

# APPROPRIATE AND VALUE-BASED CARE CONFERENCE 2025

Maximising Value for All

16-17 OCTOBER 2025 AVBC  
Appropriate and Value-Based Care

Core Team:  
Dr Ei Ei Thazin Win, Associate Consultant  
Li Lihong, Advanced Practice Nurse  
Emilia Fan Aimin, Nurse Clinician  
Sharon Neo Chia Lee, Senior Nurse Educator  
Agnes Ho Hui Yin, Assistant Nurse Clinician  
Jacelyn Lee Je Lin, Staff Nurse

# Safe from Sepsis

Ms Caren Mok Kar Yen<sup>1</sup> | Asst Prof Huang Wenhui<sup>2</sup>

<sup>1</sup>Senior Nurse Manager, Nursing Service | <sup>2</sup>Senior Consultant, General Medicine

## MISSION STATEMENT

To achieve at least 80% of febrile patients who are developing new<sup>1</sup> or worsening sepsis<sup>2</sup> to receive antibiotic administration<sup>3</sup> from baseline 220 mins to <= 180 mins from fever recognition<sup>4</sup> at Level 8 Wards Tan Tock Seng Hospital within 6 months.

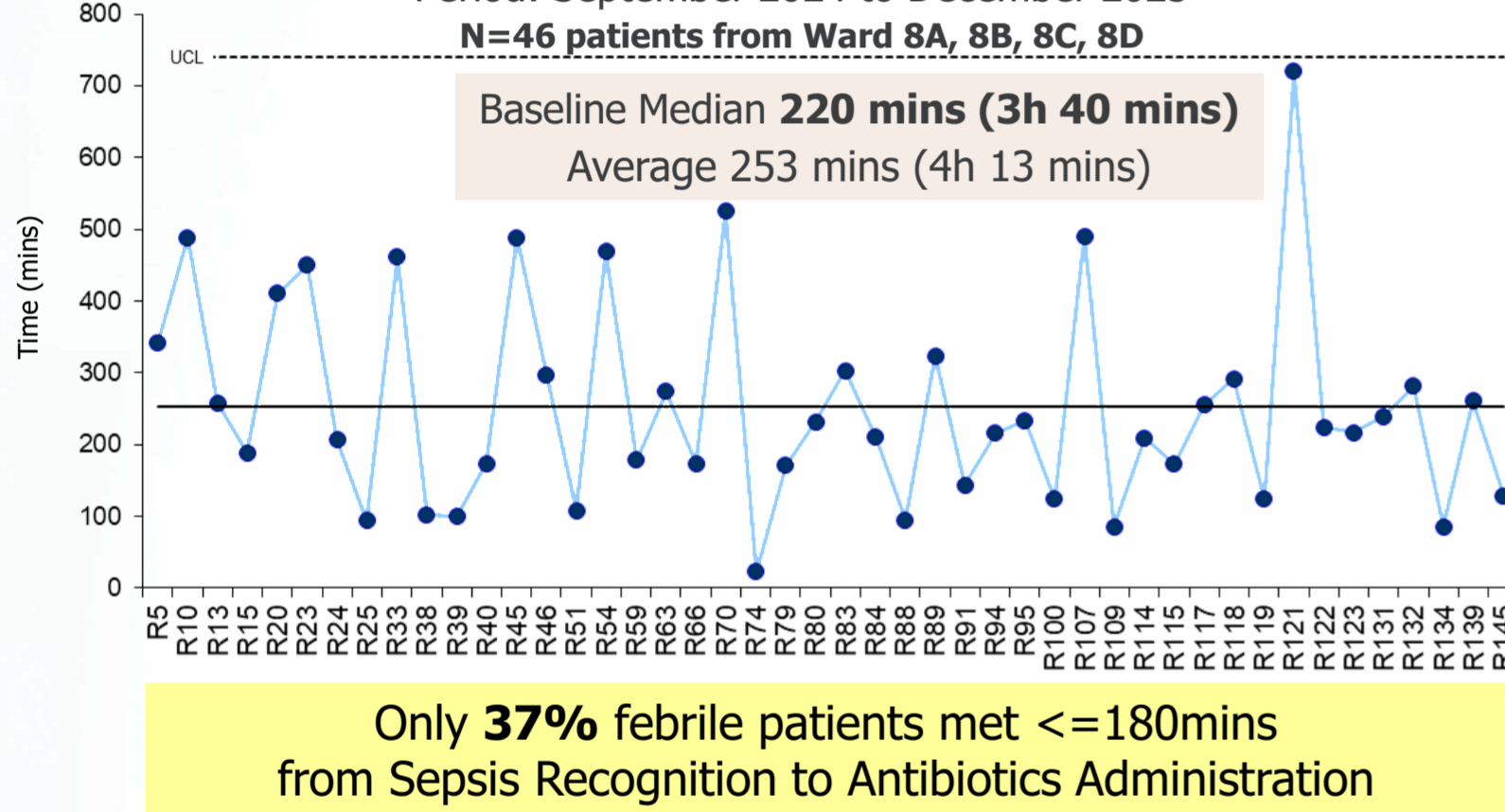
- Definitions:**  
<sup>1</sup> **new sepsis** – Newly developing physiological derangements which can be eventually attributed to new infection  
<sup>2</sup> **worsening sepsis** – Dynamic state experienced by a patient compromising hemodynamic stability, marked by physiological decompensation accompanied by subjective or objective findings (e.g. increase in any component of NEWS2 score); which can be eventually attributed to a worsening infection.  
<sup>3</sup> **antibiotic administration** – Either starting of new antibiotics for new onset fever or escalation of antibiotics if the patient is already on antibiotics (imply to deteriorating groups) depending on clinician's assessment  
<sup>4</sup> **fever recognition** – Identifying a febrile patient with a new fever spike (body temperature >38°C) within the past 48 hours, requires timely assessment for possible sepsis.

## EVIDENCE FOR A PROBLEM WORTH SOLVING

### Time from Fever Recognition to Antibiotics Administered (mins)

Period: September 2024 to December 2025

N=46 patients from Ward 8A, 8B, 8C, 8D

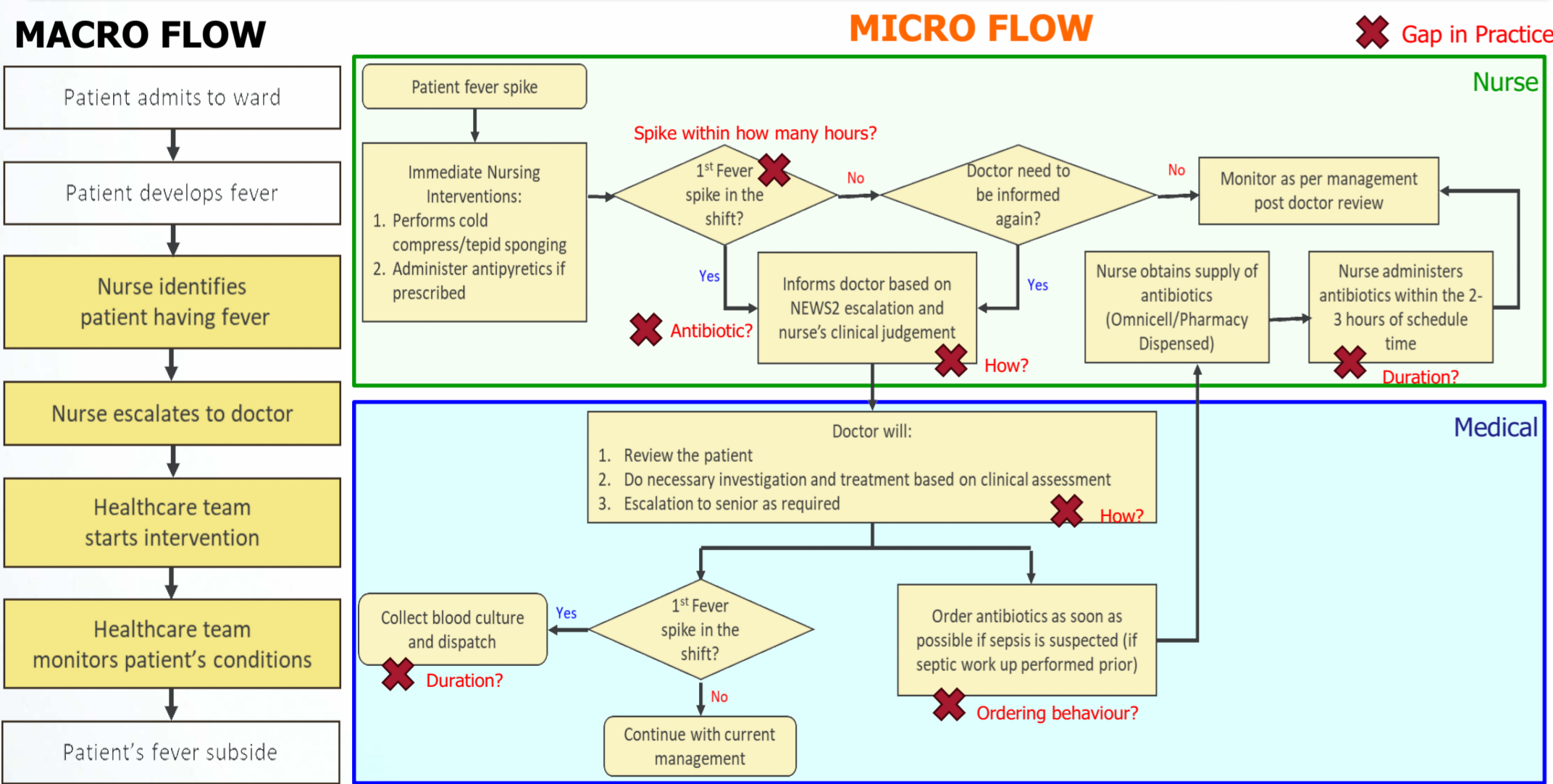


### Impact on Mortality:

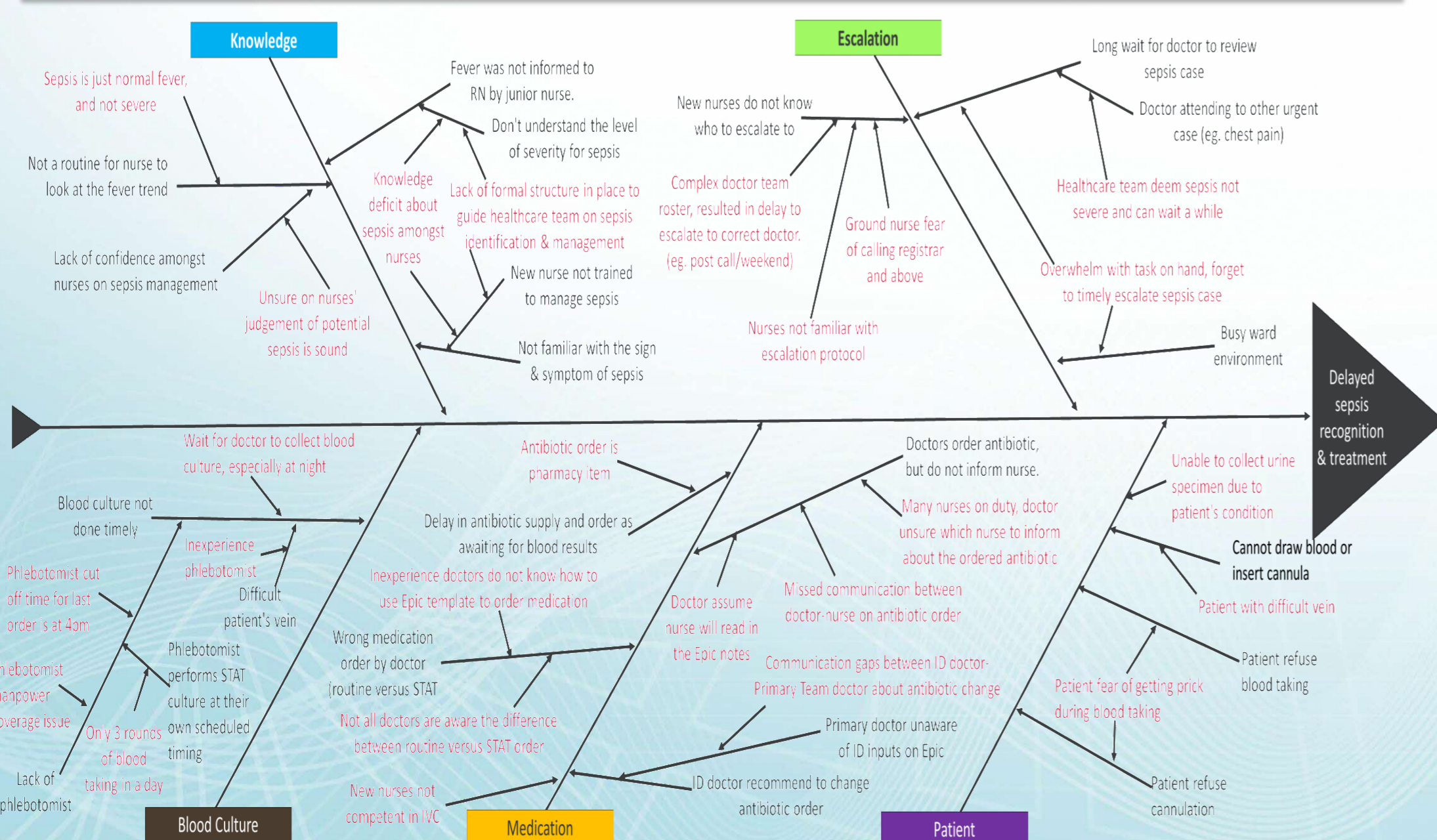
A study published in Critical Care Medicine examined 35,000 patients with sepsis and found that the median time to antibiotic administration was 2.1 hours. Importantly, patients receiving antibiotics earlier had a higher severity of illness, highlighting the necessity of prompt treatment in severe cases.  
*The Timing of Early Antibiotics and Hospital Mortality in Sepsis | American Journal of Respiratory and Critical Care Medicine*

Only 37% febrile patients met <=180mins from Sepsis Recognition to Antibiotics Administration

## FLOW CHART OF PROCESS



## CAUSE AND EFFECT DIAGRAM



## IMPLEMENTATION

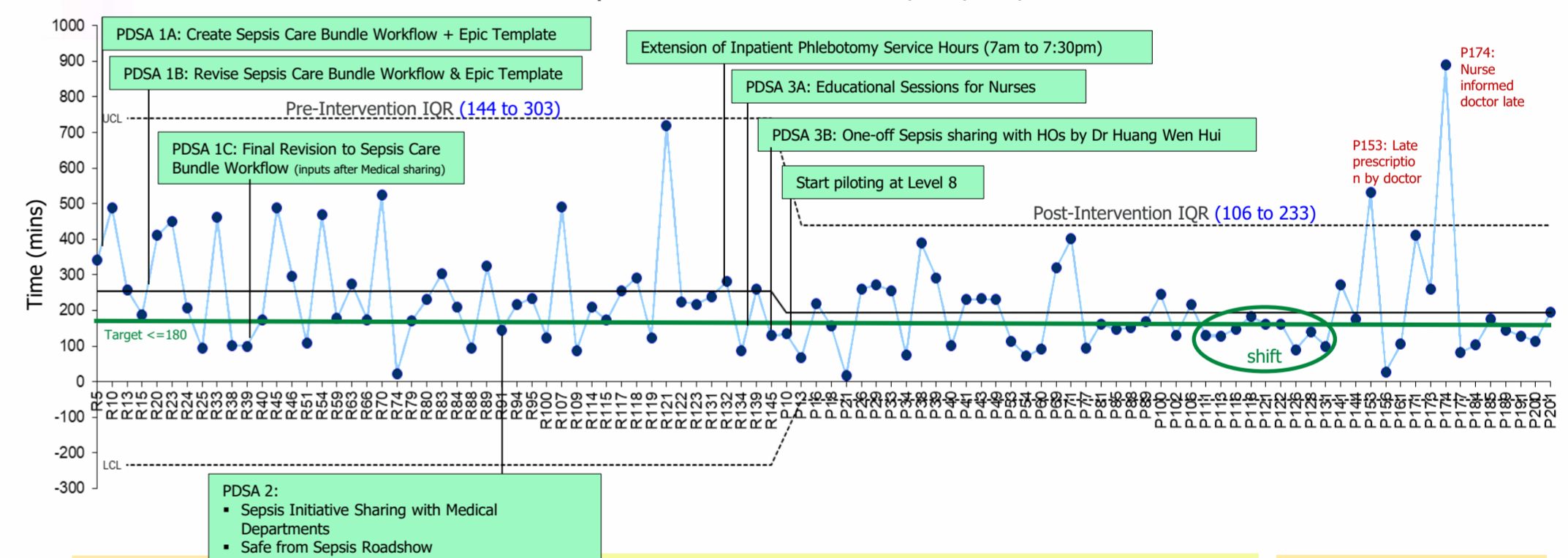
Root Cause	Intervention	Implementation Date
Cause 1: Knowledge deficit about sepsis amongst nurses	PDSA 1: Create Sepsis Care Bundle Workflow and Epic Documentation Template	September 2024
Cause 2: Lack of formal structure in place to guide healthcare team on sepsis identification & management	PDSA 2: Sepsis Initiative Sharing with Healthcare Team <ul style="list-style-type: none"> <li>Doctors: Department Meeting</li> <li>Level 8 Staff: Change Management Roadshow</li> </ul>	October 2024
Cause 3: Overwhelm with task on hand, forget to timely escalate sepsis case	PDSA 3: Educational Sessions for Nurses PDSA 4: Data Coaching Session with Nurse Champions	December 2024 December 2024 to January 2025

## RESULTS

### XMR Chart: Time from Fever Recognition to Antibiotics Administered (mins)

Period: September 2024 to March 2025

N=98 patients from Ward 8A, 8B, 8C, 8D



Pre-Intervention = 37%

Pre-Intervention Median = 220 mins (mean 253 mins)  
Post-Intervention Median = 147 mins (mean 200 mins)

Post-Intervention = 69%

## COST SAVINGS

	Pre-Intervention	Post-Intervention
Median Length of Stay (LOS) Note: Excluded Patients with LOS > 20 Days	10 Days	8.5 Days
No. of Bed Days Saved (Per Patient)		1.5 Day
Bed Days Saved in Monetary Terms (Per Patient)		\$878
Assume in 1 month, we have about 40 patients at Level 8 (~60% receive antibiotics <=180mins after fever recognition)		
Total No. of Bed Days Saved (Annualized)		40 X (60/100) X 1.5 = 36 Days
Total Bed Days Saved in Monetary Terms (Annualized)		24 X 878 = \$31,608

Note: Private Ward Costs per Patient Day = \$1,046

## LESSONS LEARNT

- Difficulty establishing reliable baseline data
- Manual data collection burden on staff
- Variable buy-in from different specialties and departments
- Resource constraints (ie. manpower) and competing priorities during peak hours
- Need for continuous education due to staff turnover

## STRATEGIES TO SUSTAIN

- Integrate into daily practice (ie. embed sepsis screening in routine assessments and EHR documentation)
- Ongoing training & engagement through refresher sessions, case discussions, and audits.
- Leadership & Accountability (ie. assign sepsis champions)
- Real-time monitoring
- Encouraging multidisciplinary collaboration
- Continuous improvement through audits and regular feedback