

Making Health Care Safer

Think sepsis. Time matters.

Sepsis is a complication caused by the body's overwhelming and life-threatening response to infection. It can lead to tissue damage, organ failure, and death. Sepsis is difficult to diagnose. It happens quickly and can be confused with other conditions early on. Sepsis is a medical emergency. Time matters. When sepsis is quickly recognized and treated, lives are saved. Healthcare providers are the critical link to preventing, recognizing, and treating sepsis.

Healthcare providers can:

- **Prevent infections.** Follow infection control requirements (e.g., hand hygiene) and ensure patients receive recommended vaccines (e.g., flu and pneumococcal).
- **Educate patients and their families.** Stress the need to prevent infections, manage chronic conditions, and seek care if signs of severe infection or sepsis are present.
- **Think sepsis.** Know sepsis signs and symptoms to identify and treat patients early.
- **Act fast.** If sepsis is suspected, order tests to determine if an infection is present, where it is, and what caused it. Start antibiotics and other medical care immediately. Document antibiotic dose, duration, and purpose.
- **Reassess patient management.** Check patient progress frequently. Reassess antibiotic therapy 24-48 hours or sooner to change therapy as needed. Be sure the antibiotic type, dose, and duration are correct.

80%

Sepsis begins outside of the hospital for nearly 80% of patients.

7 in 10

A CDC evaluation found 7 in 10 patients with sepsis had recently used health care services or had chronic diseases requiring frequent medical care.

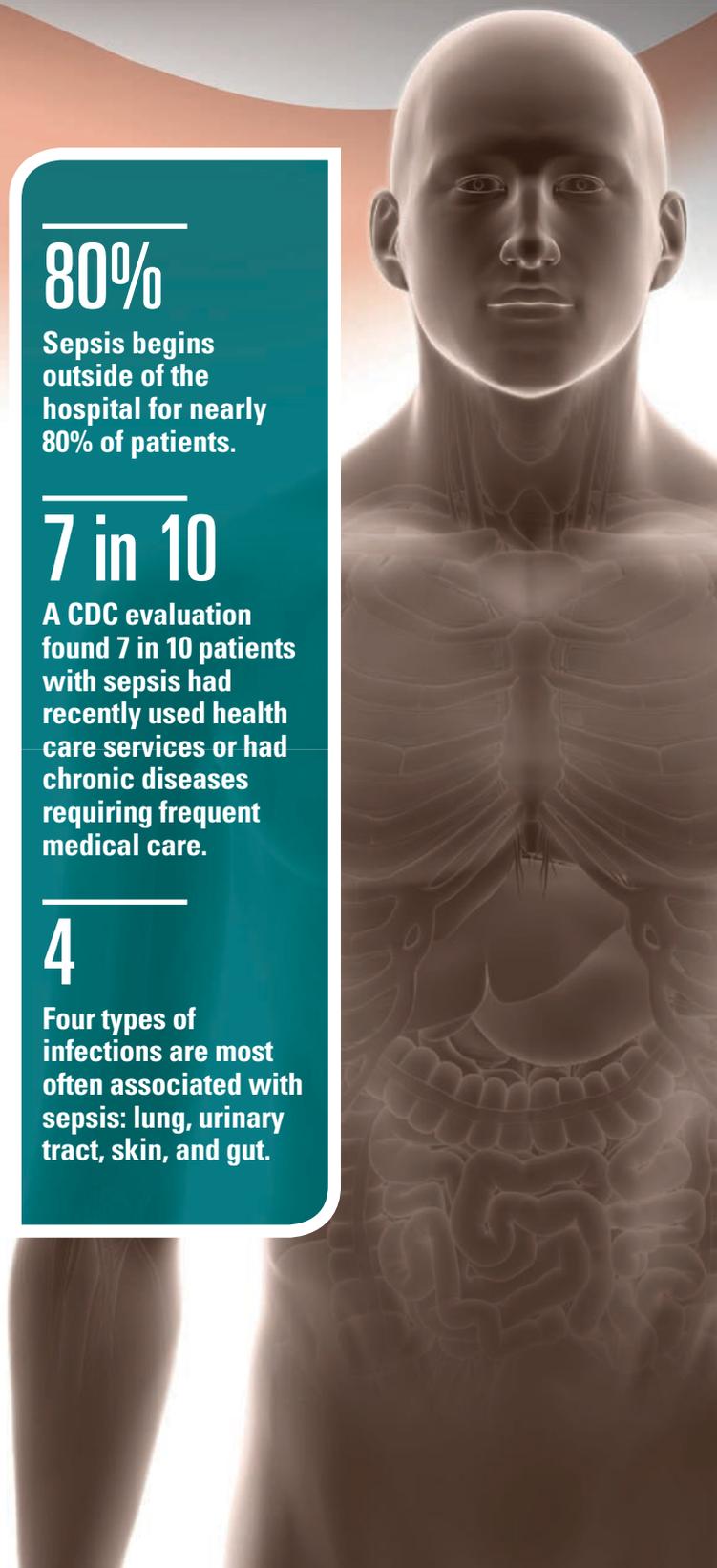
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Four types of infections are most often associated with sepsis: lung, urinary tract, skin, and gut.

Want to learn more? www.cdc.gov/vitalsigns/sepsis



Centers for Disease
Control and Prevention
National Center for Emerging and
Zoonotic Infectious Diseases



Problem:

Sepsis is deadly when it's not quickly recognized and treated.



Certain people with an infection are more likely to get sepsis.

- CDC evaluation found more than 90% of adults and 70% of children who developed sepsis had a health condition that may have put them at risk.
- Sepsis occurs most often in people 65 years or older or younger than 1 year, with weakened immune systems, or with chronic medical conditions (e.g., diabetes).
- While less common, even healthy infants, children, and adults can develop sepsis from an infection, especially when not treated properly.

Certain infections and germs lead to sepsis most often.*

- Four types of infections are often associated with sepsis: lung, urinary tract, skin, and gut.
- Common germs that can cause sepsis are *Staphylococcus aureus*, *Escherichia coli* (*E. coli*), and some types of *Streptococcus*.

**Among patients in the evaluation with an identified source of infection; however, infectious source cannot be identified in many patients.*

Healthcare providers are key to preventing infections and illnesses that can lead to sepsis.

EDUCATE patients and their families about the early symptoms of severe infection and sepsis, and when to seek care for an infection, especially those at higher risk.

REMINDE patients that taking care of chronic illnesses helps prevent infections.

ENCOURAGE infection prevention measures, such as hand hygiene and vaccination against infections.

Common infections can lead to sepsis.

Among adults with sepsis:

35% had a lung infection (e.g., pneumonia)

25% had a urinary tract infection (e.g., kidney infection)

11% had a type of gut infection

11% had a skin infection

Know the signs and symptoms of sepsis.



Shivering, fever, or very cold



Extreme pain or discomfort



Clammy or sweaty skin



Confusion or disorientation



Short of breath



High heart rate

Prevent sepsis and improve early recognition.



Improve health conditions.

George is a 72-year-old man with diabetes. During his check-up, George's healthcare provider takes the opportunity to strengthen his chronic disease care (glucose control and skin care), provide recommended vaccines, and share information about symptoms that indicate an infection is worsening or sepsis is developing.



Educate patients and their families.

One month later, George has a cut on his foot that might be infected. He calls his healthcare provider, who tells him how to take care of the cut and signs of infection. Two days later, his foot is worse and he becomes short of breath, has clammy skin, and is more tired than usual. He recognizes symptoms are worsening and it could be sepsis. He seeks medical attention immediately.



Think sepsis. Act fast.

At the hospital, a healthcare provider recognizes the signs and symptoms of sepsis. She immediately orders tests to determine the source of infection and starts appropriate treatment, including antibiotics. She documents the dose, duration, and purpose of antibiotics.



Reassess patient management.

Healthcare providers closely monitor George's progress and adjust therapy as needed. When George improves, his providers transfer him to a rehabilitation facility to continue his recovery. The hospital care team discusses his treatment plan with the team at the new facility.

What Can Be Done?



The Federal government is

- Working with partners to promote and align public health efforts, including: infection prevention, vaccinations, chronic disease management, appropriate antibiotic use, and sepsis prevention and early recognition.
- Investigating causes of sepsis to identify new prevention strategies and at-risk populations.
- Supporting development of new sepsis tests and treatments.
- Developing more accurate tracking methods to evaluate progress in preventing and treating patients with sepsis.

Healthcare providers can

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Health care facility

CEOs/administrators can

- Make infection control a priority. Ensure a strong link between infection control and prevention, sepsis early recognition, and appropriate antibiotic use programs.
- Train healthcare providers and front-line staff to quickly recognize and treat sepsis.
- Collaborate with health departments and other health care facilities within your area to improve infection control.

State and local health departments can

- Promote sepsis prevention and early recognition, vaccination, chronic disease management, and infection prevention in health care facilities and community settings.
- Review actions other states and organizations have taken to improve sepsis early recognition and treatment: <http://go.usa.gov/xjxnz>.

Patients and their families can

- Learn sepsis signs and symptoms. Know if you are at higher risk. If sepsis is suspected, get immediate medical attention. Ask, "Could it be sepsis?"
- Talk to a healthcare provider about managing chronic conditions and getting vaccines.
- Practice good hygiene, such as handwashing.

1-800-CDC-INFO (232-4636)

TTY: 1-888-232-6348

www.cdc.gov

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