



Como customizar o
protocolo de sepse em
diferentes realidades?

Cintia M C Grion

Professor adjunto UEL
Presidente SOTIPA 2014-2015

CONFLITOS DE INTERESSE: NENHUM

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

TABLE 8. Recommendations: TABLE 9. Recommendations: Special Considerations in Pediatrics

TABLE 6. Recommendations: Her

G. Fluid Therapy of Severe Sepsis

1. Crystalloids as the initial fluid of choice in t
2. Against the use of hydroxyethyl starches f
3. Albumin in the fluid resuscitation of severe se
4. Initial fluid challenge in patients with sepsis of 30 mL/kg of crystalloids (a portion of th may be needed in some patients (grade 1C)
5. Fluid challenge technique be applied where based on dynamic (eg, change in pulse pres

H. Vasopressors

1. Vasopressor therapy initially to target a me
2. Norepinephrine as the first choice vasopre
3. Epinephrine (added to and potentially subs blood pressure (grade 2B).
4. Vasopressin 0.03 units/minute can be add dosage (UG).
5. Low dose vasopressin is not recommended vasopressin doses higher than 0.03-0.04 (MAP with other vasopressor agents) (UG).
6. Dopamine as an alternative vasopressor at tachyarrhythmias and absolute or relative t
7. Phenylephrine is not recommended in the associated with serious arrhythmias, (b) ca therapy when combined inotrope/vasopres
8. Low-dose dopamine should not be used fo
9. All patients requiring vasopressors have ar

I. Inotropic Therapy

1. A trial of dobutamine infusion up to 20 mic of (a) myocardial dysfunction as suggestec hypoperfusion, despite achieving adequate
2. Not using a strategy to increase cardiac in

J. Corticosteroids

1. Not using intravenous hydrocortisone to tri therapy are able to restore hemodynamic s intravenous hydrocortisone alone at a dose
2. Not using the ACTH stimulation test to ide
3. In treated patients hydrocortisone tapered
4. Corticosteroids not be administered for the
5. When hydrocortisone is given, use continu

K. Blood Product Administration

1. Once tissue hypoperfusion has resol hypoxemia, acute hemorrhage, or isc hemoglobin concentration decrease:
2. Not using erythropoietin as a specific
3. Fresh frozen plasma not be used to c procedures (grade 2D).
4. Not using antithrombin for the treatr
5. In patients with severe sepsis, admin of apparent bleeding. We suggest pr has a significant risk of bleeding. Hig or invasive procedures (grade 2D).

L. Immunoglobulins

1. Not using intravenous immunoglobul

M. Selenium

1. Not using intravenous selenium for t

N. History of Recommendations Re

A history of the evolution of SSC rec

O. Mechanical Ventilation of Sepsis

1. Target a tidal volume of 6 mL/kg per
2. Plateau pressures be measured in pi lung be ≤ 30 cm H₂O (grade 1B).
3. Positive end-expiratory pressure (PE
4. Strategies based on higher rather th ARDS (grade 2C).
5. Recruitment maneuvers be used in s
6. Prone positioning be used in sepsis-experience with such practices (grad
7. That mechanically ventilated sepsis p aspiration risk and to prevent the de
8. That noninvasive mask ventilation (N have been carefully considered and i
9. That a weaning protocol be in place: breathing trials regularly to evaluate: arousable; b) hemodynamically stable and end-expiratory pressure require nasal cannula. If the spontaneous br
10. Against the routine use of the pulmo
11. A conservative rather than liberal fluid tissue hypoperfusion (grade 1C).
12. In the absence of specific indications su

P. Sedation, Analgesia, and Neuron

1. Continuous or intermittent sedation be r
2. Neuromuscular blocking agents (NM prolonged neuromuscular blockade f required or continuous infusion with

A. Initial Resuscitation

1. For respiratory distress and hypoxemia start with face mask oxygen or if needed and available, high flow nasal cannula oxygen or nasopharyngeal CPAP (NP CPAP). For improved circulation, peripheral intravenous access or intraosseous access can be used for fluid resuscitation and inotrope infusion when a central line is not available. If mechanical ventilation is required then cardiovascular instability during intubation is less likely after appropriate cardiovascular resuscitation (grade 2C).
2. Initial therapeutic end points of resuscitation of septic shock: capillary refill of ≤ 2 secs, normal blood pressure for age, normal pulses with no differential between peripheral and central pulses, warm extremities, urine output >1 mL/kg⁻¹hr⁻¹, and normal mental status. Scvo₂ saturation $\geq 70\%$ and cardiac index between 3.3 and 6.0 L/min/m² should be targeted thereafter (grade 2C).
3. Follow American College of Critical Care Medicine-Pediatric Life Support (ACCM-PALS) guidelines for the management of septic shock (grade 1C).
4. Evaluate for and reverse pneumothorax, pericardial tamponade, or endocrine emergencies in patients with refractory shock (grade 1C).

B. Antibiotics and Source Control

1. Empiric antibiotics be administered within 1 hr of the identification of severe sepsis. Blood cultures should be obtained before administering antibiotics when possible but this should not delay administration of antibiotics. The empiric drug choice should be changed as epidemic and endemic ecologies dictate (eg H1N1, MRSA, chloroquine resistant malaria, penicillin-resistant pneumococci, recent ICU stay, neutropenia) (grade 1D).
2. Clindamycin and anti-toxin therapies for toxic shock syndromes with refractory hypotension (grade 2D).
3. Early and aggressive source control (grade 1D).
4. *Clostridium difficile* colitis should be treated with enteral antibiotics if tolerated. Oral vancomycin is preferred for severe disease (grade 1A).

C. Fluid Resuscitation

1. In the industrialized world with access to inotropes and mechanical ventilation, initial resuscitation of hypovolemic shock begins with infusion of isotonic crystalloids or albumin with boluses of up to 20 mL/kg crystalloids (or albumin equivalent) over 5–10 minutes, titrated to reversing hypotension, increasing urine output, and attaining normal capillary refill, peripheral pulses, and level of consciousness without inducing hepatomegaly or rales. If hepatomegaly or rales exist then inotropic support should be implemented, not fluid resuscitation. In non-hypotensive children with severe hemolytic anemia (severe malaria or sickle cell crises) blood transfusion is considered superior to crystalloid or albumin bolusing (grade 2C).

D. Inotropes/Vasopressors/Vasodilators

1. Begin peripheral inotropic support until central venous access can be attained in children who are not responsive to fluid resuscitation (grade 2C).
2. Patients with low cardiac output and elevated systemic vascular resistance states with normal blood pressure be given vasodilator therapies in addition to inotropes (grade 2C).

E. Extracorporeal Membrane Oxygenation (ECMO)

1. Consider ECMO for refractory pediatric septic shock and respiratory failure (grade 2C).

F. Corticosteroids

1. Timely hydrocortisone therapy in children with fluid refractory, catecholamine resistant shock and suspected or proven absolute (classic) adrenal insufficiency (grade 1A).

G. Protein C and Activated Protein Concentrate

No recommendation as no longer available.

H. Blood Products and Plasma Therapies

1. Similar hemoglobin targets in children as in adults. During resuscitation of low superior vena cava oxygen saturation shock ($<70\%$), hemoglobin levels of 10 g/dL are targeted. After stabilization and recovery from shock and hypoxemia then a lower target >70 g/dL can be considered reasonable (grade 1B).
2. Similar platelet transfusion targets in children as in adults (grade 2C).
3. Use plasma therapies in children to correct sepsis-induced thrombotic purpura disorders, including progressive disseminated intravascular coagulation, secondary thrombotic microangiopathy, and thrombotic thrombocytopenic purpura (grade 2C).

I. Mechanical Ventilation.

1. Lung-protective strategies during mechanical ventilation (grade 2C)

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

- Ressuscitação inicial e controle da infecção
 - 19 recomendações
 - 3 (subdividas em “a” e “b”)
- Suporte hemodinâmico e terapia adjuvante
 - 21
- Outras terapias de suporte
 - 41
- Considerações para pediatria
 - 24

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

SURVIVING SEPSIS CAMPAIGN BUNDLES

TO BE COMPLETED WITHIN 3 HOURS:

- 1) Measure lactate level
- 2) Obtain blood cultures prior to administration of antibiotics
- 3) Administer broad spectrum antibiotics
- 4) Administer 30 mL/kg crystalloid for hypotension or lactate ≥ 4 mmol/L

TO BE COMPLETED WITHIN 6 HOURS:

- 5) Apply vasopressors (for hypotension that does not respond to initial fluid resuscitation) to maintain a mean arterial pressure (MAP) ≥ 65 mm Hg
- 6) In the event of persistent arterial hypotension despite volume resuscitation (septic shock) or initial lactate ≥ 4 mmol/L (36 mg/dL):
 - Measure central venous pressure (CVP)*
 - Measure central venous oxygen saturation (ScvO₂)*
- 7) Remeasure lactate if initial lactate was elevated*

*Targets for quantitative resuscitation included in the guidelines are CVP of ≥ 8 mm Hg, ScvO₂ of $\geq 70\%$, and normalization of lactate.

Bundles are selected sets of interventions or processes of care distilled from evidence-based practice guidelines and targeted to be achieved over a fixed period of time. Bundles should act as a cohesive unit to ensure all steps of care are consistently delivered. The Surviving Sepsis Campaign (SSC) and the IHI used key recom-

Performance Improvement in the Management of Sepsis

Christa Schorr, RN, MSN

Implementation of clinical practice guidelines in sepsis is challenging for many institutions for a variety of reasons including lack of administrative support, staff resistance, unfamiliar equipment, and inability to apply sepsis education in the clinical setting. Severe sepsis guideline implementation may be facilitated by delivering small blocks of information, building on initial successes, and using the bundle approach.

Performance Improvement in the Management of Sepsis

Christa Schorr, RN, MSN

Critical steps prior to protocol implementation

- Obtain administrative support
- Evaluate interdepartmental interactions
- Develop and relay a firm understanding of the goals
- Establish a formal interactive relationship with the emergency department and the critical care unit
- Collaborate with the general/internal medicine team
- Identify champions/unit protocol leaders
- Provide a unit-, hospital-, and system-wide education campaign

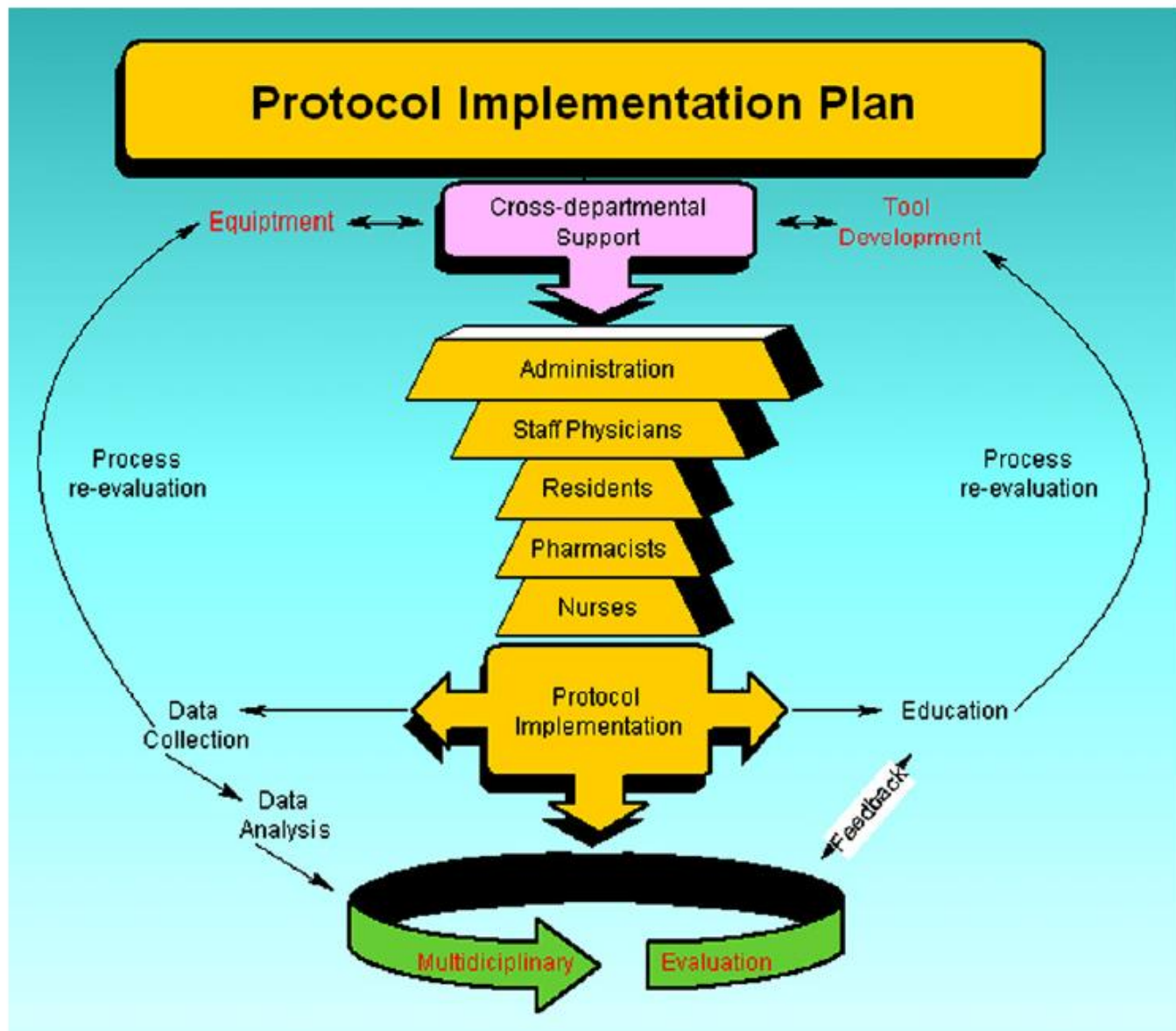


Fig. 2. An approach to protocol implementation. (From Biomerieux. Townsend SR, Dellinger RP, Levy MM, et al, editors. Surviving Sepsis Campaign: Implementing the Surviving Sepsis Campaign. Des Plaines, IL: Society of Critical Care Medicine, International Sepsis Forum, and European Society of Intensive Care Medicine; 2005.)

Roteiro de implementação de protocolo assistencial gerenciado

Quadro 1. Delineamento das fases necessárias a execução do projeto

FASE	DEFINIÇÃO	DETALHAMENTO	DURAÇÃO
Fase 1	Avaliação e preparo da infraestrutura e processos	<p>Criação do grupo de sepsis da instituição</p> <p>Elaboração de protocolo de tratamento</p> <p>Definição geográfica da abrangência do projeto – estratégias de triagem</p> <p>Definição geográfica da abrangência do projeto – locais para coleta de dados</p> <p>Elaboração do guia de antibioticoterapia empírica para a instituição</p> <p>Adequação da rotina de dispensação da primeira dose de antibiótico</p> <p>Adequação da rotina laboratorial para coleta de exames</p> <p>Adequação do setor de suprimentos para fornecimento do material necessário ao protocolo de atendimento</p> <p>Adequação do banco de sangue para fornecimento adequado</p> <p>Rotina de priorização no atendimento em centro cirúrgico</p> <p>Produção do material gráfico e de suporte necessário para divulgação e condução da campanha</p> <p>Definição e treinamento do profissional responsável pela coleta dos dados</p>	3 mês
Fase 2	Estabelecimento da aderência e mortalidade basais	Coleta de dados basais de aderência e mortalidade	3 meses
Fase 3	Instituição do programa de educação continuada e ações para melhora da aderência ao tratamento	<p>Lançamento oficial da campanha na instituição</p> <p>Programa de educação continuada</p> <p>Coleta de dados e divulgação dos resultados coletivos</p>	18 meses

Quadro 2 – Indicadores a serem utilizados no protocolo – pacote 6 horas

Indicador	Descrição	Definição
Lactato	Coleta de lactato nas seis primeiras horas	Numerador – número de pacientes que colheram lactato dentro das seis primeiras horas do diagnóstico da sepse Denominador – todos os pacientes com sepse grave/choque séptico
Hemoculturas	Coleta de hemocultura antes de antibioticoterapia. Culturas colhidas posteriormente a administração do antibiótico não deverão ser computadas	Numerador – número de pacientes que colheram hemocultura antes do início da antibioticoterapia. Denominador – todos os pacientes com sepse grave/choque séptico
Antibiótico	Administração correta de antibioticoterapia, considerando-se antibióticos administrados em até 96 horas antes do diagnóstico da sepse grave ou dentro das primeiras 24 horas desse diagnóstico.	Numerador – número de pacientes em que a administração de antibioticoterapia de amplo espectro ocorreu dentro da primeira hora do diagnóstico da sepse nos pacientes das enfermarias e das UTI e dentro das três primeiras horas nos pacientes do pronto socorro. Denominador – todos os pacientes com sepse grave/choque séptico
Volume/vasopressor	Infusão de 30 ml/kg peso de cristalóides nas seis primeiras horas de diagnóstico em pacientes com lactato acima de 2 x o valor normal ou com pressão arterial média abaixo de 65 mmHg E uso de vasopressores naqueles que permanecerem hipotensos após volume.	Numerador - pacientes que receberam pelo menos 30 ml/Kg de cristalóides E vasopressores (se indicado) para manter pressão arterial média acima de 65 mmHg Denominador – pacientes com lactato acima de 2 x o valor normal ou com pressão arterial média acima de 65 mmHg. Pacientes em quem não foi colhido lactato (caso estejam normotensos)
Pressão venosa central	Monitorizar e obter pressão venosa central entre 8-12 mmHg para pacientes em ventilação espontânea ou 12-15 mmHg para pacientes em ventilação mecânica naqueles que tinham níveis de lactato acima de 2 x o valor normal ou que necessitaram vasopressores para manter pressão arterial acima de 65 mmHg.	Numerador – pacientes que obtiveram os níveis mencionados dentro de 6 horas de diagnóstico da sepse Denominador - pacientes com lactato acima de 2 x o valor normal ou que necessitaram vasopressores para manter pressão arterial média acima de 65 mmHg. Pacientes em quem não foi colhido lactato (caso estejam normotensos). Pacientes em quem não foi colhido lactato (caso estejam normotensos) ou que não receberam volume ou vasopressores, embora tivessem indicação.
Saturação venosa de oxigênio	Monitorizar e obter saturação venosa central acima de 70% em pacientes que tinham níveis de lactato acima de 2 x o valor normal ou que necessitaram vasopressores para manter pressão arterial acima de 65 mmHg.	Numerador – pacientes que obtiveram os níveis mencionados dentro de 6 horas de diagnóstico da sepse Denominador - pacientes com lactato acima de 2 x o valor normal ou que necessitaram vasopressores para manter pressão arterial média acima de 65 mmHg. Pacientes em quem não foi colhido lactato (caso estejam normotensos). Pacientes em quem não foi colhido lactato (caso estejam normotensos) ou que não receberam volume ou vasopressores, embora tivessem indicação.

Why don't physicians adhere to guideline recommendations in practice? An analysis of barriers among Dutch general practitioners

Marjolein Lugtenberg^{*1}, Judith M Zegers-van Schaick^{1,2}, Gert P Westert^{1,3} and Jako S Burgers⁴

Table 2: Perceived barriers* to the implementation of key recommendations from selected guidelines

Perceived barriers	Key recommendations (N = 56)		Clinical guidelines (N = 12)	
	N	%	N	%
Knowledge	26	46	10	83
Lack of knowledge	26	46	10	83
Lack of awareness/familiarity	26	46	10	83
Attitude	51	91	12	100
Lack of agreement with guideline recommendation	38	68	12	100
Interpretation/lack of evidence**	13	23	9	75
Lack of applicability	32	57	12	100
Lack of self-efficacy	11	20	8	67
Lack of outcome expectancy	17	30	10	83
Inertia of previous practice/lack of motivation	15	27	8	67
Behaviour	46	82	12	100
Patient factors	22	40	11	92
Patients preferences/demands	14	25	9	75
Patients ability/behaviour**	11	20	8	67
Guideline recommendation factors	24	43	11	92
Unclear/ambiguous**	18	32	11	92
Incomplete/not up to date**	8	14	4	33
Not easy to use/too complex**	3	5	3	25
Environmental factors	29	52	12	100
Lack of time/time pressure	7	13	5	42
Lack of resources/materials	7	13	5	42
Organisational constraints	20	36	11	92
Lack of reimbursement	2	4	2	17

* Barriers were classified according to the framework of Cabana *et al.* (1999) with some additional types of sub-barriers (**)

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

B. Screening for Sepsis and Performance Improvement

1. Routine screening of potentially infected seriously ill patients for severe sepsis to allow earlier implementation of therapy (grade 1C).
2. Hospital-based performance improvement efforts in severe sepsis (UG).

EQUIPE DE ENFERMAGEM

Seu paciente tem algum desses sinais??

Hipertermia ($>38^{\circ}\text{C}$)

Taquipnéia (>20 ipm)

Hipotermia ($<35^{\circ}\text{C}$)

Dispnéia ou dessaturação
($\text{SpO}_2 < 90$)

Oligúria (diurese $< 0,5\text{mL/Kg/Hora}$)

Taquicardia (>90 bpm)

Rebaixamento do nível de
consciência

Hipotensão (PAS $< 90\text{mmHg}$ ou PAM < 65)



Fique atenta, pode ser SEPSE!!

Notifique a equipe médica usando a ficha de triagem do PROTOCOLO DE SEPSE

CAMPANHA DE SOBREVIVÊNCIA A SEPSE

Latin American
Sepsis
Institute

TEMPO É VIDA!



Ministério
da Saúde

EQUIPE MÉDICA

Seu paciente tem algum desses sinais??

Hipertermia ($>38^{\circ}\text{C}$)

Taquipnéia (>20 ipm)

Hipotermia ($<35^{\circ}\text{C}$)

Dispnéia ou dessaturação
($\text{SpO}_2 < 90$)

Oligúria (diurese $< 0,5\text{mL/Kg/Hora}$)

Taquicardia (>90 bpm)

Rebaixamento do nível de
consciência

Hipotensão (PAS $< 90\text{mmHg}$ ou PAM < 65)



Fique alerta, pode ser SEPSE!!

Consulte o PROTOCOLO DE SEPSE desta instituição

CAMPANHA DE SOBREVIVÊNCIA A SEPSE

Latin American
Sepsis
Institute

TEMPO É VIDA!



Ministério
da Saúde

Reduced mortality after the implementation of a protocol for the early detection of severe sepsis

Glauco A. Westphal MD, PhD^{a,b}, Álvaro Koenig MD^{b,*}, Milton Caldeira Filho MD^a, Janaína Feijó MD^a, Louise Trindade de Oliveira^a, Fernanda Nunes^a, Kênia Fujiwara MD^b, Sheila Fonseca Martins^a, Anderson R. Roman Gonçalves MD, PhD^a

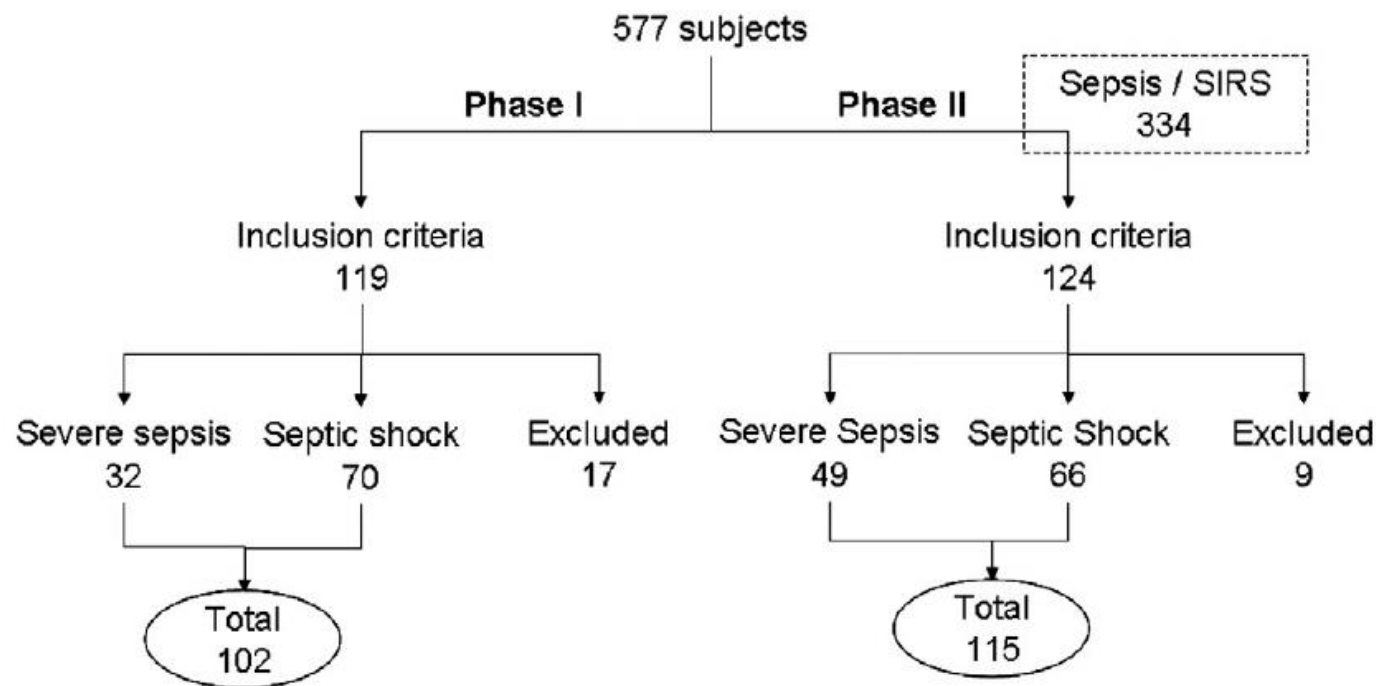


Fig. 1 Distribution of the patients evaluated, by study phase and inclusion criteria.

Reduced mortality after the implementation of a protocol for the early detection of severe sepsis

Glauco A. Westphal MD, PhD^{a,b}, Álvaro Koenig MD^{b,*}, Milton Caldeira Filho MD^a, Janaína Feijó MD^a, Louise Trindade de Oliveira^a, Fernanda Nunes^a, Kênia Fujiwara MD^b, Sheila Fonseca Martins^a, Anderson R. Roman Gonçalves MD, PhD^a

Attachment 1 – General form for record of Expanded Clinical Signs of Infection

Data:

Time:

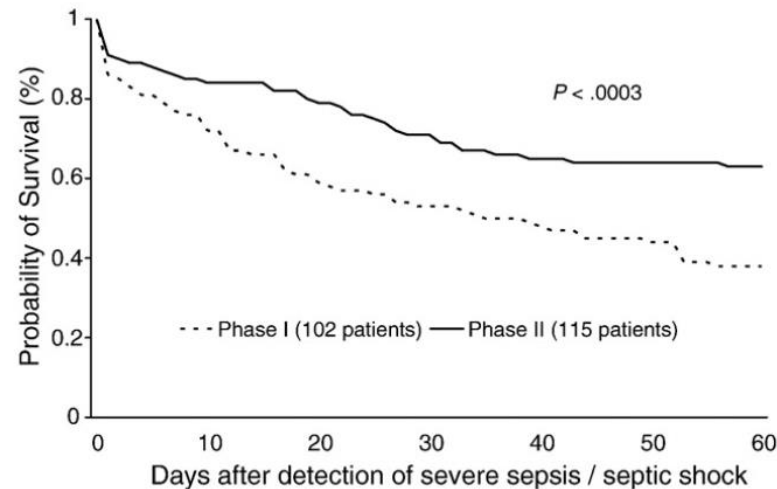
Room/bed	AP Hypotension- SAP < 90	HR Tachycardia >90 bpm	RR Tachypnea > 20 bpm	Temperature >38.5 °C or <36 °C	Oliguria (<0,5 ml/kg/h)	Mental confusion psychosis	Supplementary oxygen
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

AP – arterial pressure; SAP – systolic arterial pressure; HR- heart rate; RR – respiratory rate.

Obs: If two or more items present alterations, register it in red and tell the nurse.

Reduced mortality after the implementation of a protocol for the early detection of severe sepsis

Glauco A. Westphal MD, PhD^{a,b}, Álvaro Koenig MD^{b,*}, Milton Caldeira Filho MD^a, Janaína Feijó MD^a, Louise Trindade de Oliveira^a, Fernanda Nunes^a, Kênia Fujiwara MD^b, Sheila Fonseca Martins^a, Anderson R. Roman Gonçalves MD, PhD^a



Study phase	Number of patients at risk for sepsis						
	baseline	Day 10	Day 20	Day 30	Day 40	Day 50	Day 60
Phase I	102	79	60	54	49	45	39
Phase II	115	103	97	87	83	79	73

Fig. 2 Probability of survival in patients with severe sepsis or septic shock during Phase I (dotted line) and Phase II (solid line), according to the time elapsed after the detection of sepsis ($P < .001$).

similar between the 2 phases of the study (Table 1). The mean time elapsed between the identification of the first signs of sepsis risk and the detection of sepsis was longer in phase I than in phase II (34 vs 11 hours; $P < .001$). The

Organisational culture: variation across hospitals and connection to patient safety climate

T Speroff, S Nwosu, R Greevy, et al.

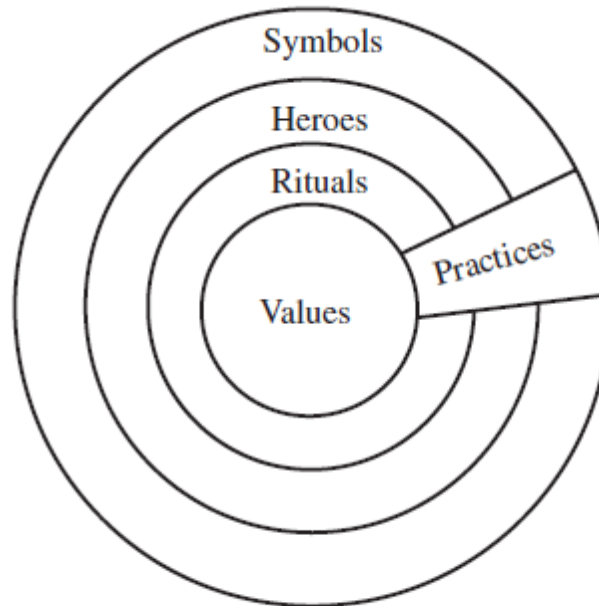
Table 6 Correlation between organisational culture and Safety Attitudes Questionnaire, Safety Climate Survey, and Information and Analysis scales

Correlation (r) matrix	Respondent level		Intensive care unit level		Hospital level	
	Group	Hierarchical	Group	Hierarchical	Group	Hierarchical
SAQ overall	0.49‡	−0.48‡	0.66‡	−0.57‡	0.69‡	−0.63‡
Teamwork Climate	0.41‡	−0.39‡	0.54‡	−0.43‡	0.57‡	−0.49†
Safety Climate	0.40‡	−0.39‡	0.56‡	−0.47‡	0.51‡	−0.43†
Job Satisfaction	0.55‡	−0.49‡	0.71‡	−0.63‡	0.74‡	−0.66‡
Stress Recognition	−0.12‡	0.10‡	−0.30*	0.35†	−0.42†	0.47†
Perceptions of Management	0.48‡	−0.47‡	0.68‡	−0.59‡	0.75‡	−0.68‡
Working Conditions	0.40‡	−0.42‡	0.60‡	−0.63‡	0.62‡	−0.73‡
Safety Climate	0.47‡	−0.48‡	0.64‡	−0.58‡	0.65‡	−0.63‡
Information and Analysis	0.33‡	−0.37‡	0.56‡	−0.56‡	0.55‡	−0.54*

*p<0.05; †p<0.01; ‡p<0.001.

Organizational culture and its implications for infection prevention and control in healthcare institutions

S. De Bono^a, G. Heling^a, M.A. Borg^{b,*}



Hofstede's representation of organizational culture.

Why haven't I changed that?

Therapeutic inertia in general practice

Table 4. A CBT analysis of the four main emotional reactions to a practice gap

Doctor emotion	Probable belief	Recommended influence to focus on	Desired emotional change
Complacency	I am sure I am doing fine, so I do not have to change	Motivation	Surprise or anxiety
Irritation	I am sick of experts telling me what to do when I have been doing okay for years	Motivation	Surprise or anxiety
Anxiety	I do not know how to fix it I do not know if I am capable of fixing it	Ability	Contentment
Disappointment	I should be doing better than this	Ability	Contentment

Why haven't I changed that?

Therapeutic inertia in general practice

Table 2. NICS choosing the right approach

Identified barrier	Tailored intervention/s
Lack of knowledge	Educational courses Decisional aids
Perception/reality mismatch	Audit and feedback Reminders
Lack of motivation	Incentives/sanctions Leadership
Beliefs/attitudes	Peer influence Opinion leaders
Systems of care	Process re-design

SPREAD - Sepsis PREvalence Assessment Database

Perfil epidemiológico da sepse grave e choque séptico
dentro de UTI brasileiras

Flavia R. Machado, Fernanda Carrara, Alexandre C Biasi, Fernando Bozza,
Juliana Lubarino, Reinaldo Salomao, Elaine M. Ferreira, , Derek Angus,
Luciano Cesar Pontes Azevedo e investigadores do estudo SPREAD



Latin American
Sepsis
Institute





SPREAD - Sepsis PREvalence Assessment Database

Flavia R. Machado, Alexandre C Biasi, Fernanda Carrara, Fernando Bozza, Derek Angus, Juliana Lubarino, Elaine M Ferreira, Reinaldo Salomao, Luciano Cesar Pontes Azevedo e investigadores do estudo SPREAD

Supported by: AMIBnet

- One-day prevalence study
- Cross-sectional, multicenter, nationwide
- Primary objective: to assess the prevalence of severe sepsis and septic shock at the ICUs in hospitals from different Brazilian geographic regions.



MORTALIDADE POR SEPSE NO BRASIL E NO MUNDO

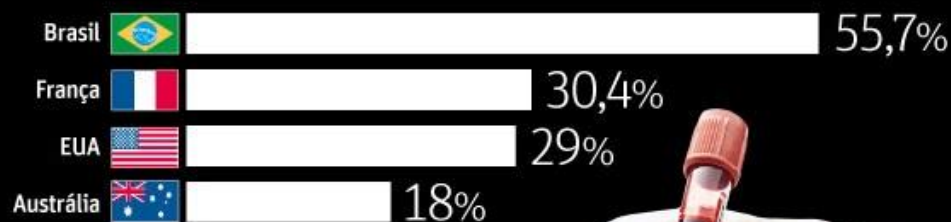
Uma pesquisa feita
em 229 UTIs (Unidades
de Terapia Intensiva)
brasileiras mostra a taxa
de mortalidade por sepse
(infecção generalizada)



POR REGIÃO



TAXAS PELO MUNDO





SPREAD - Sepsis PREvalence Assessment Database

Resources score - criteria: always available

- Blood gas analysis in 3 hours
- Lactate results in 3 hours
- Blood + urine + tracheal secretion (quantitative or qualitative) cultures
- Third generation cephalosporin + carbapenems OR piperacilin/tazobactam + vancomicine OR teicoplanin OR linezolid
- Cristaloids
- Norephinephrine
- Central line catheter (single or double lumen)
- Central venous pressure





SPREAD - Sepsis PREvalence Assessment Database

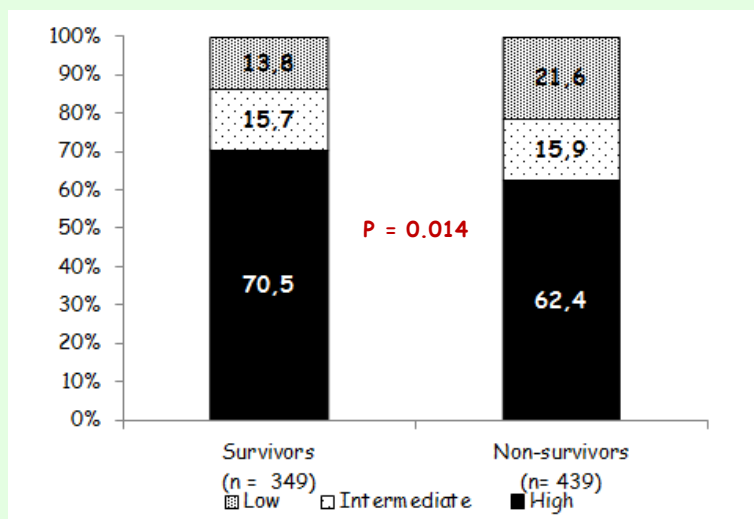
Resources score

All 8 items	➡	HIGH AVAILABILITY
6 to 7 items	➡	INTERMEDIATE AVAILABILITY
≤ 5 items	➡	LOW AVAILABILITY





SPREAD - Sepsis PREvalence Assessment Database



Resources score according to outcome

Mortality rates according to resources availability

High = 52.7%
Intermediate = 56.0%
Low = 66.4%



Projeto
CONTROLANDO A INFECÇÃO,
SOBREVIVENDO À SEPSE
Hospital Universitário do Norte do
Paraná
Londrina (PR)

www.sepsisnet.org



Tel: (11) 3721 - 6709
Rua Pedro de Toledo, 980 - Cj. 94 - São Paulo - SP
Cep: 04039-000

Relatório
Outubro - 2014

INSTITUTO LATINO AMERICANO DE SEPSE

Tabela 1. Características gerais dos pacientes incluídos na instituição

Característica	Instituição 2º Trimestre (n=12)	Instituição 3º Trimestre (n=40)	Instituição 4º Trimestre (n=27)	Dados Brasil Hospitais públicos (n=9212)	Dados Brasil (ILAS 2005-2014) (n=19182)	Dados mundiais*
Tempo de disfunção (horas)						
Tratado na UTI (PS)	-	-	-	7,5±14,8	4,3±9,8	-
Tratado na UTI (Enf)	-	-	-	11,8±19,3	8,8±15,7	-
Sepse na UTI	-	-	-	12,2±18,3	10,1±16,5	-
Tratado no PS	7,9±13,8	8,0±16,2	3,1±8,5	6,3±13,5	5,3±11,3	-
Tratado na Enf	-	N=1	-	10,6±17,1	8,7±14,5	-
Global	7,9±13,8	7,8±16,0	3,1±8,5	9,2±16,6	6,8±13,3	-
Tempo para início de ATB (horas)						
Tratado na UTI (PS)	-	-	-	3,5±6,7	2,1±4,8	-
Tratado na UTI (Enf)	-	-	-	4,9±9,1	3,5±7,4	-
Sepse na UTI	-	-	-	4,3±7,7	3,2±7,2	-
Tratado no PS	4,5±4,2	5,7±5,9	7,7±14,0	3,0±6,3	2,7±5,8	-
Tratado na Enf	-	-	-	4,5±8,8	3,7±7,9	-
Global	4,5±4,2	5,7±5,9	7,7±14,0	4,0±7,8	2,8±6,3	-

SOFA – *Sequential Organ Failure Assessment*, APACHE II – *Acute Physiologic Chronic Health Evaluation*, VM - ventilação mecânica, ITU - infecção trato urinário, UTI - unidade de terapia intensiva, ATB - antibiótico. Dados expressos em média ± desvio padrão, mediana (25%-75%) ou percentagem. *Dados da *Surviving Sepsis Campaign* (Crit Care Med. 2010 38(2):367-74).

INSTITUTO LATINO AMERICANO DE SEPSE

b. DADOS DE MORTALIDADE

Tabela 3. Mortalidade por gravidade e local de desenvolvimento

	Instituição 2º Trimestre (n=12)	Instituição 3º Trimestre (n=40)	Instituição 4º Trimestre (n=27)	Dados Brasil Hospitais públicos (n=9212)	Dados Brasil (ILAS 2005-2014) (n=19182)	Dados mundiais*
Gravidade						
Sepse grave	57,1%	65,0%	28,6%	45,8%	32,9%	23,9%
Choque séptico	100,0%	92,3%	61,5%	72,5%	64,1%	37,4%
Local de desenvolvimento						
Tratado na UTI (PS)	-	-	-	58,7%	37,8%	26,5%
Tratado na UTI (Enf)	-	-	-	64,8%	53,2%	39,8%
Sepse na UTI	-	-	-	62,5%	57,1%	42,8%
Tratado no PS	62,5%	75,0%	55,6%	48,4%	43,3%	-
Tratado na Enf	-	100,0%	-	48,8%	39,9%	-
Global	62,5%	75,8%	55,6%	58,5%	46,0%	30,8%

UTI - unidade de terapia intensiva. Dados expressos em percentagem. *Dados da *Surviving Sepsis Campaign* (Crit Care Med. 2010 38(2):367-74).

- Implementando um protocolo institucional
 - Envolver líderes locais
 - Adotar diretrizes baseadas em evidências – viáveis e atrativas
 - Antecipar as principais dificuldades
 - Selecionar estratégias e soluções – dentro do orçamento e das possibilidades
 - Definir indicadores de sucesso
 - Monitorar o progresso com *feed back* em tempos regulares
 - Se as mudanças forem incorporadas na organização cultural da instituição elas serão duradouras

- Pontos importantes
 - Colaboração (Time da Sepsis)
 - Treinamento, treinamento, treinamento, treinamento
 - Coleta de dados em tempo real – auditoria do processo
 - **GERENTE DE PROTOCOLO – CASE MANAGER**
 - Avaliação dos processos – *feed-back*



OBRIGADA

cgrion@uel.br