



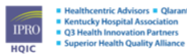
# Improving Sepsis Bundle Compliance and Decreasing Sepsis Mortality Rates in Critical Access Hospitals (CAHs)

Compass, Telligen, IPRO and Alliant

Joint Hospital Quality Improvement Contract (HQIC) Learning and Action Network

August 29, 2024

## We will get started shortly!



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## Collaborating to Support your Quality Improvement Efforts



- Healthcentric Advisors
- Qlarant
- Kentucky Hospital Association
- Q3 Health Innovation Partners
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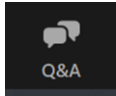


Hospital Quality Improvement Contractors  
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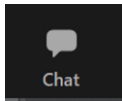
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## Housekeeping

- Lines have been muted upon entry to reduce background noise
- We encourage you to ask questions for the presenter(s) throughout the event using the Q&A feature



- Please direct technical needs and questions to the Chat Box



- This event is being recorded



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## Agenda

- Welcome and Introductions
- Improving Sepsis Bundle Compliance and Decreasing Sepsis Mortality Rates in CAHs Presentation
- Panel Discussion
- Q&A



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# Improving Sepsis Bundle Compliance and Decreasing Sepsis Mortality Rates in CAHs



Abby Rail, MSN, RN, CNL, CPN, DNP Student  
Iowa Healthcare Collaborative  
in collaboration with University of Iowa

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## Objectives

- Consider the epidemiology of sepsis and sepsis bundle interventions (SEP-1) in the context of social determinants of health
- Discuss best practices and challenges CAHs have with evidence-based sepsis protocols.
- Using implementation science, describe appropriate interventions to address barriers to following best sepsis practices.
- Examine successes and challenges of implementing sepsis bundle compliance improvement strategies in Iowa CAHs.

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	2012	2018
Hospital Admissions	811,644	1,136,889
Cost	\$17.8 billion	\$22.4 billion 5% growth rate annually, exceeding inflation
Aggregate hospital cost		\$57.5 billion

## Sepsis in Medicare Beneficiaries

- Affects 1.7 million annually
- 250,000 deaths annually

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## Sepsis in Social Drivers of Health (SDOH)

- Mortality rates per 100,000:
  - Blacks 81.8
  - Native Americans: 68.0
  - Whites 47.0
  - Asians 33.7
- Poverty >10% in community and unemployed:
  - Statistically significant increase vs employed/non-poverty
- Small hospitals (<25 beds) vs large hospitals (>500 beds)
  - Far less likely to have dedicated time to lead sepsis programs
- Rural
  - Blacks have seen sepsis mortality improvements in urban populations but not rural populations

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# CMS Severe Sepsis and Septic Shock Early Management Bundle (SEP-1)

- Best practice introduced in 2016
- Time-sensitive sepsis interventions
- Algorithm format
- 3-hour and 6-hour indicators
- Mandated to be part of inpatient quality reporting in PPS hospitals
- Will have Value-Based Purchasing (VBP) component starting in 2026
- Minimal effect on short-term mortality
- Significant decrease in length of stay and 30-day mortality

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## SEP-1: Early Management Bundle, Severe Sepsis/Septic Shock (Composite Measure)

<b>Numerator:</b> (Patients who received all of the following)	<p>Within three hours of presentation of severe sepsis</p> <ul style="list-style-type: none"> <li>• Initial lactate level measurement</li> <li>• Broad spectrum or other antibiotics administered</li> <li>• Blood cultures drawn prior to antibiotics</li> </ul> <p>AND received within six hours of presentation of severe sepsis. ONLY if the initial lactate is elevated:</p> <ul style="list-style-type: none"> <li>• Repeat lactate level measurement</li> </ul> <p>AND within three hours of initial hypotension:</p> <ul style="list-style-type: none"> <li>• Resuscitation with 30 mL/kg crystalloid fluids</li> </ul> <p>OR within three hours of septic shock:</p> <ul style="list-style-type: none"> <li>• Resuscitation with 30 mL/kg crystalloid fluids</li> </ul> <p>AND within six hours of septic shock presentation, ONLY if hypotension persists after fluid administration:</p> <ul style="list-style-type: none"> <li>• Vasopressors are administered</li> </ul> <p>AND within six hours of septic shock presentation, if hypotension persists after fluid administration or initial lactate <math>\geq 4</math> mmol/L:</p> <ul style="list-style-type: none"> <li>• Repeat volume status and tissue perfusion assessment is performed</li> </ul>
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**Denominator:** Inpatients age 18 or over with an ICD-10-CM Principal or Other Diagnosis Code of sepsis, severe sepsis or septic shock..., and not equal to [COVID-19].

# SEP-1 Bundle

CMS QualityNet, 2022

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## Barriers to Quality Improvement (QI) and Evidence-Based Practice (EBP) Uptake

*(Lit search)*

- 1300 CAH in the United States
- Staffing challenges!!
- Resource allocation
- Conflicting time management and commitments
- Lack of infection preventionist or other clinical/quality expertise
- Lack of anonymity and/or bias from knowing patients in community
- Misaligned policies & incentives (payer, regulatory, professional priorities); national recommendations n/a to CAH
- Lack of available technology and equipment
- Lack of leadership/provider support, just culture, change management barriers

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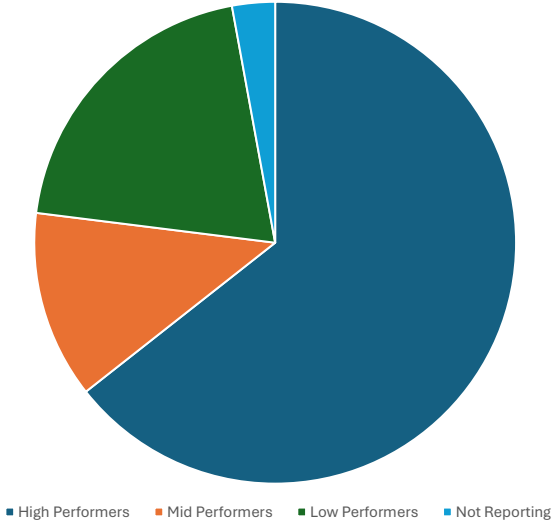
## Facilitators to QI/EBP Uptake

*(Lit search)*

- Administrative support
- Multidisciplinary team champions
- Patient-centered culture with positive attitude toward EBP
- Expert availability to teach and implement QI initiatives

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SEP-1 Bundle Compliance



IHC CAH  
Compliance  
Rates

Sept 2023

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SDOH	Target Counties vs State
White	↑
English speaking	↑
Non-Hispanic	↑
Home ownership	↑
Presence of internet in home	↓
High school education	=
College education	↓
Household income	≥
Poverty rates	≥
Food insecurity	↑
PCP: Patient Ratio	↑

SDOH in 6 Iowa  
Target Counties

Conclusion:  
These counties impacted by  
poverty, lower education, food  
insecurity, and healthcare access

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# Focus Group Questions

(6 IA CAH)

- Role and experience in quality department
- Describe QI department
- What might be causing higher sepsis rates/sepsis mortality rates?
- Barriers to achieving sepsis quality metrics
  - Process
  - People
  - Resource
- Vision for ideal QI department
- Organization's engagement in sepsis mortality improvement
- One intervention wish to implement re: sepsis

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# Focus Group Results

- Quality leaders have varied backgrounds in nursing, varied expertise in quality and management.
- Quality usually managed at unit level using data collection, Plan, Do, Study, Act (PDSA) cycle improvements, and education
- Process of sepsis identification is varied and is often delayed. Occurs typically in the emergency department (ED) and sometimes in med-surg.
- Lack of continuity across care delivery teams with order sets, timely follow-up and accurate documentation.
- Handoff communication challenges present.
- Electronic Medical Record (EMR) has usability issues regarding alerts, order sets, navigation, documentation, and data extraction.
- Varied staff and provider expertise potentially leading to delays in sepsis identification.
- Providers have lack of accountability to processes and outcomes (not employed by hospital).
- Team members, particularly providers, less engaged than administration.

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- Educational tools
- Requirement to use order set
- Better handoff communication and accurate documentation.
- Hard stop to use order set, use a protocol like chest pain or stroke.
- Sepsis tag added
- Team would stop to calculate the fluid bolus volume; use of lactate
- Mandatory use of order set
- Nurse-driven order set

## Focus Group Requests

### Summary:

- Consistent use of order sets, particularly nurse-driven
- Improved handoff communication
- Provider influence

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## Focused Interventions to Improve SEP-1 Using Implementation Science

Each QI team will engage provider champion to facilitate sepsis bundle compliance improvement

QI team at each hospital will work on transforming sepsis order set to nurse-driven order set (like stroke protocol)

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# Panel Discussion

**Panelists:**

Jesica Steeg, RN- Quality Improvement Coordinator  
*Sanford Sheldon Medical Center*

Sheyanne Schulz, RN- Quality, Education, & Safety Manager  
*Mitchell County Regional Health Center*

**IHC Support:**

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Amanda Danton, BSN, RN, CDCES, CPHQ, CPPS- Clinical Improvement Consultant  
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Charisse Coulombe, MS, MBA, CPHQ, CPPS, CPHIMS, CSM- Director, Hospital Quality Initiatives

## Panel Discussion Question #1

Tell us about your experiences with sepsis as a quality initiative this year.

## Panel Discussion Question #2

Describe the successes you and this group have had so far with this QI project.

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## Panel Discussion Question #3

What barriers have you and this group experienced thus far and how are you working to move past them?

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## Panel Discussion Question #4

What advice do you have for a hospital that might be struggling with sepsis quality initiatives?

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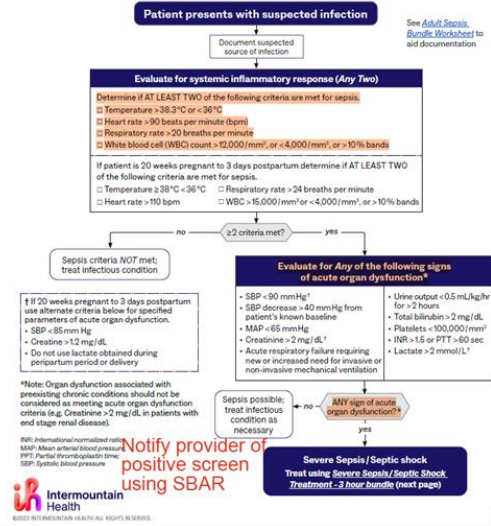
## Tools and Resources

- [Compass HQIC Sepsis Resources Quick-Reference Document](#) (link)
- Intermountain Health's [Care Process Model for Recognition and Management of Adult Severe Sepsis and Septic Shock](#) (link)

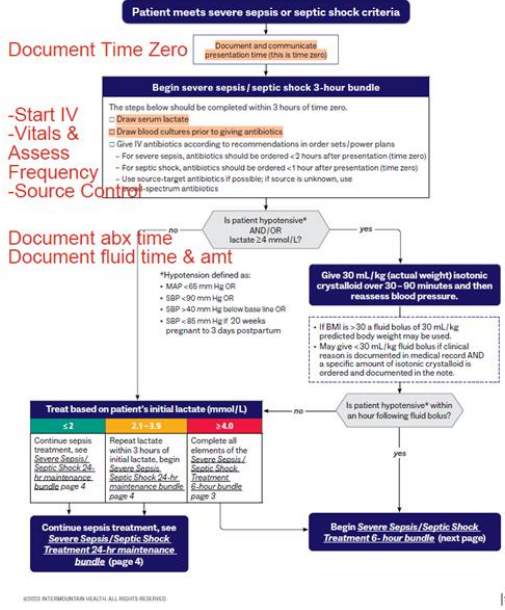
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# Recognition and Management of Adult Severe Sepsis and Septic Shock

## Diagnosis of Severe Sepsis or Septic Shock



## Severe Sepsis / Septic Shock Treatment — 3 hour bundle



# Q&A

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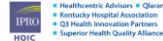


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