



**SEPSIS**  
ALLIANCE

# **Saving Lives Together**

*Sepsis and Children.*



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# Lochlin's Story

On a Friday in January 2020, Lochlin DeSantis, a happy and healthy 5-year-old from Fredrick County, Maryland, came down with a low-grade fever and body aches.

Sunday night, his mother Brooke brought him to a local urgent care clinic where Lochlin was diagnosed with [influenza](#) (flu) and mild dehydration. He was sent home to rest and get fluids.

Monday afternoon, Lochlin felt worse and was taken to the ER.

12 hours after first visiting urgent care he died from sepsis.

He left behind two brothers and his devastated parents, Brooke and William. “Before Lochlin passed away, I didn’t know you could get sepsis from the flu,” William DeSantis said. “I thought you got it from a cut on your hand, and it goes septic. I didn’t know you could get it from an infectious disease, like the flu.”



# Love for Lochlin Foundation

- Brooke and William DeSantis took their grief and created Love for Lochlin Foundation
- Love for Lochlin Foundation's mission is to prevent, educate, and drive awareness to the deadly impacts of the flu and sepsis in Frederick County, Maryland
  - Free health clinics with access to flu vaccines, cleaning supplies, masks, and COVID test kits
- In 2023, Sepsis Alliance recognized their work with the Erin K. Flatley Spirit Award
- Supported by Sepsis Alliance, Lochlin's Law signed into law on May 16, 2024
  - Mandatory sepsis protocols for adults and children at all Maryland hospitals and urgent care centers;
  - Annual education and training of all staff;
  - Goes into effect June 1, 2024

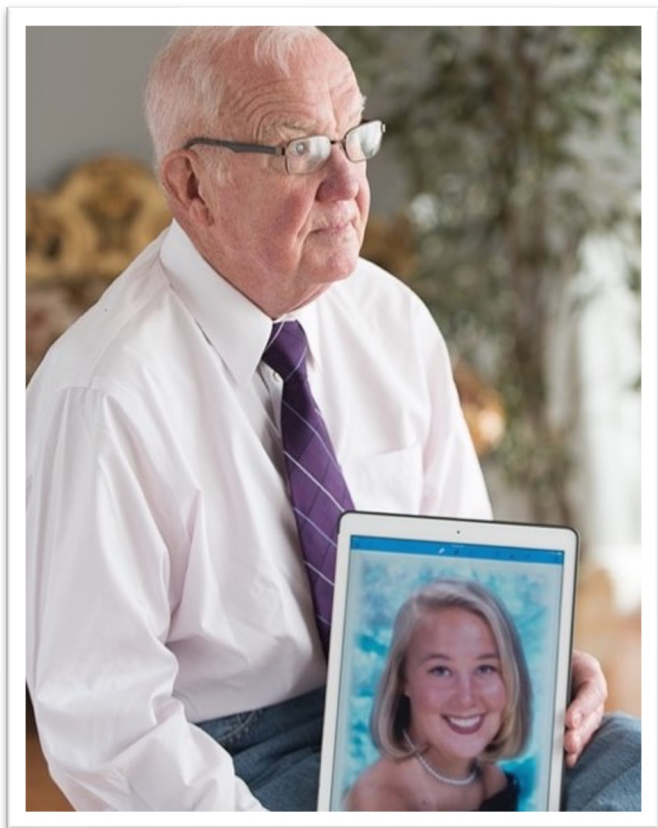
<https://www.loveforlochlin.com/>



# Lochlin's Story – A Wake-Up Call and a Catalyst

- **Public Education**
  - We need to make a "Sepsis Aware" nation
- **Healthcare Professional Training and Education**
  - We need to make our health systems "Sepsis Ready"
- **Policy and Advocacy**
  - We need to drive system change to prioritize sepsis at the state and federal level
- **Research Funding and Innovation**
  - We need to compile data and accelerate the development of innovation (diagnostics, AI/ML, therapeutics) to better prevent, predict, diagnose and treat sepsis
- A child, like Lochlin, dies from sepsis every 90 minutes in the United States
- We can and must do better





Sepsis Alliance Founder Carl Flatley, DDS, MSD, with daughter, Erin

# About Sepsis Alliance

FOUNDED IN 2007

- Started out of a personal tragedy and national need
- Nation's first and leading sepsis patient advocacy organization
- Co-founded Global Sepsis Alliance 2010
- Trusted partner to patients, healthcare providers, researchers, government, and industry
- Focus on: Infection Prevention, Early recognition and treatment, HAIs, AMR, Health Equity
- Vision: A world in which nobody is harmed by sepsis.



Sepsis Alliance earns top rankings from Great Nonprofits, Guidestar, and Charity Navigator for transparency and accountability.



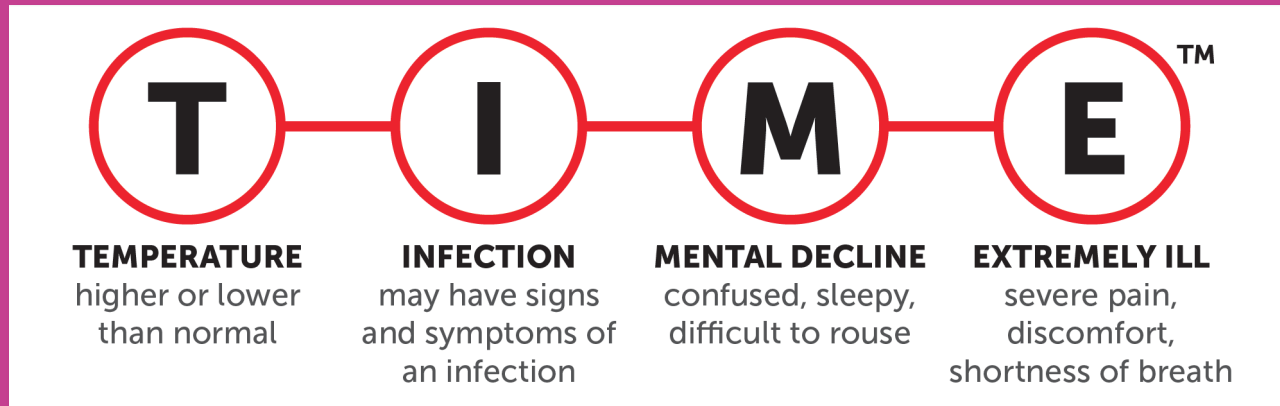
Sepsis.org





# What is Sepsis

Sepsis is a life-threatening emergency that happens when your body's response to an infection damages vital organs and, often, causes death.



# Sepsis is a Public Health Crisis

- **1,700,000 cases** in the United States each year
- **350,000 adult deaths** in the United States each year
- Sepsis is a leading **fatal complication** from **COVID-19**
- Like stroke, **sepsis** is a **MEDICAL EMERGENCY** that requires rapid identification and treatment to save lives and limbs
- As many as 87% of sepsis cases originate in the community
- **At Risk:**
  - Very young
  - Those with chronic disease and immune compromising conditions
  - Older adults
  - Medically underserved, including people in lower-income neighborhoods, rural communities, and racial and ethnic minority communities



**But anyone can get sepsis!**

# The Burden of Sepsis in the U.S.

- Sepsis is the **#1 cause of deaths** in U.S. hospitals
- Sepsis is the **#1 cost** of hospital and skilled nursing care - **\$62B/year!**
- Sepsis is the **#1** cause of hospital **readmissions**
- Sepsis causes **14,000 amputations** annually
- Almost **60%** of **sepsis survivors** experience worsened cognitive, mental, and/or physical function
- **Maternal sepsis** is the **2<sup>nd</sup> leading cause** of maternal death in the U.S.
- **AMR** is making a bad situation worse
- Black and "other nonwhite" individuals have nearly **twice the incidence** of sepsis as white individuals
- Only 63% of adults have even **heard of sepsis**
- Just 15% can identify the most common **symptoms**





# Sepsis and Children

- Sepsis impacts 25 million children every year and takes more than 3 million young lives
- In the United States, more than 75,000 children develop severe sepsis each year. Almost 7,000 of these children die – this is more than those who die of pediatric cancers
- Caring for children in hospitals is estimated to cost \$7.3 billion/year, 18% of all pediatric hospitalization costs
- The average length of stay is 31.5 days which is nearly 8X the average stay for other conditions
- The median cost per sepsis hospitalization (\$26,592) is nearly 12X the median cost for all pediatric hospitalizations



Sepsis Alliance. Sepsis and Children. 2024. <https://www.sepsis.org/sepsisand/children/>

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# Sepsis and Children

- The most common infections that can cause sepsis in babies include:
  - Respiratory syncytial virus (RSV)
  - Cytomegalovirus (CMV)
  - E. Coli
  - Candida
  - Herpes simplex virus
  - Listeria monocytogenes
  - COVID-19
- Very young babies and those who have medical problems may not be able to receive childhood vaccines at the recommended times, making them more vulnerable to infection. The most common viruses are:
  - Rubella (German measles)
  - Varicella (chicken pox)
  - Haemophilus influenzae type b (Hib)



# Complications of Sepsis in Children

Cardiopulmonary  
Complications

Shock

Acute respiratory distress syndrome

Multiple Organ  
Dysfunction  
Syndrome  
(MODS)

Vital organ dysfunction – brain, kidneys, liver...

Distal perfusion impaired → amputations

Disseminate  
Intravascular  
Coagulation (DIC)

Small blood clots throughout the body

Increased bleeding RT consumption of clotting factors



# Sepsis and Children - Survivorship

- More than 1 in 3 children who survive sepsis still show a change in cognitive skills after their discharge from the hospital
- Many children require amputations for survival
- And nearly half need to be readmitted to the hospital at least once after surviving sepsis, including more than 20% within 3 months
- Missed school is common in those with critical sepsis. More than 2 in 3 children will miss school after discharge for a median of 9.1 missed days



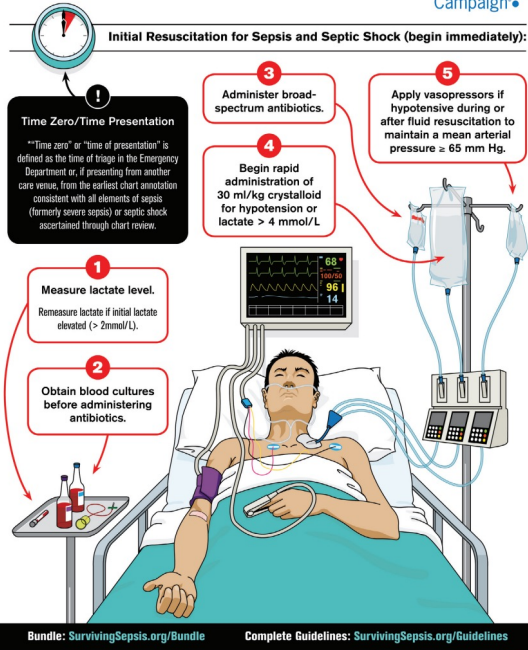
*Sepsis Alliance. Sepsis and Children Fact Sheet. 2024. <https://www.sepsis.org/education/resources/fact-sheets/>  
E. Carlton (2021), <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2787431>*

# Surviving Sepsis Campaign

## SSC hour-1 bundle

The goal of the Surviving Sepsis Campaign (SSC) hour-1 bundle is to begin resuscitation and management immediately.

Surviving Sepsis Campaign



2018

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Society of Critical Care Medicine  
The European Society of Intensive Care Medicine

2020

Surviving Sepsis Campaign

## Antibiotic Timing

	Shock is present	Shock is absent
<b>Sepsis is definite or probable</b>	<input checked="" type="checkbox"/> Administer antimicrobials <b>immediately</b> , ideally within 1 hour of recognition.	<input checked="" type="checkbox"/> Administer antimicrobials <b>immediately</b> , ideally within 1 hour of recognition.
<b>Sepsis is possible</b>	<input checked="" type="checkbox"/> Administer antimicrobials <b>immediately</b> , ideally within 1 hour of recognition.	<input checked="" type="checkbox"/> Rapid assessment* of infectious vs. noninfectious causes of acute illness.  <input checked="" type="checkbox"/> Administer antimicrobials <b>within 3 hours</b> if concern for infection persists.

\*Rapid assessment includes history and clinical examination, tests for both infectious and noninfectious causes of acute illness, and immediate treatment of acute conditions that can mimic sepsis. Whenever possible, this should be completed within 3 hours of presentation so that a decision can be made as to the likelihood of an infectious cause of the patient's presentation and timely antimicrobial therapy provided if the likelihood is thought to be high.

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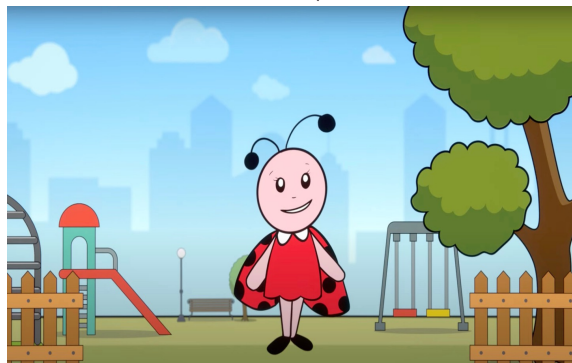


# Sepsis and Children - Equity

- Race and Ethnicity
  - Preterm infants who are Black are more than 2x more likely to develop sepsis and are more likely to die than non-Black infants
  - Black children are 30% more likely than white children to develop sepsis after surgery
  - Black children who develop sepsis are more likely to die than white children
  - Black or Hispanic children with severe sepsis/septic shock are more likely to die than non-Hispanic white Children
- Socioeconomic Status
  - Infants from families without health insurance are 3 times more likely to die from sepsis
  - Children with public insurance with sepsis/septic shock are more likely to die than children with private insurance or other types of insurance



# Getting the Word Out: Public and Patient Awareness, Education, Prevention, AMR



[https://youtu.be/t3s4hHtRJ9w?si=Nqf\\_7XLJASGySy0p](https://youtu.be/t3s4hHtRJ9w?si=Nqf_7XLJASGySy0p)

## Faces of Sepsis



Mateo Rodriguez-Limon



Promise Selepe



Ryan Lines



Mason D.



Wallace Ostrowski



Cooper Lins



Noel Johns



Vincenzo C.



**Prince Foote**

2 years old



**Millie Rose Giani**

5 years old

**Pediatric Sepsis Week**  
PediatricSepsisWeek.org



<https://www.sepsis.org/education/patients-family/faces-of-sepsis/?tag=children>

# Sepsis Alliance Institute

*SepsisInstitute.org*

- Learning management platform with over 150 free clinical education courses and free CNE
- Faculty of 275 Leading expert SMEs
- Peer-to-peer discussion boards provide a collaborative and engaging learning environment for healthcare professionals interested in improving care

## Key Stats



### Top Primary Practice Areas:

Quality/Safety/Performance  
Improvement (25%)  
Critical Care (14%)  
Emergency Department (9%)  
Infection Prevention (9%)  
Medical Surgical (8%)

### Top Learner Types:

Nurse (70%)  
Healthcare Executive (7%)  
Advanced Practice Provider (6%)

# Policy and Advocacy: Lulu's Law - H.R. 8078

- Bipartisan bill, introduced in the House by lead sponsors: Rep. Mikie Sherrill (D-NJ-11) and Rep. Larry Bucshon, MD (R-IN-8)
- Creates state-level sepsis information repositories – to help experts better understand sepsis. Modeled off the National Program of Cancer Registries (NPCR)
- Named in honor of Ana Lucia "Lulu" Haynes, a four-year-old from Montclair, NJ who was lost suddenly to sepsis
- Pending reintroduction in the Senate
- Calls for a National Sepsis Action Plan
- For more: [SepsisVoices.org](https://www.sepsisvoices.org)



To learn more about Lulu's Law:

<https://www.congress.gov/bill/118th-congress/house-bill/8078/text>

# Policy and Advocacy: National Sepsis Action Plan

- WHO and G7 have called for international action on sepsis
- Some nations, including Switzerland and the UK, have implemented national sepsis strategies
- Sepsis Alliance has called on the **Biden-Harris administration** to implement a National Sepsis Action Plan
- A plan would include:
  - A sepsis research center;
  - Uniform sepsis protocols at all health provider sites;
  - Healthcare professional education;
  - Public education on sepsis and infection prevention.

To learn more about the National Sepsis Action Plan, please visit:

<https://www.sepsis.org/news/sepsis-alliance-calls-on-biden-harris-administration-for-a-national-sepsis-action-plan/>





# Q&A



**Sepsis can happen to anyone at any time.**

**Thank you.**

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**Learn more at [sepsis.org](https://sepsis.org).**



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