

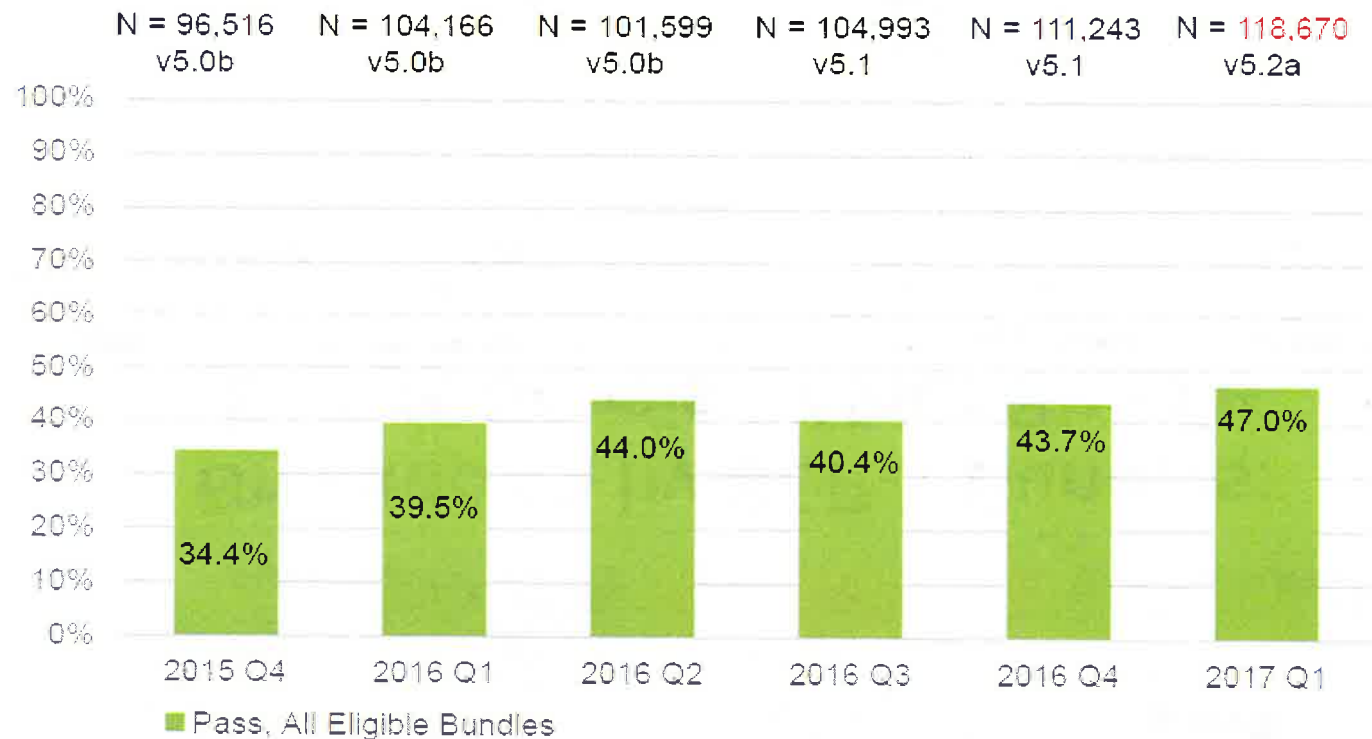


NATIONAL PERFORMANCE ON SEPSIS BUNDLES

>99% of hospitals reporting these measures

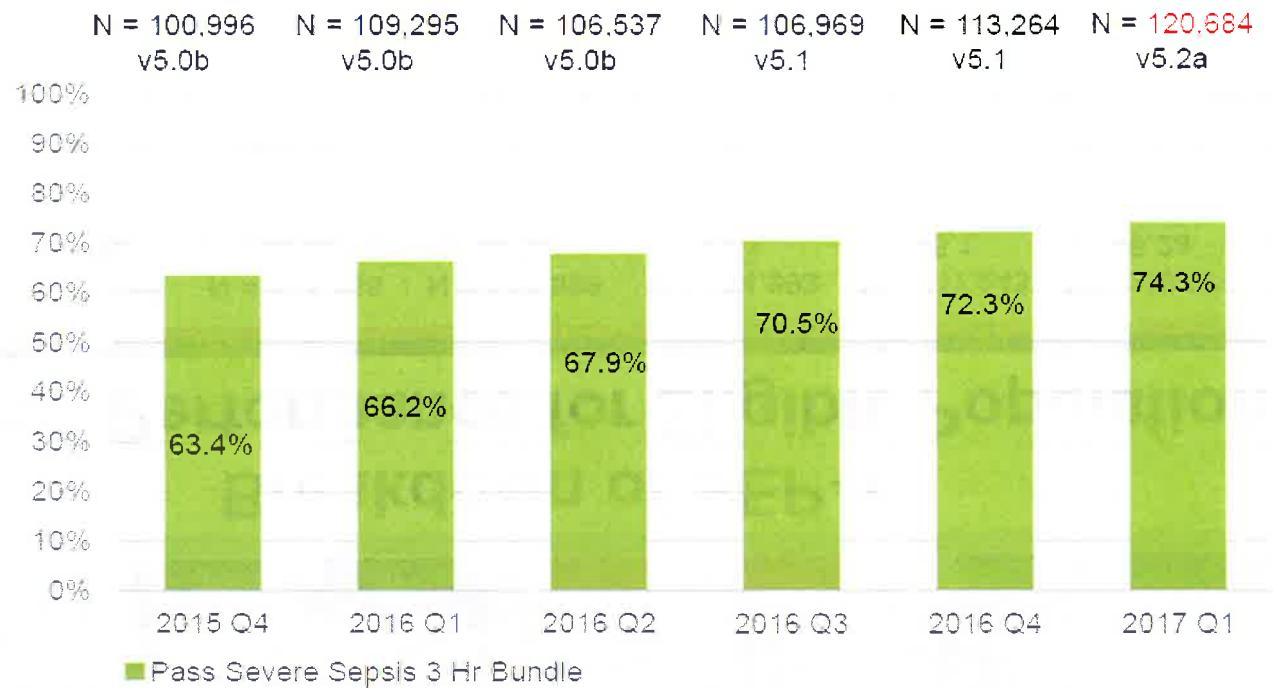
Breakdown of SEP-1: Overall Performance for Eligible Population

All or none
compliance



3 hour bundle compliance (lactate, blood culture, antibiotics)

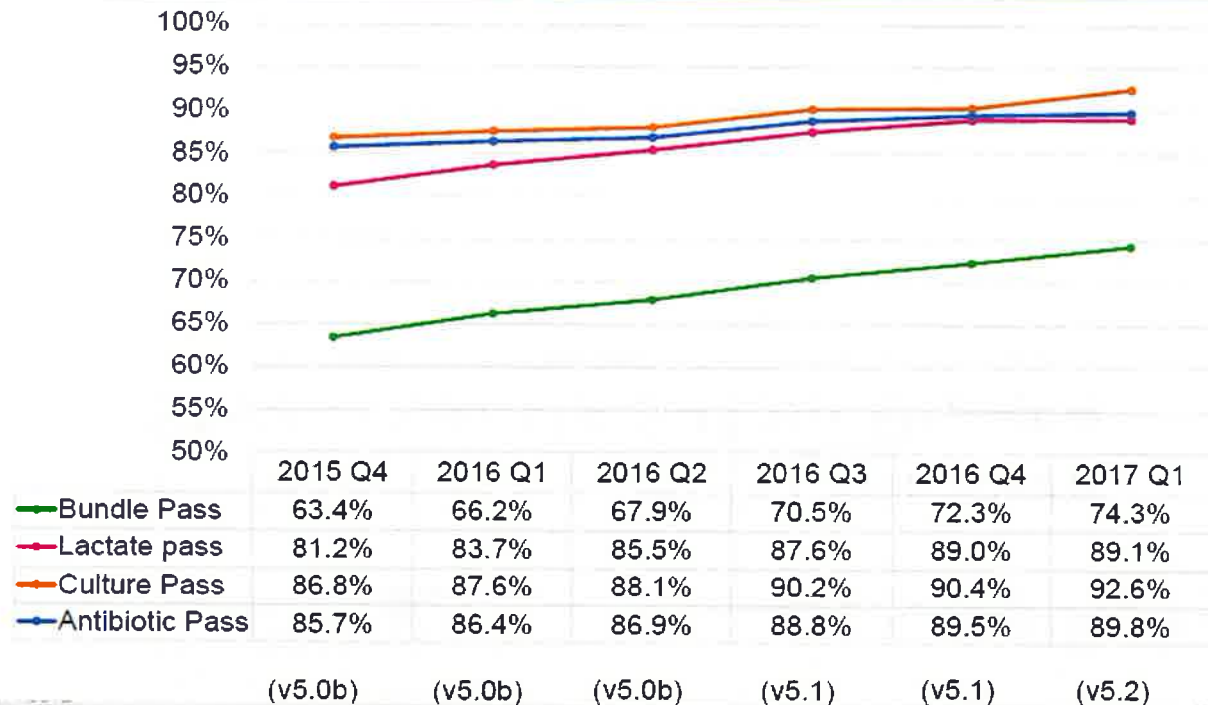
Breakdown by SEP-1 Bundles: Severe Sepsis 3-Hour Bundle



3 hour bundle compliance

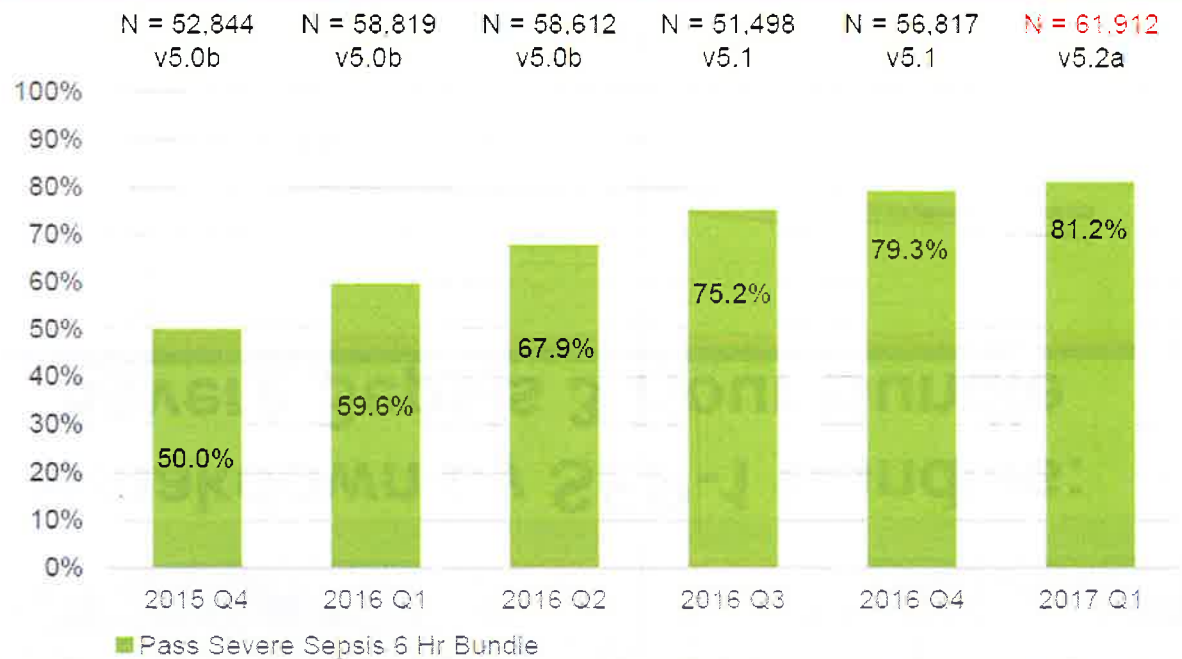
(lactate, blood culture, antibiotics)

Breakdown by SEP-1 Bundles: Severe Sepsis 3-Hour Bundle



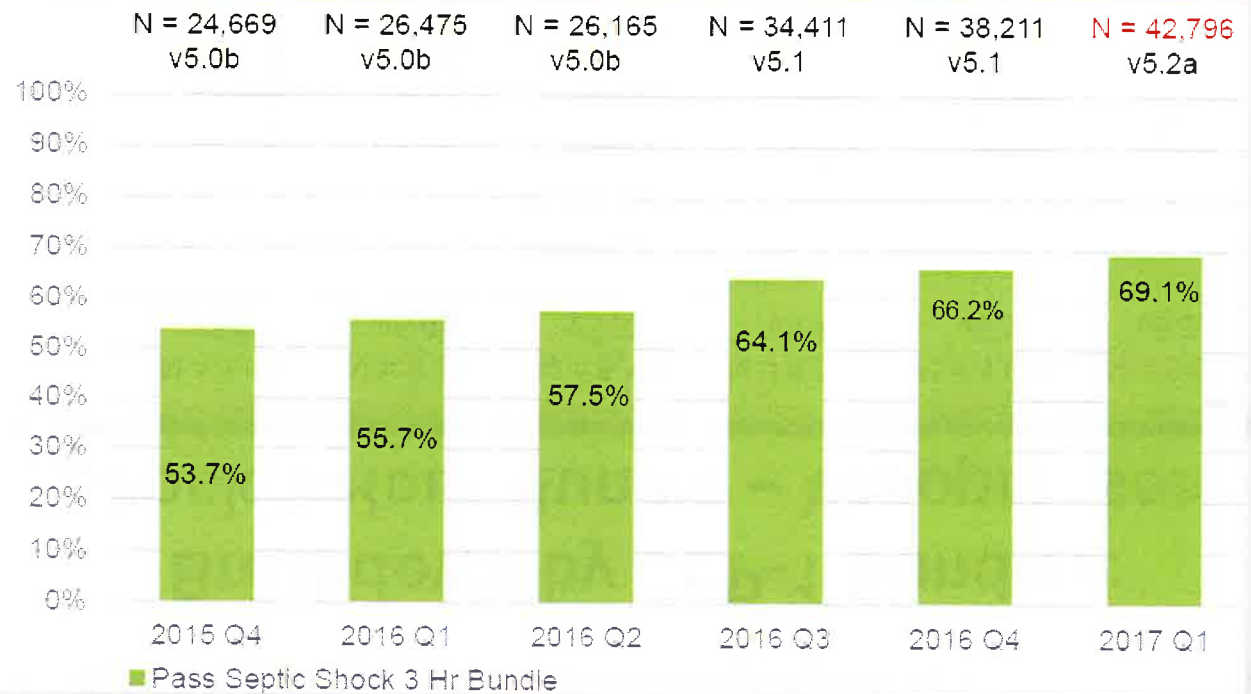
6 hour Severe Sepsis bundle compliance (repeat lactate)

Breakdown by SEP-1 Bundles: Severe Sepsis 6-Hour Bundle



Septic Shock 3-Hour bundle compliance (30ml/kg fluid bolus)

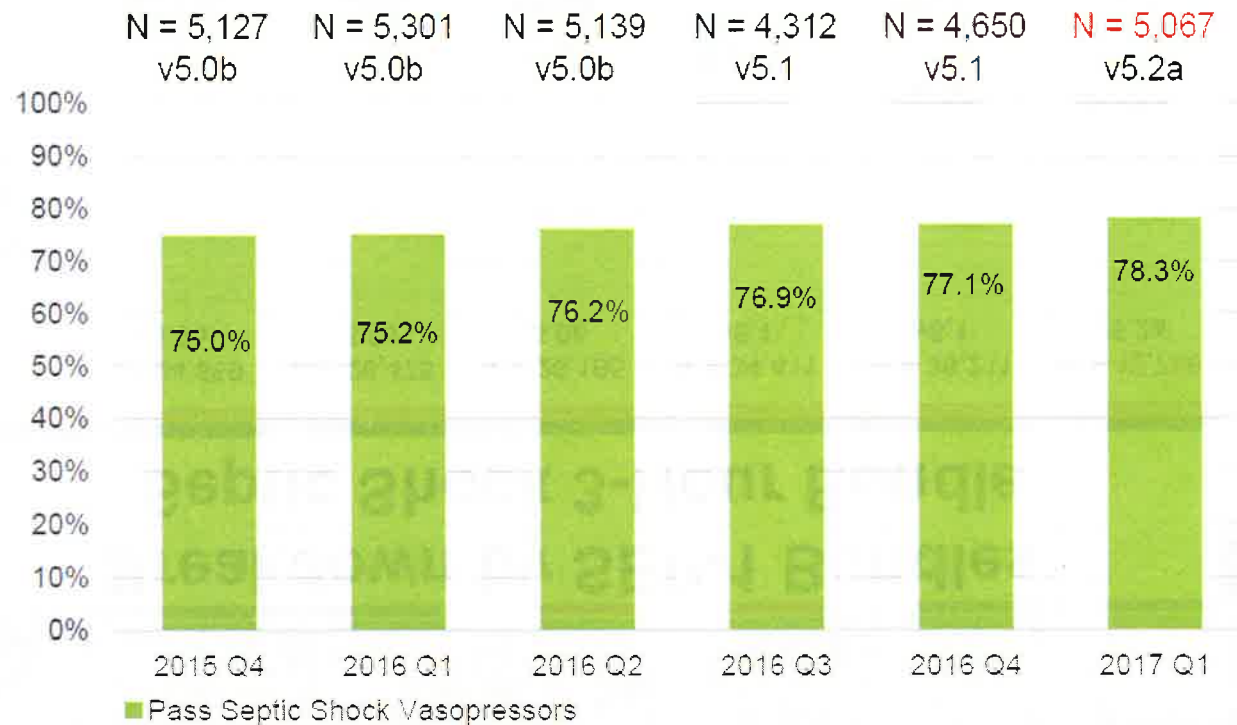
Breakdown by SEP-1 Bundles: Septic Shock 3-Hour Bundle



CMS Sep-1 Presentation, Nov, 2017

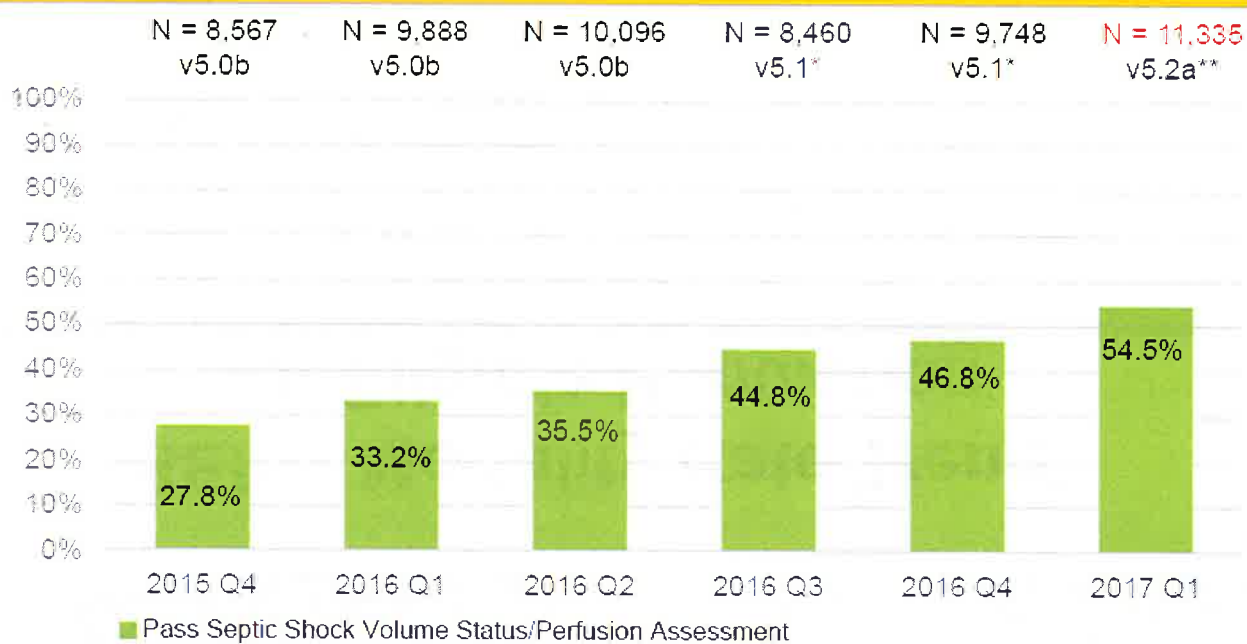
Septic Shock 6-Hour bundle compliance (vasopressors)

Breakdown by SEP-1 Bundles: Shock 6-Hour Bundle – Vasopressors



Septic Shock 6-Hour bundle compliance (reassessment)

Breakdown by SEP-1 Bundles: Septic Shock 6-Hour Bundle – Assessment

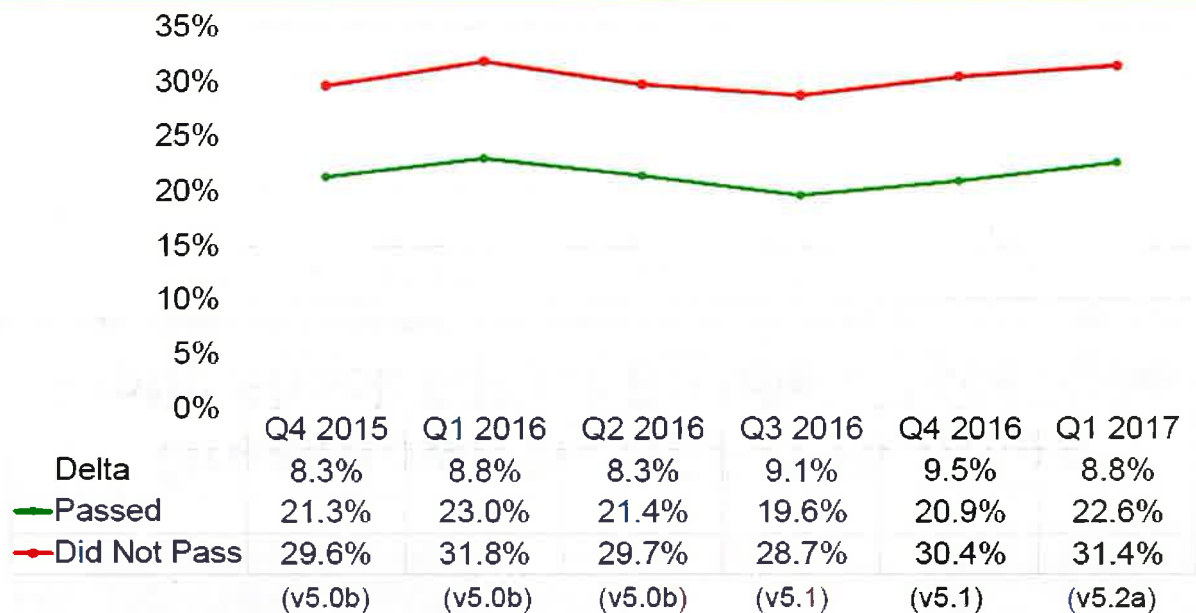


*Changed requirement from physician performed to physician documented.

**Clinician attestation of performing assessment added.

Severe Sepsis/Septic Shock Mortality

SEP-1 Mortality Rate Trend* for Eligible Population



*Mortality analysis is limited to Medicare patients. Results of analysis are not risk-adjusted. Differences in mortality rates are statistically significant.

Hospital Compare

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Unplanned
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Use of medical
imaging

Payment & value
of care

Hospital Compare Sepsis Care

<https://www.medicare.gov/hospitalcompare/profile>

Quality measure	What is this and why is it important?
Percentage of patients who received appropriate care for severe sepsis and septic shock.	<ul style="list-style-type: none">• Sepsis is a complication that occurs when your body has an extreme response to an infection. It causes damage to organs in the body and can be life-threatening if not treated. If sepsis becomes severe enough or develops into septic shock, the chances of dying from sepsis increase significantly.• On average over 200,000 people in the United States die every year from sepsis. Anyone can develop sepsis, but older adults and people with weak immune systems have a higher risk for developing sepsis and a greater chance of dying from severe sepsis or septic shock.• Best practice guidelines show that early identification of sepsis and early appropriate care can lower the risk of death from sepsis.• This measure shows the percentage of patients with severe sepsis or septic shock for which a hospital provides appropriate care <p>Higher percentages are better.</p>

Hospital Compare Sepsis Care

Timely & effective care- Sepsis care

SEP-1	Early Management Bundle, Severe Sepsis/Septic Shock	Percentage of patients who received appropriate care for severe sepsis and septic shock.	Quarterly (April, July, October, December)	1/1/2017	9/30/2017
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	ST JOSEPH MERCY HOSPITAL	MICHIGAN AVERAGE	NATIONAL AVERAGE
Percentage of patients who received appropriate care for severe sepsis and septic shock. <i>Higher percentages are better</i>	51% ²	46% ²⁰	49% ²⁰

Top 10% is greater than 65%
SJMH is >65% for Q2 & Q3 2018

2018 is 10% of 2017 & 2018 is 10% of 2017

Data measurement and Use of data

2018 is 10% of 2017 & 2018 is 10% of 2017

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How you Collect Data Impacts Use

How is Data Used	Prospective	Concurrent	Retrospective
Anticipatory review of patient record (can impact current care)	Yes	No	No
Data abstracted in real time or within 24 hours		Yes	No
Serves as a prompt to execute bundle or the next phase of the bundle	Yes	Yes	No
Recommended for new improvement teams		Yes	No
Recommended for advanced improvement teams or those that have demonstrated success with process measures	Yes		Yes

Surviving Sepsis Campaign, Society of Critical Care Medicine, website accessed 1/26/2017

What outcome and process data should be collected and reviewed?

- Understand your volume of sepsis, severe sepsis and septic shock—look at mortality, LOS, cost, readmission
- Stratify your data by:
 - POA, non-POA
 - Medical vs surgical
 - Discharge disposition
 - Sepsis severity
- Process Metrics
 - Overall SEP-1 compliance
 - 3 hour bundle compliance
 - Each individual element compliance

Slide 39

PJP3

sample size from CMS

collect all the process measures -- don't stop when fall out

who to share the data with? proactive/realtime data collection

Patricia J. Posa, 4/30/2018

Feedback to Individual Providers

Patient Initials:

Abstractor Name & Date:

Severe Sepsis/Septic Shock Feedback Report - MICU

The purpose of this report is to give feedback on the below listed patient recently treated for Severe Sepsis/Septic Shock, and to emphasize the current quality improvement initiative related to Sepsis. We welcome your input and clinical expertise on opportunities that might help us improve on any of these measures.

Performing all the elements within the resuscitation bundles listed below in a timely manner can significantly reduce mortality of our Severe Sepsis and Septic Shock patients. Thank you for your dedication and care for these patients. If you have any questions, please contact Dr. _____, MICU Sepsis Champion or Dr. _____, ED Quality Coordinator or Emily C. Swiss, Sepsis Program Leader at _____.

Patient Name:	FIN:
ED Arrival Date & Time:	ED RN:
ED Physician:	ED Resident:
Floor Arrival Date, Time, & Unit:	Pt Transferred From:
ICU Arrival Date & Time:	
Attending:	Resident:
RN:	PRISM Score:
Severe Sepsis:	Septic Shock Time (Time Zero)
Severe Sepsis/Septic Shock Clinical Pathway:	Code Sepsis Paged:
Date/Time Criteria Infection:	
Date/Time Criteria SIRS	
Date/Time Criteria Organ Dysf:	

Sepsis Quality Indicators

	Date & Time	Result	Goal Met (Y/N)	Goal
3 Hour Measures				
Lactic Acid				Drawn within 3h of Severe Sepsis (Look 6hrs Prior)
Blood Cultures before Antibiotics				Drawn before ABX (Look 48hrs Prior)
Broad-Spectrum Antibiotics				Hung within 3h of Severe Sepsis (Look 24hrs Prior)
30mL/kg Fluid Bolus Weight in kg:				As Fast As Possible. Infused within 3h of Severe Sepsis. (Goal = Y/N if Hypotensive, LA ≥ 4, OR Septic Shock)
Check BP in hour after conclusion of 30ml/kg fluid bolus				At least one BP documented
Central Line Placed, If Requires Vasopressors				Placed within 2h of Vasopressor Start
6 Hour Measures				
Vasopressor Started for SBP < 90 or MAP ≤ 65mmHG				Started 1hr of Persistent Hypotension After Initial Fluid Bolus
CMS Requirement- Vasopressor Started for SBP < 90 or MAP ≤ 65mmHG				CMS Requirement-Started within 6h of Septic Shock
Repeat Focused Exam by MD/AP (vs. Cardiopulm, Cap Refill, Peripheral Pulse, AND Skin Findings) OR 2 Measures (CVP, ScVO ₂ , Bedside Cardiovascular Ultrasound, SV Optimization with Fluid Challenge/Passive Leg Raise)				Documented within 6h of Septic Shock
Repeat Lactic Acid				Repeat within 6h of Severe Sepsis >2

Comments:

Identify Gaps in Application of Evidence

- Set performance targets
 - IE: 90% compliance with obtaining lactates in 3 hours
- Prioritize area to work on first
 - Focus on screening and the 3 hour bundle first then move to the 6 hour bundle
- Understand the ‘why’ there are gaps
 - “go and see”—walk the process, talk with front line staff
 - Cause and effect—Fishbone
- Define action plan—
 - Can use IHI Model for Improvement
 - PDCA—tests of change

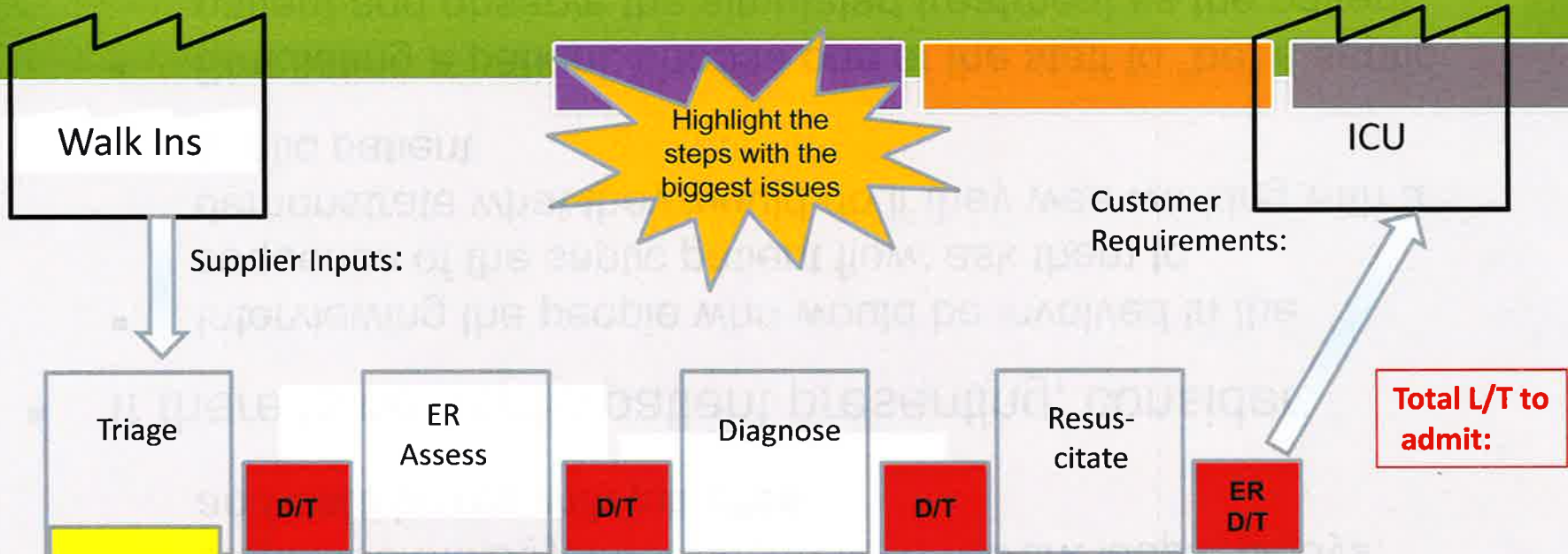
Determining the Gaps: Understanding Why

- Success relies on a complex set of tasks being completed in a limited amount of time
- Requires data collection and analysis to determine the bottleneck(s)
- Must analyze the workflow for patients arriving in the ED as well as those who become septic after hospitalization
- QI/PI teams are a great resource when available
- Multiple tools have proven successful
- Some examples of diagnostic tools used for analysis, and the “therapeutic” tools developed out of the analysis

Current State Mapping Exercise

- Perform a “Go See” with ED and ICU staff and draw a Current State Map for the septic patient flow
 - Include Customer & Requirements, Supplier & Inputs, major steps, technology, information flow, rework loops, delays, and data boxes with job titles
- If there is no septic patient presenting, consider:
 - Interviewing the people who would be involved in the sequence of the septic patient flow: ask them to demonstrate what they would do if they were working with a septic patient
 - Simulating a patient: choose one of the staff to “be” a septic patient and observe the simulated treatment as the patient progresses to ICU management

Sepsis Patient Flow Template: Walk Ins



Query Pt.
Perform Assessment

1. List the process steps below each box
2. For each process step include job title of persons performing the step
3. For each queue quantify the delay time (D/T)
4. Then total each to get L/T for the overall process

% bundle use:
Labs:
Meds:
IV's:
Monitoring:
CVP:
MAP:
ScvO2:
SV:
Echo:

If bundle is not used, describe these resuscitation components

Current State Issues

Process Box & Issue

Top 2 reasons why

1

1a

1b

2

2a

2b

3

3a

3b

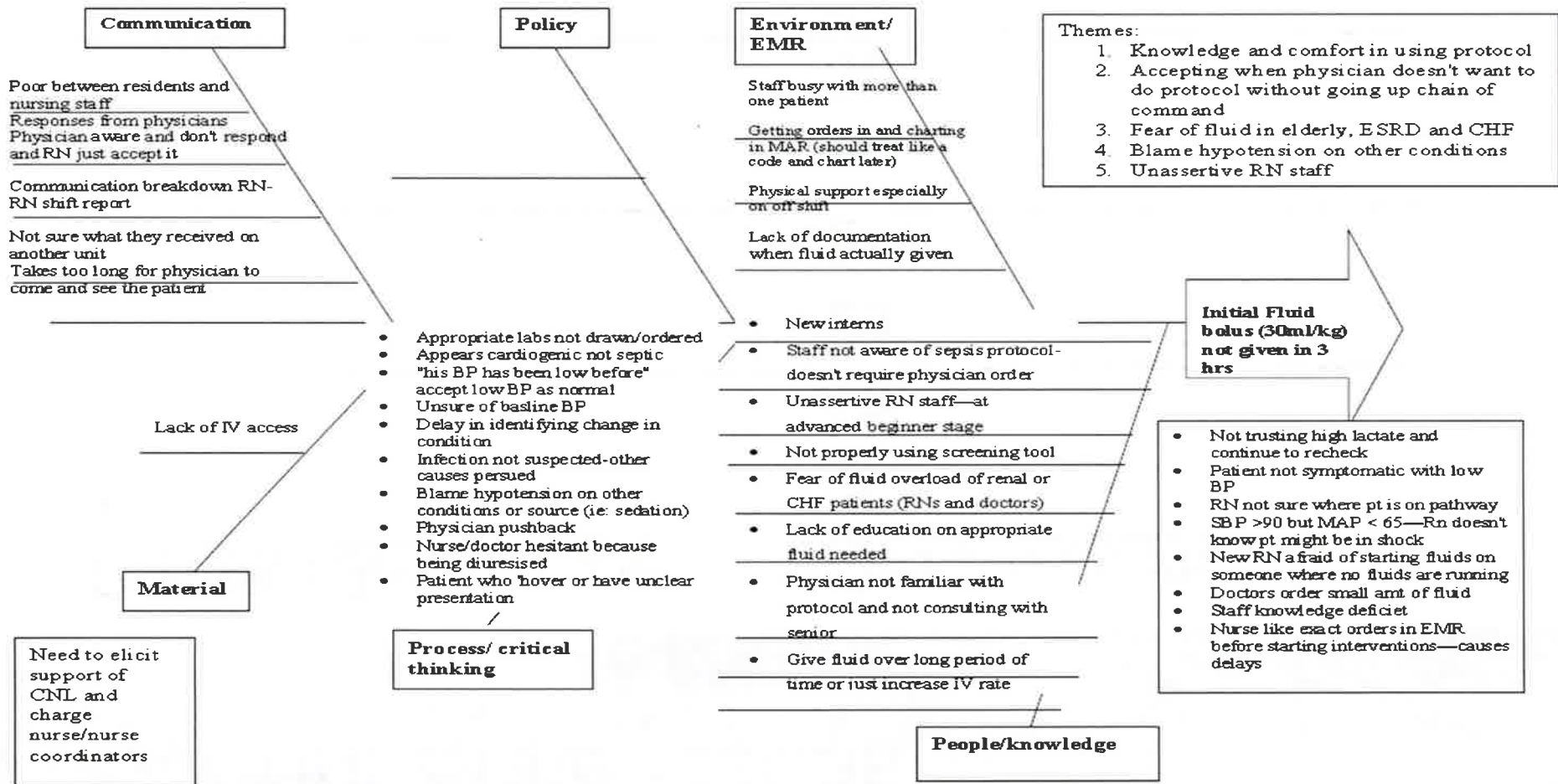
4

4a

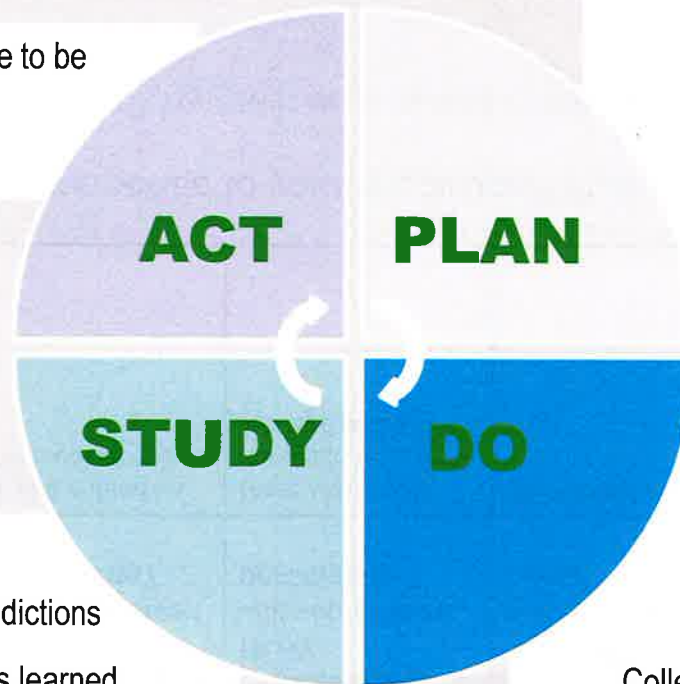
4b

Cause and Effect Diagram

Why is the initial 30ml/kg fluid bolus not being given



The PDSA Cycle for Learning and Improvement¹



What changes are to be made?
Next cycle?

Analyze the data
Compare data to predictions
Summarize what was learned

Set objective
Ask questions and make predictions (why)
Plan to carry out the cycle and data collection (who, what, where, when)

Carry out the plan
Document problems and unexpected observations
Collect and begin data analysis

Planning a Test of Change

Worksheet Example

SMALL TEST OF CHANGE	WHAT do you need to test this idea?	WHO will be involved in the tests?	HOW will you inform participants?	WHERE will the test occur?	WHEN will the test occur?	HOW will you know it is successful?
Test routine screening on medical unit	Paper screening form that includes looking for infection, SIRS and organ dysfunction	3 staff nurses on the medical unit	Meet with 3 staff nurses to review the tool and process	9E medical unit	Week of June 5 th	Screening tool was completed correctly without any confusion and same result is obtained by staff nurse and sepsis team member

When will you compare what happened to your prediction? Week of June 12th

When will you decide what to do next? Try it with all the nurses on the day shift and night shift for one week

SMALL TEST OF CHANGE	What did you predict will happen?	What happened?	What did you learn?	What are the next steps?
Routine sepsis screening	Screening form/process will be easy to follow and result in a correct screen	Screening process was easy and the results were correct	Nurses like having clear direction on the form for what to do with a positive screen for severe sepsis	Expand the test of change to the rest of the day shift and the night shift

Challenges



Challenges with the Bundles

- Timely antibiotics
- 30ml/kg fluid bolus
- Repeat lactate
- Sepsis reassessment