



**American Hospital  
Association™**

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*Advancing Health in America*

# **Early Recognition of Sepsis – Special Innovation Project**

Thursday, December 12, 2019

11:00AM – 12:00PM CT

# Presenters:

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Great Plains Quality Innovation Network

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Simulation Education Coordinator

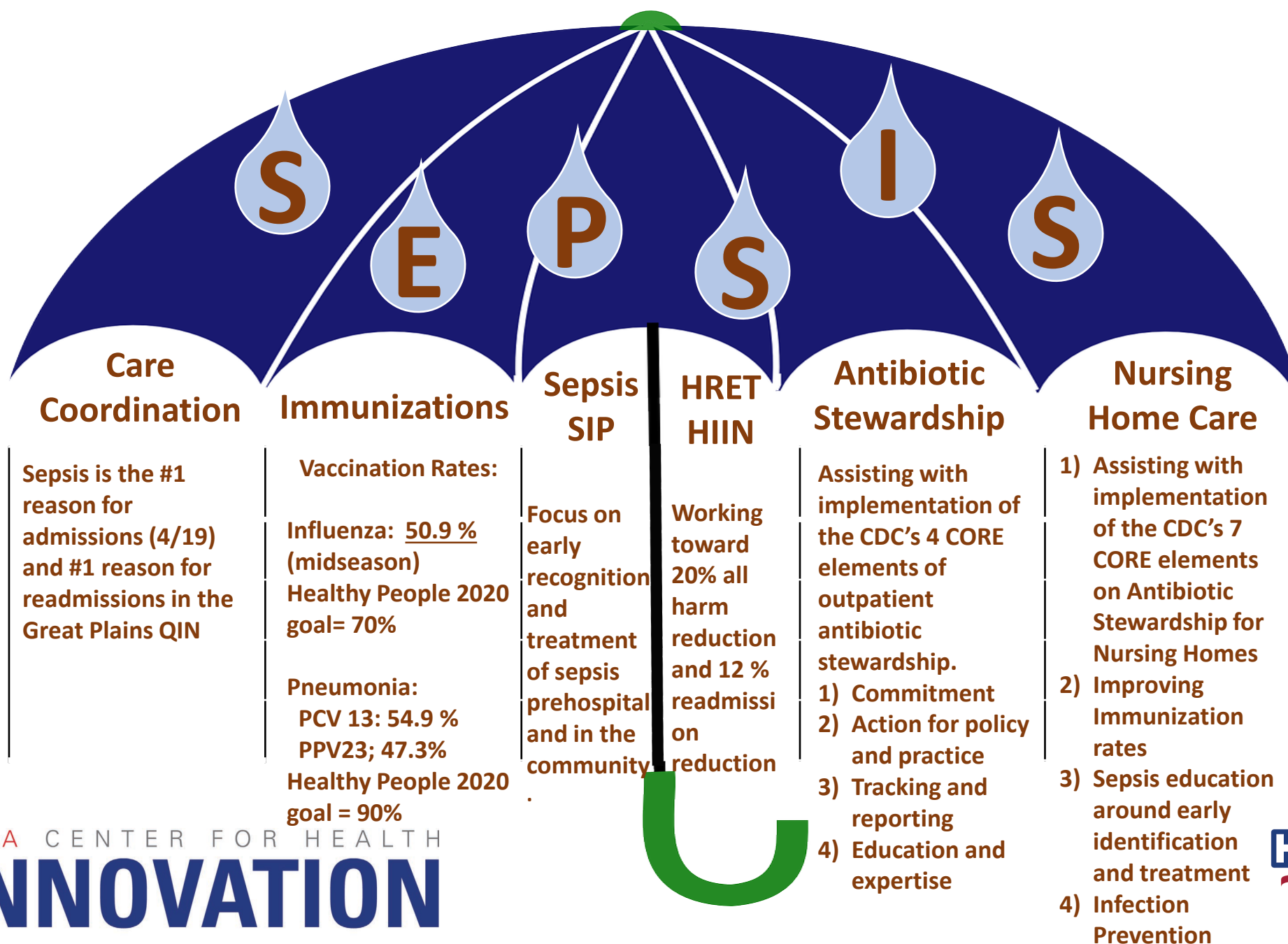
SIM-ND

University of North Dakota

# Objectives:

*Upon completion of this webinar, participants will be able to:*

- **Define** sepsis and the symptoms and conditions in which sepsis should be suspected
- **Describe** why suspected sepsis is an emergency event
- **Understand** the role of EMS in early recognition and treatment of Sepsis
- **Identify** interventions in the home, community, and EMS to recognize, identify and treat sepsis, to prevent progression to septic shock and/or death
- **Summarize** the goals of the Sepsis Special Innovation Project





# Sepsis| National Cost

The 20 most expensive conditions, 2013:	Rank	Aggregate hospital costs, \$ millions	National costs, %	Number of hospital stays, thousands	Hospital stays, %
Treated in U.S. hospitals, all payers	1	23,663	6.2	1,297	3.6
Billed to Medicare	1	14,551	8.2	838	6.0
Billed to Medicaid (Second to live births)	2	3,354	5.3	143	1.9
Billed to private insurance	4	4,028	3.7	218	2.0
For uninsured individuals	1	1,054	5.7	62	3.0

Source: H-CUP Statistical Brief #204; <https://www.hcup-us.ahrq.gov/reports/statbriefs/sb204-Most-Expensive-Hospital-Conditions.jsp>

# Top Five Admission DRG Bundles

## 10/01/2017-09/30/2018

	DRG Bundle Description	DRG Bundle Admissions	Total Admissions	Percent of Community Admissions
11 <sup>th</sup> SOW Great Plains QIN	Septicemia or Severe Sepsis	20,312	248,351	8.18%
	Major Joint Replacement or Reattachment of Lower Extremity	17,679	248,351	7.12%
	Simple Pneumonia & Pleurisy	11,721	248,351	4.72%
	Heart Failure & Shock	11,071	248,351	4.46%
	Psychoses	7,176	248,351	2.89%

<https://greatplainsqin.org/initiatives/coordination-care/>

(See Reports Section to view most current data)

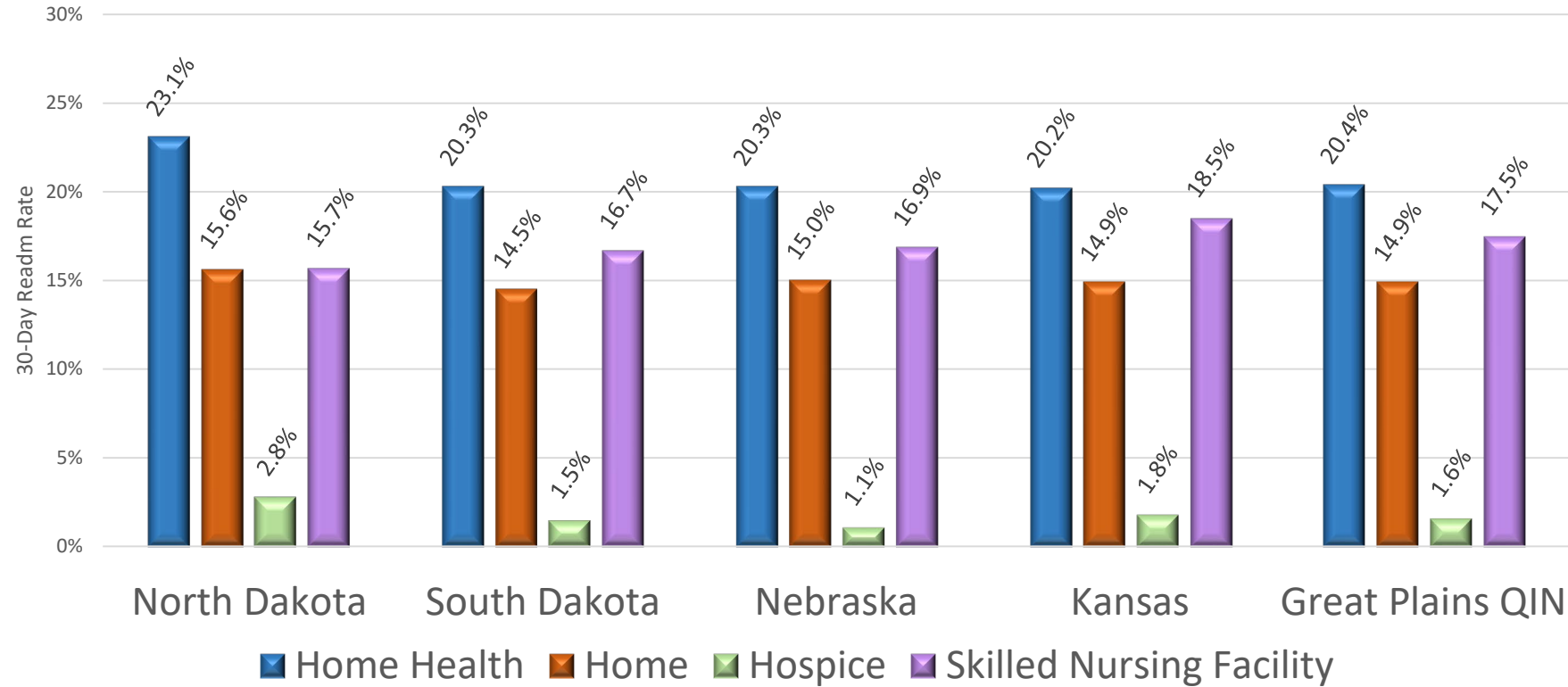
# Top 5 Readmission DRG Bundles

## 10/01/2017-09/30/2018

	DRG Bundle Description	DRG Bundle on Readmission	Total Readmission	Percent of Community Readmissions
11 <sup>th</sup> SOW Great Plains QIN	Septicemia or Severe Sepsis	3,226	38,947	8.28%
	Heart Failure & Shock	2,433	38,947	6.25%
	Simple Pneumonia & Pleurisy	1,665	38,947	4.28%
	Psychoses	1594	38,947	4.09%
	Chronic Obstructive Pulmonary Disease	1,170	38,947	3.00%

<https://greatplainsqin.org/initiatives/coordination-care/> (See Reports section to view most current data)

## Readmission Rates among Discharge Locations 10/1/17-9/30/18



<https://greatplainsqin.org/initiatives/coordination-care/> (See Reports section to view most current data)

# Sepsis

## Special Innovation Project

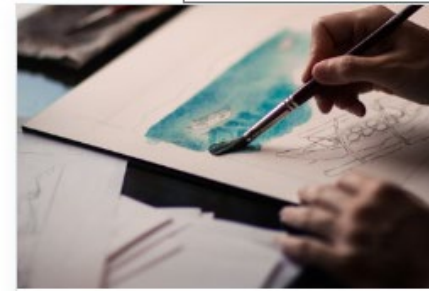
- Great Plains QIN:  
([www.greatplainsqin.org](http://www.greatplainsqin.org))
  - Recruited EMS units/1 tertiary hospital in each state
  - Trainings
  - [EMS Online Training Modules](#)
  - Tools/Resources
  - Print and Social Media
  - Community Education
  - Web Events
    - Pivotal Role of Dispatch in Sepsis Emergencies



### Reducing Sepsis Harm and Death: Introduction to the Sepsis Special Innovation Project

The participant will be able to:

- Define sepsis and the symptoms and conditions in which sepsis should be suspected.
- Describe why suspected sepsis is an emergency event.
- Summarize the goals of the Early Recognition of Sepsis Special Innovation Project.



### Sepsis Screening Tool: Early and Reliable Identification

The participant will be able to:

- Identify the risk factors of sepsis
- Analyze the sepsis screening tool components
- Evaluate EMS needs for a sepsis screening tool in their local service protocols



### Sepsis Alert! Support Prompt Escalation and Timely Intervention for At-risk patients

The participant will:

- Consider a positive result on the sepsis screen a trigger to call a sepsis alert and take appropriate action.
- Understand the roles and expectations for all members of the healthcare team.
- Standardize communication by using

# Why Sepsis is a Medical Emergency





# Know the Risks. Spot the Signs. Act Fast.

- **Sepsis is** | The body's extreme response to an infection. It is a life-threatening medical emergency.
- **Sepsis happens when** | An infection you already have—in your skin, lungs, urinary tract or somewhere else—triggers a chain reaction throughout your body. Without timely treatment, sepsis can rapidly lead to tissue damage, organ failure and death.
- **Who is at risk?** | Anyone can get an infection and any infection can lead to sepsis. People at higher risk include:

Very young/very old  
Chronic Medical Conditions  
Recent delivery, trauma or surgery

Weakened immune systems  
Indwelling catheters  
Breaches of skin

# 4 Ways to Get Ahead of Sepsis

## Prevent Infections

- Self-care of Chronic Conditions
- Vaccinations
- Take antibiotics responsibly
- Drink lots of water

## Good Hygiene

- Hand Washing
- Cover nose/mouth when coughing
- Keep cuts clean and covered

## Know the Symptoms

- Infection
- Fever/Chills
- Short of breath
- Rapid heart rate
- Confusion
- Pain/Discomfort
- Pale, clammy or sweaty

## Act Fast

- Call 911
- Go to ER
- State “I am concerned about sepsis”.

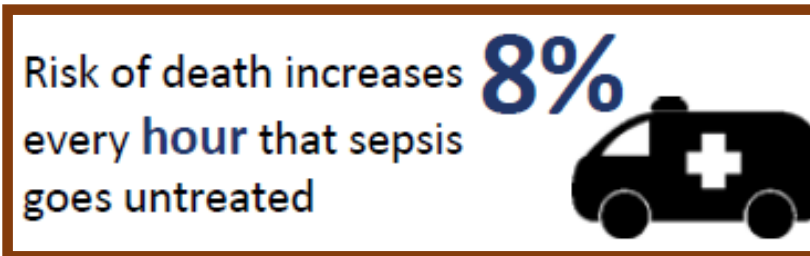


# Sepsis 911 Video link

<https://www.youtube.com/watch?v=0KtR93zhkhU#action=share>



# Sepsis | A Medical Emergency



Source: National Sepsis Alliance Fact Sheet; <https://d2p9nwuani32ep.cloudfront.net/wp-content/uploads/2016/06/R1-Sepsis-Fact-Sheet-2018.pdf>

# Sepsis | Harm

- **Diagnosis** | Symptoms may not be recognized immediately or at all and are often attributed to other diagnoses contributing to delayed treatment.
- **Deformity** | Everyday, 38 sepsis patients require amputations.
- **Death** | 270,000 Americans die each year from sepsis.

Source: National Sepsis Alliance Fact Sheet; <https://d2p9nwuani32ep.cloudfront.net/wp-content/uploads/2016/06/R1-Sepsis-Fact-Sheet-2018.pdf>

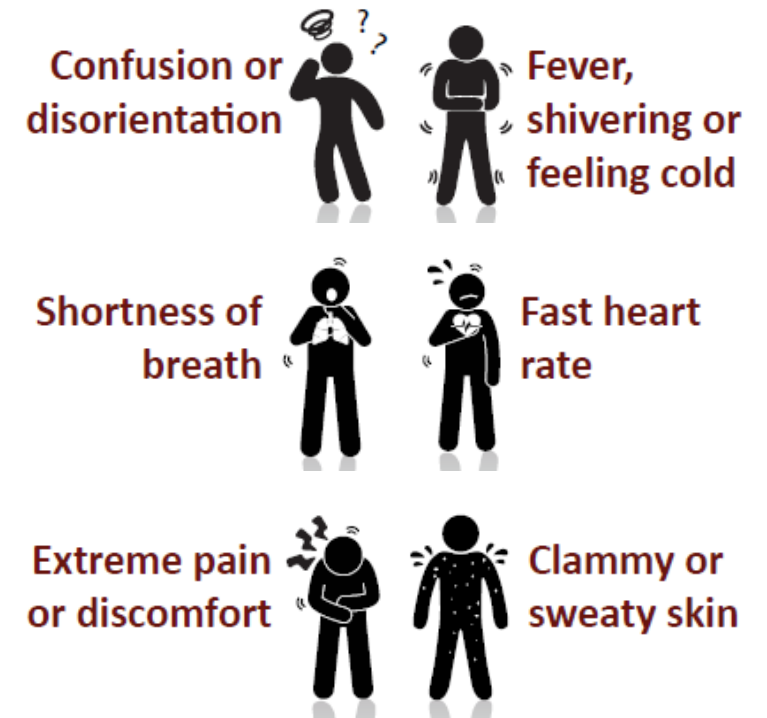
# Sepsis | Awareness

**Deficit** | Only 55% of U.S. adults have heard of sepsis

- As many as 87% of sepsis cases originate in the community
- Spreading the awareness of the **signs** and **symptoms** of sepsis is critical!

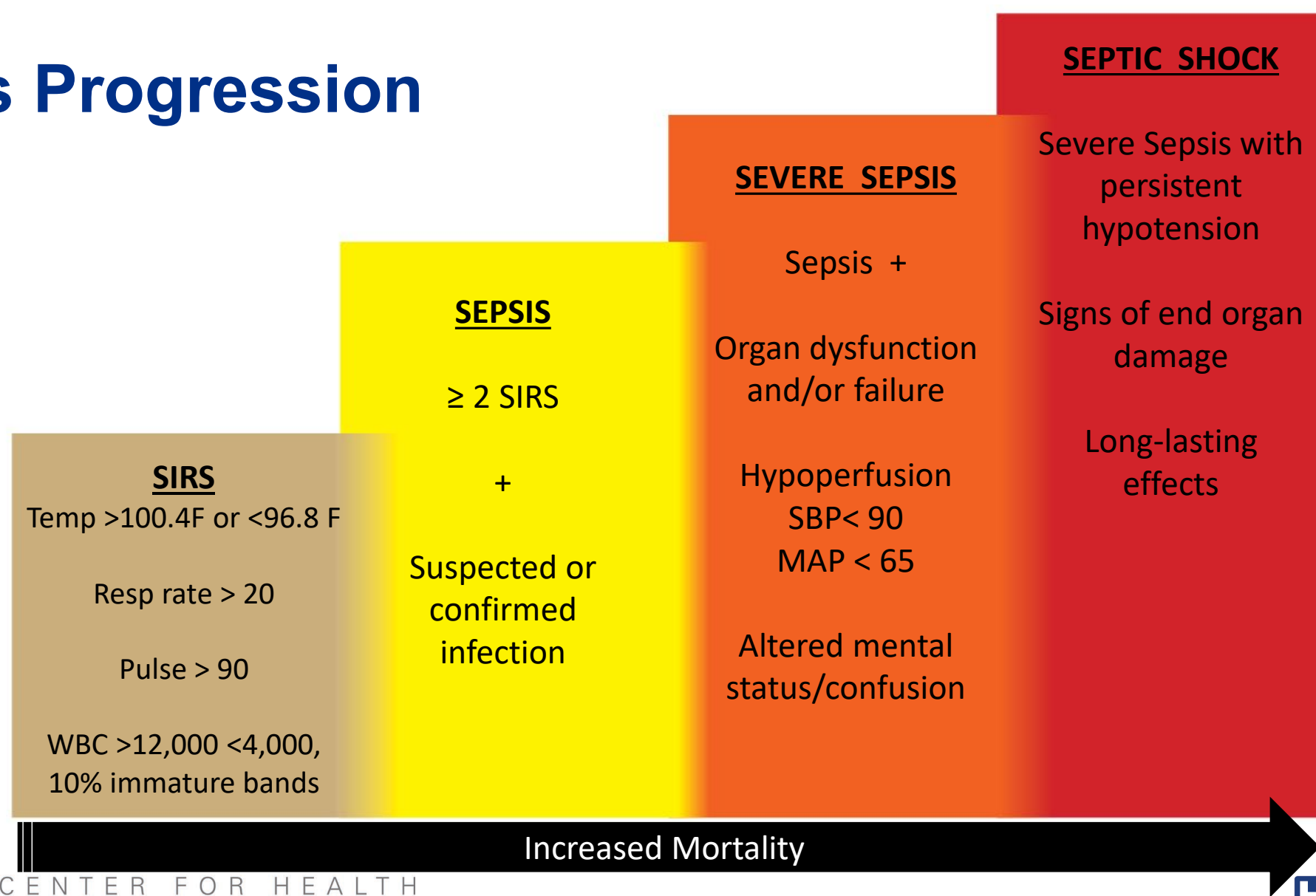
Source: National Sepsis Alliance Fact Sheet;  
<https://d2p9nvwuani32ep.cloudfront.net/wp-content/uploads/2016/06/R1-Sepsis-Fact-Sheet-2018.pdf>

There is no single symptom of sepsis.  
Symptoms can include a combination of any of the following:



Source: [www.cdc.gov/sepsis](http://www.cdc.gov/sepsis) and [www.sepsis.org](http://www.sepsis.org)

# Sepsis Progression



# CMS Sepsis Bundles

## 3-Hour Sepsis Bundle

- Measure Lactate
- Obtain blood cultures prior to the administration of antibiotics
- Administer broad-spectrum antibiotics
- Administer 30ML/KG crystalloid for hypotension or lactate levels > 4MMOL/L
- Promote prompt imaging to confirm potential sources of infection

## 6-Hour Sepsis Bundle

- Administer Vasopressors
- Reassess volume status and tissue perfusion to ensure adequate resuscitation
- Remeasure Lactate
- Implement other supportive therapies as indicated by individual patients using algorithms and protocols.

Health Research & Educational Trust (2017, February). Sepsis and septic shock change package: 2017. Chicago, IL: Health Research & Educational Trust. Accessed at <http://www.hret-hiin.org/>







# **SIMIND**

Simulation In Motion-North Dakota

A Partnership for Emergency Patient Care



Simulation, Teaching and Research  
Center for Healthcare Education

THE UNIVERSITY OF NORTH DAKOTA



North Dakota Department of Health  
Division of Emergency Medical Services









# Emergency Room



# Control Room



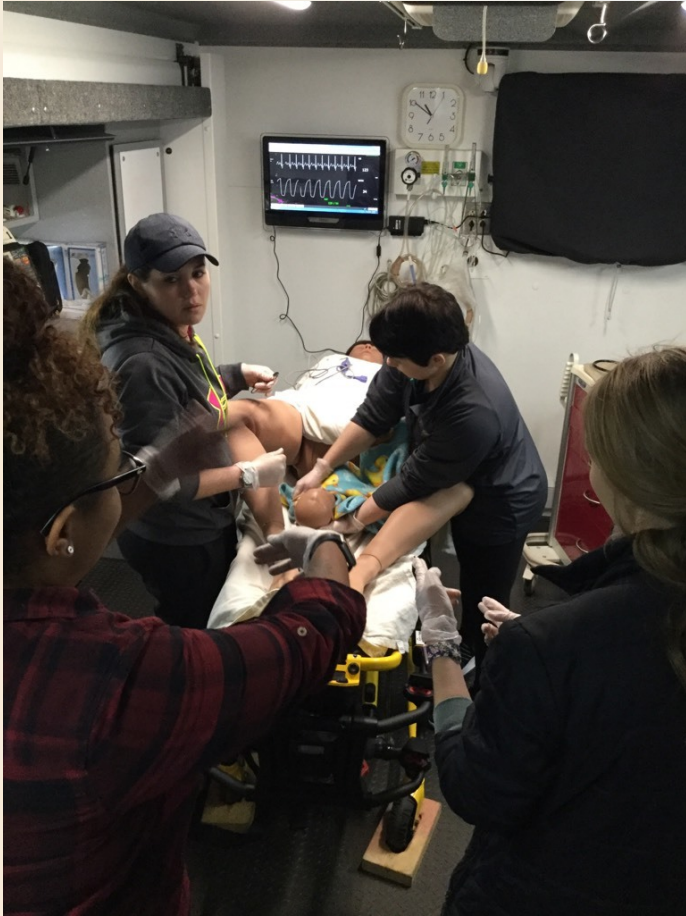


# Ambulance Bay













# Sepsis Begins in the Community

*“Over 45% of sepsis patients had clinician-based encounters in the week prior to hospitalization with an increasing frequency of diagnoses for acute infection and antibiotic use in the outpatient setting.”*

- Liu, Escobar, Chaudhary & Prescott, 2018

# Time is...

- In the case of a stroke, time is brain
- In the case of heart attack, time is muscle
- In cardiac arrest, time is life or death
- In trauma...the golden hour

**In sepsis, time is *organ dysfunction***

- Carmen Polito, MD

Polito, C.C. MD. 2016 Southeastern Critical Care Summit. (2016). Prehospital identification and management of sepsis. Available at <https://www.youtube.com/watch?v=pk1CNfIC-WU>





**We suspect SEPSIS**



# Sepsis Alert

- Prehospital Sepsis Alert
  - Decreased time to treatment
  - 30-60 minutes
  - Improved mortality
  - 13.6% vs 26.7%

# Sepsis Alert

*Infection + Bad Vitals = Sepsis*

*Sepsis + Shock = Septic Shock*

# Sepsis Pocket Care Developed by Great Plains QIN

SEPSIS: ADULT	SEPSIS: EMR / EMT	AEMT / PARAMEDIC	SEPSIS ALERT CRITERIA: Emergency Medical Services
<div>[ ABC's ] Treat/Secure as needed</div> <div>[ Assessment ] Vital Signs Past/Present History Time of Onset Physical Exam</div> <div>[ Oxygen ] {As needed} Nasal Cannula 2-6 LPM Non-Rebreather 12-15 LPM Bag Valve Mask 15-25 LPM</div> <div>[ Maintain SPO2 &amp; ETCO2 ] {As needed} 90% Medical   ETCO2 95% Trauma   36-45 mm/hg</div>	<div>[ EMR ]</div> <div>[ Transport ]<ul style="list-style-type: none"><li>Prepare patient for transport</li><li>Place in position of comfort</li><li>Detailed physical exam</li><li>Contact incoming EMS unit</li></ul></div> <div>** INITIATE SEPSIS ALERT **</div> <div>[ EMT ]</div> <div><ul style="list-style-type: none"><li>Apply Cardiac Monitor (as directed)</li><li>Obtain 6 second strip</li></ul></div> <div>[ Transport ]<ul style="list-style-type: none"><li>Place in position of comfort</li><li>Detailed physical exam</li><li>Transport to appropriate facility</li><li>Contact receiving facility</li></ul></div> <div>** INITIATE SEPSIS ALERT **</div>	<div>[ AEMT ]</div> <div><ul style="list-style-type: none"><li>Apply Cardiac Monitor (as needed and document)</li><li>Consider IV fluids</li><li>Follow your Sepsis protocol</li></ul></div> <div>[ Transport ]<ul style="list-style-type: none"><li>Place in position of comfort</li><li>Detailed physical exam</li><li>Transport to appropriate facility</li><li>Contact receiving facility</li></ul></div> <div>** INITIATE SEPSIS ALERT **</div> <div>[ PARAMEDIC ]</div> <div><ul style="list-style-type: none"><li>Apply Cardiac Monitor (as needed and document)</li><li>Consider IV fluids</li><li>Consider Pressors</li><li>Follow your Sepsis protocol</li></ul></div> <div>[ Transport ]<ul style="list-style-type: none"><li>Place in position of comfort</li><li>Detailed physical exam</li><li>Transport to appropriate facility</li><li>Contact receiving facility</li></ul></div> <div>** INITIATE SEPSIS ALERT **</div> <div>Provide ED with accurate amount of fluid administered to patient. Include time each bag was started.</div>	<div>Activate a Sepsis Alert if the patient is positive for SIRS, hypotensive and at least "Yes" to one of the Infection questions.</div> <div>1. <b>SIRS [Systemic Inflammatory Response Syndrome]:</b> SIRS positive if meets ≥ 2 criteria listed below.<ul style="list-style-type: none"><li>Temperature &gt; 100.4F or &lt; 96.8F</li><li>Pulse &gt; 90 beats/minute</li><li>Respiratory rate &gt; 20 breaths/minute</li></ul></div> <div>2. <b>Hypoperfusion:</b> ≥ 1 of the following:<ul style="list-style-type: none"><li>Systolic BP &lt; 90</li><li>MAP &lt; 65</li><li>Altered mental status</li></ul></div> <div>3. <b>Infection:</b> ≥ 1 of the following:<ul style="list-style-type: none"><li>Infections (documented or suspected): Pneumonia, UTI, Wound Infection, Cellulitis, Decubitus Ulcers</li><li>High Risk Criteria: Nursing home, recent surgery, immuno-compromised, indwelling device, currently on antibiotics</li><li>Symptoms/Exam: cough; shortness of breath; purulent wound drainage; urinary pain/frequency; abdominal pain, distention, or firmness; stiff neck</li></ul></div> <div>** INITIATE SEPSIS ALERT **</div> <div>State "we suspect Sepsis" and provide:<ul style="list-style-type: none"><li>Age of patient</li><li>Chief complaint</li><li>Glasgow Coma Score (GCS)</li><li>SIRS criteria and infection answer</li><li>Time of onset</li><li>Estimated time of arrival (ETA)</li></ul></div>
<p>This material was prepared by the Great Plains Quality Innovation Network, the Medicare Quality Improvement Organization for Kansas, Nebraska, North Dakota and South Dakota, under contract with the Centers for Medicare &amp; Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy. 1150W-GPQIN-NE-SEP-7/0218</p>			<p>Source: Adapted from "EMS Protocols" and "Treat-before-transfer form" Wesley Healthcare, Wichita, Kansas</p>





# Sepsis Resources

## Signs of Infection and Sepsis at Home

I recently had an infection: \_\_\_\_\_.

Common infections can sometimes lead to sepsis. Sepsis is a deadly response to an infection.

 <b>Green Zone</b>	<ul style="list-style-type: none"> <li>• My heartbeat is as usual. Breathing is normal for me</li> <li>• I have not had a fever in the past 24 hours and I am not taking medicine for a fever</li> <li>• I do not feel chilled</li> <li>• My energy level is as usual</li> <li>• My thinking is clear</li> <li>• I feel well</li> <li>• I have taken my antibiotics as prescribed</li> <li>• I have a wound or IV site, it is not painful, red, draining pus or smelling bad</li> </ul>	<b>Doing Great!</b>  No action is needed.
 <b>Yellow Zone</b>	<ul style="list-style-type: none"> <li>• My heartbeat is faster than usual</li> <li>• My breathing is a bit more difficult and faster than usual</li> <li>• I have a fever between 100°F to 101.4°F</li> <li>• I feel chilled and cannot get warm. I am shivering or my teeth are chattering</li> <li>• I am too tired to do most of my usual activities</li> <li>• I feel confused or not thinking clearly</li> <li>• I do not feel well</li> <li>• I have a bad cough or my cough has changed</li> <li>• How often I urinate has changed. When I do urinate, it burns, is cloudy or smells bad</li> <li>• My wound or IV site has changed</li> </ul>	<b>Take action today!</b>  Call your home health nurse: _____ (Phone number)  or call your doctor: _____ (Phone number)
 <b>Red Zone</b>	<ul style="list-style-type: none"> <li>• My heartbeat is very fast</li> <li>• My breathing is very fast and more difficult</li> <li>• My temperature is below 96.8°F. My skin or fingernails are pale or blue</li> <li>• My fever is 101.5°F or more</li> <li>• I have not urinated for 5 or more hours</li> <li>• I am very tired. I cannot do any of my usual activities</li> <li>• My caregivers tell me I am not making sense</li> <li>• I feel sick</li> <li>• My cough is much worse</li> <li>• My wound or IV site is painful, red, smells bad or has pus</li> </ul>	<b>Take action NOW!</b>  Call your home health nurse: _____ (Phone number)  Or call your doctor: _____ (Phone number)  Call your home health nurse before going to the Hospital Emergency Department

Sources: Sepsis Alliance, [sepsis.org](http://sepsis.org); Centers for Disease Control and Prevention (CDC), [cdc.gov](http://cdc.gov); and atom Alliance, [atomalliance.org](http://atomalliance.org)

# Sepsis Alliance

[ABOUT](#)[HOW YOU CAN HELP](#)[RESOURCES](#)[NEWSROOM](#)[EVENTS](#)[SHOP](#)

## Have Questions About Sepsis Or Sepsis Alliance



Visit The Sepsis Alliance FAQ For Answers.

[Learn More](#) ➔

## Patients And Family

[Diagnosed With Sepsis](#)[FAQ](#)[Faces Of Sepsis™](#)[Life After Sepsis](#)[It's About TIME](#)[Mental Health](#)[Military And Veterans](#)[Posters And Infographics](#)[How To Help](#)[Sepsis Information Guides](#)[Video Library](#)[Sepsis 911 Education Kit](#)

## Medical Professionals

[Sepsis Awareness Month](#)[Speaking To Patients](#)[Nurses' Station](#)[Sepsis Coordinator Network](#)[Sepsis Information Guides](#)[Video Library](#)[Posters And Infographics](#)[Public Service Announcements](#)[Sepsis Alliance Webinar Series](#)[Sepsis 911 Education Kit](#)

[www.sepsis.org](http://www.sepsis.org)

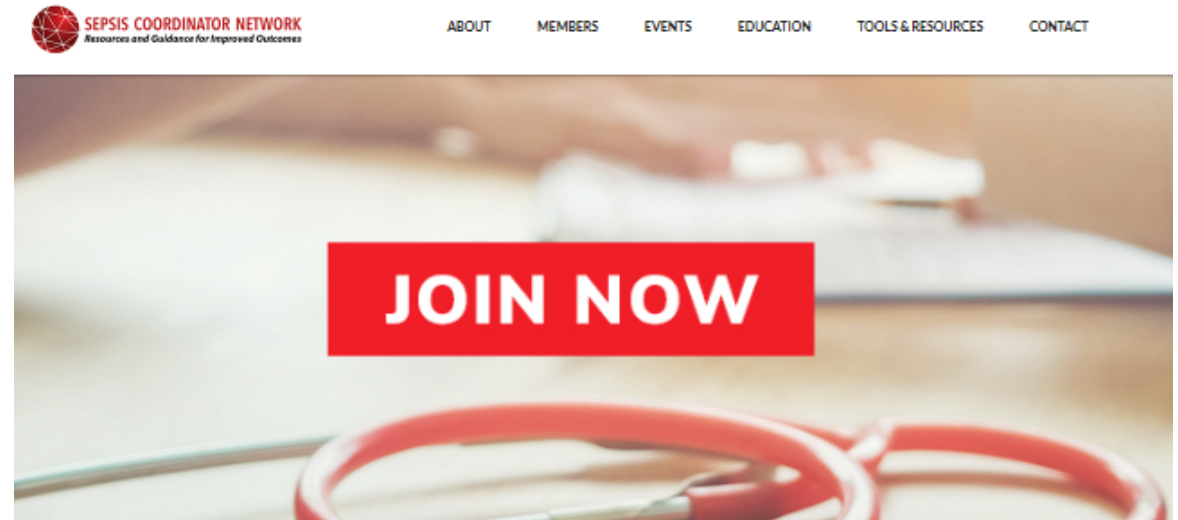


*Advancing Health in America*

# Sepsis Coordinator Network

- Created by Sepsis Alliance
- All health professionals
- Collaborative approach
- Member tools, resources
- Webinars
- Forums

<https://www.sepsiscoordinatornetwork.org/>



The Sepsis Coordinator Network (SCN) is a community created by Sepsis Alliance to provide sepsis best practice resources and guidance to sepsis coordinators and all health professionals across the country. The SCN is led by a team of expert leaders in the field of nursing with critical experience in caring for sepsis patients and developing and implementing sepsis protocols.

LEARN MORE

JOIN THE SCN

BECOME A SPONSOR

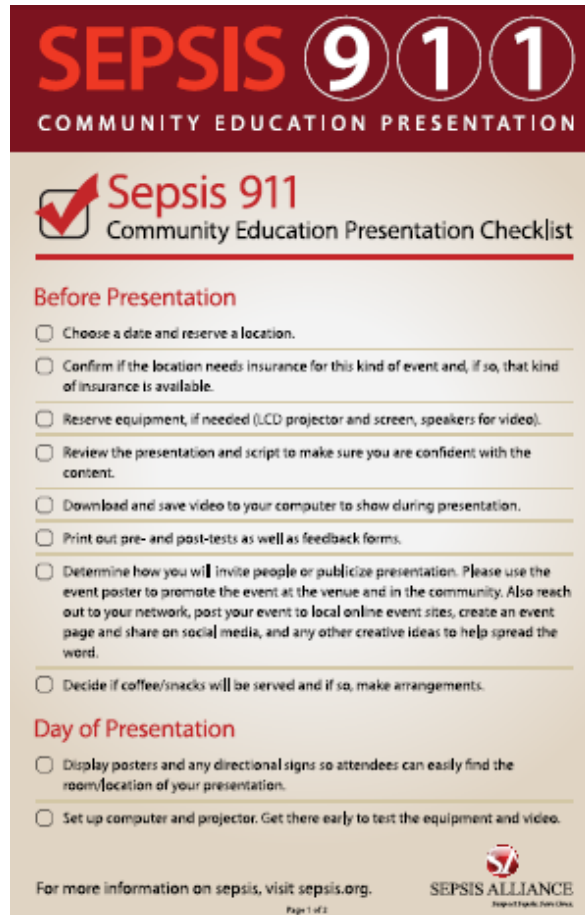
## UPCOMING EVENTS

THU 28	<a href="#">Webinar: Fluid Resuscitation and Sepsis</a> March 28 @ 2:00 pm - 3:00 pm EDT
MAY 11	<a href="#">B.U.G.S. Classic Fishing Tournament - Florida</a> May 11
MAY 16	<a href="#">Sips for Sepsis Bay Area - California</a> May 16 @ 6:00 pm - 9:00 pm PDT
JUN 01	<a href="#">Step on Sepsis - North Carolina</a> June 1 @ 9:00 am - 12:00 pm EDT
JUN 08	<a href="#">4th Annual Everett Slater Charity Run - Pennsylvania</a> June 8 @ 10:00 am - 1:00 pm EDT


[VIEW MORE](#)

# Sepsis 911

## Community Education Presentation



**SEPSIS 911**  
COMMUNITY EDUCATION PRESENTATION

 **Sepsis 911**  
Community Education Presentation Checklist


**Before Presentation**

- ☐ Choose a date and reserve a location.
- ☐ Confirm if the location needs insurance for this kind of event and, if so, that kind of insurance is available.
- ☐ Reserve equipment, if needed (LCD projector and screen, speakers for video).
- ☐ Review the presentation and script to make sure you are confident with the content.
- ☐ Download and save video to your computer to show during presentation.
- ☐ Print out pre- and post-tests as well as feedback forms.
- ☐ Determine how you will invite people or publicize presentation. Please use the event poster to promote the event at the venue and in the community. Also reach out to your network, post your event to local online event sites, create an event page and share on social media, and any other creative ideas to help spread the word.
- ☐ Decide if coffee/snacks will be served and if so, make arrangements.

**Day of Presentation**

- ☐ Display posters and any directional signs so attendees can easily find the room/location of your presentation.
- ☐ Set up computer and projector. Get there early to test the equipment and video.

For more information on sepsis, visit [sepsis.org](http://sepsis.org).

 **SEPSIS ALLIANCE**  
Supports Sepsis Care

Page 1 of 2

- Sepsis Alliance
- [www.sepsis.org](http://www.sepsis.org)
- Event checklist
- Posters to advertise
- PowerPoint presentation
- Presentation script
- Attendee quiz, survey





Influenza, the flu, is a common, very infectious viral infection. Over the years, many people have used the term "the flu" to describe anything from a stomach bug to a bout of food poisoning, but influenza is a respiratory illness and doesn't have anything to do with the gastrointestinal system—the system that runs from your mouth to your rectum.

People who are infected with an influenza virus may develop a serious condition called sepsis. Sometimes called blood poisoning, sepsis is the body's often deadly response to infection or injury. Sepsis kills and disables millions and requires early suspicion and rapid treatment for survival.

Sepsis and septic shock can result from an infection anywhere in the body, such as pneumonia and urinary tract infections, and viral infections like the flu. Worldwide, one-third of people who develop sepsis die. Many who do survive are left with life-changing effects, such as post-traumatic stress disorder (PTSD), chronic pain and fatigue, and organ dysfunction (don't work properly) and/or amputations.

SEPSIS INFORMATION GUIDE – SEPSIS AND FLU

## WHAT IS INFLUENZA?

There are different types of influenza. There is the annual seasonal influenza and others, such as the H1N1 influenza, avian flu, swine flu, and so on. There are three separate types of viruses:

**Type A:** Type A influenzae affect both people and animals, such as birds. The animals help spread the virus, which can be very serious. The type A flu are the ones that cause most of the flu pandemics or epidemics. In 1918, the world was hit with the "Spanish flu," which killed millions of people. It was feared in 2009, that the H1N1 virus would have similar outcomes.

**Type B:** Type B influenzae do not infect animals and do not cause epidemics or pandemics. They are generally not as serious as the type A flu, but they still can cause harm on occasion.

Doctors have found that rates of sepsis and severe sepsis tend to go up during so-called flu season.

**AD OF SEPSIS**  
or nurse about steps you can take at home. Some steps include taking good care of yourself and getting recommended tests, such as handwashing, and and covered until healed, a of people.  
Heat care IMMEDIATELY if you have an infection that's not getting better.

**FOR PATIENTS AND FAMILIES**

**IT'S TIME TO TALK ABOUT SEPSIS.**  
Infections put you and your family at risk for a life-threatening condition called sepsis.

**GET AHEAD OF SEPSIS**  
KNOW THE SIGNS. SPOT THE SIGNS. ACT.

**Medical emergency. Time matters.**  
If you suspect sepsis or have an infection that's not getting better or is getting worse, call your doctor or nurse, "Could this be sepsis?"

**Call your doctor or go to the emergency room immediately if you have any signs or symptoms of an infection or sepsis. This is a medical emergency.**

**It's important that you say, "I AM CONCERNED ABOUT SEPSIS."**

**If you are continuing to feel worse or not getting better in the days after surgery, ask your doctor about sepsis. Sepsis is a common complication of people hospitalized for other reasons.**

**SEPSIS FACT SHEET**  
A POTENTIALLY DEADLY OUTCOME FROM AN INFECTION

**What is sepsis?**  
Sepsis is the body's overwhelming and life-threatening response to an infection which can lead to tissue damage, organ failure, and death.

**When can you get sepsis?**  
Sepsis can occur to anyone, at any time, from any type of infection, and can affect any part of the body. It can occur even after a minor infection.

**What causes sepsis?**  
Any type of infection that is anywhere in your body can cause sepsis, including infections of the skin, lungs (such as pneumonia), urinary tract, abdomen (such as appendicitis), or other part of the body. An infection occurs when germs enter a person's body and multiply, causing illness and organ and tissue damage.

**Who gets sepsis?**  
Anyone can get sepsis as a bad outcome from an infection, but the risk is higher in:  
• people with weakened immune systems  
• babies and very young children  
• elderly people  
• people with chronic illnesses, such as diabetes, AIDS, cancer, and kidney or liver disease  
• people suffering from a severe burn or wound  
Ask your doctor about your risk for getting sepsis.

**What are the symptoms of sepsis?**  
There is no single sign or symptom of sepsis. It is, rather, a combination of symptoms. Since sepsis is the result of an infection, symptoms can include infection signs (fever, chills, sweating, sore throat, etc.), as well as ANY of the symptoms below:

**S E P S I S**

**More than 1.5 million**  
get sepsis each year in the U.S.  
**At least 250,000**  
die from sepsis each year.

**WHAT IS SEPSIS?**  
Sepsis is the body's extreme response to an infection. It is life-threatening, and without timely treatment can rapidly lead to tissue damage, organ failure, and death.  
Sepsis happens when an infection gets into your skin, lungs, urinary tract or elsewhere in your body and triggers a chain reaction throughout the body.

**WHAT CAUSES SEPSIS?**  
When germs get into a person's body, they can cause an infection. If the infection is not treated, it can cause sepsis.

**WHO IS AT RISK?**  
Anyone can get an infection, and infections can lead to sepsis. Some people are at a higher risk of infection and sepsis:  
• Adults 65 or older  
• People with chronic conditions, such as lung disease, cancer and kidney disease  
• People with weakened immune systems  
• Children younger than one  
The most frequently identified germs that can develop into sepsis are bacteria (such as *Staphylococcus aureus* and *Escherichia coli*), and some types of *Streptococcus*.

**THE SYMPTOMS?**  
Sepsis can include any one or a combination of the following signs:

**CONFUSED OR DROWSY**  
**HEAVYWEIGHT LOSS**  
**FEVER, CHILLS, SWEATING**  
**CLAMMY OR DRY SKIN**

# CDC – Get Ahead of Sepsis

# Contact Information

Nikki Medalen, MS, BSN, APHN-BC

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Lisa Thorp, BSN, CDE

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Quality Health Associates of ND

41 36<sup>th</sup> Avenue NW

Minot, ND 58703

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