

How to Use the Chat Box Feature

To send a Chat Message:

- Open the Chat Panel



- **Scroll All the Way Down**
- **Select “Everyone”**
 - **Do not select**
“All Attendees”
- **Type message** in Chat Text Box, press **Enter** on your keyboard



Enter in Chat:

- **Name**
- **Role**
- **Organization**
- **State**

IPRO HQIC

Sepsis: Lessons Learned

Part Two

A Two-Part Series:

September 19, 2023

October 17, 2023

2-3 p.m. EST

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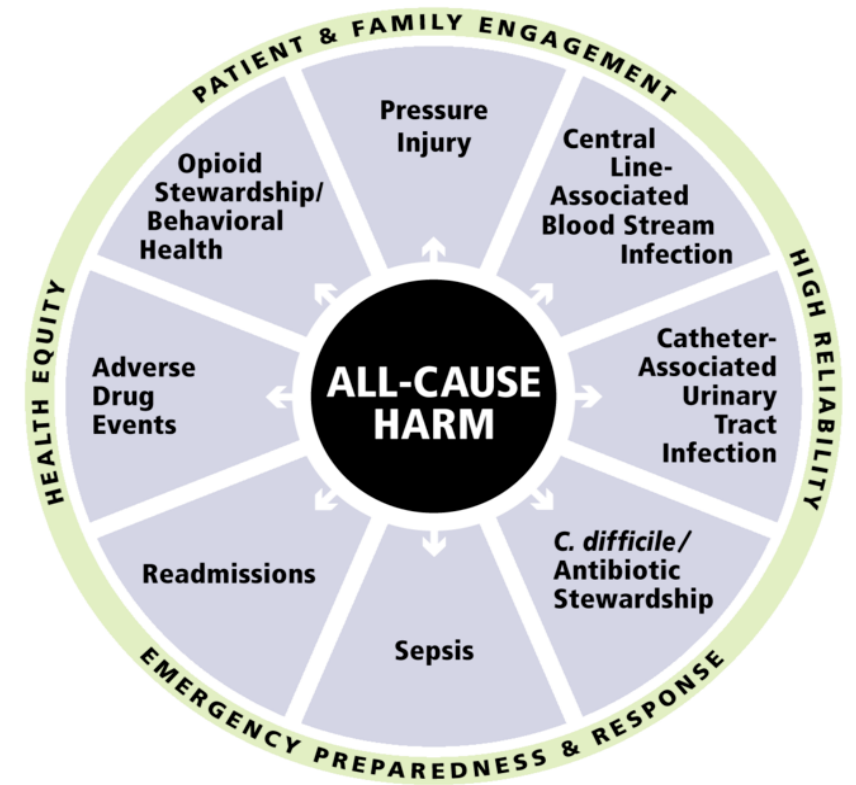
What are HQICs?

Data-driven. It's the data that help hospitals measure progress toward quality improvement (QI) gains. Hundreds of thousands of patients and families benefit from CMS-supported QI projects that make today's hospital stays safer and improve the quality of hospital care.

Dynamic and collaborative. HQICs partner with small, rural and critical access hospitals and facilities that care for vulnerable and underserved patients. Their quality improvement consulting and expertise – offered at no cost to the hospitals – help hospital leaders and clinical teams develop local QI projects designed to:

- Reduce opioid misuse and adverse drug events.
- Increase patient safety with a focus on preventing hospital-acquired infections.
- Refine care coordination processes to reduce unplanned admissions.

HQICs also share their QI resources to assist hospitals with pandemic responses and emergency preparedness.



The federally funded Medicare Hospital Quality Improvement Contractor (HQIC) in 12 states

IPRO (joined by)

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- American Institutes for Research (AIR)
- QSource

States

- MA
- NE
- NY
- OH
- KY
- NJ
- ME
- PA
- DE
- MD
- MI
- MN
- WI



Sepsis – Costs of NOT Coordinating Hospital-Wide Care

Increasing incidence



Over 1 million annual admissions for severe sepsis¹

Significant cost burden



Annual acute care costs for sepsis exceeds \$24 billion²

Risk of mortality



40 – 60% mortality rate for severe sepsis and septic shock³

Risk of readmission



Nearly one half are readmitted within six months²

CMS Standardized Cost per Event

How much can your hospital realize in savings?

- Sepsis: \$57,722
- Central line-associated bloodstream infections: \$55,132
- *C. difficile* infections: \$19,780
- Pressure ulcers: \$16,624
- All cause readmissions: \$16,402
- Catheter-associated urinary tract infections: \$15,807
- Methicillin-resistant *staphylococcus aureus*: \$7,683
- Adverse drug events: \$6,585

Source: CMS 2022 HQIC Cost Savings File

Premier 2019



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2023 CDC Hospital Sepsis Program Core Elements

Hospital Sepsis Program Core Elements



Hospital Leadership Commitment

Dedicating the necessary human, financial, and information technology resources.



Accountability

Appointing a leader or co-leaders responsible for program goals and outcomes.



Multi-Professional Expertise

Engaging key partners throughout the hospital and healthcare system.



Action

Implementing structures and processes to improve the identification of, management of, and recovery from sepsis.



Tracking

Measuring sepsis epidemiology, management, and outcomes to assess the impact of sepsis initiatives and progress toward program goals.



Reporting

Providing information on sepsis management and outcomes to relevant partners.



Education

Providing sepsis education to healthcare professionals, patients, and family/caregivers.

Who is the Hospital Sepsis Program Core Elements guidance for?

Clinicians, hospitals, and health systems leading efforts to improve the hospital management and outcomes of sepsis.

Effective leadership is required to engage the multidisciplinary expertise required to support the care of patients with sepsis, as detailed later in this document.



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I PRO HQIC Gap Assessment Opportunities for Improvement



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Standards for Hospital Sepsis Care	% Not Fully Implemented IPRO HQIC Gap Assessment
Consistently use a “time zero” method for tracking the timing of interventions	✓ 63%
Rapid Response Team (RRT) or sepsis alert process is in place for new sepsis identification	✓ 72%
Process in place to document interval from time of positive sepsis screening to time of antibiotic administration	✓ 72%
Utilization of real-time method for tracking sepsis patients	✓ 78%
Process in place to monitor and identify concerns and barriers to bundle implementation	✓ 62%
Designated Sepsis Lead/Coordinator regularly rounds in clinical areas	✓ 84%
Data are stratified to identify disparities to facilitate improvements in health equity	✓ 91%
Explicit sepsis communication handoffs are utilized between health care staff for diagnosis and treatment plan	✓ 82%
Sepsis data are shared with patients/families	✓ 81%
Mandatory annual training on sepsis early recognition for providers	✓ 75%
Initial and ongoing sepsis education for providers	✓ 65%
Patient and family education process defined and tools developed to assist with implementation	✓ 78%



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Today's Speaker

Kattia Corrales-Yauckoes, MS, RD, LDN

- Project Manager at the Center for Quality and Safety within UMass Memorial Health.
- Sepsis Coordinator for the UMass Memorial Medical Center, facilitating the work of a multidisciplinary Sepsis Committee for the development of interventions that advance the hospital's sepsis care.
- Manages projects towards regulatory compliance in ambulatory clinics and medication management.



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Sepsis: A Year in Review

Kattia Corrales-Yauckoes, MS, RD, LDN

Sepsis Project Manager - UMass Memorial Medical Center



ABOUT US



A YEAR IN
REVIEW



BEST PRACTICES



CHALLENGES AND
OPPORTUNITIES

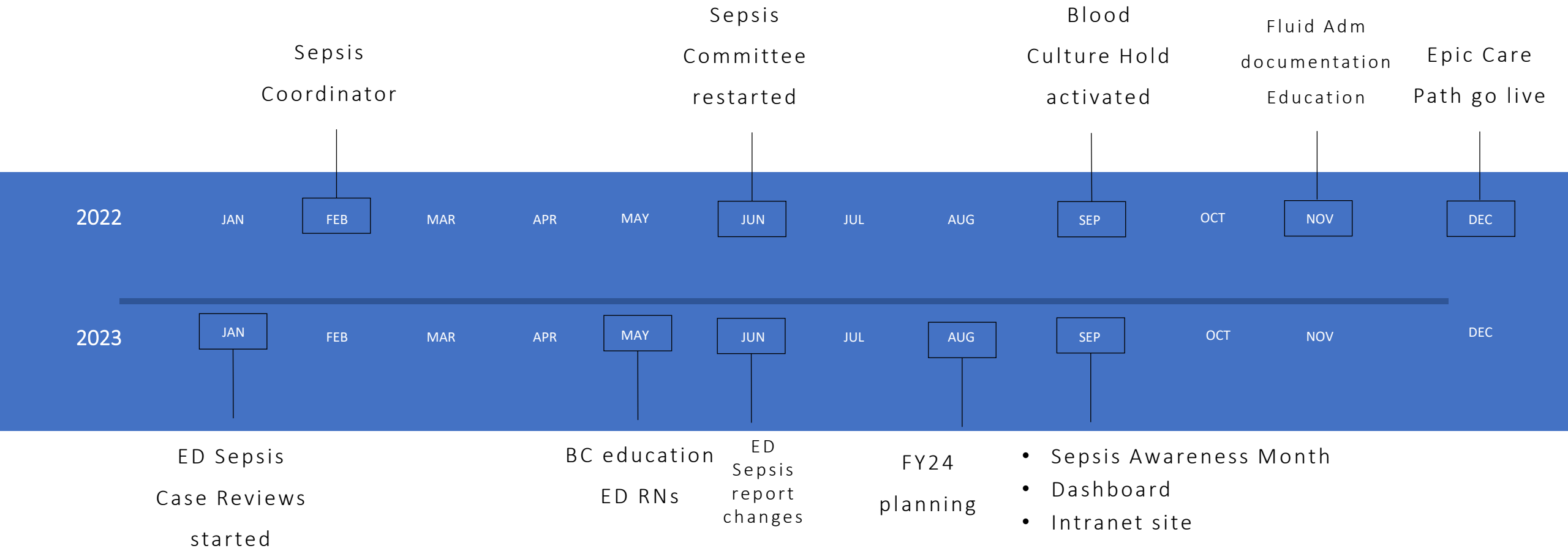


NEXT STEPS

ABOUT US

- UMass Memorial Health is the largest health care system in Central Massachusetts.
 - UMass Memorial Medical Center
 - UMass Memorial Health - HealthAlliance-Clinton Hospital
 - UMass Memorial Health - Marlborough Hospital
 - UMass Memorial Health - Harrington Hospital
 - UMass Memorial Health - Community Healthlink
- Medical Center is the trusted academic medical center of Central Massachusetts and the clinical partner of UMass Medical School.
 - 733-bed (plus 69 bassinets)
 - University, Memorial, and Hahnemann campuses

A YEAR IN REVIEW



Best Practices and Opportunities

BEST PRACTICES: SECURE ORGANIZATIONAL COMMITMENT

Successful Strategies

Establish Sepsis Coordinator Position

Form a defined SERP Project Team with medicine, nursing, ancillary service, analytics, and pharmacy members

Designate a SERP Executive Sponsor(s), Physician Program Leader (Champion), with wide base of clinical engagement

Opportunities

Engage front-line staff in developing ideas to improve care²



Status Report

CQO, ACQO, Nursing Quality
(monthly)

Sepsis Physician Lead

(biweekly to monthly)

Quality and Safety Leader

(monthly, as needed)

Supporting Structure

Clinical Performance Council

Interdisciplinary clinical performance improvement, patient safety and patient satisfaction
(monthly)

Safety Steering Committee

Subcommittee of CPC providing oversight of quality and safety performance (monthly)

Sepsis Committee

Multidisciplinary (monthly)

Reporting Structure

BEST PRACTICES:

CREATE EFFECTIVE PROCESSES FOR SCREENING AND EARLY IDENTIFICATION

Successful Strategies

Implement a Sepsis Screening Protocol¹

- Epic Care Path
- Epic Best Practice Alerts (BPA)
- Blood Culture Hold

Opportunities

Include sepsis assessment in all nursing hand off communications

- Power Hour - screen for sepsis at least once every shift (SIRS)

Treat your sepsis patients as being the most high-risk patients you've been assigned²

- Initiate Code Sepsis (alerts all caregivers)⁴
- Implement a Rapid Response Team

BEST PRACTICES:

CREATE EFFECTIVE PROCESSES FOR PROMPT TREATMENT

Successful Strategies

Develop 1-hr, 3-hr and/or 6-hr order sets for positive screens (intermediate)

Display a comprehensive view of all sepsis patients and clearly indicate the current status in the sepsis bundle³

Opportunities

Give antibiotics within 1 hour of sepsis diagnosis⁵

Implement nurse-driven protocols to initiate timely treatment²

Harmonize orders started in the ED to continue in the ICU^{2,4}

BEST PRACTICES:

MEASURE PERFORMANCE AND CONTINUOUSLY IMPROVE

Successful Strategies

Regularly track compliance with bundles and assess the reasons for compliance gaps²

- CMS SEP-1 data
- ED Sepsis report
- Dashboard

Opportunities

Develop a tracking tool (PDF) and monitor time from presentation to screening performed and documented (intermediate)¹

Stratify data by severity, present on admission, and/or medical vs. surgical to further narrow improvement activities (Expert)¹

Establish a communication process between SERP executive sponsors, key stakeholders and SERP response team

Dashboards

CORE Measures Inpatient: Medical Center

Inpatient

Inpatient Psych

Outpatient

MassHealth

Filters/Export CY2023

- Medical Center
- HealthAlliance-Clinton
- Marlborough Hospital
- Harrington Memorial Hospital

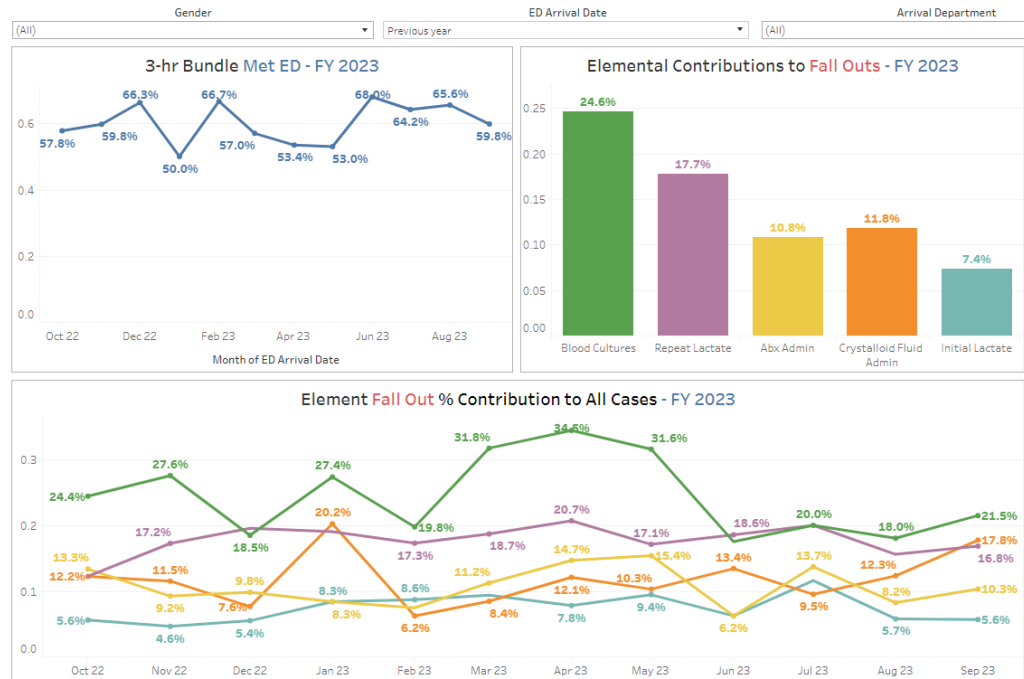
Download PDF
Export Cases

Sepsis

SEP-1: Severe Sepsis and Septic Shock: Management Bundle (Composite Measure)

2022	2023
55.9% (71/127)	55.3% ▼ (42/76)

Jul, 23
63.6%



Sepsis Dashboard UMMMC Summary **Equity**

UMMMC
HealthAlliance-Clinton
Marlborough Hospital
Harrington
Units

Sepsis Discharges (Volume)

3,798 Discharges FY2023YTD

8.70% Compared to Previous Year

49 Discharges October 2023

-49.5% Compared to Previous Month

Sepsis Mortality Rate

14.85% Mortality Rate FY2023YTD

-14.83% Compared to Previous Year

10.20% Mortality Rate October 2023

-43.97% Compared to Previous Month

Sepsis Mortality OE

0.96 Mortality OE FY2023YTD

-13.79% Compared to Previous Year

0.79 Mortality OE August 2023

-29.44% Compared to Previous Month

Sepsis Length of Stay OE

1.28 Length of Stay OE FY2023YTD

5.29% Compared to Previous Year

1.45 Length of Stay OE August 2023

-10.09% Compared to Previous Month

30 Day Readmission Rate

16.39% 30 Day Readmission Rate FY2023YTD

5.19% Compared to Previous Year

15.60% 30 Day Readmission Rate July 2023

15.24% Compared to Previous Month

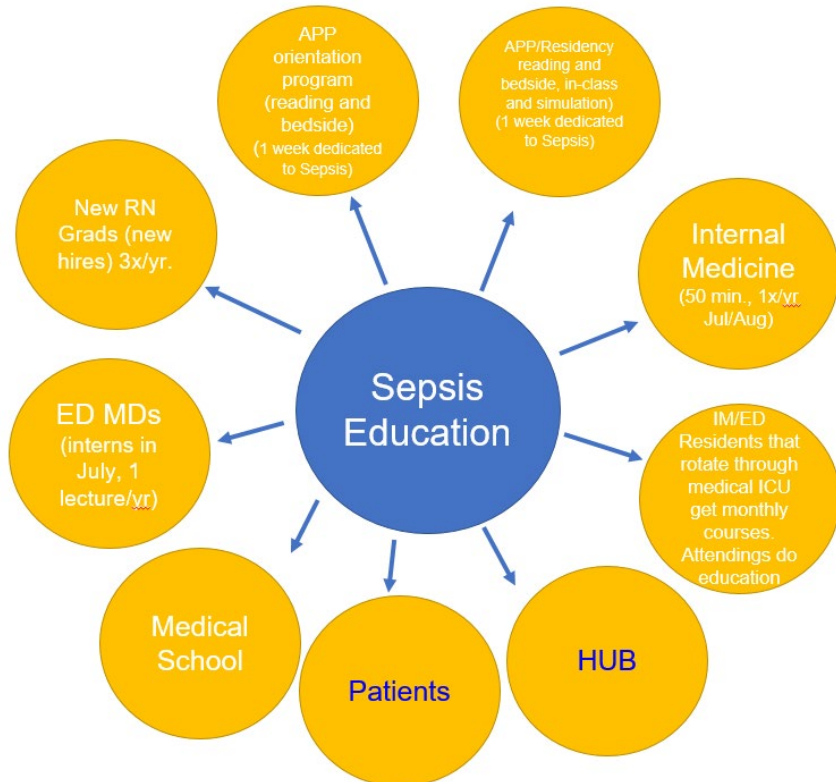
Source: Epic
Source: Vizient

BEST PRACTICES:

ENSURE ONGOING SEPSIS EDUCATION

Successful Strategies

Provide annual sepsis education (e.g. onboarding/annual competency) to all clinical staff so that they are prepared to identify sepsis quickly (beginner).¹



Opportunities

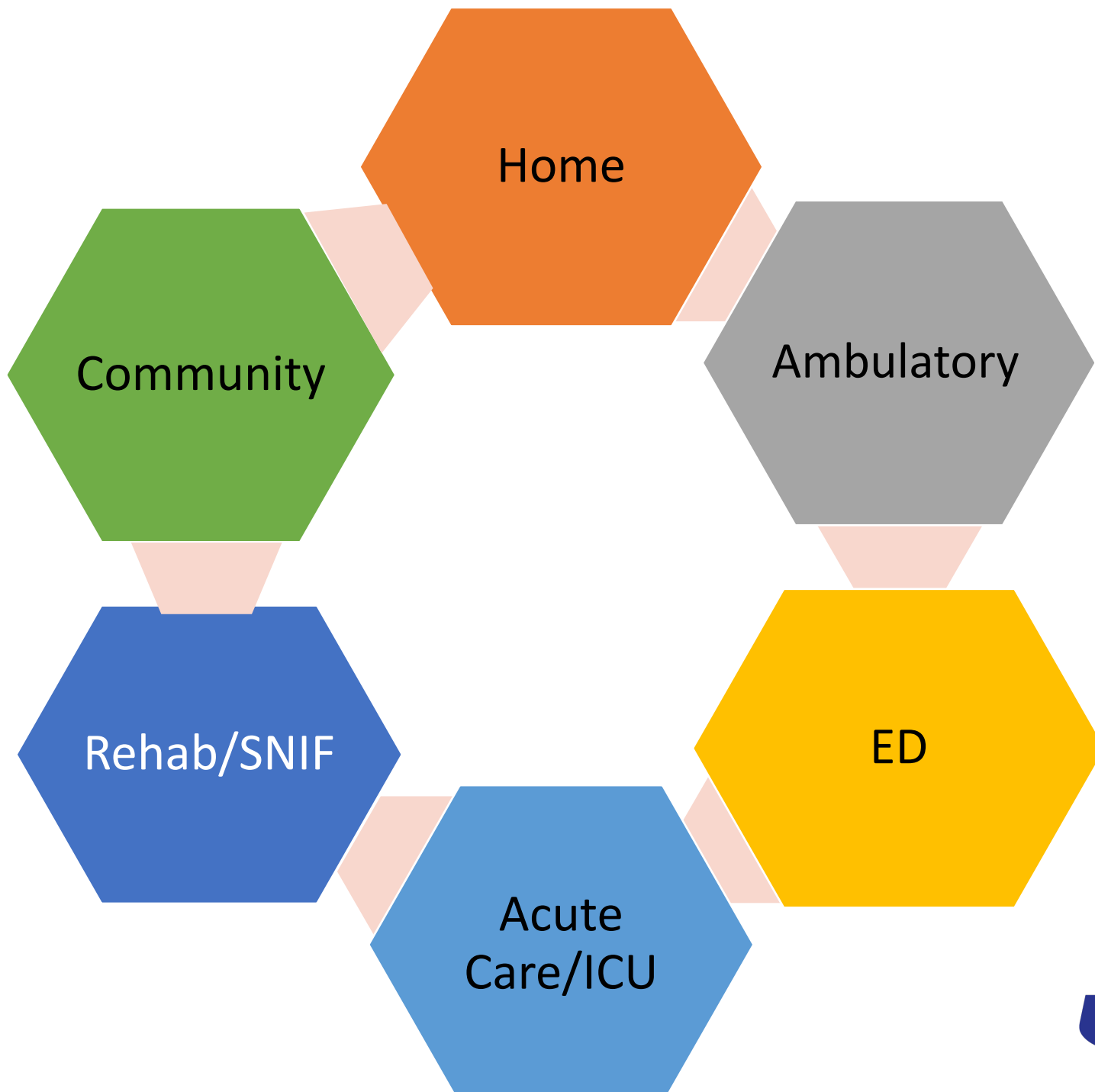
Provide physician feedback from colleagues rather than leadership²

Insure routine transparent sepsis data sharing with board members, key stakeholders, providers, clinical staff and patient-family advisory councils

Next Steps

- FY24 goal planning
 - CMS Bundle Compliance
 - Mortality
 - Bundle Element Compliance (BC)
- Data analysis of
 - Health Equity
 - Readmissions
 - Critical Care/Acute Care
- Engagement of front line staff
- Consider nurse-driven protocols
- Harmonize orders started in ED to continue in ICU
- Improve documentation of CMS required elements
- Discharge patient education and support
- Antibiotic timing in 1 hour





SUMMARY

Data Informed*

Process Supported*

People Driven*

*courtesy of Anne Zettek-Sumner

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4. Doerfler ME, D'Angelo J, Jacobsen D, et al. Methods for Reducing Sepsis Mortality in Emergency Departments and Inpatient Units. *Comm J Qual Patient Saf.* 2015 May;41(5):205-11.
5. Evans L, Rhodes A, Alhazzani W, et al. Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock 2021. *Critical Care Medicine* 2021 Nov;49(11):p e1063-e1143

THANK YOU

IPRO HQIC Sepsis Expert Panel

Thomas Workman, Ph.D.
Principal Researcher
American Institutes for Research®
Health Division
tworkman@air.org

Gloria Thorington, RN, CPHQ, CPPS, CLSSBB
Quality Improvement Manager-HQIC
Healthcentric Advisors
gthorington@healthcentricadvisors.org

Pooja Kothari, RN, MPH
Health Equity SME
Qsource
pkothari@x4health.com

Karan Shah MD, MMHC, FACEP
Vice President, Physician Integration
Baptist Health Louisville
System Physician Advisor, Baptist Health
Medical Director, Utilization Management Baptist Health Louisville

Stacey Monarch, BSN, RN, CPHQ
Sepsis Coordinator
Baptist Health Louisville
stacey.monarch@bhsi.com

Deborah R. Campbell, RN-BC, MSN, CPHQ, IP,T-CHEST, CCRN
Alumna
Vice President, Quality and Health Professions
Kentucky Hospital Association
dcampbell@kyha.com



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CDC Hospital Sepsis Core Elements



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CDC Hospital Sepsis Core Elements



Hospital Leadership Commitment

- **Identifying sepsis as a hospital priority** and communicating this priority to hospital staff.
- Providing the sepsis program leader(s) with dedicated time to manage the hospital sepsis program and to participate in sepsis-related performance evaluation and improvement activities.
- Providing resources, including data analytics and information technology support, to operate effectively.
- Ensuring that relevant staff from key clinical groups and support departments have sufficient time to contribute to sepsis activities.
- Appointing a senior administrator (e.g., Chief Medical Officer or Chief Nursing Officer) to serve as an executive sponsor for the sepsis program.
- Supporting internal training and education on sepsis for hospital staff and trainees.



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CDC Hospital Sepsis Core Elements



Accountability

- Identifying a single clinician leader or two co-leaders who will be responsible for sepsis program management and patient outcomes. **Sepsis programs co-led by a physician and a nurse are strongly recommended.**
 - In hospitals with a healthcare system-wide sepsis program, appoint a physician and nurse champion at each hospital.
 - Identifying unit-level physician and nurse champions
- Assessing progress towards hospital sepsis goals at regular intervals and updating goals periodically (e.g., annually) to promote continual improvement.
- Setting ambitious—but achievable—goals for improving sepsis care and patient outcomes that are informed by review of hospital practices, hospital sepsis outcomes, and clinical practice guidelines.
- Reporting sepsis program activities and outcomes to senior hospital leadership and/or board of directors on a regular basis.



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CDC Hospital Sepsis Core Elements



Multi-Professional Expertise

- Having a **dedicated sepsis coordinator**: hospital sepsis coordinators oversee the day-to-day implementation of the sepsis program activities.
- Sepsis programs should include representation from antimicrobial stewardship, critical care, emergency medicine, hospital medicine, infectious diseases, nursing, other primary services.
- Engagement of the antibiotic stewardship program is critical to optimize the treatment of sepsis by ensuring antibiotic recommendations are based on local microbiology data, and that mechanisms are in place to review if antibiotics started for suspected sepsis are tailored or stopped if unnecessary or if treatment is complete.
- Ongoing support from individuals with expertise and formal training in data management and analytics; information technology (e.g., expertise in implementing and revising EHR-based tools such as sepsis order sets).
- Quality improvement and patient safety (e.g., individuals with formal training in quality improvement processes such as the Institute for Healthcare Improvement's PDSA model).



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CDC Hospital Sepsis Core Elements



Action

- Implementing a standardized process to screen for sepsis: **early administration of sepsis treatment is lifesaving**...so it is important that clinicians recognize sepsis as early as possible...**hospitals should have a standardized process to screen at-risk patients for sepsis upon presentation to the hospital and throughout their hospitalization.**
- Structures and processes to facilitate prompt delivery of antimicrobials: timely delivery of antimicrobial therapy in sepsis is life-saving. In addition to facilitating prompt recognition of sepsis, hospitals should facilitate the prompt administration of initial antimicrobial therapy after the order for antimicrobial therapy has been placed. **It has been estimated that one-third of the interval from patient presentation to antimicrobial delivery occurs after the antimicrobial order** and that post-order delays are associated with increased mortality.
- Structures and processes to **support effective hospital hand-offs** in patients with sepsis...structured communication processes to hand-off key information during transitions of care are consistently associated with reduced errors and improved outcomes.
- **Rapid response teams** trained in sepsis recognition and care: rapid response teams (also known as medical emergency teams) and **“Code Sepsis”** protocol.



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2021 Surviving Sepsis Campaign Guidelines

Time to Antibiotics

Recommendations

12. For adults with possible septic shock or a high likelihood for sepsis, we **recommend** administering antimicrobials immediately, ideally within one hour of recognition.

Strong recommendation, low quality of evidence (septic shock)

Strong recommendation, very low quality of evidence (sepsis without shock)

CHANGED from previous:

“We recommend that administration of intravenous antimicrobials should be initiated as soon as possible after recognition and within one hour for both a) septic shock and b) sepsis without shock”

strong recommendation, moderate quality of evidence

INFECTION

Diagnosis of Infection

Recommendation

11. For adults with suspected sepsis or septic shock but unconfirmed infection, we **recommend** continuously re-evaluating and searching for alternative diagnoses and discontinuing empiric antimicrobials if an alternative cause of illness is demonstrated or strongly suspected.

Best practice statement.

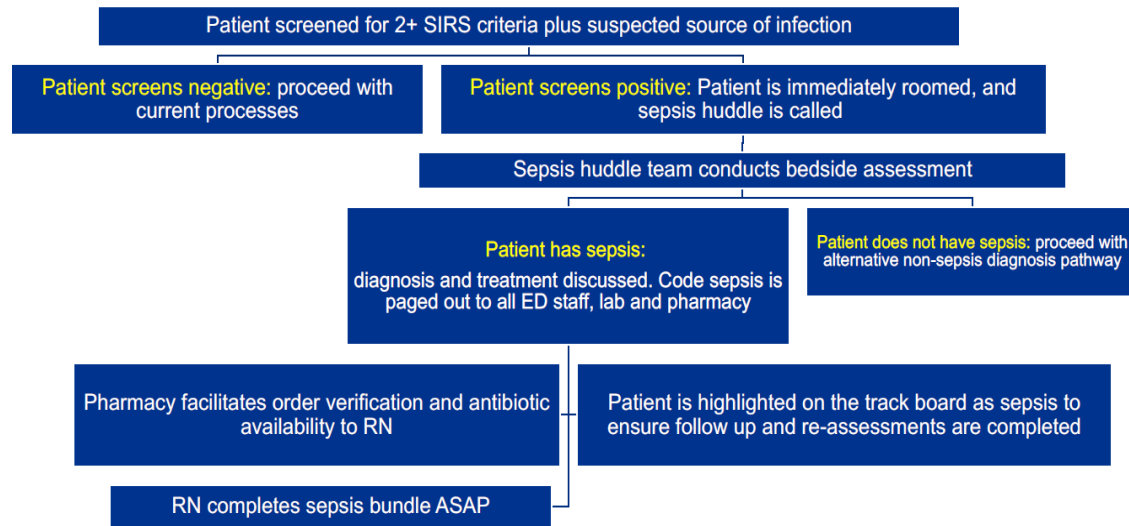


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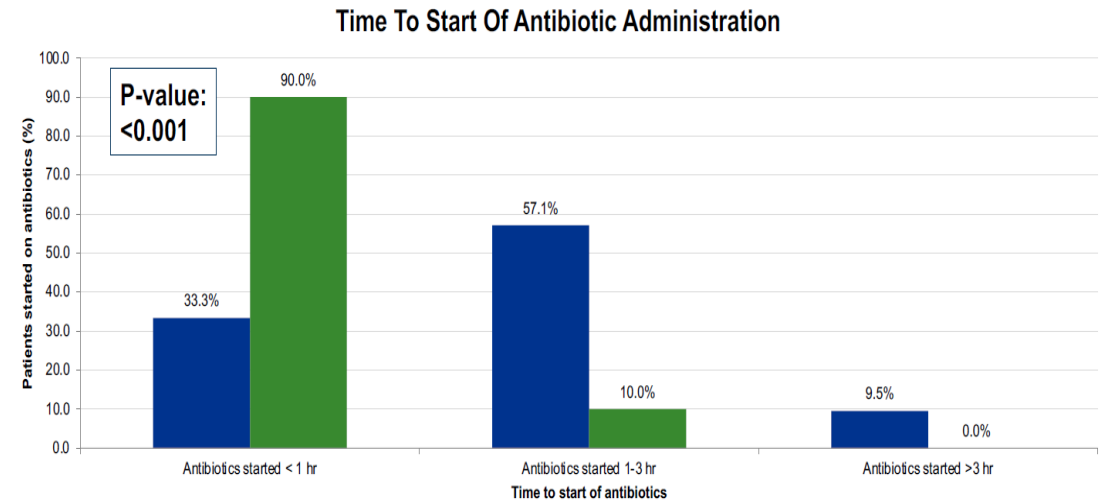
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Sepsis: Making it Easy to do the RIGHT Thing

Example of sepsis huddle pathway



Results of study: Impact of a Multidisciplinary Sepsis Huddle in the ED



Handoffs: The Sepsis “Safety Net”

- Approximately **30% of handoffs** — in which the sending caregiver passes information about the patient to the receiving caregiver, who accepts responsibility for the care of the patient — are incomplete, inaccurate, or suboptimal.
- Handoffs should occur in a timely manner, include the information necessary for the receiver to provide safe care, and **provide an opportunity for questions and discussion.**
- Intrahospital handoffs are complex and present unique challenges. **(56%) event reports involved failures in nurse-to-nurse handoffs;** these were verbal, face-to-face, written or electronic, depending on the organization’s process.

Sepsis Process Discovery Tool - Responses

Patient Information			
MRN #			
Age >65 years	Yes: 43%	No: 40%	
# of SIRS in ED if pt came through ED	2= 30%	3= 43%	4= 10%
# of SIRS score if positive inpatient sepsis screen			
qSOFA Score in ED if patient came through ED			
aSOFA Score if positive inpatient sepsis screen			
Was patient admitted to ICU?	Yes= 56%	No=26.6%	No ans.= 16%
Did sepsis occur within 30 days of surgery?	Yes= 3.33%	No= 80%	No ans.= 16%
Screening			
Patient was screened for sepsis starting at triage in ED	Yes= 60%	No= 40%	No ans= 16%
Inpatient sepsis screen completed at least once per shift (NA once sepsis identified in ED or unit)	Yes= 0%	No= 16%	N/A= 83.3%
If sepsis screen is positive, sepsis alert activated per facility protocol	Yes= 70%	No= 30%	No ans= 16%
3 hour bundle compliance (blue cells indicate HOUR 1 BUNDLE)			
Blood cultures drawn prior to antibiotic administration	Yes= 83.3%	No= 16%	
Blood culture was determined to be contaminated	Yes=0%	No= 63.3%	Unknown= 16%
Serum lactate drawn after positive sepsis screen	Yes= 66.66%	No= 33.33%	
Broad spectrum antibiotics initiated after positive sepsis screen	Yes= 100%		
Fluid 30ml/kg initiated after positive sepsis screen and patient has lactate greater or equal to 4mmol/dL OR 2 incidents of MAP <65 or SBP <90	Yes= 40%	No= 13.3%	N/A= 46.66%
6 hour bundle compliance (blue cells indicate HOUR 1 BUNDLE)			
Vasopressors administered for persistent hypotension (2 incidents of MAP <65 or SBP <90)	Yes= 20%	No= 6.66%	N/A= 56%
Repeat serum lactate drawn and resulted within 6 hours after initial elevated lactate (if lactate was >2mmol/dL)	Yes= 48%	No= 6.66%	N/A= 26.6%
Fluid reassessment done at the end of the fluid resuscitation	Yes= 26.6%	No= 16%	N/A= 40%



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CDC Hospital Sepsis Core Elements

- Sepsis epidemiology metrics, such as hospital sepsis case volume and break-down of community-onset vs hospital-onset sepsis.
- **Sepsis management metrics**, such as antimicrobial timing and fluid administration, are important to understanding hospital processes of care for managing sepsis.
- **Sepsis outcomes metrics**, such as mortality, ICU admission, and length of hospitalization, are important to understanding the outcomes of hospital sepsis.
- Progress towards achieving sepsis program goals: **focus on management or outcomes of sepsis**, and it is important to track these metrics over time to evaluate the impact of the hospital sepsis program.
- **Chart reviews of sepsis hospitalizations**: Beyond tracking sepsis epidemiology, management, and outcome metrics, chart review of sepsis hospitalizations is helpful for clinician feedback, education, root cause analyses of adverse outcomes.



CDC Hospital Sepsis Core Elements

- Reporting of sepsis treatment and outcomes to relevant staff can help maintain staff engagement, motivate behavior change, and facilitate improvement in sepsis treatment and outcomes. It is critical that information be provided in a **clear and transparent** manner.
- Regular reports to hospital, unit, and clinical leadership: it is important to report sepsis treatment and outcome data to nursing, physician, unit-based, and hospital leadership at routine intervals.
 - Unit-level data
 - Trends over time
 - Comparative or benchmarking data (e.g., comparison to other similar units or hospitals)
- **Focused feedback to individual clinicians:** timely feedback on the management of specific patients with sepsis can be extremely effective at re-enforcing desired behaviors and providing targeted education on any areas where care lagged.
- Live sepsis dashboard: development and maintenance of a sepsis dashboard that is updated in real-time can provide continuous information.

Surviving Sepsis: Recognizing Disparities

There are disparities in sepsis treatment and outcomes based on one's race and ethnicity:

- Black and non-white individuals (Hispanics, Asians) have close to **twice** the incidence of sepsis as Whites.
- Black individuals bear **twice** the burden of sepsis deaths relative to Whites.
- Black patients admitted to the ER are assigned to **lower priority status** and experience **longer wait times** than Whites.
- Asian sepsis patients were **57% more likely to die** than White counterparts.
- Native American patients are **more than 2 times likely** to be readmitted following a sepsis hospitalization than Whites.
- Hispanic patients experience more than 1.1 times the rate of severe sepsis compared to Whites.
- Limited English Proficiency is associated with **80% higher mortality risk** among sepsis patients.
- Adults with a high school diploma have **2.5 times more risk of dying** from sepsis than those with a doctorate.
- Adults below the poverty line have **3-4 times the risk of dying** of sepsis compared to those with income five times the poverty line.

Sepsis Alliance, Health Equity Fact Sheet, <https://cdn.sepsis.org/wpcontent/uploads/2021/01/Sepsis-and-Equity-Fact-Sheet-2021-1-25.pdf>.



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CDC Hospital Sepsis Core Elements

- Including sepsis-specific **training and education in the hiring or on-boarding process** for healthcare staff and trainees.
- Providing **annual sepsis education to clinical staff.**
- Providing **written and verbal education on sepsis to patients, families, and/or caregivers prior to hospital discharge.**
- Posting information on recognition of sepsis in prominent areas for patient-facing staff (e.g., attached to vital sign machines, in staff break rooms).
- Holding hospital lectures (e.g., grand rounds) or an **annual meeting focused on sepsis.**
- Including sepsis recognition and treatment in **annual nursing competencies.**

CDC Efforts to Support Sepsis Care

- The [Hospital Sepsis Program Core Elements](#) is one of several initiatives to help improve awareness, management, and outcomes of sepsis.
- CDC has published a toolkit to support surveillance of sepsis hospitalizations, [Hospital Toolkit for Adult Sepsis Surveillance](#).
- CDC's national educational effort, [Get Ahead of Sepsis \(GAOS\)](#), emphasizes the importance of early recognition, timely treatment, reassessment of antibiotic needs, and prevention of infections. The campaign has a suite of free sepsis patient and healthcare professional educational materials.



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Please complete the brief survey after exiting event.



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IPRO HQIC & Speaker Contact Information

Gloria Thorington, RN, CPHQ, CPPS, CLSSBB
Quality Improvement Manager-HQIC
Healthcentric Advisors
gthorington@healthcentricadvisors.org

Thomas Workman, PhD
Principal Researcher
American Institutes for Research
tworkman@air.org

Pooja Kothari
Health Equity SME
QSource
pkothari@x4health.com

CarlaLisa Rovere-Kistner, LCSW, CCM, CPHQ
Quality Improvement Specialist
IPRO
crkistner@ipro.org

Karan Shah MD, MMHC, FACEP
Vice President, Physician Integration,
Baptist Health Louisville
Karan.Shah@bhsi.com

Stacey Monarch, BSN, RN, CPHQ
Sepsis Coordinator
Baptist Health Louisville
stacey.monarch@bhsi.com

Deborah R. Campbell, RN-BC, MSN, CPHQ, IP,
T-CHEST, CCRN alumna
Vice President, Quality and Health Professions
Kentucky Hospital Association
dcampbell@kyha.com



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■ Kentucky Hospital Association
■ Q3 Health Innovation Partners
■ Superior Health Quality Alliance

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