Welcome and Introductions

Today’s objectives:

• Introduce the Hospital and Nursing Home project leads and Sepsis Content Expert
• Learn why sepsis management requires more than a policy
• Review Baseline Process Measures and the impact of timely access to data
• Discuss Sepsis Gap Analysis Assessment Form and Policies
• Review Project Workplan, timeline and milestones
Your Sepsis Support Team

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Improvement Consultant

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Director, Performance Improvement
Heath Quality Innovators (HQI)

- Private, nonprofit healthcare consulting firm
- Expertise in quality improvement, utilization management, and analytic services that improves patient outcomes
- Virginia’s QIO since 1984; now the Quality Innovation Network QIO (QIN-QIO) for Maryland and Virginia
- Experienced team members & consultants
- For more information, visit [www.hqi.solutions](http://www.hqi.solutions)
Virginia Hospital & Healthcare Assoc.

Created by the VHHA’s Board of Directors to improve the safety and quality of health care by assisting hospitals in their efforts.

- The Virginia PSO
- Thriving Infants Initiative
- The Hospital Innovation Improvement Network
- Patient and Family Experience
- Readmission Reduction
- Rural Hospital Collaborative
- Hospital Acquired Conditions
- NICU Early Intervention Collaborative
- Stopping Sepsis in VA Hospitals and Nursing Homes
1. Introduce the 4-Tier Sepsis Management Process
2. Review and provide comment on hospitals’ baseline and subsequent performance measure data
3. Suggest hospital specific sepsis workplan priorities based on review of:
   a. Performance measure data;
   b. Sepsis gap analysis assessment tool; and
   c. Policies and procedures.
4. Provide on-going support to project

Kathleen Vollman, MSN,RN, CCNS, FCCM, FAAN
Why focus on Sepsis?

- 500 people a day die from sepsis (10th leading cause of death in the United States)
- 1,000,000 people are diagnosed with sepsis every year
- Sepsis is the number one reason residents from nursing homes are admitted to hospitals
Surviving Sepsis Campaign History

2002-2003
- Sepsis definition conference
- Developed awareness of scope of worldwide problem
- Surviving Sepsis Campaign initiated with Institute for Healthcare Improvement. The Surviving Sepsis Campaign Bundles evolved from this collaboration.

2004-2005
- Guidelines Introduced
- American College of ER physicians join the campaign
- Regional networks formed and Campaign rolled out to US hospitals
- Hospital Mortality 21.2%
- All or None Bundle Compliance 4.9%

2010
- Sepsis Bundle compliance shows 20% relative risk reduction in outcomes.
- Hospital Mortality 8.7%
- All or None Bundle Compliance 73.4%

2013
- Need to revitalize effort
- Regulatory bodies in the United States adopt the Surviving Sepsis Campaign Bundles as mandated measures. Take Note: this is not your typical Core Measure

Society of Critical Care Medicine website, 1/26/2017
Am J Respir Crit Care Med Vol 188, Iss. 1, pp 77–82, Jul 1, 2013
Where are We Now?

- Published studies demonstrate wide practice variation
  - Poor compliance with known quality indicators
  - Clinicians benefit from being reminded
  - There is benefit from standardization
- It is feasible to use data to audit and change clinical behavior
  - Performance metrics can change clinical practice
- Increased compliance with performance metrics is associated with improved survival
Patients with severe sepsis or septic shock on the medical wards have a higher rate of mortality than their counterparts identified in the ER, likely due to delays in recognition and treatment.

- Action is required

- It's possible to institute nursing driven, every-shift screening on the medical wards

- Early identification and management on the wards is associated with improved survival
# Outcomes of the Surviving Sepsis Campaign in intensive care units in the USA and Europe: a prospective cohort study


<table>
<thead>
<tr>
<th></th>
<th>USA</th>
<th>Europe</th>
<th>p value*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Count</strong></td>
<td>18,766 (74.0%)</td>
<td>6,609 (26.0%)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td><strong>Origin</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency department</td>
<td>12,218 (65.1%)</td>
<td>2,159 (32.7%)</td>
<td></td>
</tr>
<tr>
<td>Ward</td>
<td>4,763 (25.4%)</td>
<td>3,405 (51.5%)</td>
<td></td>
</tr>
<tr>
<td>ICU</td>
<td>1,785 (9.5%)</td>
<td>1,045 (15.8%)</td>
<td></td>
</tr>
</tbody>
</table>

*Lancet Infect Dis 2012; 12: 919–24*
Compliance with Three Hour Bundle

The odds of compliance with the 3-hour bundle increase 9% per month (OR = 1.09, 95% CI: 1.07 – 1.12, p-value < 0.001)

Mitchell M. Levy MD, FCCM Professor of Medicine Chief, Division of Pulmonary, Sleep, and Critical Care Warren Alpert Medical School of Brown University Providence, RI
Sepsis Deaths by Age Group  \((N = 2,470,666)\) based on death certificate data, by age groups* — United States, 1999–2014

* Age was unknown for 90 decedents.

Data Show Need for Improvement and Collaboration

Virginia Multi-Visit Patients (MVPs) Readmissions Data
Rolling 4-Quarter Timeframes [Q2-2013 to Q1-2016]

<table>
<thead>
<tr>
<th>Top 10 Principal DXs</th>
<th>ICD-10</th>
<th>HHA</th>
<th>Home</th>
<th>SNF</th>
<th>Other</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sepsis, unspecified organism</td>
<td>A41.9</td>
<td>375</td>
<td>302</td>
<td>404</td>
<td>138</td>
<td>1219</td>
</tr>
<tr>
<td>Chronic obstructive pulmonary disease w (acute) exacerbation</td>
<td>J44.1</td>
<td>191</td>
<td>348</td>
<td>71</td>
<td>37</td>
<td>647</td>
</tr>
<tr>
<td>Diastolic (congestive) heart failure, acute on chronic</td>
<td>I50.33</td>
<td>227</td>
<td>180</td>
<td>117</td>
<td>31</td>
<td>555</td>
</tr>
<tr>
<td>Systolic (congestive) heart failure, acute on chronic</td>
<td>I50.23</td>
<td>195</td>
<td>211</td>
<td>95</td>
<td>34</td>
<td>535</td>
</tr>
<tr>
<td>Acute kidney failure, unspecified</td>
<td>N17.9</td>
<td>145</td>
<td>161</td>
<td>131</td>
<td>23</td>
<td>460</td>
</tr>
<tr>
<td>Pneumonia, unspecified organism</td>
<td>J18.9</td>
<td>143</td>
<td>168</td>
<td>94</td>
<td>23</td>
<td>428</td>
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<tr>
<td>Urinary tract infection, site not specified</td>
<td>N39.0</td>
<td>113</td>
<td>97</td>
<td>98</td>
<td>25</td>
<td>333</td>
</tr>
<tr>
<td>Acute and chronic respiratory failure with hypoxia</td>
<td>J96.21</td>
<td>96</td>
<td>99</td>
<td>56</td>
<td>29</td>
<td>280</td>
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<tr>
<td>Combined systolic and diastolic heart failure, acute on chronic</td>
<td>I50.43</td>
<td>116</td>
<td>87</td>
<td>57</td>
<td>18</td>
<td>278</td>
</tr>
<tr>
<td>Non-ST elevation (NSTEMI) myocardial infarction</td>
<td>I21.4</td>
<td>70</td>
<td>114</td>
<td>57</td>
<td>17</td>
<td>258</td>
</tr>
</tbody>
</table>

Top 10 Principal Discharge Diagnoses Leading to a 30-Day Readmission in Virginia MVPs
(Q4-2015 to Q1-2016)

This material was prepared by Health Quality Innovators (HQI), the Medicare Quality Innovation Network-Quality Improvement Organization (QIN-QIO) for Maryland and Virginia, with support from Telligen, the QIN National Coordinating Center, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy. HQI|11SOW|20161103-135146
Sepsis Hitting Home

• 80% of Sepsis begins outside of the hospital for nearly 80% of patients (CDC Vital signs, August 2016)

• One out of 2-3 hospital inpatient deaths related to Sepsis, most POA

In Virginia

• 3,416 Virginia nursing home residents were admitted to acute hospitals with Sepsis - POA

• One out of every 2-3 nursing home admissions for Sepsis died either in the hospital or within 30 days of discharge.

Data sources: 2015 Virginia Medicare beneficiary claims data

1LiuV, etal. JAMA, 2014:May 18th, online
Stopping Sepsis in Virginia Hospitals & Nursing Homes

- Special Innovation Project, funded by the Centers for Medicare & Medicaid Services (CMS)
- Partnership between hospitals and nursing homes
- Opportunities for:
  - Customized support to achieve evidence based best practice (parallel process with VHHA working with hospitals and HQI with nursing homes)
  - Local sharing/processing of case reviews of sepsis cases admitted to hospital from nursing home
  - Regional or statewide collaborative to review process, lessons learned
- 2 year program (09/2016 – 09/2018)
33 Participating Hospitals

Augusta Health
Bon Secours DePaul Medical CTR
Bon Secours Mary Immaculate
Bon Secours Maryview Medical CTR
Bon Secours Memorial Regional
Bon Secours Richmond Community
Bon Secours Rappahannock
Bon Secours St Francis
Bon Secours St Mary's
Carilion Medical Center
Centra Lynchburg
Centra VA Baptist
Centra Bedford
Chesapeake Regional
Danville Regional Medical Center
Henrico’s Doctor Hospital
LewisGale Montgomery

Inova Alexandria
Inova Fair Oaks
Inova Fairfax
Inova Loudoun
Inova Mt. Vernon
Memorial Hospital of Martinsville
Rappahannock General
Reston Hospital Center
Riverside Doctors’ Williamsburg
Riverside Regional Medical Center
Riverside Shore Memorial
Riverside Tappahannock Hospital
Riverside Walter Reed Hospital
Southside Regional
VCU Medical Center
Virginia Hospital Center
Winchester Medical Center
<table>
<thead>
<tr>
<th>Nursing Homes and Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Ridge Nursing Center</td>
</tr>
<tr>
<td>Carriage Hill Health and Rehab</td>
</tr>
<tr>
<td>Culpeper Health and Rehab</td>
</tr>
<tr>
<td>Dulles Health and Rehab</td>
</tr>
<tr>
<td>Envoy of Westover Hills</td>
</tr>
<tr>
<td>Fairmont Crossing</td>
</tr>
<tr>
<td>Francis N Sanders Nursing Home</td>
</tr>
<tr>
<td>Gainesville Health and Rehab</td>
</tr>
<tr>
<td>Golden Living Charlottesville</td>
</tr>
<tr>
<td>The Gardens at Warwick Forest</td>
</tr>
<tr>
<td>Health Care Center Lucy Corr</td>
</tr>
<tr>
<td>Heritage Hall Leesburg</td>
</tr>
<tr>
<td>Highland Ridge Rehab CTR</td>
</tr>
<tr>
<td>Louisa Health and Rehab CTR</td>
</tr>
<tr>
<td>Oakwood Health and Rehab</td>
</tr>
<tr>
<td>Potomac Falls health and Rehab</td>
</tr>
<tr>
<td>Regency Health and Rehab</td>
</tr>
<tr>
<td>Riverside Health and Rehab</td>
</tr>
<tr>
<td>Riverside Convalescent - Mathew</td>
</tr>
<tr>
<td>Riverside Convalescent - Saluda</td>
</tr>
<tr>
<td>Riverside Convalescent - Smithfield</td>
</tr>
<tr>
<td>Riverside Convalescent - West</td>
</tr>
<tr>
<td>Riverside Rehab Center Hampton</td>
</tr>
<tr>
<td>Riverside Shore Rehab Center Hampton</td>
</tr>
<tr>
<td>Stanleytown Health and Rehab</td>
</tr>
<tr>
<td>Summit Health and Rehab CTR</td>
</tr>
<tr>
<td>The Convalescent Center at Patriots</td>
</tr>
<tr>
<td>The Jefferson</td>
</tr>
<tr>
<td>The Laurels of Bon Air</td>
</tr>
<tr>
<td>The Laurels Charlottesville</td>
</tr>
<tr>
<td>The Laurels University Park</td>
</tr>
<tr>
<td>The Laurels of Willow Creek</td>
</tr>
<tr>
<td>The Orchard</td>
</tr>
<tr>
<td>VA Baptiste Hospital Division CTR</td>
</tr>
<tr>
<td>Westport Rehab and Nursing Center</td>
</tr>
</tbody>
</table>
VA Nursing Homes and Hospitals Recruited for Sepsis

- Recruited Hospital
- Recruited SNF
- NHIN SNF

Care Transitions Community Recruitment Status
- None
- Recruited
Setting Specific Support

HQI is supporting with Nursing Homes on infection control and Sepsis awareness

✓ Seeing Sepsis 100 Pocket Card
✓ Sepsis rapid identification tool
✓ Sepsis algorithm
✓ SBAR
✓ Patient/Resident flyer

VHHA’s Center for Excellence is supporting hospitals

✓ Focus on Sepsis bundle process measure with most opportunity for improvement
✓ Sepsis policy review and Sepsis Gap Analysis
✓ Data driven facility specific recommendations for improvement and sustainability
Cross Setting Webinars and Meetings

- Hospitals and nursing homes will receive quarterly Sepsis Mortality data based on Medicare Part A claims, these data will be aggregated and presented during webinar, also discussion of transfer cases, case studies, gaps in care, recommendations for improvement, lessons learned...
  - Facilities will receive its own report

- Opportunities for Dialogue and Collaboration
  - Case Studies – joint reviews
  - Identify cross setting aim related to sepsis work
Minnesota Hospital Association Surviving Sepsis Campaign


Surviving Sepsis Campaign

How to Improve

Updated Surviving Sepsis Campaign Guidelines
A consensus committee of 55 international experts in sepsis has updated recommendations to help guide clinicians caring for their adult patients with sepsis and septic shock.

http://www.survivingsepsis.org/Pages/default.aspx
Kathleen Vollman, MSN, RN, CCNS, FCCM, FAAN

Model was developed by myself and Patricia Posa, RN, MHA, FAAN in 2005

Implemented:

- Trinity Health System
- Sutter Health System
- Foundation of Michigan Keystone Sepsis Initiative
- Numerous individual hospitals around the country
Sepsis: Defining a Disease Continuum

SIRS
Systemic Inflammatory Response
Infection

SEPSIS
SIRS + Infection

SEVERE SEPSIS
Sepsis + Tissue/Organ damage

SEPTIC SHOCK
Severe Sepsis + Metabolic failure
Death

http://www.survivingsepsis.org/Resources/Pages/Protocols-and-Checklists.aspx
The Sepsis Challenges

- There is no simple test for sepsis

- Many of the symptoms of sepsis, such as fever and difficulty breathing, are the same as in other conditions, making sepsis hard to diagnose in its early stages

- Sepsis is a medical emergency and is defined along a continuum. The speed and appropriateness of therapy administered in the initial hours are highly likely to influence whether a resident will survive

- This is not your typical Core Measure

- The Sepsis Bundles, when implemented as a group, have an effect on outcomes beyond implementing the individual elements alone.

- Successful implementation takes an integrated, educated and engaged team
Infection Prevention

VAE (VAP) Bundle

BSI

Hand Washing

CAUTI

Implementation of the Sepsis Bundles

Early Screening with Tools and Triggers

Organizational Consensus that Severe Sepsis Must be Managed Early and Aggressively

Measuring Success CQI¹

Rapid Improvement

Foundational Infection Control Required!

Infection Prevention

Documentation Improvement ~ Accurate Coding

Adapted from: Sepsis Solutions International

¹Continuous Quality Improvement
Organizational Consensus
Milestones and Checklist

1. Define Sepsis Program Goal and align with organizational goals
2. Identify Executive sponsor
3. Develop sepsis team (do we have all the right people here?) and schedule monthly (minimum) meeting for at least 6 months

4. **Collect Baseline Data**—essential step; understand your current process

5. Identify nursing and physician champions in ED and ICU and ensure champions attend team meeting

6. Begin to define action plan and timeline for program development and implementation
The Team Is KEY!
Major Barrier If Not Functioning Well

1. **Must** have nurse and physician champions from ED and ICU (need at least one physician at all meetings)

2. **Must** be linked in the organization’s quality or operational structure— *Are you linked?*

3. **Must** meet at least 1-2 times per month *with DATA*

4. Team members **must** be well educated on the evidence and armed with tools and knowledge to change behavior at the bedside— *Does the team need more education?*

5. **MUST** have bedside nurses on team—provide reality check and best knowledge of barriers—*Do you?*

*Consider developing nurse champions on each patient care unit and shift*
Baseline Data Collection Process

1. Pick time period for medical record query
2. Sample size: minimum of 20 pts per ICU
3. Query strategies:
   a. ICD 9 codes: 785.52 and 995.92 or DRG 870, 871, 872---now also look at ICD-10 R65.20 and R65.21
   b. Patients in ICU on 1-2 antibiotics, vasopressor (review charts to see if criteria met for severe sepsis with lactate > 4 or septic shock before including in outcome data or process data)
4. Select Data Collection Elements
   a. Outcome
   b. Process
# How you Collect Data Impacts Use

<table>
<thead>
<tr>
<th>How is Data Used</th>
<th>Prospective</th>
<th>Concurrent</th>
<th>Retrospective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticipatory review of patient record (can impact current care)</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Data abstracted in real time or within 24 hours</td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Serves as a prompt to execute bundle or the next phase of the bundle</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Recommended for new improvement teams</td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Recommended for advanced improvement teams or those that have demonstrated success with process measures</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Surviving Sepsis Campaign, Society of Critical Care Medicine, website accessed 1/26/2017
Q3 For the 3 hour sepsis bundle, how are your cases identified?

Answered: 23   Skipped: 0

- Concurrent Identification
- Retrospective Review after
- Other (specify below)

Stopping Sepsis in VA Hospitals and Nursing Homes Baseline Data Survey Response, January 26, 2017
Are You OK with your Data Delay?

Response to Baseline Data Survey Question: What is the lead time needed to provide sepsis data for this project?

<table>
<thead>
<tr>
<th>Time for Abstraction</th>
<th>2 weeks</th>
<th>1 month</th>
<th>2 months</th>
<th>3 months</th>
<th>4 months</th>
</tr>
</thead>
<tbody>
<tr>
<td># Hospitals</td>
<td>2</td>
<td>11</td>
<td>4</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

Stopping Sepsis in VA Hospitals and Nursing Homes Baseline Data Survey Response, January 26, 2017
1. Patient Log
   a. Define how to find all patients that receive the bundles
   b. Real time data collection is optimal—
      1. ensures patient receives all appropriate interventions
2. Outcome Measures (are changes leading to intended outcomes?)
   a. Mortality (ICU and Hosp)
   b. Hosp LOS
   c. Cost per case (total and direct)
3. Process measures (have you created a reliable system that follows timing, sequence, and goals mandated in Sepsis Bundles?)
   a. Core Measures
   b. Data elements that measure implementation of 3 hour and 6 hour bundles
## Strategy for Realtime Data Collection

### Severe Sepsis / Septic Shock Clinical Pathway

**Please complete the following:**
- Time severe sepsis criteria met: Date: __________ Time: __________
- Time septic shock criteria met: (Time 2p): Date: __________ Time: __________

1. Severe sepsis criteria: Known or suspected infection plus 2 or more SIRS plus new organ dysfunction (see screening tool for organ dysfunction criteria)
2. Septic shock criteria: Severe sepsis plus SBP less than 90 mmHg or 40 mmHg decrease from baseline after initial fluid bolus or requires vasopressors or initial lactate acid is greater than or equal to 4 mEq/L

<table>
<thead>
<tr>
<th>Decision Grid</th>
<th>Date</th>
<th>0-6 Hours</th>
<th>6-24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient with severe sepsis-Implement interventions below within 1 hour</td>
<td>Yes</td>
<td>Septic Shock Bundle</td>
<td>Reassess for volume status/tissue perfusion at least every 4 hours</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>Apply vasopressor immediately for hypotension after fluid bolus</td>
<td>Consider additional vasopressors as necessary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pre-measure lactate acid if initial lactate acid is greater than 2 mEq/L within 4 hours of meeting severe sepsis criteria</td>
<td>Repeat lactate acid every 4 hours until normalized (less than or equal to 2 mEq/L)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>At next planned draw time</td>
<td>Ensure adequate source control</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In the event of persistent hypotension after initial fluid administration: MAP less than 65 mmHg or Initial lactate acid greater than or equal to 4 mEq/L, reassess volume status and tissue perfusion and document findings accordingly below for purposes of decision making</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>In patients with ARDS (P/F ratio less than 300):</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>24-72 Hours</td>
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<td></td>
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</tr>
</tbody>
</table>

| Nurse | | | | |
|-------|------|----------|-----------|
| Physician | | | | |
| Signature, Date & Time | | | | |
Time Zero

a. Will always be when the chart annotation suggests signs and symptoms are all present.

b. May be from nursing charting/screens, lab flow sheets, physician documentation, order sets, anything with a time stamp.

c. Will = triage time if all signs and symptoms are present at triage.

d. It does not require MD documentation of the clock starting and relying on this alone in the ED would likely result in late clock starts.

Sepsis coding is increasing but is accurate. More aggressive treatment seen from 2003 to 2013


Slides courtesy of Sean Townsend
Common Challenge: Insufficient Feedback, Data and Accountability

Strategies:

• Set goals/expectations for sepsis program
• Use examples of hospital patients in case studies for education of staff (good outcomes and bad)
• Review data at:
  • Sepsis team meeting
  • Quality meeting
  • Patient safety meeting
  • Unit based meetings
  • Medical staff/department meetings
  • Board meeting
• Provider specific data on compliance with bundle elements and patient outcomes, compared to the goal
• Individual case feedback based on case reviews
Standardize Feedback to Identify Gaps

Severe Sepsis/Septic Shock Feedback Report - MICU

The purpose of this report is to give feedback on the below listed patient recently treated for Severe Sepsis/Septic Shock, and to emphasize the current quality improvement initiative related to Sepsis. We welcome your input and clinical expertise on opportunities that might help us improve on any of these measures.

Performing all the elements within the resuscitation bundles listed below in a timely manner can significantly reduce mortality of our Severe Sepsis and Septic Shock patients. Thank you for your dedication and care for these patients. If you have any questions, please contact Dr. ____________, MICU Sepsis Champion.

<table>
<thead>
<tr>
<th>Patient Initials:</th>
<th>Patient Name:</th>
<th>FIN:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Info:</td>
<td>ED Arrival Date &amp; Time:</td>
<td>ED RN:</td>
</tr>
<tr>
<td></td>
<td>ED Physician:</td>
<td>ED Resident:</td>
</tr>
<tr>
<td></td>
<td>Floor Arrival Date, Time, &amp; Unit:</td>
<td>Pt Transferred From:</td>
</tr>
<tr>
<td></td>
<td>TCH Arrival Date &amp; Time:</td>
<td></td>
</tr>
<tr>
<td>Attending:</td>
<td>Resident:</td>
<td>PRISM Score</td>
</tr>
<tr>
<td></td>
<td>Severe Sepsis:</td>
<td>Septic Shock Time (Time Zero):</td>
</tr>
<tr>
<td></td>
<td>Severe Sepsis/Septic Shock Clinical Pathway:</td>
<td>Code Sepsis Paged:</td>
</tr>
<tr>
<td></td>
<td>Date/Time Criteria Infection:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Date/Time Criteria SIRS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Date/Time Criteria Organ Dye:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sepsis Quality Indicators</th>
<th>Date &amp; Time</th>
<th>Result</th>
<th>Goal Met (Y/N)</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lactic Acid</td>
<td></td>
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<tr>
<td>Blood Cultures before</td>
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<tr>
<td>Antibiotics</td>
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<tr>
<td>Blood Pressure</td>
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<tr>
<td>Serum Lactate</td>
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<tr>
<td>Central Line Placed, if</td>
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<tr>
<td>Vasopressor Started</td>
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<tr>
<td>3 Hour Measures</td>
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<tr>
<td>Vasopressor Started for</td>
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<tr>
<td>SEP &lt; 90 or MAP &lt; 65mmHg</td>
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<tr>
<td>6 Hour Measures</td>
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<tr>
<td>Vasopressor Started for</td>
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<tr>
<td>SEP &lt; 90 or MAP &lt; 65mmHg</td>
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<tr>
<td>CMS Requirement:</td>
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<tr>
<td>Vasopressor Started for</td>
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<tr>
<td>SEP &lt; 90 or MAP &lt; 65mmHg</td>
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<tr>
<td>Repeat Focused Exam by</td>
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<tr>
<td>MD/PAF (vs. C &amp; x-ray &amp; CSF)</td>
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<tr>
<td>CMS Requirement:</td>
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<tr>
<td>Repeat Lactic Acid</td>
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</tbody>
</table>

Comments:
1. List the process steps below each box
2. For each process step include job title of persons performing the step
3. For each queue quantify the delay time (D/T)
4. Then total each to get L/T for the overall process

- Query Pt.
- Perform Assessment

- D/T: % pt. screened
- D/T: Total L/T to diagnosis
- D/T: % bundle use
- D/T: If bundle is not used, describe these resuscitation components

- Labs:
- Meds:
- IV’s:
- Monitoring:
- CVP:
- MAP:
- ScvO2:
1. List the process steps below each box
2. For each process step include job title of persons performing the step
3. For each queue quantify the delay time (D/T)
4. Then total each to get L/T for the overall process

If bundle is not used, describe these resuscitation components
Intermountain Health: SS and Shock

Mortality (%) vs Total Bundle Compliance (%)

- Control
- 2004: 4.9%
- 2005: 21.2%
- 2006: 15.7%
- 2007: 10.5%
- 2008: 73.4%
- 2009: 8.7%
- 2010: 4.9%

Miller, Dong, Nelson, et al.: Sepsis Bundle and Mortality
Am J Respir Crit Care Med Vol 188, Iss. 1, pp 77–82, Jul 1, 2013
Intermountain Health: Shock

Miller, Dong, Nelson, et al.: Sepsis Bundle and Mortality
Am J Respir Crit Care Med Vol 188, Iss. 1, pp 77–82, Jul 1, 2013
Where is Your Hospital’s Sepsis Program?

- Baseline Data
- Sepsis Gap Analysis Tool
  - What is the depth of your sepsis team?
- Sepsis Policies and Procedures
- Ongoing Data Access for monitoring and process adjustment
Denominator for third quarter 2016 (July 01 - Sept. 30, 2016). The denominator is the “number of identified sepsis patients,” with “severe sepsis/septic shock” as defined by the current CMS core measures (i.e., pts. with SIRS, suspected/documenting infection source, & organ dysfunction) and not patients with just sepsis (i.e., presence of SIRS and suspected/documenting infection source).

Max. 211; Min 20

Stopping Sepsis in VA Hospitals and Nursing Homes Baseline Data Survey Response, January 26, 2017
### 3 hr. Sepsis Bundle Performance Measure

<table>
<thead>
<tr>
<th>Measure</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of identified sepsis patients for whom a lactate level is measured within 3 hours</td>
<td>13</td>
</tr>
<tr>
<td>Number of identified sepsis patients who were administered broad spectrum or other antibiotics</td>
<td>12</td>
</tr>
<tr>
<td>Number of identified sepsis patients for whom blood cultures were drawn prior to antibiotic administration</td>
<td>9</td>
</tr>
<tr>
<td>Number of identified sepsis patients for whom an initial lactate level was elevated and a second lactate was completed within 6 hours</td>
<td>17</td>
</tr>
</tbody>
</table>

Total Respondents: 23
Performance Measure Baseline

% of Identified Sepsis Patients for Whom A Lactate Level is Measured Within 3 Hours
Quarter 3 July-September 2016

Stopping Sepsis in VA Hospitals and Nursing Homes Baseline Data Survey Response, January 26, 2017
Performance Measure Baseline

% of Identified Sepsis Patients Who Were Administered Broad Spectrum or Other Antibiotics
Quarter 3 July-September 2016

Average = 82%

Stopping Sepsis in VA Hospitals and Nursing Homes Baseline Data Survey Response, January 26, 2017
% of Identified Sepsis Patients for Whom Blood Cultures Were Drawn Prior to Antibiotic Administration
Quarter 3 July-September 2016

Average = 88%

Stopping Sepsis in VA Hospitals and Nursing Homes Baseline Data Survey Response, January 26, 2017
Performance Measure Baseline

% of Identified Sepsis Patients for Whom An Initial Lactate Level Was Elevated and A Second Lactate Was Completed Within 6 hours
Quarter 3 July-September 2016

Stopping Sepsis in VA Hospitals and Nursing Homes Baseline Data Survey Response, January 26, 2017
## Gap Analysis Assessment Tool, Complete by 2/3/2017

<table>
<thead>
<tr>
<th>COMPONENTS</th>
<th>YES</th>
<th>NO</th>
<th>NA</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organizational Commitment/ Team</strong></td>
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<tr>
<td>Physician and nursing leadership participate in action planning for sepsis initiatives</td>
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<tr>
<td>Multidisciplinary team in place and monthly meetings (providers, nursing, quality, care management, etc) from various care areas, ED, ICU, Med Surg, Perinatal, peds</td>
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<tr>
<td>Executive sponsor receives regular data reports and provides feedback</td>
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<tr>
<td>Sepsis Team is part of/ reports to Critical care or quality structure in hospital</td>
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<tr>
<td>Managing sepsis is aligned with hospital’s quality, safety or organizational goals</td>
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<tr>
<td>Baseline data collection completed for process and outcome data</td>
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<tr>
<td><strong>Dedicated Sepsis resource/ Sepsis Coordinator</strong></td>
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<tr>
<td>Dedicated Sepsis Resource in place (in comments identify title)</td>
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<tr>
<td>FTE allocation/ time commitment to sepsis role</td>
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<tr>
<td>Site/ sites supported</td>
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<tr>
<td>Other responsibilities in the role</td>
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<tr>
<td><strong>Identification/ Screening</strong></td>
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<tr>
<td>Early alert or warning system/process in place in the ED or describe triggers for sepsis screening:</td>
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<tr>
<td>ED</td>
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<tr>
<td>ICU</td>
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<tr>
<td>INPATIENT UNITS</td>
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<tr>
<td>PERINATAL</td>
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<tr>
<td>PEDIATRICS</td>
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</tbody>
</table>
Submit Your Sepsis Policies and Procedures

- Policies and procedures will be reviewed and comments/recommendations provided.
- This information will contribute to the development of your hospital’s specific Stopping Sepsis process improvement aim(s)

## Keeping on Track – Sepsis Workplan

<table>
<thead>
<tr>
<th>Hospital Name</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
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</thead>
<tbody>
<tr>
<td><strong>Submit Participation Agreement</strong></td>
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<tr>
<td>Attend or View Kick-off Webinar</td>
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<tr>
<td>Identify your Sepsis Team Members</td>
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<tr>
<td>Communicate project aims with team members</td>
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<tr>
<td>Identify CMS 3-hour Sepsis bundle process measure for improvement</td>
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<tr>
<td>Complete and Submit survey for Baseline Data by January 05, 2017</td>
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<td><strong>Attend webinar for Hospital Workplan Overview – Monday, January 30, 2017 11-12 p.m.</strong></td>
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<tr>
<td>Complete and Submit Hospital Sepsis Assessment Due by February 03, 2017</td>
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<tr>
<td>Submit Hospital’s Sepsis Management policies and protocols Due by February 03, 2017</td>
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<tr>
<td>Schedule on-site visit with VHHA’s Stopping Sepsis Project Facilitator, Wanda Clevenger <a href="mailto:wclevenger@vhha.com">wclevenger@vhha.com</a>, to review/discuss data informed strategy. <strong>Hospitals must submit both the hospital sepsis assessment and sepsis policies and procedures prior to scheduling on-site visit. (February through April 2017)</strong></td>
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<tr>
<td>Establish monthly data submission for tracking improvement of identified Sepsis 3-hour bundle process measure. Timeliness of data submission will be discussed at the Hospital Workplan Overview webinar on 1/30/2016.</td>
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<tr>
<td>Attend Introductory Cross Setting webinar (date to be announced, late February 2017 at 11-12p.m.) featuring: HQI data analyst presenting Medicare Part A claims data Sepsis Mortality Outcome Measures; frameworks for the sepsis dialogue between hospitals and nursing homes; and introduction of the patient and family toolkit for engagement.</td>
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<tr>
<td>Attend Hospital webinar (11-12 p.m. March 28, May 23, June 27, Aug. 22, Sept. 26, Nov. 28, Dec. 26, Feb.</td>
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Project Timeline

- Hospital Webinars the 4th Tuesday of each month (except for February 27th, 2017 which is a Monday)
- Quarterly combined Hospital/Nursing Home data review and sharing calls
  - *Held in place of the monthly calls*
- Regional calls TBD
- Face to face events TBD
Save the date

Stopping Sepsis in Virginia Hospitals and Nursing Homes
Cross Setting Webinar
Presentation of Medicare Part A Claims Sepsis Outcome Data

February 27, 2017
11:00 AM – 12:00 noon
You will receive a copy of the forms and worksheets shared during this presentation.

Site visits can only be scheduled after the policies and procedures and Gap Analysis Assessment Tool have been submitted and reviewed.
Contact Information

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Director, Performance Improvement
Virginia Hospital & Healthcare Association
Center for Healthcare Excellence
(804) 965-1202
wclevenger@vhha.com

Kathleen Vollman
Clinical Nurse Specialist/Consultant
kvollman@comcast.net
This material was prepared by Health Quality Innovators (HQI), the Medicare Quality Innovation Network-Quality Improvement Organization for Maryland and Virginia, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy. HQI|11SOW|20170127-182838