

Detecção precoce de sepse e segurança do paciente.

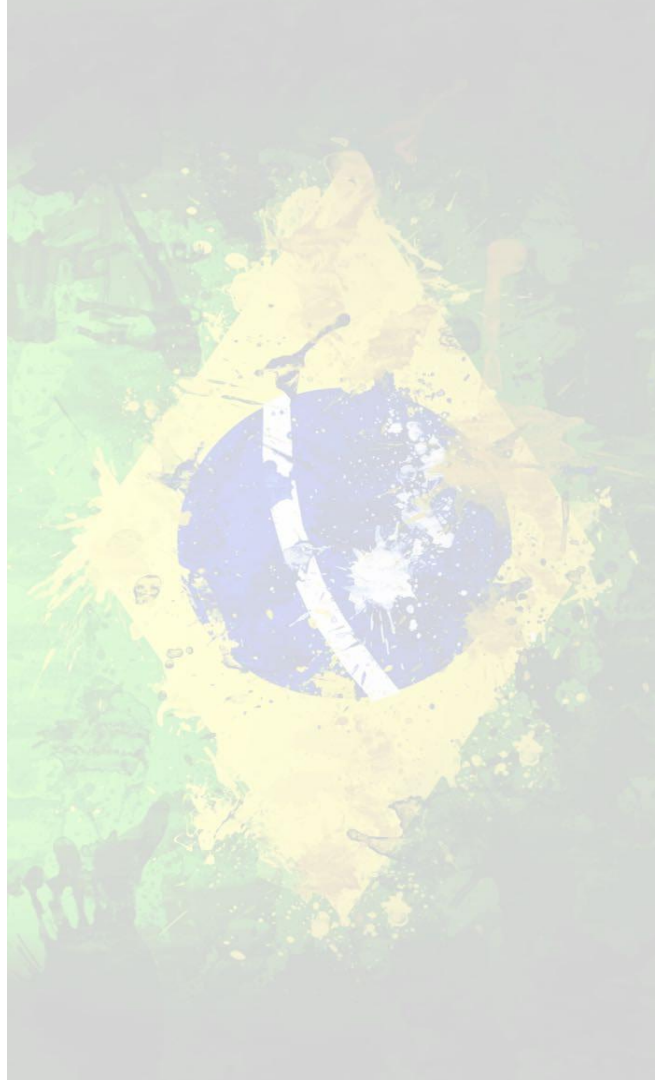
O que fazer? Flavia Machado



Latin American
Sepsis
Institute



Global
Sepsis
Alliance



O que fazer?

SEVENTIETH WORLD HEALTH ASSEMBLY

WHA70.7

Agenda item 12.2

29 May 2017

Improving the prevention, diagnosis and clinical management of sepsis

The Seventieth World Health Assembly,

Having considered the report on improving the prevention, diagnosis and clinical management of sepsis,¹

Concerned that sepsis continues to cause approximately six million deaths worldwide every year, most of which are preventable;

Recognizing that sepsis as a syndromic response to infection is the final common pathway to death from most infectious diseases worldwide;

Considering that sepsis follows a unique and time-critical clinical course, which in the early stages is highly amenable to treatment through early diagnosis and timely and appropriate clinical management;

Considering also that infections which may lead to sepsis can often be prevented through appropriate hand hygiene, access to vaccination programmes, improved sanitation and water quality and availability, and other infection prevention and control best practices; and that forms of septicaemia associated with nosocomial infections are severe, hard to control and have high fatality rates;

Recognizing that while sepsis itself cannot always be predicted, its ill effects in terms of mortality and long-term morbidity can be mitigated through early diagnosis and appropriate and timely clinical management;

Recognizing also the need to improve measures for the prevention of infections and control of the consequences of sepsis, due to inadequate infection prevention and control programmes, insufficient health education and recognition in respect of early sepsis, inadequate access to affordable, timely and appropriate treatment and care, and insufficient laboratory services, as well as the lack of integrated approaches to the prevention and clinical management of sepsis;

Noting that health care-associated infections represent a common pathway through which sepsis can place an increased burden on health care resources;

World Health Assembly urges member states to:

- ✓ Develop **national policy** and processes to improve the prevention, diagnosis and treatment of sepsis, according to WHO guidelines
- ✓ Improve **infection prevention and control strategies**: access to clean water, sanitation & hygiene (WASH), vaccinations, clean childbirth, surgical site prevention and protective equipment for health workers
- ✓ Continue efforts to **combat antimicrobial resistance** (AMR) by promoting judicious use of antimicrobials
- ✓ **Train healthcare workers** on the importance of sepsis as a time-critical medical emergency as a key element of deterioration and patient safety
- ✓ **Promote research** to develop innovative means to prevent, diagnose and treat sepsis

World Health Assembly urges member states to:

- ✓ Improve the International Classification of Disease (ICD) coding to better **establish the burden of both sepsis** and antimicrobial resistance
- ✓ Monitor progress toward **improving outcomes for sufferers and survivors**
- ✓ Develop **evidence-based strategies for policy change around prevention, diagnosis and treatment of sepsis** and survivors' access to rehabilitation
- ✓ Engage in **advocacy efforts** to raise sepsis awareness by supporting activities promoting sepsis awareness including but not restricted to World Sepsis Day (13th September each year)

World Health Assembly urges member states to:

- ✓ (5) to **increase public awareness** of the risk of progression to sepsis from infectious diseases, through health education, **including on patient safety**, in order to ensure prompt initial contact between affected persons and the health care system

And the change begins...



[About us](#) ▾

[Health topics](#) ▾

[News](#) ▾

[Countries](#) ▾

[Emergencies](#) ▾

Sepsis

[Sepsis](#)

Improving the prevention, diagnosis and clinical management of sepsis



Sepsis arises when the body's response to any infection injures its own tissues and organs. If not recognized early and managed promptly, it can lead to septic shock, multiple organ failure and death. It is a serious complication of infection in all countries and particularly in low- and middle-income countries. It represents a major cause of maternal and neonatal morbidity and mortality.

Although a precise estimate of the global epidemiological burden of sepsis is difficult to ascertain, some scientific publications reported that it affects more than 30 million people worldwide every year, potentially leading to 6 million deaths. The burden of sepsis is most likely highest in low- and middle-income countries.

Sepsis is frequently underdiagnosed at an early stage when it is still potentially reversible. In the community setting, it often presents as the clinical deterioration of common and preventable infections. Sepsis also frequently results from infections acquired in health care settings, which are one of, if not the most frequent adverse events during care delivery. As these infections are often resistant to antibiotics, they can rapidly lead to deteriorating clinical conditions.

Departments working on sepsis

- Antimicrobial resistance
- Classifications
- Emergencies preparedness, response
- Essential Medicines and Health Products
- Infection prevention and control
- Innovation Access and Use
- Maternal, newborn, child and adolescent health
- Sexual and reproductive health

Related links

- [Improving the prevention, diagnosis and clinical management of sepsis](#)
- [WHA resolution on Improving the prevention, diagnosis and clinical management of sepsis](#)

And the change begins...



WHO Sepsis Technical Expert Meeting

16–17 January 2018

Best Western Chavannes-de-Bogis Hotel,
Chavannes-de-Bogis, Switzerland

Aumentar a percepção do problema

Global impact of World Sepsis Day on digital awareness of sepsis: an evaluation using Google Trends

Jelmer Savelkoel^{1*}, Theodora A. M. Claushuis², Tjitske S. R. van Engelen², Luuk J. J. Scheres^{3,4} and W. Joost Wiersinga^{1,2*}

Table 1 Mean differences in relative search volume between the period of interest and the control period

| Year | Mean RSV in the 4 weeks surrounding WSD | Mean RSV in the remaining weeks of the year | Mean difference in RSV (95% CI) | P value |
|------------|---|---|---------------------------------|---------|
| 2007 | 59.8 | 54.7 | 5.1 (-3.0; 13.2) | 0.215 |
| 2008 | 81.8 | 80.1 | 1.6 (-7.0; 10.3) | 0.707 |
| 2009 | 50.3 | 49.6 | 0.6 (-10.0; 11.3) | 0.904 |
| 2010 | 61.8 | 61.3 | 0.5 (-7.8; 8.8) | 0.908 |
| 2011 | 77.3 | 75.4 | 1.9 (-5.4; 9.2) | 0.608 |
| 2012 (WSD) | 84.0 | 72.9 | 11.1 (-6.6; 28.7) | 0.142 |
| 2013 (WSD) | 84.0 | 72.5 | 11.5 (5.1; 17.9) | 0.001 |
| 2014 (WSD) | 92.0 | 81.8 | 10.3 (4.0; 16.5) | 0.002 |
| 2015 (WSD) | 94.0 | 82.5 | 11.5 (5.6; 17.3) | 0.000 |
| 2016 (WSD) | 64.5 | 51.7 | 12.8 (2.1; 23.6) | 0.021 |

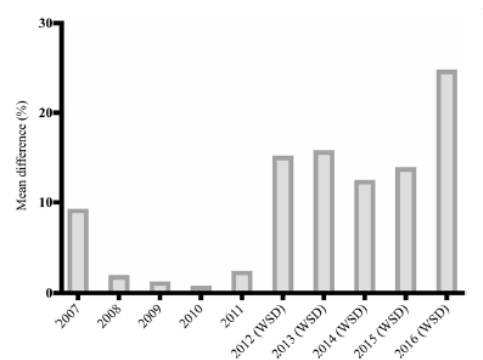


Fig. 1 Mean differences in relative search volume between the period of interest (4 weeks surrounding World Sepsis Day) and the control period (remaining weeks of the corresponding year) expressed as percentages. WSD World Sepsis Day

13
Setembro
Dia Mundial
da Sepsis

Dia Mundial da Sepsis

São Paulo

Comunidade

53.507 curtiram isso

✓ Curtiu ▾



1:58

A sepsis se não tratada ela mata

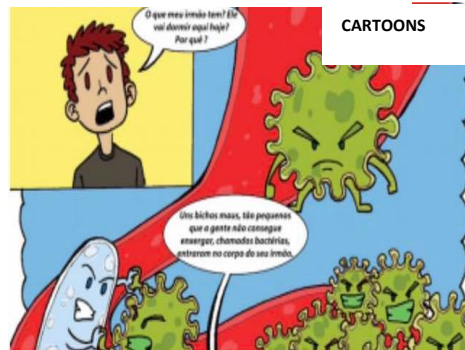
14 mil visualizações •



3:29

Sepsis - A rapidez que salva vidas

18 mil visualizações • Há 1 ano



CARTOONS



2:12

A sepsis mata de montão

14 mil visualizações •
Há 4 meses



3:29

!!A rapidez que salva vidas!!

1,1 mil visualizações • Há 1 ano



13 de setembro
DIA MUNDIAL DA SEPSE
Pare a sepsé, salve vidas.

Construção dos Anexos I e II - ampliação do Hospital de Clínicas em **70%** mais modernos para fazer a expansão do HCPA e além de ampliar os espaços. Para você, um hospital cada vez melhor.

Uma cidade merece dispor de melhor saber: cuidar da melhor maneira que diversas áreas seja para o ensino e a pesquisa.





DENGUE E CHIKUNGUNYA

Emprego sustentável. E a responsabilidade de todos também.



E você, já fez sua parte?

- | | |
|---|---|
| <ul style="list-style-type: none"> Caixas d'água vedadas Caixas totalmente limpas Galões, tambois, copos e tampinhas bem vedados Frutas sem água e em lugares cobertos Garrafas vazias e baldes sem a boca para baixo Ratos limpos e sem tela | <ul style="list-style-type: none"> Bandejas de geladeira sem água Frutos de vaso de plástico sem areia até a borda Borrifantes e outras plantas sem acúmulo de água Vasos sanitários sem uso higiênico Louças de sobretela molhadas para não formar poças Piscinas e fontes sempre tratadas |
|---|---|



Amamentar hoje é pensar no futuro.



VACINAÇÃO INFANTIL SIGA O ZÉ GOTINHA MAIS UMA VEZ E PROTEJA A SAÚDE DAS CRIANÇAS



gueiro!

zemos a sua parceria na primeira etapa da campanha nacional de vacinação infantil. E contamos agora com o seu apoio **segunda fase**, que acontece em **13 de agosto**.

m-se de que todas as crianças **menores de 5 anos** vacinadas na primeira fase, **devem retornar ao posto** de ao para receber a segunda dose.

sua colaboração, atingiremos a meta de 95% das crianças protegidas contra a poliomielite no Brasil. Para isto, faça um **licite** nossos materiais e compartilhe nas redes sociais informações sobre a campanha, além de divulgar a hashtag **tinha**.

m mais... de **13 de agosto a 16 de setembro**, será realizada a vacinação contra o **sarampo**. Neste período, s **pimpo**lhos de **1 ano a menores de 7 anos** devem se imunizar, **mesmo os que já tomaram a vacina**. A ão contra sarampo acontecerá apenas nos seguintes estados: AC, AM, AP, DF, ES, GO, MA, MS, MT, PA, PB, PI, PR, RN, RO, SC e TO.

o de **divulga** e mais informações sobre as campanhas, estamos à disposição. Você também pode encontrar novidades

FEBRE AMARELA

Informação pra todos, vacina pra quem precisa.

A febre Amarela pode ser evitada com a vacina, que é eficaz e segura para com de usar mesmo na presença de água em alguma região afetada. Não há risco de morte. Não há efeitos e nenhuma cura.

UM MOSQUITO NÃO É MAIS FORTE QUE UM PAÍS INTEIRO.

POIS É ISSO MESMO E É POR ISSO QUE NÓS



Seja um doador de órgãos. Seja um doador de vidas.

O maior sistema público de transplantes do mundo é do SUS.

Deixar sua vida para ajudar quem precisa é um ato de amor no Brasil. Deixar seu corpo para ajudar quem não pode viver sem ele é um ato de amor. É, principalmente, deixar sua família saber do seu desejo de ser doador de órgãos. Com ela, sua melhor amiga e sua melhor amiga em festa.

Amer: www.doadores.org.br e @doadores.org.br

QUANDO VO... COLOCA EM PRIMEIRO LUGAR. **VACINE-SE CONTRA A GRIPE**. E VIVA COM MUITA SAÚDE. 30 de abril a 20 de maio. Profissional de saúde. Procure uma unidade de saúde.

ESSA CORRENTE PRECISA DE VOCÊ. **DOE SANGUE.**



THE SEPSIS SIX

1. Give O₂ to keep SATS **above 94%**
2. Take blood cultures
3. Give IV antibiotics
4. Give a fluid challenge
5. Measure lactate
6. Measure urine output

ANY CHILD WHO:

- 1 Is breathing very fast
- 2 Has a 'fit' or convulsion
- 3 Looks mottled, bluish, or pale
- 4 Has a rash that does not fade when you press it
- 5 Is very lethargic or difficult to wake
- 6 Feels abnormally cold to touch

MIGHT HAVE SEPSIS

Call 999 and just ask: could it be sepsis?

The UK Sepsis Trust registered charity number (England & Wales) 1158843.

ANY CHILD UNDER 5 WHO:

- 1 Is not feeding
- 2 Is vomiting repeatedly
- 3 Hasn't had a wee or wet nappy for 12 hours

MIGHT HAVE SEPSIS

If you're worried they're deteriorating call 111 or see your GP

JUST ASK
"COULD IT BE SEPSIS?"
IT'S A SIMPLE QUESTION, BUT IT COULD SAVE A LIFE.



How to prevent sepsis

The role you can play in health care and communities

#sepsis #handhygiene

What is sepsis?

Sepsis arises when an infection alters the body's normal response causing injury to tissue and organs

Life-threatening illness



Injures tissues and organs



Every year sepsis affects



Who is at risk?



Anyone with an infection can develop sepsis but some are more at risk than others



PREGNANT WOMEN



NEONATES



THE ELDERLY



THE IMMUNOSUPPRESSED



PATIENTS WITH CHRONIC DISEASES



HOSPITALIZED PATIENTS

IT'S IN YOUR

HANDS



PREVENT SEPSIS IN HEALTH CARE

Diretrizes de tratamento

Special Articles

Surviving Sepsis Campaign guidelines for management of severe sepsis and septic shock

R. Phillip Dellinger, MD; Jean M. Carlet, MD; Henry Masur, MD; Herwig Gerlach, MD, PhD; Thierry Calandra, MD; Jonathan Cohen, MD; Juan Gea-Banacloche, MD, PhD; Didier Keh, MD; John C. Marshall, MD; Mitchell M. Levy, MD; Gordon D. Rubenfeld, MD, PhD; Jean-Louis Vincent, MD
Guidelines Committee

Special Article

Surviving Sepsis Campaign: International guidelines for management of severe sepsis and septic shock: 2008

R. Phillip Dellinger, MD; Mitchell M. Levy, MD; Jean M. Carlet, MD; Julian Bion, MD; Margaret M. Parker, MD; Roman Jaeschke, MD; Konrad Reinhart, MD; Derek C. Angus, MD, MPH; Christian Brun-Buisson, MD; Richard Beale, MD; Thierry Calandra, MD, PhD; Jean-Francois Dhaenaut, MD; Henry Masur, MD; Gordon D. Rubenfeld, MD, PhD; John C. Marshall, MD; Jonathan Seaman, MD; Janice L. Zimmerman, MD; Jean-Louis Vincent, MD

Surviving Sepsis Campaign: International Guidelines for Management of Severe Sepsis and Septic Shock: 2012

R. Phillip Dellinger, MD¹; Mitchell M. Levy, MD²; Andrew R. Herwig Gerlach, MD, PhD³; Steven M. Opal, MD⁴; Jonathan I. Iovr S. Douglas, MD⁵; Roman Jaeschke, MD¹⁰; Tiffany M. O'Sean R. Townsend, MD¹³; Konrad Reinhart, MD¹⁴; Ruth M. Conroy, MD, PhD¹⁵; Derek C. Angus, MD, MPH¹⁶; Clifford S. Deutschman, MD, PhD¹⁷; Gordon D. Rubenfeld, MD¹⁸; Steven A. Webb, MD, MPH, PhD¹⁹; Jean-Louis Vincent, MD, PhD²²; Rui P. Moreno, MD, PhD²³; at the Surviving Sepsis Campaign International Guidelines Committee including the Pediatric Subgroup*

Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016

Andrew Rhodes, MB BS, MD(Res) (Co-chair)¹; Laura E. Evans, MD, MSc, FCCM (Co-chair)²; Waleed Alhazzani, MD, MSc, FRCPC (methodology chair)³; Mitchell M. Levy, MD, MSc, MCh⁴; Massimo Antonelli, MD⁵; Ricard Ferrer, MD, PhD⁶; Anand Kumar, MD, FCCM⁷; Jonathan E. Sevransky, MD, FCCM⁸; Charles L. Sprung, MD, JD, MCCM⁹; Mark E. Nunnally, MD, FCCM¹⁰; Bram Rochwerg, MD, MSc (Epi)¹¹; Gordon D. Rubenfeld, MD (conflict of interest chair)¹²; Derek C. Angus, MD, MPH, MCCM¹³; Djillali Annane, MD¹⁴; Richard J. Beale, MD, MB BS¹⁵; Geoffrey J. Bellingham, MRCP¹⁶; Gordon R. Bernard, MD¹⁷; Jean-Daniel Chiche, MD¹⁸; Craig Coopersmith, MD, FACS, FCCM¹⁹; Daniel P. De Backer, MD, PhD²⁰; Craig J. French, MB BS²¹; Seitaro Fujishima, MD²²; Herwig Gerlach, MBA, MD, PhD²³; Jorge Luis Hidalgo, MD, MACP, MCCM²⁴; Steven M. Hollenberg, MD, FCCM²⁵; Alan E. Jones, MD²⁶; Dilip R. Karnad, MD, FACP²⁷; Ruth M. Kleinpell, PhD, RN-CC, FCCM²⁸; Younsuck Koh, MD, PhD, FCCM²⁹; Thiago Costa Lisboa, MD³⁰; Flavia R. Machado, MD, PhD³¹; John J. Marini, MD³²; John C. Marshall, MD, FRCSC³³; John E. Mazuski, MD, PhD, FCCM³⁴; Lauralyn A. McIntyre, MD, MSc, FRCPC³⁵; Anthony S. McLean, MB ChB, MD, FRACP, FIFICM³⁶; Sangeeta Mehta, MD³⁷; Rui P. Moreno, MD, PhD³⁸; John Myburgh, MB ChB, MD, PhD, FANZCA, FCICM, FAICD³⁹; Paolo Navalesi, MD⁴⁰; Osamu Nishida, MD, PhD⁴¹; Tiffany M. Osborn, MD, MPH, FCCM⁴²; Anders Perner, MD⁴³; Colleen M. Plunkett⁴⁴; Marco Ranieri, MD⁴⁵; Christa A. Schorr, MSN, RN, FCCM⁴⁶; Maureen A. Seckel, CCRN, CNS, MSN, FCCM⁴⁷; Christopher W. Seymour, MD⁴⁸; Lisa Shieh, MD, PhD⁴⁹; Khalid A. Shukri, MD⁵⁰; Steven Q. Simpson, MD⁵¹; Mervyn Singer, MD⁵²; B. Taylor Thompson, MD⁵³; Sean R. Townsend, MD⁵⁴; Thomas Van der Poll, MD⁵⁵; Jean-Louis Vincent, MD, PhD, FCCM⁵⁶; W. Joost Wiersinga, MD, PhD⁵⁷; Janice L. Zimmerman, MD, MACP, MCCM⁵⁸; R. Phillip Dellinger, MD, MCCM⁵⁹

Diretrizes de tratamento

1-hora

- **Coleta de lactate**
- **Culturas**
- **Antibióticos**
- **Fluidos**
- **Vasopressores**

2 - 4 hours

- **Nova coleta de lactato**

Prevenção de sepse

Prevenir sepse é prevenir infecção

Na comunidade

- Estado nutricional
- Cobertura vacinal
- Controle de comorbidades
- Tratamento de co-infecções
- Infraestrutura
- Água limpa, condições sanitárias e de higiene
- Parto limpo

Em instituições de saúde

- Lavagem de mãos
- Bundles de prevenção

Prevenir sepse é diagnosticar a infecção precocemente

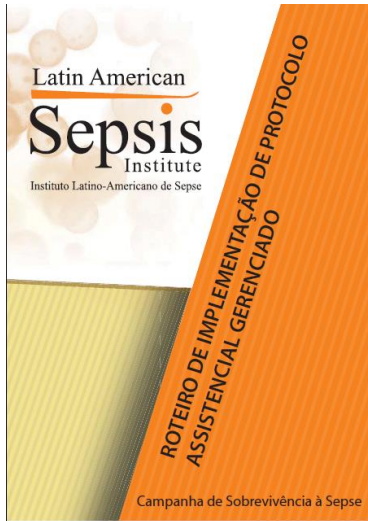
Estrategias em diferentes níveis...

Unidades Básicas de Saúde

Unidades de Pronto Atendimento

Serviços de Emergência

Protocolos de detecção e tratamento



- ✓ Criar o time de sepse
- ✓ Empoderar enfermeiras
- ✓ Motivar farmacistas e pessoal de laboratorio
- ✓ **Definir estratégias de triagem setoriais**
- ✓ Definir protocolo de tratamento
- ✓ Definir guia de antibiotioterapia empírica
- ✓ Divulgação
- ✓ Mecanismos de auditoria e feedback
- ✓ Melhorias com base em planos de ação

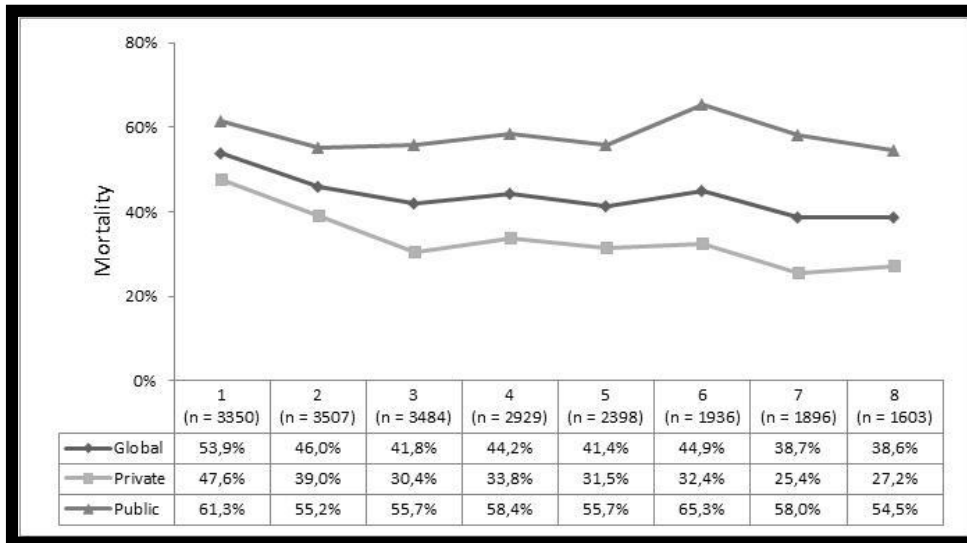
Mudando a realidade usando melhoria de qualidade

Latin America Sepsis Institute database
Intervention: multifaceted sepsis protocol implementation
Period: 2005-2014
N = 21,203 patients

Quality Improvement Initiatives in Sepsis in an Emerging Country: Does the Institution's Main Source of Income Influence the Results? An Analysis of 21,103 Patients

Flavia R. Machado, MD, PhD; Elaine M. Ferreira, MSc, RN; Juliana Lubarino Sousa, RN; Carla Silva, RN; Pierre Schippers, MD; Adriano Pereira, MD, PhD; Ilusca M. Cardoso, MD, MSc; Reinaldo Salomato, MD, PhD; Andre Japiassu, MD, PhD; Nelson Akamine, MD, MSc; Bruno F. Mazza, MD, MSc; Murillo S. C. Assunção, MD, MSc; Hagegas S. Fernandes, MD; Aline Bossa, MSc; Mariana B. Monteiro, RN; Noemi Caixeta; Luciano C. P. Azevedo, MD, PhD; Eliezer Silva, MD, PhD; on behalf of the Latin American Sepsis Institute Network

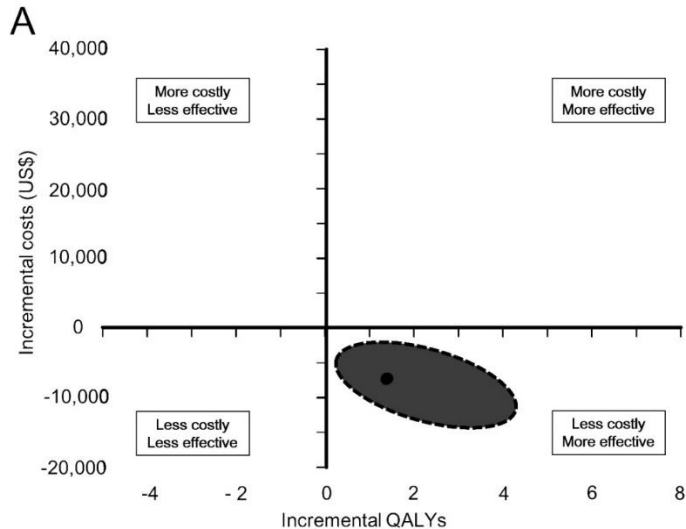
Critical Care Medicine July 6th 2017



Mortality throughout the intervention according to the type of hospital

Danilo Teixeira Noritomi
Otavio T. Ranzani
Mariana Barbosa Monteiro
Elaine Maria Ferreira
Sergio Ricardo Santos
Fernando Leibel
Flavia Ribeiro Machado

Implementation of a multifaceted sepsis education program in an emerging country setting: clinical outcomes and cost-effectiveness in a long-term follow-up study



Custo total por paciente:

Basal: 29.3 (95 %CI 23.9–35.4)

Ultimo trimestre: 17.5 (95 % CI 14.3–21.1) mil dolares
(diferença média -11,815; 95 % CI -18,604 to -5,338)

O que determina redução de letalidade?

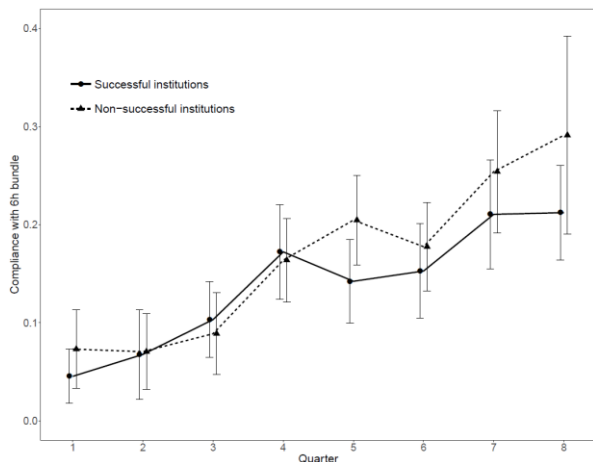
N = 3426

Before after study

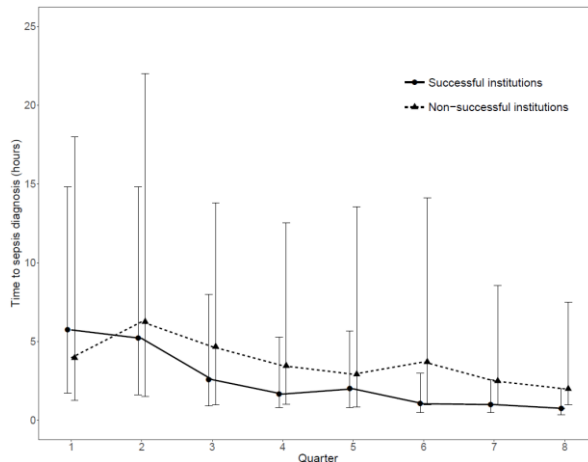
Prospective

9 public hospitais

| | | |
|--------------------------------------|---------------|------------------------------|
| Time to sepsis diagnosis (h) | 0.0005 | 1.015 (1.007 - 1.024) |
| Compliance with the 6h bundle | 0.253 | 0.864 (0.671 - 1.109) |

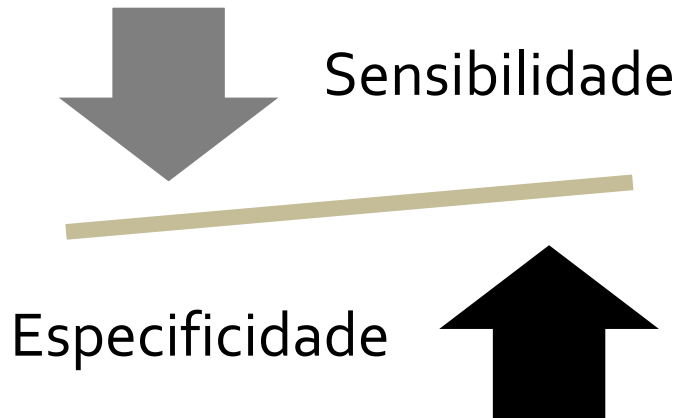


Compliance with the 6 hour bundle throughout the intervention, according to the success of intervention



Time for sepsis diagnosis throughout the intervention, according to the success of intervention

Detecção precoce: qual a melhor estratégia de triage?



The issue with qSOFA - LASI database

NON-ICU patients sepsis and septic shock

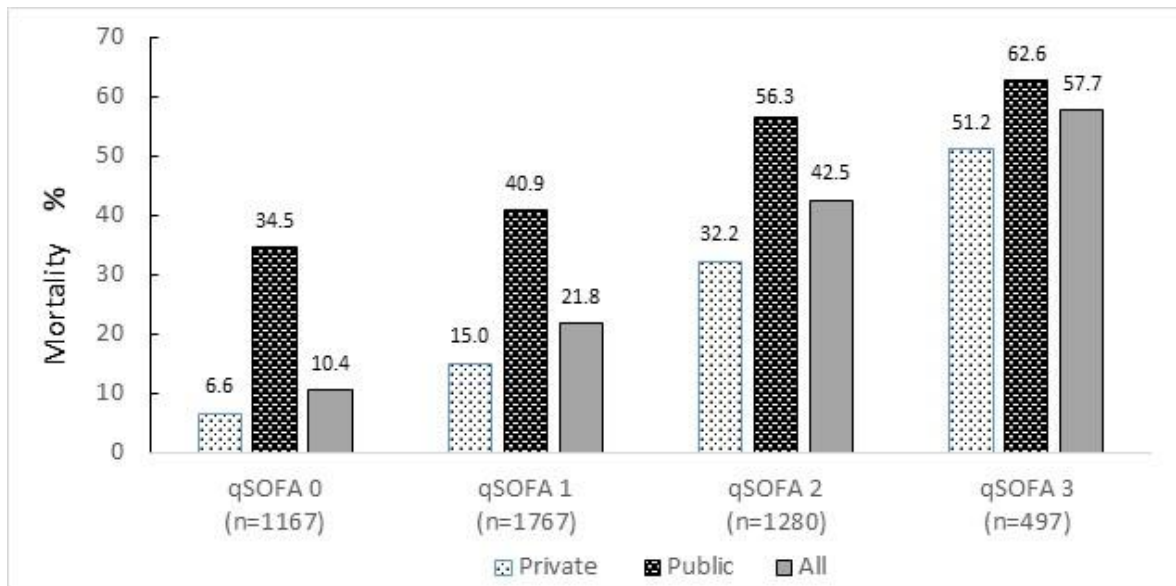


Figure 3 – Mortality rates according to qSOFA score in the cohort of patients with sepsis and septic shock.

THE RORY STAUNTON FOUNDATION

FOR SEPSIS PREVENTION

[HOME](#)

[ABOUT US](#) -

[RORY](#) -

[SEPSIS](#) -

[SEPSIS STORIES](#)

[OUR WORK](#) -

[TAKE ACTION](#) -

[LIBRARY](#) -

[BLOG](#)

[DONATE](#)



CHANGING THE WORLD

Rory's story continues to

help other families

Our Story

On April 01, 2012, our lives changed forever.

Boas iniciativas!



CFM
CONSELHO FEDERAL DE MEDICINA

RECOMENDAÇÃO CFM Nº 6/2014

Recomendar que em todos os níveis de atendimento à saúde sejam estabelecidos protocolos assistenciais para o reconhecimento precoce e o tratamento de pacientes com sepse; a capacitação dos médicos para o enfrentamento deste problema; e a promoção de campanhas de conscientização do público leigo, entre outras providências.

Boas iniciativas!

- ✓ Projeto de lei Vereador Aurelio Nomura – Camara Municipal de São Paulo
- ✓ Projeto PROADI - UPAS
 - Hospital Sirio Libanes
 - Institute of Health Improvement
 - Instituto Latino Americano de Sepse

Conclusões

- ✓ Doença de alta morbidade e letalidade no Brasil.
- ✓ As principais medidas para combatê-la são:
 - Aumento da percepção do problema
 - Prevenção
 - RECONHECIMENTO PRECOCE
 - Tratamento adequado