

# OHA STATEWIDE SEPSIS INITIATIVE: EARLY RECOGNITION AND TIMING OF SEPSIS CARE

April 17, 2024

# **SEPSIS WEBSITE**

#### ohiohospitals.org/sepsis















Advocacy

**Health Economics** 

Patient Safety & Quality

**Member Services** 

**News & Publications** 

Home / Patient Safety & Quality / Statewide Initiatives / Sepsis

Innovation Leadership

**Statewide Initiatives** 

**Patient Safety & Quality Services** 



#### **Sepsis**

Reducing Sepsis Mortality in Ohio Through Early Recognition, Appropriate Intervention

The OHA Board of Trustees identified reducing sepsis mortality in Ohio as one of the key focus areas for OHA and Ohio hospitals. Sepsis is the body's overwhelming and life-threatening response to infection that can lead to tissue damage, organ failure and death. In other words, it's your body's over active and toxic response to an infection. Sepsis impacted an estimated 41,000 Ohioans in 2017. Early recognition and treatment can reduce the morbidity and mortality of sepsis.

Ohio Hospital Association | ohiohospitals.org

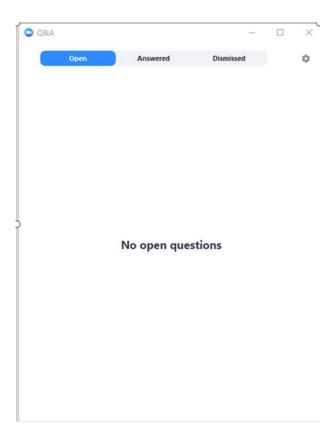
# **CONTINUING EDUCATION**

- The link for the evaluation of today's program is: https://www.surveymonkey.com/r/Sepsis-April2024
- Please be sure to access the link, complete the evaluation form, and request your certificate. The evaluation process will remain open <u>two</u> <u>weeks</u> following the webcast. Your certificate will be emailed to you when the evaluation process closes after the 2-week process.
- If you have any questions, please contact Dorothy Frabott (Dorothy.Frabott@ohiohospitals.org)

# **CONFLICT OF INTEREST**

The presenter for today's program has disclosed no potential or actual conflicts of interest.

# SUBMITTING QUESTIONS





Upcoming FREE webinars and events from Sepsis Alliance:

April 24: Advancements in Pediatric Sepsis Diagnosis: Introducing the Phoenix Sepsis Score (RN CE credit hours)

**April 30:** More Secrets of the CBC...Use the Diff to Make a Diff! (Beckman Coulter Sponsored Webinar)

May 16: <u>Sepsis Alliance Symposium: Maternal and Neonatal Sepsis</u> (RN CE credit hours)

May 30: The Impact of Rapid Diagnostics on Antimicrobial Stewardship

Practices (bioMérieux Sponsored Webinar)

Ohio Hospital Association | ohiohospitals.org |





Sepsis Alliance Symposium:

#### **Maternal and Neonatal Sepsis**

MAY 16, 2024



**REGISTER TODAY!** 

#### Sepsis Alliance Symposium: Maternal and Neonatal Sepsis

Sepsis, an indiscriminate threat that can strike anyone regardless of their health status or age, tends to disproportionately affect certain populations. Pregnant individuals and newborns are among those at higher risk of sepsis-related complications. Sepsis accounts for at least 261,000 maternal deaths each year worldwide, accounting for approximately 11% of all maternal deaths. Across the U.S. between 2017-2019, 14.3% of pregnancy-related deaths were due to infection or sepsis. Maternal sepsis ranks as the second leading cause of maternal fatalities, and globally sepsis is the number one cause of mortality in newborns and young infants.

Maternal sepsis typically occurs when an infection takes hold in the aftermath of childbirth, whether it be at the site of a C-section incision, a tear, or another postpartum wound, occurring in the days or weeks following delivery. Any infection, such as Strep B, pneumonia, or a urinary tract infection, occurring during pregnancy or in the postpartum period, can also potentially escalate into sepsis. Infections can be passed from the birthing parent to child during pregnancy, labor, and delivery, putting the infant also at risk for developing sepsis.

It is imperative that healthcare professionals understand the unique risks that maternal and neonatal patients have regarding sepsis to efficiently and accurately assess and diagnose sepsis.

To address this issue, Sepsis Alliance is hosting the 2024 Sepsis Alliance Symposium: Maternal and Neonatal Sepsis. This live, virtual event, scheduled for May 16, 2024, will cover critical topics related to sepsis in maternal and neonatal patients, offering attendees the most up-to-date clinical knowledge and treatment recommendations for these populations. The key outcome of this half-day event is to establish the burden of sepsis in maternal and neonatal patients and improve clinical outcomes for patients affected by sepsis.

Ohio Hospital Association | ohiohospitals.org | 7

### **SEPSIS ALLIANCE**

#### **New Mission Statement**

Save lives and reduce suffering by educating the public and leading an alliance of patients, healthcare professionals, and partners committed to preventing and curing sepsis.

# PRESENTER(S)

#### **Mount Carmel Health System**

- Haley Consuegra, MSN, RN Regional Director, Clinical Quality
- Jullian Marsh, MS, RN
   Clinical Quality Business Partner

# INPATIENT SEPSIS ALERTS IMPACT ON NOT PRESENT ON ADMISSION SEPSIS MORTALITY RATE

HALEY CONSUEGRA, MSN, RN-MCHS REGIONAL DIRECTOR, CLINICAL QUALITY MANAGEMENT

JILLIAN MARSH, MS, RN-MCSA QUALITY BUSINESS

PARTNER

Clinical Quality

#### **MOUNT CARMEL HEALTH SYSTEM**

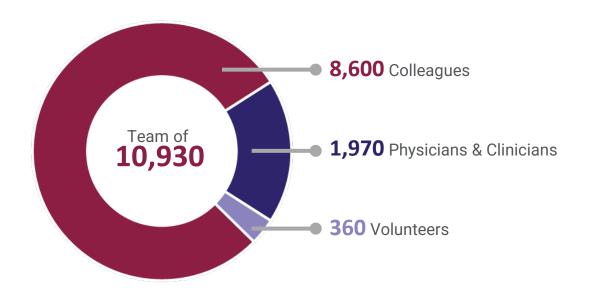


\$146.7M FY22 Community Benefit

#### **People-Centered**

#### **Healthcare System**

- Catholic Health Ministry
- · A Member of Trinity Health



<b>4</b> Hospitals	<b>1</b>	<b>1</b>	149	<b>1</b>
	Rehabilitation	Behavioral	Care	Medicare
	Hospital	Health Hospital	Sites	Advantage Plan
<b>1M</b> Total patient visits	24,800 Surgeries	<b>543,000</b> Outpatient visits	55,900 Admissions & observations	<b>203,200</b> ED visits

#### **AIM STATEMENT**



"To reduce Non-present on admission Sepsis Mortality by empowering frontline colleagues and providers to activate Inpatient Sepsis Alerts."

#### **BACKGROUND**





Background: A retrospective review of Not Present on Admission (NPOA) sepsis mortality cases from CY21 revealed opportunities related to delayed recognition and intervention



Objectives: Cultural transformation to treat sepsis as a medical emergency, promote early recognition and intervention and improve sepsis-related outcomes.



Results: Inpatient Sepsis Alerts improved from zero in the month of January 2022 to an average of seven per month post-intervention in 2023.



Outcomes: The organization's NPOA mortality rate decreased by 30% over two consecutive calendar years

#### **ROOT CAUSES**



- Delay in recognition of Sepsis by Providers and Nursing
- Lacked critical thinking skills in early identification of Sepsis
- Prioritized competing diagnoses
- Did not utilize Sepsis orders sets
- Lacked confidence in recognizing sepsis, leading to failure to advocate for patient

#### **AIM STATEMENT**





Re-established Sepsis Council, recruited ER and Hospital Providers to Chair

-Multidisciplinary team: Quality, ER Providers, Hospitals, ICU Providers, Residents, Pharmacy, Frontline Nurses, RRT, Nurse leaders

-Monthly review of data, bundle outliers, and mortality cases



Met with Directors of Hospitalist Group
-Ensured by in from Key Stakeholders



Updated the MCSA Sepsis Alert Policy

- -May be called by provider, RRT, Nurse
- -Includes Sepsis Power Hour Algorithm



Sepsis Lunch and Learn, hosted by Hospitalist

-Overview of Sepsis disease process and expected treatment plan



Sepsis Focus Group

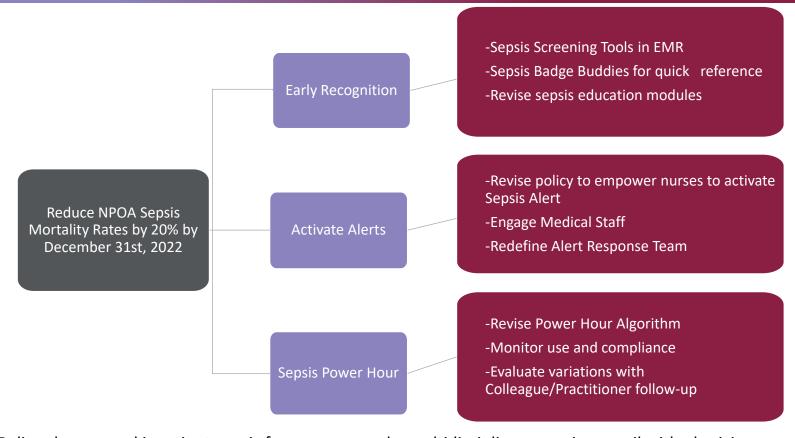
-Provided frontline Nurses the opportunity to ask questions and address barriers



Sepsis Lunch and Learn, hosted by ER Provider

#### **TOOLS AND METHODS**

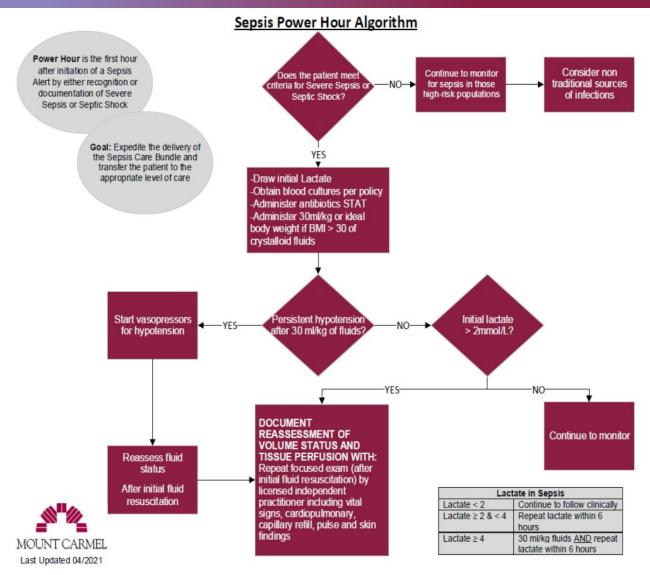




- Policy change, and inpatient sepsis focus group, and a multidisciplinary sepsis council with physician champions were implemented.
- Evidence-based practices with emphasis on SEP-1 bundle compliance was prioritized in the development of the Power Hour Algorithm.
- In addition to the resources that were developed, process champions worked to empower all care team members to activate intervention.

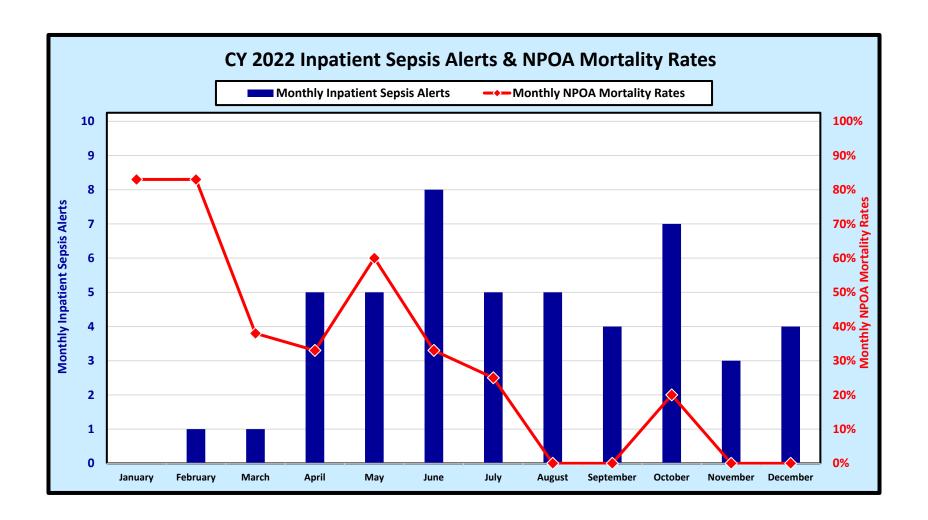
#### **TOOLS AND METHODS**





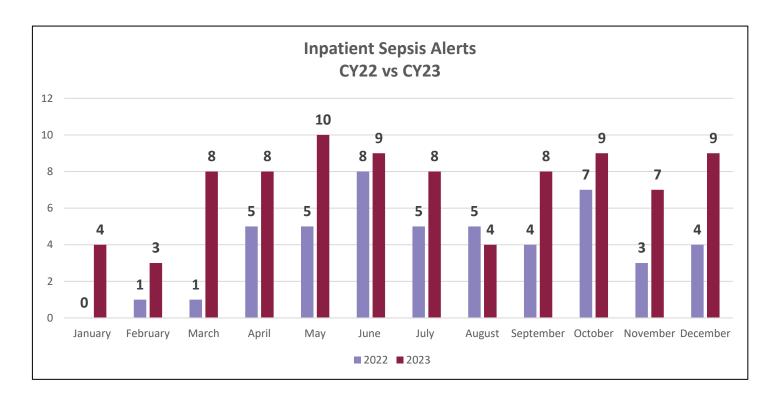
#### **RESULTS-NPOA MORTALITY RATES**





#### **INPATIENT SEPSIS ALERTS**





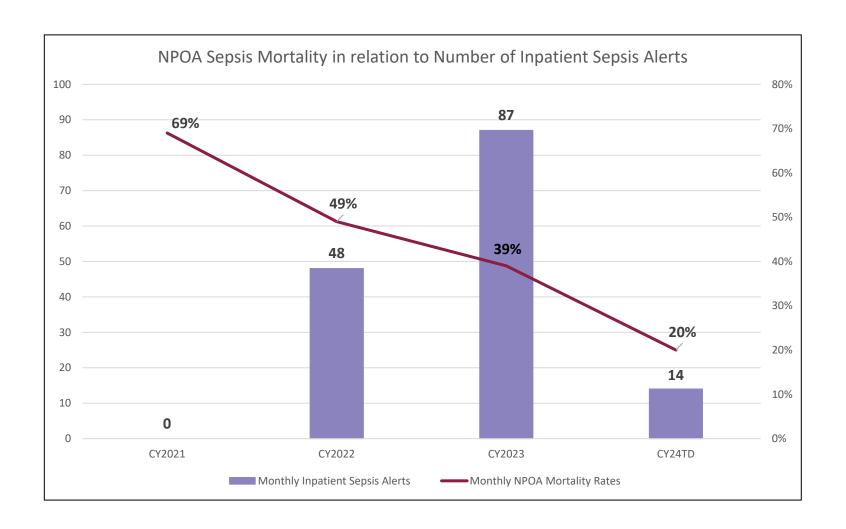
CY2021-Zero Inpatient Sepsis Alerts

C20Y22-Averaged 4 Inpatient Sepsis Alerts per month

CY2023-Averaged over 7 Inpatient Sepsis Alerts per month

# RESULTS-NPOA SEPSIS MORTALITY IN RELATION TO NUMBER OF INPATIENT SEPSIS ALERTS





#### **RESULTS**



Organizational culture shift to treating Sepsis as a medical emergency

Inpatient Sepsis Alerts increased from activating zero in the month of January 2022 to an average of seven per month in CY2023.

Improved identification of Severe Sepsis and Septic Shock in ER, reducing our NPOA sepsis volumes.

The organization's NPOA mortality rate decreased by over 30% over two consecutive calendar years

Improved Organization's SEP-1 Bundle Compliance

- -CY2022=64.3%
- -CY2023=74.4% (CMS Estimated Top Quartile)

For more info, visit mountcarmelhealth.com



# PRESENTER(S)

#### **UH System**

- Dr. Marcia Cornell, Senior Clinical Nurse Specialist, UH Geauga MC
- Amanda Prech, Sepsis Coordinator, UH Cleveland MC
- Joanna Nagy, Sepsis Coordinator, UH Ahuja MC
- Dr. Jessica Goldstein, CMO, UH Ahuja MC
- Mark Zullo, Senior Quality Improvement Nurse, UH Cleveland MC

#### **Saving Lives From Sepsis**

OHA Sepsis Initiative Webcast: Timing of Sepsis Care

April 17, 2024

Marcia S. Cornell DNP, APRN-CNS, RN, ACNS-BC, NPD-BC, CEN, TCRN, FCNS - Senior Clinical Nurse Specialist, UH Geauga Medical Center

Jessica R. Goldstein MD - Chief Medical Officer, UH Ahuja

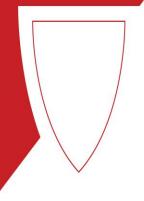
Joanna Nagy MSN, RN – Sepsis Coordinator, UH Ahuja

Amanda Prech BSN, RN - Sepsis Coordinator, UH Cleveland

Mark Zullo BSN, RN, CPHQ - Senior Quality Improvement Nurse, UH Cleveland









Saving Lives from Sepsis

Ohio Hospital Association Sepsis Summit June 14, 2023



#### **Background**

- National Surviving Sepsis Campaign Goal:
  - 60 minutes from time of sepsis recognition to antibiotic given
- Timely antibiotic administration slows and even stops the sequelae of sepsis to septic shock and death.
- Timeliness of antibiotics most important for patients with septic shock.

#### Keys to decreasing mortality:

- Early recognition
- Timely antibiotic administration
- Fluid optimization







#### 1. Declare Goals

- 1. Create Sense of Urgency
- 2. Create Goals
- 3. Enlist Influencers and Allies
- 4. Establish Roles
- 5. Set Expectations

- 1. Sepsis Mortality Reduction identified as a top priority
- Decrease observed over expected sepsis mortality and improve SEP
   Compliance
- 3. Established Leadership Team and identified administrative champions
- 4. Sepsis Coordinator Role created
- 5. Roles and responsibilities defined







#### 2. Create Enabling Infrastructure

- 1. Performance Tracking
- 2. Project Management
- 3. Playbook
- 4. Communication Plan

- Metrics defined and tracked via STATIT a Midas Health Analytics Solutions System
- Operational Engineer project manager at system level Sepsis
   Coordinator lead entity level project management
- System level Key Driver and Playbook established Entity level action plans
- 4. Established entity report for communicating performance metrics, action plans and best practices









#### 3. Engage & Connect

- 1. Fractal
  Management
  Structure
- 2. Peer Learning Groups
- 3. Service Line Implementation
- 4. Site Implementation

Sepsis HRM / Zero Harm System Leadership Team	<ul><li>Physician Lead</li><li>Nursing Clinical Lead</li><li>Quality Lead</li><li>Operations Engineer</li></ul>
Sepsis HRM / Zero Harm System Committee	<ul> <li>Senior Leadership</li> <li>Entity Leaders</li> <li>Nursing Education</li> <li>Quality Leaders</li> <li>Operational Effectiveness</li> <li>Pharmacy</li> </ul>
Sepsis Coordinator Workgroup	Sepsis Coordinators     Sepsis Quality Representatives
Entity Sepsis Committee	<ul> <li>Sepsis Coordinator</li> <li>Nursing Leadership</li> <li>Physician / Provider Leadership</li> <li>Quality</li> <li>Sepsis Champions</li> </ul>







#### 4. Report Transparently & Ensure Shared Accountability

- Define
   Accountability
   Structure
- 2. Regular Meetings
- 3. Give Feedback

- Standard work grid defining responsibilities:
   Sepsis Coordinator vs Sepsis Quality Representative
- 2. System Leadership System
   Committee Sepsis Coordinator &
   Quality Representative Workgroup Entity
   Sepsis Team
- 3. Roundtable discussions at System Committee meeting. Sepsis Coordinator workgroup discusses trends, opportunities for improvement and collaborates to establish action plan interventions that can be standardized across the system.



JG



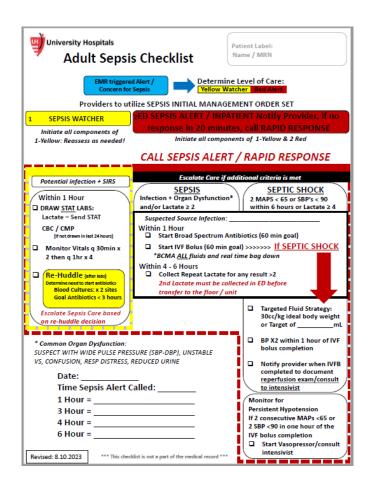
#### **Key Driver Summary of 2020 – 2023**

#### SAVING LIVES INTERVENTIONS FROM SEPSIS KEY DRIVERS Time to Antibiotic: - Goal = 60 min. SMART Early recognition Order set Compliance: - Goal = 75% compliance AIM and standard Compliance SEP1 Bundle - Goal= 60% compliance huddles for Use EMR triggers for sepsis huddle patients with Use of checklist to meet metrics sepsis Use of Sepsis tracker to meet documentation requirements SAVE 100 LIVES Define metrics and use STATIT Sepsis Dashboard FROM SEPSIS \* Data & Quality Sepsis Coordinator at each entity review and pre-abstract Sepsis Alerts Develop interventions and action plans based off trends Fractal Communication structure between HRM/Zero Harm Committee, each hospital Management entity and quality report out meetings. Structure Identify key stakeholders for inclusion in communication and meeting structure Standardize meeting processes Standard System Monthly Sepsis Coordinator collaborative meetings to share ideas and develop 2024 Goal: Education action plans Save 200+ Lives Standardize education messaging across system from Sepsis Annual Resident and New Hire On-boarding Education Ongoing 3rd Otr Annual Nursing Education on Sepsis · September Sepsis Awareness Month



#### **Interventions: Standardized Tools**

- To guide practice to ensure completion of bundle components
  - Sepsis Orderset
  - Sepsis Checklist

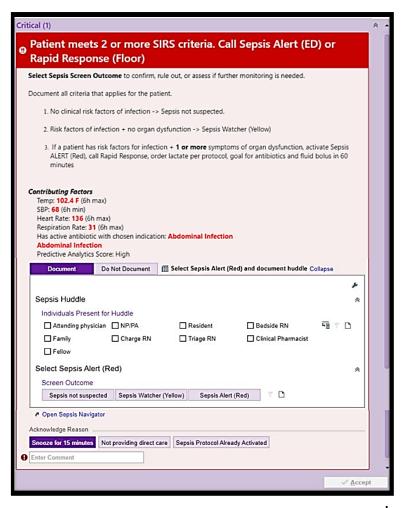




#### **Intervention: Early Recognition**

- EMR Early Warning scales / Best Practice Alerts
- Development, trial and expansion of RADAR (Real Time Assessment of Data and Risk)

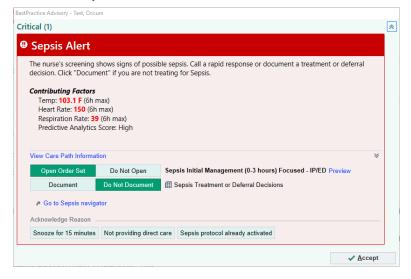
Physiological				<u>Score</u>			
Parameter	3	2	1	0	1	2	3
Respiration Rate (per minute)	_≤8		9-11	12-20		21-24	<u>≥</u> 25
SpO2 (%)	≤91	92-93	94-95	<u>≥</u> 96			
Air or Oxygen?		Oxygen		Room Air			
Systolic blood pressure (mmHg)	≤90	91-100	101-110	<u>≥</u> 111			≥220
Pulse (per minute)	≤40		41-50	51-90	91-110	111-130	≥131
Consciousness	CVFU			Alert			
Temperature (Celsius)	≤35.0		35.1-36.0	36.1-38.0	38.1-39.0	≥39.1	

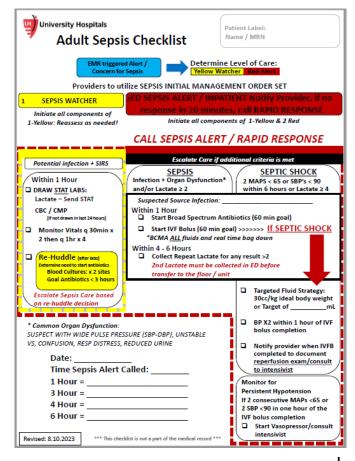




#### **Intervention: Communication Huddles**

- EMR Alert Is this Sepsis?
  - EMR push alert
- If placed on Sepsis Watch Re-Huddle when labs back







N

#### **Intervention: Timely Antibiotic Administration**

- Ensure availability of antibiotics
- "Time to Antibiotic"
  - Understood as: Time ordered to time hung
  - CMS definition: Sepsis Time Zero to time hung
- Evaluated times to determine where lagging
  ED Admit Time Sepsis Alert Time Antibiotic Order Time Time Antibiotic Up
- Provider
  Order Antibiotic via order
  Set

  Order Antibiotic via order
  Antibiotics ordered

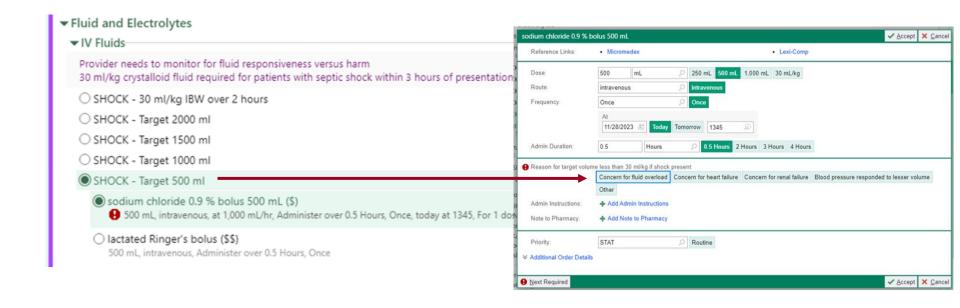
  Order Antibiotics ordered

  Nurse prioritizes
  Emergency Antibiotic
  Administration



#### **Intervention: Fluid Optimization**

Sepsis Orderset





Hospital Time to Antibiotic  Goal is < 60 minutes			Order set Compliance Goal is > 70%			Sep 1 Bundle Compliance Goal is > 60%			Mortality Risk-Adjusted (Vizient/Premier) Goal is < 0.76							
SC = Sepsis Coordinator	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	Oct 22 – Sept 23
Ahuja SC since 2020	55.0	78.1	85.7	88.3	84.56	77.75	82.93	84.80	62.50	74.14	74.07	64.29	0.93	0.87	0.88	0.91
Cleveland SC since Otr 3 2021	65.9	75.7	58.4	61.5	59.54	50.96	53.79	58.45	22.89	27.03	30.77	31.94	0.98	0.94	0.97	0.87
Elyria SC since Qtr 3 2022	59.3	85.6	80.2	66.9	54.53	62.31	68.26	75.38	45.28	46.38	53.16	46.99	0.91	1.17	0.96	0.56
Geauga SC since Otr 2 2020	115.1	78.3	42.7	70.0	56.75	59.76	59.81	58.70	61.40	41.67	56.25	53.70	0.78	0.87	0.62	0.70
Parma SC since Otr 4 2023	72.8	78.7	80.9	78.6	60.53	72.08	80.14	85.34	37.04	43.22	42.86	35.59	0.88	0.68	0.68	0.67
Portage SC since Otr 3 2022	100.7	81.0	81.9	88.0	82.35	68.96	80.28	85.15	47.44	44.57	50.49	71.28	0.68	0.84	0.76	0.67
St. John SC since <u>Qtr</u> 3 2022	90.1	88.9	80.1	59.3	74.69	69.13	77.12	84.88	54.81	52.04	51.14	50.00	0.41	0.38	0.51	0.42
ALL	74.0	78.1	74.1	73.5	66.91	65.38	71.53	76.07	49.00	52.44	52.93	49.14	Not availabl e	0.83	0.78	0.69



#### **Expected Mortality – Observed Mortality = Lives Saved**

2020	2021	2022	Oct 2022 – Sept 2023		
647.88 - 591 =	654.08 - 549 =	671.08 - 525 =	549.72 - 382 =		
56.88	105.08	146.08	167.72		
(O/E = 0.91)	(O/E = 0.83)	(O/E = 0.78)	(O/E = 0.69)		
56 =	<u>}</u> 105 <b>4</b>	<b>⊢</b> 146 <b>⊨</b>	167 = 474		
	647.88 - 591 = 56.88 (O/E = 0.91)	647.88 - 591 = 654.08 - 549 = 56.88	647.88 - 591 = 654.08 - 549 = 671.08 - 525 = 56.88		

2024 Goal: Save 200+ Lives from Sepsis



#### **Impact Summary**

- Fractal Management as a quality operational framework
  - Adoption and penetration of sepsis coordinator role
  - Implementation of EBP with key front line processes
    - Sepsis alert with front line huddle (provider, RN, +/-pharmacy, +/- medic)
    - Timely antibiotics
    - Precision fluids
  - Communication and collaboration across quality networks
- Additional factors that impacted decrease in mortality:
  - Improved ED & Hospital staffing/reduced travel RNs/decreased ED boarding
  - Partnerships between floor teams and critical care teams (Rapid Response/ICU) to monitor patient deteriorations and facilitated antibiotics



#### **Current Focus & Next Steps**

- Reviewed CDC Sepsis Program

  Recommendations & Completed Gap

  Analysis
- Epic optimization
- Sepsis Champions
- Clinical documentation optimization
- Development & expansion of designated
   Rapid Response Nurses

Sepsis Epic Hack-a-Thon: Where find info for Pre-abstraction









#### Thank you

Marcia.Cornell@uhhospitals.org

Jessica.Goldstein4@uhhospitals.org

Joanna.Nagy@uhhospitals.org

Amanda.Prech@uhhospitals.org

Mark.Zullo@uhhospitals.org

Would like to connect with other Ohio hospitals using Epic





# OHA collaborates with member hospitals and health systems to ensure a healthy Ohio

James Guliano, MSN, RN, NPD-BC, NEA-BC, FACHE Senior Vice President, Operations & Chief Clinical Officer James.Guliano@ohiohospitals.org

Dorothy Frabott, MBA
Manager, Administrative & Clinical Services
Dorothy.Frabott@ohiohospitals.org

Kelsey Brown, BSN, RN Director, Clinical Support Services Kelsey.Brown@ohiohospitals.org

**Ohio Hospital Association** 

155 E. Broad St., Suite 301 Columbus, OH 43215-3640

T 614-221-7614 ohiohospitals.org



HelpingOhioHospitals



@OhioHospitals



www.youtube.com/user/OHA1915