The Home Care Association of New York State’s
Adult Screening Tool for Sepsis
- A National First -
Harnessing the Home Care System for Early Sepsis Recognition and Intervention:
New Developments in Sepsis Identification & Detection in the Home Care Setting

Presented by:
Amy Bowerman, RN, Director of Quality Improvement / VNA of Utica & Oneida County
Director of Patient Services / Senior Network Health
HCA Quality Committee & HCA Sepsis Workgroup Leader

Sara Butterfield RN, BSN, CPHQ, CCM
Senior Director, Healthcare Quality Improvement / IPRO

Eve Bankert, MT (ASCP)
Quality Improvement Specialist / IPRO
The Scope of the Problem – National Perspective

- 1.6 million cases of sepsis each year in the U.S.
- 258,000 deaths each year – more than breast cancer, prostate cancer and AIDS – combined
- Takes more children than cancer – 12 kids each day
- #1 cause of death in U.S. hospitals
- #1 driver of readmission to a hospital
- #1 cost of hospitalization - $24 Billion per year
- Up to 50% of sepsis survivors suffer from Post-Sepsis Syndrome (PSS)
- More than 80% of sepsis cases originate in the community
- Mortality increases 8% every hour that treatment is delayed

Source: Sepsis Alliance
The Scope of the Problem – National Perspective

Centers for Disease Control & Prevention (CDC)  *Morbidity & Mortality Weekly Report* (August 26, 2016 / 65(33);864–869)

**Vital Signs: Epidemiology of Sepsis: Prevalence of Health Care Factors and Opportunities for Prevention** (http://www.cdc.gov/mmwr/volumes/65/wr/mm6533e1.htm)

- Sepsis as a *medical emergency*
- *Sepsis begins outside of the hospital for nearly 80% of patients*
- *Time matters. When sepsis is quickly recognized and treated, lives are saved*
- *Healthcare providers are the critical link to preventing, recognizing, and treating sepsis*
New York State Medicare Fee for Service 30-Day Readmission Trends CY 2015

Source: CMS Medicare FFS Paid Claims

Most Common Primary Diagnosis For Less Than 30 Day Re-admissions

<table>
<thead>
<tr>
<th>Disease Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Septicemia (except in labor)</td>
<td>4,124</td>
</tr>
<tr>
<td>Complication of device: implant or graft</td>
<td>685</td>
</tr>
<tr>
<td>Congestive heart failure; nonhypertensive</td>
<td>608</td>
</tr>
<tr>
<td>Pneumonia except that caused by tuberculosis or sexually transmitted</td>
<td>510</td>
</tr>
<tr>
<td>Complications of surgical procedures or medical care</td>
<td>469</td>
</tr>
<tr>
<td>Urinary tract infections</td>
<td>371</td>
</tr>
<tr>
<td>Respiratory failure: insufficiency; arrest (adult)</td>
<td>345</td>
</tr>
<tr>
<td>Acute and unspecified renal failure</td>
<td>342</td>
</tr>
<tr>
<td>Aspiration pneumonitis: food/vomit</td>
<td>287</td>
</tr>
<tr>
<td>Gastrointestinal hemorrhage</td>
<td>283</td>
</tr>
</tbody>
</table>

* Diseases are categorized using ‘Clinical Classification’ software provided by CMS.

Source: Paid Medicare claims from CMS.
Highest Mortality Rate Occurs Within first 5 Days of Hospital Stay

“Sepsis strikes quickly, and earlier recognition and improved care management can reduce sepsis-related morbidity and mortalities.” (Castellanos-Ortega A et al, 2010).

<table>
<thead>
<tr>
<th>Length Of Stay Prior To Death (days)</th>
<th>Number Of Patients</th>
<th>Percent Of All In-Hospital Sepsis DX Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>97</td>
<td>6.3%</td>
</tr>
<tr>
<td>1</td>
<td>202</td>
<td>13.1%</td>
</tr>
<tr>
<td>2</td>
<td>125</td>
<td>8.1%</td>
</tr>
<tr>
<td>3</td>
<td>118</td>
<td>7.7%</td>
</tr>
<tr>
<td>4</td>
<td>89</td>
<td>5.6%</td>
</tr>
<tr>
<td>5</td>
<td>96</td>
<td>6.2%</td>
</tr>
<tr>
<td>6</td>
<td>83</td>
<td>6.4%</td>
</tr>
<tr>
<td>7</td>
<td>69</td>
<td>4.5%</td>
</tr>
<tr>
<td>8</td>
<td>61</td>
<td>4.0%</td>
</tr>
<tr>
<td>9</td>
<td>74</td>
<td>4.8%</td>
</tr>
<tr>
<td>10</td>
<td>62</td>
<td>4.0%</td>
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<tr>
<td>11</td>
<td>35</td>
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<tr>
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<tr>
<td>16</td>
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<td>17</td>
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<td>19</td>
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<td>24</td>
<td>1.6%</td>
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<tr>
<td>21</td>
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<tr>
<td>27</td>
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<td>0.3%</td>
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<tr>
<td>28</td>
<td>6</td>
<td>0.4%</td>
</tr>
<tr>
<td>29</td>
<td>8</td>
<td>0.5%</td>
</tr>
<tr>
<td>30</td>
<td>8</td>
<td>0.8%</td>
</tr>
<tr>
<td>GT 30</td>
<td>99</td>
<td>6.4%</td>
</tr>
</tbody>
</table>

Source: CMS MFFS Paid Claims
NYS Medicare FFS Admissions with a Diagnosis of Sepsis While Receiving Home Health Care - CY 2015

### Days Of Home Health Care Prior to Admission*

<table>
<thead>
<tr>
<th>Days Of Home Health Care Prior to Admission*</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less Than Seven Days</td>
<td>1,687</td>
<td>20.0%</td>
</tr>
<tr>
<td>Eight To Thirty Days</td>
<td>2,938</td>
<td>34.9%</td>
</tr>
<tr>
<td>More Than Thirty Days</td>
<td>3,793</td>
<td>45.1%</td>
</tr>
</tbody>
</table>

**Opportunity to positively impact Home Health population through earlier recognition of sepsis**

### Hospital Admissions:
- Patients with one or more admissions: 7,304
- Total number of admissions: 8,418

### Hospital Utilization:
- Average Length of Stay: 11.7 days
- Total Days of Care: 99,770

### Hospital Medicare FFS Expenditure:
- Average Expenditure Per Case: $22,486
- Estimated Total Expenditure: $189 Million

*Source: CMS Medicare FFS Paid Claims Data*
The Opportunity

- Time to treatment is critical

- Early identification and treatment are the key to improved outcomes and reduced costs

- NYS Hospitals are one of two states with mandatory Sepsis Identification & Treatment Protocols in place

- Biggest next opportunity lies in public awareness and primary care education and training

- Home care and long term care population most vulnerable to sepsis
The Opportunity for Home Health

- The home care population embodies the high risks for sepsis – elderly, medically fragile children and adults, conditions especially susceptible to infection and known sepsis risk

- Home Care Clinicians are skilled in the interaction with and care of these individuals

- Home care provides a ready, statewide infrastructure of agencies and nurse clinicians with the unique community and in-home presence and expertise to conduct essential screening, evaluation, education and intervention with critical health system partners
Why This is Important

About Sepsis Alliance
Sepsis Alliance is the leading nonprofit patient advocacy organization in North America promoting awareness of sepsis. Sepsis Alliance’s mission is to save lives by raising awareness of sepsis as a medical emergency. The organization hosts national and community events, distributes educational information, and promotes training and education of sepsis and its devastating effects. Sepsis Alliance also provides support by giving patients and family members information about sepsis and post sepsis syndrome. Sepsis Alliance, a 501(c)(3) charitable organization, is a GuideStar Gold Rated Charity.

Sepsis: Emergency Video Available on Sepsis Alliance Website: http://www.sepsis.org
Centers for Medicare & Medicaid Services
Special Innovation Project (SIP) Overview:
Community Based Sepsis Initiative

Eve Bankert MT (ASCP)
Quality Improvement Specialist / IPRO
AQIN Community Based Sepsis Initiative

- Centers for Medicare and Medicaid Special Innovation Project
  - Two Year Contract Award
    - September 2015- September 2017
- Performance Based Measures
- AQIN Based (Atlantic Quality Innovation Network)
  - New York (IPRO)
  - South Carolina (The Carolinas Center for Medical Excellence)
- Sepsis is number one reason for Medicare Fee for Service population 30-day readmissions in New York State
- Community awareness of sepsis signs and symptoms low
New York State Target Regions

Albany & Syracuse Hospital Referral Regions (HRRs)

- **Albany HRR**
  - In-hospital sepsis mortality rate of 14.6%
  - Ranks 8th in NYS Hospital Referral Regions for sepsis admissions

- **Syracuse HRR**
  - In-hospital mortality rate of 15.6%
  - Ranks 7th in NYS Hospital Referral Regions for sepsis admissions

- **National**
  - In-hospital All Cause Mortality Rate - 4.2%

Source: CMS Medicare FFS Paid Claims Data
Community Based Sepsis Initiative Approach

- Facilitate education and build awareness of sepsis among pre-hospital providers and caregivers
- Train-the-Trainer format
- Identify best practices and educate pre-hospital providers on prompt recognition of early signs and symptoms of sepsis
- Educate on the premise that Sepsis is a medical emergency
- Improve processes of care transitions and sepsis treatment between pre-hospital and emergency/hospital care settings as well as post-acute discharge into the community
- Increase public awareness of the signs, symptoms and risk factors for sepsis
IPRO Community Based Sepsis Train-the-Trainer Sessions

- Home Health Agencies
  - Clinical and non-clinical staff

- Skilled Nursing Facilities
  - Clinical and non-clinical staff

- Physician Practices
  - Non-clinical staff

- 30 Regional Train-The-Trainer sessions held to date
  - 7,967 pre-hospital providers and caregivers have been trained on Sepsis Awareness utilizing IPRO-developed training tools
Assessment of Learning Measured by Pre and Post Assessment Tool

50% Increase in knowledge post training across all individuals trained
CMS Special Innovation Project: Community Based Sepsis Initiative Measures

Outcome Metrics

- Number of inpatient admissions of Medicare FFS patients by stage of sepsis: 1) Sepsis; 2) Severe sepsis; 3) Septic shock

- Inpatient mortality for Medicare FFS patients by stage of sepsis: 1) Sepsis; 2) Severe sepsis; 3) Septic shock

- Acute Length of Stay with mortality by stage of sepsis: 1) Sepsis; 2) Severe sepsis; 3) Septic shock

- Acute Length of Stay without mortality by stage of sepsis: 1) Sepsis; 2) Severe sepsis; 3) Septic shock

- Reduction in 30, 60 and 180 day readmissions for Medicare FFS patients with a principal diagnosis of sepsis
The Journey

HCA Sepsis Engagement – How Started

• The National Sepsis Alliance’s outreach to the health continuum by its Executive Director Tom Heymann led to HCA’s initial query into sepsis in the community venue

• HCA queried the Association’s home care clinicians to examine incidence, prevalence and risk in this venue and population; no immediate profile of incidence or prevalence, or clinicians’ serendipity of relevance in the specific sector
The Journey

• HCA Quality Committee subsequently identified factors that compelled HCA’s decision to further pursue, including:

  • National morbidity, mortality, cost and hospitalization/re-hospitalization data showing leading indices related to septicemia

  • Inclusion of quality improvement goals specific to septicemia in key parts of the system

  • Medicare FFS hospital readmission data showing septicemia to be #1 diagnosis for 30-day all cause readmissions for NYS hospitals (data presented to Committee by IPRO) and; also, data derived from Staunton Foundation development of sepsis protocols for hospitals)
The Journey

- Based on such indicators, HCA moved to further delve to determine potential of home care role in combating sepsis

- HCA investigated at the national level, across states and array of professional sources in attempt to identify home care sepsis experience, possible resources and tools related to home health/community setting; none were found, but HCA received reinforcement to pursue from all contacts, and great interest in what HCA might innovate

- HCA moved to highlight sepsis in November 2014 HCA Statewide Quality Symposium and December 2014 session of the HCA Quality Committee
HCA Home Care Screening Tool for Sepsis Early Recognition and Intervention
HCA Adult Sepsis Screen and Protocol

Authorized Use!

- Please note that all text, methodologies, processes, courseware, images and other material contained in this webinar and the Sepsis Tool included therein (the “Information”) are the proprietary information of the Home Care Association of New York State, Inc. It is illegal to use, copy and/or distribute any of the Information without the express written permission of the Home Care Association, Inc. The Information is being provided solely in connection with a webinar to explain the use of the Sepsis Tool and for no other purpose, and no license is provided to access or use the Information except for the limited purpose of participating in this webinar.
HCA Home Care Screening Tool for Sepsis Early Recognition and Intervention
Home Care Services
Adult Sepsis Screening – SBAR Form

1. Does the patient’s history, physical examination, or other findings suggest an infection? □ Yes □ No

If Yes, specify source of infection: _______________ and select one or more suspected sites:

- □ Pneumonia
- □ Urinary tract infection
- □ Acute abdominal infection
- □ Meningitis
- □ Bone or joint infection
- □ Bloodstream catheter infection
- □ Other source of infection (describe) _______________

2. Are any 2 (or more) of the following systemic criteria present? □ Yes □ No

If yes, check all that apply:

- □ Fever (oral temperature >38.3°C [100.9°F] or hypothermia (core temperature <36.0°C [96.8°F])
- □ Tachycardia (heart rate or pulse >90 beats/minute)
- □ Tachypnea (respirations >20 breaths/minute)

3. Is at least one new (since the last screen) sepsis-related organ dysfunction criteria present from the following list? □ Yes □ No

If yes, check all that apply:

**Neurological**
- □ New onset acutely altered mental status/difficult to arouse

**Lung**
- □ New onset saturation <90% by pulse oximetry, on supplemental oxygen SPO2 other than baseline

**Kidney**
- □ New onset urine output decreased from the patient’s baseline with adequate fluid intake (and not due to ESRD)

**Cardiovascular**
- □ New onset hypotension (systolic blood pressure <90 or decreases by >40 mm Hg)

**Pain**
- □ New onset pale/discolor

- □ New onset pain/general discomfort

or potential source of infection?
The Patient Meets Criteria for Infection
If the answer to #1 is yes and the answer to #2 and #3 are no educate the patient on signs and symptoms of Sepsis.

The Patient Meets Criteria for MD Notification
If the answer to question #3 is “Yes” and answers to questions #1 and/or #2 are “No”, then notify MD of your findings and document.

The Patient Meets Criteria for Sepsis
If the answer to questions #1 and #2 are “yes”, but the answer to question #3 is “no”, then the patient meets criteria for sepsis. Document your findings, notify the provider and obtain MD order to draw CBC.

The Patient Meets Criteria for SEVERE Sepsis
If the answer to questions #1, #2, and #3 are all “yes,” then the patient meets screening criteria for severe sepsis. Document your findings, notify the provider and have patient transported to emergency department for evaluation.
Check all that apply:

☐ The interventions in the Sepsis Protocol are clinically contraindicated (provider determination) the patient has been educated on the signs and symptoms of Sepsis.

☐ The patient has advanced directives in place at this time which precludes any of the protocol interventions (e.g., an order in place for “comfort measures only”). Education has been completed with the patient and/or caregiver on symptom management of Sepsis.

☐ The patient or surrogate declined or is unwilling to consent to protocol interventions. Provider has been notified of the decision not to receive acute intervention. Education has been completed with the patient and/or the caregiver as to the risks and benefits of declining intervention.

☐ The patient has met all criteria for severe sepsis and requires immediate intervention, MD notified, patient to be transported to emergency department, and report called to the receiving emergency department.

☐ The patient meets Sepsis criteria, MD notified, antibiotics initiated, and next skilled nursing visit to be completed within 24 hours.

Time criteria met and provider notified: ____________________________

Date/Time: ____________________________

Provider Notified: ____________________________

Provider’s Name: ____________________________

Signature: ____________________________, RN

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Adult Sepsis Screen Flow Chart

Home Visit

Nurse completes an Adult Sepsis Screening Assessment for each home visit.

1. Does the patient have a suspicion for infection?
2. Does the patient have 2 or more systemic criteria present for sepsis?
3. Is there at least one new sepsis related organ dysfunction criteria present?

FOLLOW UP
FOLLOW UP

Answers to 1, 2, & 3 are “No”
STOP
Complete a new Adult Sepsis Screen Assessment at next home visit.

Answers to 1 is “Yes” but 2 and 3 are “No”
EDUCATE THE PATIENT ON SIGNS AND SYMPTOMS OF SEPSIS

Answers to 1 and/or 2 are “No” but 3 is “Yes”
PATIENT MEETS CRITERIA FOR MD NOTIFICATION
Document findings and notify MD.

Answers to 1 & 2 are “Yes” but 3 is “No”
PATIENT MEETS CRITERIA FOR SEPSIS
Document findings, notify MD, and draw CBC.

Answers to 1, 2 & 3 are “Yes”
PATIENT MEETS CRITERIA FOR SEVERE SEPSIS
Document findings, notify provider, patient to be transported to the emergency department.

INTERVENTIONS
Refer to Sepsis Screening – SBAR Form for determination of interventions.
Early Signs and Symptoms of Sepsis

Has your healthcare provider diagnosed you with an INFECTION? You could be at risk for SEPSIS. Know the signs!

What is Sepsis?
Sepsis is your body’s life-threatening response to an INFECTION anywhere in your body. Anyone can get sepsis!

Signs and Symptoms of Sepsis
Watch for a combination of INFECTION + fever or feeling chilled, confusion/sleepiness, fast heart rate, fast breathing or shortness of breath, extreme pain and pale/dischored skin.

SEPSIS IS A MEDICAL EMERGENCY

GREEN Zone: ALL CLEAR - Feeling well
- No fever or feeling chilled
- No confusion or sleepiness
- No fast heart rate
- Easy breathing
- No increase in pain

RED Zone: Call your doctor or nurse immediately if you experience INFECTION and...
- Fever or feeling chilled
- Confusion/sleepiness (recognized by others)
- Fast heart rate
- Fast breathing or shortness of breath
- Extreme pain
- Pale or discolored skin

If you are unable to reach your doctor or nurse, CALL 911 OR HAVE SOMEONE TAKE YOU TO THE EMERGENCY DEPARTMENT.

Key Contacts:

This material was prepared by the Atlantic Quality Innovation Network (AQIN), the Medicare/Medicaid Innovation Network (IMQ) Improvement Organization for New York State, South Carolina, and the District of Columbia, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents do not necessarily reflect CMS policy.

Rev 07/26/16

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Key Points About the Sepsis Screening Tool

• Screening is to be completed at start of care, resumption of care, and *every* visit

• The interventions are *recommended interventions* and not a substitute for treatment, consultation or direction from a physician or authorizing practitioner

• If clinicians choose to order tests/interventions not listed on the tool, they need to document at bottom of the screen tool (or “refer to nurse note” and document on nurse note the intervention that was ordered)

• Patient/public education component is significant
Guidance for Agency Adoption of Tool

- Agency adoption; leadership buy-in
- Staff training, effective discernment of criteria, effective application of screen
- Incorporation in agency EHRs
- Evaluation, tracking of outcomes, feedback for potential improvement
- Effective work with partners (MD, hospital, EMS)
- Support for home care agency and partner effort (from public officials, payors, other actors)
Guidance for Agency Adoption of Tool: Experience & Takeaways from IPRO Initiative

• Senior leadership support is imperative for the success of this initiative
• Feedback from the training sessions has been positive
  • Professional staff are surprised at the data sepsis statistics
  • Training sessions inspire “awesome discussions”
  • Utilization of the screening tool would be significantly greater if it was integrated into their electronic health assessment
• Survey of IPRO trained home health staff (August 2016):
  • Requested educational webinar on use of tool
  • Revealed that most agencies have plan of care parameters and guidelines to identify sepsis
HCA Sepsis Tool Webinar Series
http://atlanticquality.org/initiatives/sepsis-initiative/

- **Webinar I – September 30, 2016**
  - Critical background on the sepsis emergency, presentation of the HCA Home Care Sepsis Screening Tool and Protocol

- **Webinar II – October 20, 2016**
  - Strategies for agency adoption of the Tool and EHR integration
  - **Webinar III: Train the Trainer – Date Pending**

**Participation in all three (or subsequent if needed) of these preparatory webinars is required for agencies to be able to utilize the tool**

Following the third or final webinar, this tool itself will be made directly accessible to agencies
Next Steps

- Our goal is that all NYS home care providers adopt and employ this lifesaving screen and protocol
- Guide and assist providers in adoption and use
- Seeking complementary federal, state and philanthropic reinforcement and the forging key strategic health system partnerships further building upon this effort
- Work with Visiting Nurse Association of America which has reached out to partner w/us to promote in NYS and nationally
- Further collaboration with Centers for Disease Control
- Continuing discussion with the State Hospital Association re collaborative hospital-homecare sepsis initiatives - e.g., bundled payments, clinical pathways
- Upcoming meeting with State Medicaid Director
- Upcoming meetings with the State Administration and Legislature to support in the coming budget and legislative session
Panel Discussion
Questions & Feedback
Resources

• Home Care Association of NYS, Inc. http://hca-nys.org/

• Centers for Disease Control & Prevention http://www.cdc.gov/sepsis/

• Sepsis Alliance - http://www.sepsisalliance.org/

• The Rory Staunton Foundation https://rorystauntonfoundationforsepsis.org/

• NYS Department of Health - https://www.health.ny.gov/

• AQIN / IPRO - http://www.stopsepsisnow.org

• Centers for Medicare & Medicaid Services http://www.medicare.gov
Questions, Comments

- Al Cardillo, HCA acardillo@hcanys.org
- Amy Bowerman, VNA Utica & SHN abowerma@mvhealthsystem.org
- Sara Butterfield, IPRO Sara.Butterfield@area-1.hcquis.org
- Eve Bankert, IPRO Eve.Bankert@area-1.hcquis.org