

Sepsis – Die unterschätzte Folge von nosokomialen und ambulant erworbenen Infektionen

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Chair Global Sepsis Alliance



September | World
13 | Sepsis
2018 | Day



World Health
Organization

The Resolution Acknowledges That

- “Each year, sepsis causes approximately six million deaths worldwide, **most of which are preventable**”
- “Sepsis is a syndromic response to infection and the final common pathway to death **from most infectious diseases**”
- “Sepsis is an emergency that requires time-critical actions, improved training of

This helps to overcome some misconceptions such as:

Sepsis...

- **...occurs only in the healthcare setting**
- **...results only from unclean care**
- **...is primarily caused by multiresistant bacterial super bugs**

quality “



Global
Sepsis
Alliance

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Ausgangs- und Diskussionspunkte

- Unterschätzung der Krankheitslast
- Fehlende Lobby
- Mangelndes Bewusstsein für Vermeidbarkeit
- Geringe Kenntnis der Bevölkerung
- Fehlende Priorität bei den Versorgern
- Geringes Interesse der Politik


ORIGINAL



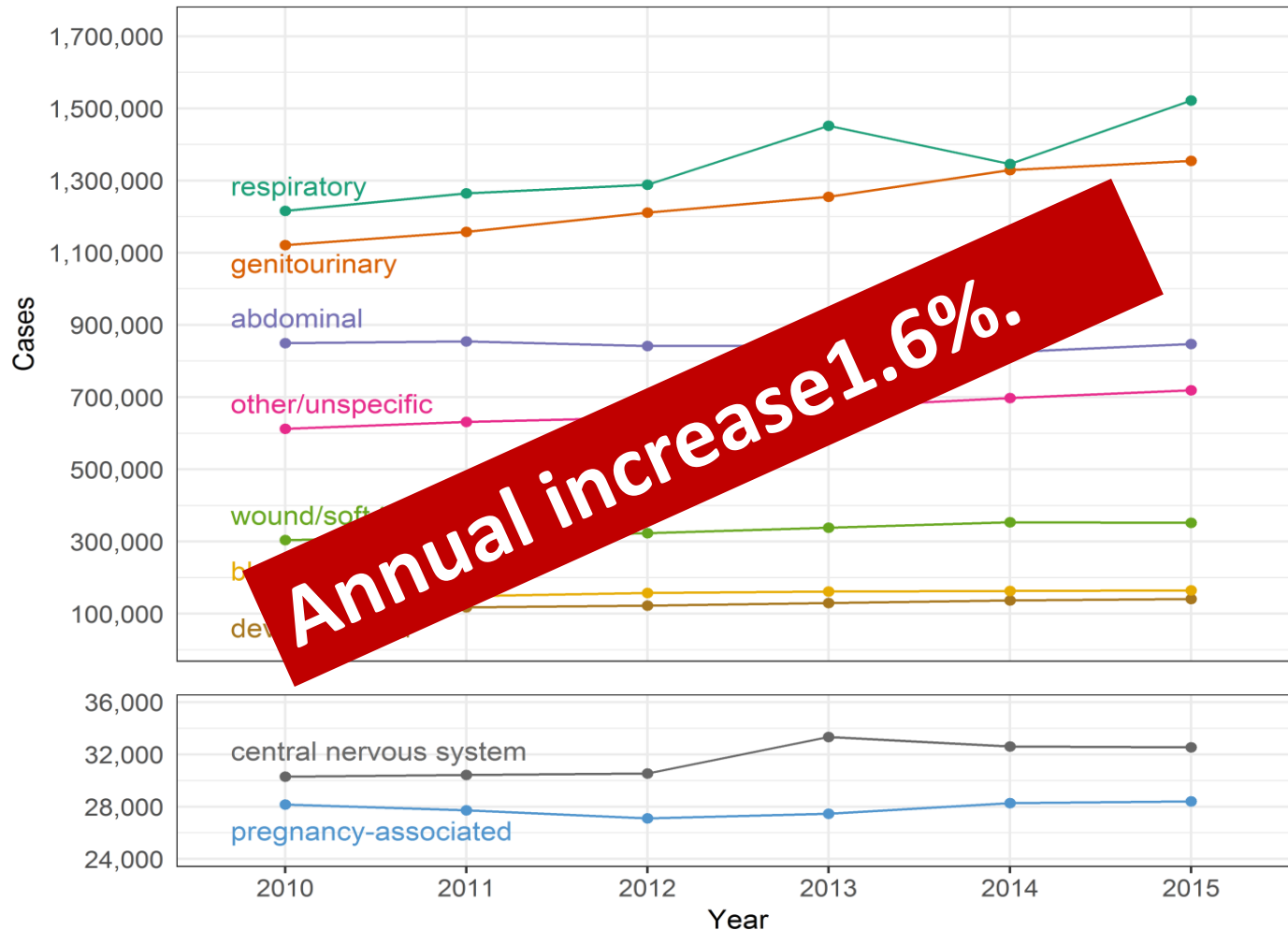
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Among 18 664 877 hospital admissions in 2015, 4 213 116 (22.6%) patients had at least one infection code

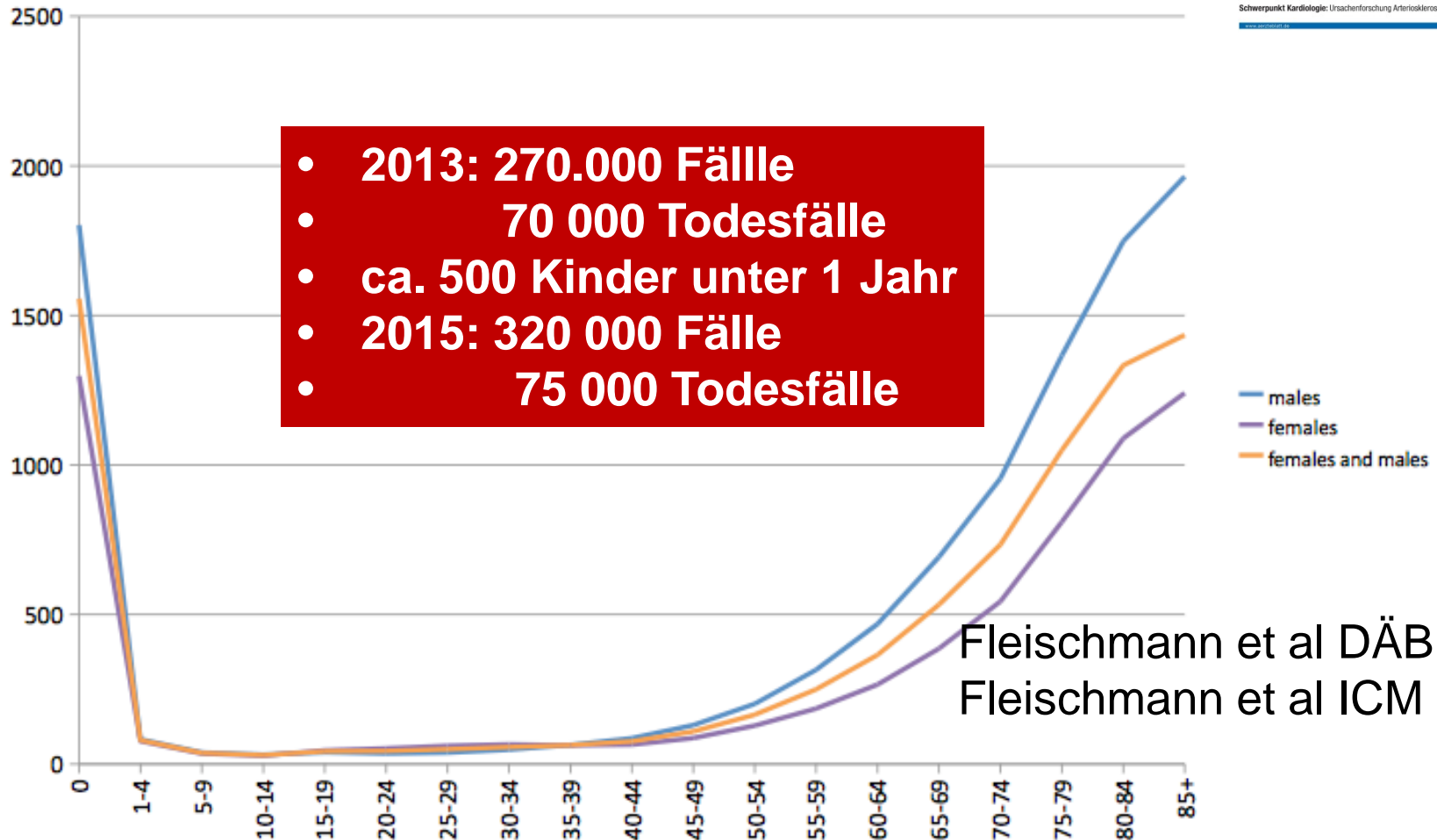
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C. Fleischmann-Struzek^{1*} , A. Mikolajetz², D. Schwarzkopf¹, J. Cohen³, C. S. Hartog^{4,5}, M. Pletz⁶, P. Gastmeier^{7,8} and K. Reinhart^{1,2,9}

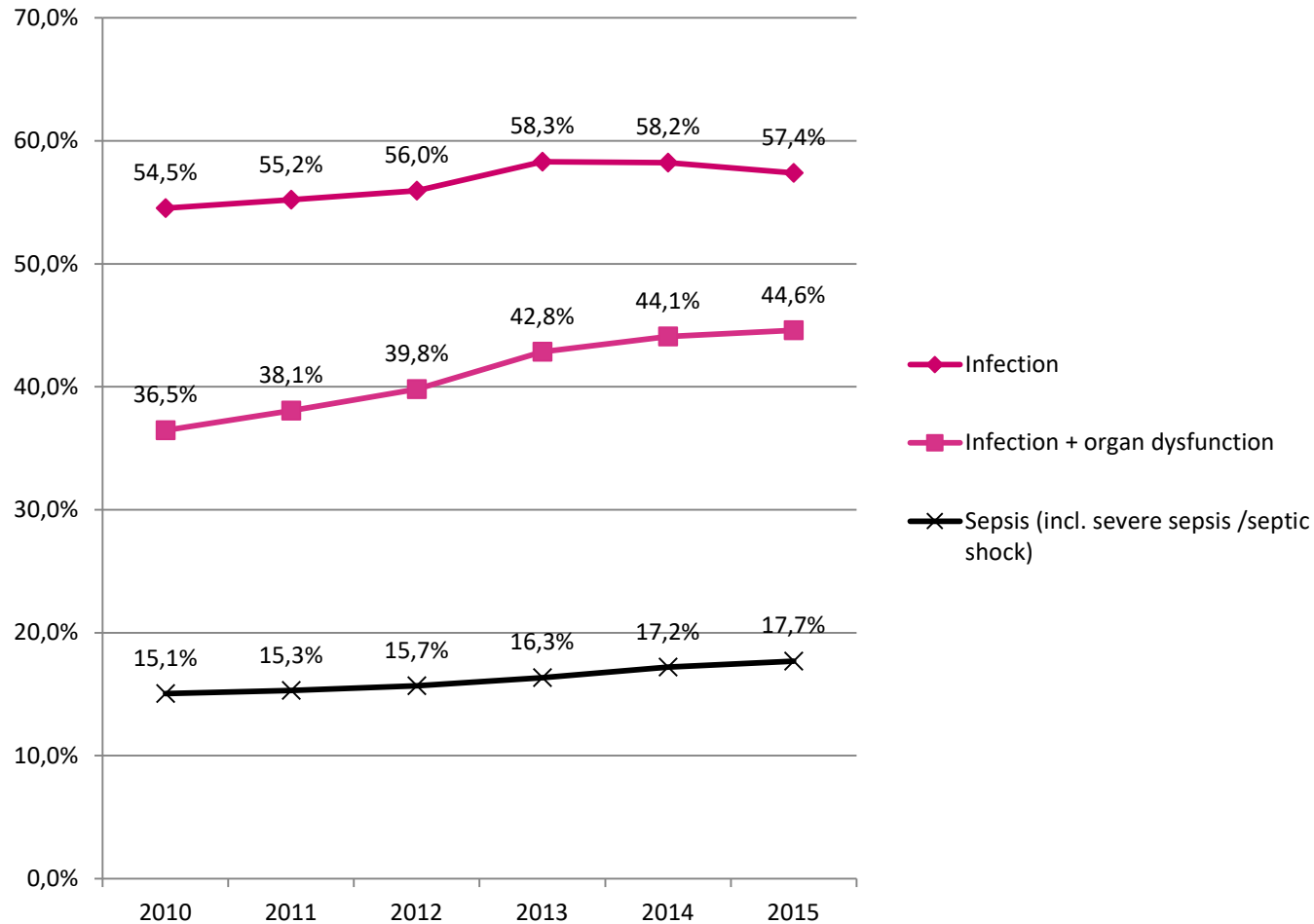
Increase of Hospital-treated Infections in Germany: 3,691,241 - 4,173,237 (2010-2015)



Früh- und Neugeborene sowie Ältere sind besonders stark betroffen



Anteil von Infektionen und Sepsis bei den Krkh. Todesfällen in Deutschland 2015 n = 422 159



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 patients had sepsis. Neither the incidence nor mortality were significantly different between patients with and without sepsis.
- **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

Bloomberg ▼

America Has a \$27 Billion Sepsis Crisis

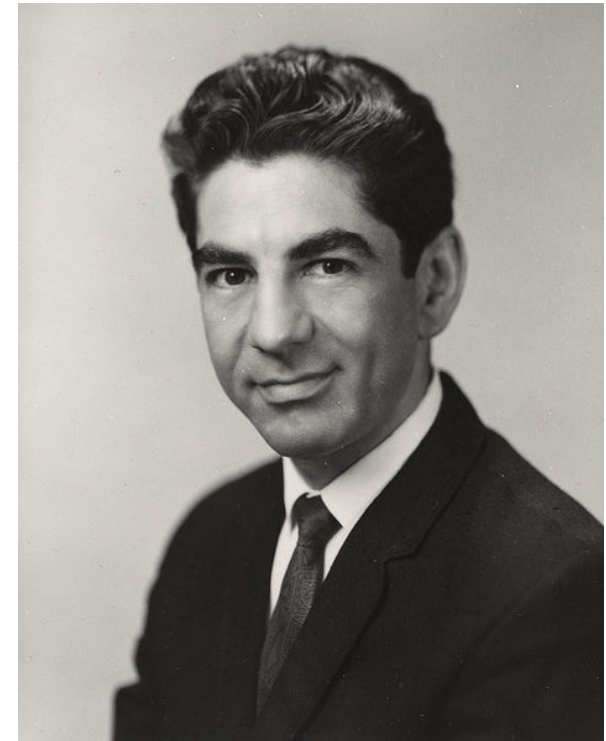
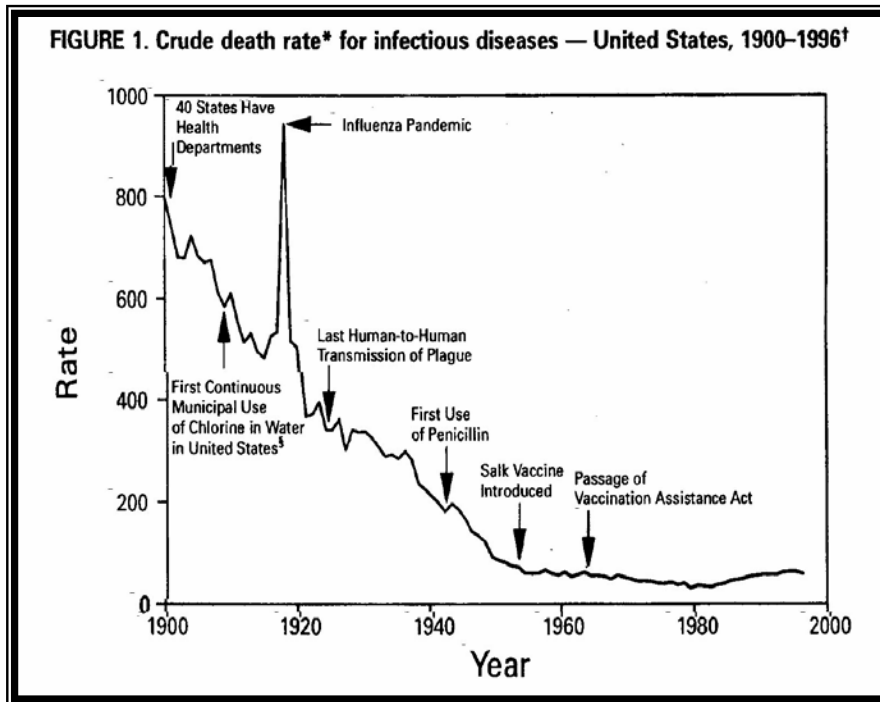


Not only is there a striking rise in the deadly syndrome, but hospitals have a profit-motive to find it—and it may have been there all along.

‘The book of infectious diseases can now ultimately be closed.’



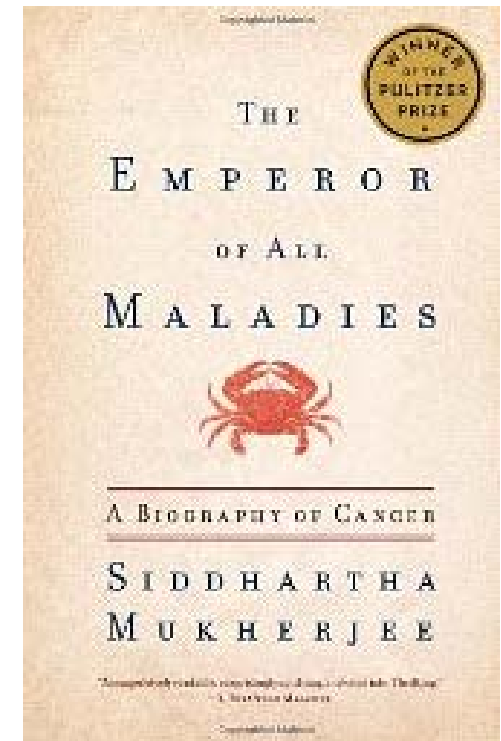
Steinfeld, Surgeon General, 1972



Jesse Leonard Steinfeld

What we can learn from cancer and other fields

The campaign is much like a political campaign:.... the strategies of advertising as much as the tools of science. For any illness to rise to political prominence, it needed marketing..... **A disease needed to be transformed politically before it could be transformed scientifically.**



Mr. Nixon:

You can

cure

cancer



“A moon shot for cancer”

The relationship of government to science in the post-war years is a case in point. Without very much visible deliberation, but with much solemnity, we have in little more than a decade elevated science to a level of extraordinary influence in national policy; and now that it is there, we are not very certain what to do with it.

—William Carey, 1963

Repräsentative Umfrage bei 60+ in Thüringen und Gesamtdeutschland

- Nur 17% glaubten, dass man sich mit Impfungen schützen kann
- 23 % halten Sepsis für eine gefährliche Reaktion
- 30% glauben, dass Sepsis primär durch Krankenhausinfektionen ausgelöst wird
- Die Mehrheit der Patienten glaubt, dass man Sepsis am roten Streifen, der zum Herz zieht erkennt

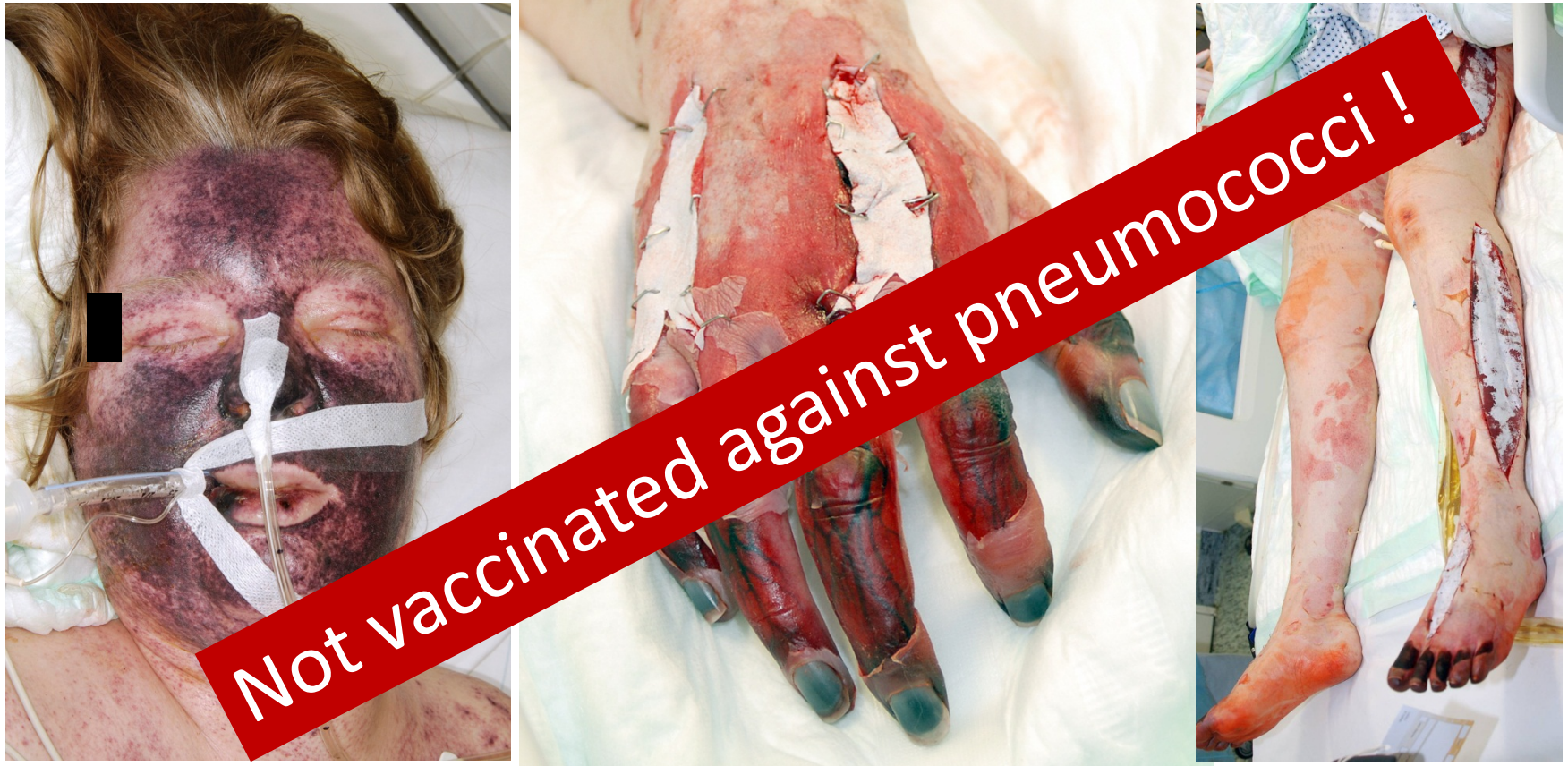
70-80% der Sepsiserkrankungen entstehen außerhalb des Krankenhauses !





Not vaccinated against pneumococci !

Patient without spleen contracted pneumococcal sepsis





Sepsis Incidence per 100,000 inhabitants

Breast Cancer	110
Colon Cancer	50
AIDS	3.5

•Inzidenz Sepsis 375/100 000

CDC National Center of Hospital Statistics 2012
Angus DC et al; Crit Care Med 2001; 29: 1303-131



*Gerade bei wechselnden Partnern sind Kondome unverzichtbar.
Denn in Deutschland infizieren sich täglich immer noch
sieben Menschen mit HIV. Deshalb gilt: mit wem Sie es auch
machen – greifen Sie zum schützenden Gummi!*

**GIB AIDS
KEINE
CHANCE**

In Germany daily 200 patients die from sepsis

ALARM IN DER BIKINIZONE?



Die jährlich 300 000 Sepsis Patienten haben
das gleiche Anrecht auf gesundheitliche
Aufklärung durch die BZgA wie andere
Patientengruppen!

DEI

Wenn's um... Zeichen für
eine sexuell... (STI) sein.



LIEBES
LEBEN

www.liebesleben.de



Eine Aktion der Bundeszentrale für
gesundheitliche Aufklärung (BZgA),
mit Unterstützung des Fachverbandes
Aussewerbung e.V. und des Verbandes
der Privaten Krankenversicherung e.V.,
gefördert durch die Bundesrepublik
Deutschland.



Es ist deins.
Schütze es.

Etat für 2019



**Bundeszentrale
für
gesundheitliche
Aufklärung**

- **17,5 Mio. Euro** für die Bundeszentrale für gesundheitliche Aufklärung (BZgA) für
Gesundheitliche Aufklärung der Bevölkerung
Darin enthalten sind:
 - Gesundheit von Kindern und Jugendlichen..... 2.380.000 €
 - Aufklärung zur Organspende..... 5.700.000 €
 - Aufklärung zur Blutspende..... 300.000 €
 - Gesundes Alter..... 1.400.000 €
 - Qualitätssicherung und Qualitätsentwicklung.....1.600.000 €
 - Erhöhung der Reichweiten..... 800.000 €
 - Aufklärungskampagne zur Steigerung der Durchimpfung..... 2.700.000 €
 - Aufklärungskampagne zur Hygiene..... 750.000 €
 - Information von Unternehmen über betrieblich Gesundheitsförderung... 450.000 €
 - Krisenkommunikation..... 750.000 €
 - Stärkung der Laienreanimation..... 700.000 €
- Für Aufklärungsmaßnahmen auf dem Gebiet von sexuell übertragbaren Krankheiten sind
11,9 Mio. Euro gesondert veranschlagt



The NEW ENGLAND JOURNAL of MEDICINE

Perspective

Recognizing Sepsis as a Global Health Priority — A WHO Resolution

Konrad Reinhart, M.D., Ron Daniels, M.D., Niranjana Kissoon, M.D., Flavia R. Machado, M.D.,
Raymond D. Schachter, L.L.B., and Simon Finfer, M.D.

“Some very important clinical conditions are not being addressed because of the burden of them affecting patients and the limited resources available for their prevention and professional management.”

... The public and political space is the space in which [sepsis] needs to be in order for things to change.”

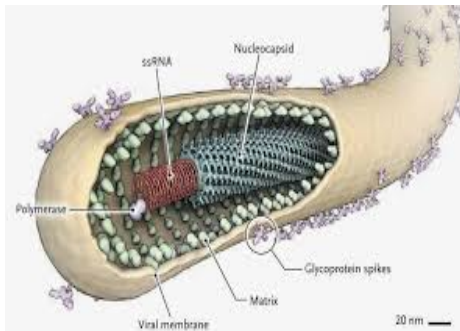
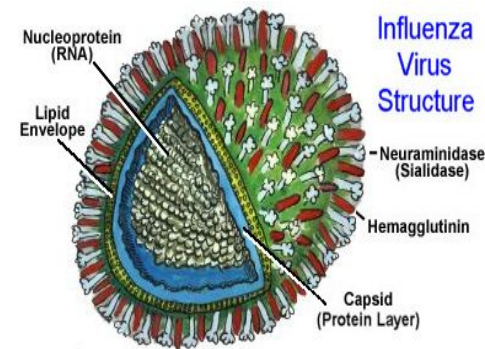
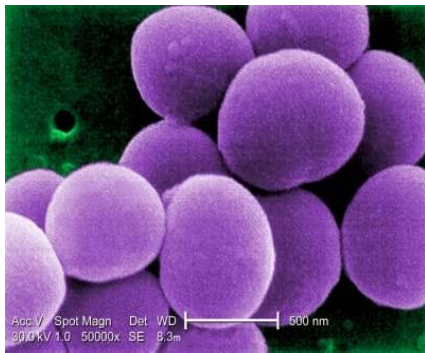
Sir Liam Donaldson, Geneva ; May 2017

at the clinic but not visible to political leaders, it has been described as life-threatening organ dysfunction resulting from infection. Despite this long history, sepsis has existed in the backwater of medicine, and as a result, the current estimates of 30 million episodes and 6 million deaths per year come from a systematic review that extrapolated from published national or local population estimates to the global population.³ The likelihood that the result was a significant underestimation of the burden of disease arising from sepsis remains unknown.



The Resolution Acknowledges That

„Most types of microorganisms can cause sepsis, including bacteria, fungi, viruses and parasites, such as those that cause malaria“.



Candida albicans



Improving the prevention, diagnosis and clinical management of sepsis

URGES Member States:

“to include prevention, diagnosis and treatment of sepsis in national health systems strengthening in the community and in health care settings”

Nationaler Aktionsplan gegen Sepsis

Memorandum aus Anlass des Sepsis Summits Berlin 2013

Zielsetzung

Initiierung eines Nationalen Aktionsplans, um in Deutschland eine Senkung der Sepsissterblichkeit und eine Verbesserung der Lebensqualität nach Überleben

Präambel

Der Begriff Sepsis ist bei Laien und in der Öffentlichkeit weit verbreitet. Er wird meist mit einer schweren Infektion verwechselt. Die schwerste Form der Sepsis ist das Sepsis-Syndrom, das von einer Bakteriämie (Blutvergiftung) durch eine Infektion mit Bakterien, Pilzen oder Parasiten entsteht. Die Erkrankung beginnt mit einer Infektion, die zu einer systemischen Entzündung führt. Die Mortalität ist hoch und beträgt ca. 60.000

Bis zu einem Drittel der vermeidbaren Todesfälle betreffen behandlungs-assoziierte Infektionen !

Die WHO prophezeit „eine post-antibiotische Ära“, in der es für viele gewöhnliche Infektionen keine Behandlungsmöglichkeiten mehr gibt; das Weltwirtschaftsforum hat das Problem in seinen „Global Risk

Die WHO prophezeit „eine post-antibiotische Ära“, in der es für viele gewöhnliche Infektionen keine Behandlungsmöglichkeiten mehr gibt; das Weltwirtschaftsforum hat das Problem in seinen „Global Risk

The initiative for a National Sepsisplan acts under the patronage of the German Coalition for Patient Safety



- **Vaccination**
- **Clean Care**
- **Early recognition**
- **Appropriate treatment**

WHO SAVE LIVES: Clean Your Hands global campaign – 5 May 2018

#HandHygiene #Sepsis

IT'S IN YOUR HANDS

PREVENT SEPSIS IN HEALTH CARE

SAVE LIVES CLEAN YOUR HANDS

World Health Organization

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#HandHygiene #Sepsis

IT'S IN YOUR HANDS

PREVENT SEPSIS IN HEALTH CARE

Healthcare workers: Clean your hands to prevent sepsis in health care

SAVE LIVES CLEAN YOUR HANDS

World Health Organization

#HandHygiene #Sepsis

IT'S IN YOUR HANDS

PREVENT SEPSIS IN HEALTH CARE

Patients: Ask for 5 Moments to clean hands to prevent sepsis

SAVE LIVES CLEAN YOUR HANDS

World Health Organization

#HandHygiene #Sepsis

IT'S IN YOUR HANDS

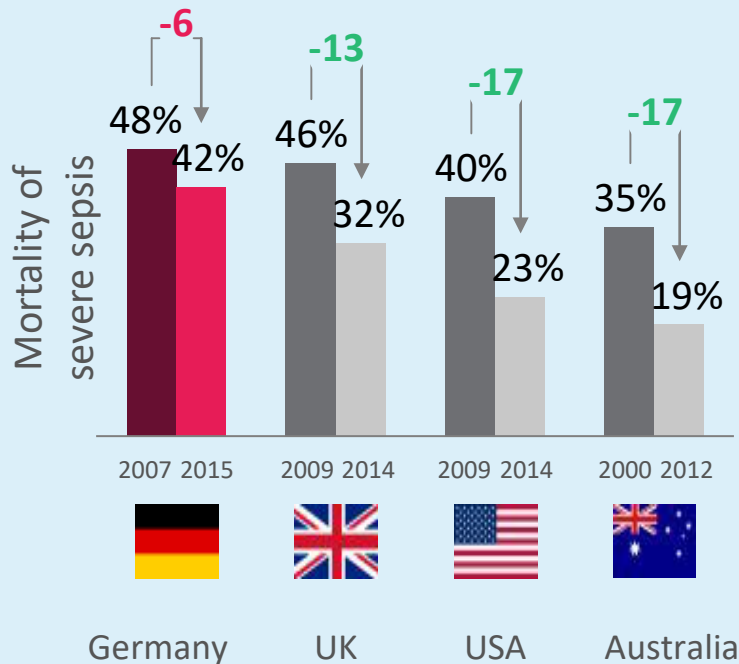
PREVENT SEPSIS IN HEALTH CARE

Infection prevention and control leaders: Be a champion in promoting hand hygiene to prevent sepsis in health care

SAVE LIVES CLEAN YOUR HANDS

World Health Organization

German sepsis mortality twice as high as peers ...



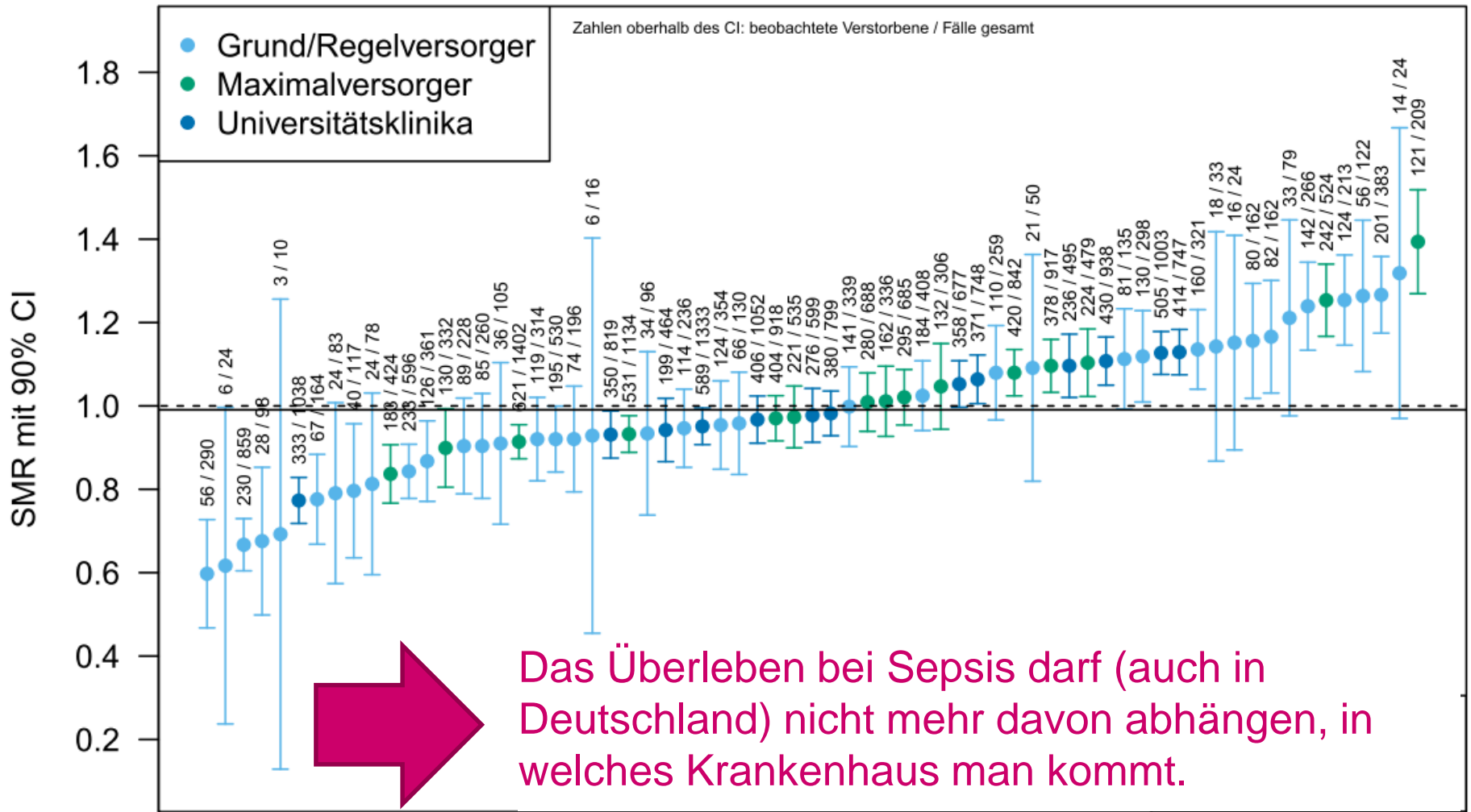
Other countries were able reduce mortality by almost 50% within 5 years

Note: Data for UK based on England
 Source: Deutsche Sepsis-Gesellschaft, Fleischmann et al.
 Int.Care Med in press ; BCG analysis

... who improved sepsis care through 5 levers

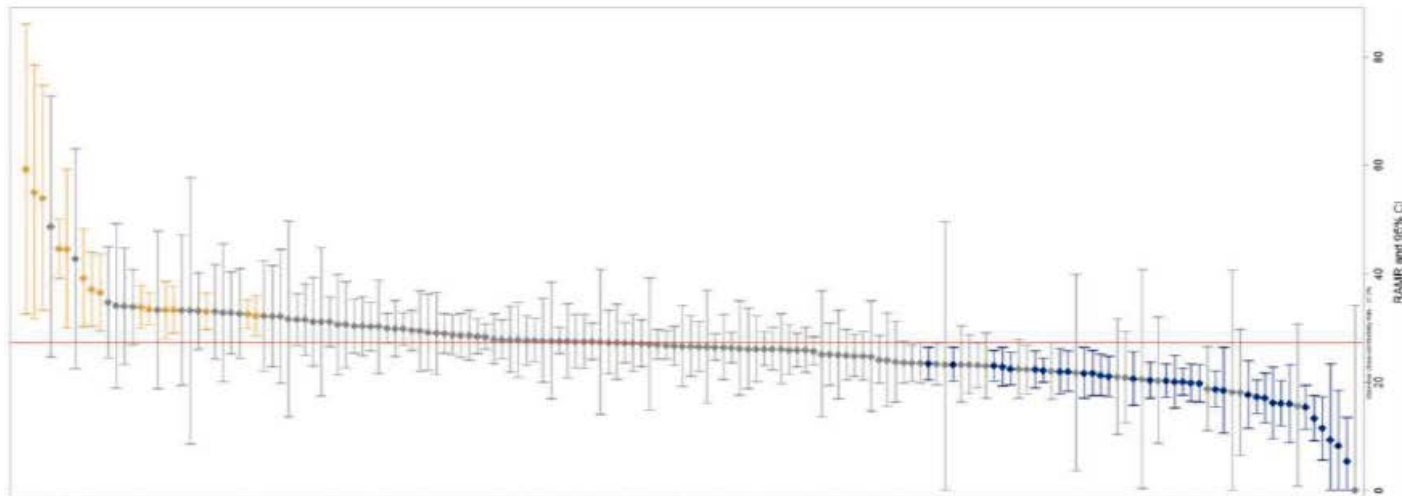


Varianz der risiko-adaptierten Sepsis-Sterblichkeit in den Krankenhäuser des Deutschen Qualitätsbündnisses Sepsis



Die risikoadaptierte Sepsissterblichkeit auf Ebene der Krkh. variiert sehr stark

Adult Outcome measure: Risk Adjusted Mortality Rates per Hospital



This figure shows the RAMR and 95% confidence interval for each hospital in the sepsis public report. Blue represents high performers (lower than expected deaths). Gold represents low performers (higher than expected deaths).

Governor Cuomo Signs Rory Staunton's Law

🕒 Posted on October 24, 2017



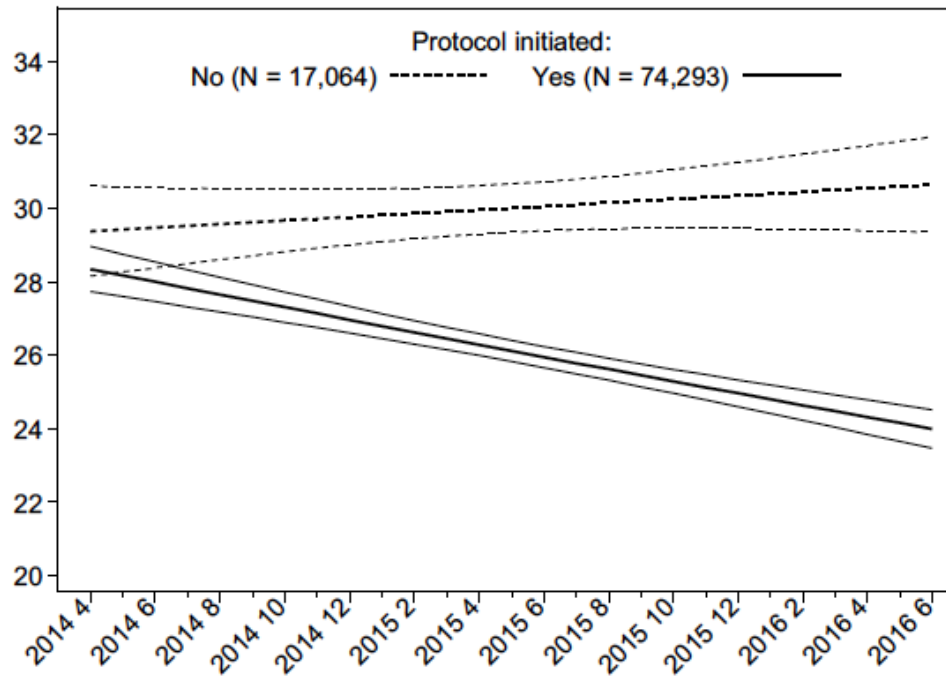
Thank you, Governor Cuomo and Assemblywoman Cathy Nolan. A new Bill has passed the legislature in New York State and been signed by the Governor to ensure that all New York State children learn about sepsis in their schools.



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 3rd 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 Kissoon, 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 ^a	Hospital Mortality rates (age 0-17years)			P Value ^b
	All patients : 11.8%			
	Bundle completed : 7.5%			
	Bundle not completed 13.2%			
Type of pathogen				
Gram positive				
Gram negative	104 (8.8)	27 (9.2)	77 (8.7)	<.001
Other ^e	87 (7.4)	4 (1.4)	83 (9.4)	
None reported	849 (72.0)	216 (73.5)	633 (71.5)	
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 ^d
In-hospital death	139 (11.8)	22 (7.5)	117 (13.2)	.008

**Hospital Mortality ratea (age 0-17 years)
in Germany: 17.2%**

CDC Launches Report & Awareness Initiative



4
Four types of infections are most often associated with sepsis: lung, urinary tract, skin, and gut.

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.

Think Sepsis. Time Matters.
#VitalSigns
www.cdc.gov/vitalsigns

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

Know the signs and symptoms
Shivering, fever, or very cold
Extreme pain or discomfort
Confusion or disorientation
Short of breath
If suspected, get medical care
SOURCE: CDC Vital Signs, August 2017
VitalSigns™
<http://www.cdc.gov/vitalsigns/sepsis>



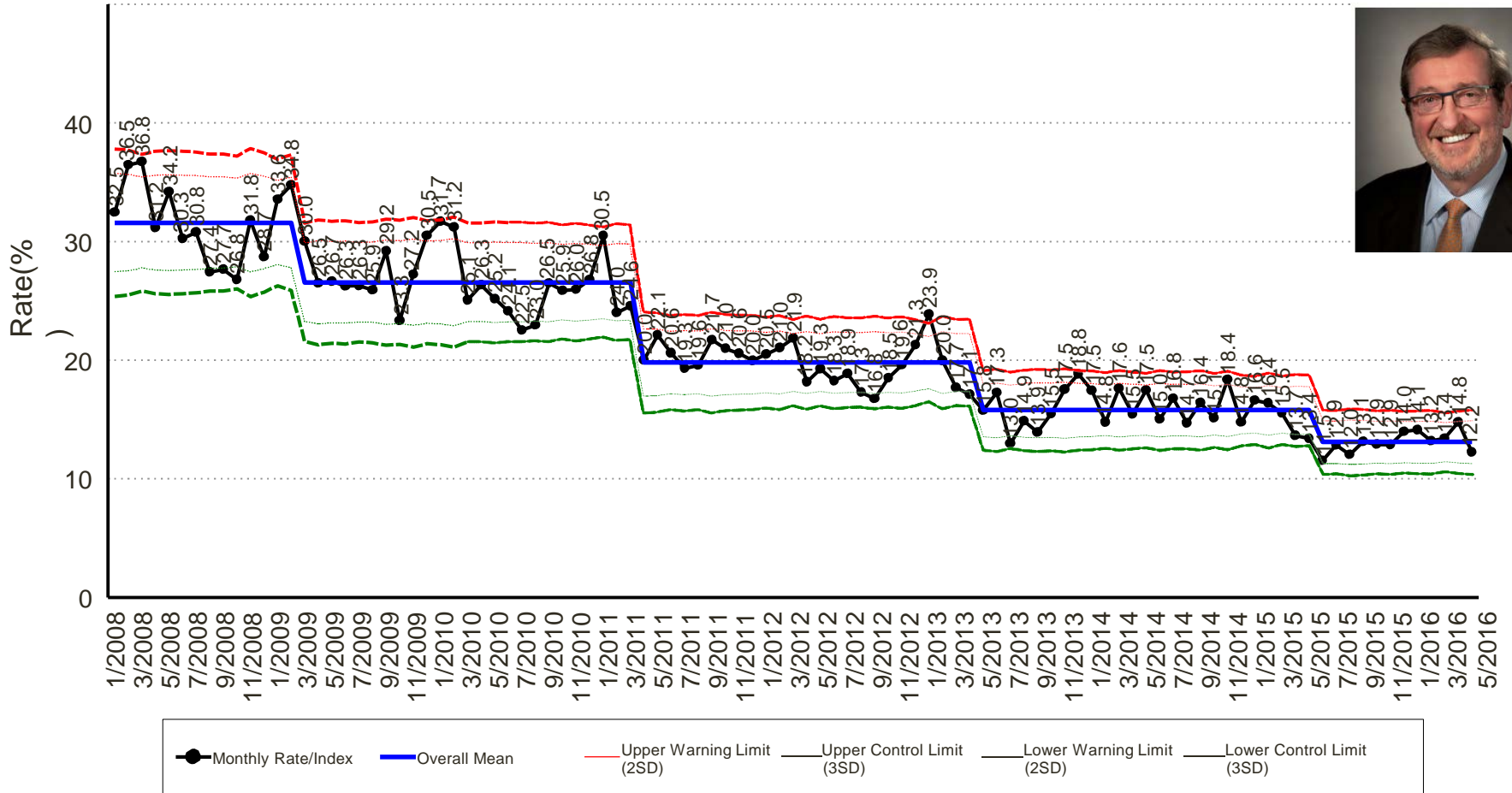
ASPR's Mission



Northwell Health

Raw Sepsis and Severe Sepsis/Septic Shock Mortality Rate

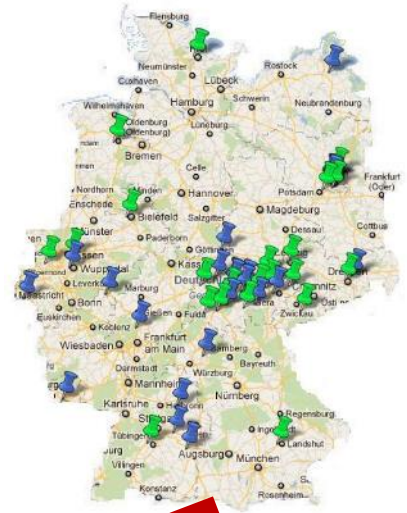
January 2008 - May 2016



MEDUSA Trial, Germany

ORIGINAL

Effect of a multifaceted educational intervention for anti-infectious measures on sepsis mortality: a cluster randomized trial



Frank Bloos^{1,2}, Hei
Stephan Harbarth
Manfred Weiss¹⁰,
Claudia Matthäus
Karin Dey¹⁷, Norb
Udo X. Kaisers^{8,22}

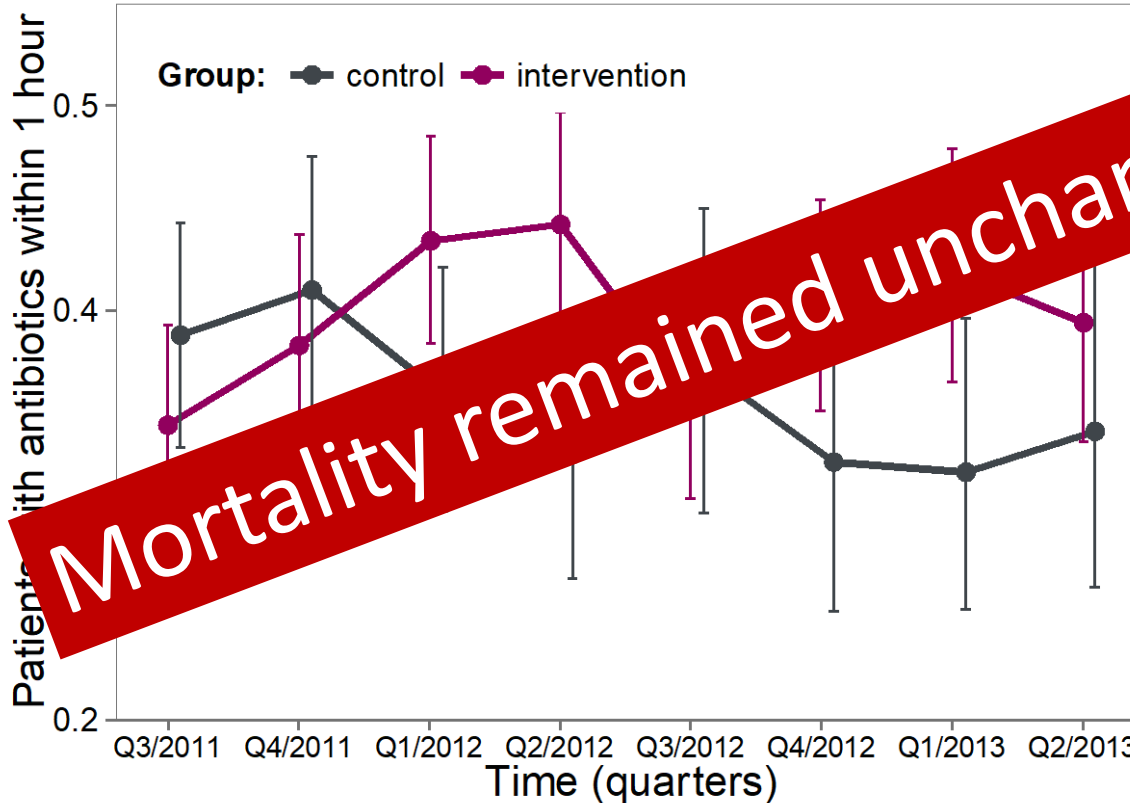
© 2017 Springer-Verlag Berl

Abstract

Purpose: Guideli
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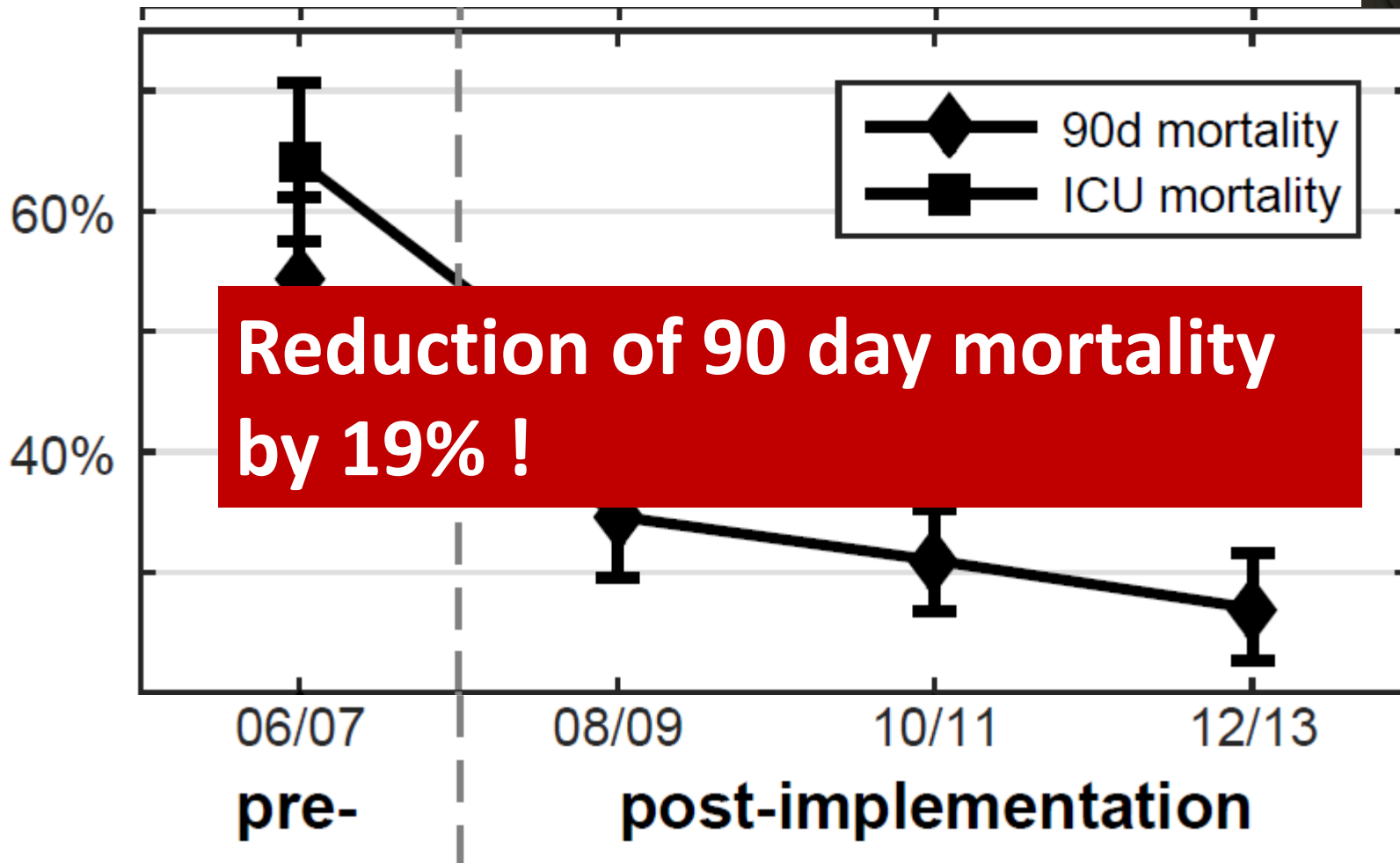
Methods: The M
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Results: The 28-
patients; $p = 0.01$
present from the beginning of the study and remained unaffected by the intervention. Median time to antimicrobial therapy was 1.5 h (interquartile range 0.1–4.9 h) in the intervention group and 2.0 h (0.4–5.9 h; $p = 0.41$) in the control



Quality Improvement Initiative for Severe Sepsis and Septic Shock Reduces 90-Day Mortality: A 7.5-Year Observational Study

Christian S. Scheer, MD¹; Christian Fuchs, MD¹; Sven-Olaf Kuhn, MD¹; Marcus Vollmer, MSM²; Sebastian Rehberg, MD, PhD¹; Sigrun Friesecke, MD³; Peter Abel, MD³; Veronika Balau, MD⁴; Christoph Bandt, PhD²; Konrad Meissner, MD, PhD¹; Klaus Hahnenkamp, MD, PhD¹; Matthias Gründling, MD¹





‘Sepsis is a condition whose time has come’



IF YOU'RE FEVERISH OR SHIVERING
AND FEELING REALLY UNWELL

**JUST
ASK**

**"COULD
IT BE
SEPSIS?"**

IT'S A SIMPLE QUESTION,
BUT IT COULD SAVE LIVES.

© 2014 The UK Sepsis Trust. All rights reserved. For more information, visit www.sepsistrust.org. Please support our work by donating now at www.sepsistrust.org.

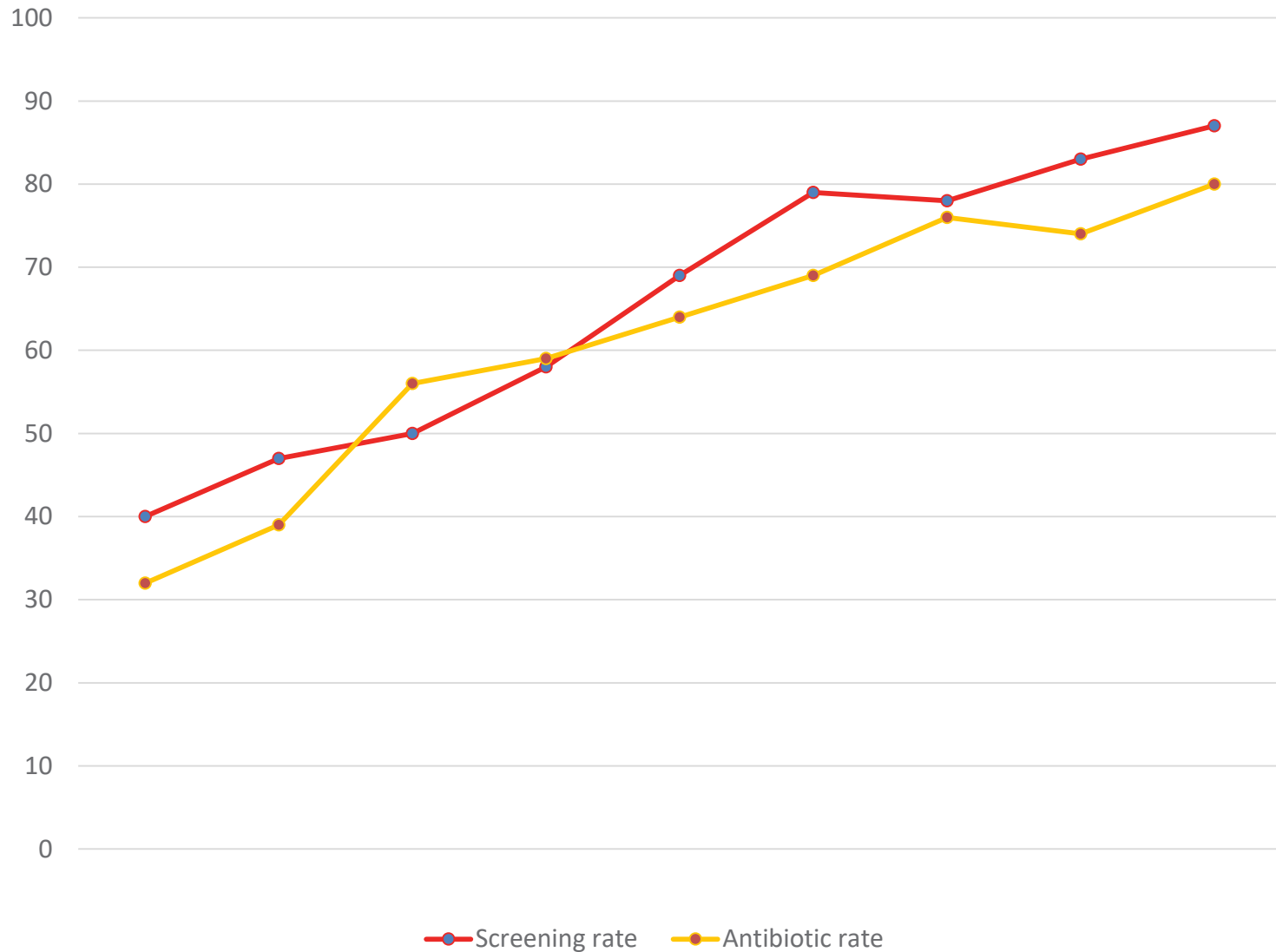
NHS



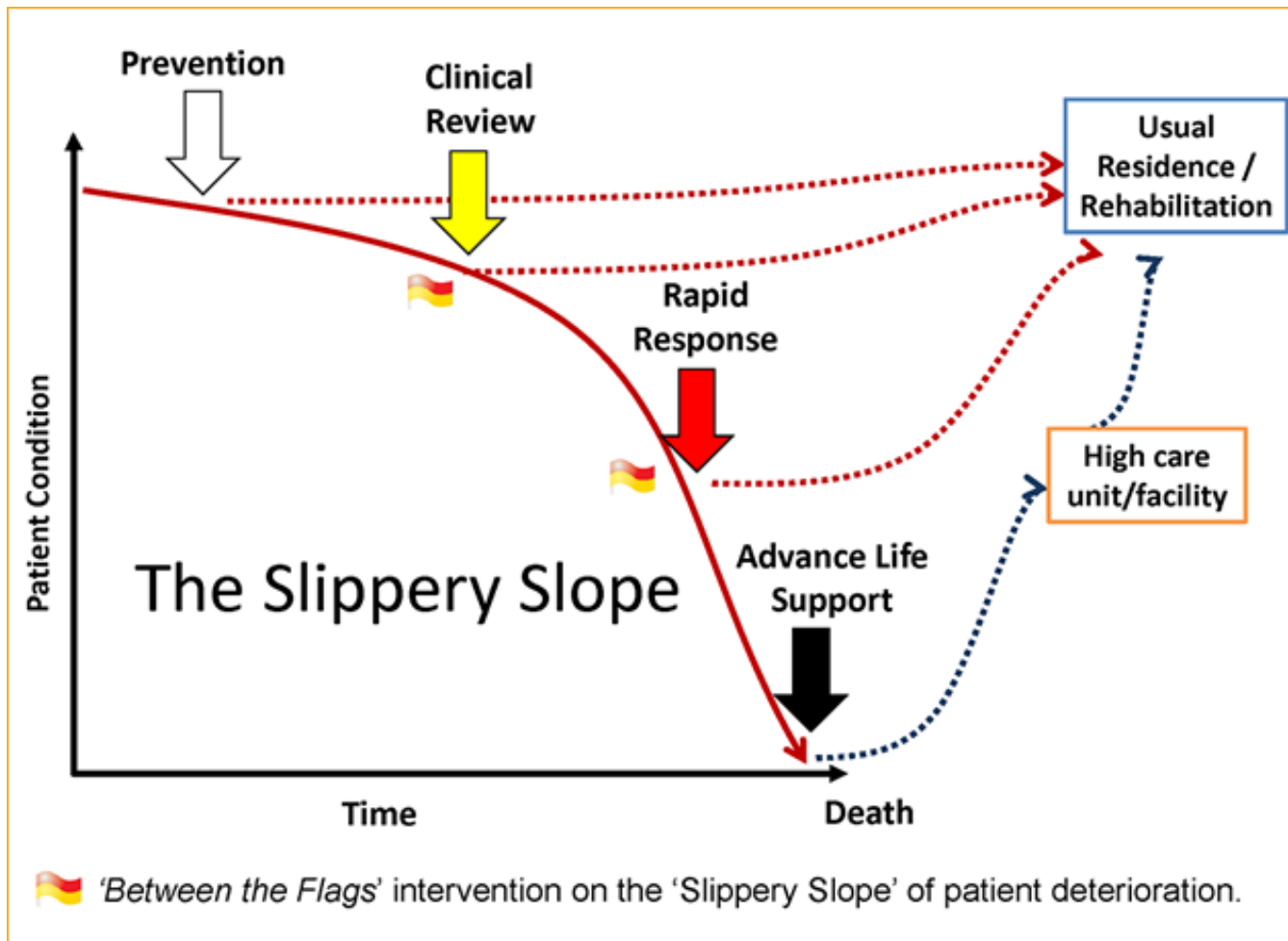
THE UK
SEPSIS
TRUST



NHS ENGLAND CQUIN DATA



Rapid Response Teams sind in Australien verpflichtend



Leistungsmerkmale von Ländern mit niedriger und stark fallender Sepsissterblichkeit

- Effektive nationale Programme zur Infektionsprävention und – kontrolle
- Starke ID, Hygiene, ÖGDs, EM und Intensivmedizin
- Auf nationaler Ebene implementierte Routinen zur Früherkennung von kritisch kranken und sich rapide “verschlechternden” Patienten- NEWS , RRTs
- Behördliche Kommissionen und Institutionen die die Gesundheitsdienstleister auf nationaler und länderebene beim QI unterstützen
- Starke öffentlich und durch Patientenintressengruppen unterstützte Aufklärungskampagnen

Sepsis – ein deutscher Skandal

15.000 bis 20.000 vermeidbare
Todesfälle durch Ignoranz

Was Hoffnung Macht

- GMK fordert die Umsetzung der WHO Resolution
- GBA hat das Thema Sepsis aufgegriffen
- Aktionsbündnis Patientensicherheit unterstützt
- Der Zusammenschluss von über 70 Krankenhäuser zu einem Deutschen Qualitätsbündnis Sepsis
- Betroffene in die Öffentlichkeit gehen
- Die Medien immer größeres Interesse zeigen

The call for a National Sepsis Plan is supported by more than 30 medical societies and organizations



Unterstützen Sie die Forderung für einen Nationalen Sepsisplan!