



What is needed to decrease the burden of Sepsis in Belgium?

Prof. dr. Manu Malbrain

1st Dep Anaesthesiology Intensive Therapy, Lublin, Poland

Chief Medical Officer Medaman, Belgium

September | World
13 | Sepsis
2023 | Day



What is needed to decrease the burden of Sepsis in Europe?

Prof. dr. Manu Malbrain



1st Dep Anaesthesiology Intensive Therapy, Lublin, Poland

Chief Medical Officer Medaman, Belgium

September | World
13 | Sepsis
2023 | Day



Manu Malbrain, MD, PhD


- Internist – Intensivist
- CMO, Medaman, Belgium  MEDAMAN.  EHDEN CERTIFIED SME
- Professor, Critical Care, 1st Dep Anaesthesiology and Intensive Therapy, Medical University Lublin, Poland
- Co-Founder, President International Fluid Academy (fluidacademy.org)
- Past ICU Director, Crisis Manager University Hospital Brussels (UZB)
- Past President, current treasurer WSACS (wsacs.org)
- Educational Grant: 2003 ESICM Chris Stoutenbeek Award
- Member Medical Advisory Board
 - Getinge, Spiegelberg, Holtech, Serenno Medical, Baxter, BD,
 - Sentinel Medical Technologies, LynxCare
- Consults for Cytosorbents, Potrero, Maltron, Medtronic
- European Patent Holder: GEF/GEDVI - CiMON (PMS)
- Fees - Honoraria: PeerVoice, Nestlé



There is **NO**
National Belgian
Sepsis Action Plan

FORGET THE MISTAKE
REMEMBER THE LESSON →



A hand is holding a dark blue, rectangular card with a slightly distressed, torn-edge texture. The card is held in the foreground, with a person's thumb and index finger visible on the left side. The background is a soft-focus outdoor scene featuring a body of water, likely a lake or river, and a line of green trees under a bright, hazy sky. The text on the card is written in a clean, white, sans-serif font, arranged in two lines. Below the text is a thin white horizontal line that ends in a double arrow pointing to the right.

FORGET THE MISTAKE
REMEMBER THE LESSON



HOW TO SURVIVE SEPSIS



Testimonial given by
sepsis survivor
Krista Bracke
During IFAD2022
meeting

Watch full Video
https://whova.com/portal/ifad_202211/videos/3cjN3YzMzQTN/

Tumbling into a second life... January 30th 2009



A close call

- Flu?
- Streptococcus pyogenes bacteria: septic shock
- Cardiac arrests & reanimations
=>less than 5% chance to survive
=> need for noradrenaline
- Damage? Physical? Mental

Physical damage: feet & legs



March 16th 2009: double below knee amputation

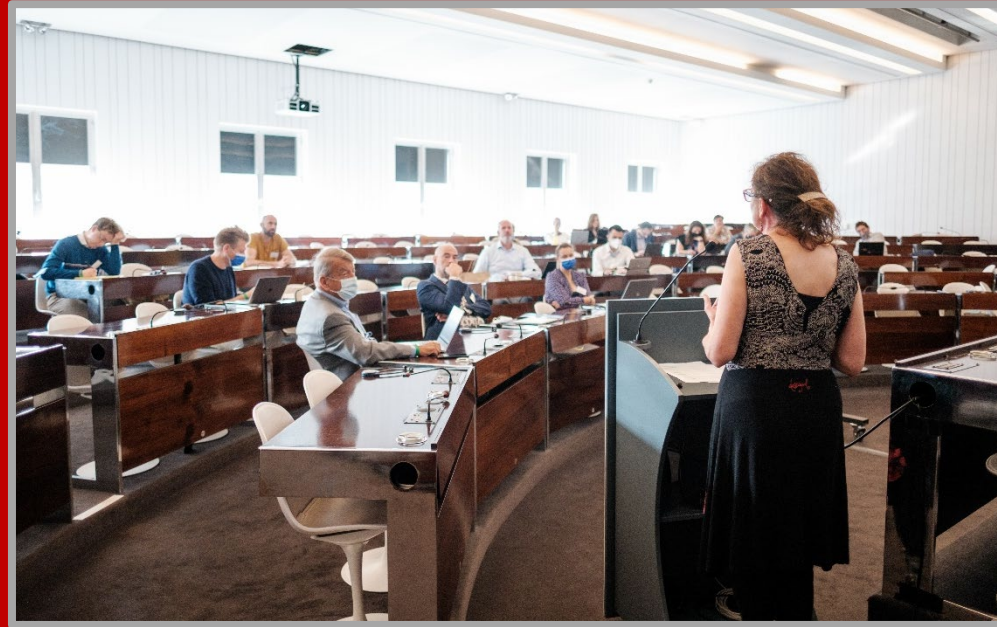
Longlasting effects of sepsis

- Extreme & unpredictable fatigue
- Listening to s.o.: what a challenge!
=> recently: listen to radio for half an hour
- Concentration problems
=> limitations in e.g. driving a car (impulses!)
- Difficulties in finding the correct words
- Short term memory disturbed



My brain is like the
Bermuda Triangle.
Information goes in and then
it' s never found again!!

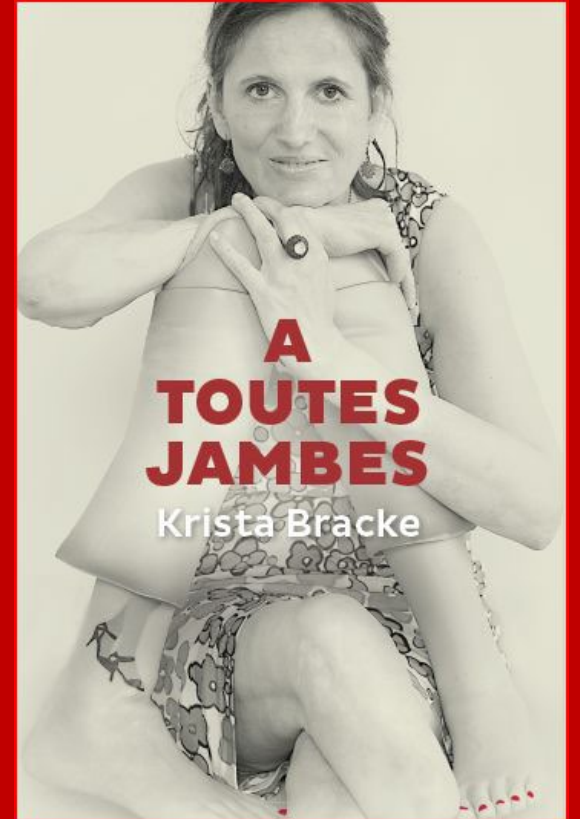
- Sept. 13th '21: Round Table for Belgian Parliament (World Sepsis Day)
=> Realised long lasting effects caused by sepsis – after 12 years...



- Experiences other sepsis survivors:
 - > Late diagnosis
 - > Side-effects not taken seriously
 - > No 'after care': to which medical specialist for help?

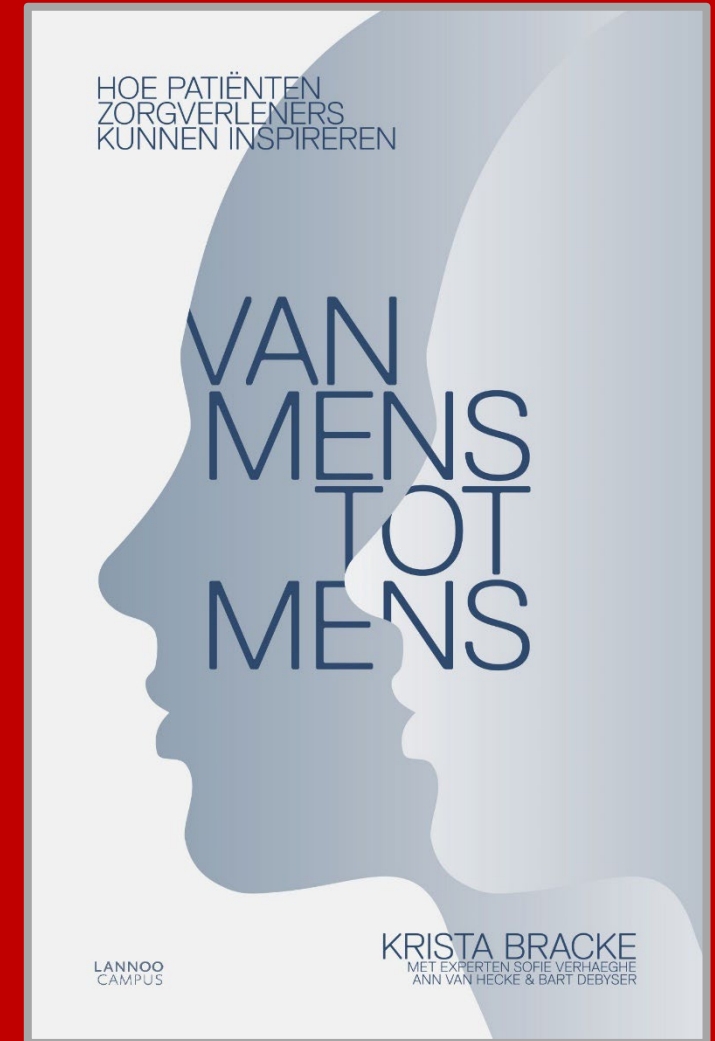
Personal story in a book:

- How to find a balance in a completely different way of living: nothing is *easy* any longer...
- How husband & children cope with a new partner & a new mummy
- 2014: written in Dutch, translated into French



Human to human

- Published September 2020
- Which health professional makes a difference?
=> experience of patients
+ experts from Ghent University in Patient Participation
- Professional + patient: knowledge & experience = strong team!
- Based on relationship of respect & confidence



Time series data ~~THESSSSEUNECE~~



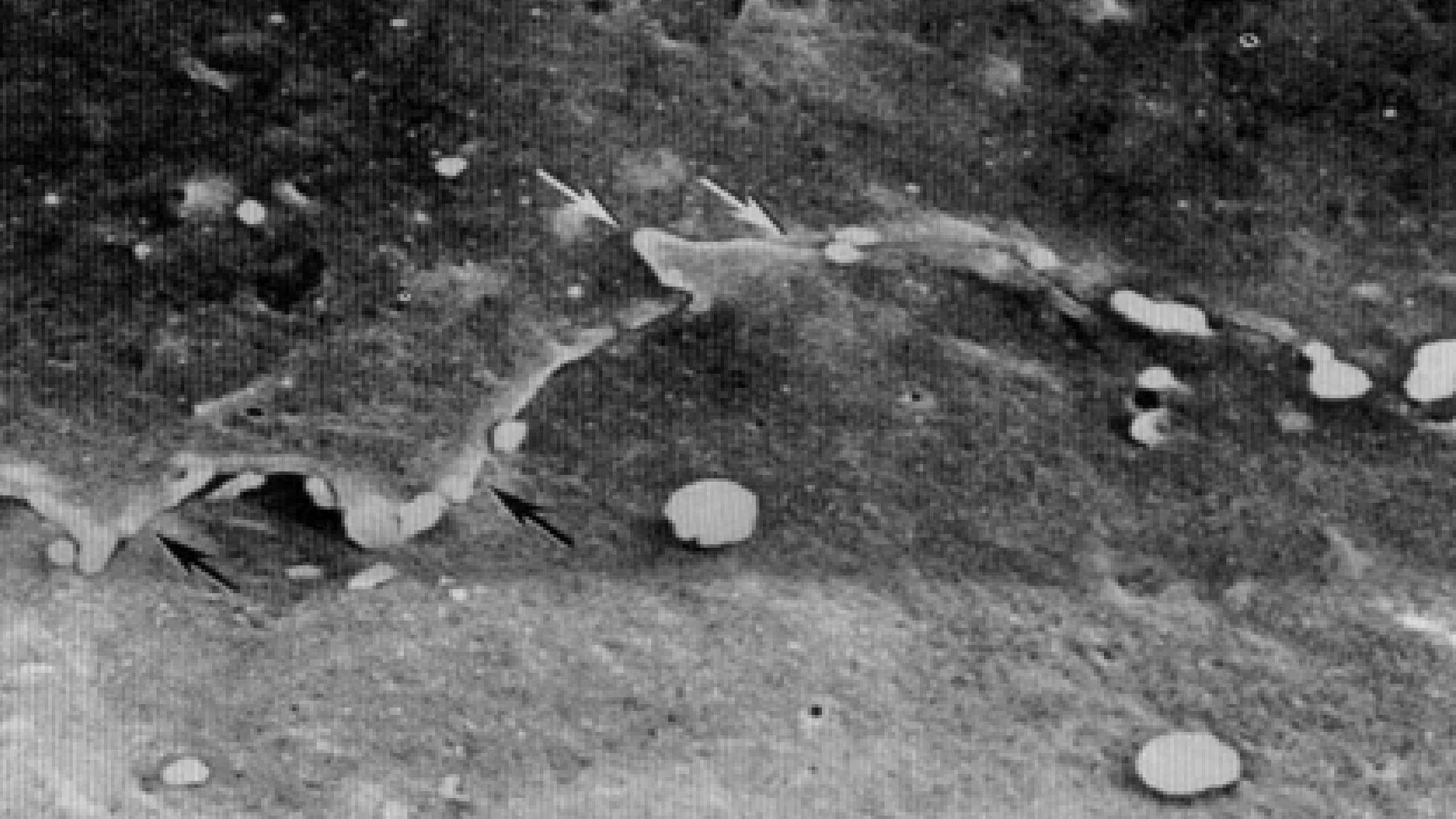
35

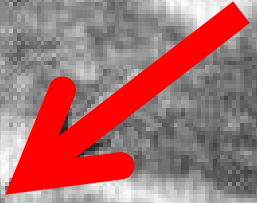
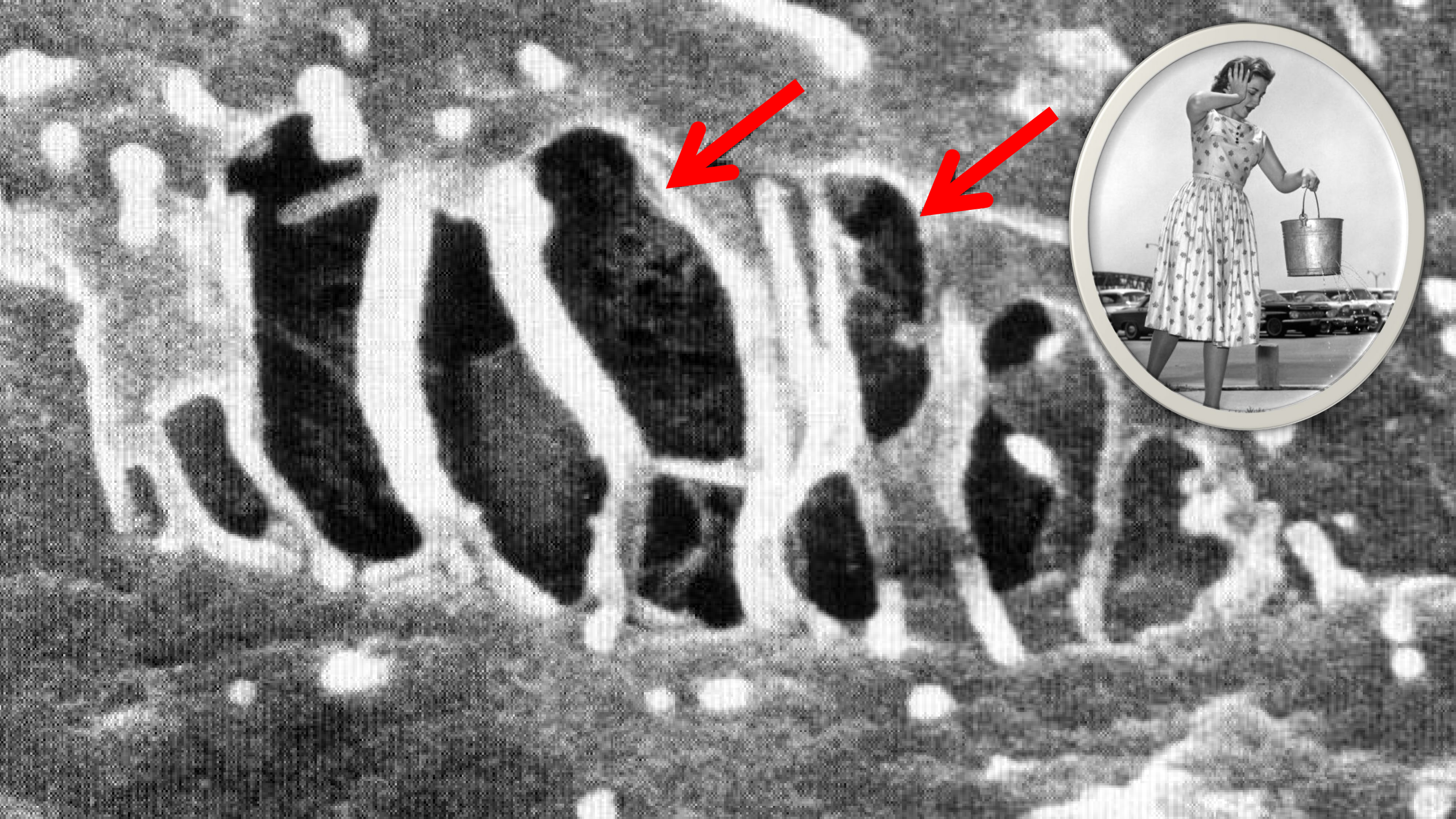
Breaking

56

Bad habits





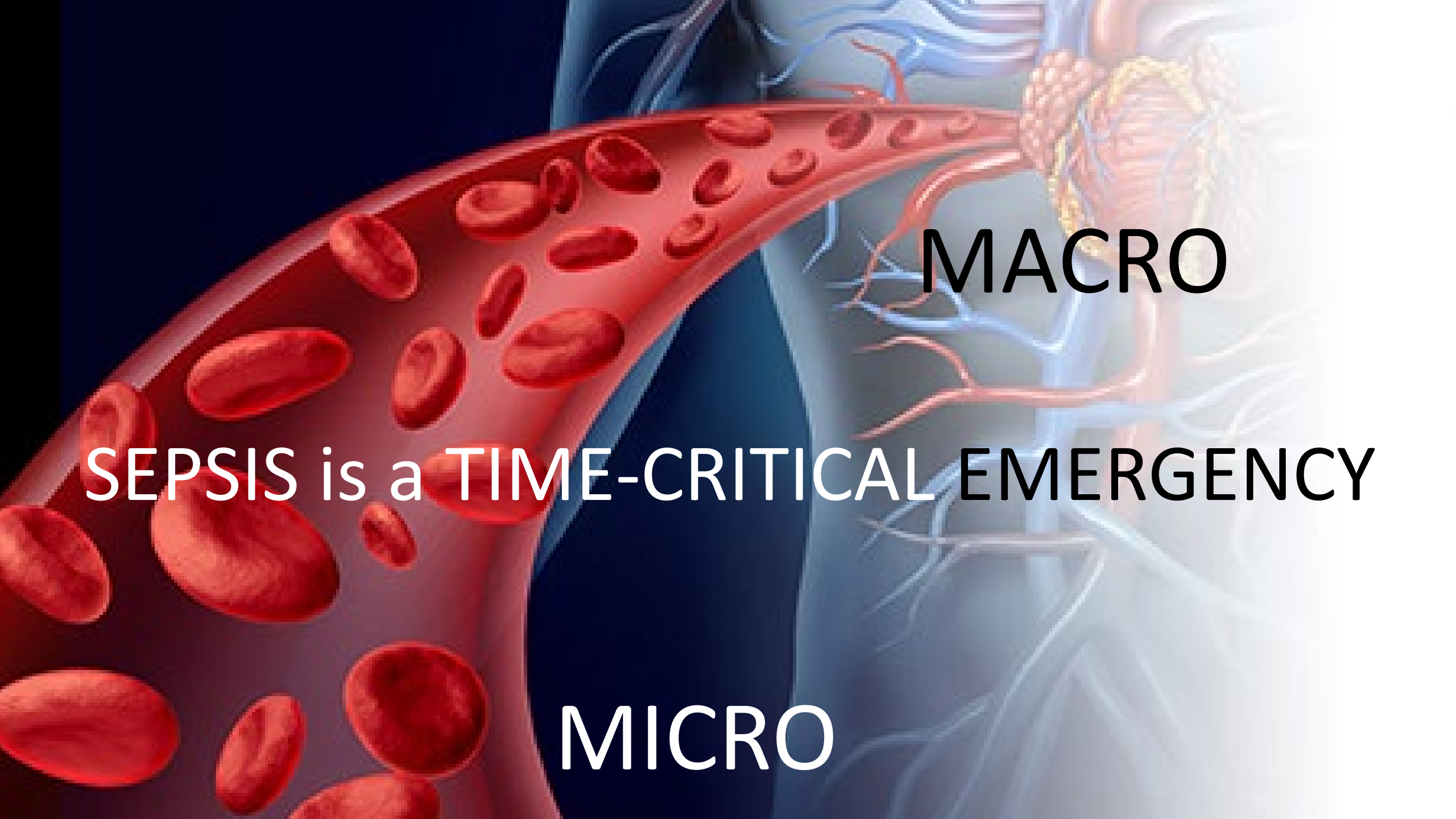




nl

10'

30'



MACRO

SEPSIS is a TIME-CRITICAL EMERGENCY

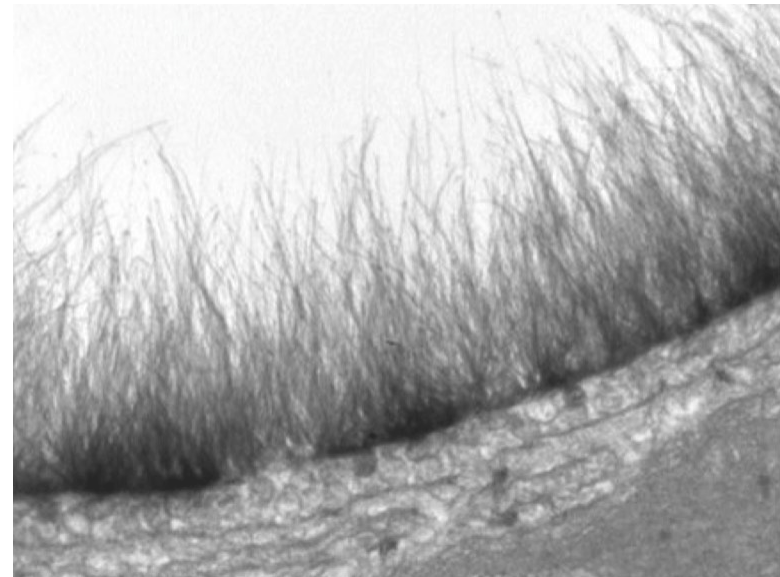
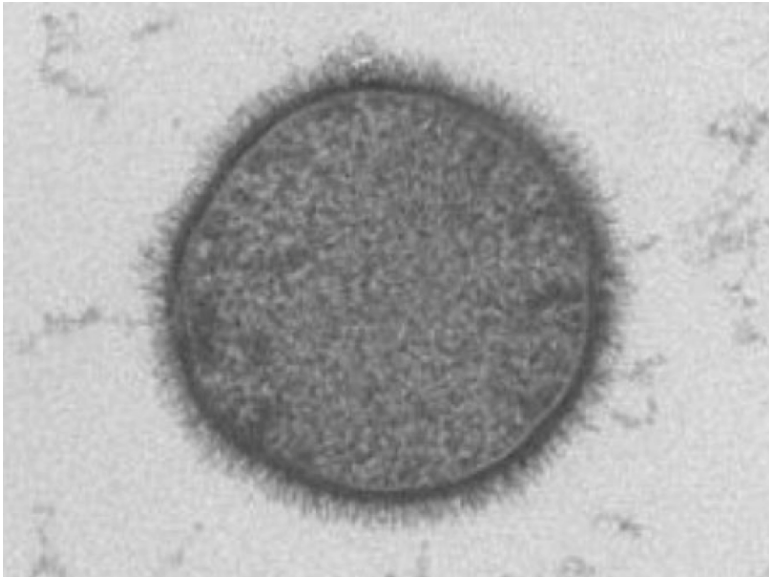
MICRO





Glyco =
sweet

Calix =
husk, shell



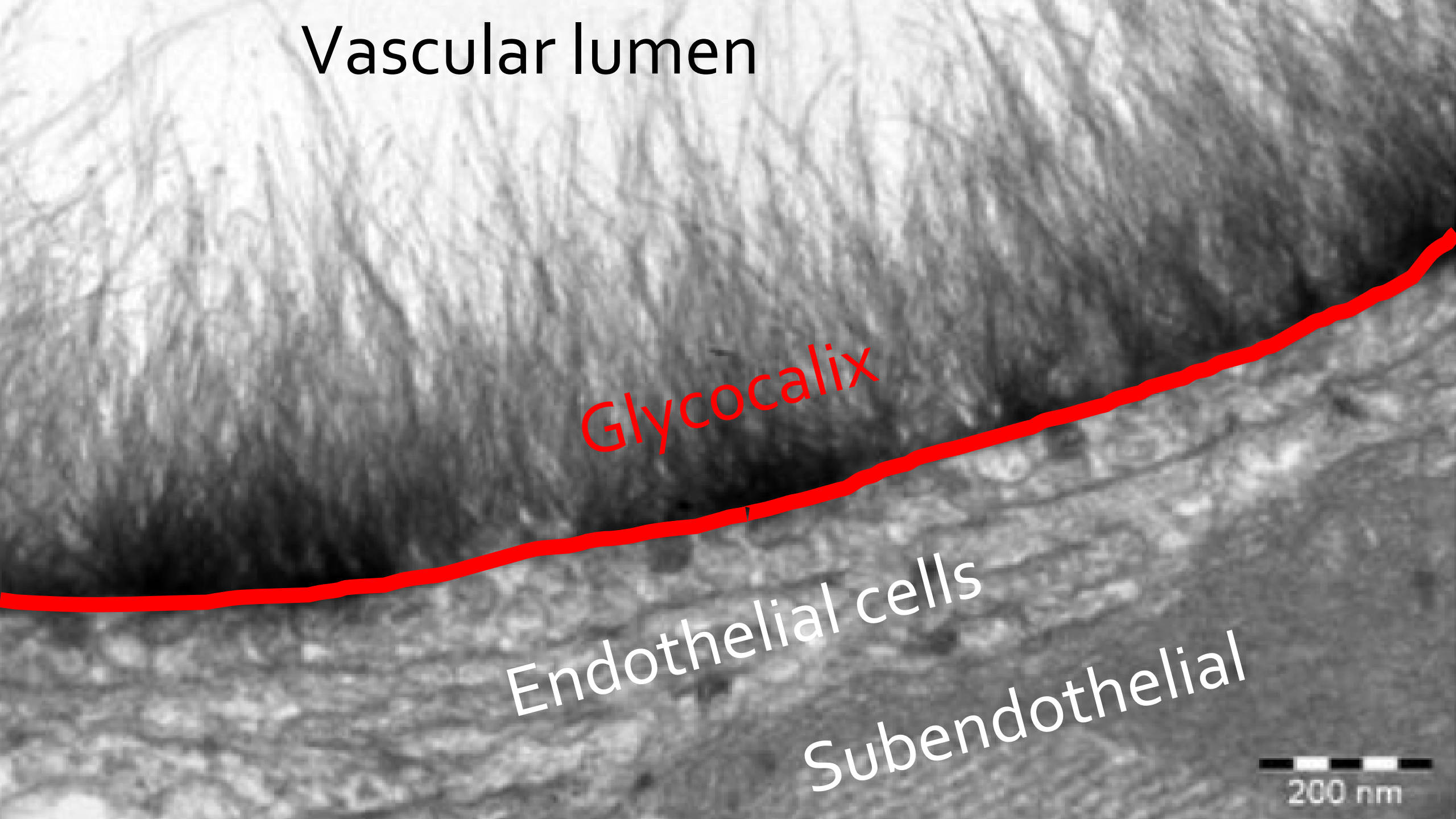
Vascular lumen

Glycocalyx

Endothelial cells

Subendothelial

200 nm



Sepsis

the Equal Opportunity

Kills



258,000
Americans die
from **Sepsis** each year



5+ million
children worldwide –
die from Sepsis each year



1.6 million
cases of Sepsis
in the U.S. every year

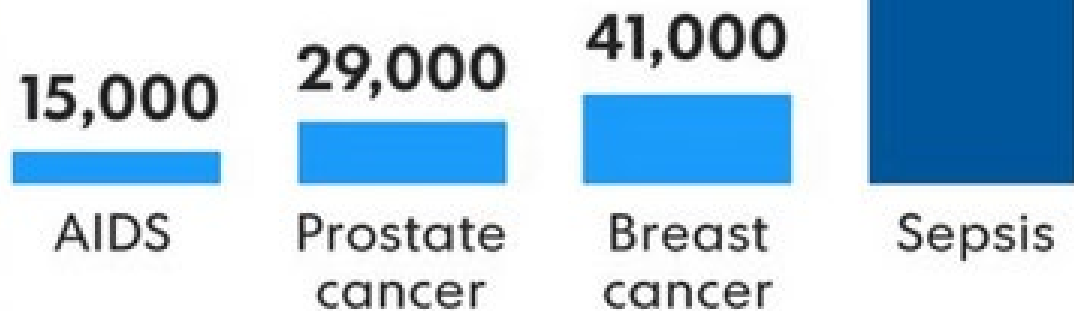
Sepsis is the
third leading
cause of death
in the U.S.
after heart disease and cancer

55% of Americans
have ever heard of the word "SEPSIS"

Putting it in perspective

SEPSIS SEVERITY

Sepsis kills more Americans than AIDS, prostate cancer and breast cancer combined. Number of deaths in 2015 caused by:

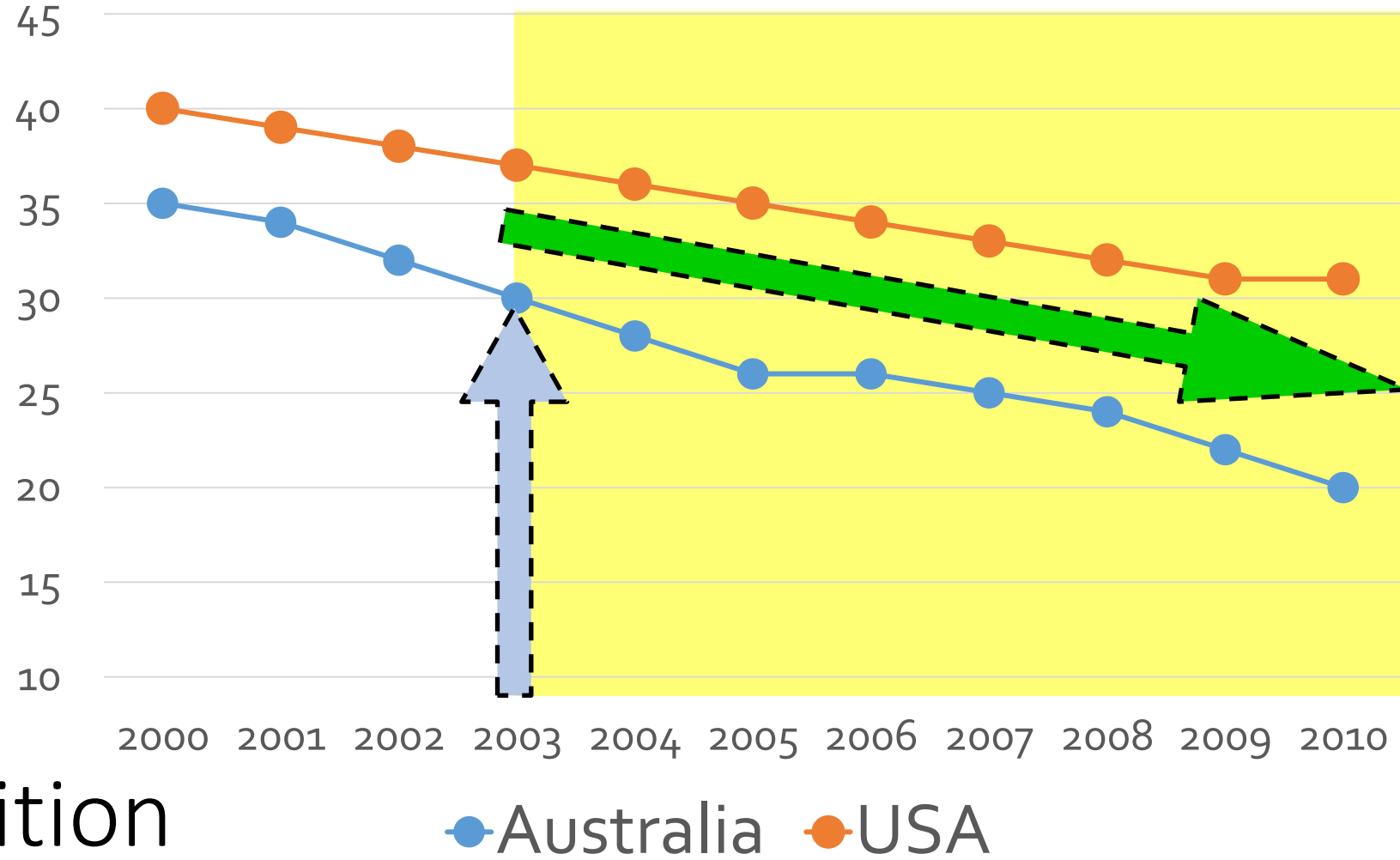


SOURCE Centers for Disease Control and Prevention, National Center for Biotechnology Information

Sepsis
Kills
MORE
Than
Cancer

Evolution Sepsis Mortality

We
need
better
+early
recognition



Dysregulated Host Response

Hypotension
Systolic BP
<100 mmHg

Altered
Mental
Status

Tachypnea
RR >22/Min

Score of ≥2 Criteria Suggests a Greater Risk of a Poor Outcome



5+ million



million
of Sepsis
S. every year

Sepsis is
third leading
cause of
in the

after heart disease and cancer

55% of Americans
have ever heard of the word "SEPSIS"



PRO

ANTI



REVIEWS

Initial resuscitation from severe sepsis: one size does not fit all

de Jager¹, Manu L.N.G. Malbrain²

Intensive Care Med (2021) 47:733–736
<https://doi.org/10.1007/s00134-021-06409-y>

CONFERENCE REPORTS AND EXPERT PANEL

Reducing the global burden of sepsis: a positive legacy for the COVID-19 pandemic?

The European Society of Intensive Care Medicine (ESICM), The Global Sepsis Alliance (GSA)* and The Society of Critical Care Medicine (SCCM)

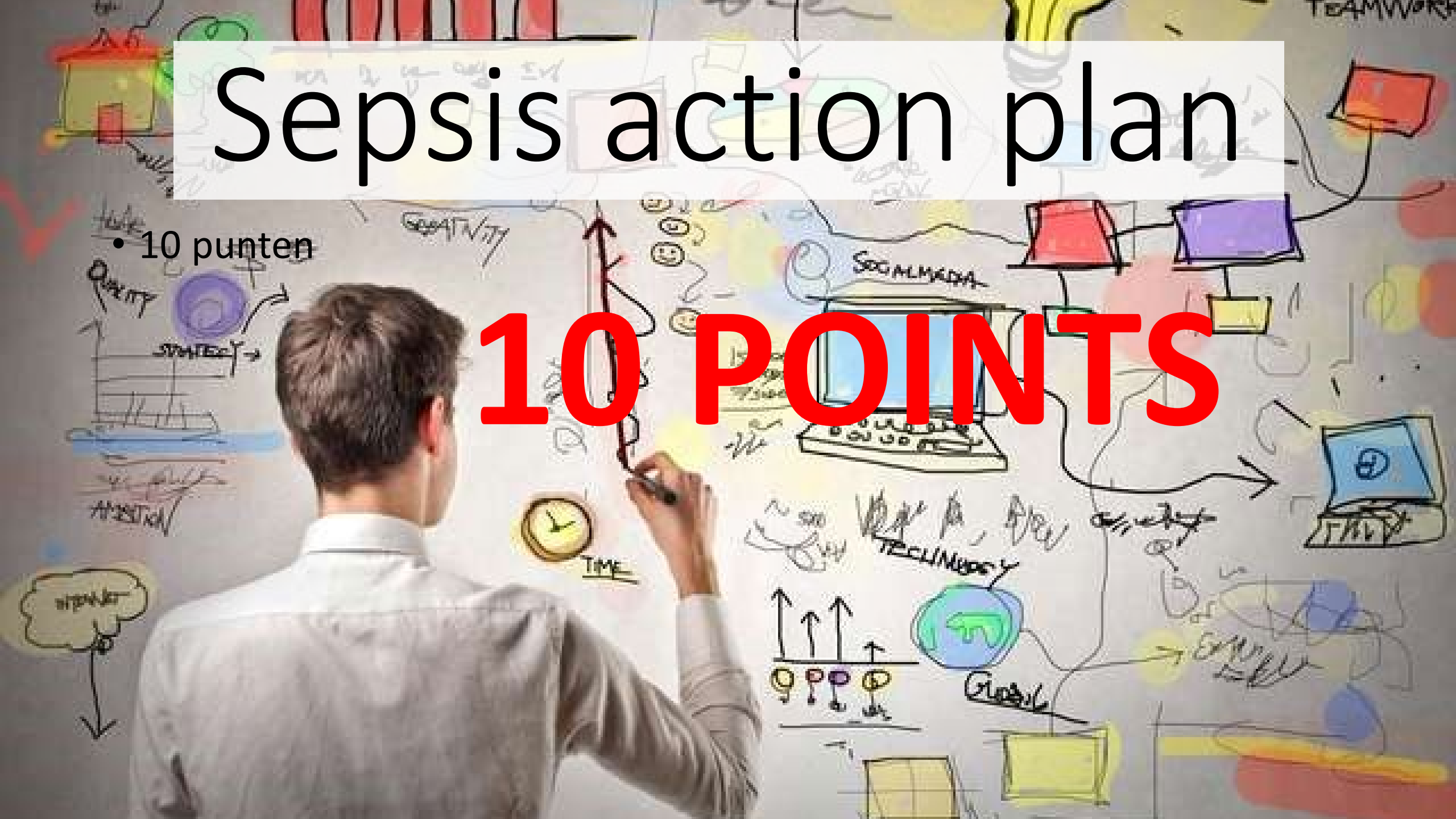




Sepsis action plan

- 10 punten

10 POINTS





1. INCREASE AWARENESS

RAISE
AWARENESS

Sepsis and its causes
Signs and symptoms
Toll of death



WHO

Tedros Adhanom Ghebreyesus

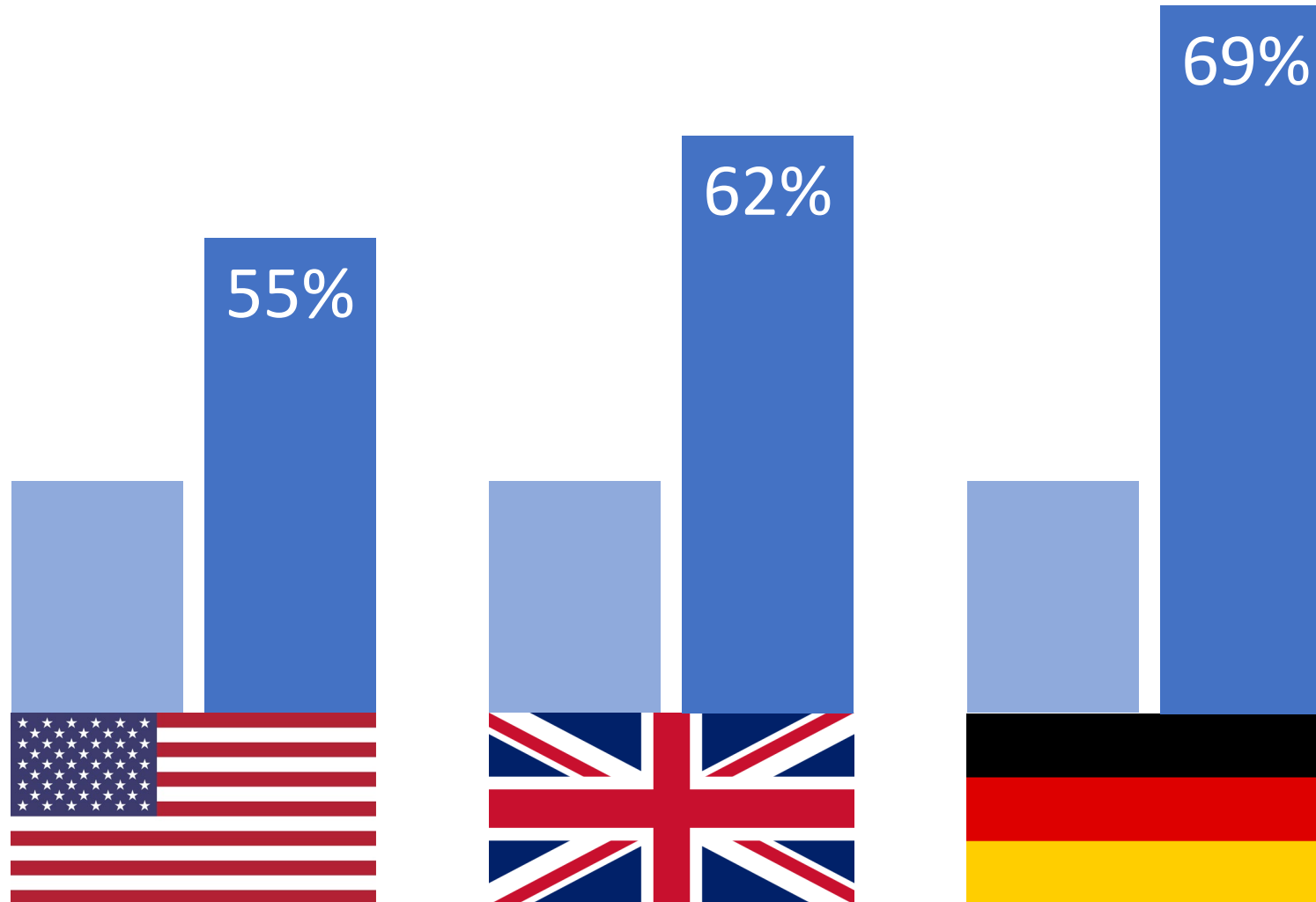
Use the term
“Sepsis” when
talking to patients,
relatives, family





General public

Awareness campaign effect





Healthcare
workers

Teaching HC workers
Time-critical emergency
Recognition



individual patient stories



Could this be
Sepsis...?





S
U
S
E
S
P
S
I
S
S
E
P
S
I
S
S
E
P
S
I
S
S
E
P
S
I
S
S
E
P
S
I
S
S
E
P
S
I
S



2. EARLY WARNING

National Early Warning Score (NEWS)

PHYSIOLOGICAL PARAMETERS	3	2	1	0	1	2	3
Respiration Rate	≤8		9 - 11	12 - 20		21 - 24	≥25
Oxygen Saturations	≤91	92 - 93	94 - 95	≥96			
Any Supplemental Oxygen		Yes		No			
Temperature	≤35.0		35.1 - 36.0	36.1 - 38.0	38.1 - 39.0	≥39.1	
Systolic BP	≤90	91 - 100	101 - 110	111 - 219			≥220
Heart Rate	≤40		41 - 50	51 - 90	91 - 110	111 - 130	≥131
Level of Consciousness				A			V, P, or U

- ✓ Modified Early Warning Score (MEWS)
- ✓ Early Warning Scoring System (EWSS)
- ✓ National Early Warning Score (NEWS)

TRICORDER

GRAND PRIZE



\$10 million Grand Prize



QUALCOMM
TRICORDER 

EMPOWERING PERSONAL HEALTHCARE.

PHASE *Awarded*

[GET INVOLVED](#)



CloudDX



Mississauga, ON, Canada

TECHNOLOGY

- raw ECG
- PPG signal
- temperature
- accelerometer

CONTINUOUS MONITORING

- non-invasive blood pressure
- heart rate
- respiration rate
- ECG
- blood oxygen saturation
- body temperature



First FDA approved device for detecting AFib

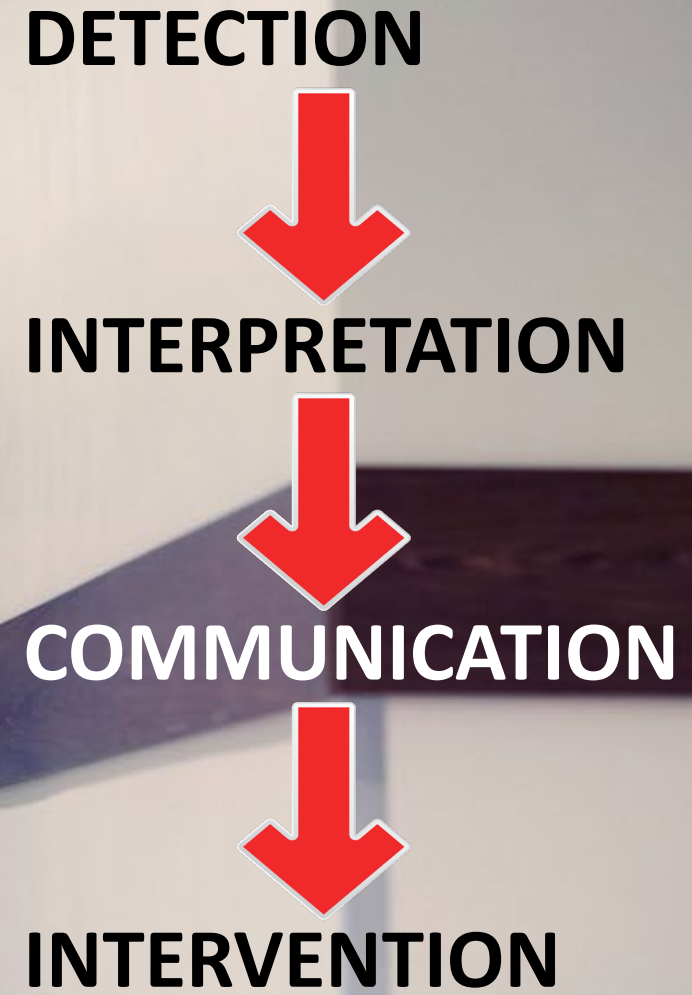




✓ 3. RAPID RESPONSE



rapid response teams
medical emergency teams





4. SEPSIS ALERTS

AUTOMATIC TRIAGE
SCREENING (EPD)
FUNDING RRT



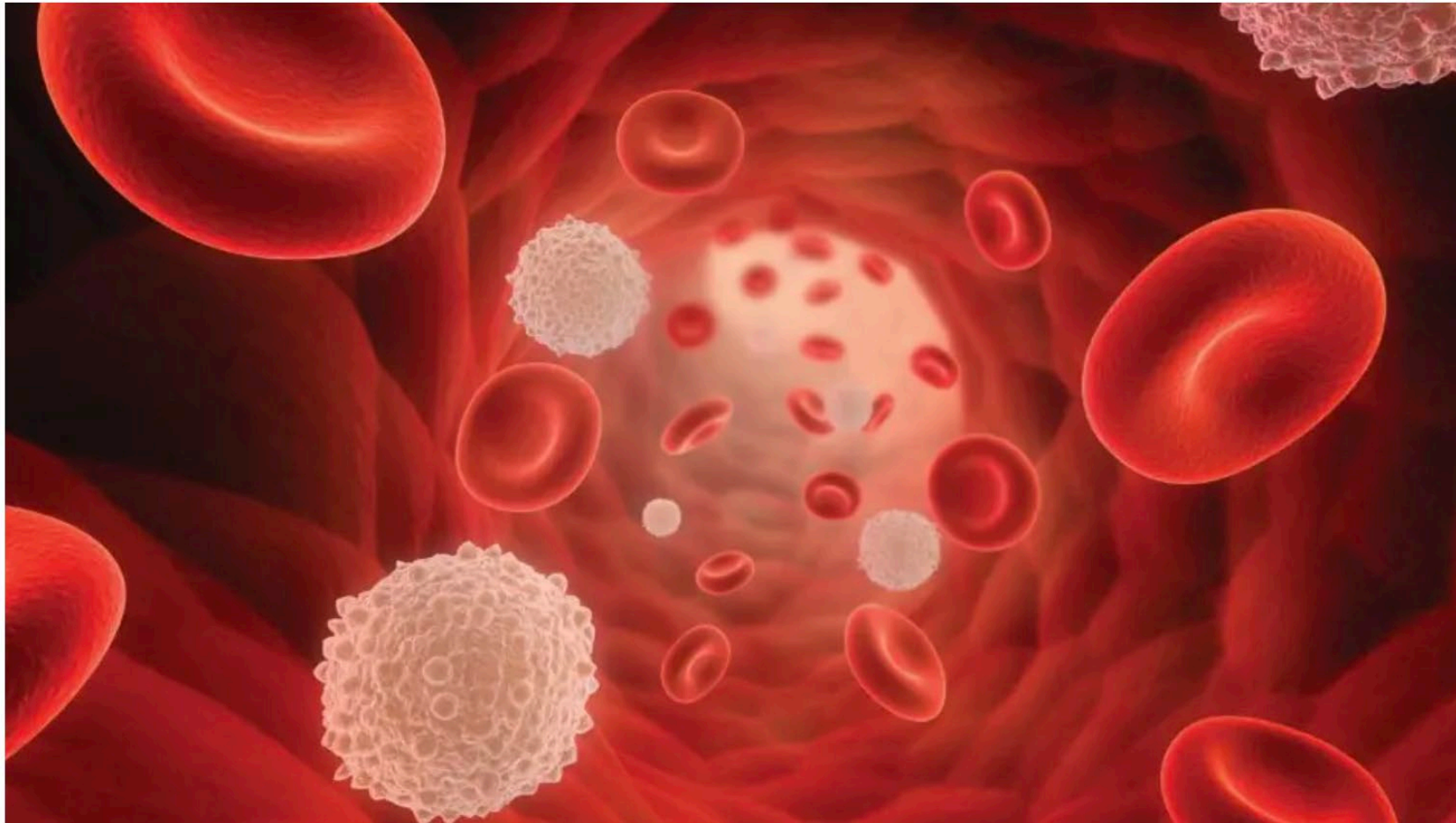
TIME FOR

ACTION



Improving sepsis recognition through use of the Sepsis Trust's community screening tool

📅 02 February 2022 | LONG-TERM CONDITIONS | Edward Baker



Global
Sepsis
Alliance

September | World
13 | Sepsis
2023 | Day

01 START THIS CHART IF THE PATIENT IS UNWELL OR HAS ABNORMAL PHYSICAL EXAMINATION

RISK FACTORS FOR SEPSIS INCLUDE:

- Age > 75
- Impaired immunity (e.g. diabetes, steroids, chemotherapy)
- Recent trauma
- Indwelling lines

02 COULD THIS BE DUE TO AN INFECTION?

LIKELY SOURCE:

- Respiratory
- Urine
- Skin / joint / wound
- Indwelling lines
- Brain
- Surgical
- Other

03 ANY RED FLAG PRESENT?

- Objective evidence of new or altered mental state
- Systolic BP ≤ 90 mmHg (or drop of >40 from normal)
- Heart rate ≥ 130 per minute
- Respiratory rate ≥ 25 per minute
- Needs O₂ to keep SpO₂ ≥ 92% (88% in COPD)
- Non-blanching rash / mottled / ashen / cyanotic
- Recent chemotherapy
- Not passed urine in 18 hours (<0.5ml/kg/hr if catheterised)

RED FLAG SEPSIS

04 ANY AMBER FLAG PRESENT?

IF UNDER 17 & IMMUNITY IMPAIRED TREAT AS RED FLAG SEPSIS

- Relatives concerned about mental status
- Acute deterioration in functional ability
- Immunosuppressed
- Trauma / surgery / procedure in last 8 weeks
- Respiratory rate 21-24
- Systolic BP 91-100 mmHg
- Heart rate 91-130 or new dysrhythmia
- Temperature <36°C
- Clinical signs of wound infection

AMBER FLAG SEPSIS

NO AMBER FLAGS = ROUTINE CARE / CONSIDER AMBER FLAG SEPSIS

COMMUNITY NURSING RED FLAG BUNDLE

THIS IS TIME-CRITICAL - IMMEDIATE ACTION REQUIRED:

DIAL 999 AND ARRANGE BLUE LIGHT TRANSFER

ONLINE SPECIAL ARTICLE

Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock 2021

KEY WORDS: adults; evidence-based medicine; guidelines; sepsis; septic shock

- Laura Evans¹
- Andrew Rhodes²
- Waleed Alhazzani³
- Massimo Antonelli⁴
- Craig M. Coopersmith⁵
- Craig French⁶
- Flávia R. Machado⁷
- Lauralyn Mcintyre⁸
- Marlies Ostermann⁹
- Hallie C. Prescott¹⁰
- Christa Schorr¹¹
- Steven Simpson¹²
- W. Joost Wiersinga¹³
- Fayez Alshamsi¹⁴
- Derek C. Angus¹⁵
- Yaseen Arabi¹⁶
- Luciano Azevedo¹⁷
- Richard Beale¹⁸
- Gregory Beilman¹⁹
- Emilie Belley-Cote²⁰
- Lisa Burry²¹
- Maurizio Cecconi²²
- John Centofanti²³
- Angel Coz Yataco²⁴
- Jan De Waele²⁵
- R. Phillip Dellinger²⁶

INTRODUCTION

Sepsis is life-threatening organ dysfunction caused by a dysregulated host response to infection (1). Sepsis and septic shock are major healthcare problems, impacting millions of people around the world each year and killing between one in three and one in six of those it affects (2–4). Early identification and appropriate management in the initial hours after the development of sepsis improve outcomes.

The recommendations in this document are intended to provide guidance for the clinician caring for adult patients with sepsis or septic shock in the hospital setting. Recommendations from these guidelines cannot replace the clinician's decision-making capability when presented with a unique patient's clinical variables. These guidelines are intended to reflect best practice (Table 1).

(References 5–24 are referred to in the Methodology section which can be accessed at Supplemental Digital Content: Methodology.)

SCREENING AND EARLY TREATMENT

Recommendation

1. For hospitals and health systems, we **recommend** using a performance improvement program for sepsis, including sepsis screening for acutely ill, high-risk patients and standard operating procedures for treatment.
Strong recommendation, moderate quality of evidence for screening.
Strong recommendation, very low-quality evidence for standard operating procedures.



✓ 4. SEPSIS ALERTS



Early warning score



Rapid Responce Team

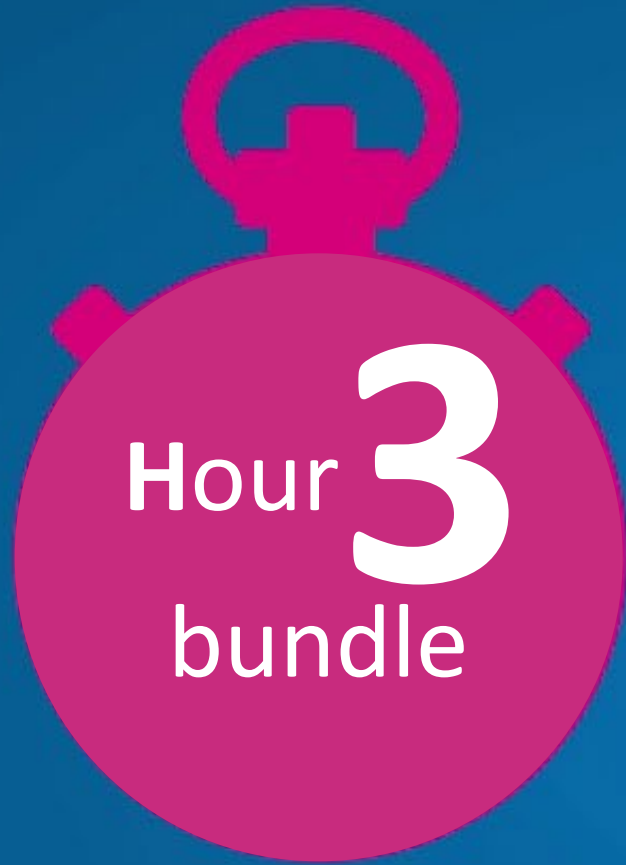




5. PERFORMANCE IMPROVEMENT



HYPOVOLEMIA IS BAD



Initial resuscitation for sepsis and septic shock (begin immediately)

- 1 Measure lactate level*
- 2 Obtain blood cultures before administering antibiotics
- 3 Administer broad-spectrum antibiotics
- 4 Begin to rapidly administer 30mL/kg crystalloid for hypotension or lactate ≥ 4 mmol/L



5. PERFORMANCE IMPROVEMENT



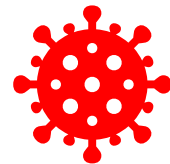
90 min door to needle



4.5 hr door to needle



30 min door to CT



1 hr door to antibiotic

MALIGNANT CHOLERA.

DOCUMENTS

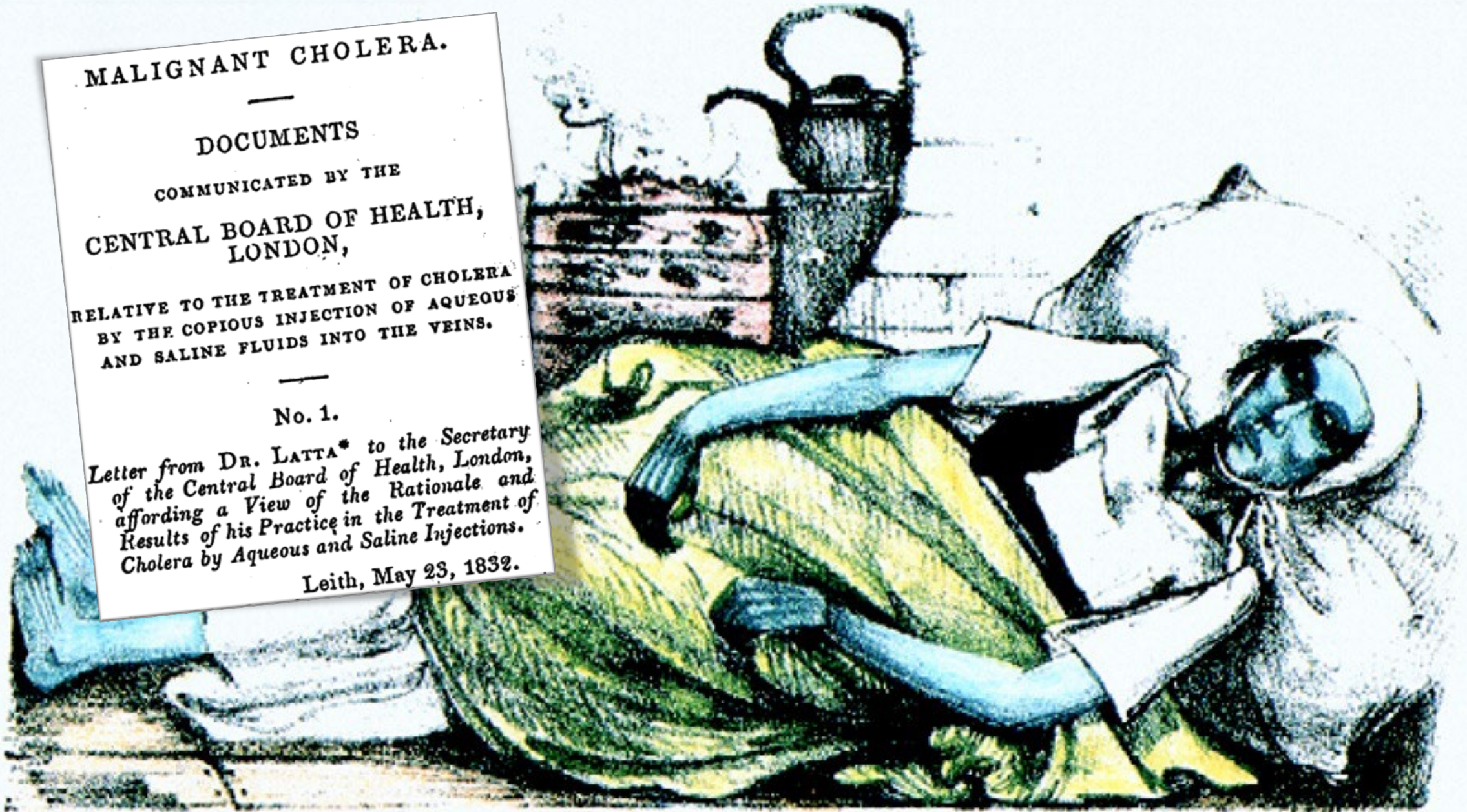
COMMUNICATED BY THE
CENTRAL BOARD OF HEALTH,
LONDON,

RELATIVE TO THE TREATMENT OF CHOLERA
BY THE COPIOUS INJECTION OF AQUEOUS
AND SALINE FLUIDS INTO THE VEINS.

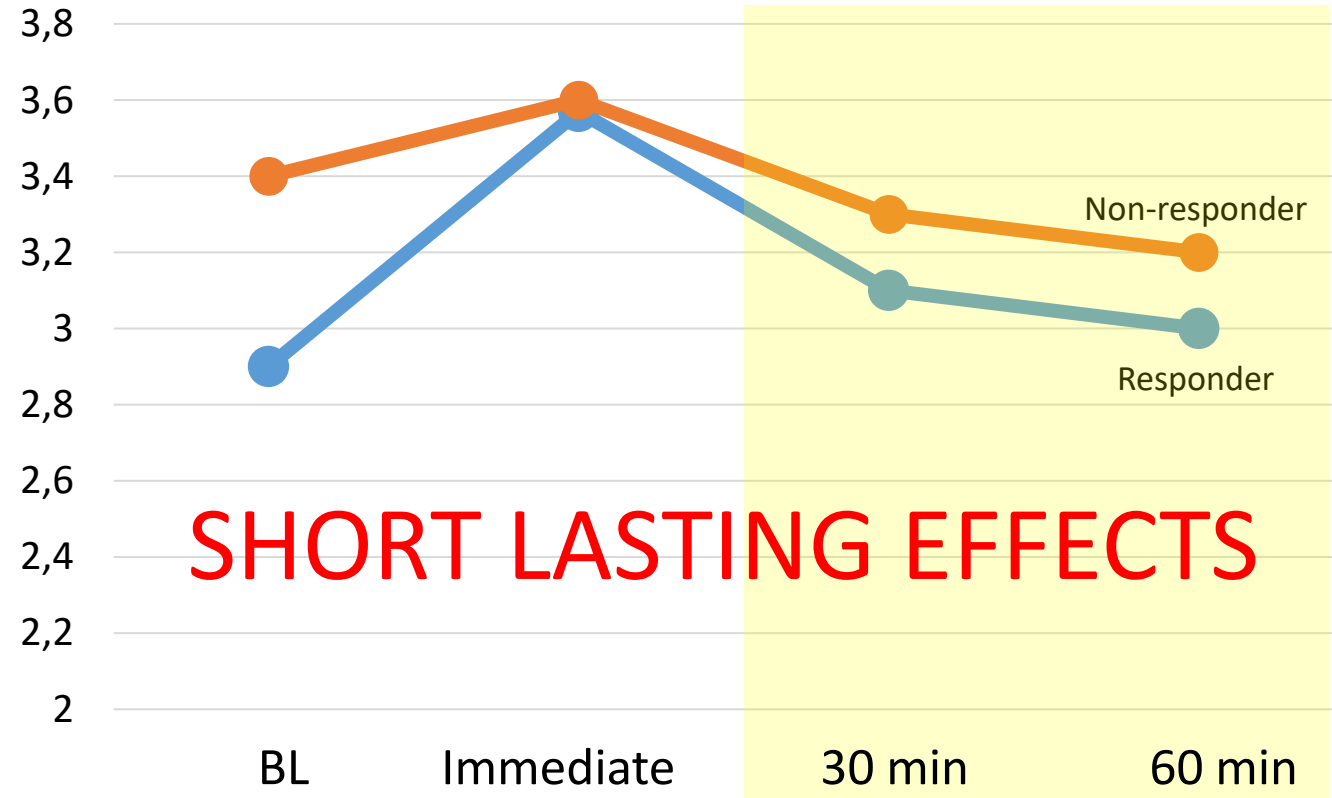
No. 1.

Letter from DR. LATTA* to the Secretary
of the Central Board of Health, London,
affording a View of the Rationale and
Results of his Practice in the Treatment of
Cholera by Aqueous and Saline Injections.

Leith, May 23, 1832.

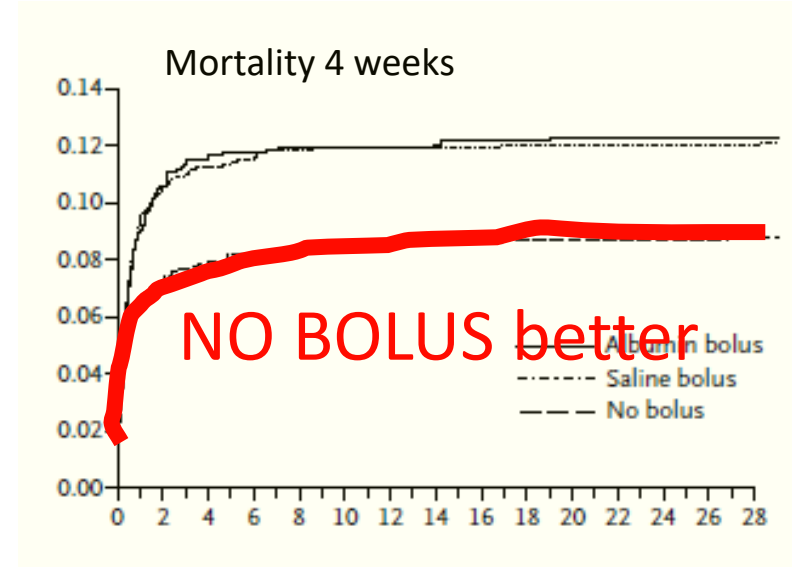
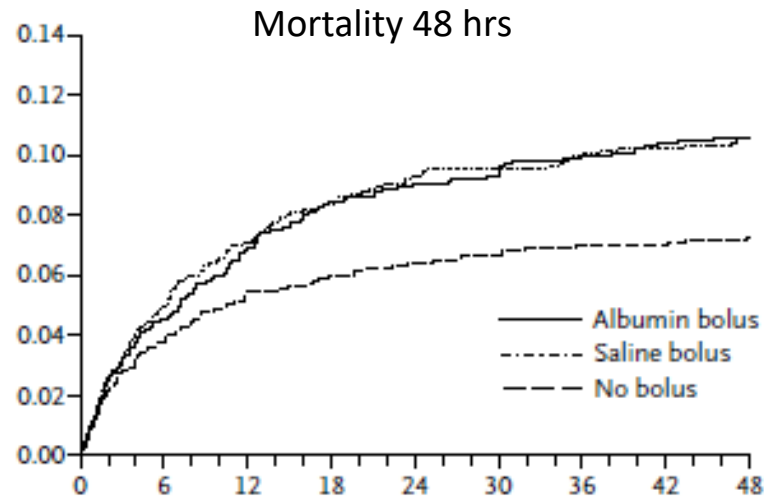


Change in Cardiac Index (l/min)

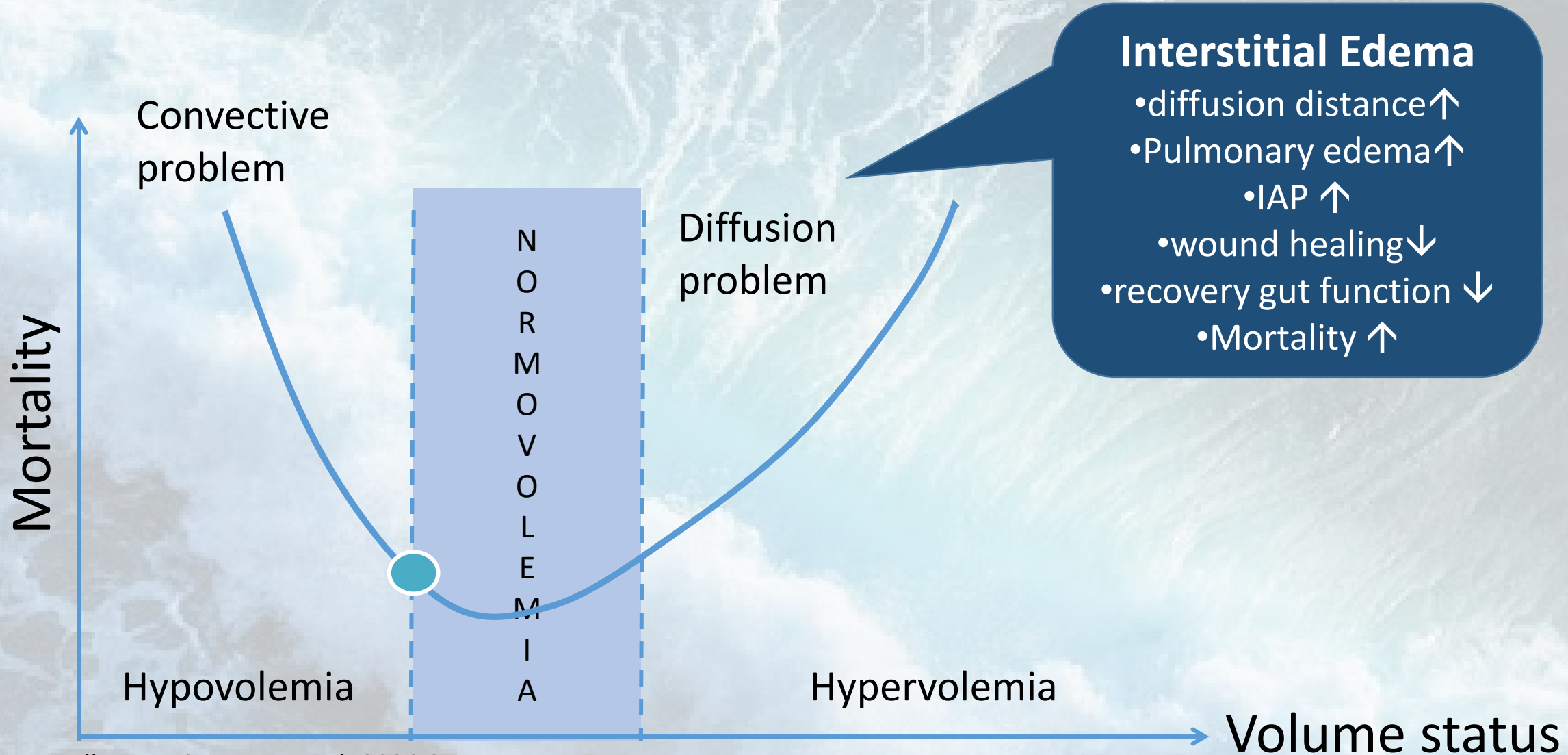


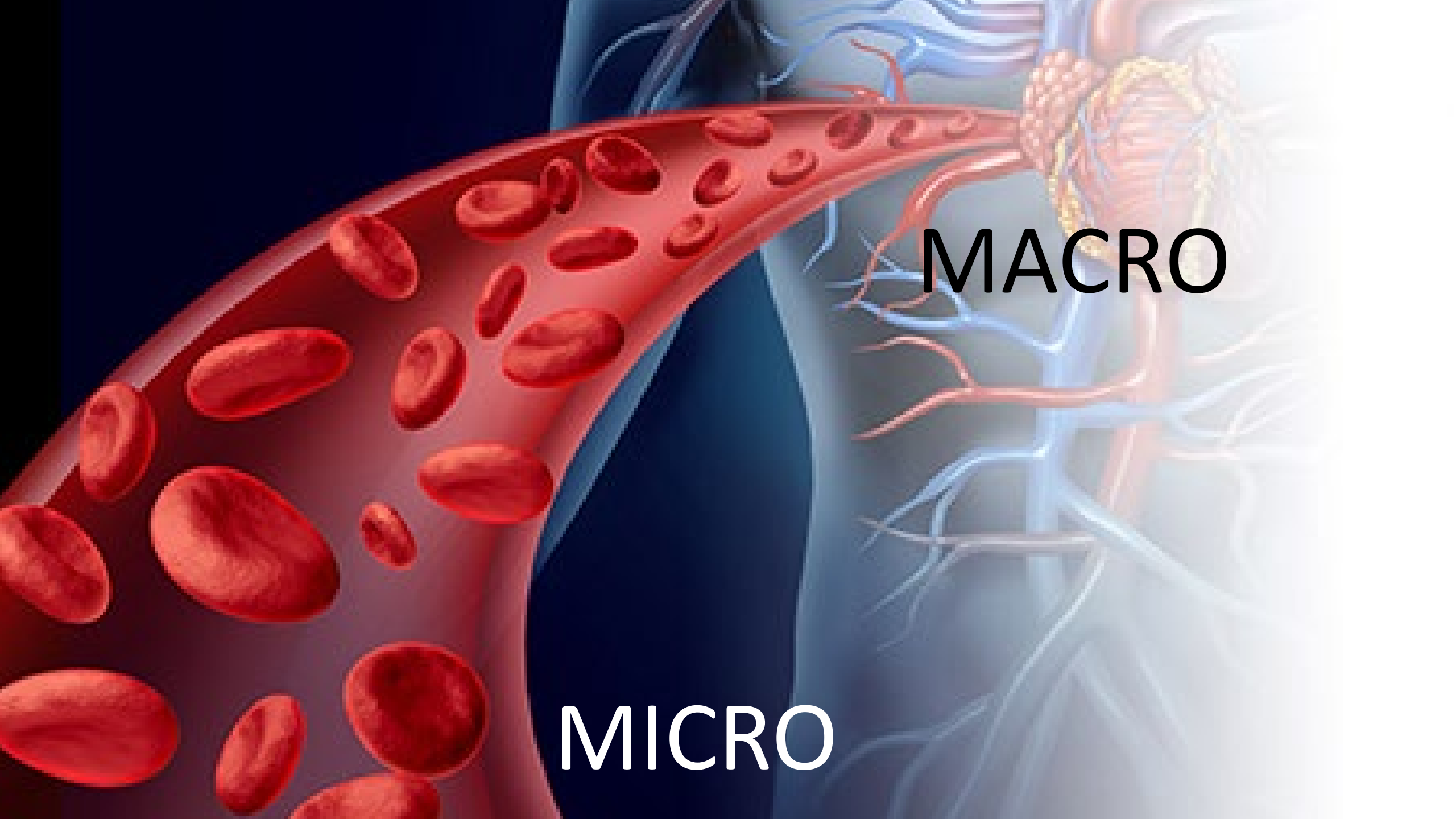
ORIGINAL ARTICLE

Mortality after Fluid Bolus in African Children with Severe Infection



HYPERTVOLEMIA IS EVEN WORSE





MACRO

MICRO

fluid matters
status



Myths and Misunderstanding

Septic patients

~~=~~

hypovolemic

A close-up photograph of a person's face, focusing on the forehead and eyes. The skin is light-colored and shows some texture. The text 'Sepsis' is overlaid in black, and 'Invisible loss' is overlaid in white. A red slash is placed over an equals sign between the two phrases.

Sepsis

~~=~~

Invisible loss



Edema

≠

Give diuretics

HALF
FULL



HALF
EMPTY

Low preload

HALE
FULL

~~=~~

HALE
EMPTY

Give fluids

SEPSIS

THEY'RE
VASOPLEGIC NOT
HYPOVOLAEMIC



Hour 3 bundle

Initial resuscitation for sepsis and septic shock (begin immediately)

- 1 Measure lactate level*
- 2 Obtain blood cultures before administering antibiotics
- 3 Administer broad-spectrum antibiotics
- 4 Begin to rapidly administer 30mL/kg crystalloid for hypotension or lactate ≥ 4 mmol/L
- 5 Apply vasopressors if patient is hypotensive during or after fluid resuscitation to maintain MAP ≥ 65 mm Hg

Sepsis **performance** improvement programs



Care bundles



Compliance



A hand-drawn flowchart is visible on a whiteboard. It starts with a rectangular box at the top, followed by a diamond-shaped decision node. From the diamond, two paths lead to rounded rectangular boxes. Below these, there are more rectangular boxes and arrows, suggesting a complex process flow. In the foreground, the silhouette of a person in a light-colored shirt and dark trousers stands with their hands on their hips, looking towards the whiteboard.

INDIVIDUALISE

**S T A N D A R D I S E
U N T I L Y O U N E E D
T O I M P R O V I S E**



Education
Education
Education
Education
Education
Education
Education
Education
Education
Education

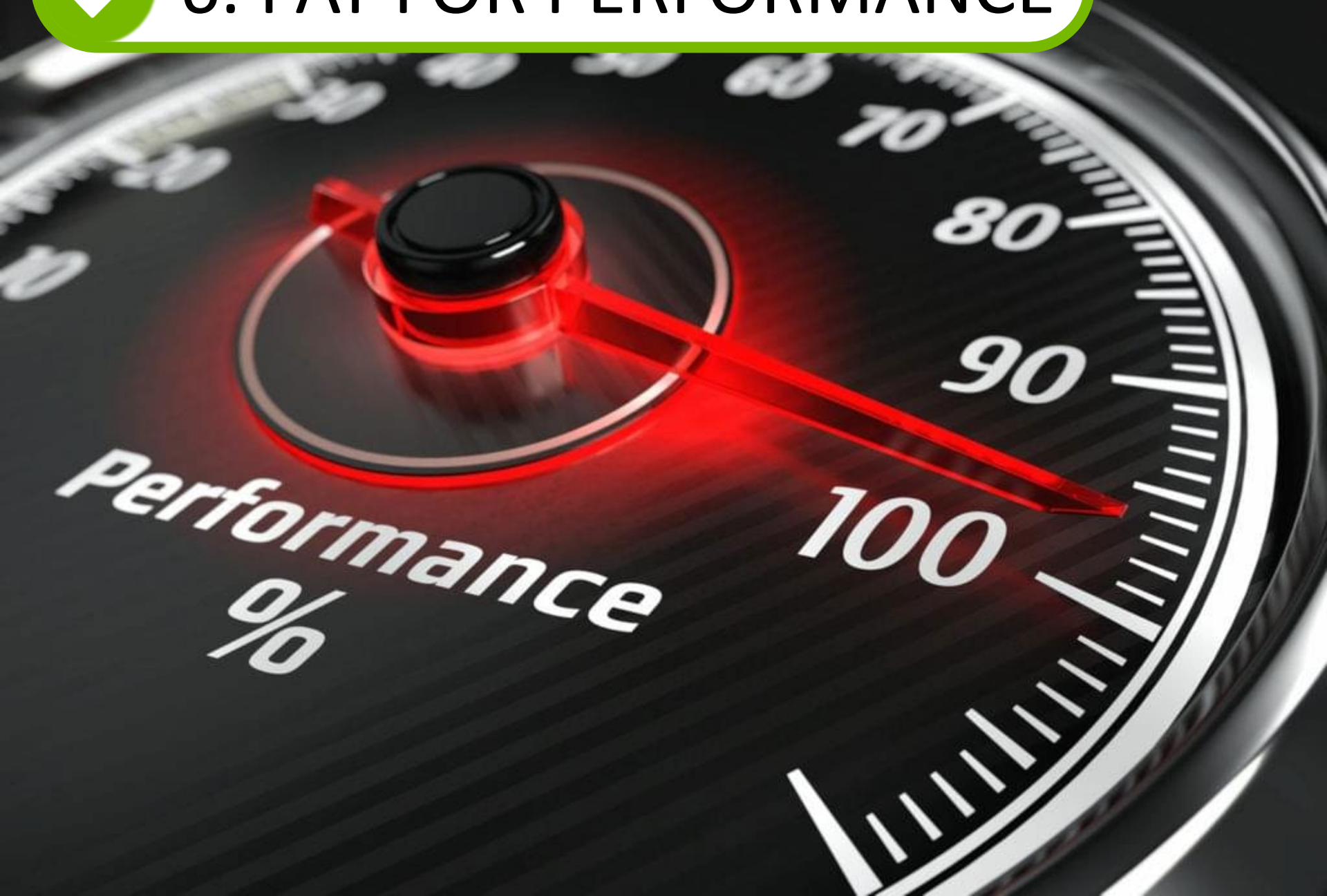




6. PAY FOR PERFORMANCE



✓ 6. PAY FOR PERFORMANCE



FENOTYPE



NO ONE SIZE



PERFORMANCE

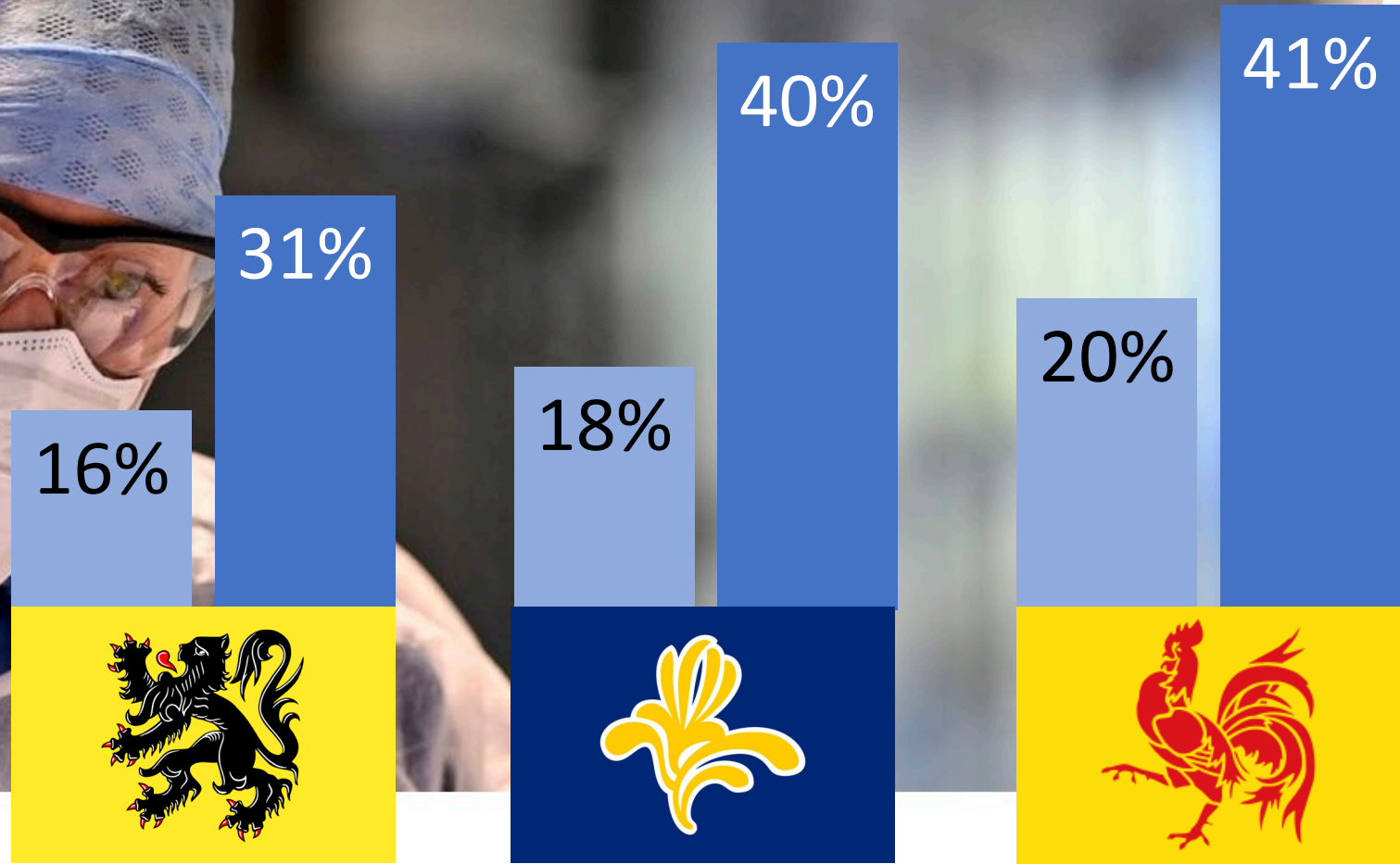


OUTCOME

Quality label?

Benchmark

Case-mix



HOS

ICU

**Niet in elk ziekenhuis vielen evenveel coronadoden, hoe komt dat?
"Onderzoek dringt zich op"**



7. SEPSIS STEWARDSHIP



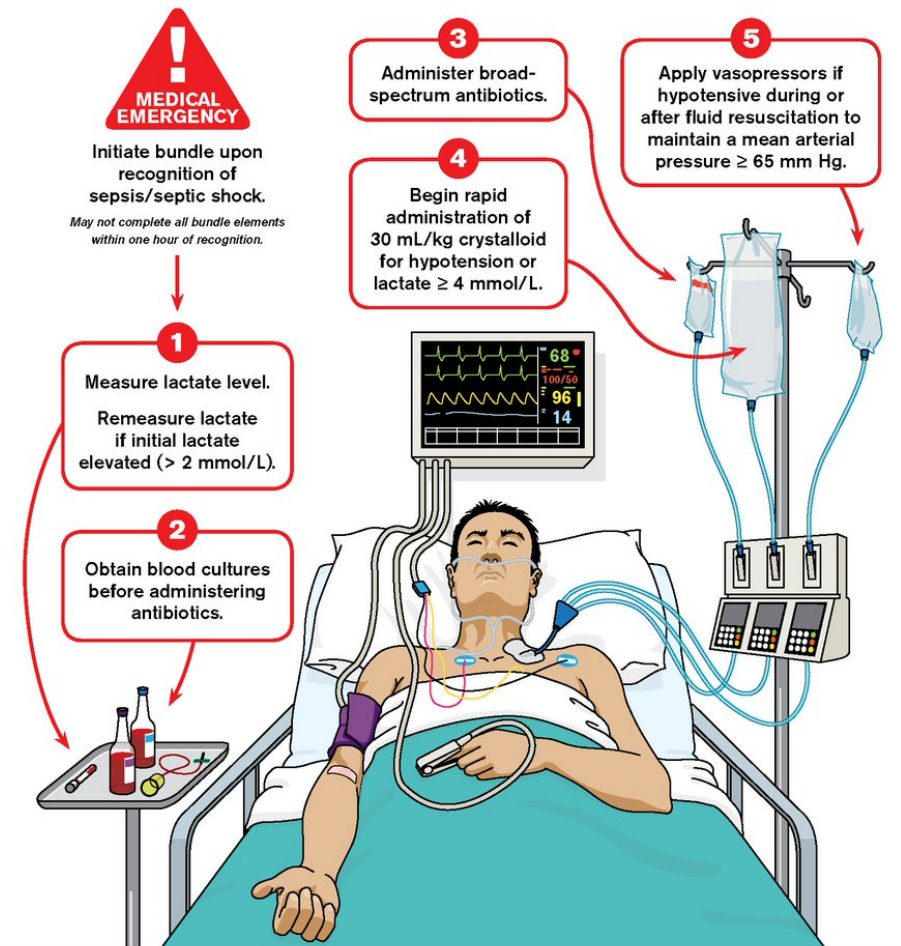


Continuous Progress

Hour-1 Bundle

Initial Resuscitation for Sepsis and Septic Shock

Surviving Sepsis Campaign



Bundle: SurvivingSepsis.org/Bundle

Complete Guidelines: SurvivingSepsis.org/Guidelines

© 2019 the Society of Critical Care Medicine and the European Society of Intensive Care Medicine. All Rights Reserved.

Society of Critical Care Medicine
The American College of Chest Physicians

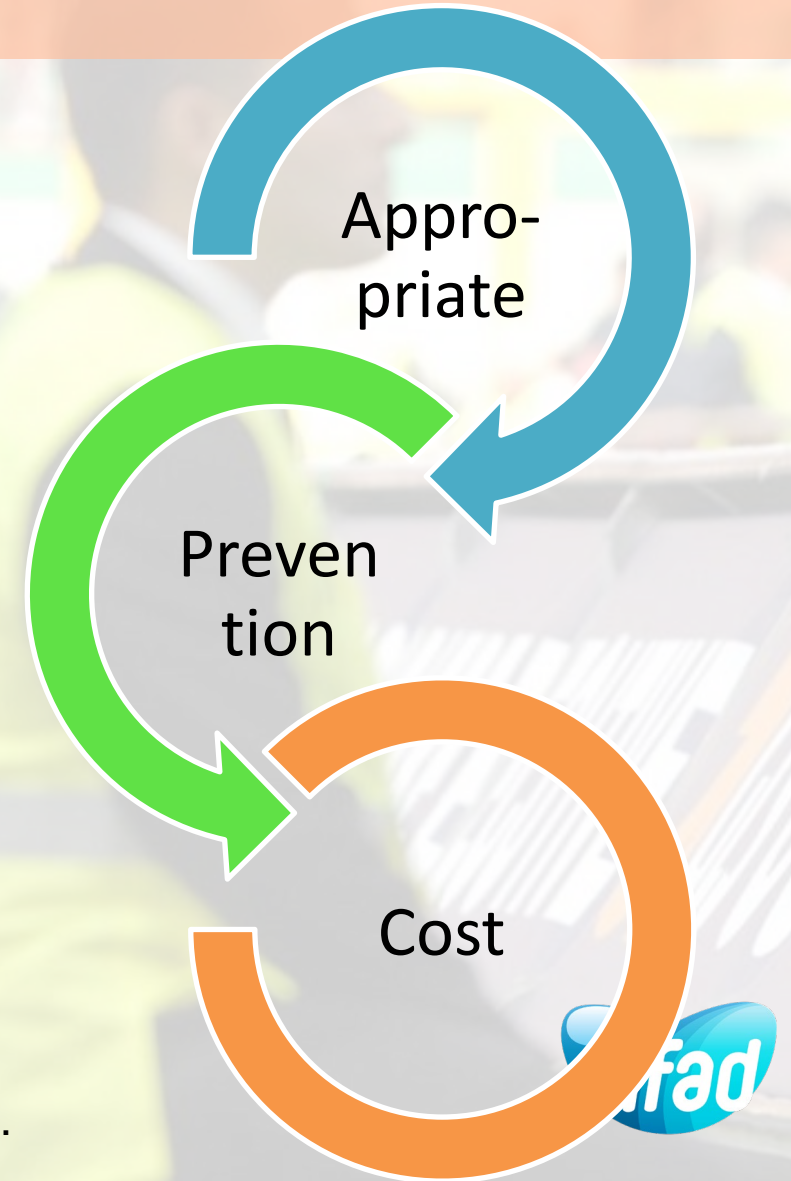
ESICM
European Society of Intensive Care Medicine

Sepsis STEWARDSHIP

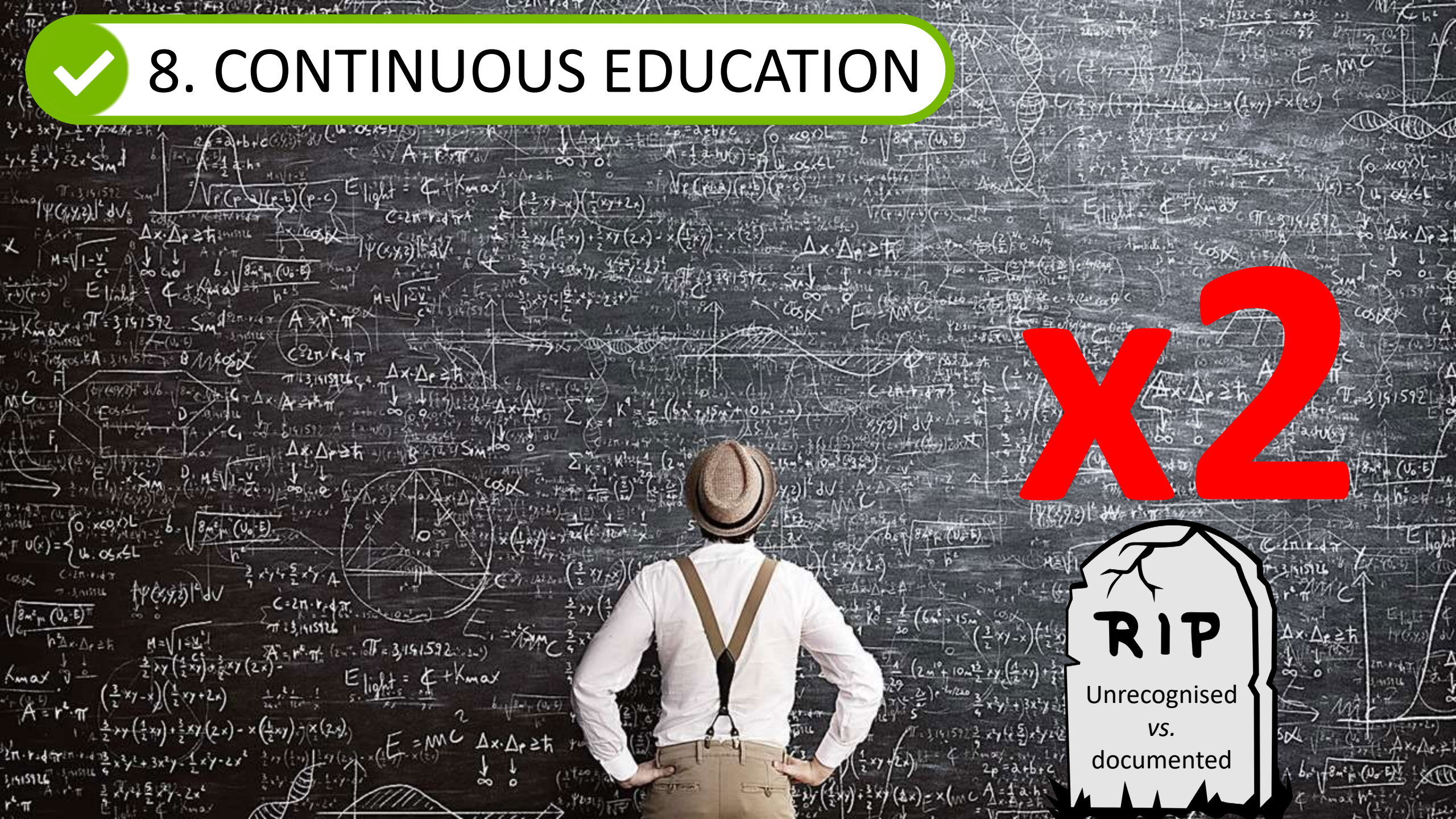


Sepsis STEWARDSHIP

...a series of **coordinated** interventions, introduced to select the optimal fluid, antibiotic, drug dose and duration of therapy that results in the best clinical outcome, **prevention** of adverse events and **cost** reduction...

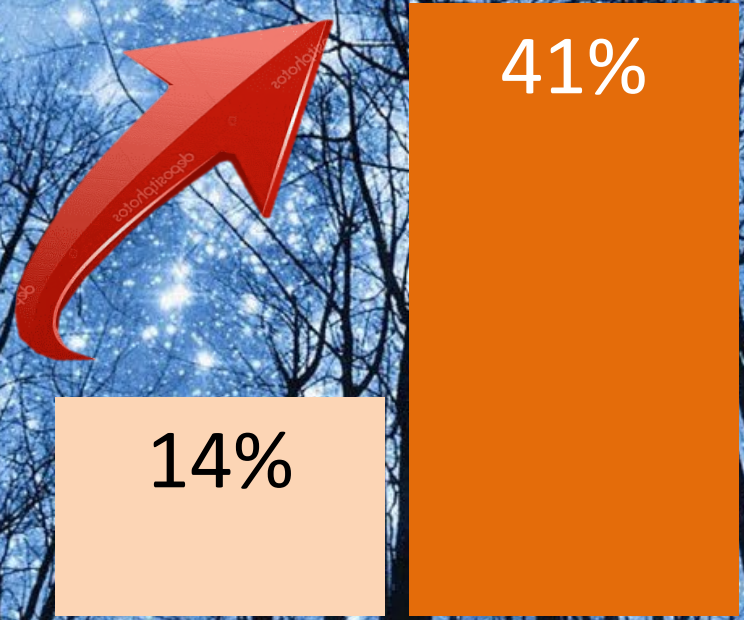


✓ 8. CONTINUOUS EDUCATION



X 2

RIP
Unrecognised
vs.
documented



2

prehospital recognition of sepsis by the EMS personnel

PHANTASI trial

Prehospital Antibiotics Against Sepsis study

Eur J Intern Med. 2021 Jun 23:S0953-6205(21)00204-1





9. RESEARCH AND INNOVATION

Biomarkers

Epidemiology

Genetics

Microbiology

Economics

Bioinformatics (AI)!





10. SEPSIS NETWORK & REGISTRY





Take Home messages



1. INCREASE AWARENESS

Awareness campaign for Belgian public and healthcare workers on early recognition and treatment of sepsis and the antimicrobial stewardship

September | World
13 | Sepsis
2023 | Day

Take Home messages



✓ 2. EARLY WARNING

Implementation of the NEWS-score in Belgian hospitals and the training of doctors and nurses on how to use it

September | World
13 | Sepsis
2023 | Day

Take Home messages



3. RAPID RESPONSE

A Rapid Response System (RRS) provides a theoretical framework to detect and interpret sepsis signs in hospitalized patients, to facilitate communication between healthcare providers and to respond in an appropriate and timely manner

September | World
13 | Sepsis
2023 | Day

Take Home messages



4. SEPSIS ALERT

EPD's collect and store patient data. From these data, functionalities may automatically calculate disease severity scores and send alerts to staff when certain thresholds indicative of (progression to) sepsis or septic shock are reached

September | World
13 | Sepsis
2023 | Day

Take Home messages



5. PERFORMANCE IMPROVEMENT

Setting up SMART quality indicators on the implementation and follow-up of sepsis on care bundles in Belgian hospitals

Specific, Measurable, Attainable, Realistic, Timely

September | World
13 | Sepsis
2023 | Day

Take Home messages



6. PAY FOR PERFORMANCE

A quality label for sepsis care is a first step in the right direction just like JCI, NIAZ-Qmentum, ISO-norm, DGU (Deutsche Gesellschaft für Unfall Surgery)

September | World
13 | Sepsis
2023 | Day

Take Home messages



7. SEPSIS + FLUID STEWARDSHIP

...a series of coordinated interventions, introduced to select the optimal fluid, antibiotic, drug dose and duration of therapy that results in the best clinical outcome, prevention of adverse events and cost reduction...

September | World
13 | Sepsis
2023 | Day

Take Home messages



8. CONTINUOUS EDUCATION

Development of continuous education for nurses and doctors on sepsis.

Empower the regions for embedding sepsis in the core curriculum of nurses and doctors (including the use of the NEWS-score)

September | World
13 | Sepsis
2023 | Day

Take Home messages



9. RESEARCH & INNOVATION

Interdisciplinary research group working in epidemiology, genetics, microbiology, molecular biology (biomarkers), intensive care, statistics, economics, bioinformatics (AI) and innovation

September | World
13 | Sepsis
2023 | Day

Take Home messages



✓ 10. SEPSIS NETWORK & REGISTRY

Sepsis is similar to stroke in many ways; an action plan for sepsis care should therefore be started. Such an action plan could then consist of awareness campaigns, and facilitating the exchange of expertise between hospitals

September | World
13 | Sepsis
2023 | Day



stop
sepsis
save
lives

What is needed to decrease the burden of Sepsis in Belgium?

September | World
13 | Sepsis
2023 | Day



stop
sepsis
save
lives

What is needed to decrease the burden of Sepsis in Belgium?

We Need A National Belgian Sepsis Action Plan!

September | World
13 | Sepsis
2023 | Day



Early presentation to hospital



Timely recognition



Compliance



Appropriate treatment

SEPSIS ACTION PLAN



European Sepsis Care Survey



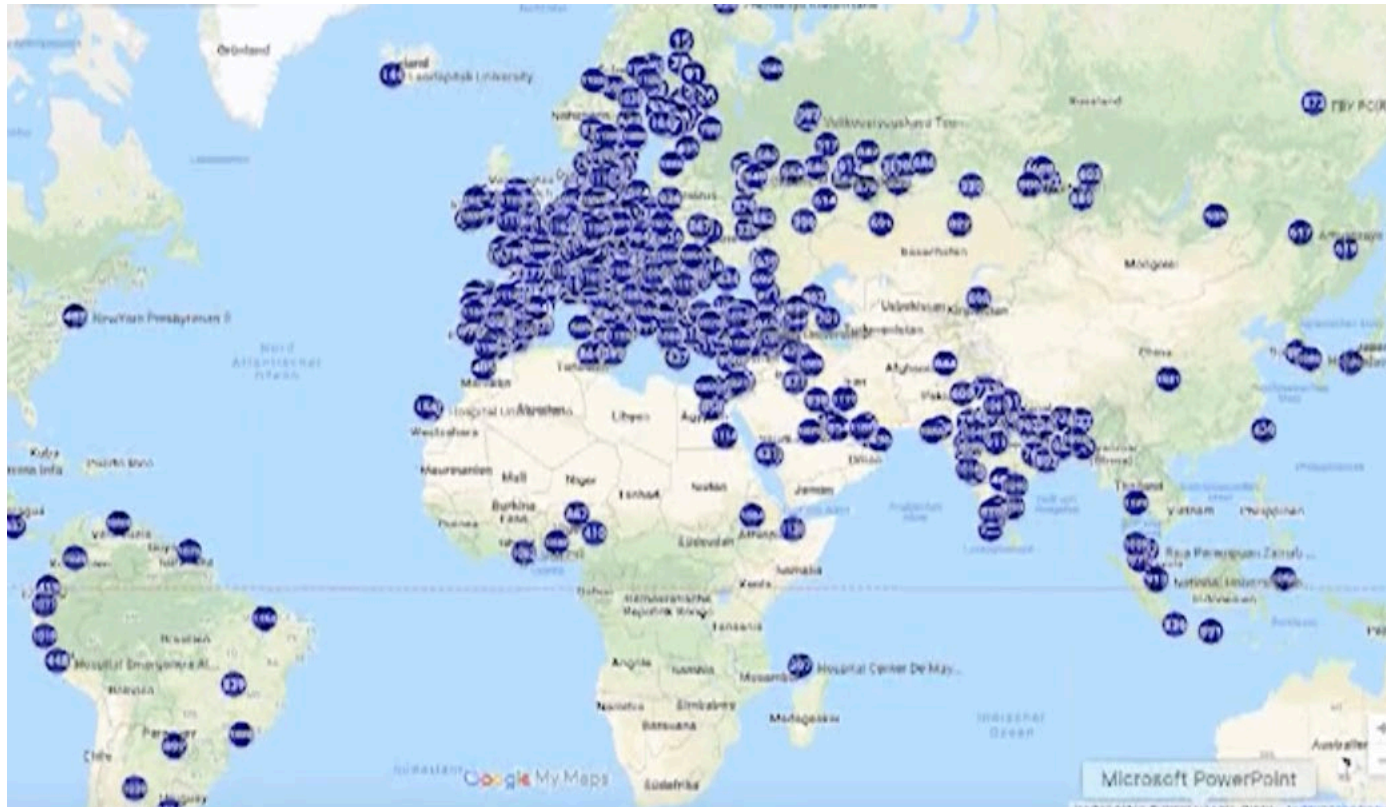
Are structures of adequate sepsis care Europe-wide available?
Participate and answer this question. Become part of the ESCS Study Group
ALL professions are invited.

Register your hospital here:

<https://sepsissurvey.sslsurvey.de/Hospital-Registration-European-Sepsis-Survey>



official endorsed by



European Sepsis Care Survey



General
Part I

Emergency Department
Part II

Ward
Part III

Intensiv Care Unit
Part IV

Quality Programs
Part V

Capabilities and resources

Early recognition and screening

Guidelines and protocols

Diagnostic capabilities - blood cultures

Implementation, measurement of quality indicators

“An multidisciplinary cross-sectional analysis of structure and capabilities of sepsis care in hospitals in the EU and worldwide.”



Global
Sepsis
Alliance

Slide courtesy of Dr C. Scheer – Presentation @ #IFAD2022

September | World
13 | Sepsis
2023 | Day

Study Design

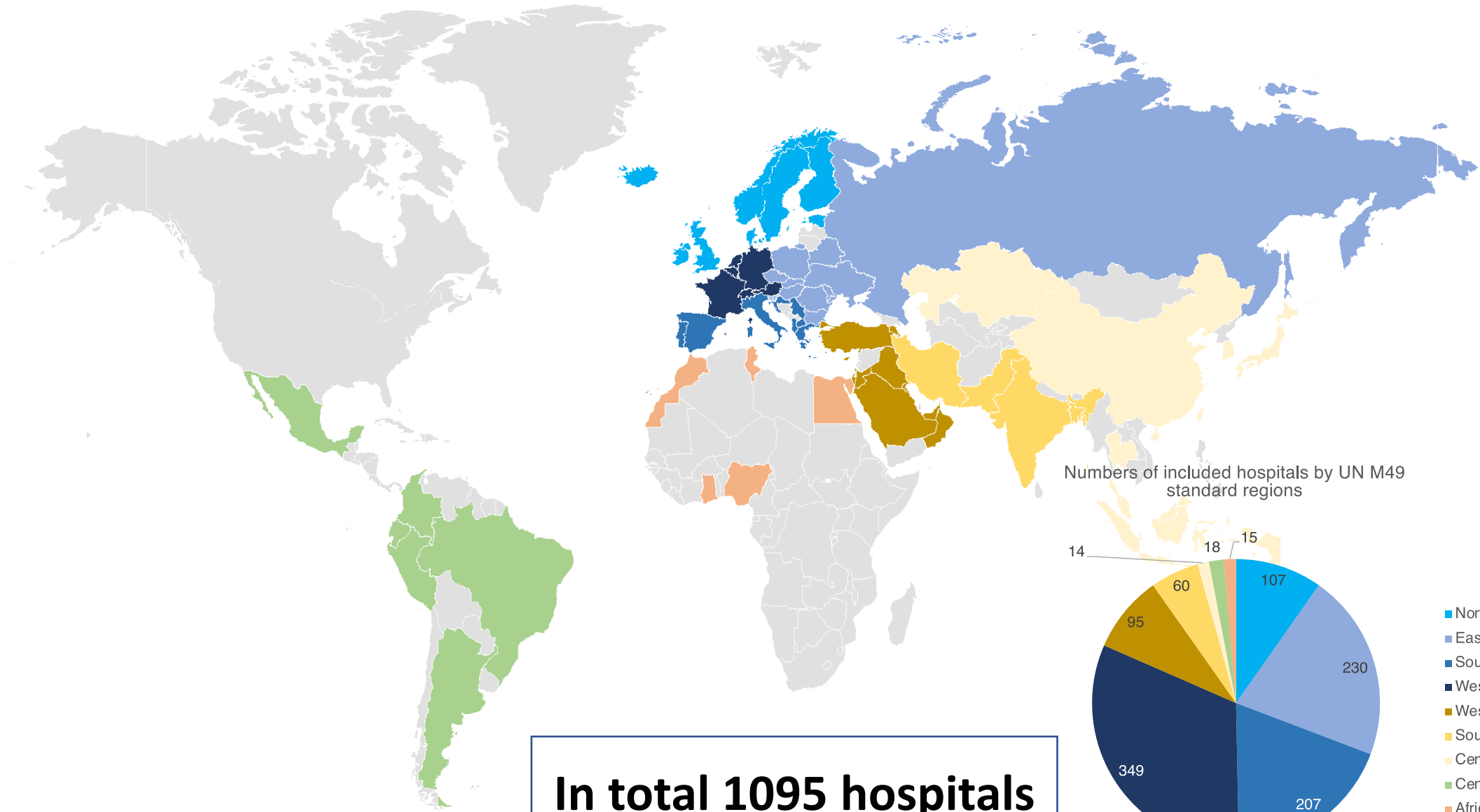
Cross-sectional survey using an online questionnaire.

- Designed and tested by ESCS Steering committee
- Reviewed by ESAIC, ESICM, Intensive Care Society UK scientific boards
- Tested by multiple national coordinators
- Web-based registration and participation
- Available in English, German, Polish, Romanian, Russian, Turkish

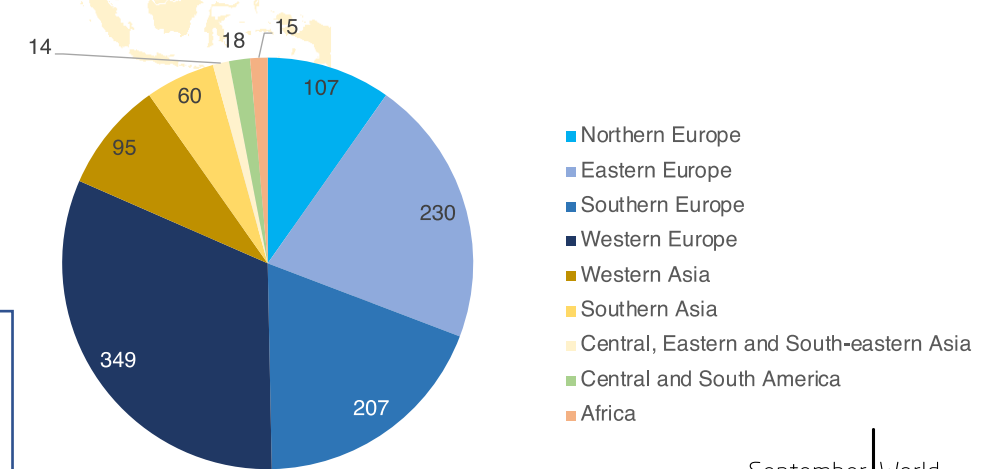
web-based registration



Invitation by email with individual keys
Web-based participation

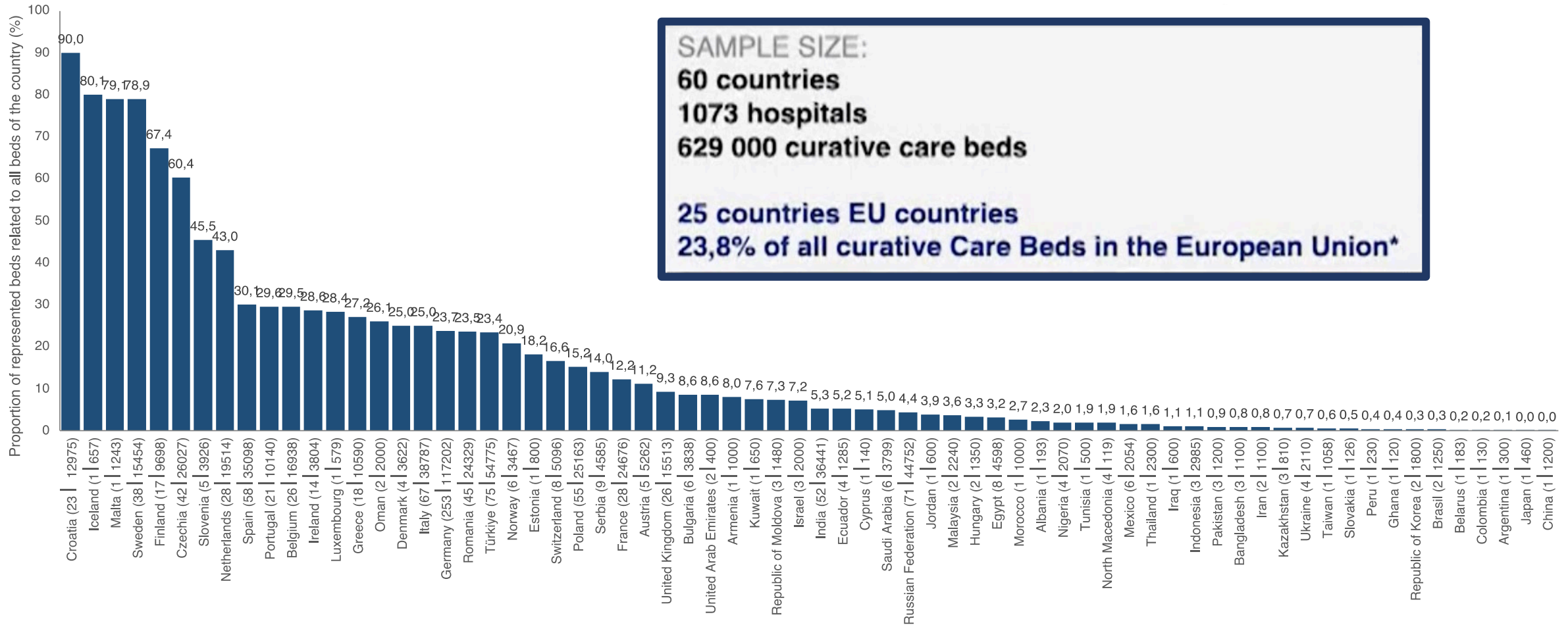


Numbers of included hospitals by UN M49 standard regions

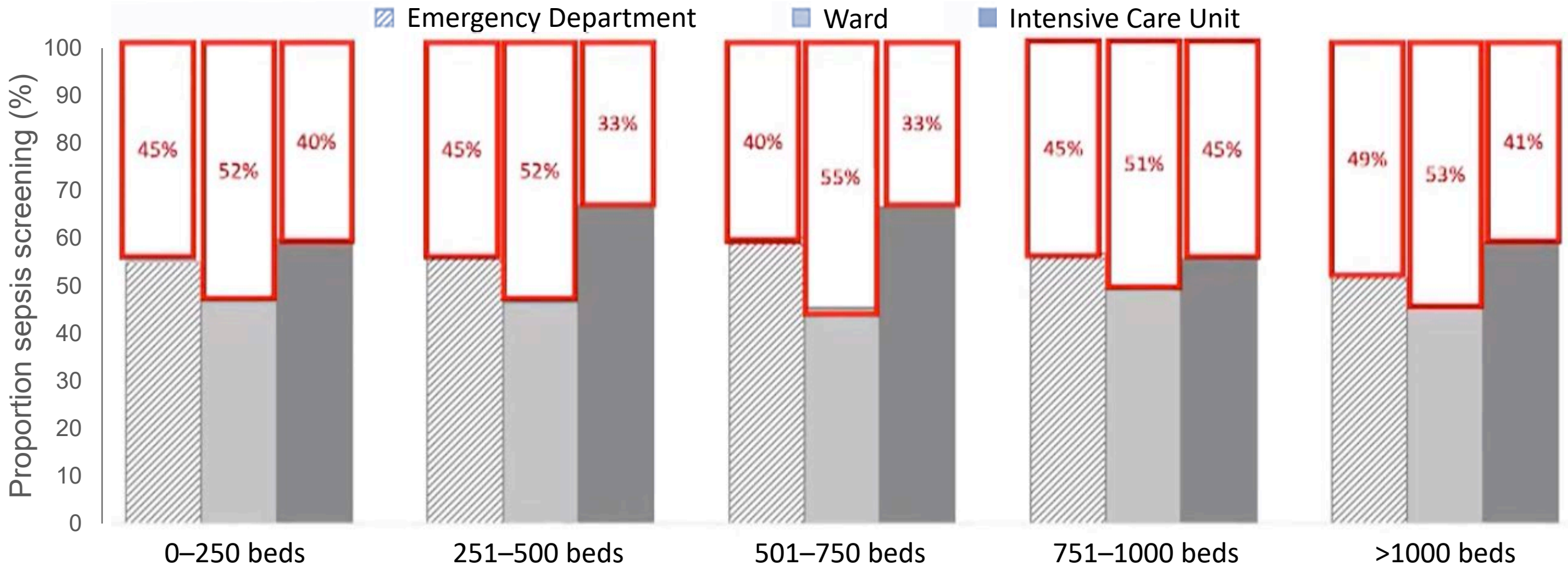


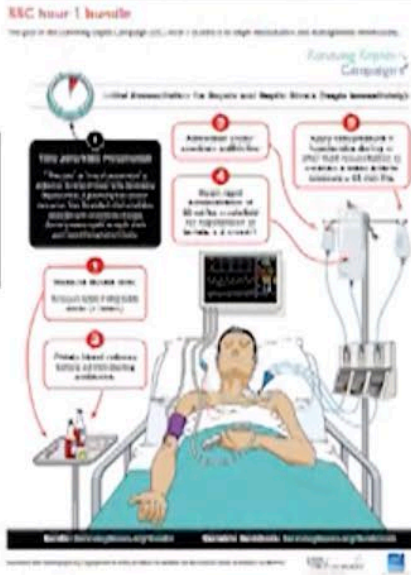
**In total 1095 hospitals
760 in the EU**

ESCS Sample



Presence of screening for early recognition of sepsis



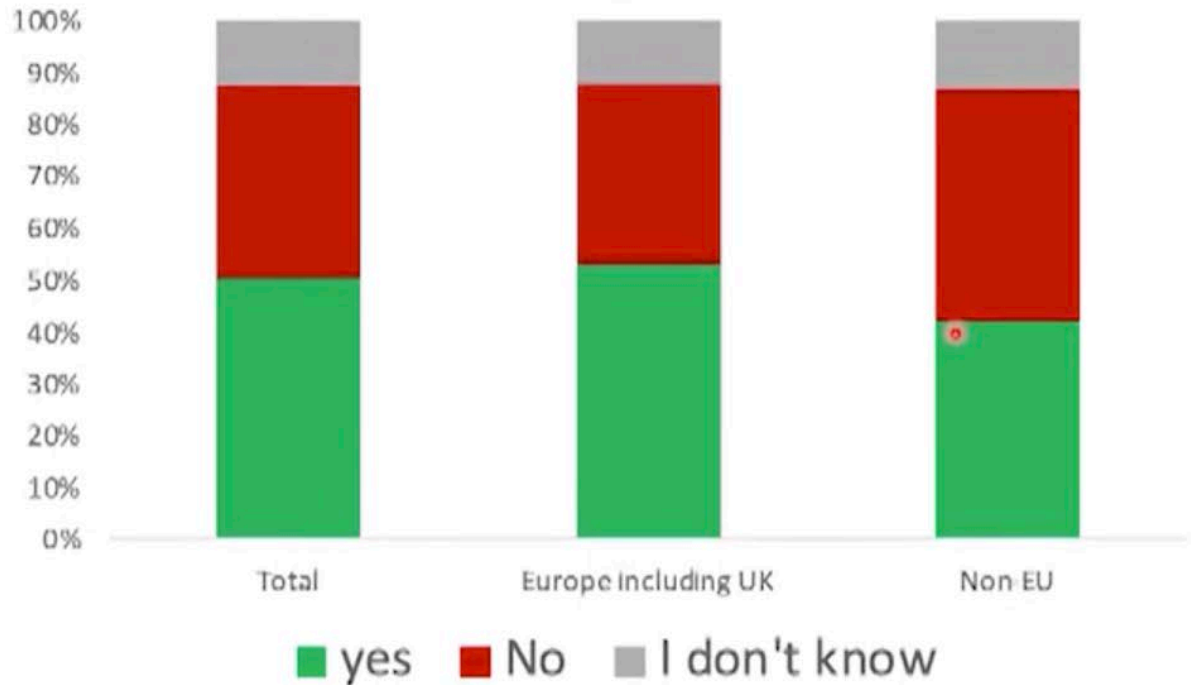


Do you have a Protocol, Care Pathway or Bundle specifically for the Management of Sepsis in the Emergency Department?

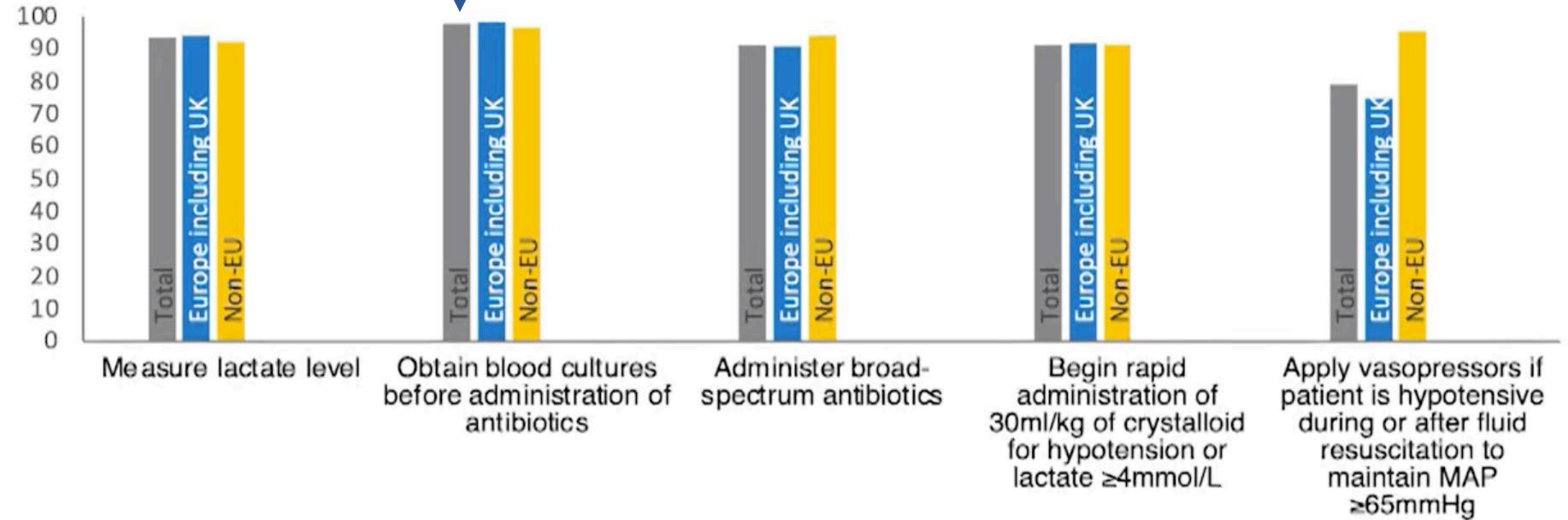
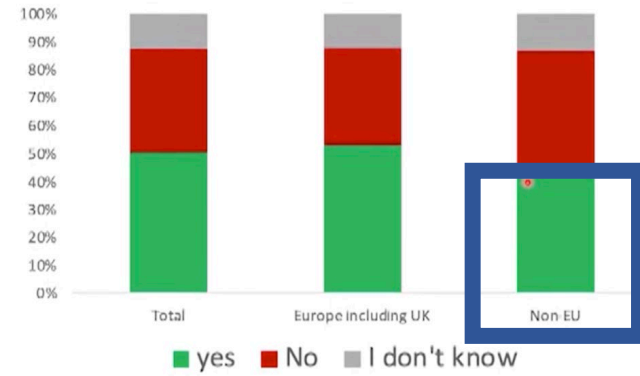


A systematic sepsis management considering the crucial core elements (the sepsis bundle).

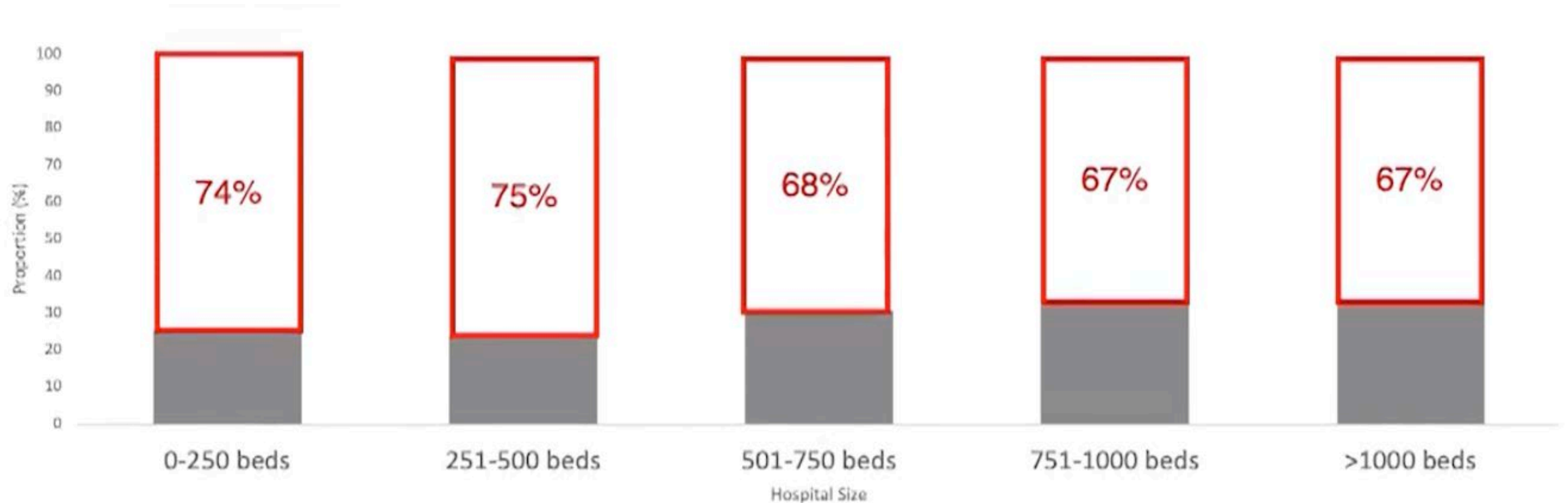
- **Blood cultures**
- **Anti-infectives**
- **Lactate**
- **Fluid resuscitation**
- **Vasopressors**



What are the sepsis bundle elements in the ERs that use them?

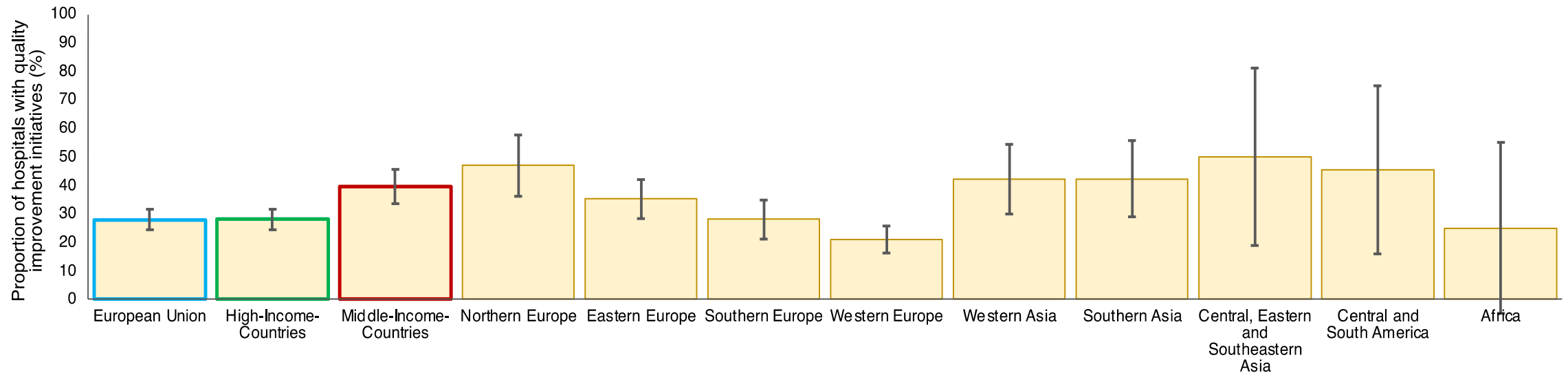


Do you have a sepsis training or improvement program?

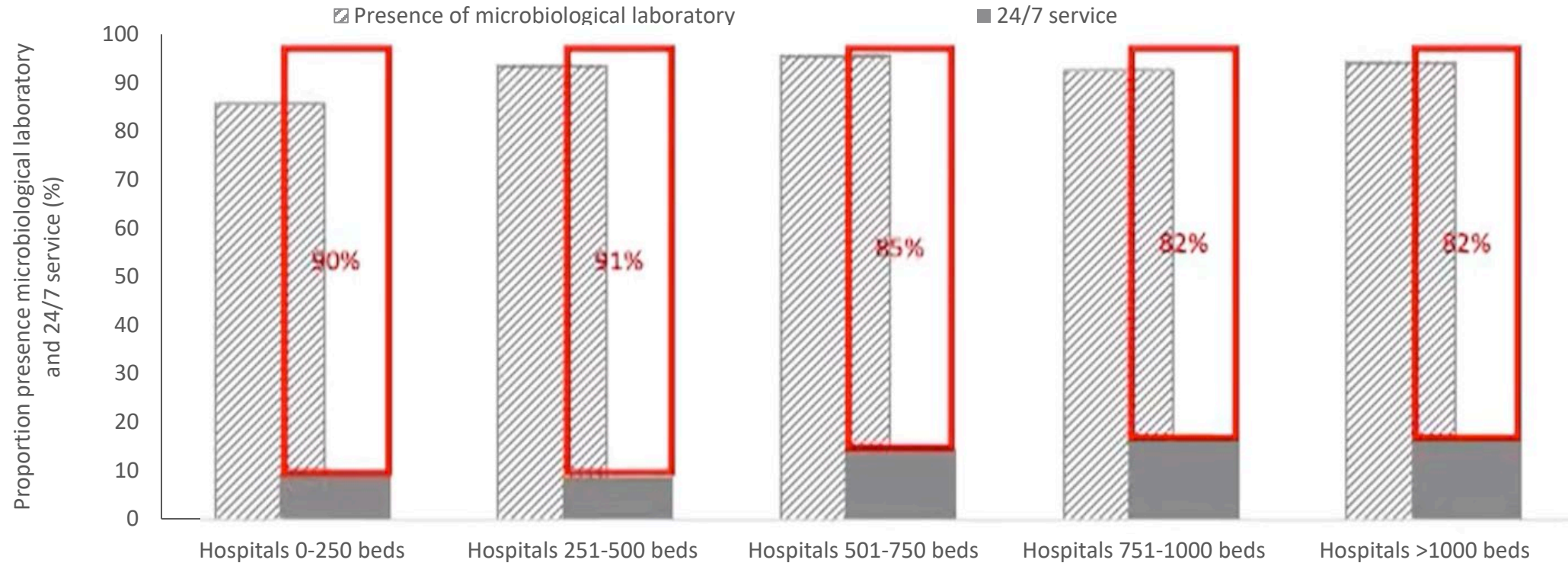


Do you have a sepsis training or improvement program?

Quality improvement initiatives by M49 region



Do you have a 24/7 presence of a microbiological service ?



A Big Thank You to...

more than 1500 participants

ESCS Steering Committee

- Adam Linder, Sweden (Chair ESA working group research)
- Christian S. Scheer, Germany (ESA working group, principal investigator ESCS)
- Daniela Filipescu (Vice-Chair of European Sepsis Alliance)
- Evangelos Giamarellos-Bourboulis, Greece (Chair of European Sepsis Alliance)
- Evgeny Idelevich, Germany (Representative ESCMID/Study Group for Bloodstream Infections, Endocarditis and Sepsis (ESGBIES))
- Konrad Reinhart, Germany (Founding president Global Sepsis Alliance)
- **Manu Malbrain (Representative International Fluid Academy (IFA))**
- Matthias Gründling, Germany (Quality management project Sepsisdialog)
- Ricard Ferrer (Representative European Society of Intensive Care Medicine (ESICM))
- Said Laribi (Representative European Society for Emergency Medicine (EUSEM))
- Gabriella Bottari (Representative European Society for Pediatric and Neonatal Intensive Care (ESPNIC))



Endorsing European Societies



European Society of Anaesthesiology and Intensive Care



ESCMID
EUROPEAN SOCIETY OF CLINICAL MICROBIOLOGY AND INFECTIOUS DISEASES
ESCMID Study Group for Bloodstream Infections, Endocarditis and Sepsis - ESGBIES



EUSEM
EUROPEAN SOCIETY FOR EMERGENCY MEDICINE



+ National societies



Conclusions ESCS

- Large well-distributed sample
- 25% of all curative care beds in Europe
- 50% have sepsis bundles
- 30% have education programs
- A lot of room for improvement!
- Knowledge gaps exist among countries and departments
- Need more sepsis awareness, education and training



@SepsisSurvey



A World Free of Sepsis

www.global-sepsis-alliance.org

www.worldsepsisday.org

www.worldsepsiscongress.org

www.fluidacademy.org

www.wcspotlight.org

September | World
13 | Sepsis
2023 | Day