

# Surviving the Surviving Sepsis Campaign

The Challenges of Implementing Standardized Care for Sepsis in a  
Community Hospital Emergency Department

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# Surviving the Surviving Sepsis Campaign

- Most of emergency medical care in U.S. delivered in non-teaching community ED's
- Growing pressures with shrinking resources
  - Do more with less, and do it faster and more efficiently
- Increasing number of mandated/recommended protocols, guidelines, quality indicators
  - Evidenced based best practices?
  - Competing resources; each new required task means potentially less ability to do something else

# Surviving the Surviving Sepsis Campaign

- Descriptive and survey studies
- Survey of RI ED directors
- Challenges and potential barriers
- Possible solutions

# Challenges in a Community Hospital ED

- Descriptive study
  - Jones A, et al. Implementing early goal-directed therapy in the emergency setting: The challenges and experiences of translating research innovations into clinical reality in academic and community settings. *Acad Emerg Med.* 2007;14:1072-1078.

# Challenges in a Community Hospital ED

Jones A, et al. Acad Emerg Med.  
2007;14:1072-1078.

# Challenges in a Community Hospital ED

- Challenge: translating Surviving Sepsis Campaign guidelines from research environment to varied clinical care settings
- Description of the experiences of clinicians involved in implementing these protocols in 3 settings
  - Large community teaching hospital
  - Large university-based teaching hospital
  - Large community non-teaching setting

# Challenges in a Community Hospital ED

- Consistent themes of barriers
  - Differences in ED functioning and staffing, protocols must be institutionally individualized
  - Resistance on the part of ED MD's and admitting MD's to changes in patient management
  - Availability of new catheters and monitors, staff training for these
  - Time and resources for structured QA and quality improvement (very significant in community hospital)

# Challenges in a Community Hospital ED

- What helped?
  - Implantation team of champions
  - Organized approach with upfront training
  - Ongoing efforts to track and troubleshoot problems
  - Allocation of resources

# Survey Studies of Challenges and Barriers to Implementation

- Survey study #1
  - Carlbom D, Rubenfeld G. Barriers to implementing protocol-based sepsis resuscitation in the emergency department- Results of a national survey. *Crit Care Med.* 2007;35(11):2525-2532.

# Survey Studies of Challenges and Barriers to Implementation

- Multi-center telephone survey study, 2006
- 2 busiest teaching and 2 busiest non-teaching ED's in top 25 most densely populated areas in U.S.
- ED medical director and nurse manager
- Potential respondents: 200 clinicians in 100 ED's
- Final respondents: 64 clinicians in 53 ED's

# Survey Studies of Challenges and Barriers to Implementation

- Survey instrument: 26 questions, mix of quantitative + qualitative analysis
- Barrier questions sorted into categories
  - Knowledge of EGDT
  - Agreement with EGDT
  - Recognition of the septic patient
  - Implementation of EGDT
- Identification of barriers and ranking of importance

# Survey Studies of Challenges and Barriers to Implementation

- Overall top 3 ranked barriers (of 13 possible)
  1. Nursing staff required to perform EGDT
  2. Monitoring CVP in the ED
  3. Identifying septic patients
- Significant MD/RN agreement, same top 3 rank for MD's and RN's
- No significant differences in rankings from teaching vs. non-teaching

# Survey Studies of Challenges and Barriers to Implementation

- Only 2 barriers with statistically significant disagreement MD vs. RN in likelihood of citing as a barrier (of 13 possible)
  - Central catheter insertion
    - RN (tied 2nd) >> MD (5th)
  - Disagreement with EGDT protocol
    - MD (6<sup>th</sup>) >> RN (0)

# Survey Studies of Challenges and Barriers to Implementation

- Qualitative analysis of open-ended questions- several barriers unique to EGDT for sepsis
  - Compared to other time-critical conditions (e.g. STEMI, trauma), in what ways are barriers to EGDT the same or different?
    - 3 general areas of concern

# Survey Studies of Challenges and Barriers to Implementation

- Qualitative analysis- Barriers unique to EGDT for sepsis: ED/hospital support less for sepsis
  - “Team approach to trauma. Should have same team approach to critically ill medical patient.”
  - “With MI or CVA, hospital gives extra resources. Sepsis is more work, but we’re not given additional help.”

# Survey Studies of Challenges and Barriers to Implementation

- Qualitative analysis- Barriers unique to EGDT for sepsis: Lack of public/staff knowledge of sepsis
  - “Sepsis is not as supported. There isn’t much public knowledge of sepsis.”
  - “Sepsis is not seen as much of an emergency as MI.”

# Survey Studies of Challenges and Barriers to Implementation

- Qualitative analysis- Barriers unique to EGDT for sepsis: Challenges of recognizing sepsis  
“Sepsis is harder to identify than MI or CVA.”

# Survey Studies of Challenges and Barriers to Implementation

- Survey study #2
  - Nguyen H, et al. Standardization of severe sepsis management: A survey of methodologies in academic and community settings. *J Emerg Med.* 2008 [Epub on-line ahead of print]

# Survey Studies of Challenges and Barriers to Implementation

- Multi-center telephone survey study, 2006-2007
- Convenience sample of sepsis team clinician champions: ED, ICU, MD, RN
- Academic and community hospitals
- Generally larger ED census: 38% <50,000; 62% > 50,000
- 40 respondents completed survey (60 contacts)
  - 20 teaching, 20 non-teaching

# Survey Studies of Challenges and Barriers to Implementation

- Survey instrument: 20 multiple-choice questions, evaluate process of implementing sepsis management protocol into clinical practice
  - Hospital characteristics and sepsis epidemiology
  - Protocol stakeholders
  - Elements of the sepsis protocol
  - Resources required and time for development
  - Barriers and successes

# Survey Studies of Challenges and Barriers to Implementation

- EGDT protocol development
  - Implementation champion
    - ICU MD 48% > ED MD 24% > ICU RN 19%
  - Location of protocol initiation: ED 88%
  - Location of protocol completion: ED >50%
  - Responsibility for protocol completion: ICU MD in ICU (35%) > ED MD (33%) > ICU MD in ED (15%) > Sepsis team in ED (12%)

# Survey Studies of Challenges and Barriers to Implementation

- EGDT protocol development- no significant difference between teaching and non-teaching respondents
  - Implementation champion
  - Location of protocol initiation
  - Responsibility for EGDT protocol completion

# Survey Studies of Challenges and Barriers to Implementation

- Most commonly cited implementation barriers
  - Lack of physician acceptance (55%)
  - Protocol too time-consuming (45-50%)
- Most commonly cited contributors to success
  - Protocol champion (80-90%)
  - Sepsis education program (55-75%)
  - Nurse educator (50-75%)
- No significant differences in successes or barriers teaching vs. non-teaching

# Lessons from the Studies

- Recurrent themes
  - No big difference between teaching and non-teaching
  - Barriers
    - Extra work of protocol completion
    - New technology, techniques
    - MD resistance
    - Work of QA/data submission
  - Solutions
    - Implementation champion
    - Protocols individualized to each institution
    - Upfront training, retraining
    - Resource allocation (personnel, money)

# What About Rhode Island?

- Survey of RI community hospital ED directors
  - Open-ended questions related to protocol development and ED staffing/workflow
  - Rate importance of 5 potential barriers
  - 5 responses

# What About Rhode Island?

- Responses
  - Most (not all) have multi-disciplinary sepsis team
    - Almost all with ED involvement
  - ED housestaff? Mix of yes and no
  - Almost all have significant hours of ED MD single coverage

# What About Rhode Island?

- Potential barriers

1. Skepticism regarding the efficacy of EGDT for sepsis or the efficacy of the actions or treatments recommended by the SSC
2. Increased amount of work necessary to carry out the elements of the bundle
3. Impact on patient flow in the ED and difficulties with admission to the ICU
4. Staff training and technology for the monitoring (central line, CVP, ScVO<sub>2</sub>)
5. Work involved in data collection and submission and ongoing quality improvement

# What About Rhode Island?

- Importance of potential barriers: none-mild
  - Skepticism regarding the efficacy of EGDT for sepsis or the efficacy of the actions or treatments recommended by the SSC

# What About Rhode Island?

- Importance of potential barriers: mild-moderate
  - Work involved in data collection and submission and ongoing quality improvement

# What About Rhode Island?

- Importance of potential barriers: higher-mixed moderate-very high
  - Increased amount of work necessary to carry out the elements of the bundle
  - Impact on patient flow in the ED and difficulties with admission to the ICU
  - Staff training and technology for the monitoring (central line, CVP, ScVO<sub>2</sub>)

# What About Rhode Island?

- Survey respondent with perception of most significant barriers
  - Multi-disciplinary sepsis team still in development
  - Perception of no ED involvement in protocol development
  - Placement of central line in ED by ED MD
  - Difficulty with expeditious transition to ICU
  - Basic impression: figure out how to follow the protocol and do all of the work

# What About Rhode Island?

- Survey respondents with perception of fewest barriers
  - Multi-disciplinary sepsis team in place
  - Collaborative ED involvement in protocol development
  - Sepsis rapid response team
  - Initiation of protocol in ED, but rapid transition to ICU
  - Central line placed in ICU
  - Initial data very favorable- reduced time to treatment and admit, length of stay

# The Challenges of Implementing Standardized Care for Sepsis in a Community Hospital Emergency Department

- Recommendations
  - Collaborative, multi-disciplinary team
  - MD and RN implementation champions
  - Protocols individualized for each institution
  - Upfront training, subsequent retraining
  - Institution: must allocate resources
    - Evidence: reduce mortality, realize cost savings

# The Challenges of Implementing Standardized Care for Sepsis in a Community Hospital Emergency Department

- Questions?

