


KHC Office Hours - Sepsis Abstraction and Internal Validation - How do you measure up?



KHC Office Hours March 27, 2024
Sepsis Abstraction and Internal Validation:
How do you Measure Up?

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Agenda

- + Welcome and Announcements
- + Sepsis Data/Data Updates
- + Presentation- Sepsis Abstraction
- + Wrap up and next steps

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KHC Compass HQIC Team



Mandy Johnson
Program Director, Programs



Eric Cook-Wiens
Data & Measurement Director

Special Guest



Karen Deatherage MSN, RN



Elin McGuire
Quality Improvement Advisor



Julio Pyle
Quality Improvement Advisor

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Data Updates

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Data Updates

- + Data is due at the end of the month—reflecting the previous month
- + Data Refresh
 - Administrative Claims and NHSN transferred to QHI
 - QHI data are sent to Compass (except for NHSN)
 - Current Data Refresh: 3/8/2024
 - Next Refresh: **On or around April 9, 2024**
- + Reports – Emailed from your QIA (Erin or Julia)
 - Compass HQIC Data Completeness Report
 - KHC Compass Data Snapshot Report
 - Dashboard style report

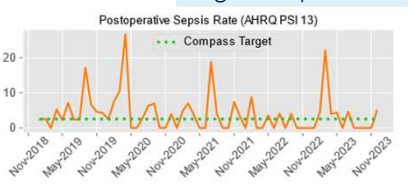
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Post-op Sepsis
Snapshot date: 3/8/2024

Network Improvement
Compass: 3.1% improvement
Kansas: 2.8% improvement
Target: 2.6 per 1,000 discharges



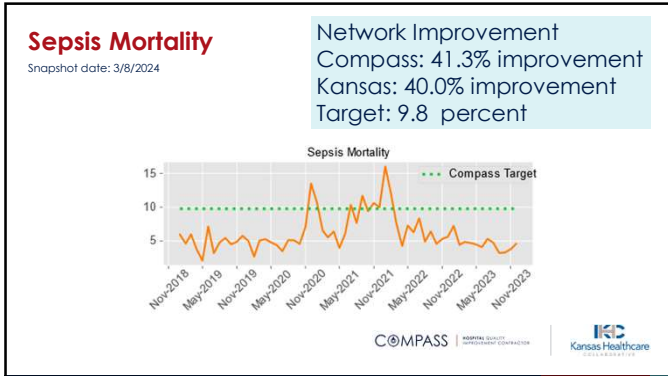
Postoperative Sepsis Rate (AHRQ PSI 13)

--- Compass Target

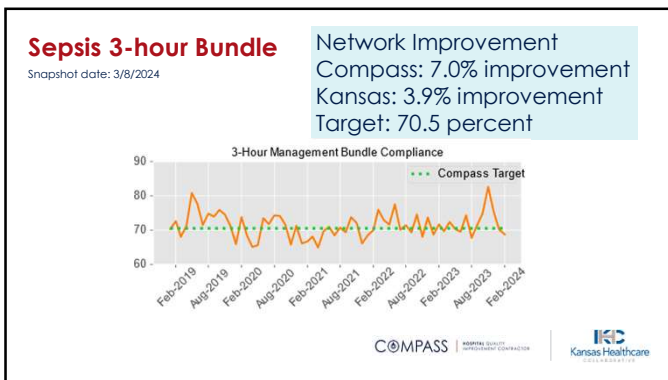
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Presentation

Sepsis Abstraction and Internal Validation:
How Do you Measure Up?

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Solving Sepsis
Clarifying the data confusion

Karen Deatherage, MSN, RN
Nurse Manager Infection Prevention, Sepsis Program Director
UKHS Care Collaborative

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Solving Sepsis Overview

- Diagnosis Codes
- Exclusions
- Sepsis vs Severe Sepsis vs Septic Shock
- Measure Review
 - Data Elements
 - Importance
 - Fluid Administration – Persistent Hypotension
 - Algorithm
 - Common struggles/FAQ

Measure Set: Sepsis
Set Measure ID #: SEP-1
Performance Measure Name: Severe Sepsis and Septic Shock: Management Bundle (Composite Measure)

Description: This measure focuses on adults 18 years and older with a diagnosis of severe sepsis or septic shock. Consistent with Surviving Sepsis Campaign guidelines, it assesses measurement of lactate, obtaining blood cultures, administering broad spectrum antibiotics, fluid resuscitation, vasopressor administration, measurement of urine status and tissue perfusion, and repeat lactate measurement. As reflected in the data elements and their definitions, the first three interventions should occur within three hours of presentation of severe sepsis, while the remaining interventions are expected to occur within six hours of presentation of septic shock.

Rationale: The evidence cited for all components of this measure is directly related to decreases in organ failure, overall reductions in hospital mortality, length of stay, and costs of care.

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Version 5.15


- Appendix A.1
- Hospital Inpatient Specifications Manual for discharges 01/01/24 - 06/30/24 (Updated December 2023)

Table 4.01: Severe Sepsis and Septic Shock (SEP)

ICD-10-CM Code	Code Description
A027	Bacterial sepsis
A257	Empysematous sepsis
A267	Gas gangrene
A400	Sepsis due to streptococcus, group A
A401	Sepsis due to streptococcus, group B
A402	Sepsis due to streptococcus pneumoniae
A408	Other streptococcal sepsis
A409	Streptococcal sepsis, unspecified
A4101	Sepsis due to Methicillin sensitive Staphylococcus aureus
A4102	Sepsis due to Methicillin resistant Staphylococcus aureus
A411	Sepsis due to other specified staphylococci
A412	Sepsis due to unspecified staphylococci
A413	Sepsis due to Haemophilus influenzae
A414	Sepsis due to anaerobes
A4150	Gram-negative sepsis, unspecified
A4151	Sepsis due to Escherichia coli (E. coli)
A4152	Sepsis due to Pseudomonas
A4153	Sepsis due to Serratia
A4159	Sepsis due to Gram-negative bacteria
A4160	Other Gram-negative sepsis
A4181	Sepsis due to Enterococcus
A4189	Other specified sepsis
A419	Sepsis, unspecified organism
A420	Fungal sepsis
A429	Conducticidal sepsis
R65.00	Severe sepsis without septic shock
R65.01	Severe sepsis with septic shock

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Exclusions from Abstraction



Excluded Populations:

- Patients with an ICD-10-CM Principal or Other Diagnosis Code of U07.1 (COVID-19)
- Discharge for Comfort Care or Palliative Care within six hours of presentation of septic shock
- Discharge for Comfort Care or Palliative Care within six hours of presentation of septic shock
- Administrative contribution to care within six hours of presentation of septic shock
- Administrative contribution to care within six hours of presentation of septic shock
- Length of Stay >120 days
- Transfer to from another acute care facility
- Patients enrolled in a clinical trial for sepsis, severe sepsis or septic shock treatment or intervention
- Patients with sepsis who are discharged within six hours of presentation
- Patients with septic shock who are discharged within six hours of presentation

Administrative contraindication to care

- 18 or older
- LOS > 120 days
- Covid-19
- Comfort Care
- Refusal of Care/Transfer
- Patients receiving Abx for more than 24h prior to presentation of Sepsis
- Patients DC w/in 6 hours
- Transfer in from another hospital

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Sepsis > Severe Sepsis > Septic Shock





Table 31. Components and scores of the SIRS, qSOFA, NEWS and HEIMs

SIRS (n=4)	qSOFA (n=3)	NEWS (n=20)	HEIMs (n=20)
SIRS > 2 items (1)	Any abnormality (1)	0-10 (0: 0-4; 1: 5-10)	0-10 (0: 0-4; 1: 5-10)
RR > 20/min or < 8/min or SpO2 < 90% (1)	RR > 22/min (1)	0-2 (0: 0-1; 1: 2-3)	0-2 (0: 0-1; 1: 2-3)
WBC > 12,000/mm3 or < 4,000/mm3 or 10% band form (1)	WBC > 12,000/mm3 or < 4,000/mm3 or 10% band form (1)	0-1 (0: 0; 1: 1)	0-1 (0: 0; 1: 1)
MAP < 65 mmHg (1)	MAP < 65 mmHg (1)	0-1 (0: 0; 1: 1)	0-1 (0: 0; 1: 1)
Urea nitrogen > 20 mg/dl (1)	Urea nitrogen > 20 mg/dl (1)	0-1 (0: 0; 1: 1)	0-1 (0: 0; 1: 1)
Urea nitrogen > 20 mg/dl (1)	Urea nitrogen > 20 mg/dl (1)	0-1 (0: 0; 1: 1)	0-1 (0: 0; 1: 1)
Urea nitrogen > 20 mg/dl (1)	Urea nitrogen > 20 mg/dl (1)	0-1 (0: 0; 1: 1)	0-1 (0: 0; 1: 1)
Urea nitrogen > 20 mg/dl (1)	Urea nitrogen > 20 mg/dl (1)	0-1 (0: 0; 1: 1)	0-1 (0: 0; 1: 1)
Urea nitrogen > 20 mg/dl (1)	Urea nitrogen > 20 mg/dl (1)	0-1 (0: 0; 1: 1)	0-1 (0: 0; 1: 1)

- Screening Tools used
- Determining Organ Dysfunction
- Persistent Hypotension
- Lactic Acidosis

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Determining Severity



HOSPITAL SEPSIS WORKSHEET

SIRS (Systemic Inflammatory Response)	POSSIBLE Source of Infection	Acute (Severe) Organ Dysfunction	Shock (Global Tissue Hypoperfusion)
<ul style="list-style-type: none"> Temp > 100.4 or < 96 or 3 degrees below normal Heart rate > 100/min Respiratory rate > 20/min WBC > 12,000 or < 4,000 OR 10% Bands on differential 	<ul style="list-style-type: none"> Infective Cough Diarrhea Recent Hospitalization Infectious Physical Exam Indwelling Device Immunosuppression Nursing Home Resident Recent Cholecystectomy Recent Surgery/Invasive Procedure Other 	<ul style="list-style-type: none"> Acute Mental Status Changes Signs or equal to following or dropped 40mmHg from baseline Q2 Sat less than 90% Decreased Perfusion (capillary refill > 3 seconds) Mottled skin, cool extremities Creatinine > 2.0 mg/dL from baseline Acute Oliguria: less than 30ml/hr for more than 2 hours (oliguria) Markers of Pulmonary Infiltrates with more or increased O2 needs Platelets less than 100,000/uL INR > 1.5 or aPTT > 140 sec Liver enzymes 2x Normal Bilirubin > 4mg/dL Lactate 2.0 mmol/L or greater 	<ul style="list-style-type: none"> SBP less than 90, MAP < 65, or SBP decrease of greater than 40 from patient baseline, despite aggressive fluid challenge (30ml/kg of crystalloid over 1hr) Vasopressor support is required Lactate > or equal to 4.0 mmol/L
SIRS	Sepsis	Severe Sepsis	Septic Shock
MILD	MODERATE	SEVERE	SEVERE
SIRS + Suspected Source of Infection = SIRS	SIRS + Acute Organ Dysfunction = Severe Sepsis	SIRS + Severe Sepsis = Septic Shock	SIRS + Severe Sepsis + Tissue Hypoperfusion = Septic Shock

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Sepsis Bundles

Required Action	Severe Sepsis		Septic Shock	
	3-Hr Bundle	6-Hr Bundle	3-Hr Bundle	6-Hr Bundle
Initial Lactate Collection	Yes	Must be completed within 3-hrs of Severe Sepsis Presentation	Yes	Yes
Blood Culture Collection	Yes			
Initial Antibiotic Started	Yes			
Repeat Lactate Collection (if Initial Lactate is > 2)	N/A	Yes	Completed within 6-hrs of Severe Sepsis presentation	
30 mL/kg Crystalloid Fluids Started	N/A	N/A	Yes	Completed within 3-hrs of initial hypotension and/or septic shock
Vasopressor Given (if hypotension persists)	N/A	N/A	Completed within 6-hrs of septic shock	Yes
Repeat Volume Status Assessment	N/A	N/A		Yes

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Importance of Data Review

Criteria for Success

Administrative Support
Hospital dedication to improve sepsis care delivery and provision of resources to carry out.

Provider Buy in
ED and attendings must be invested in and dedicated to improving Sepsis Care

Nurse Driven Process
*Nurses recognize potential for work empowerment to reduce Sepsis and Advocate Position to Research Medical Education, training, approval and support it

Sepsis Ownership
Champion/Coordinator
Person who oversees program and serves as resource.

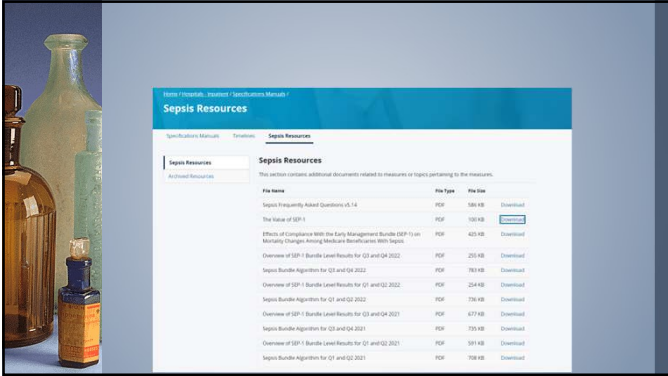
Performance Improvement
Data audit, analysis, feedback. Process for real time correction of deficiencies and plan for improvement.

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Hospital Inpatient Specifications Manuals

[cms.gov](https://www.cms.gov)

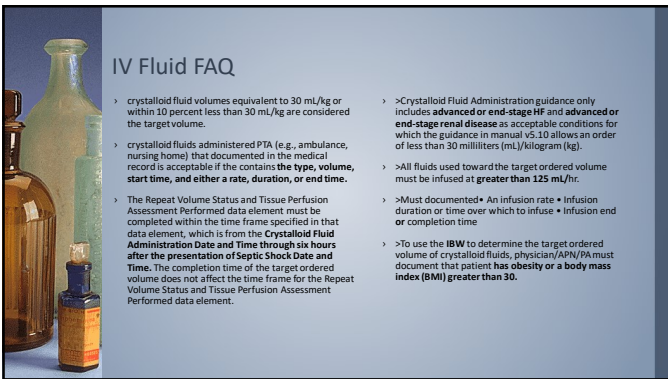
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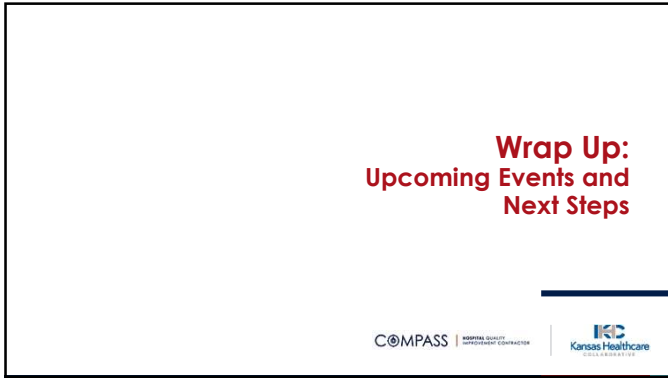
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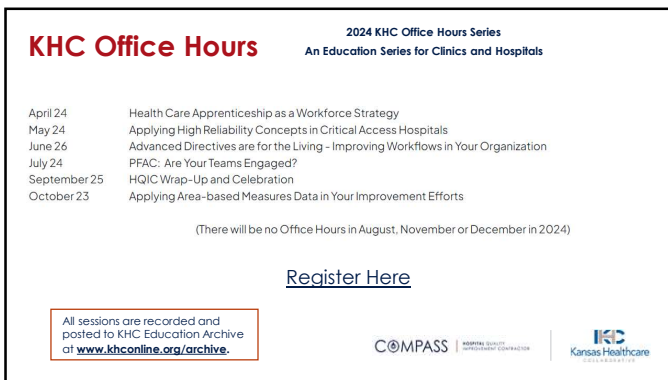
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"Addressing SDOH in Rural Kansas Communities"
 April 30, 2024
 10:30 a.m. to 11:30 a.m.

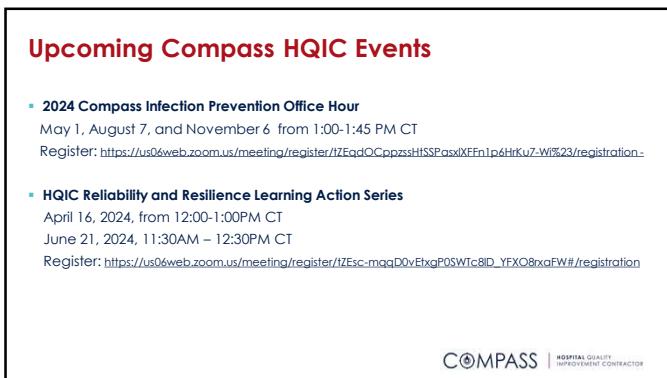
[Register Here](#)

This webinar is presented in collaboration between KHC and KPMC Health Partners as a part of KPMC's 2024 Health Equity Webinar Series.

During this webinar, we will address new regulations concerning the reporting of SDOH data, best practices for collecting SDOH Data, other data sources that may be helpful in analyzing SDOH data or responding to unmet needs, why you should consider collecting data, even in communities with few resources and best practices for addressing SDOH in rural Kansas communities, presented by Kansas health care organizations.

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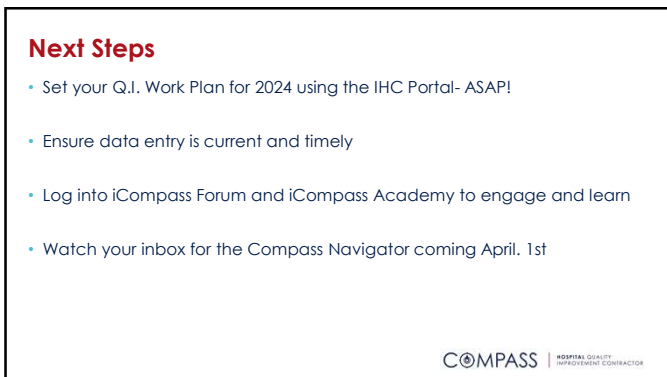


Upcoming Compass HQIC Events

- **2024 Compass Infection Prevention Office Hour**
 May 1, August 7, and November 6 from 1:00-1:45 PM CT
 Register: <https://us06web.zoom.us/j/8123456789>
- **HQIC Reliability and Resilience Learning Action Series**
 April 16, 2024, from 12:00-1:00PM CT
 June 21, 2024, 11:30AM – 12:30PM CT
 Register: <https://us06web.zoom.us/j/9876543210>

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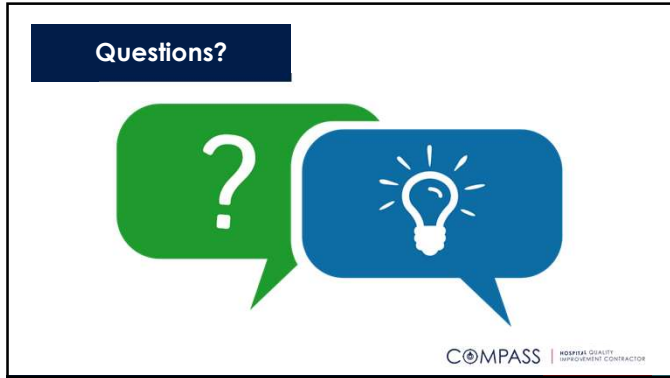


Next Steps

- Set your Q.I. Work Plan for 2024 using the IHC Portal- ASAP!
- Ensure data entry is current and timely
- Log into iCompass Forum and iCompass Academy to engage and learn
- Watch your inbox for the Compass Navigator coming April. 1st

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Have Questions, Need Help?

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→ Find contact info and more at: www.KHOnline.org/staff

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 Liz Warren Quality Improvement Advisor	 Jill Dougherty Director of Education and Communications	 Alicia Gonzalez Health Care Quality Data Analyst	 Erin McGuire Quality Improvement Advisor
 Janet Peltier Quality Improvement Advisor	 Julia Pyle Quality Improvement Advisor	 Patty Thomsen Quality Improvement Advisor	 Rebecca Wagner Quality Improvement Advisor




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