



# Achievements and Next Steps for the Implementation the WHO Sepsis Resolution

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# Success Factors for Current and Future Achievements

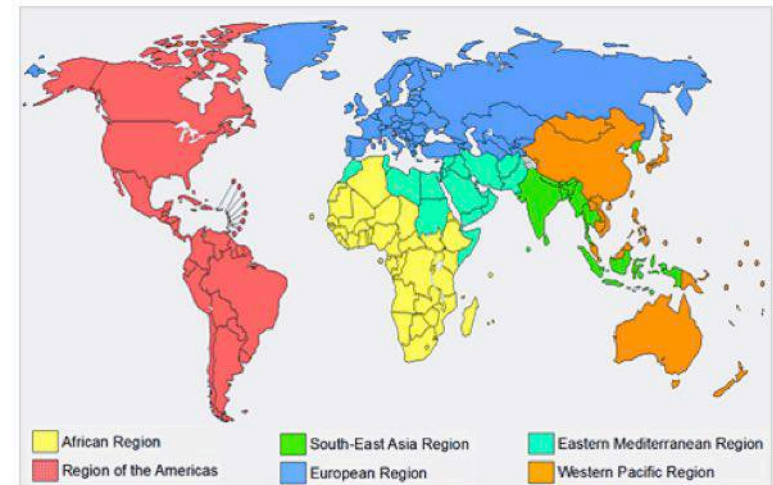
- Documentation of the burden of sepsis
- Involvement of patients and families
- Creation of broad multidisciplinary coalitions
  - ID, ED, ICU, and Public Health
- Delineation of the deficits in prevention and care
- Proving the effectiveness of QI
- Addressing influential policymakers
- Working with media and social media

# The Aim of the GSA After the Adoption of the Resolution was to Support its Implementation by:



- Close Collaboration with WHO
- To increase awareness by getting sepsis in the GBDR
- Regional sepsis alliances in all continents where WHO holds regional offices
- Fostering national coalitions and action plans against Sepsis

WHO regional offices



WHO Member States are grouped into six regions. Each region has a regional office. The map shows the WHO regions and the location of the regional offices.



# What Has Happened Since the Adoption of the WHO Sepsis Resolution

- New data on the burden of sepsis
- New data on the effectiveness of QI
- ESICM and SCCM joined GSA
- Launch of regional sepsis alliances
- National action plans in some countries
- Technical expert meeting with WHO
- WHO hand hygiene campaign refers to sepsis
- Improved understanding of the consequences

# Currently Sepsis Incidence and Burden of Sepsis May Be Considerably Underestimated

Open Forum Infectious Diseases

MAJOR ARTICLE



## Sepsis Incidence: A Population-Based Study

Lisa Mellhammar,<sup>1</sup> Sven Wullt,<sup>1</sup> Åsa Lindberg,<sup>2</sup> Peter Lanbeck,<sup>1</sup> Bertil Christensson,<sup>1</sup> and Adam Linder<sup>1</sup>

<sup>1</sup>Department of Clinical Sciences, Division of Infection Medicine, University of Lund, Sweden; <sup>2</sup>Hallands Hospital Halmstad, Sweden

**Background.** A study was conducted to assess the incidence of severe sepsis in all hospitals in an entire region.

**Methods.** This is a population-based study on intravenous antibiotic therapy preceding organ dysfunction. The study regions were started in 2007 and 2008.

**Results.** Four hundred and ninety-six patients had severe sepsis according to the 1991/2001 sepsis definitions, and 109 had sepsis according to the sepsis-3. This is equivalent to an annual incidence of traditional severe sepsis of 687/100 000 persons (95% confidence interval [CI], 549–824) or according to the sepsis-3 definition of 780/100 000 persons (95% CI, 633–926). Seventy-four patients had sepsis according to both definitions.

This study was to assess the incidence of severe sepsis in all parts of all regions.

Study was based on an intravenous antibiotic therapy preceding organ dysfunction. The study regions were started in 2007 and 2008.

Seventy-four patients had severe sepsis according to both definitions.

- Sepsis-3 780/100 000
- Mortality 17.4%
- Only 15% coded in ICD



## Between 2009-2014 in the US Less Than 50% of Sepsis Cases were Coded in the ICD-9

- According to EHRs 5.9% of all admissions were coded as sepsis. Neither the number of cases nor the mortality rate changed significantly over the study period.

- **Projected national incidence USA**  
**1.67 million cases, 517/100 000 population; 260,000 deaths.**

- Sepsis was present in 35% of patients who culminated in death

# Burden of Antimicrobial Resistance (AMR)

AMR is a global burden worldwide



**European Union**  
*population 500 m*

**25,000 deaths per year**

**2.5 m extra hospital days**

**Health care costs and  
productivity loss :  
€1.5 billion per year**

*Source: ECDC 2007*



**United States**  
*population 300 m*

**2.0 m infections**

**23,000 deaths per year**

Societal costs  
Up to \$20 billion direct Up  
to \$35 billion indirect

*Source: US CDC 2013*

# It Is Very Good That Economists Start to Talk About the Burden of Sepsis



**Bloomberg** ▼

America Has a \$27 Billion Sepsis Crisis



## **America Has a \$27 Billion Sepsis Crisis**

**New data suggest a striking rise in the deadly syndrome, but hospitals have a profit-motive to find it—and it may have been there all along.**

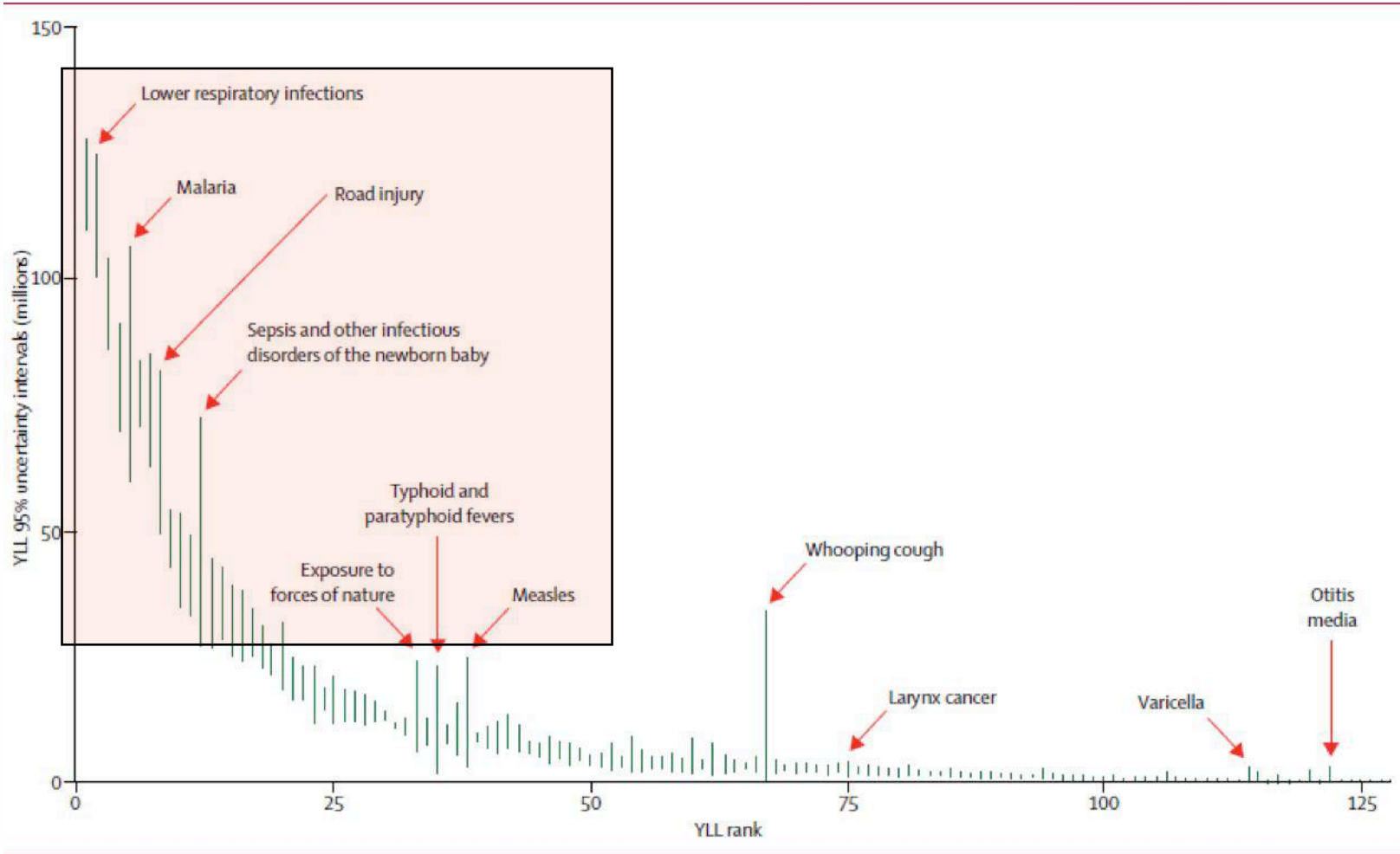


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# It Will Help When Sepsis Will in GBDR for 2018



## Assessment of Global Incidence and Mortality of Hospital-treated Sepsis

### Current Estimates and Limitations

Carolin Fleischmann<sup>1,2</sup>, André Scherag<sup>3</sup>, Neill K. J. Adhikari<sup>4</sup>, Christiane S. Hartog<sup>1,2</sup>, Thomas Tsaganos<sup>5</sup>, Peter Schlattmann<sup>6</sup>, Derek C. Angus<sup>7\*</sup>, and Konrad Reinhart<sup>1,2\*</sup>; on behalf of the International Forum of Acute Care Trialists



An estimated **14.1 million** patients survive (severe) sepsis each year.

19.4 million cases

5.3 million deaths



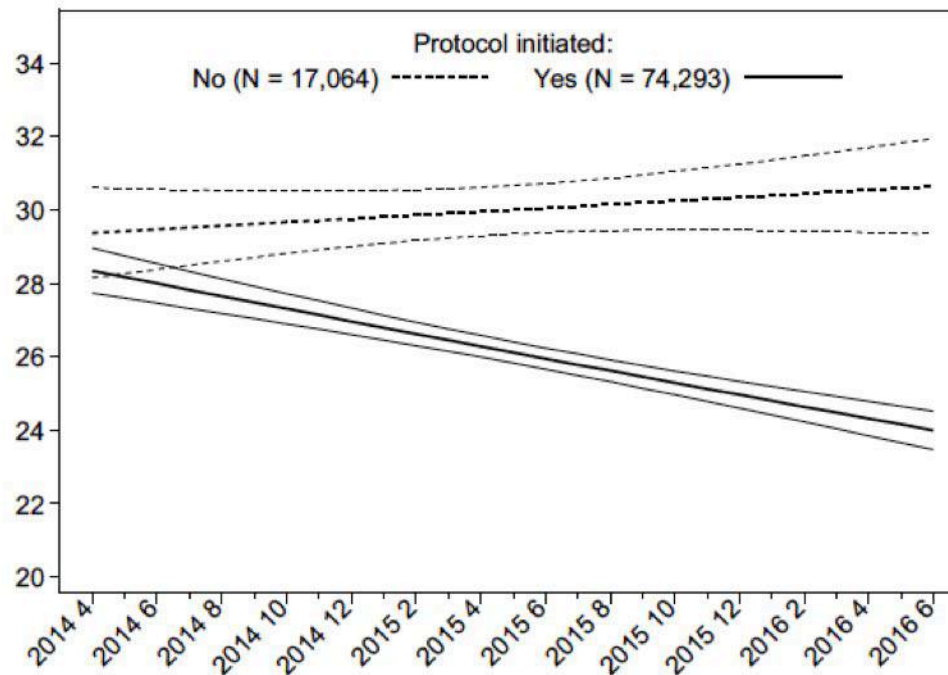
# It Helps to Address the Disparities in the Sepsis Outcomes

• Australia	2000-2012:	35,0%	➔	18,5%
• England	2000-2012:	45,5%	➔	32,1%
• USA	2009-2014:	39,9%	➔	23,2%
• Germany	2010-2015:	47.8%	➔	41,7%
• Brazil	2015			55,7%
• Turkey	2015			62,6%

# New York State Mandated Public Reporting Study Results in Five Percent Reduction of Hospital Mortality



Figure 3: Risk adjusted hospital mortality over time by protocol initiation status.



Risk-adjusted mortality improved in patients with a sepsis protocol initiated throughout the study period, but was stable for patients without a protocol initiated. The difference in mortality between patients treated with and without a sepsis protocol first became significant ( $p = 0.019$ ) during the 3<sup>rd</sup> month of the study

# Association Between the New York Sepsis Care Mandate and In-Hospital Mortality for Pediatric Sepsis

Idris V. R. Evans, MD, MSc; Gary S. Phillips, MAS; Elizabeth R. Alpern, MD, MSCE; Derek C. Angus, MD, MPH; Marcus E. Friedrich, MD; Niranjana Kisson, MD; Stanley Lemeshow, PhD; Mitchell M. Levy, MD; Margaret M. Parker, MD; Kathleen M. Terry, PhD; R. Scott Watson, MD, MPH; Scott L. Weiss, MD, MSCE; Jerry Zimmerman, MD, PhD; Christopher W. Seymour, MD, MSc

Table 1. Patient Characteristics (continued)

Characteristic <sup>a</sup>	No. (%)			P Value <sup>b</sup>
	<div style="background-color: #800000; color: white; padding: 10px; text-align: center;"> <b>Hospital Mortality rates ( age 0-17years)</b>  <b>All patients : 11.8%</b>  <b>Bundle completed : 7.5%</b>  <b>Bundle not completed 13.2%</b> </div>			
Type of pathogen				
Gram positive				
Gram negative				
Other <sup>e</sup>				<.001
None reported				
Hospital with pediatric intensive care	1031 (87.4)	258 (87.8)	773 (87.3)	.85
Hospital length of stay, median (IQR), h	235 (118-496)	198 (101-358)	244 (123-554)	<.001 <sup>d</sup>
In-hospital death	139 (11.8)	22 (7.5)	117 (13.2)	.008

# The Kampala Declaration

## Commitment to improve care for sepsis and severely ill patients in Africa



**Kampala, Uganda 20 October 2017**

**The African Sepsis Alliance, the African Federation of Critical Care Nurses, the Global Sepsis Alliance, and the World Federation of Critical Care Nurses call for urgent and effective national and international action to develop and implement sepsis improvement programmes throughout Africa.**

preventable cause of death in Africa, resulting in over two million estimated deaths per year in Africa. It kills young people in Africa and leads to a disproportionate number of years of life lost.

- II. Acknowledging that there are variations, health care services in Africa are currently ill equipped to identify and look after severely ill patients such as those with sepsis. The existing inadequate data and

# Khartoum Resolution to Improve Sepsis Outcomes in Africa



Global Sepsis Alliance



African Sepsis Alliance

**The aim is a joint conference by the MoHs of the African Union on Sepsis under the patronage of WHO DG Dr. Tedros in Khartoum within the next twelve months!**

Addressing the WHO sepsis resolution: A... improve outcomes of sepsis in Africa

Sepsis results when... million people per... geographically... the World Health Organization, the Director General of... preventable... tragedy is that most of these deaths are... ability among survivors and has a significant economic imp...

On the 31<sup>st</sup> of... and 1<sup>st</sup> of February 2018, representatives of the Sudanese, African and Global Sepsis Alliances and the Khartoum State Ministry of Health met in Khartoum for an International Sepsis Conference, presided by Professor Mamoun Homeida, Khartoum State Minister of Health, Sudan.

# Sepsis -

The Most Preventable Cause  
of Death and Disability  
in Europe



**Patron: EU Commissioner  
for Health & Food Safety,**

**Vytenis Andriukaitis**

*„The time to act on sepsis is now. Through concerted efforts by all member states, the EU has the opportunity to save hundreds of thousands of lives and improve the quality of life for survivors“*



## Objectives and Expected Results

**“The time to act on sepsis is now. I encourage EU Member States to strengthen efforts to prevent infections that can lead to sepsis and thus save lives and to improve the quality of life of sepsis survivors.”**

## A Call to EU Action

Brussels, March 20<sup>th</sup>, 2018

14:30 – 19:45

Venue to be announced at a later date

MORE INFORMATION & FREE REGISTRATION  
<https://www.global-sepsis-alliance.org/acalltoeuaction>

The 2017 WHO Resolution “Improving Prevention, Diagnosis and Clinical Management of Sepsis” urges UN Member States to develop national strategies to increase public awareness and implement training for all healthcare professionals on infection prevention and the early recognition and management of sepsis.

### ***The development and implementation of a Pan-European sepsis strategy***

Bringing together all stakeholders, including patients and their families, with the aim to increase understanding that improvement of early recognition and appropriate management of sepsis must become the keystone of the Pan-European infection management strategy.

***To achieve these objectives, we will launch the European Sepsis Alliance (ESA).***

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## São Paulo Declaration

### **Sepsis – the Major Cause of Preventable Death and Disability in Latin America A Call for Action to Reduce the Burden of Sepsis**

Sepsis is a major cause of preventable deaths in Latin America (LATAM) countries and is the most common cause of death from infection.

During the Latin-American Sepsis Institute meeting in São Paulo, Brazil, on the 30<sup>th</sup> of May 2018, delegates from 8 LATAM countries called for urgent action by governments, healthcare workers and the community to support national and international commitments to improve the prevention, diagnosis and treatment of sepsis and to dedicate human and financial resources to these goals. The delegates supported the following declaration:

**Noting** that sepsis is recognized as a global health priority by the WHO Resolution of 2017 and that member nations are urged to adopt National

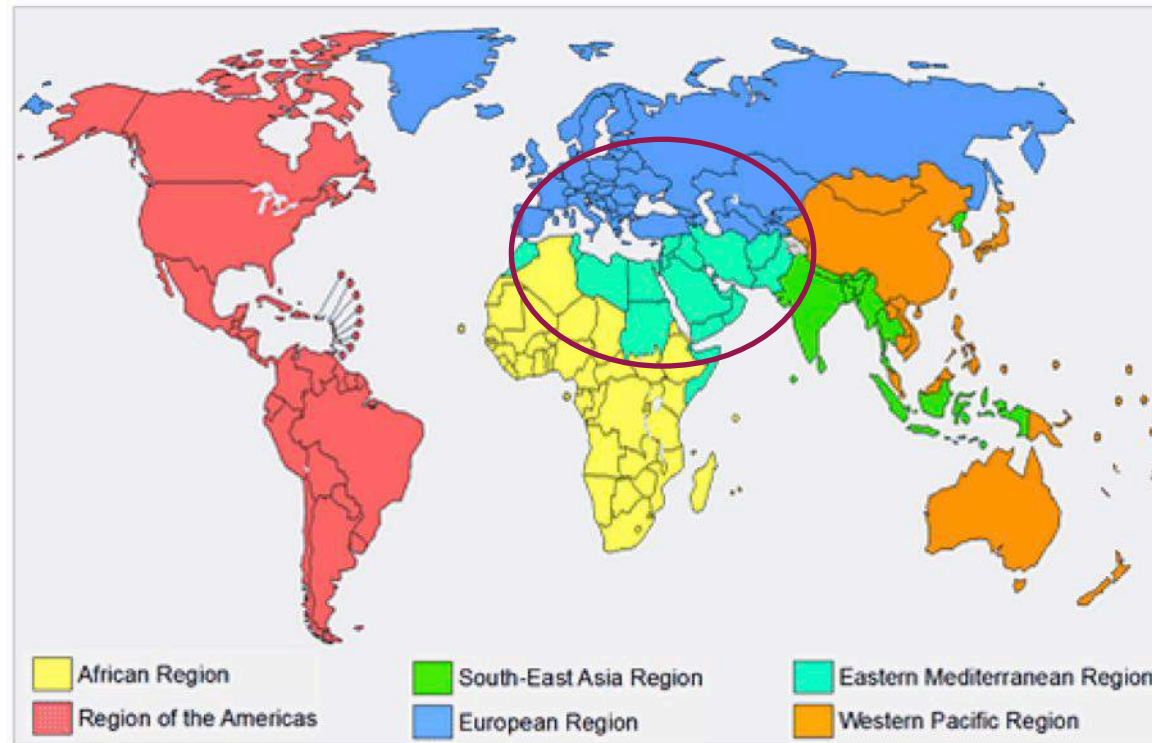
# Launch of **Asian Pacific Sepsis Alliance** at the Mahidol-Oxford Tropical Medicine Research Unit Bangkok Oct. 4<sup>th</sup>



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# Eastern Mediterranean Sepsis Alliance (EMRO)?

## WHO regional offices

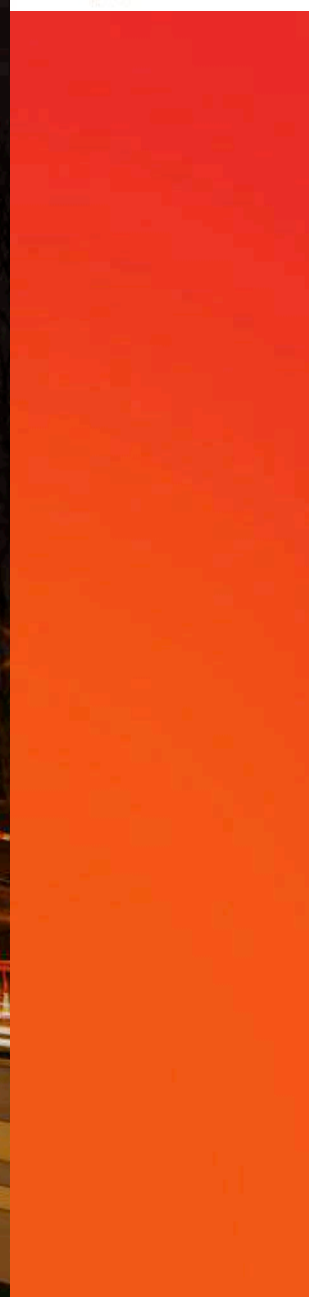


WHO Member States are grouped into six regions. Each region has a regional office. The map shows the WHO regions and the location of the regional offices.



## Countries with Nationwide Sepsis Activities or Intended National Sepsis Plans:

- Australia
- Brazil
- Canada
- England
- Germany
- Ireland
- Italy
- Scotland
- Spain
- Saudi Arabia
- Sudan
- Turkey
- Thailand
- USA/New York State...
- Wales





**LOCAL INFORMATION**

**Child/Adult advice**

G.P. Name: \_\_\_\_\_ Time: \_\_\_\_\_ Tel: \_\_\_\_\_

Nurse Name: \_\_\_\_\_ Time: \_\_\_\_\_ Tel: \_\_\_\_\_

Pharmacy Name: \_\_\_\_\_ Time: \_\_\_\_\_ Tel: \_\_\_\_\_

Other contacts: \_\_\_\_\_ Time: \_\_\_\_\_ Tel: \_\_\_\_\_

## Spotting sepsis and serious illness in children

Please use this page if you are concerned about your child's symptoms, especially if their illness seems different to any previous illness they've had, or if they are 'just not right' (even if their temperature falls).

This information will help you monitor your child's condition so you know:

- When to ask for help
- Where to go
- How to describe the symptoms

The information is derived, with permission, from the SAHFT leaflet produced for NHS England (South West) following the tragic recognition of Sepsis in Children in December 2010 to paediatricians, sepsis experts, nurses, GPs and parents of children who've had sepsis.

The information related to the leaf and presented in England and Wales. All information included under this header is correct as of 1st April 2016. The UK Sepsis Trust registration number: 1042033. VAT registration number: 23317022. Company registration number: 0444263. Sepsis information centre number: 01223 342222.



THE UK  
SEPSIS  
TRUST

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

Growth charts & other information  
Screening & routine reviews  
Immunisation

# Governor Cuomo Signs Rory Staunton's Law

© Posted on October 24, 2017



## Governor Cuomo Signs Rory Staunton's Law

Thank you, Governor Cuomo and Assemblywoman Cathy Nolan. A new Bill has passed the legislature in New York State and been signed by the Governor to ensure that all New York State children learn about sepsis in their schools.



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## ASPR's Mission





# The Resolution Fostered the Involvement of the WHO Leadership



#HandHygiene #Sepsis

IT'S IN YOUR  
HANDS

An illustration of five diverse people of various ages and ethnicities, including a man in a suit, a woman in a patterned dress with a child, a man in a white lab coat, a woman in a white lab coat, and a woman in a business suit. They are all holding up large, orange, textured letters that spell out the word 'HANDS'.

PREVENT SEPSIS  
IN HEALTH CARE



World Health  
Organization

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SAVE LIVES  
CLEAN YOUR HANDS

Key

- 
- 
- 

r



# Sepsis Must Become an Integral Part of High Profile WHO/UN Campaigns

- **Sustainable Development Goals**
- **Action Plan Against AMR**
- **WHO Global Patient Safety Network**
- **Global Action Plan for Healthy Lives and Wellbeing for all**



**Ironically, in all these programs, the term sepsis is not mentioned!**

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# A European One Health Action Plan against Antimicrobial Resistance

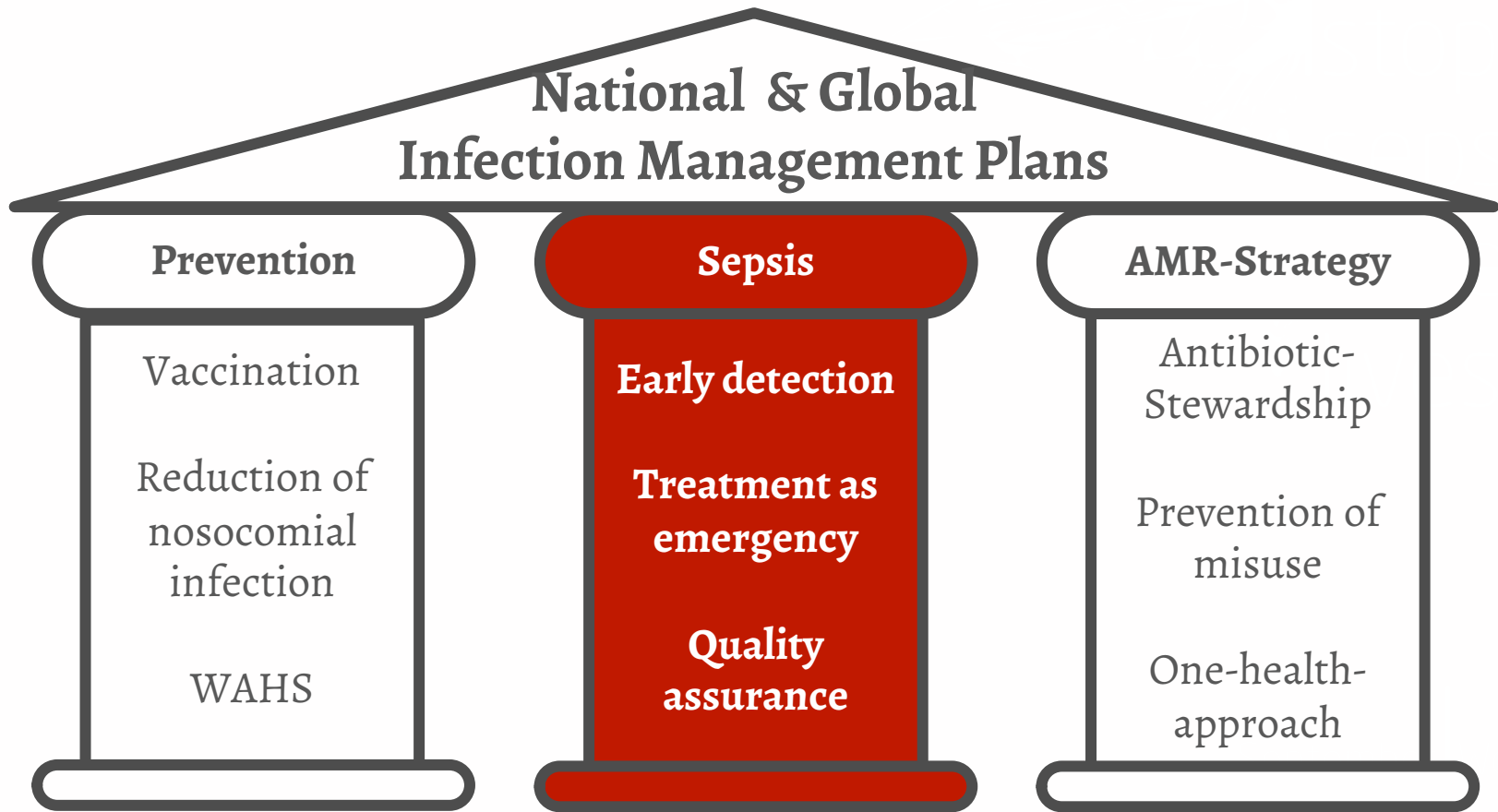
## European Parliament resolution of 13 September 2018 on a European One Health Action Plan against Antimicrobial Resistance (AMR) (2017/2254(INI))

- “having regard to the Seventieth World Health Assembly resolution of 29 May 2017 **on improving the prevention, diagnosis and clinical management of sepsis**”
- “whereas the World Health Assembly estimates that sepsis – a syndromic response to infectious diseases – **causes approximately 6 million deaths worldwide every year, most of which are preventable**”
- “Calls on Member States to step up efforts to prevent and control infections that can lead to sepsis; calls on Member States to include targeted **measures to improve the prevention, early identification and diagnosis, and clinical management of sepsis in their national AMR action plans**”



Jointly with our partners we were able to get sepsis in the European Action Plan against Antimicrobial Resistance

# Strategy II: Sepsis Must Become the Keystone of Any Infection Management Plans



# Strategy III: We Have to Learn from Countries Health with Low Sepsis Mortality



- Effective programs on infection prevention and control
- Train health care workers in early detection of deteriorating patients – early warning scores
- Request rapid response teams, critical Incidence reporting
- Endorse QI Campaigns on the national, hospital and community level
- Support education of lay people on infection prevention and the early clinical symptoms of sepsis

**These programs and knowledge must become the core of national sepsis plans!**



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SEPSIS WHAT WE DO  
BECOME INVOLVED

Donate



## GSA GLOBAL QUALITY MEASURES SURVEY

**Please help us to promote the survey in your country!**  
**[www.worldsepsisday.org/survey](http://www.worldsepsisday.org/survey)**

Despite a recent resolution by the WHO and increasing worldwide attention, sepsis remains a major global health threat, our knowledge of its pathophysiology and how to improve outcomes is limited and fragmented. To inform policy makers to healthcare providers, we need to understand how sepsis programs and practices vary between regions, between patient populations, and between healthcare settings.

# Future Projects



- Support WHO staff with knowledge on sepsis and intensify collaboration on the HQ and regional level
- Encourage national sepsis strategies and plans
- Develop sepsis checklist in cooperation with WHO
- Adapt sepsis guidelines for resource-poor settings under the auspices of WHO
- Establish WHO Collaborating Centers on sepsis
- Promote accreditation of hospitals and comprehensive sepsis centers
- Conduct WSC Spotlight congress around WSD 2019





# A World Free of Sepsis



**Join this Fight and Share Our Vision**

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