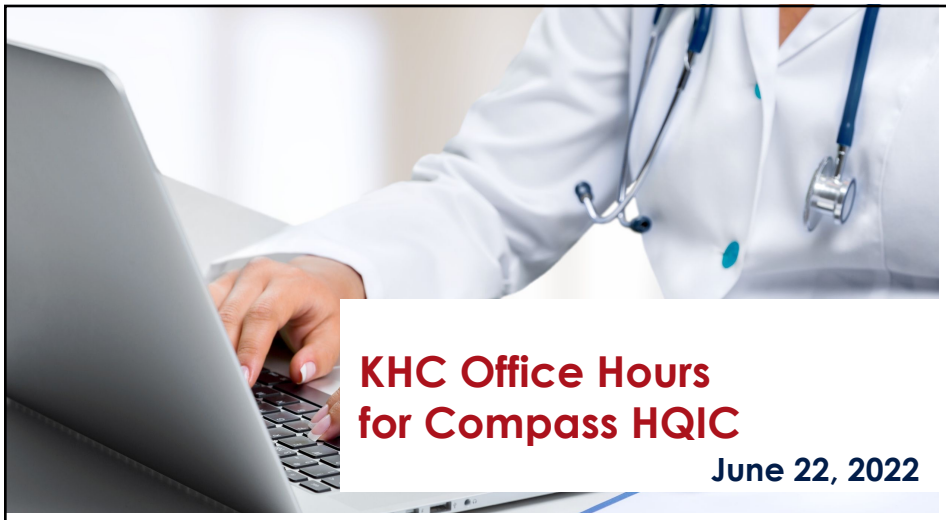

KHC Office Hours for Compass HQIC

June 22, 2022

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1

Agenda

- Welcome and Announcements
- Featured Topic: Reaching and Engaging Physicians
- Data and Program Updates
- Resources, Upcoming Events, and Next Steps

June 22, 2022

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KHC Compass HQIC Team and Presenters:

Mandy Johnson
Program Director of Quality Initiatives

Eric Cook-Wiens
Data & Measurement Director

Erin McGuire
Quality Improvement Advisor

Heidi Courson
Quality Improvement Advisor

Special Guest

Steven Q. Simpson, MD

Senior Medical Advisor for Sepsis Alliance
Professor of Medicine, The University of Kansas Medical Center

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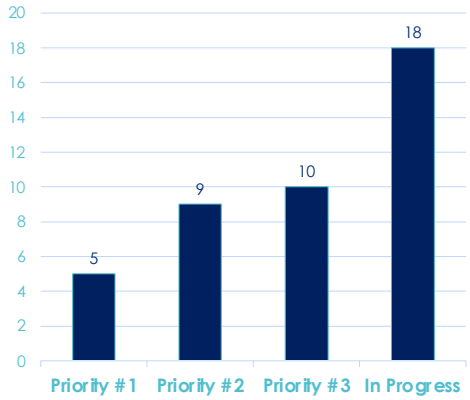
3

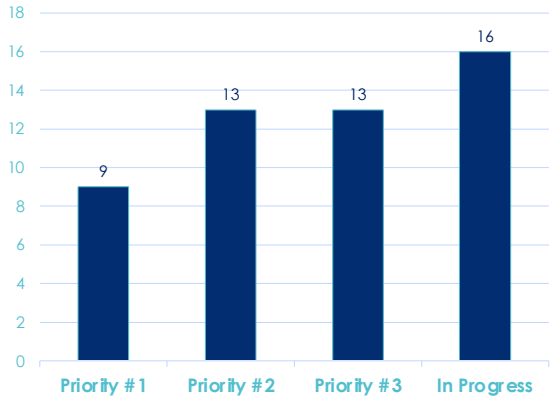
Sepsis on Quality Improvement Workplan

51 of 92 Kansas hospitals in Compass HQIC selected sepsis as a top 3 priority in 2022

2021 QIWP



2022 QIWP



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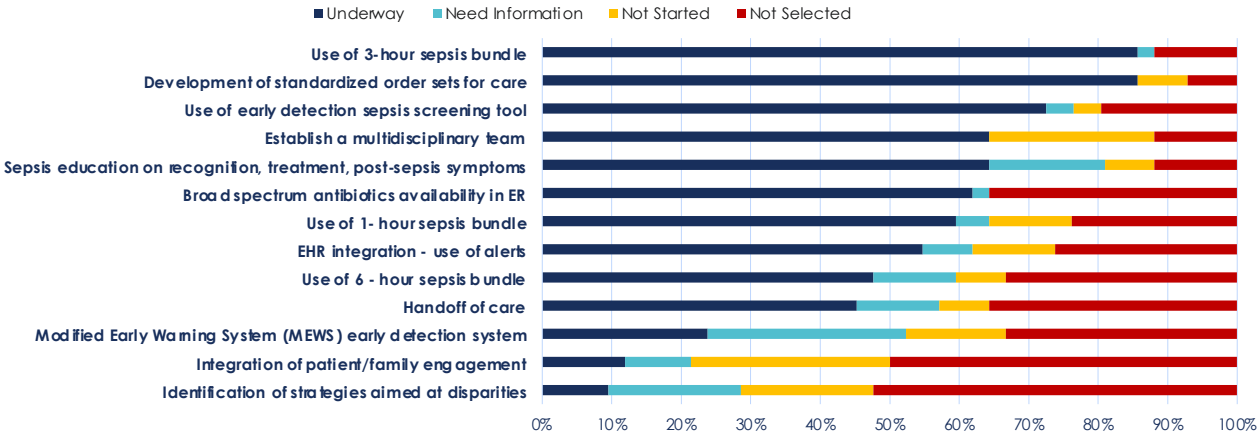
4

Sepsis QIWP Intervention Responses

51 of 92 Kansas hospitals in Compass HQIC selected sepsis as a top 3 priority



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Guest Speaker

Steven Q. Simpson, MD

Senior Medical Advisor for Sepsis Alliance
Professor of Medicine
The University of Kansas Medical Center

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Sepsis: Reaching and Engaging Physicians

Dr. Steven Simpson

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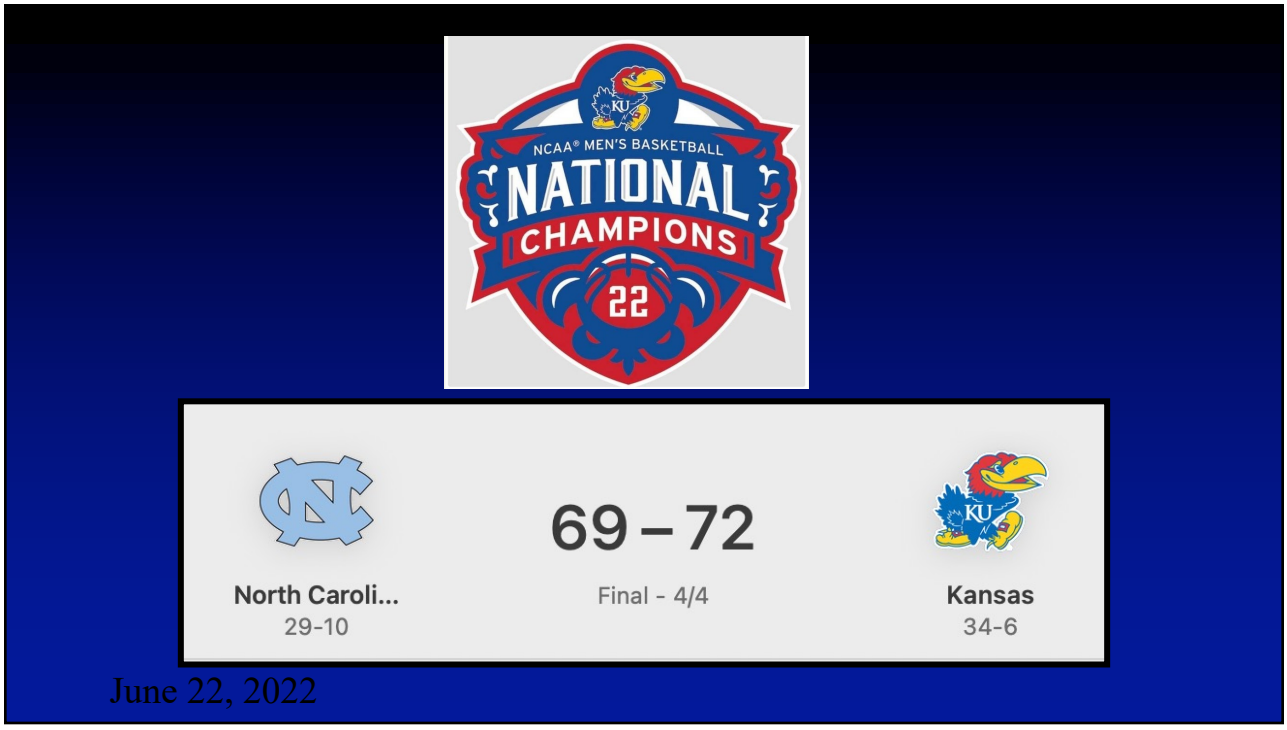

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The Hierarchy of Authorities

9

Sepsis is a health security risk to the nation.

Sepsis must be solved.

SOLVING SEPSIS

10

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Surviving Sepsis Campaign section head:
Screening and Early Treatment

Immediate Past-President CHEST

Senior Medical Advisor BARDA
Senior Medical Advisor Sepsis Alliance

No industry funding for past 18 years

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11

Nothing I have to say represents the views of the U. S. Government or any other organization that I work with.
I have no conflicts to disclose.

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Sepsis:
Reaching and Engaging Doctors

Steven Q Simpson, MD, FCCP, FACP
Professor of Medicine
Division of Pulmonary and Critical Care
University of Kansas

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Knowledge is the best form of empowerment

And your best tool

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Our Overall Aim

- Our Aim - Fewer people die or are maimed by sepsis
- Our Goal – national level being established
  - Mortality rate; time frame

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The Problem We Face

- Providers – slow to diagnose, slow to treat, dis-organized and non-standard approach to treatment
- Root causes
  - Inadequate knowledge of the signs, symptoms, and findings
  - *A priori* belief that they do understand these things
  - Inertia when these signs are recognized
  - Belief that patient's "don't look that sick"
  - Resistance to "cook book" medicine
  - Inconsistent messaging from national organizations, guidelines goups and government

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Providers– What We Must Accomplish

Americans/patients need providers to:

- Be well informed about sepsis diagnosis and treatment
- Use a standard operating procedure
- Believe the data and understand that sepsis deteriorates quickly
- Be willing to adopt new diagnostic and treatment modalities, e.g. technologies to guide rescuscitation, technologies to predict and diagnose sepsis

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The Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3)

Mervyn Singer, MD, FRCP; Clifford S. Deutschman, MD, MS; Christopher Warren Seymour, MD, MSc; Manu Shankar-Hari, MSc, MD, FFICM; Djillali Annane, MD, PhD; Michael Bauer, MD; Rinaldo Bellomo, MD; Gordon R. Bernard, MD; Jean-Daniel Chiche, MD, PhD; Craig M. Coopersmith, MD; Richard S. Hotchkiss, MD; Mitchell M. Levy, MD; John C. Marshall, MD; Greg S. Martin, MD, MSc; Steven M. Opal, MD; Gordon D. Rubenfeld, MD, MS; Tom van der Poll, MD, PhD; Jean-Louis Vincent, MD, PhD; Derek C. Angus, MD, MPH

"The current use of 2 or more SIRS criteria to identify sepsis was unanimously considered by the task force to be unhelpful."

JAMA. 2016;315(8):801-810.

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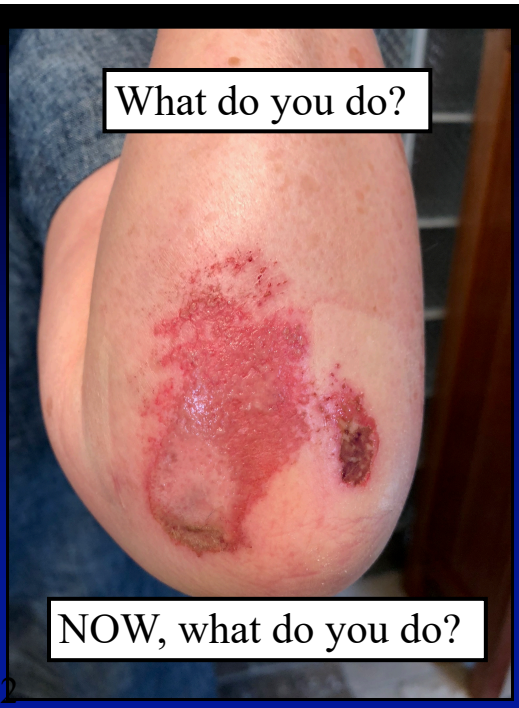

P – 75
R – 10
T – 37°

P – 110
R – 20
T – 39.5°

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Why did you choose something different?

Because you recognize that the latter circumstance – infection with systemic manifestations (SIRS) – is something more than a simple infection.

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"A local lesion, heated by humor afflux, makes the whole body become feverish. One can die because of this, especially on odd numbered days"
Hippocrates

BTW, today is the 22nd
Lookout for tomorrow!

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Defining Sepsis

Life threatening organ dysfunction due to a dysregulated host response to infection

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22

Defining Sepsis

Life threatening organ dysfunction due to a dysregulated host response to infection

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Diagnosis

Everything is vague to a degree you do not realize til you have tried to make it precise.

Bertrand Russell (1872 – 1970)

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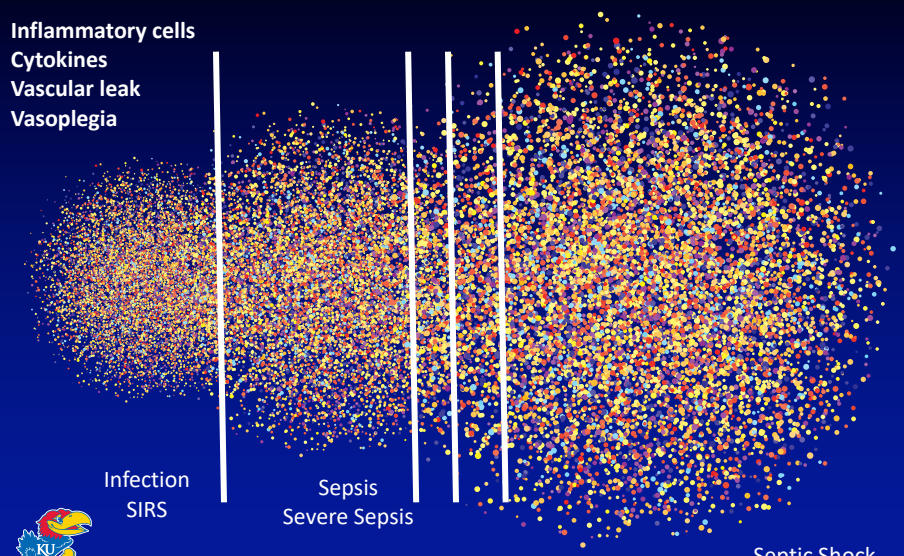
Severity of Infection and Sepsis



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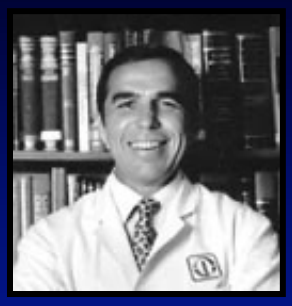
Sepsis: What Are We Talking About?



Roger C. Bone, MD

- ICD-9: "septicemia"
- Positive blood cultures
- Multiple positive blood cultures
- Positive blood cultures + hypotension
- Syndrome: how shall we define it?

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ACCP/SCCM Consensus Definitions

- Infection
  - Inflammatory response to microorganisms, or
  - Invasion of normally sterile tissues
- Systemic Inflammatory Response Syndrome (SIRS) ≥ 2 SIRS criteria
- Sepsis
  - Infection plus ≥ 2 SIRS criteria
- Severe Sepsis
  - Sepsis
  - Organ dysfunction
- Septic shock
  - Sepsis
  - Hypotension despite fluid resuscitation

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Bone RC et al. Chest. 1992;101:1644-55.

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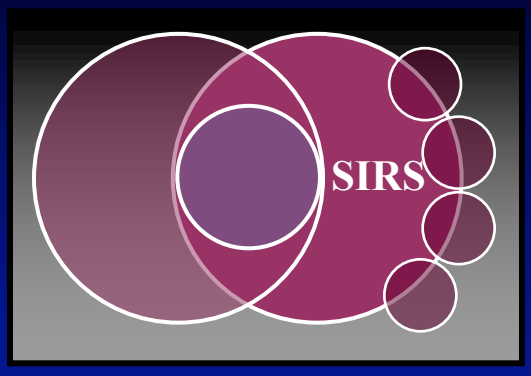
SIRS: Systemic Inflammatory Response Syndrome

- SIRS: nonspecific, 2 of the following:
  - Temperature > 38° C or < 36° C
  - HR > 90 beats/min
  - Respirations > 20/min
  - WBC >12,000/μL or < 4,000/μL or > 10% bands or other



June 22, 2022

Adapted from: Bone RC et al. Chest. 1992;101:1644-55.
Opal SM et al. Crit Care Med. 2000;28:S81-2.

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Clinical Review & Education

Special Communication | CARING FOR THE CRITICALLY ILL PATIENT

The Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3)

Mervyn Singer, MD, FRCP; Clifford S. Deutschman, MD, MS; Christopher Warren Seymour, MD, MSc; Manu Shankar-Hari, MSc, MD, FFICM; Djillali Annane, MD, PhD; Michael Bauer, MD; Rinaldo Bellomo, MD; Gordon R. Bernard, MD; Jean-Daniel Chiche, MD, PhD; Craig M. Coopersmith, MD; Richard S. Hotchkiss, MD; Mitchell M. Levy, MD; John C. Marshall, MD; Greg S. Martin, MD, MSc; Steven M. Opal, MD; Gordon D. Rubenfeld, MD, MS; Tom van der Poll, MD, PhD; Jean-Louis Vincent, MD, PhD; Derek C. Angus, MD, MPH

JAMA. 2016;315(8):801-810. doi:10.1001/jama.2016.0287

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The Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3)

Definition:

Sepsis is life threatening organ dysfunction caused by a dysregulated host response to infection

Drops the term "severe sepsis"

Drops the use of SIRS and infection + SIRS

JAMA. 2016;315(8):801-810. doi:10.1001/jama.2016.0287

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The Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3)

Condition	Sepsis-2	Sepsis-3
Sepsis	Infection + SIRS	Infection + Δ SOFA ≥ 2
Severe Sepsis	Infection + SIRS + organ dysfunction	NON-EXISTENT
Septic Shock	Infection + Unresponsive Hypotension*	Infection + Unresponsive Hypotension* + Serum Lactate > 2 mmol/L

*Hypotension that does not respond to volume infusion and requires vasopressor administration

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SOFA Score	1	2	3	4
Respiration PaO_2/FiO_2	< 400	< 300	< 200 With respiratory support	< 100 with respiratory support
Cardiovascular Hypotension	MAP < 70 mm Hg	Dopamine ≤ 5 or dobutamine, any dose	Dopamine > 5 or epinephrine or norepinephrine ≤ 0.1	Dopamine > 15 or epinephrine or norepinephrine > 0.1
Liver Bilirubin (mg/dL)	1.2 – 1.9	2.0 – 5.9	6.0 – 11.9	> 12.0
Renal Creatinine (mg/dL) or urine output	1.2 – 1.9	2.0 – 3.4	3.5 – 4.9 or < 500 mL/24 hr	≥ 5.0 or < 200 mL/24 hr
Coagulation Platelets x $10^3/mm^3$	< 150	< 100	< 50	< 25
CNS Glasgow Coma Scale	13 - 14	10 - 12	6 - 9	< 6

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Glasgow Coma Scale		
Response	Scale	Score
Eye Opening Response	Eyes open spontaneously	4 Points
	Eyes open to verbal command, speech, or shout	3 Points
	Eyes open to pain (not applied to face)	2 Points
	No eye opening	1 Point
Verbal Response	Oriented	5 Points
	Confused conversation, but able to answer questions	4 Points
	Inappropriate responses, words discernible	3 Points
	Incomprehensible sounds or speech	2 Points
	No verbal response	1 Point
Motor Response	Obeys commands for movement	6 Points
	Purposeful movement to painful stimulus	5 Points
	Withdraws from pain	4 Points
	Abnormal (spastic) flexion, decorticate posture	3 Points
	Extensor (rigid) response, decerebrate posture	2 Points
	No motor response	1 Point
Minor Brain Injury = 13-15 points; **Moderate Brain Injury** = 9-12 points; **Severe Brain Injury** = 3-8 points		

Quick SOFA

- Also known as qSOFA
- Any two of:
  - Glasgow Coma Scale < 15
  - Respiratory rate ≥ 22/min
  - Systolic blood pressure ≤ 100 mm Hg

Misconceptions About SIRS

- The emphasis has shifted from inflammation to organ dysfunction.
- Requiring SIRS to diagnose sepsis misses cases of infection-induced organ dysfunction
- It's not specific to sepsis – "I climb a set of stairs and I get SIRS"

"The emphasis has shifted from inflammation to organ dysfunction"

Sepsis syndrome: A valid clinical entity

ROGER C. BONE, MD; CHARLES J. FISHER, JR, MD; TERRY P. CLEMMER, MD; GUS J. SLOTMAN, MD;

viously reported (4, 5). Briefly, the sepsis syndrome was defined by a systemic response to sepsis which is evidenced by hypothermia (temperature <96°F), or fever (>101°F), tachycardia (>90 beat/min), tachypnea (>20 breath/min), clinical evidence of an infection site and

inadequate organ perfusion or dysfunction

tion, hypoxemia (PaO_2 <75 torr), elevated plasma lactate, or oliguria (urine output <30 ml/h or 0.5 ml/kg body weight·h without corrective therapy). The inclusion and exclusion criteria are shown in Tables 1 and 2.

Critical Care Medicine 17:389, 1989.

accp/sccm consensus conference

Definitions for Sepsis and Organ Failure and Guidelines for the Use of Innovative Therapies in Sepsis

THE ACCP/SCCM CONSENSUS CONFERENCE COMMITTEE:

Roger C. Bone, M.D., F.C.C.P., Chairman
Robert A. Balk, M.D., F.C.C.P.
Frank B. Cerra, M.D.
R. Phillip Dellinger, M.D., F.C.C.P.
Alan M. Fein, M.D., F.C.C.P.
William A. Knaus, M.D.
Roland M. H. Schein, M.D.
William J. Sibbald, M.D., F.C.C.P.

"The original consensus conference was set up for

Infection + SIRS was INTENDED to prompt the examination for organ dysfunction

patients who were being missed and if possible at the earliest possible stage."

Charles Sprung
Personal communication, 2016

Chest 101:1644 – 55, 1992.

Requiring SIRS to diagnose sepsis misses cases of infection-induced organ dysfunction

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Systemic Inflammatory Response Syndrome Criteria in Defining Severe Sepsis

Kirsi-Maija Kaukonen, M.D., Ph.D., Michael Bailey, Ph.D., David Pilcher, F.C.I.C.M., D. Jamie Cooper, M.D., Ph.D., and Rinaldo Bellomo, M.D., Ph.D.

Sensitivity of ≥ 2 SIRS for infection-induced organ dysfunction

87.9%

N Engl J Med 2015;372:1629-38.

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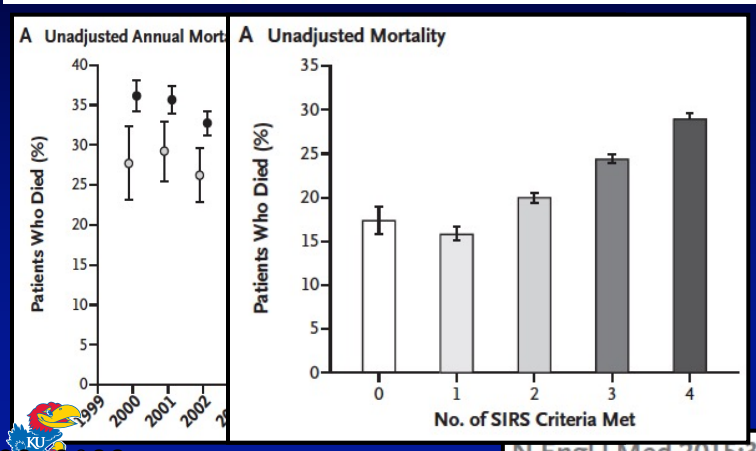
Systemic Inflammatory Response Syndrome Criteria in Defining Severe Sepsis

Kirsi-Maija Kaukonen, M.D., Ph.D., Michael Bailey, Ph.D., David Pilcher, F.C.I.C.M., D. Jamie Cooper, M.D., Ph.D., and Rinaldo Bellomo, M.D., Ph.D.



N Engl J Med 2015;372:1629-38.

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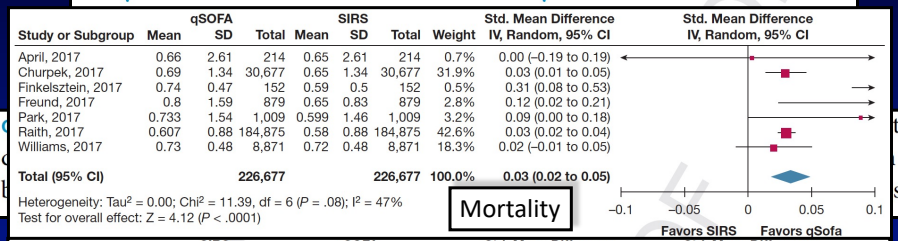
A Comparison of the Quick-SOFA and Systemic Inflammatory Response Syndrome Criteria for the Diagnosis of Sepsis and Prediction of Mortality

A Systematic Review and Meta-Analysis



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Requiring SIRS to diagnose sepsis misses cases of infection-induced organ dysfunction

Agreed

But then, who ever actually did/does that?

43

It's not specific to sepsis – "I climb a set of stairs and I get SIRS"

Again, no argument.

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Sepsis syndrome: A valid clinical entity

ROGER C. BONE, MD; CHARLES J. FISHER, JR, MD; TERRY P. CLEMMER, MD; GUS J. SLOTMAN, MD;

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Critical Care Medicine 17:389, 1989.

Evidence of an Infected Site

- Pneumonia – cough, sputum, fever, pleuritic chest pain, consolidation
- Cellulitis – fever, painful skin, advancing margin
- Pyelonephritis – flank pain, costophrenic angle tenderness
- Cholecystitis – RUQ pain, Murphy's sign
- Peritonitis – abdominal pain, rebound tenderness
- Meningitis – headache, mental status change, nuchal rigidity, Kernig's and Brudzinsky's signs

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But the harder ones…

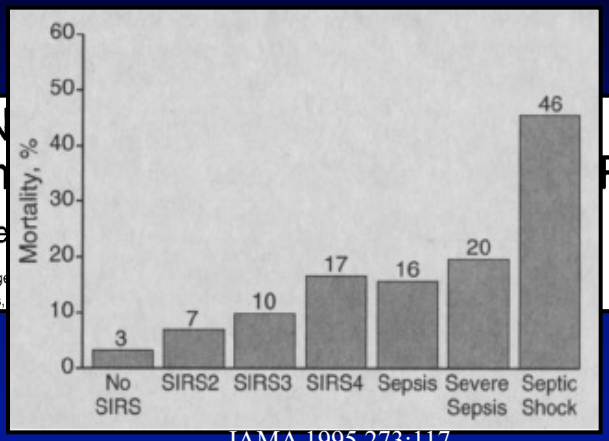
- Blood stream infection – look for a cut, a scrape, a physical opening in the integument
- Immunocompromised patients
- Isolated mental status change
- Fungal infections often indolent

Don't Forget Bayes' Theorem

$$p(B|A) = \frac{p(A|B)p(B)}{p(A)}$$

$$P_{sepsis} \mid SIRS \cong \frac{P_{SIRS} \mid sepsis \times P_{sepsis} \text{ in group}}{P_{SIRS}}$$

SIRS Does Add Mortality Information



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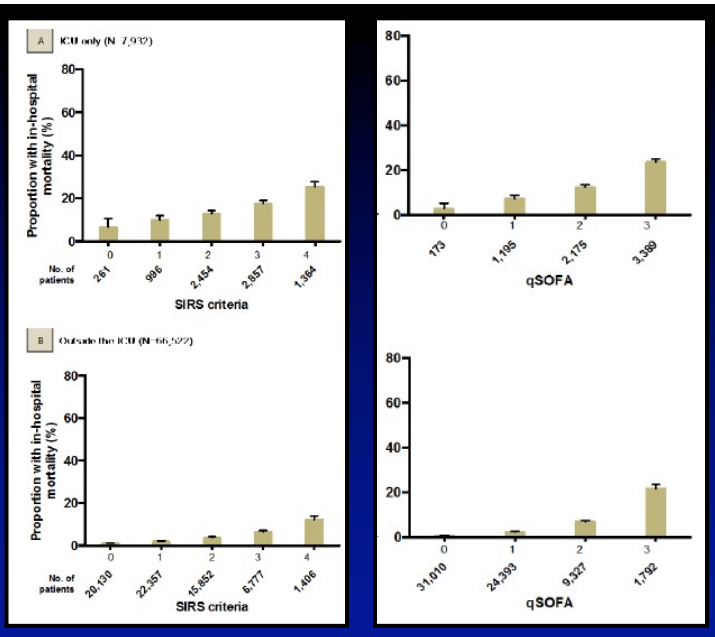
M. Sigfrido Range
Charles S. Davis,
RS)
JAMA 1995

JAMA 1995 273:117.



JAMA. 2016;315(8):762-774.

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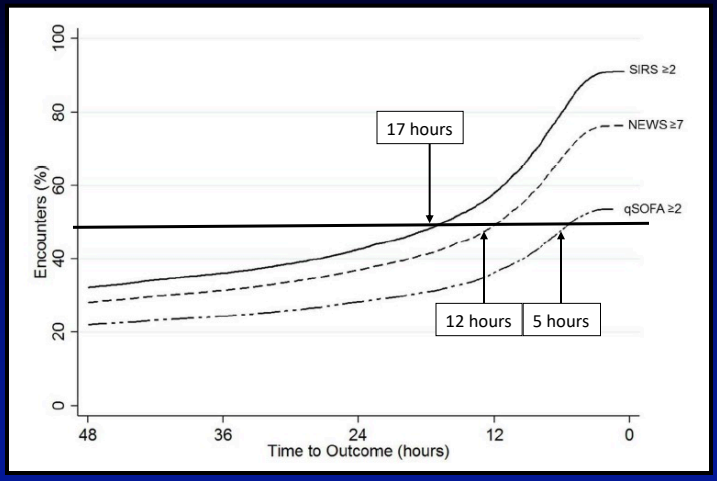
SIRS Does Add Meaning



Am J Respir Crit Care Med Vol 195, Iss 7, pp 906–911, Apr 1, 2017

How to Proceed?

Look for the infection - remember that neither SIRS nor qSOFA identifies infection

Infection + SIRS – treat and look for organ dysfunction

Infection + qSOFA – treat and look for organ dysfunction

To Recap

June 22, 2022

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Thank You!

ssimpson3@kumc.edu
steven.simpson@hhs.gov

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KHC & Compass Data Updates

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Data Updates

Next data refresh will occur July 8.

Please aim to have your QHi data for May submitted by July 1.

+ Data Refresh
  - Data refresh for June reports: June 10, 2022
  - Next Refresh: *On or around July 8, 2022*

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June 22, 2022

QHi Training Session

MyQHi.org

Date: Wednesday, June 29

Time: 1:00 – 2:00 CT

Here is the link to register: https://cc.readytalk.com/r/dh2tmn0o7cd1&eom

- Adding New Users
- Select Measures
- Entering and Importing Data
- Running Reports

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KHC & Compass Resources, Updates, and Upcoming Events

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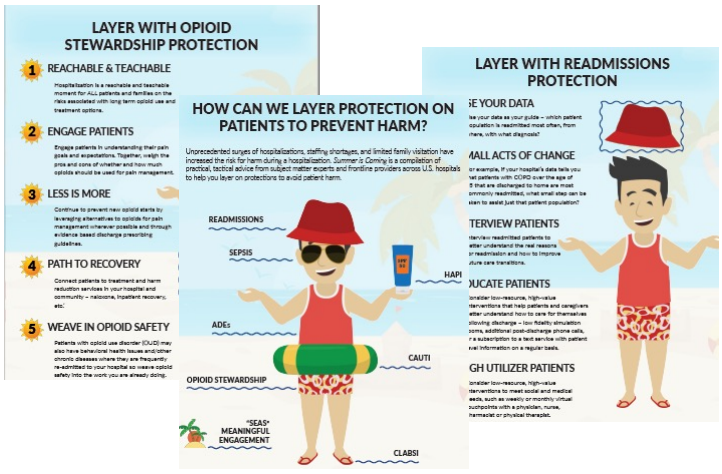
NEW- Resource



www.khconline.org/june2022-resource

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KHC Office Hours

- Register once for all remaining sessions.
- Save recurring appointment to your calendar.
- Stay abreast of KHC program updates.
- Learn from subject matter experts and peers.

Up Next!

August 24, 2022, | 10:00-11:00a.m.
Health Equity Organizational Assessment

KHC Office Hours series registration link:
www.khconline.org/officehours

All sessions are held from 10 to 11 a.m. CST. Sessions will be recorded and posted to KHC Education Archive at www.khconline.org/archive.

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Event Schedule

Session #1 | April 7, 2022 | 12:00-1:00pm
Session #2 | May 5, 2022 | 12:00-1:00pm
Session #3 | June 2, 2022 | 12:00-1:00pm
Session #4 | July 7, 2022 | 12:00-1:00pm

Speakers

Kellie Wark, MD, MPH
Asst. Prof Inf Diseases, KUMC
HAI/AR expert and AS Co-Lead, KDHE

Nicole Wilson, PharmD, BCIDP, DPLA
AS Program Coordinator, KUMC
HAI/AR expert and AS Co-Lead, KDHE

Each session is approved for 1 Nursing and/or Pharmacy Continuing Education credit

Kansas Department of Health and Environment
Healthcare-Associated Infections & Antimicrobial Resistance Program

In partnership with
Kansas Healthcare COLLABORATIVE

Antibiotic Stewardship

Practical Implementation for Kansas Hospitals

Target Audience

Pharmacists | Nurse Leaders | Clinicians | Quality Leaders | Infection Preventionists | Antibiotic Stewardship team members

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Upcoming KRHOP Education

Quality Corner Calls

August 10
Noon to 1 p.m.
Topic TBD

September 29
Noon to 1 p.m.
Topic TBD

More information at www.krhop.net

HEALTHWORKS
KANSAS HOSPITAL ASSOCIATION

Kansas

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Upcoming Conference

The 6th Annual Kansas Opioid and Stimulant Conference will take place on November 10th, at the Hotel Topeka, formerly the Topeka Capitol Plaza.

Due to the significant rise in psychostimulant overdoses in Kansas, the conference has expanded to include topics related to stimulant prevention, treatment, and recovery for the second year.

DCCCA, the Kansas Department for Aging and Disability Services, the Kansas Department of Health and Environment, and the Kansas Prescription Drug and Opioid Advisory Committee present the conference.

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Save the Date! August 19 — Topeka

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SUMMIT on QUALITY 2022

Kansas Healthcare COLLABORATIVE

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Next Steps

+ Ensure data entry is current and timely
+ Review and update your Q.I. Work Plan
+ Log into iCompass Forum and iCompass Academy to engage and learn
+ Watch your inbox for the Compass Navigator on July 1st

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Care Collaborative Program Staff Contact
The University of Kansas Health System

Jodi Schmidt – **Contracts & Agreements**
Executive Director
jschmidt5@kumc.edu

Karen Deatherage – **General Questions**
Sepsis Program Manager
kdeatherage@kumc.edu

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Kansas Healthcare COLLABORATIVE

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Have Questions, Need Help?

Kansas Healthcare Collaborative

Heidi Courson
Quality Improvement Advisor
hcourson@khconline.org
785-231-1334

Erin McGuire
Quality Improvement Advisor
emcguire@khconline.org
785-231-1333

Eric Cook-Wiens
Data and Measurement Director
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Questions?

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Thank you for joining us.

We invite your feedback.

What was a key take-away?
What are 3 next steps based on the information shared?

Please complete our brief feedback survey.

www.khconline.org/june2022-feedback

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No JULY Office Hours
See YOU in AUGUST
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June 22, 2022
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