment? | | | | | |
| 12. Do you audit the admission nursing assessment to ensure it is completed? | | | | | |
| 13. If infection/sepsis risk is triggered on assessment, do you care plan the level of infection/sepsis risk? | | | | | |
| 14. Does your care planning include interventions appropriate to the level of risk i.e. high-risk rounding, more frequent monitoring of vital signs and mental status? | | | | | |
| 15. Do you audit the care plan and implementation of interventions for those identified at risk? | | | | | |
| 16. Are bundles (Hour 1, etc.) used to guide front line team in the care of a patient with sepsis? | | | | | |
| **Patient and Family Education** | | | | | |
| 17. Do you provide sepsis education to patients and families? | | | | | |
| 18. Do you provide any material (CDC, HQI Patient and Family Guide) to families, board members, community? If so, please list under comments. | | | | | |
| 19. How do you involve your patient and/or family council in sepsis education? Please list under comments. | | | | | |

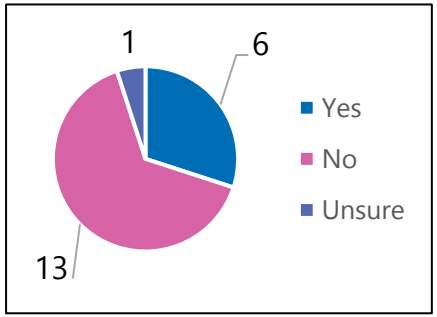
Link to online Gap Analysis

# Gap Analysis Results = 20 responses (to date)

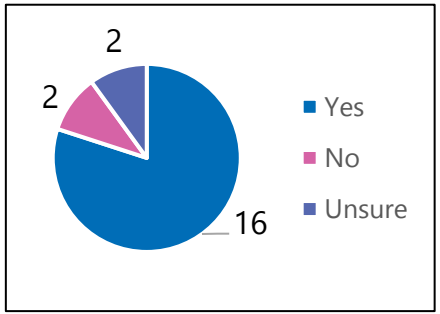
**Report on sepsis at Quality Committee?**



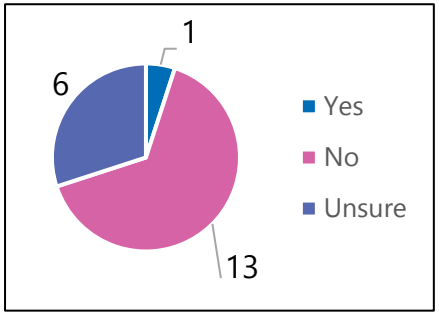

**Report on sepsis at Infection Control Committee?**




**Share sepsis data with staff?**




**Share sepsis information with patients and families?**



# Action Plan cont.

## Action Plan

| Specific Actions and Interventions | Baseline Rate | Goal Rate | Projected Completion Date | Responsible Parties | Ongoing Monitoring | Comments and Resources |
|---|---|---|---|---|---|---|
| [enter start date here] Analyze sepsis mortality rates and determine your goal | | | | | | |
| [enter start date here] Identify gaps in current practice | | | | | | • Hospital Sepsis Gap Analysis<br>• Fishbone Diagram |
| [enter start date here] Create your process map | | | | | | • Sepsis Road Mapp<br>• Hospital Toolkit for Adult Sepsis Surveillance |
| [enter start date here] Introduce early detection education and guidance | | | | | | • Seeing Sepsis<br>• It's About TIME<br>• In Situ Simulation Sepsis Telehealth Toolkit |
| [enter start date here] Practice the approach | | | | | | • Sepsis Simulation Tool: ED<br>• Sepsis Simulation Tool: Inpatient |
| [enter start date here] Provide tools | | | | | | • Emergency Department and General Floor Sepsis Algorithm<br>• CODE: Sepsis Order Sub Set |

# Data Collection for Improvement

- Tracking and monthly review of sepsis incidence and mortality rates and process measure.
- Monthly review of compliance with routine sepsis screening and rapid treatment according to Surviving Sepsis Campaign 3 and 6-hour bundles,
    - Include documentation of time zero and use of a sepsis order set
- Routine analysis of all sepsis cases to identify opportunities for improvement,
    - Include a process to share all findings with staff in a real time.

# Data Collection Elements

- **Patient Log**
  - Define how to identify all patients that receive the bundles
  - Real time data collection is optimal—then used as checklist to ensure patient receives all appropriate interventions
- **Outcome**
  - Mortality (ICU and Hosp)
  - Hosp LOS
  - Cost per case (total and direct)
- **Process**
  - Core Measures
  - Data elements that measure implementation of 3 hour and 6 hour bundle

# How You Collect Data Impacts Use

| How is Data Used | Prospective | Concurrent | Retrospective |
|---|---|---|---|
| Anticipatory review of patient record (can impact current care) | Yes | No | No |
| Data abstracted in real time or within 24 hours | | Yes | No |
| Serves as a prompt to execute bundle or the next phase of the bundle | Yes | Yes | No |
| Recommended for new improvement teams | | Yes | No |
| Recommended for advanced improvement teams or those that have demonstrated success with process measures | Yes | | Yes |

Surviving Sepsis Campaign, Society of Critical Care Medicine, website accessed 1/26/2020

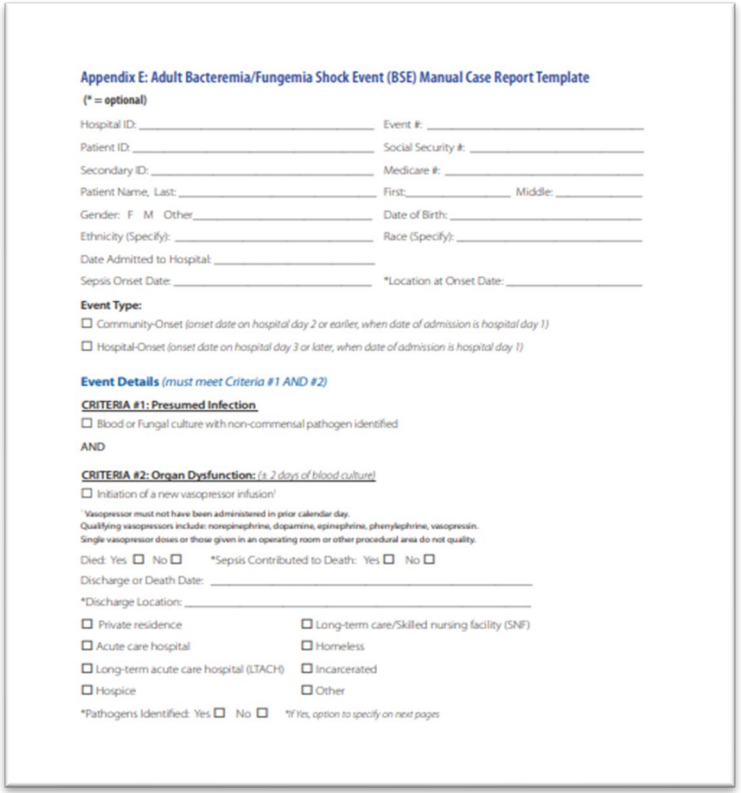
# Electronic Case Review

| | | | |
|---|---|---|---|
| Patient demographics | Comorbidities from problem list or ICD-10 codes | Patient location | Additional microbiology testing or diagnostic results |
| Surgical or procedural history | Presence of an indwelling device (IUC, CVL) | Additional patient outcomes: ICU admit, LOS, Discharge destination (LTC, home rehab) | Billing Cost |

# Electronic Case Review cont'd

| | | |
|---|---|---|
| **Microbiology results: Blood/Fungal culture** | **Medication administration records: Antimicrobial, vasopressor** | **Laboratory Data: Serum lactate, creatinine, platelet, etc.** |
| **ICD-10 codes: ESRD (N18.3), Ventilation (5A1935Z, 5A1945Z, 5A1955Z)** | **CPT Codes** | **Patient outcome: death/transfer to hospice/ comfort care, discharge/ transfer to acute care** |

# Manual Case Review



**Appendix E: Adult Bacteremia/Fungemia Shock Event (BSE) Manual Case Report Template**

**(* = optional)**

Hospital ID: _____ Event #: _____

Patient ID: _____ Social Security #: _____

Secondary ID: _____ Medicare #: _____

Patient Name, Last: _____ First: _____ Middle: _____

Gender: F M Other_____ Date of Birth: _____

Ethnicity (Specify): _____ Race (Specify): _____

Date Admitted to Hospital: _____

Sepsis Onset Date: _____ *Location at Onset Date: _____

**Event Type:**

☐ Community-Onset *(onset date on hospital day 2 or earlier, when date of admission is hospital day 1)*

☐ Hospital-Onset *(onset date on hospital day 3 or later, when date of admission is hospital day 1)*

**Event Details** *(must meet Criteria #1 AND #2)*

**CRITERIA #1: Presumed Infection**

☐ Blood or Fungal culture with non-commensal pathogen identified

**AND**

**CRITERIA #2: Organ Dysfunction:** *(± 2 days of blood culture)*

☐ Initiation of a new vasopressor infusion[1]

[1]Vasopressor must not have been administered in prior calendar day.
Qualifying vasopressors include: norepinephrine, dopamine, epinephrine, phenylephrine, vasopressin.
Single vasopressor doses or those given in an operating room or other procedural area do not qualify.

Died: Yes ☐ No ☐ *Sepsis Contributed to Death: Yes ☐ No ☐

Discharge or Death Date: _____

*Discharge Location: _____

☐ Private residence ☐ Long-term care/Skilled nursing facility (SNF)

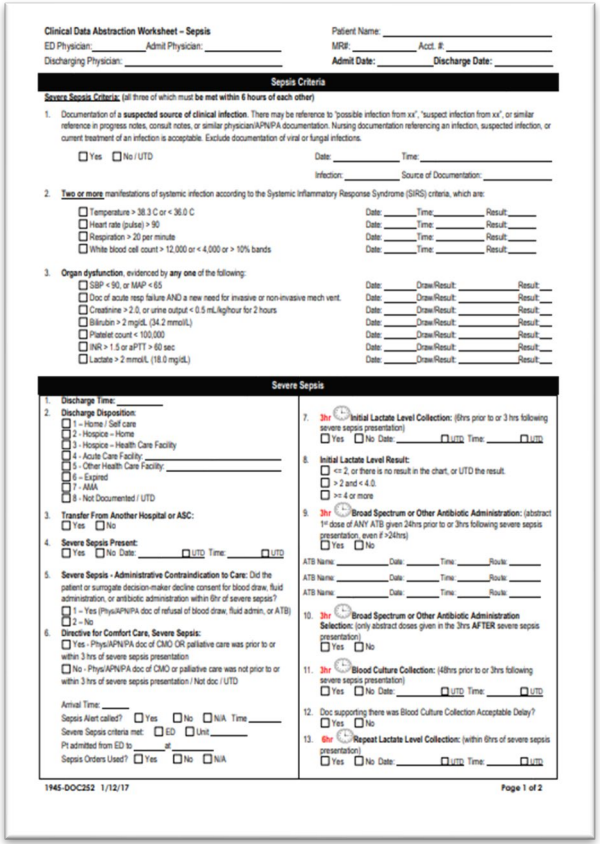
☐ Acute care hospital ☐ Homeless

☐ Long-term acute care hospital (LTACH) ☐ Incarcerated

☐ Hospice ☐ Other

*Pathogens Identified: Yes ☐ No ☐ *If Yes, option to specify on next pages*

[Hospital Toolkit for Adult Sepsis Surveillance (cdc.gov)]



**Clinical Data Abstraction Worksheet – Sepsis**

ED Physician: _____ Admit Physician: _____

Discharging Physician: _____

Patient Name: _____

MR#: _____ Acct. #: _____

**Admit Date:** _____ **Discharge Date:** _____

**Sepsis Criteria**

**Severe Sepsis Criteria:** (all three of which must **be met within 6 hours of each other**)

1. Documentation of a **suspected source of clinical infection**. There may be reference to "possible infection from xx", "suspect infection from xx", or similar reference in progress notes, consult notes, or similar physician/APN/PA documentation. Nursing documentation referencing an infection, suspected infection, or current treatment of an infection is acceptable. Exclude documentation of viral or fungal infections.

☐ Yes ☐ No / UTD Date: _____ Time: _____

Infection: _____ Source of Documentation: _____

2. **Two or more** manifestations of systemic infection according to the Systemic Inflammatory Response Syndrome (SIRS) criteria, which are:

☐ Temperature > 38.3 C or < 36.0 C Date: _____ Time: _____ Result: _____

☐ Heart rate (pulse) > 90 Date: _____ Time: _____ Result: _____

☐ Respiration > 20 per minute Date: _____ Time: _____ Result: _____

☐ White blood cell count > 12,000 or < 4,000 or > 10% bands Date: _____ Time: _____ Result: _____

3. **Organ dysfunction**, evidenced by **any one** of the following:

☐ SBP < 90, or MAP < 65 Date: _____ Draw/Result: _____ Result: _____

☐ Doc of acute resp failure AND a new need for invasive or non-invasive mech vent. Date: _____ Draw/Result: _____ Result: _____

☐ Creatinine > 2.0, or urine output < 0.5 mL/kg/hour for 2 hours Date: _____ Draw/Result: _____ Result: _____

☐ Bilirubin > 2 mg/dL (34.2 mmol/L) Date: _____ Draw/Result: _____ Result: _____

☐ Platelet count < 100,000 Date: _____ Draw/Result: _____ Result: _____

☐ INR > 1.5 or aPTT > 60 sec Date: _____ Draw/Result: _____ Result: _____

☐ Lactate > 2 mmol/L (18.0 mg/dL) Date: _____ Draw/Result: _____ Result: _____

**Severe Sepsis**

1. **Discharge Time:** _____
2. **Discharge Disposition:**
☐ 1 – Home / Self care
☐ 2 - Hospice – Home
☐ 3 - Hospice – Health Care Facility
☐ 4 - Acute Care Facility: _____
☐ 5 - Other Health Care Facility: _____
☐ 6 – Expired
☐ 7 - AMA
☐ 8 - Not Documented / UTD
3. **Transfer From Another Hospital or ASC:** ☐ Yes ☐ No
4. **Severe Sepsis Present:** ☐ Yes ☐ No Date: _____ ☐ UTD Time: _____ ☐ UTD
5. **Severe Sepsis - Administrative Contraindication to Care:** Did the patient or surrogate decision-maker decline consent for blood draw, fluid administration, or antibiotic administration within 6hr of severe sepsis?
☐ 1 – Yes (Phys/APN/PA doc of refusal of blood draw, fluid admin, or ATB)
☐ 2 – No
6. **Directive for Comfort Care, Severe Sepsis:**
☐ Yes - Phys/APN/PA doc of CMO OR palliative care was prior to or within 3 hrs of severe sepsis presentation
☐ No - Phys/APN/PA doc of CMO or palliative care was not prior to or within 3 hrs of severe sepsis presentation / Not doc / UTD

Arrival Time: _____
Sepsis Alert called? ☐ Yes ☐ No ☐ N/A Time _____
Severe Sepsis criteria met: ☐ ED ☐ Unit _____
Pt admitted from ED to _____ at _____
Sepsis Orders Used? ☐ Yes ☐ No ☐ N/A

7. 3hr **Initial Lactate Level Collection:** (6hrs prior to or 3 hrs following severe sepsis presentation)
☐ Yes ☐ No Date: _____ ☐ UTD Time: _____ ☐ UTD
8. **Initial Lactate Level Result:**
☐ <= 2, or there is no result in the chart, or UTD the result.
☐ > 2 and < 4.0.
☐ >= 4 or more
9. 3hr **Broad Spectrum or Other Antibiotic Administration:** (abstract 1st dose of ANY ATB given 24hrs prior to or 3hrs following severe sepsis presentation, even if >24hrs)
☐ Yes ☐ No
ATB Name: _____ Date: _____ Time: _____ Route: _____
ATB Name: _____ Date: _____ Time: _____ Route: _____
ATB Name: _____ Date: _____ Time: _____ Route: _____
10. 3hr **Broad Spectrum or Other Antibiotic Administration Selection:** (only abstract doses given in the 3hrs **AFTER** severe sepsis presentation).
☐ Yes ☐ No
11. 3hr **Blood Culture Collection:** (48hrs prior to or 3hrs following severe sepsis presentation)
☐ Yes ☐ No Date: _____ ☐ UTD Time: _____ ☐ UTD
12. Doc supporting there was Blood Culture Collection Acceptable Delay?
☐ Yes ☐ No
13. 6hr **Repeat Lactate Level Collection:** (within 6hrs of severe sepsis presentation)
☐ Yes ☐ No Date: _____ ☐ UTD Time: _____ ☐ UTD

1945-DOC252 1/12/17 Page 1 of 2

[Clinical Data Abstraction Flowsheet – CVA/STROKE (ohiohospitals.org)]

# Identify Gaps in Application of Evidence

- Set performance targets
  - IE:  90% compliance with obtaining lactates in 3 hours
  - 100% screening in triage and nurses shift assessments
- Prioritize area to work on first
  - Focus on screening and the 3 hour bundle first then move to the 6 hour bundle
- Understand “why” there are gaps
  - “Go and See” — Walk the process, talk with front line staff
  - Cause and Effect — Fishbone
- Define action plan
  - Can use IHI Model for Improvement
  - PDSA — tests of change

# Gemba Walk…

**Go See**

**Ask Why**

**Show Respect**

https://www.lean.org/shook/DisplayObject.cfm?o=1843

# How to “Go and See”

- Purpose
  - Why are you going on the “walk”?
  - What are you trying to achieve : “why can’t you?”
- Process
  - Are the processes designed to consistently achieve the purpose?
- People
  - Are the people knowledgeable of the purpose and the process and engaged and supportive in success
  - Respect people; Rely on People; Develop people; Challenge People

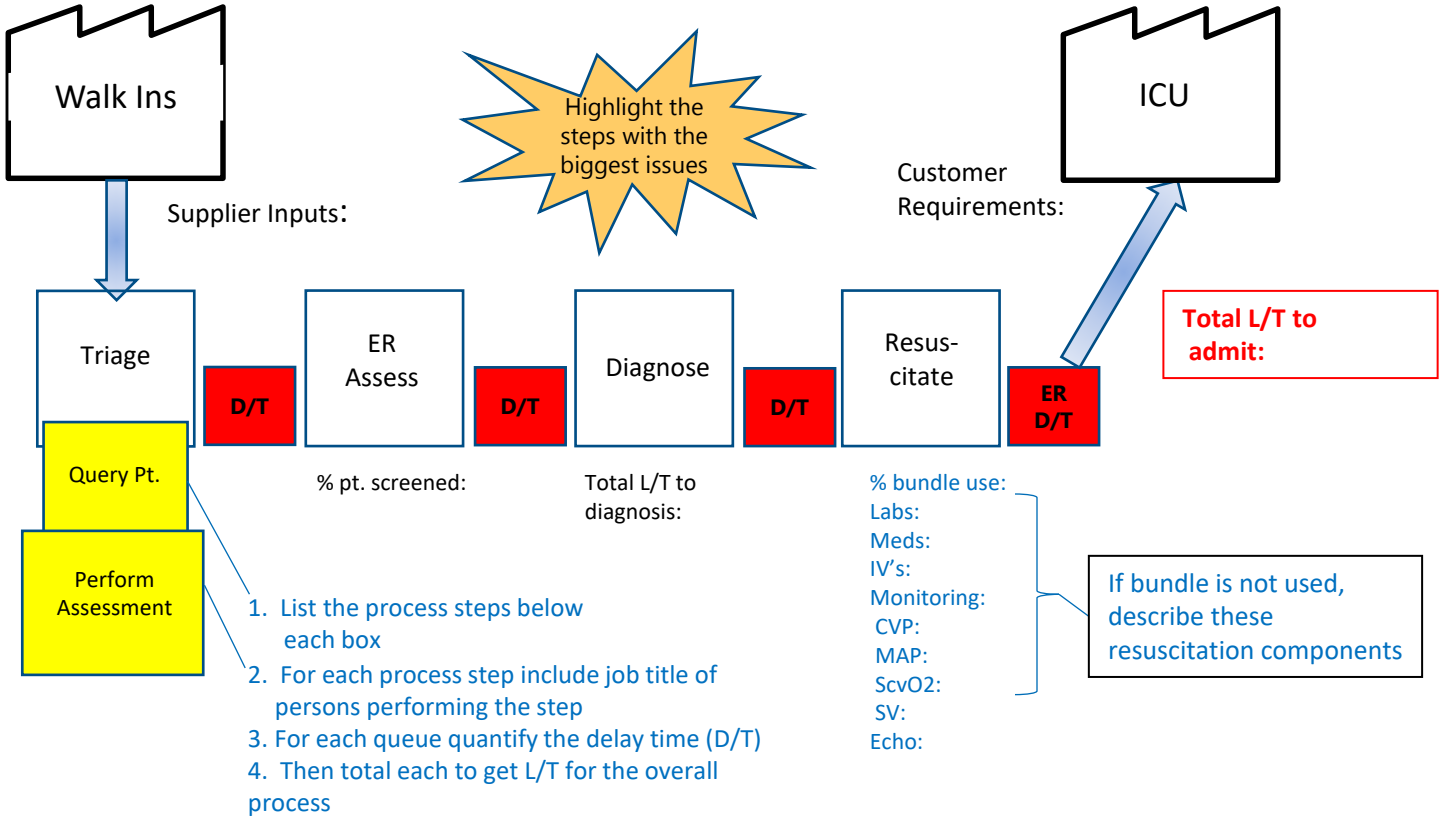
# "Go and See": Let's get started

- Representative colleagues from your department
- Copies of your current state map template
- A proposed “tour” which illustrates the patient flow regarding sepsis care
- “Front line” colleagues who can speak to problems they are seeing and the challenges they are facing

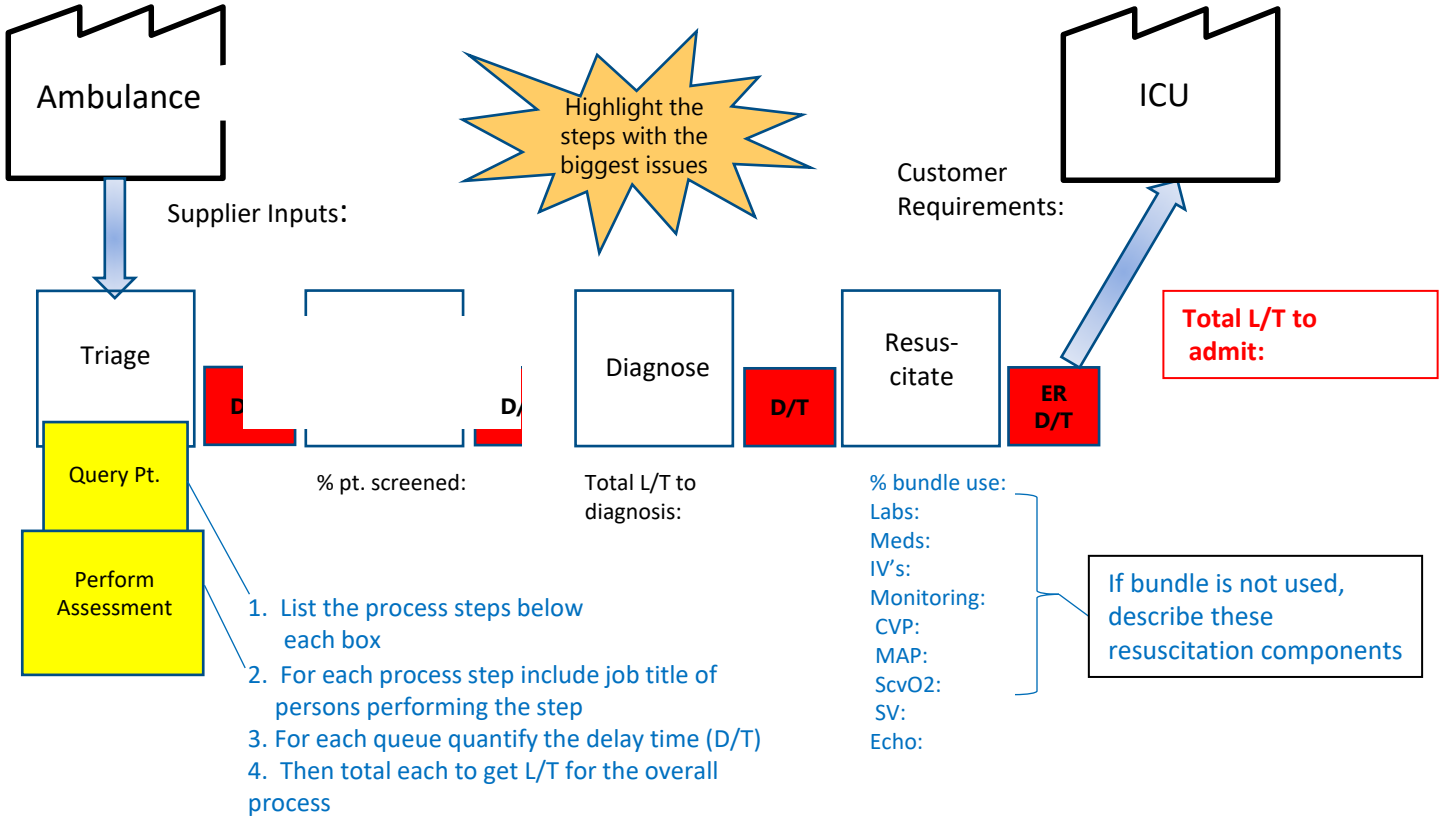
# "Go and See" cont.

- Start at the beginning of the process where patients are introduced to the ED
- Walk the value stream in terms of the patient path for sepsis care
    - Allow the visitors to absorb “what they see”
    - Engage the identified colleagues to tell their view of the “story” of the journey that they are sharing
    - Share any visuals or specific tools/bundles you are using
- Allow the visitors to absorb what they see and hear, take notes.

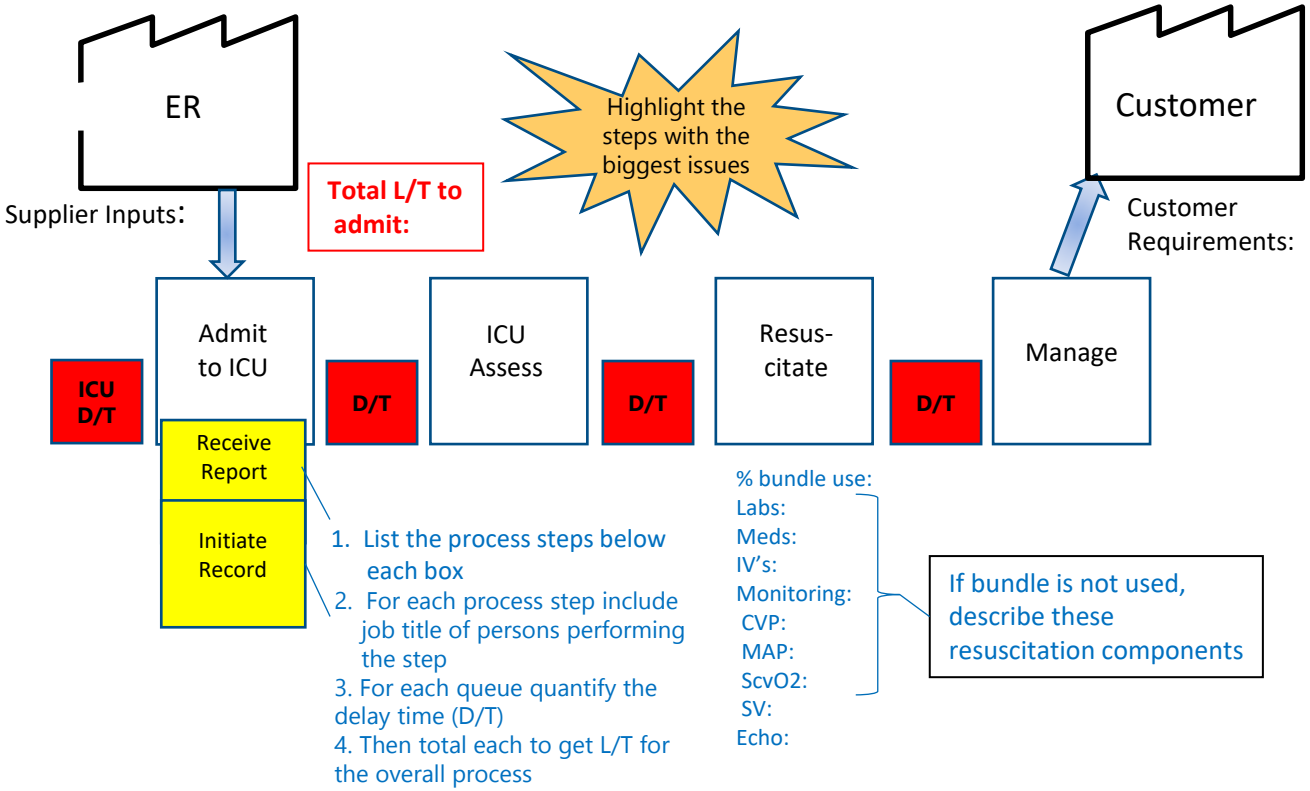
# Sepsis Patient Flow Template: Walk Ins



# Sepsis Patient Flow Template: Ambulance



# Sepsis Patient Flow Template: ICU



# Polling Question

How does your hospital audit for compliance with processes like Sepsis mortality reduction?

1. We do not do compliance audits
2. We do retrospective chart audits
3. We do observational audits like a Gemba walk
4. Other: Use chat to share

# HQIC Sepsis Data Presentation

# Hospital Data Collection Template

Please enter monthly data for each of the self-reported measures below ↓

| DATA ENTRY | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Apr-21 | May-21 | Jun-21 | Jul-21 | Aug-21 | Sep-21 | Oct-21 | Nov-21 | Dec-21 | Jan-22 | Feb-22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Enter the total number of identified sepsis patients with severe sepsis/septic shock, as defined by current CMS core measures: | | | | | | | | | | | | | | | | | | |
| Enter the total number of cases of severe sepsis and septic shock for whom all elements of the 3-hour sepsis bundle were completed on time: | | | | | | | | | | | | | | | | | | |

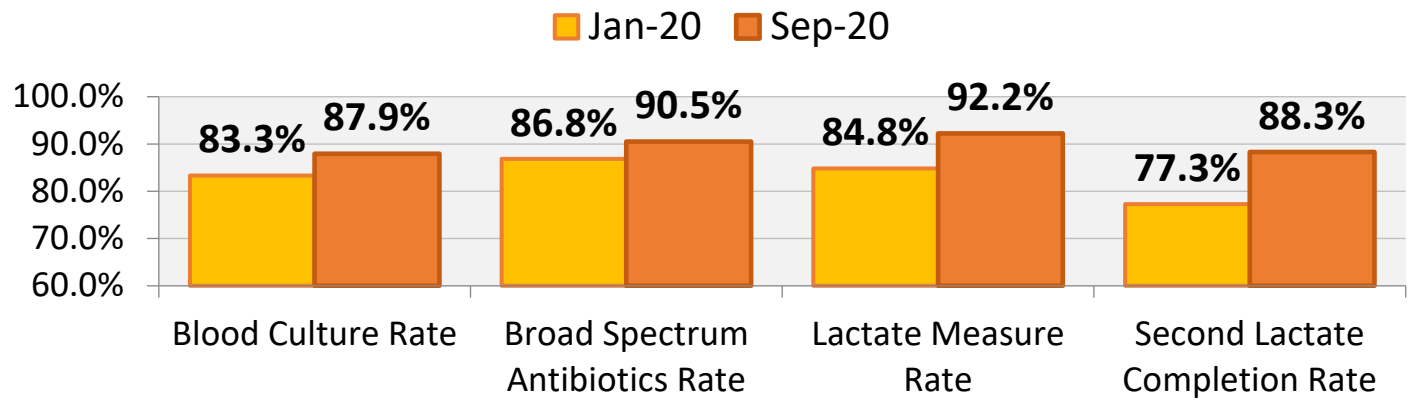
Please provide data for one of the four Sepsis Process Measures from the 3-hour bundle. Note: You can choose to provide data for more than one measure.

| DATA ENTRY | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Apr-21 | May-21 | Jun-21 | Jul-21 | Aug-21 | Sep-21 | Oct-21 | Nov-21 | Dec-21 | Jan-22 | Feb-22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) Enter the total number of identified sepsis patients for whom a lactate level is measured within 3 hours: | | | | | | | | | | | | | | | | | | |
| 2) Enter the total number of identified sepsis patients who were administered a broad spectrum or other antibiotics: | | | | | | | | | | | | | | | | | | |
| 3) Enter the total number of identified sepsis patients who had blood cultures drawn prior to antibiotic administration: | | | | | | | | | | | | | | | | | | |
| 4a) Enter the total number of identified sepsis patients for whom an initial lactate level was elevated: | | | | | | | | | | | | | | | | | | |
| 4b) Enter the total number of identified sepsis patients for whom an initial lactate level was elevated and a second lactate was completed within 6 hours: | | | | | | | | | | | | | | | | | | |

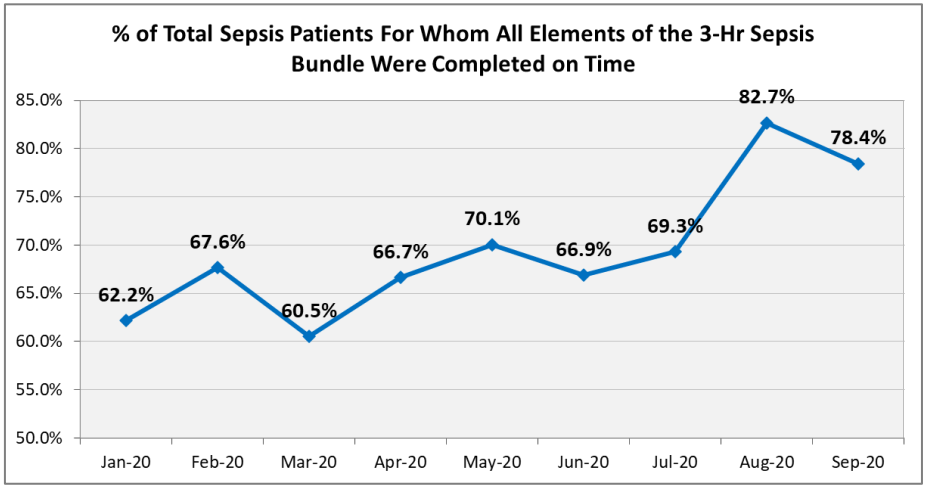
# Hospital Self-Reported Measures

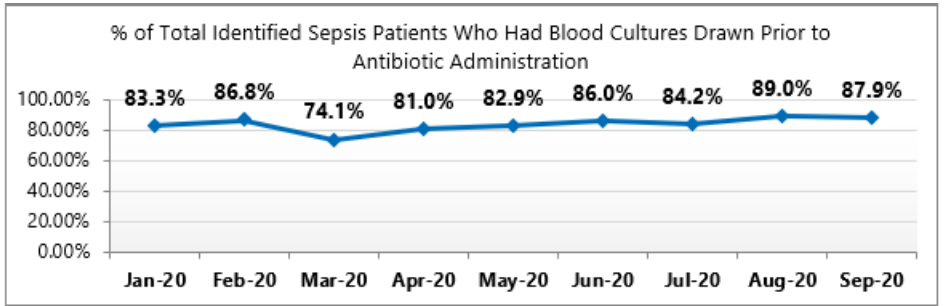
| | Jan-20 | Feb-20 | Mar-20 | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 |
|---|---|---|---|---|---|---|---|---|---|
| **Blood Culture Rate** | 83.3% | 86.8% | 74.1% | 81.0% | 82.9% | 86.0% | 84.2% | 89.0% | 87.9% |
| **Broad Spectrum Antibiotics Rate** | 86.8% | 90.8% | 79.8% | 80.4% | 86.6% | 93.0% | 87.7% | 89.8% | 90.5% |
| **Lactate Measure Rate** | 84.8% | 80.8% | 78.2% | 92.3% | 89.3% | 89.8% | 87.7% | 92.9% | 92.2% |
| **Second Lactate Completion Rate** | 77.3% | 79.0% | 81.3% | 86.0% | 79.8% | 88.0% | 87.9% | 95.3% | 88.3% |

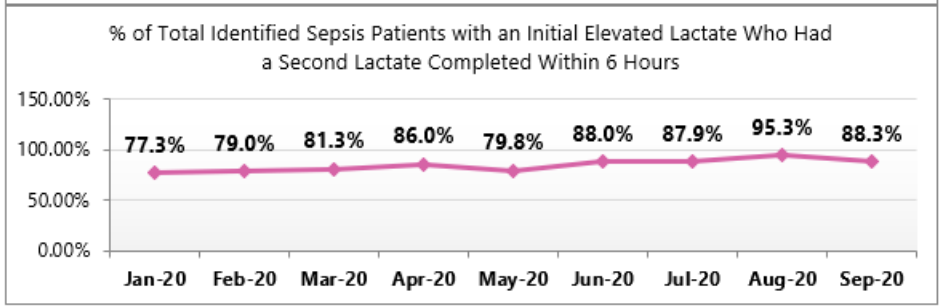
**% of Total Sepsis Patients Completing 3-Hr Sepsis Bundle by Process Measure**



# Self-Reported Data Analysis



# PSI-13: Postoperative Sepsis Rate

## Measure Description

Postoperative sepsis cases (secondary diagnosis) per 1,000 elective surgical discharges for patients ages 18 years and older. Excludes cases with a principal diagnosis of sepsis, cases with a secondary diagnosis of sepsis present on admission, cases with a principal diagnosis of infection, cases with a secondary diagnosis of infection present on admission, and obstetric cases.

## Numerator

Discharges, among cases meeting the inclusion and exclusion rules for the denominator, with any secondary ICD-10-CM diagnosis code for sepsis.

## Denominator

Elective surgical discharges for patients ages 18 years and older with any listed ICD-10-PCS procedure code for an operating room procedure. Elective surgical discharges are defined by specific MS-DRG codes with admission type recorded as elective (SID ATYPE=3).

https://www.qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2021/TechSpecs/PSI_13_Postoperative_Sepsis_Rate.pdf

# PSI-13 Denominator Exclusions

Excludes cases:

- with a principal ICD-10-CM diagnosis code (or secondary diagnosis present on admission) for sepsis
- with a principal ICD-10-CM diagnosis code (or secondary diagnosis present on admission) for infection
- MDC 14 (pregnancy, childbirth, and puerperium)
- MDC 15 (newborns and other neonates with conditions originating in perinatal period)
- with an ungroupable DRG (DRG=999)
- with missing gender, age, quarter, year, or principal diagnosis

https://www.qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2021/TechSpecs/PSI_13_Postoperative_Sepsis_Rate.pdf

# PSI-13 Sepsis Diagnosis Codes

***Sepsis diagnosis codes for PSI 13/PDI 10: (SEPTI2D)***

| | | | |
|---|---|---|---|
| A021 | Salmonella Sepsis | A4150 | Gram-Negative Sepsis, Unspecified |
| A227 | Anthrax Sepsis | A4151 | Sepsis due to Escherichia coli [E. coli] |
| A267 | Erysipelothrix Sepsis | A4152 | Sepsis due to pseudomonas |
| A327 | Listerial Sepsis | A4153 | Sepsis due to serratia |
| A400 | Sepsis due to streptococcus, group A | A4159 | Other gram-negative Sepsis |
| A401 | Sepsis due to streptococcus, group B | A4181 | Sepsis due to enterococcus |
| A403 | Sepsis due to streptococcus pneumoniae | A4189 | Other specified Sepsis |
| A408 | Other streptococcal Sepsis | A419 | Sepsis, Unspecified organism |
| A409 | Streptococcal Sepsis, Unspecified | A427 | Actinomycotic Sepsis |
| A4101 | Sepsis due to methicillin susceptible staphylococcus aureus | A5486 | Gonococcal Sepsis |
| A4102 | Sepsis due to methicillin resistant staphylococcus aureus | B377 | Candidal Sepsis |
| A411 | Sepsis due to Other specified staphylococcus | R6520 | Severe Sepsis without septic shock |
| A412 | Sepsis due to Unspecified staphylococcus | R6521 | Severe Sepsis with septic shock |
| A413 | Sepsis due to hemophilus influenzae | T8112XA | Postprocedural septic shock, initial encounter |
| A414 | Sepsis due to anaerobes | T8144XA | Sepsis following a procedure, initial encounter |

https://www.qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2021/TechSpecs/PSI_13_Postoperative_Sepsis_Rate.pdf

# Medicare FFS Claim Analysis

## EXAMPLE Patient-Level Drill Down

- Inpatient claim (type 60) from **2/1/2021 – 2/19/2021** (LOS: 18 days) at ABC Hospital
  - Elective admission
- DRG Code: **163** – Major chest procedures with major complication or comorbidity (MCC)

### Charged Procedure Codes
### (Denominator Flag)

- 0W9930Z – Drainage of Right Pleural Cavity with Drainage Device, Percutaneous Approach
- **0BNF0ZZ** – Release Right Lower Lung Lobe, Open Approach
- **0BND0ZZ** – Release Right Middle Lung Lobe, Open Approach
- **3E0L4GC** – Introduction of Other Therapeutic Substance into Pleural Cavity, Percutaneous Endoscopic Approach
- 04HY32Z – Insertion of Monitoring Device into Lower Artery, Percutaneous Approach
- 3E0L3GC – Introduction of Other Therapeutic Substance into Pleural Cavity, Percutaneous Approach
- 0W990ZZ – Drainage of Right Pleural Cavity, Open Approach
- BB24ZZZ – Computerized Tomography (CT Scan) of Bilateral Lungs

### Charged Diagnosis Codes (top 10)
### (Numerator Flag)

Principal Diagnosis:

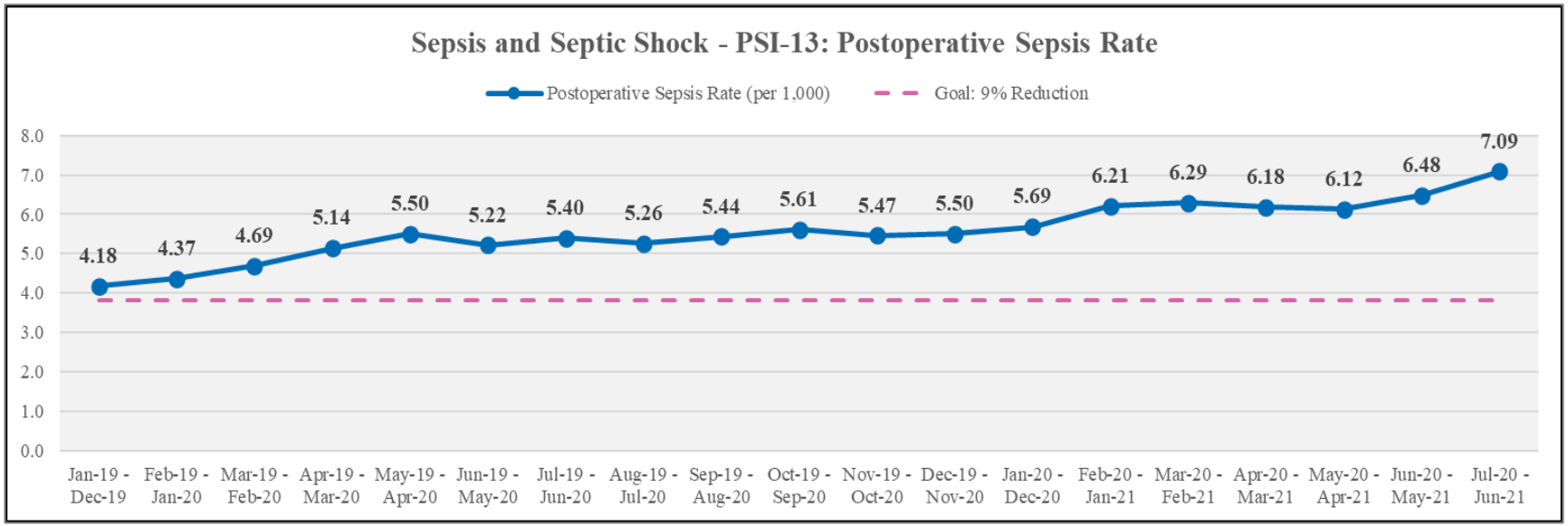
- J90 (POA) – Pleural effusion, not elsewhere classified

Secondary Diagnoses:

- **A419** – Sepsis, unspecified organism
- **R6521** – Severe sepsis with septic shock
- N170 (POA) – Acute kidney failure with tubular necrosis
- E872 (POA) – Acidosis
- I130 (POA) – Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
- I5022 (POA) – Chronic systolic (congestive) heart failure
- E870 – Hyperosmolality and hypernatremia
- N1830 (POA) – Chronic kidney disease, stage 3 unspecified
- E039 (POA) – Hypothyroidism, unspecified

# PSI-13: Postoperative Sepsis Rate

## HQIC Network Performance



# 30-Day Sepsis Mortality (%)

## Measure Description

Percentage of beneficiaries admitted with a primary OR secondary diagnosis of sepsis – including those with sepsis present on admission (POA) – who died within 30 days of diagnosis.

## Numerator

Number of beneficiaries who died within 30 days of being diagnosed with sepsis.

## Denominator

Number of beneficiaries who were admitted with a primary OR secondary diagnosis of sepsis, including sepsis present on admission (POA).

# Medicare FFS Claim Analysis

## EXAMPLE Patient-Level Drill Down

- Inpatient claim (type 60) from **5/19/2021 – 5/25/2021** (LOS: 6 days) at ABC Hospital
- DRG Code: **871** – Septicemia or severe sepsis without mechanical ventilation (MV) >96 hours with major complication or comorbidity (MCC)

### Charged Diagnosis Codes (top 10)
### (Denominator Flag)

Principal Diagnosis:
- **A419 (POA)** – Sepsis, unspecified organism

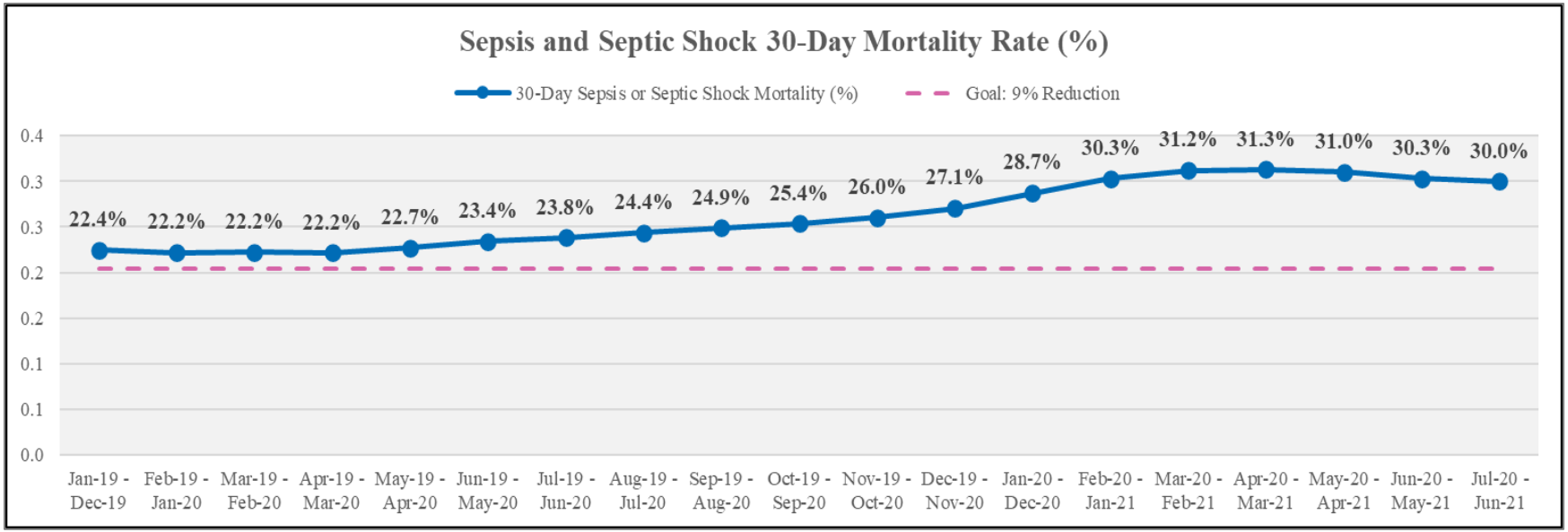
Secondary Diagnoses:
- G9341 (POA) – Metabolic encephalopathy
- N179 (POA) – Acute kidney failure, unspecified
- N390 (POA) – Urinary tract infection, site not specified
- I429 (POA) – Cardiomyopathy, unspecified
- A0472 (POA) – Enterocolitis due to Clostridium difficile, not specified as recurrent
- N184 (POA) – Chronic kidney disease, stage 4 (severe)
- **R6520 (POA)** – Severe Sepsis without septic shock
- G4733 (POA) –
- Z853 – Personal history of malignant neoplasm of breast

### Numerator Flag

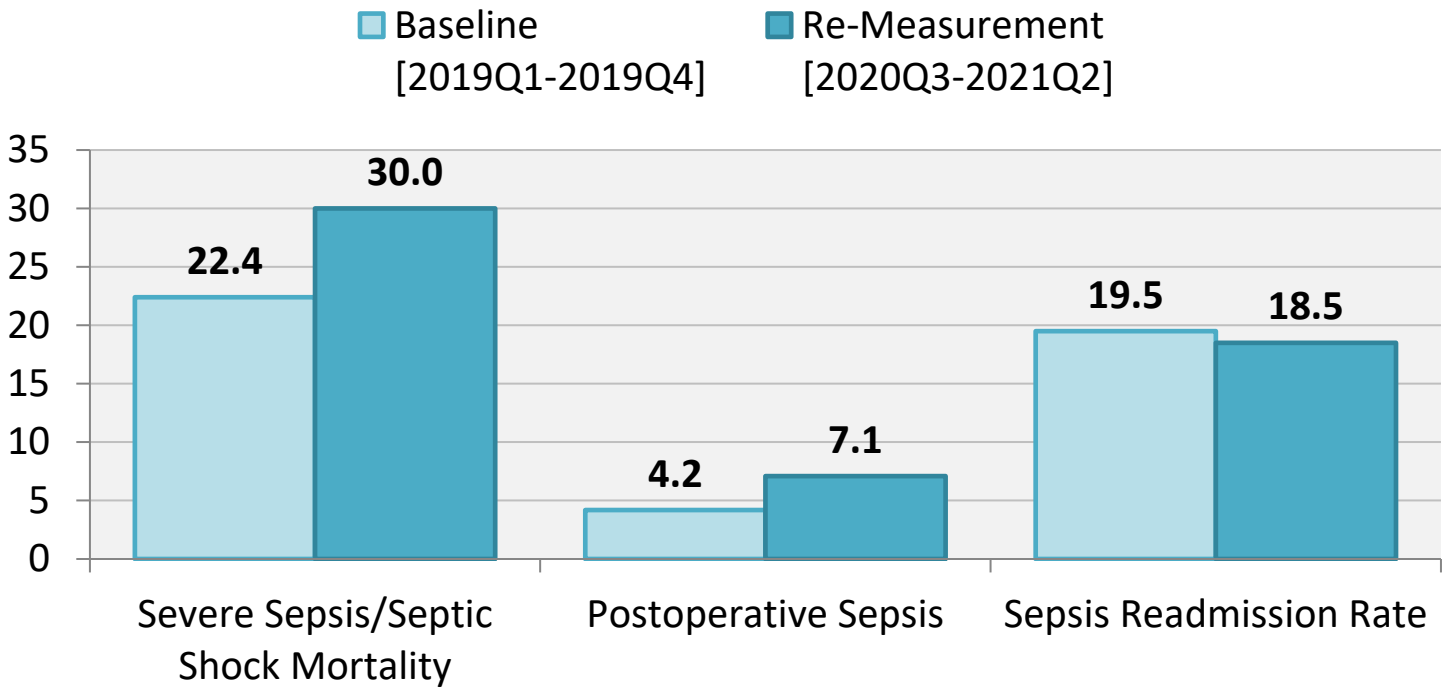
- Beneficiary admitted on **5/19/2021**
- Diagnosed with **A419** – Sepsis, unspecified organism as present on admission **(POA)**
- Beneficiary passed away on **6/11/2021**
  - **23 days** after diagnosis (< 30 days)

# 30-Day Sepsis Mortality (%)

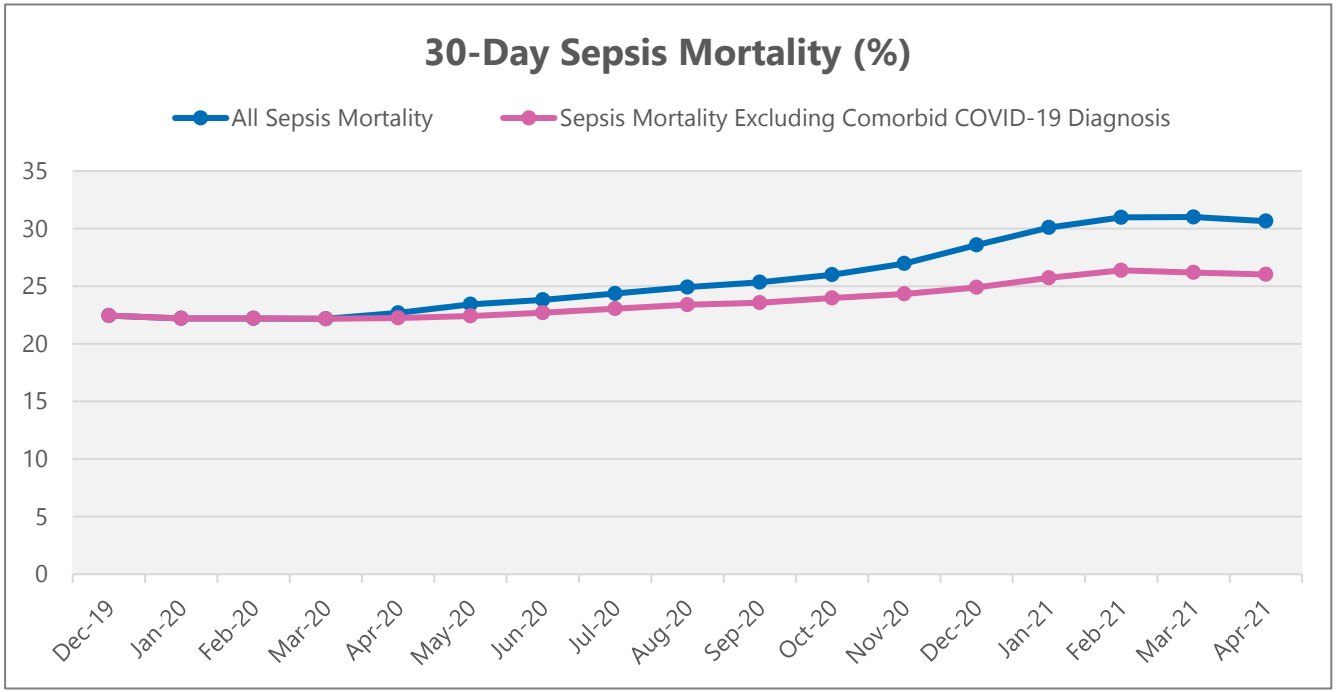
## HQIC Network Performance



# HQIC Measure Comparison



# Sepsis Mortality and COVID-19




**37% Increase in Mortality** among all sepsis admissions

**16% Increase in Mortality** among patients without a comorbid COVID-19 diagnosis

# Where is the Challenge?

**With evidence of compliance with the 3hr bundle completion why is mortality not changing?**

- Many HQIC hospitals report that they are meeting the Sep1 bundle elements
- The HQIC Network mortality rate is 30.0%
- Most hospitals are NOT meeting the HQIC goal for the Sepsis mortality measures

# Determining the Gaps: Understanding Why

- Success relies on a complex set of tasks being completed in a limited amount of time
- Requires data collection and analysis to determine the bottleneck(s)
- Must analyze the workflow for patients arriving in the ED as well as those who become septic after hospitalization
- QI/PI teams are a great resource when available
- Multiple tools have proven successful
- Some examples of diagnostic tools used for analysis, and the "therapeutic" tools developed out of the analysis

# Feedback

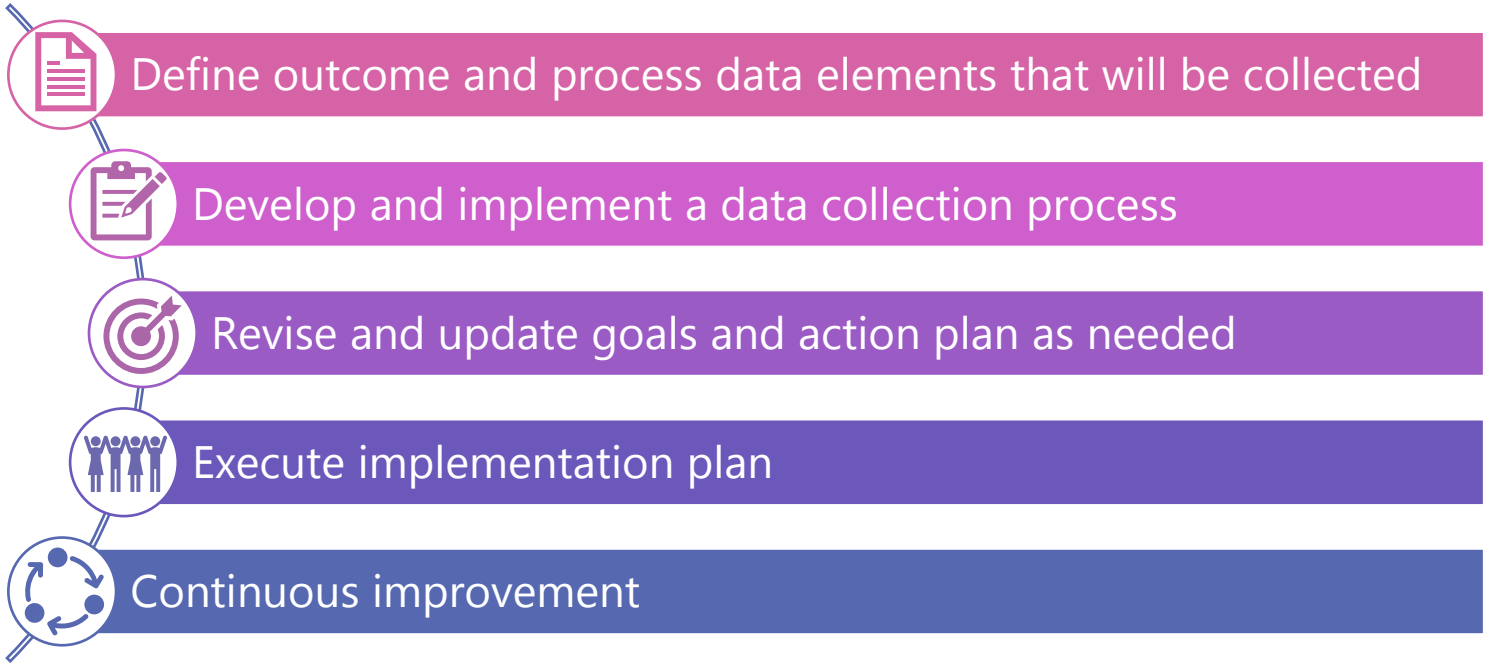
# Sepsis Team: Core Group

- Monthly multidisciplinary sepsis team meeting with consistent attendance
  - Nursing and physician champions
  - Lab, pharmacy, and radiology as needed
  - Accountable executive understands the role, holds team accountable and assists with problem-solving and removing barriers
  - Timely feedback (data) to the team providing care to the sepsis patients

# Sepsis Team: Core Group, cont.

- Set goals/expectations for sepsis program
- Use examples of hospital patients in case studies for education of staff (good outcomes and bad)
- Provider specific data on compliance with bundle elements and patient outcomes, compared to the goal
- Individual case feedback based on case reviews

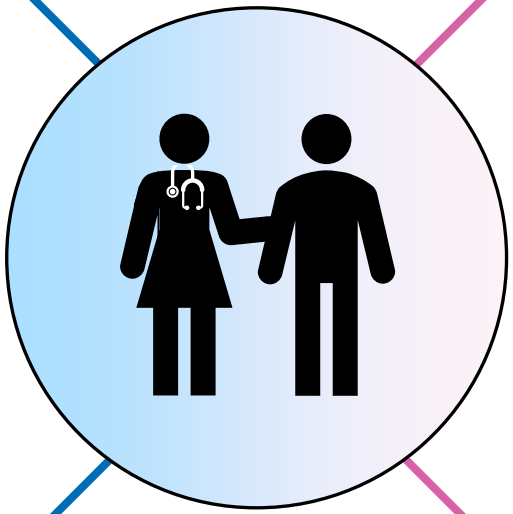
# Measurement Milestones and Checklist



# Data Collection and Analysis

**Responsible Team Members**

- Leadership Team
- QI Team
- Abstractors
- Case Managers



**Frequency**

- Daily
- Weekly
- Monthly
- Quarterly
- Annually

# How will you communicate data

- Board Meetings
- Bulletin Boards
- Dashboards
- Newsletters
- Posters
- QI Meetings
- Staff Meetings
- IDT Rounds
- Others

# Data will be communicated with:

- Board Meetings
- Caregivers
- Community
- Executive Leadership
- Families
- Patients
- Staff
- Volunteers
- Others

# Frequency of Feedback and Communications

- ☑ Daily
- ☑ Weekly
- ☑ Monthly
- ☑ Quarterly
- ☑ Annually

# Is a Report Card Needed?

| | 2019 Goals | 2018 Results |
|---|---|---|
| **SEPSIS POPULATION** | | |
| Patients admitted meeting Sepsis criteria | | |
| Patients admitted meeting Septic Shock criteria | | |
| Total Sepsis patient Population | | |
| **PERFORMANCE MEASURES** | | |
| All or none 3 and 6 hour bundle Including Reperfusion Exam | > 65% | 62% |
| All or none 3 and 6 hour bundle Excluding Reperfusion Exam | > 65% | 65% |
| Order Set Usage | > 80% | 2% |
| Blood cultures before antibiotics | > 95% | 95% |
| Initial lactic acid obtained | > 95% | 97% |
| Broad-Spectrum ATB's Given in < 3 hrs | > 95% | 95% |
| 30 ml/kg fluid bolus given in < 3 hrs | > 85% | 78% |
| Repeat lactate level obtained if initial above 2 mmol/L | > 85% | 74% |
| Vasopressor if indicated | 100% | 84% |
| Septic Shock Reperfusion Exam | > 85% | 51% |
| Patient Education Documented | > 85% | 87% |
| **OUTCOME MEASURES** | | |
| **Mortality Rates** | | |
| Sepsis Mortality Rate | < 15% | 2% |
| Septic Shock Mortality Rate | < 25% | 9% |
| **Length of Stay** | | |
| Sepsis Average LOS | < 9 days | 6.5 |
| Septic Shock Average LOS | < 9 days | 9 |
| **Readmission Rates** | | |
| Non Sepsis readmissions | <10% | 17% |
| Sepsis 30 day readmission | <10% | 7% |

# Polling Question

How often does your hospital provide feedback to staff and practitioners?

1. Daily
2. Weekly
3. Monthly
4. Annually
5. Never
6. Other: Share in chat

MEETING
Chat
DIALOG
TALK
BUSINESS
Answers
IDEAS
Communicate
SOCIAL
PROPOSAL
IDEAS
Discuss
Discussion
Connection
Session
Group
INPUT
CONVERSATION
SHARE
OPERATING
QUESTIONS
Dialog
Business
Communication
PARTNERSHIP
Forum
EXPLORATION
Community
Group
TALK
Debate

# Next Sepsis Affinity Group Session

Session 4: Patient and Family Engagement
Guest Speaker: Diana Pullin, BSN, RN
Clinical Excellence/Peer Review Analyst
UVA Health System

Date: September 16, 2021
Time: 1:30 PM EDT

# CONNECT WITH US

Call 877.731.4746 or visit www.hqin.org

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