



Kentucky **SEPSIS** Consortium

Kick-off Webinar

October 27, 2020



The Kentucky Hospital Association Sepsis Consortium is working with hospitals statewide to reduce the morbidity and mortality caused by sepsis.

Consortium Steering Committee Regional – Bluegrass District



William Russell Judd,
PharmD,
BCPS Pharmacist
St. Joseph Hospital



Dana Stephens, BS, MT CIC
Laboratorian, IP
St. Joseph Hospital



Louis Claybon, MD
Physician Advisor
St. Elizabeth Healthcare



Clark Wheeler
Director Quality
Management
St. Elizabeth Healthcare



Jeannie Smith
Manager Data Analytics
St. Elizabeth Healthcare

Consortium Steering Committee Regional – Cumberland District



Anthony Stumbo, MD
Appalachian Regional
Health



Rachel Jenkins, MSN, RN
Stroke Program
Coordinator
Harlan ARH Hospital



James J. Hensley, MLS
(ASCP), CIC
System Director
Infection Prevention
Appalachian Regional Healthcare



Kim Elliott, RN
Director of Quality/Sepsis
Coordinator
Paul B Hall Regional
Medical Center

Consortium Steering Committee Regional – Ohio Valley District



To be announced

Consortium Steering Committee Regional – Twin Lakes District



JoAshley Ross, BSN, RN
Sepsis Coordinator
Baptist Health Paducah



Allison Rains, MD
Emergency Department
Baptist Health Paducah



Eric Fisher, MD, CQO
TJ Samson Health



Sundown Clark
Director of System
Practice
TJ Samson Health

Consortium Steering Committee Patient/Family Advocate



Darrell Raikes

Consortium Steering Committee



Eric Fisher, MD, CQO
TJ Samson Health
Kentucky Medical Association



Danette Culver, APRN, ACNS-BC
Clinical Nurse Specialist
Subject Matter Expert

Consortium Steering Committee Kentucky Hospital Association



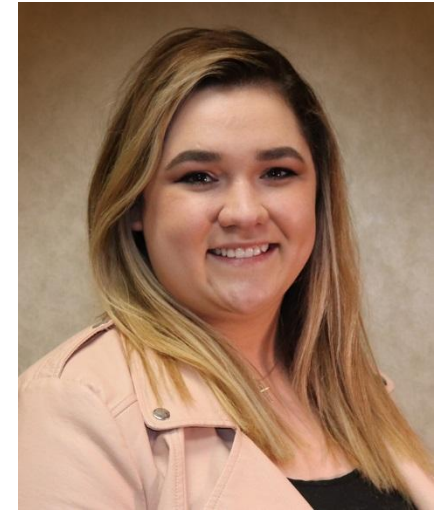
Deb Campbell
Vice President of Quality
and Health Professions



Melanie Moch
Vice President Data Health
Information Services



Dolores Hagan
Quality Improvement
Data Analyst



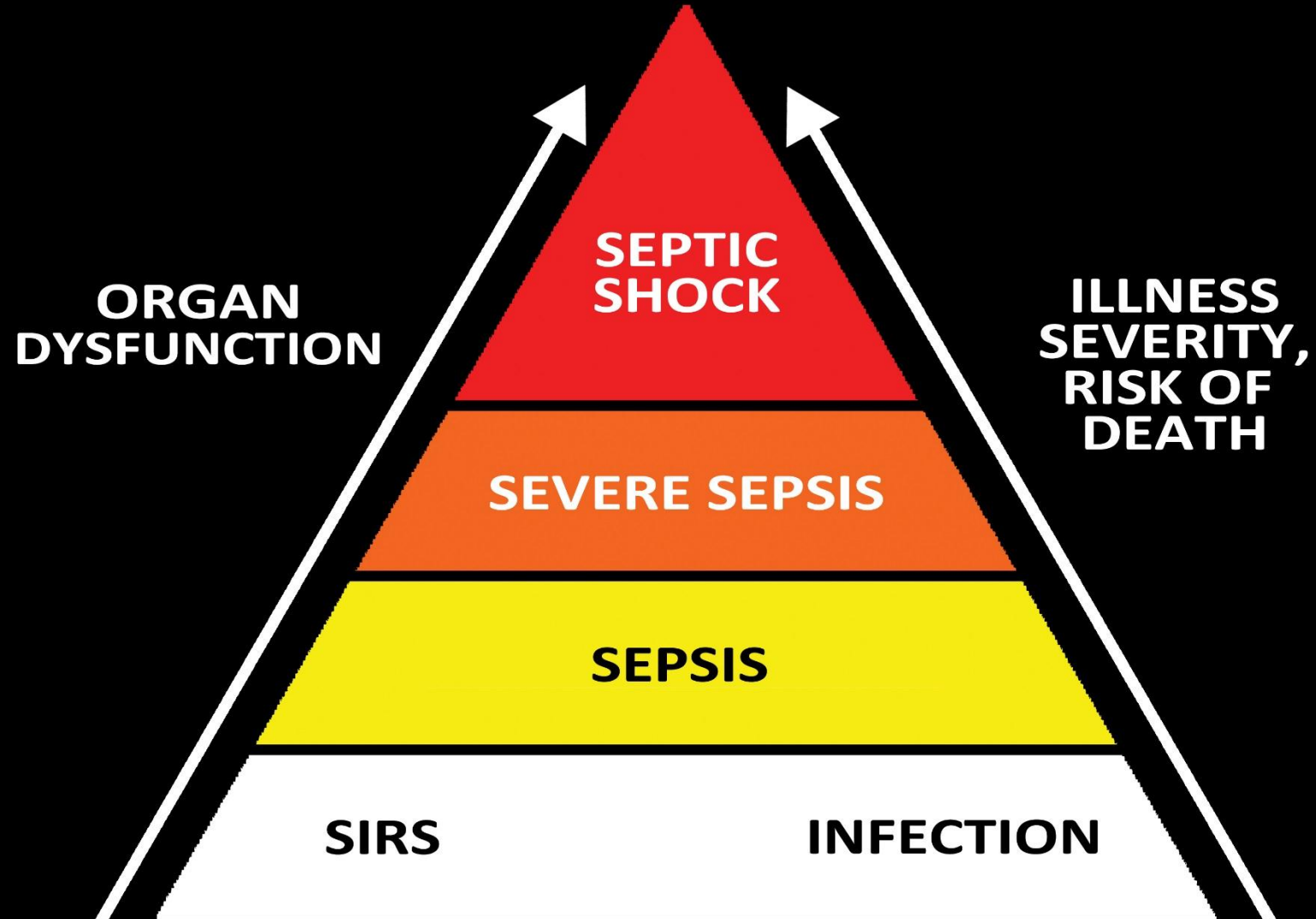
Tammy Wells
Member Services &
Engagement Coordinator

Objectives



- Define importance of sepsis
- Introduce Consortium development
- Review minimum expectations of progression for participating healthcare organizations
- Describe Consortium expectations
- Define next steps

Sepsis: Conceptual Model



Mainstays of Sepsis Care



- Early recognition
- Appropriate antibiotic therapy
- Source control
- Maintenance of hemodynamic stability
- Supportive care of organ dysfunction



Global burden of sepsis

Sepsis worldwide in 2017

48.9 million

cases of sepsis

11 million

sepsis-related deaths

20%

of all global deaths

Rudd KE et al. Global, regional, and national sepsis incidence and mortality, 1990-2017: analysis for the Global Burden of Disease Study. *Lancet*. 2020

Sepsis contributors (2017)

Diarrhoeal diseases:

9.2 million annual cases contributed to sepsis.

Lower respiratory infections:

1.8 million annual cases caused sepsis-related deaths.

Rudd KE et al. Global, regional, and national sepsis incidence and mortality, 1990-2017: analysis for the Global Burden of Disease Study. *Lancet*. 2020

Sepsis survivors

One third

die within one year

One sixth

experience significant morbidity, such as functional limitations

40%

are re-hospitalized within 90 days of discharge

Prescott HC et al. Increased 3-year healthcare use in survivors of severe sepsis. *Am J Respir Crit Care Med*. 2016.

Prescott HC et al. Late mortality after sepsis: propensity matched cohort study. *BMJ*. 2016.

Leachley TJ et al. Long term cognitive impairment and functional disability among survivors of severe sepsis. *JAMA*. 2010.

Prescott HC et al. Readmission diagnosis after hospitalization for severe sepsis and other acute medical conditions. *JAMA*. 2015.

Importance: The Stats



Incidence

- 1.5 million US ED visits/year
- 25% of ICU admissions
- Leading cause of death in non-coronary ICUs

Cost

- \$20.3 billion annually
- >6% of hospital costs

Readmissions

- Strongest association with hospital readmission

Secondary Outcomes

- Post Sepsis Syndrome

Sepsis in Kentucky



2016 Total Sepsis Inpatient Discharges – **28,159** – Total Charges **\$1,299,548,936**

2017 Total Sepsis Inpatient Discharges – **31,950** – Total Charges **\$1,471,677,945**

2018 Total Sepsis Inpatient Discharges – **34,212** – Total Charges **\$1,632,382,667**

2019 Total Sepsis Inpatient Discharges – **35, 218** – Total Charges **\$1,746,296,008**

Data Source: KHA InfoSuite (all payer claims data)

Sepsis in Kentucky



Number of 2019 Inpatient Days for Sepsis Patients

- Average Length of Stay – 6.11 days
 - Average Inpatient Length of Stay – 5.32 days
- Total Number of Inpatient Days – 215,281

Gender of Sepsis Patients in 2019

- Women – 18,705
- Men – 16,513

Race of Sepsis Patients in 2019

- Caucasian – 92%
- African American – 6.7%
- Other Races – 1.1%

Sepsis in Kentucky



2019 Payer Distribution

- Medicare – 22,353 (63.47%)
- Medicaid (including Medicaid Managed Care) – 6,780 (19.25%)
- Commercial – 4,942 (14.03%)
- Other – 605 (1.72%)
- Self Pay/Charity – 538 (1.53%)

Sepsis in Kentucky



2019 Age Range of Sepsis Patients:

- Age 0-5 – 111
- Age 6-17 – 92
- Age 18-24 – 626
- Age 25-34 – 1,696
- Age 35-44 – 2,572
- Age 45 – 54 – 3,942
- Age 55 – 64 – 6,825
- Age 65 – 74 – 8,206
- Age 75 – 84 – 7,027
- Age 85 + - 4,121



SEPSIS IN KENTUCKY

Sepsis is the body's overwhelming and life-threatening response to infection which can lead to tissue damage, organ failure and death. In the U.S. alone, sepsis affects 1.7 million people and takes 270,000 lives every year. However, as many as 80% of sepsis deaths could be prevented with rapid diagnosis and treatment. Costs to treat sepsis is \$20.3 billion annually in the U.S.

Sepsis happens when an infection you already have—in your skin, lungs, urinary tract, or somewhere else—triggers a chain reaction throughout your body. Without timely treatment, sepsis can rapidly lead to tissue damage, organ failure, and death. It's important to look for a combination of the warning signs of sepsis. Spotting these symptoms early could prevent the body from developing septic shock and could save a life. Symptoms of sepsis include fever, difficulty breathing, low blood pressure, fast heart and mental confusion. Other symptoms may include chills, dizziness, low body temperature, shivering, delirium, organ dysfunction and skin discoloration.

SEPSIS IN KENTUCKY HOSPITALS:

— 2016 Total Sepsis Inpatient Discharges = 28,159	Total Charges \$1,299,548,936
— 2017 Total Sepsis Inpatient Discharges = 31,950	Total Charges \$1,471,677,945
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— 2019 Total Sepsis Inpatient Discharges = 35,218	Total Charges \$1,746,296,008

Sepsis Unspecified Organism Primary diagnosis ranks the highest in the number of inpatient discharges and first in total charges in 2019.

NUMBER OF 2019 INPATIENT DAYS FOR SEPSIS PATIENTS:

Average Sepsis Inpatient Length of Stay... 6.11 days
Average Inpatient length of Stay 5.32 days
Total Number of Days 215,281

2019 RACE OF SEPSIS PATIENTS:

Caucasian 92%
African American 6.7%
Other Races 1.1%

Data Source: KHA InfoSuite

2019 PAYER DISTRIBUTION:

Commercial 4,942 (14.03%)
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Medicaid 6,780 (19.25%) (including Medicaid Managed Care)
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2019 GENDER OF SEPSIS PATIENTS:

Women 18,705
Men 16,513

- continued -

2019 AGE RANGE OF SEPSIS PATIENTS:

Age 0-5 111	Age 18-24 626	Age 35-44 2,572	Age 55-64 6,825	Age 75-84 7,027
Age 6-17 92	Age 25-34 1,696	Age 45-54 3,942	Age 65-74 8,206	Age 85 + 4,121

Data Source: KHA InfoSuite

While sepsis predominately affects older adults, 55% age 65+, it also affects younger adults and children. Sepsis can have devastating consequences for children. Each year, approximately 75,000 children develop sepsis in the United States alone. That's more than 200 children per day. More children die of sepsis than pediatric cancer according to Sepsis Alliance.

According to CDC, in 2018 Kentucky ranks as the fourth highest state for Septicemia Mortality at an age adjusted death rate of 16.7 (the number of deaths per 100,000 total population) with a total of 899 deaths.



It is time to raise awareness of sepsis and the urgent need to seek treatment when symptoms are recognized. Early detection is the best hope for survival and limitation of disabilities when sepsis is present.

The Sepsis Kentucky Consortium is working with Kentucky hospitals statewide to reduce the morbidity and mortality caused by sepsis. The consortium will focus on improving sepsis outcomes through collaborative learning to achieve appropriate, timely and reliable implementation of evidence-based interventions.

In early 2020, the Kentucky State Senate unanimously passed Dayo's Resolution, named after a two-time sepsis survivor. This Resolution recognizes and supports Kentucky Hospital Association's creation of a statewide Sepsis Consortium with the goal of reducing the incidence of and harm from sepsis through education and quality improvement for Kentucky hospitals and their communities. The Resolution was passed as a solution to improve patient outcomes and avoid legislative mandates in the hospital. Every hospital CEO is urged to sign the attached Sepsis Consortium Letter of Commitment as we want every hospital to participate in this great program.

For more information about the Sepsis Kentucky Consortium and KHA Data Center, contact:

Kentucky Sepsis Consortium Deborah Campbell, RN-BC, MSN, CPHQ Vice President, Quality and Health Professions Kentucky Hospital Association www.dcampbell@kyha.com	KHA Data Center Melanie Moch, CPC Vice President, Data and Health Information Services Kentucky Hospital Association www.mmoch@kyha.com
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Sepsis Data by District



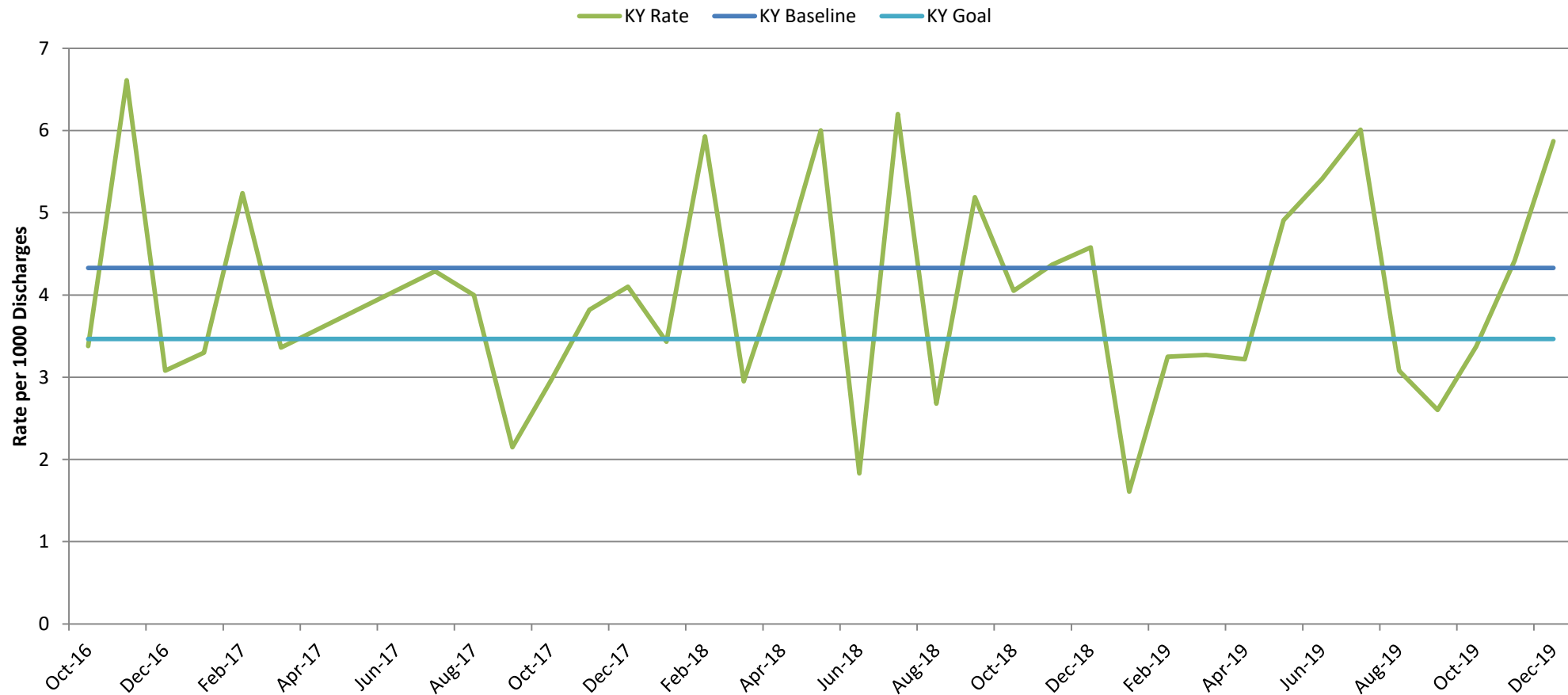
Bluegrass – 10,998 Total Sepsis Discharges in 2019

Cumberland – 6,502 Total Sepsis Discharges in 2019

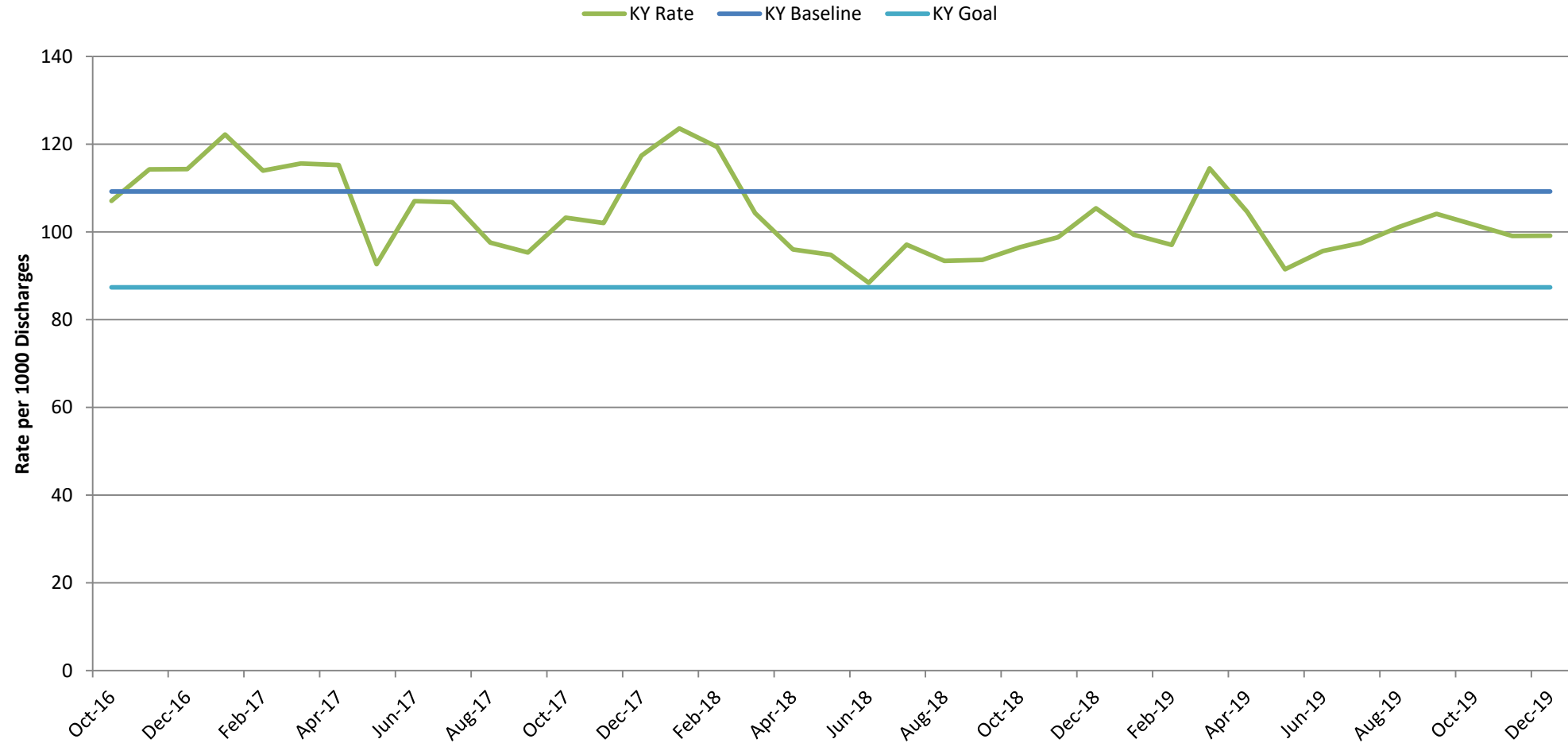
Ohio Valley – 11,039 Total Sepsis Discharges in 2019

Twin Lakes – 4,742 Total Sepsis Discharges in 2019

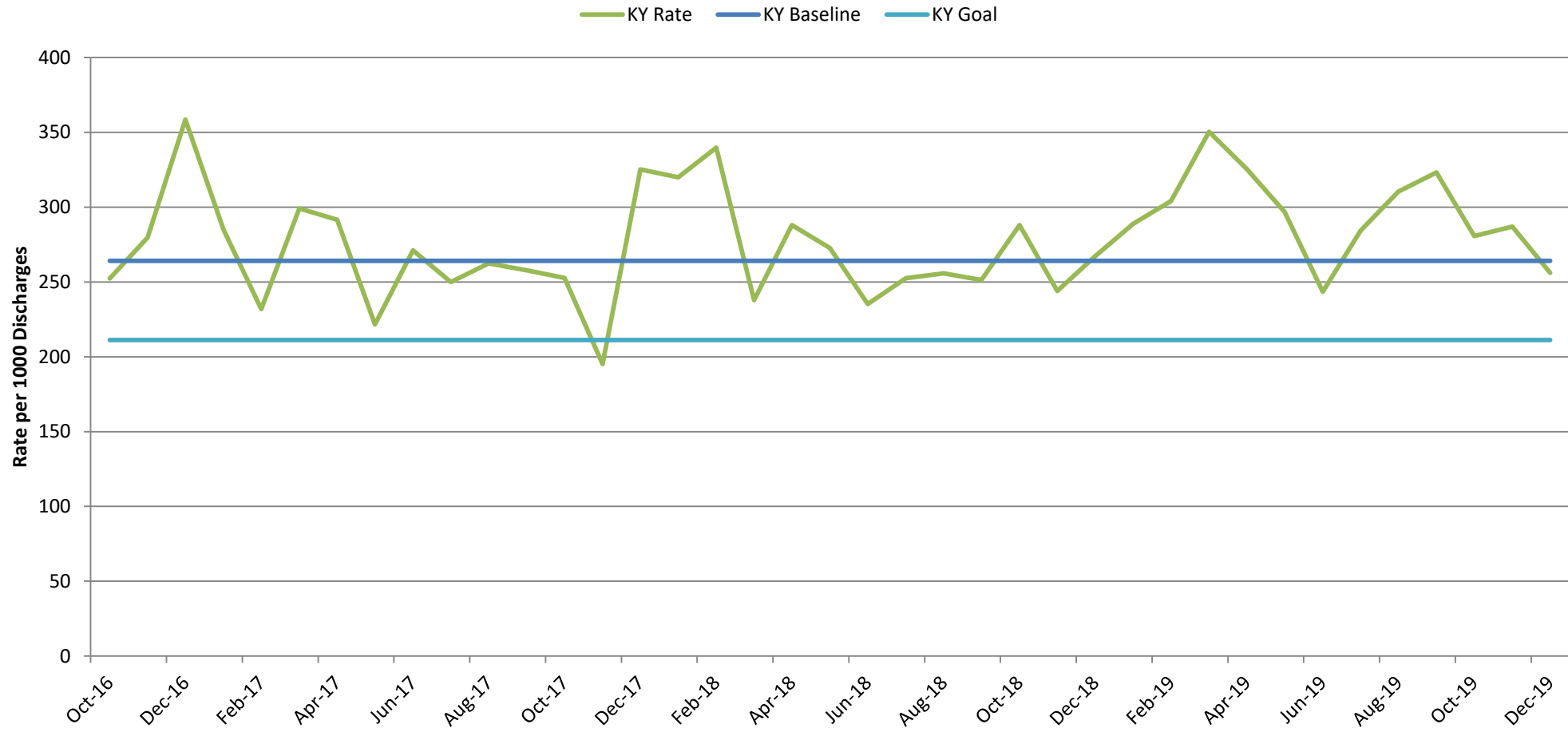
Sepsis Post-Op Rate AHRQ PSI 13



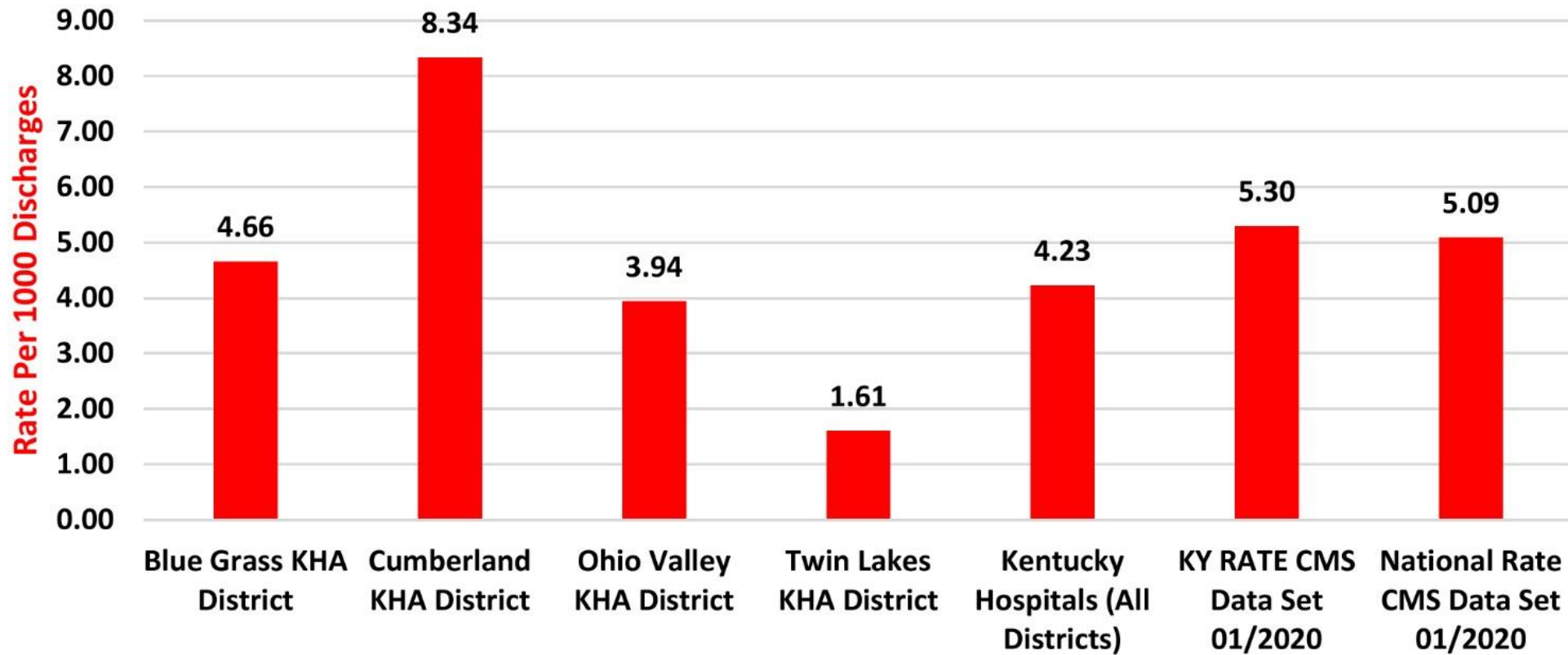
Overall Sepsis Mortality Rate



Hospital Onset Sepsis Mortality Rate

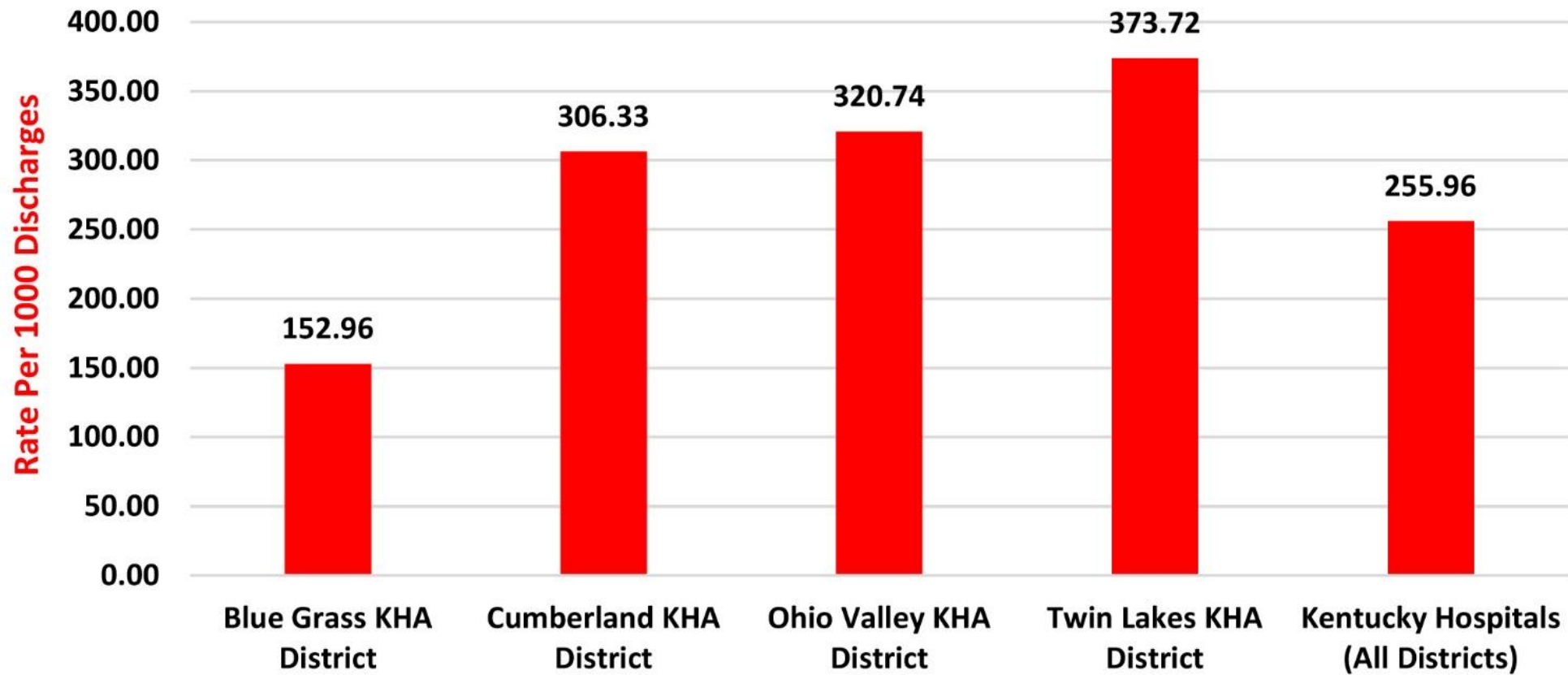


AHRQ PSI 13 Postoperative Sepsis Rate CY 2019 (CMS Period 7/1/2016-6/30/2018)

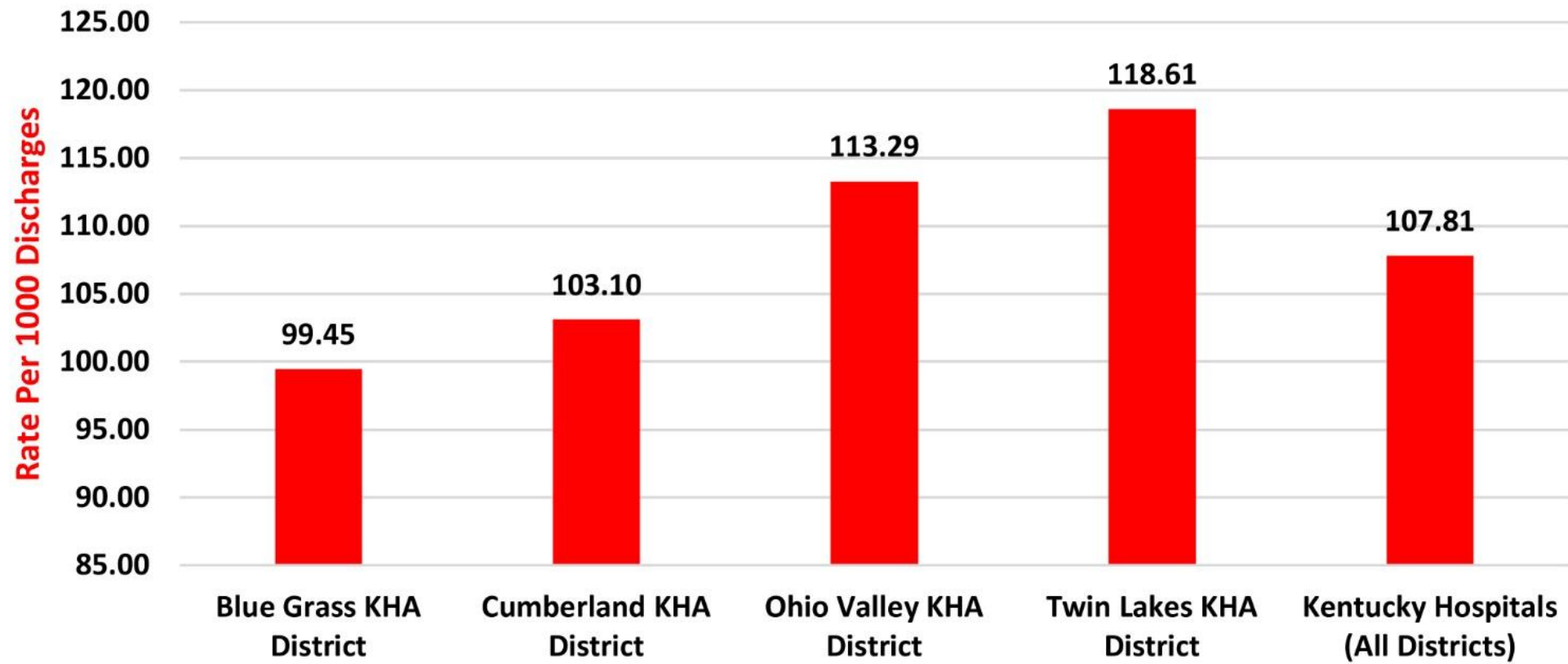


All Payer Data

SEPSIS-1c Hospital-Onset Sepsis Mortality Rate CY 2019



SEPSIS-1d Overall Sepsis Mortality Rate CY 2019



Importance: It's Personal.



Story from our Sepsis Survivor

Consortium Development



Multi-targeted Approach

Adult

- Emergency Department
- Inpatient Populations
- Surgical Services

Community

- Public Awareness
- Emergency Services
- Pre- & Post-Acute Care (Post Sepsis Syndrome, etc)*

Pediatrics

- Emergency Department
- Inpatient
- Surgical Services

OB/Maternal Health

- Antepartum
- Labor & Delivery
- Post Partum

Community Focus will Include:



Communities

- Families
- Individuals
- Events

Emergency Medical Services

- Paramedics & EMTs

Immediate care centers

Urgent care centers

Primary care providers

Specialty clinics

Home Health professionals

Long-term care

- Skilled nursing facilities
- Acute care
- Assisted living

Rehab facilities

Post Acute Participation



Unique settings, but with an equal need to be sepsis aware. We hope for full participation of our post acute partners!

- Initial data measures not applicable, but education is!
- Awareness and recognition of sepsis signs and symptoms – sepsis can happen anywhere!
- Post sepsis syndrome often results in care in these settings
 - LTAC
 - Rehab facilities
 - Behavioral health facilities
 - Home Health

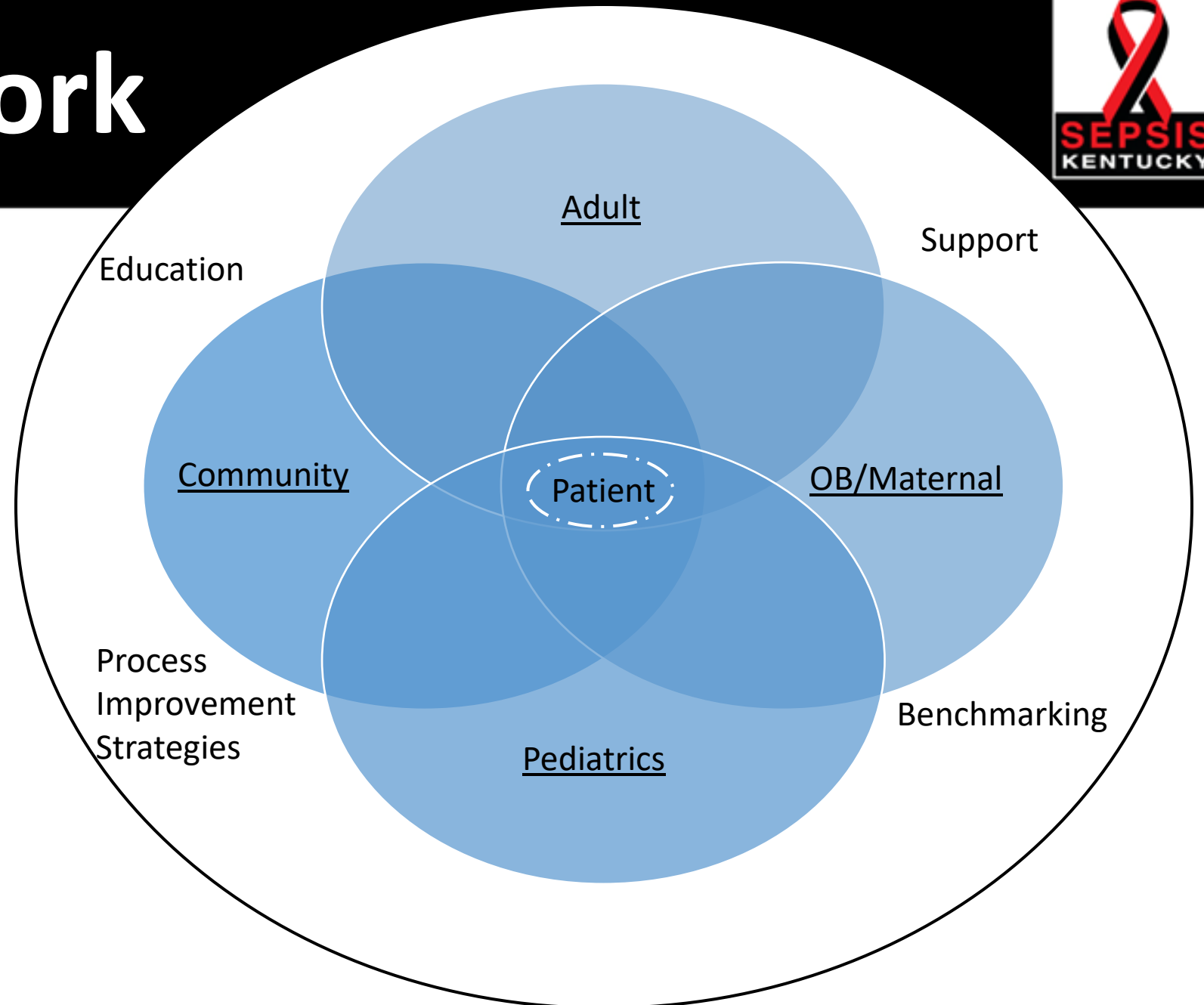
Framework



KY Sepsis Consortium

- Mission
- Vision
- Values

Committee Members



Expectation of Participating Members



- Leadership commitment (as evidenced by the signed letter)
- Provision of data on 3 outcome measures- KQC already collecting and housing these
- Complete “Current State” assessment survey to assess current state

Expectation of Participating Members




- Create or sustain multi-disciplinary sepsis team (no minimum number of people- just need focused individuals)
- Active participation in Sepsis Awareness Month annually
- Structure in place to educate all staff with the appropriate level of sepsis information at orientation and annually
- Collection of 1-3 process measure data by January 2022.

Ribbon and Poster Campaign



**ASK:
Could
it be**



SEPSIS?

Time Matters!

Sepsis is a medical emergency. Dial 911 or go to the nearest emergency room and ask, **"COULD IT BE SEPSIS?"**

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SHIVERING, FEVER, VERY COLD
EXTREME PAIN OR DISCOMFORT
PALE OR DISCOLORED SKIN
SLEEPY, DIFFICULT TO ROUSE, CONFUSED
I FEEL LIKE I MIGHT DIE
SHORT OF BREATH



The Kentucky Hospital Association Sepsis Consortium is working with hospitals statewide to reduce the morbidity and mortality caused by sepsis.



Benefits to Organizations



Assistance and Support through establishing the following:

- Screening tools
- Treatment protocols
- Sepsis-specific care transition plan
- Interprofessional education plan
- Process & outcome metric collection
- Methods to analyze best practice processes
- Coaching

Screening



- Logistics of screen
- Decision support

Suspect Sepsis if...

Confirmed or presumed infection plus the following:

Early Signs (SIRS criteria, any 2 of the 4)

- T >38.3 C (100.9 F) or <36.0 C (96.8 F)
- HR >90bpm
- RR >20 breaths per minutes
- WBC >12,000 cells/mL or <4,000 cells/mL or 10% immature (band) formation

Late Signs (Organ dysfunction criteria any 1 + the above to meet Severe sepsis)

- SBP < 90 or MAP < 65
- Creatinine > 2.0
- Bilirubin > 2 mg/dL
- Platelets < 100,000
- INR > 1.5 or aPTT > 60
- Lactate > 2 mmol/L
- Acute respiratory failure with new need for mechanical ventilation or NIPPV

Example format for various screening tool methods

Arrival Date: _____ Time: _____

Initiate in ED

SIRS <i>Any TWO findings within any 6-hr time period</i>	Sepsis <i>SIRS + Any ONE source of infection</i>	Severe Sepsis <i>Sepsis + Any One Organ Dysfunction</i>	Septic Shock <i>Severe Sepsis + Any ONE Tissue Hypoperfusion</i>
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<p>SIRS (any 2 findings)</p> <p style="text-align: center; font-weight: bold;">TIME = RESULT TIME</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Criteria:</th> <th style="text-align: left;">Time:</th> <th style="text-align: left;">Result:</th> </tr> </thead> <tbody> <tr><td>HR > 90 bpm</td><td>_____</td><td>_____</td></tr> <tr><td>Temp < 96.8 F</td><td>_____</td><td>_____</td></tr> <tr><td>Temp > 100.9 F</td><td>_____</td><td>_____</td></tr> <tr><td>RR > 20/min</td><td>_____</td><td>_____</td></tr> <tr><td>WBC < 4,000</td><td>_____</td><td>_____</td></tr> <tr><td>WBC > 12,000</td><td>_____</td><td>_____</td></tr> <tr><td>Bands > 10%</td><td>_____</td><td>_____</td></tr> <tr><td>Altered Mental Status - Yes / No</td><td>_____</td><td>_____</td></tr> </tbody> </table> <p style="text-align: center; margin-top: 10px;">SIRS Criteria Met? Y / N</p> <p style="text-align: center; margin-top: 5px;">↓</p> <p style="text-align: center;">CHECK FOR SOURCE OF INFECTION</p>	Criteria:	Time:	Result:	HR > 90 bpm	_____	_____	Temp < 96.8 F	_____	_____	Temp > 100.9 F	_____	_____	RR > 20/min	_____	_____	WBC < 4,000	_____	_____	WBC > 12,000	_____	_____	Bands > 10%	_____	_____	Altered Mental Status - Yes / No	_____	_____	<p>DOES NURSE SUSPECT INFECTION? Y / N</p> <p style="text-align: center; font-weight: bold;">↓</p> <p style="text-align: center;">GO DISCUSS WITH PROVIDER NOW</p> <p style="text-align: center; font-weight: bold;">↓</p> <p>DOES PROVIDER SUSPECT INFECTION? Y / N</p> <p><i>(IF YES - MARK BELOW WHAT PROVIDER SUSPECTS)</i></p> <table style="width:100%;"> <tr> <td><input type="checkbox"/> Pneumonia</td> <td><input type="checkbox"/> UTI</td> </tr> <tr> <td><input type="checkbox"/> Abscess</td> <td><input type="checkbox"/> Joint Infection</td> </tr> <tr> <td><input type="checkbox"/> Organ Infection</td> <td><input type="checkbox"/> Recent Procedure</td> </tr> <tr> <td><input type="checkbox"/> Interrupted Skin Integrity / Infection</td> <td><input type="checkbox"/> Intra-Abdominal or Pelvic Source</td> </tr> <tr> <td><input type="checkbox"/> Severe Abdominal Pain</td> <td><input type="checkbox"/> On Antibiotics, not Prophylactic</td> </tr> <tr> <td><input type="checkbox"/> COPD Acute Exacerbation</td> <td><input type="checkbox"/> Provider dx of Sepsis or Infection</td> </tr> <tr> <td colspan="2"><input type="checkbox"/> Other: _____</td> </tr> </table>	<input type="checkbox"/> Pneumonia	<input type="checkbox"/> UTI	<input type="checkbox"/> Abscess	<input type="checkbox"/> Joint Infection	<input type="checkbox"/> Organ Infection	<input type="checkbox"/> Recent Procedure	<input type="checkbox"/> Interrupted Skin Integrity / Infection	<input type="checkbox"/> Intra-Abdominal or Pelvic Source	<input type="checkbox"/> Severe Abdominal Pain	<input type="checkbox"/> On Antibiotics, not Prophylactic	<input type="checkbox"/> COPD Acute Exacerbation	<input type="checkbox"/> Provider dx of Sepsis or Infection	<input type="checkbox"/> Other: _____		<p>Organ Dysfunction (any 1 finding) (list ALL that apply)</p> <p style="text-align: center; font-weight: bold;">TIME = RESULT TIME</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Criteria:</th> <th style="text-align: left;">Time:</th> <th style="text-align: left;">Result:</th> </tr> </thead> <tbody> <tr><td>SBP < 90</td><td>_____</td><td>_____</td></tr> <tr><td>MAP < 65</td><td>_____</td><td>_____</td></tr> <tr><td>Lactic Acid > 2</td><td>_____</td><td>_____</td></tr> <tr><td>Creatinine > 2</td><td>_____</td><td>_____</td></tr> <tr><td>Urine Output < 0.5ml/kg/hr</td><td>_____</td><td>_____</td></tr> <tr><td>Platelets < 100,000</td><td>_____</td><td>_____</td></tr> <tr><td>INR > 1.5</td><td>_____</td><td>_____</td></tr> <tr><td>PTT > 60 sec</td><td>_____</td><td>_____</td></tr> <tr><td>Total Bilirubin > 2</td><td>_____</td><td>_____</td></tr> <tr><td>Mechanical Ventilation: BiPAP/CPAP/Intubated</td><td>_____</td><td>_____</td></tr> </tbody> </table> <p style="text-align: center; margin-top: 10px;">Organ Dysfunction met in ED? Y / N</p> <p style="text-align: center; margin-top: 5px;">↓</p> <p style="text-align: center;">CHECK FOR SIGNS OF SEPTIC SHOCK</p>	Criteria:	Time:	Result:	SBP < 90	_____	_____	MAP < 65	_____	_____	Lactic Acid > 2	_____	_____	Creatinine > 2	_____	_____	Urine Output < 0.5ml/kg/hr	_____	_____	Platelets < 100,000	_____	_____	INR > 1.5	_____	_____	PTT > 60 sec	_____	_____	Total Bilirubin > 2	_____	_____	Mechanical Ventilation: BiPAP/CPAP/Intubated	_____	_____	<p>Tissue Hypoperfusion (any 1 finding)</p> <p><u>Metabolic:</u></p> <p style="text-align: center;">Was INITIAL LACTIC ACID ≥ 4? Y / N</p> <p style="text-align: center; color: red; font-weight: bold;">OR</p> <p><u>Hypotension:</u></p> <p style="text-align: center;">Does the patient have persistent hypotension AFTER the 30 ml/kg fluid bolus? Y / N</p> <p style="text-align: center;"><i>(Persistent hypotension must be assessed in the first hour following the 30 ml/kg fluid bolus end time, regardless of why patient is receiving bolus.)</i></p> <p style="text-align: center; margin-top: 10px;">IF "YES" to either of the above</p> <p style="text-align: center; margin-top: 5px;">↓</p> <p style="text-align: center;">SEPTIC SHOCK MET</p>
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INITIATE SEPSIS PROTOCOL FOR ANY PATIENT THAT MEETS "SEPSIS" CRITERIA = POSITIVE SEPSIS SCREEN

ED TIME ZERO	DATE: _____	TIME: _____	3 HOUR Bundle Target (TIME ZERO + 3 hours) Initiate the following within this target time:	TIME: _____		6 HOUR Bundle Target (TIME ZERO + 6 hours) Initiate the following within this target time:	TIME: _____
(ED TIME ZERO = ED Triage Start Time)			<input type="checkbox"/> INITIAL LACTIC ACID: Collect Time _____, was result > 2? IF YES _____ (MUST collect a repeat lactic acid for any initial LA > 2) <input type="checkbox"/> N/A Result < 2 _____	Collect Repeat Lactic Acid by (time-SEE BELOW) _____ (Initial lactic acid RESULT time + 3 hrs & 15 minutes) (A reflex Lactic Acid Timer will re-order automatically in EPIC-SEE BACK)			
(OTHER AREAS TIME ZERO = Time of 1st Positive Screen)				<input type="checkbox"/> BLOOD CULTURE(S): Collect Time (1st) _____ Collect Time (2nd) _____	<input type="checkbox"/> REPEAT LACTIC ACID: actual Collect Time _____		
FAX THIS FORM TO QUALITY PRIOR TO PATIENT LEAVING ED: FAX # (270) 575-8486			<input type="checkbox"/> Broad Spectrum ANTIBIOTICS: SEE LIST ON BACK	Start Time	Stop Time	<input type="checkbox"/> ASSESS FOR PERSISTENT HYPOTENSION: Does patient have persistent hypotension despite 30 ml/kg fluid bolus? IF YES	
QUESTIONS? Deborah Simmons = 2825 Tammy Brown = 8366			<input type="checkbox"/> 30 ml/kg Fluid Bolus: Start Time _____ Stop Time _____ The fluid bolus MUST be given in either of the following situations: (1) Initial Hypotension (TWO SBP < 90 OR MAP < 65 within 3 hrs of each other) (2) Initial Lactic Acid ≥ 4 Total Fluid Bolus (30 ml x _____ kg) = Total Target Volume to infuse = _____ <input type="checkbox"/> IBW used to figure total target volume (only if BMI > 30)	<input type="checkbox"/> VASOPRESSOR: (IF hypotension persists despite fluid bolus - notify Provider) <input type="checkbox"/> N/A - No persistent hypotension identified Name _____ Start Time _____		Make sure all uncompleted items are communicated during handoff.	
NOT PART OF THE MEDICAL RECORD SEND ORIGINAL COPY WITH PATIENT AND THEN TO QUALITY DEPARTMENT UPON PATIENT DISCHARGE			<input type="checkbox"/> N/A - Fluid Bolus Not Required - DOES NOT meet above criteria	ED Nurse: _____ <input type="checkbox"/> Faxed Receiving Nurse: _____ Unit: _____			





ED NOTES:

- Make sure a set of VS are charted BEFORE completing ED Triage Sepsis Screen
- Make sure BLOOD CULTURE collect time is charted BEFORE antibiotic is started in EPIC - check documentation
- Chart IV fluid bolus STOP TIME!!!!
- Verify total IV fluid bolus volume needed (Target Volume to infuse based off 30 ml/kg) (ex: includes previous bolus volume, IVF from EMS, etc.)
- Chart a minimum of 2 BP's within 1 hour of FLUID BOLUS END TIME!!! - assess for persistent hypotension
- Make sure to communicate in HANDOFF communication any items that still need to be completed (i.e., fluid bolus, repeat LA due to be drawn time, assessing for persistent hypotension, etc.)

WHEN GETTING REPORT FROM ED:

- ASK - When is repeat LA due to be drawn? (You will not see the order for the repeat LA until it is due to be drawn/if it is time to be drawn and STAT repeat LA order has not populated or Lab has not come to collect - CALL LAB! Lab may not be seeing order if it says "unit" collect.)
- ASK - What is total target volume of fluid bolus? AND What amount is left to be infused? - DOCUMENT FLUID BOLUS STOP TIMES!!!!
- Chart a minimum of 2 BP's within 1 hour of FLUID BOLUS END TIME!!! - assess for persistent hypotension
- Persistent hypotension MUST be assessed on patients receiving fluid bolus, even if the bolus is being given due to lactic acid ≥ 4 and not hypotension
- Complete the Code Sepsis Worksheet for the items receiving nurse responsible for completing (ex: repeat LA collect time, fluid bolus end time, vassopressors, etc.)
- Place completed Code Sepsis Worksheet in basket for CMS checklists upon patient discharge

Antibiotic Selection for Sepsis

Monotherapy – Choose **ONE**

Antibiotic	Infusion Time
Ceftriaxone (Rocephin)	30 min
Piperacillin/Tazobactam (Zosyn)	60 min
Levofloxacin (Levaquin)	250 mg 60 min 500 mg 60 min 750 mg 90 min
Cefepime (Maxipime)	30 – 60 min
Meropenem (Merrem)	30 min
Ceftazidime (Fortaz)	30 min
Ampicillin/Sulbactam (Unasyn)	30 - 60 min
Ertapenem (Invanz)	30 min
Ceftaroline fasamil (Teflaro)	60 min

OR

Combination Therapy – Choose **TWO** (1 from each chart)

Antibiotic CMS "Column A"	Infusion Time
Aztreonam (Azactam)	30 min
Gentamicin (Garamycin)	Dose dependent
Tobramycin (Nebcin)	Dose dependent
Amikacin	Dose dependent

Choose 1



Choose 1

Antibiotic CMS "Column B"	Infusion Time
Cefazolin (Ancef)	30 min
Clindamycin (Cleocin)	30 min
Azithromycin (Zithromax)	60 min
Ampicillin	30 - 60 min
Penicillin G	30 min
Cefoxitin (Mefoxin)	30 min
Vancomycin (Vancocin)	Dose dependent
Linezolid (Zyvox)*	60 min
Nafcillin	30 – 60 min
Daptomycin (Cubicin)*	30 min

* Restricted antibiotic



Antibiotic should start within 1 hour of Sepsis presentation.

- Always administer monotherapy antibiotic first
- For combination therapy administer antibiotic with the shortest infusion time first

Handoff

- Established or in-progress tools
- Consistent use

SEPSIS TREATMENT HANDOFF TOOL TIME IS TISSUE!

HANDOFF TOOL USE CRITERIA

- ER: sepsis diagnosis OR **positive** sepsis screen
- Inpatient: sepsis diagnosis, **positive** sepsis screen OR lactate >2

LOCATION OF HANDOFF TOOL INITIATION: _____

3HR BUNDLE CHECKLIST

Triage/Sepsis Screen Positive Time:	_____
3 Hour Target Time:	_____
Repeat Severe Sepsis screen after labs completed:	_____
Initial Lactate (then repeated if initial >2):	Time Drawn:_____ Result:_____
Lactate #2:	Time Drawn:_____ Result:_____
Blood Cultures Drawn? (Prior to antibiotic administration.)	<input type="checkbox"/> Set 1 <input type="checkbox"/> Set 2
Antibiotics Started?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Lactate ≥ 4 or BP <90 or MAP <65, Initiate Fluid Resuscitation	
Patient's Actual Body Weight: _____ KG	IV Fluid Goal Amount (30ml/kg): _____ ML
IV Fluids (must be completed within 3 hr target time)	Start Time: _____
Total Amount of IV Fluids Administered at Time of Handoff (Should = IV Fluid Goal Amount 30ML/KG)	_____ ML
Vital: B/P q30min until SBP >90 or MAP >65	<input type="checkbox"/> Yes
Re-Evaluation by Provider After IV Fluid Resuscitation	<input type="checkbox"/> Yes <input type="checkbox"/> No

Example formats for various handoff methods





Treatment Protocols

Based on Surviving Sepsis Campaign Guidelines

- Goal: 70% protocol compliance

Recommendations

- Nursing driven protocols
- Provider driven protocols

**Hospital Compare – SEP1 Bundle benchmarks
Publication (retrieved 9 16 2020)
Q12018-Q32019 National benchmark 59%
Q12018-Q32019 KY State benchmark 57%*

SEPSIS

BUNDLES

TO BE COMPLETED WITHIN 3 HOURS OF PRESENTATION:

1. Measure a 'Lactic Acid Level with Reflex if Indicated'.
2. Obtain blood cultures prior to antibiotic administration.
3. Administer broad-spectrum antibiotics within 1 hour of triage (or sepsis onset).
4. If hypotension is present or if the initial lactate is ≥ 4 mmol/L, administer a 'Sepsis 30 mL/kg Normal Saline Bolus'.

TO BE COMPLETED WITHIN 6 HOURS OF PRESENTATION:

5. Re-measure lactate if the initial level was >2 mmol/L.
6. Initiate vasopressors for hypotension that does not respond to fluid resuscitation.
7. For septic shock or lactate ≥ 4 mmol/L, the provider must attest that a repeat assessment was performed.

Multidimensional Ongoing Sepsis Education



Education Recipients

- Interprofessional
- Hospital-wide

Modes of Education examples

- Orientation
- Service-line specific
- Beyond orientation
- Simulation



What you can expect from Consortium Leadership



- Repository for sepsis-related data
- Standardized educational opportunities
- Individualized educational opportunities
- Quality improvement implementation assistance
- Sustained Collaboration

What you can expect from Consortium Leadership:

Data



- Provide claims data for outcome measures
- Create a menu of process metrics
- Assist with selection of process measures
- Coach on best practice around collection, sharing process measure data
- Provide comparison reports

What you can expect from Consortium Leadership: Best Practice Webinars



Screening Processes

Quality/Process Improvement Support

Treatment Processes

- Amid a rapidly changing healthcare landscape

Documentation Support

- Clinically treating the patient while meeting the CMS SEP1 Standard

What you can expect from Consortium Leadership: Individualized Education



Experts in a variety of areas:

- Educational development
- Quality improvement
- Coding and DRGs
- Public speaking

Experts in a variety of roles:

- Pharmacy
- Laboratory
- Infection Prevention
- Providers
- Nursing
- Patient Advocacy
- Quality

What you can expect from Consortium Leadership: Quality Improvement Implementation Assistance



- Mentoring and guidance on tools and frameworks to guide quality improvement work
- SMART goal development
- Support through the change process
- Reliable implementation support
- Education on strategies to assure sustainability

What you can expect from Consortium Leadership: Sustained Collaboration



- Support
- Coaching
- Mentoring
- Resource Access

Participating Consortium Members



- ARH Our Lady of the Way
- Baptist Health Corbin
- Baptist Health Hardin (formerly known as Hardin Memorial Hospital)
- Baptist Health LaGrange
- Baptist Health Lexington
- Baptist Health Louisville
- Baptist Health Madisonville
- Baptist Health Paducah
- Baptist Health Richmond
- Barbourville ARH Hospital
- Breckenridge Memorial Hospital
- Caldwell Medical Center
- Carroll County Memorial Hospital
- Casey County Hospital
- Continuing Care Hospital
- Crittenden Community Hospital
- Deaconess Henderson Hospital
- Deaconess Union County Hospital
- Ephraim McDowell Fort Logan Hospital
- Ephraim McDowell Regional Medical Center
- Flaget Memorial Hospital

- Frankfort Regional Medical Center
- Harlan ARH Hospital
- Harrison Memorial Hospital
- Hazard ARH Regional Medical Center
- Highlands ARH Regional Medical Center
- Jane Todd Crawford Hospital
- Kentucky River Medical Center
- King's Daughters Medical Center
- Louisville Veterans Affairs
- Marshall County Hospital
- Mary Breckinridge ARH Hospital
- McDowell ARH Hospital
- Mercy Health - Marcum and Wallace
- Middlesboro ARH Hospital
- Morgan County ARH Hospital
- Murray-Calloway County Hospital
- Ohio County Hospital
- Owensboro Health Muhlenberg Community Hospital
- Owensboro Health Regional Hospital
- Paul B. Hall Regional Medical Center
- Pikeville Medical Center
- Pineville Community Health Center

- Rockcastle Regional Hospital & Respiratory Center
- St. Elizabeth Health - Edgewood
- St. Elizabeth Health - Florence
- St. Elizabeth Health - Ft. Thomas
- St. Elizabeth Health - Grant
- St. Joseph Hospital
- St. Joseph Hospital Berea
- St. Joseph Hospital London
- Taylor Regional Hospital
- Three Rivers Medical Center
- TJ Samson Community
- Trigg County Hospital
- Tug Valley ARH Hospital
- Twin Lakes Regional Medical Center
- UofL Health - Jewish Hospital
- UofL Health – UofL Hospital Louisville
- UofL Health - Frazier Rehab Institute
- UofL Health - Mary and Elizabeth Hospital
- UofL Health - Shelbyville Hospital
- Wayne County Hospital
- Whitesburg ARH Hospital

Checklist for Participants



- ✓ Leadership commitment letter
- ✓ 3 outcome measures- KQC already collecting and housing these
- ✓ Current State Assessment Survey
- ✓ Form a sepsis team
- ✓ Participation in Sepsis Awareness Month annually
- ✓ Educate staff at orientation and annually
- ✓ Collect 1-3 process measure data points by January 2022.

Next Steps



If you haven't yet joined the Consortium, reach out to us!

- For questions, contact **Deb Campbell** at dcampbell@kyha.com
502-992-4383
- Letter of Commitment available in media library for download

Next webinar

- Tuesday, December 8, 2020 1-2pm ET
- Getting Started



Questions?