Improving the management of sepsis in the Acute Assessment Area …

…is there an alternative pathway?

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Observation?

2 cohorts of patients:

Group 1 (Assessed in a resuscitation area):

- 80% of patients receive antibiotics within 1 hour.

Group 2 (Assessed in acute assessment):

- 16% of patients receive antibiotics within 1 hour.

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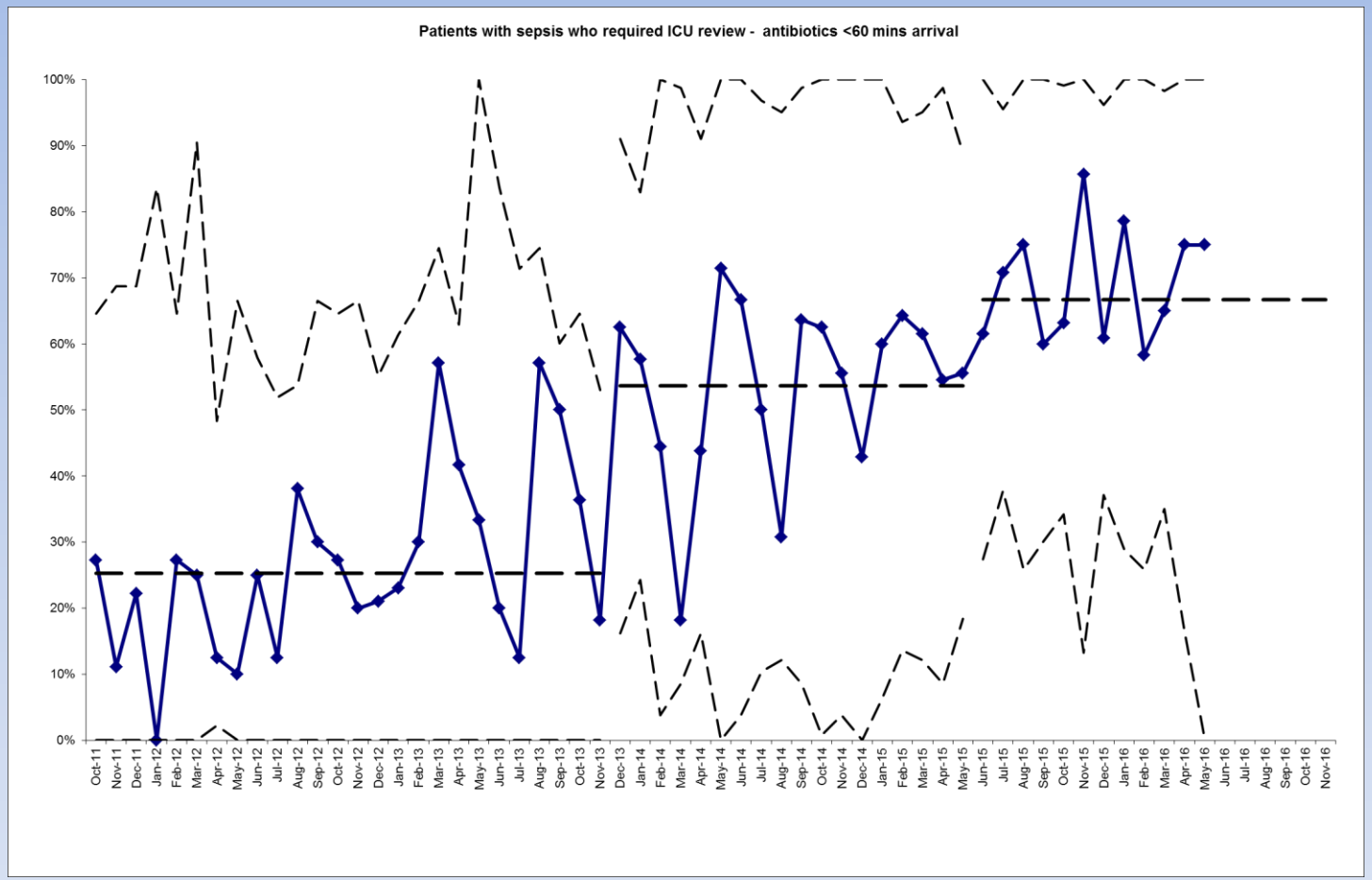
Improving time to antibiotics for patients with sepsis?



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Observation Cohort 2

- 43% who met ‘SIRS’ criteria initially placed in Acute Assessment (Cohort 2 patients).
- 26% of the cohort 2 patients required ICU input.

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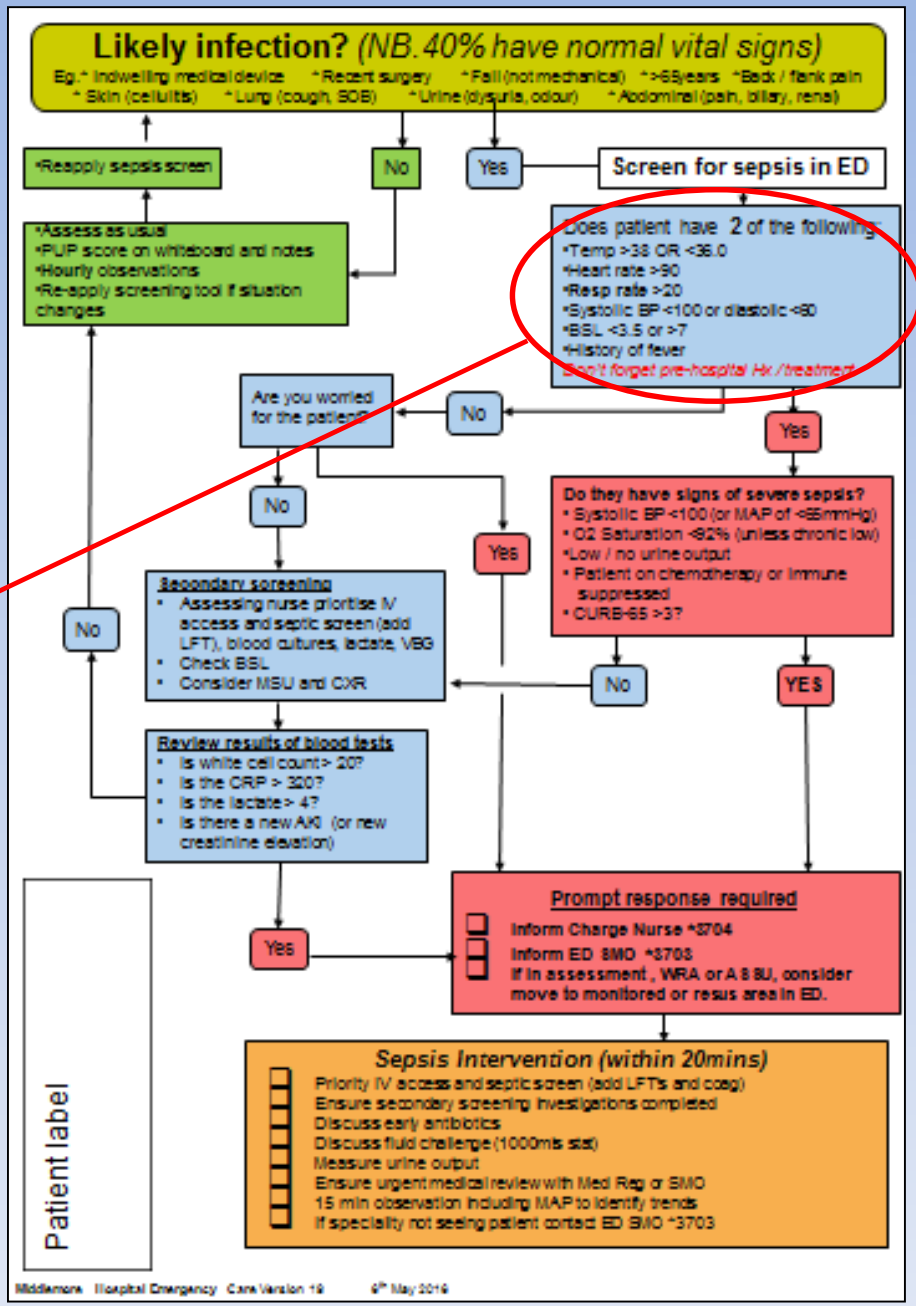
How to identify patients at risk of sepsis?

Does the patient have **2** of the following:

- Temp >38 OR <36.0
- Heart rate >90
- Resp rate >20
- Systolic BP <100
- BSL <3.5 or >7
- History of fever



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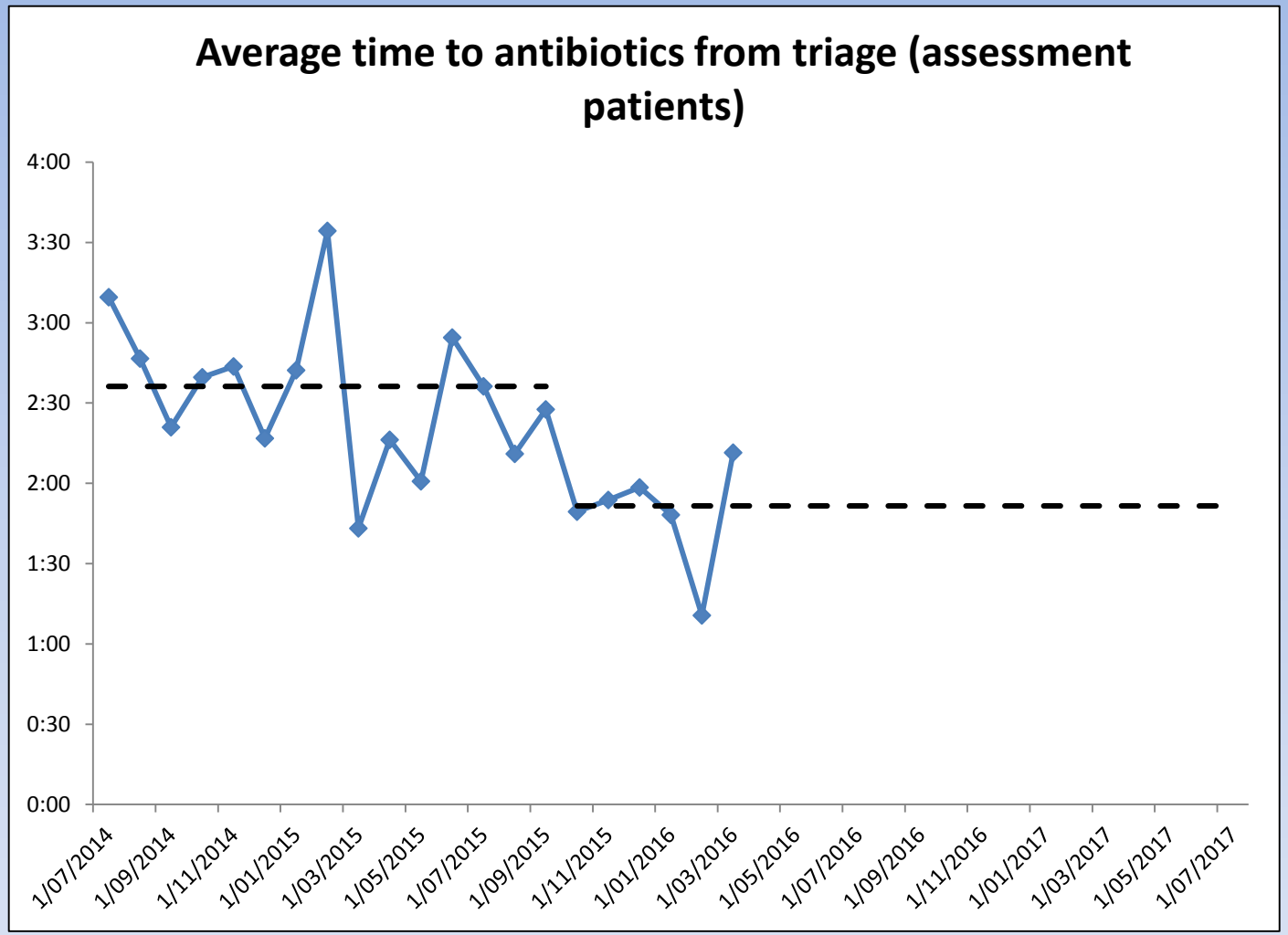
Time to antibiotics in a cohort 2



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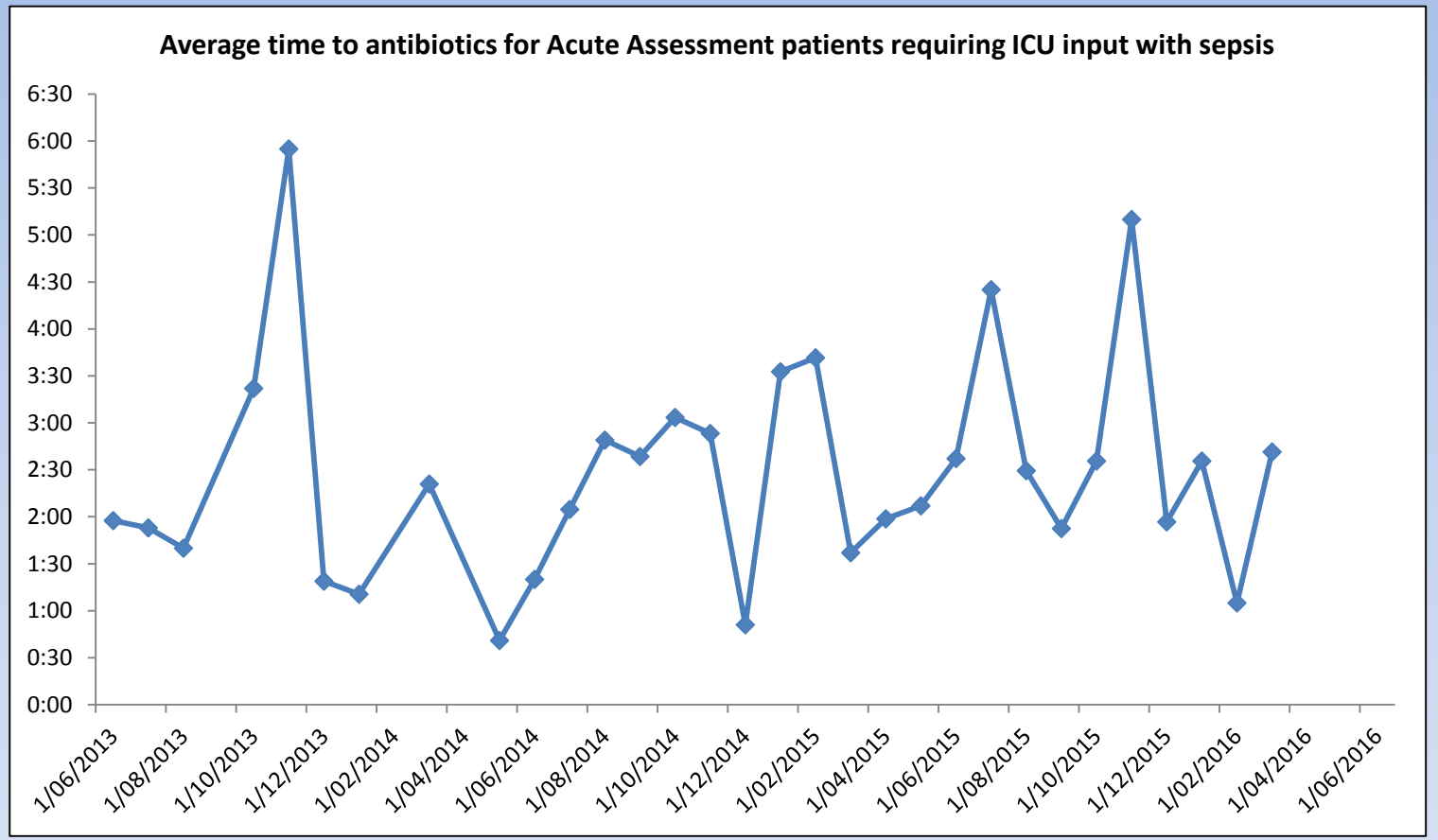
Time to antibiotics for cohort 2 patients requiring ICU input



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Analyses - 24 hours of Acute Assessment presentations

True ve+	False ve+
12	**4**
SIRs plus infection	**SIRs no infection**
False ve-	True ve-
9	82
Infection no SIRs	No infection no SIRs

- The screening tool when applied in this area, has a high specificity 95% (CI 88.5-98.7), but low sensitivity 57% (CI 34.0-78.1).

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Poor sensitivity

- Aligns with observation that sepsis is not readily identified at triage, and does not identify the deteriorating patient.

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Analysis - patients

- Not clear sepsis.
- 40% initial vital signs normal.
- Pre-hospital treatments – masking symptoms.
- Low acuity patients
- High volumes in adult assessment

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Analysis - staffing

- Junior team
- Time to initial nursing assessment was 35 mins
- Patient assessments take longer.
- Further 50 minutes for IV access and blood tests.
- Support variable
- Response hinges on whether the patient has “suspected infection.”

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Is there an alternative to SIRs?

- 'The Third International Consensus Definitions for Sepsis and Septic Shock' (Sepsis-3) 2015.
- 800,000 electronic health records in 177 hospitals.
- Modified an ICU mortality indicator (SOFA)
- Simple prompt to identify infected patients likely to be septic.
- Known as 'quick SOFA' (qSOFA).

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qSOFA score – 3 criteria

1. Respiratory rate ≥22/minute
2. Altered mentation
3. Systolic blood pressure ≤100 mmHg.

- A score ≥2 is associated with poor outcomes due to sepsis.

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Research Question?

How sensitive is the ‘Systemic Inflammatory Response Syndrome’ (SIRS) score, compared to ‘quick Sequential Organ Failure Assessment’ score (qSOFA), at identifying patients with sepsis in our Emergency Department (ED) population?

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Study Design

556
ED patients in the Acute Assessment Area

SIRs	qSOFA
ve+	ve+
ve-	ve+
ve+	ve-
ve-	ve-

Route A
Intervention as is current standard practice:
- Prioritise to be seen urgently
- Urgent IV access
- Rapid diagnostics
- IV antibiotics within 1 hour

Route B
Intervention as is current standard practice:
- Patient seen in time of arrival
- Arrange diagnostics
- IV antibiotics maybe within 3hrs if the infection symptom developed later

Final diagnoses:
- Infection in discharge summary
- Organ failure as evidenced in blood work.

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Where to from here?

- Understand which process provides the best pathway to timely treatment.
- To date…
- Low numbers meet qSOFA criteria
- qSOFA not missed any ICU admits
- Will help identify patients who require an escalation plan.
- Patients who meet SIRs are numerous, no resource to escalate

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