

Trinity Health System



About Trinity Health System



- Located in Steubenville, along Ohio River
- Member Catholic Health Initiatives
- Community Hospital with 340 licensed beds
- 7600 admissions per year
- 44,000 ED visits per year
- Services include: Pediatrics, OB, Cath Lab & Open Heart, Behavioral Medicine, Skilled Care, Inpatient Rehab Unit

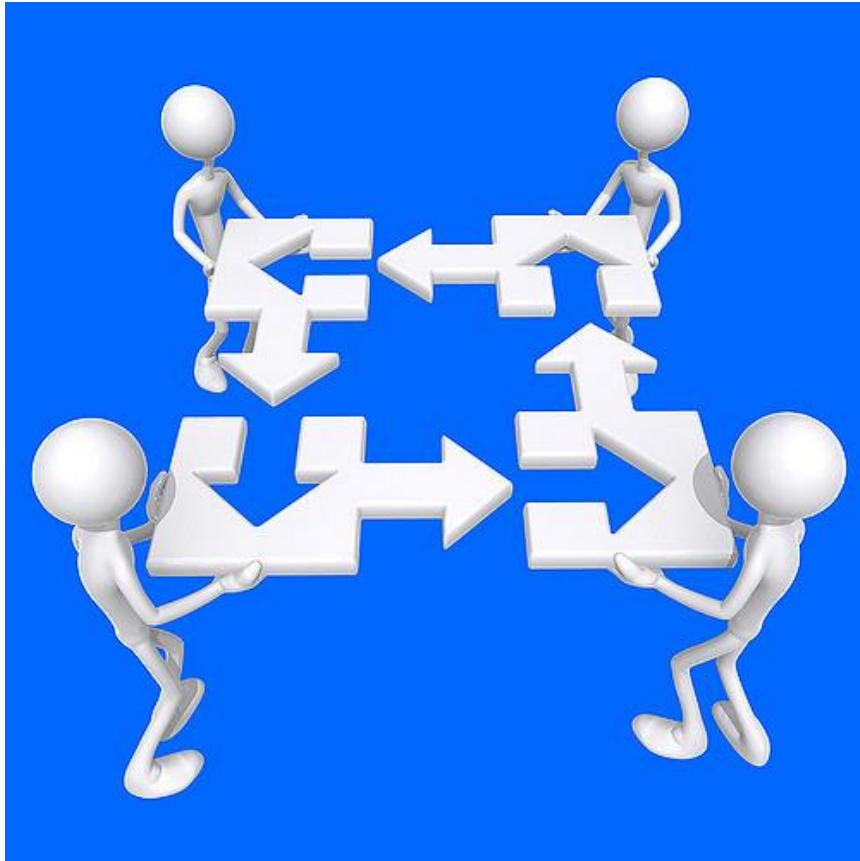
Presenters

- Dr. John Columbus, Medical Director ED & Chief of Staff
- Dr. Ken Woods, Medical Director Infectious Disease
- Dr. Himanshu Doshi, Medical Director Pathology & Clinical Laboratory
- Dr. John Figel, Chief Medical Officer
- Amy Lindsay, RN - Clinical Coordinator, Emergency Dept.

Our Sepsis Journey

- Identified opportunity to decrease overall mortality
- Sepsis -- highest driver of mortality
- Multidisciplinary team formed in early 2014
 - Emergency Department – physician & nursing
 - Infectious Disease
 - Inpatient nursing
 - Laboratory
 - Information Systems

Putting all the Pieces Together



- 1. Awareness & Identification**
- 2. Researching best practice**
- 3. Developing order sets**
- 4. Sepsis bundle compliance**
- 5. BioFire Technology**
- 6. Continual Education**

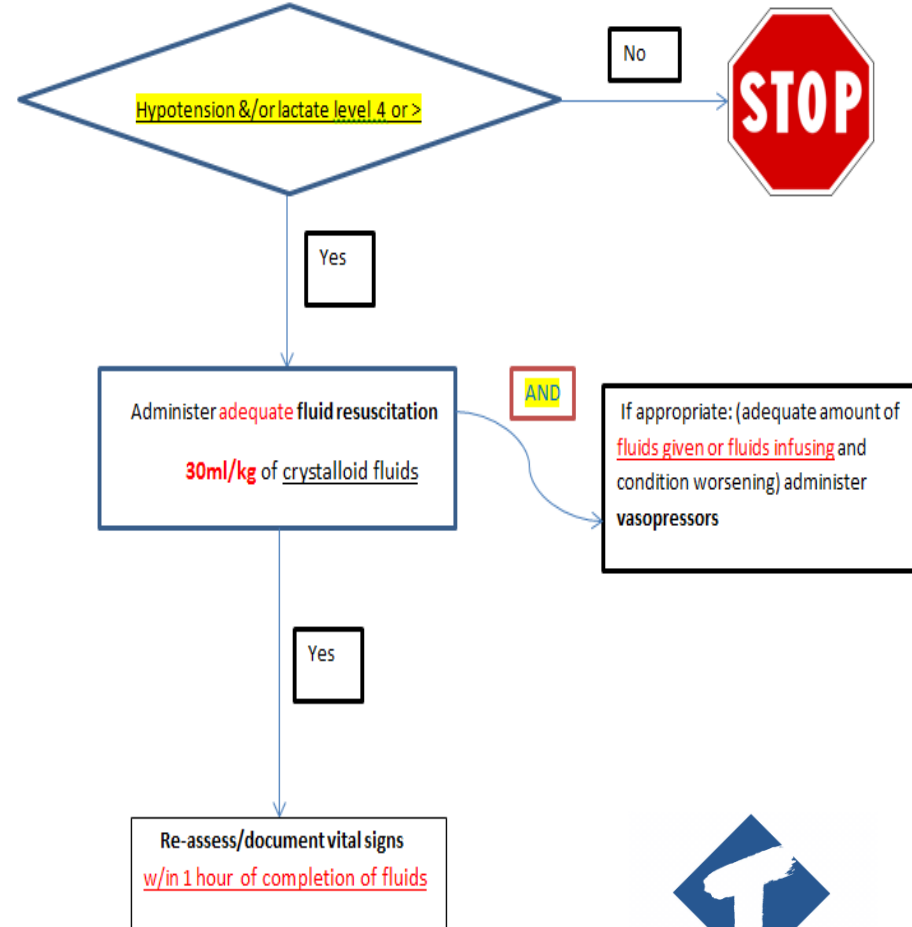
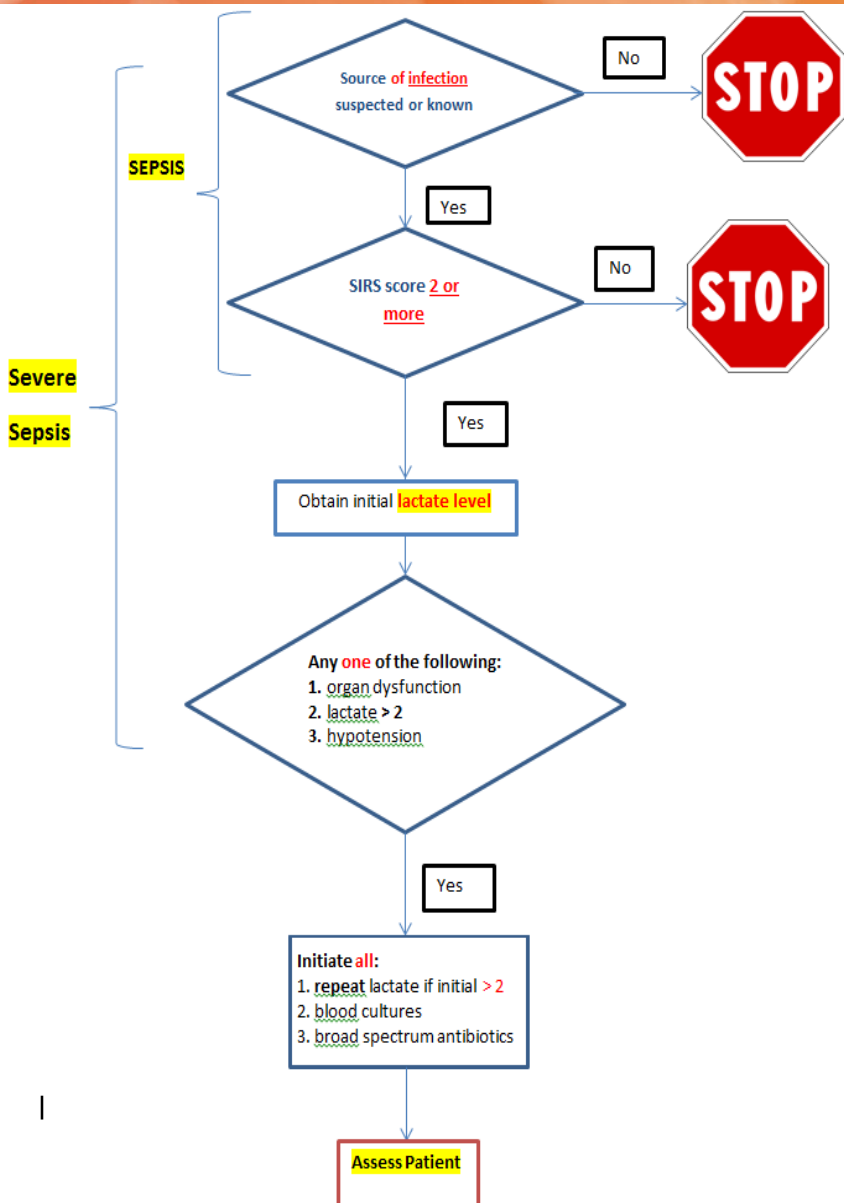
Awareness & Identification

Rapid Response Team Record

Arrival Time: _____		End Time: _____	
Patient Room Number: _____			
Sepsis Screening Tool: <i>(If Yes to 2 or more criteria and suspected/ known infection, <u>alert Rapid Response physician of findings.</u>)</i>			
(YES or NO)			
_____		Temperature > 38 C (100.9 F) or < 36 C (96.8 F)?	
_____		Heart Rate > 90?	
_____		Respiratory rate > 20 or PaCO ₂ < 32?	
_____		WBC > 12,000 or < 4,000 or > 10% Bands?	

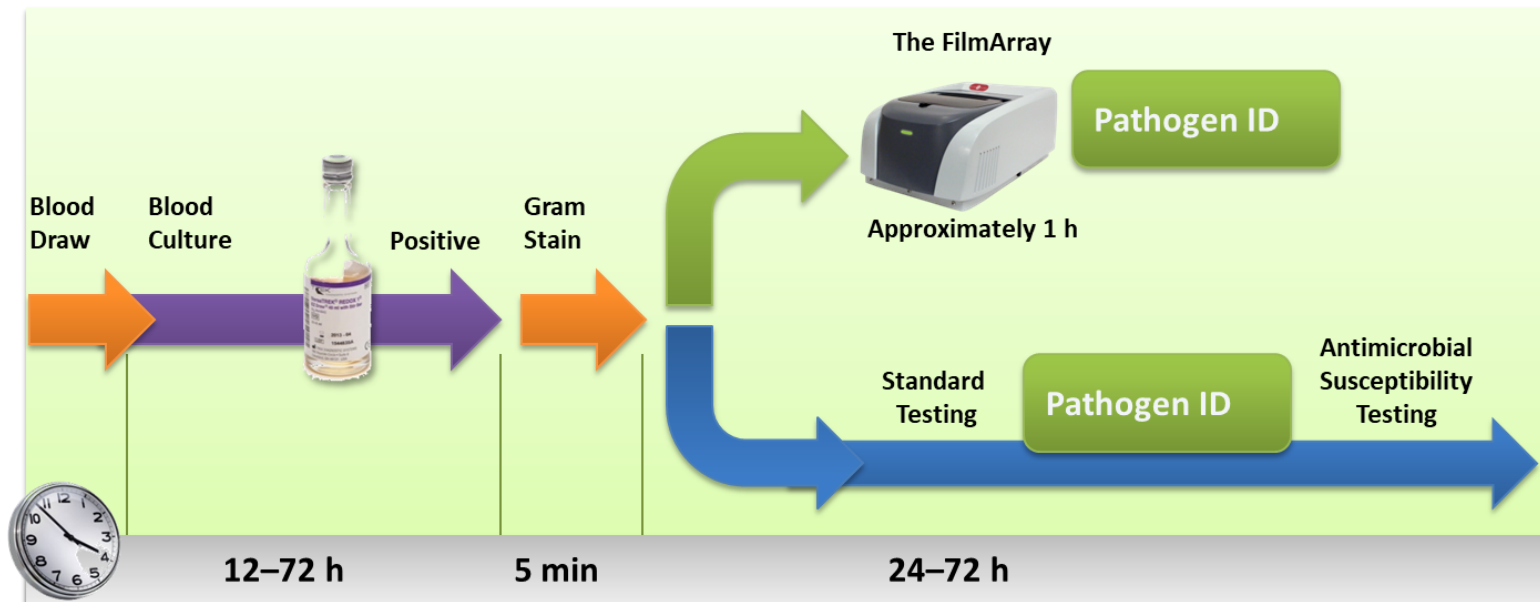


Sepsis Treatment



The FilmArray BCID Panel Provides Faster Results

- Can use on blood culture bottles that are:
 - Flagged as positive by a continuously monitoring blood culture instrument
 - Positive by Gram stain examination



BCID=blood culture identification; ID=identification.
Blaschke AJ et al. *Diagn Microbiol Infect Dis*. 2012;74(4):349-355.

The FilmArray BCID Panel

- The FilmArray instrument integrates sample preparation, amplification, detection, and analysis into one simple system

Fast¹:

- 2 minutes of hands-on time
- Run time of about 1 hour

Accurate^{a,2}:

- Overall sensitivity of 97.5%
- Overall specificity of 99.8%

Comprehensive¹:

- Identifies pathogens in 9 out of 10 positive blood cultures
- Simultaneously tests for 27 targets



^a As observed in the prospective arm of the FilmArray BCID clinical study. Please see Instruction Booklet for complete performance data. BCID=blood culture identification.

1. FilmArray Blood Culture Identification Panel: Information Sheet. BioFire Website. www.biofire.com/pdfs/FilmArray/Info%20Sheet,%20FilmArray%20BCID%20Panel-0069.pdf. Accessed July 17, 2013.
2. FilmArray Blood Culture Identification (BCID) Panel [Instruction Booklet]. Salt Lake City, UT: BioFire Diagnostics, Inc.

What Does the FilmArray BCID Panel Test for?

The FilmArray BCID Panel identifies pathogens in 9 out of 10 positive blood cultures.

Gram-Positive Bacteria

- *Enterococcus*
- *Listeria monocytogenes*
- ***Staphylococcus***
 - *Staphylococcus aureus*
- ***Streptococcus***
 - *Streptococcus agalactiae*
 - *Streptococcus pneumoniae*
 - *Streptococcus pyogenes*

Gram-Negative Bacteria

- *Acinetobacter baumannii*
- *Haemophilus influenzae*
- *Neisseria meningitidis*
- *Pseudomonas aeruginosa*
- ***Enterobacteriaceae***
 - *Enterobacter cloacae* complex
 - *Escherichia coli*
 - *Klebsiella oxytoca*
 - *Klebsiella pneumoniae*
 - *Proteus*
 - *Serratia marcescens*

Yeast

- *Candida albicans*
- *Candida glabrata*
- *Candida krusei*
- *Candida parapsilosis*
- *Candida tropicalis*

Antibiotic resistance genes

- *mecA* – methicillin resistance
- *vanA/B* – vancomycin resistance
- KPC – carbapenem resistance

BCID=blood culture identification.

FilmArray Blood Culture Identification Panel: Information Sheet. BioFire Website.

www.biofire.com/pdfs/FilmArray/Info%20Sheet,%20FilmArray%20BCID%20Panel-0069.pdf. Accessed July 17, 2013.



Sensitive and Specific

Analyte	Prospective and Seeded Blood Cultures	
	Sensitivity	Specificity
Antimicrobial Resistance Genes		
<i>mecA</i>	98.4%	98.3%
<i>vanA/B</i>	100%	100%
KPC	100%	100%

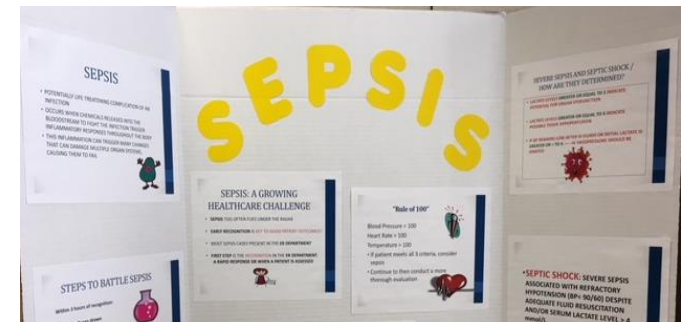
Continual Education

- ❖ Lunch & Learn - all employees invited – lunch provided
 - half hour education
 - Sepsis topic twice a year

- ❖ Storyboard unit to unit education

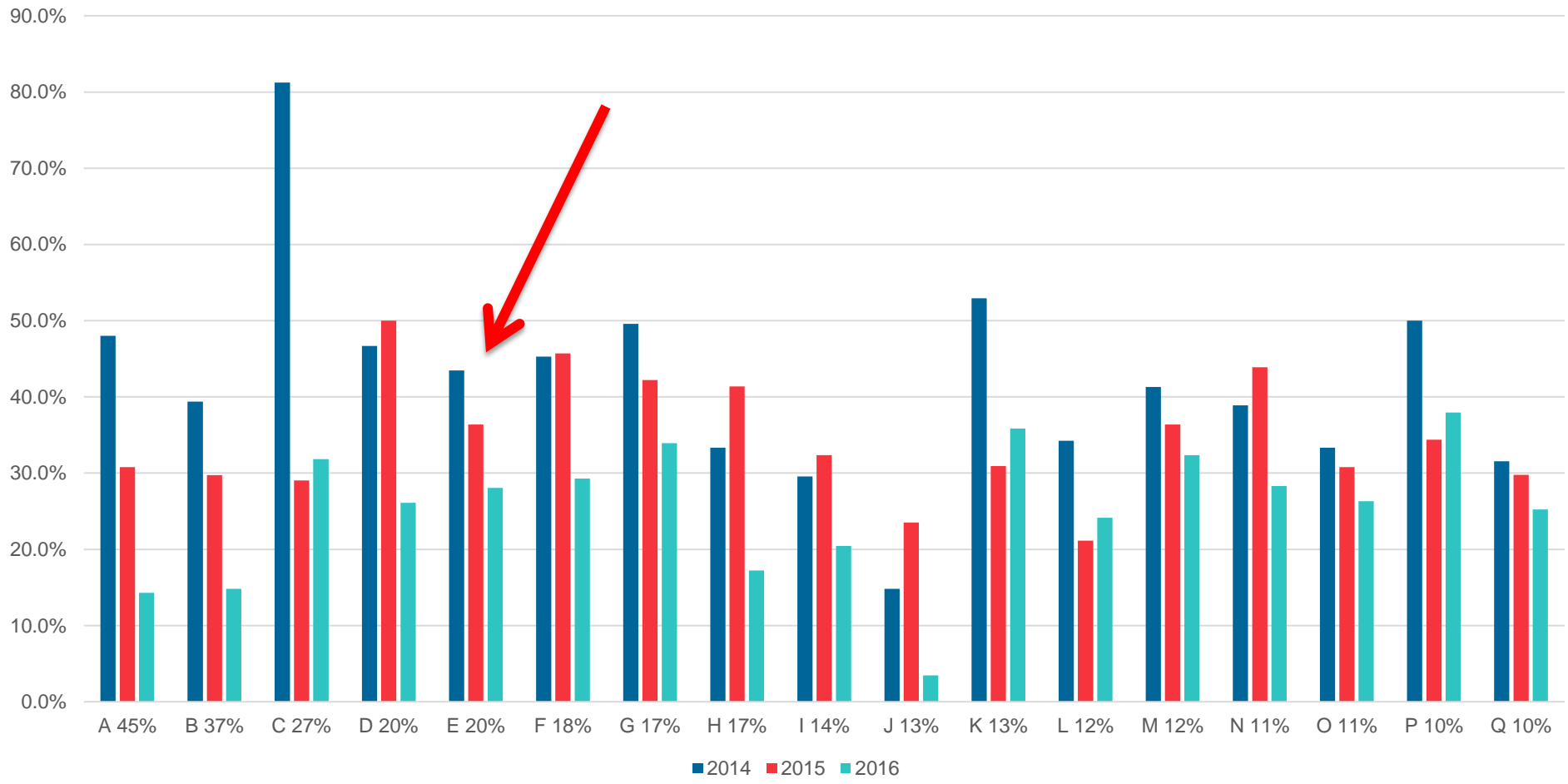


- ❖ September – Sepsis Awareness Month activities
- ❖ Sepsis education in RN orientation & yearly competencies
- ❖ Sepsis orders sets reviewed in physician orientation

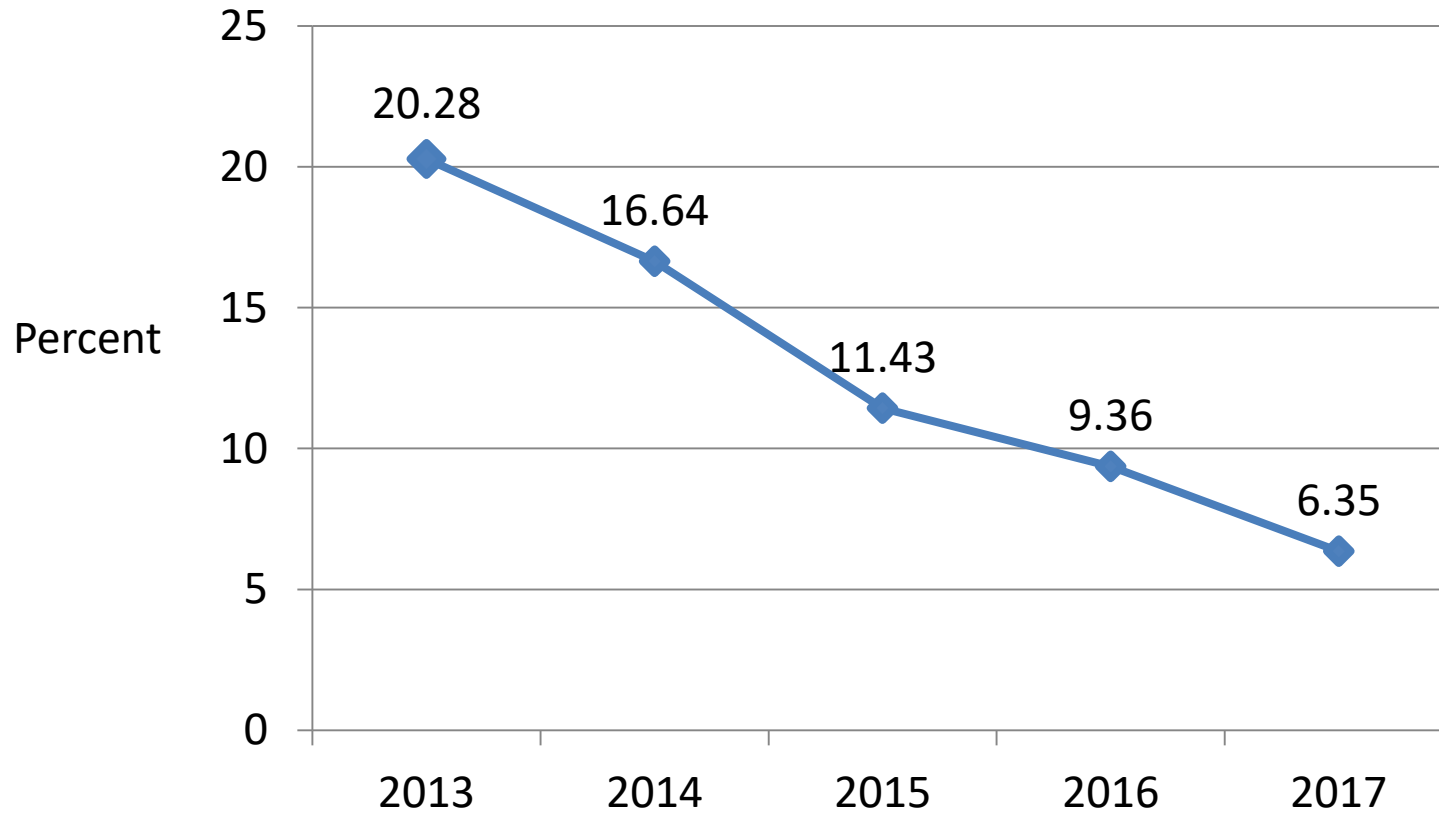


SIGNIFICANT REDUCTIONS

Non-POA Mortality Improvement – 17 Top Hospitals



Sepsis Mortality Rates



Lives saved to date....

668

Questions?