



EMS Sepsis Alert

The Impact of EMS/Dispatch Prehospital Sepsis Alert on Time to Antibiotics



Northeast Georgia Health System

BACKGROUND/PURPOSE

Objective/Goal of Metric – Decrease the door to treatment time for sepsis patients arriving by EMS.

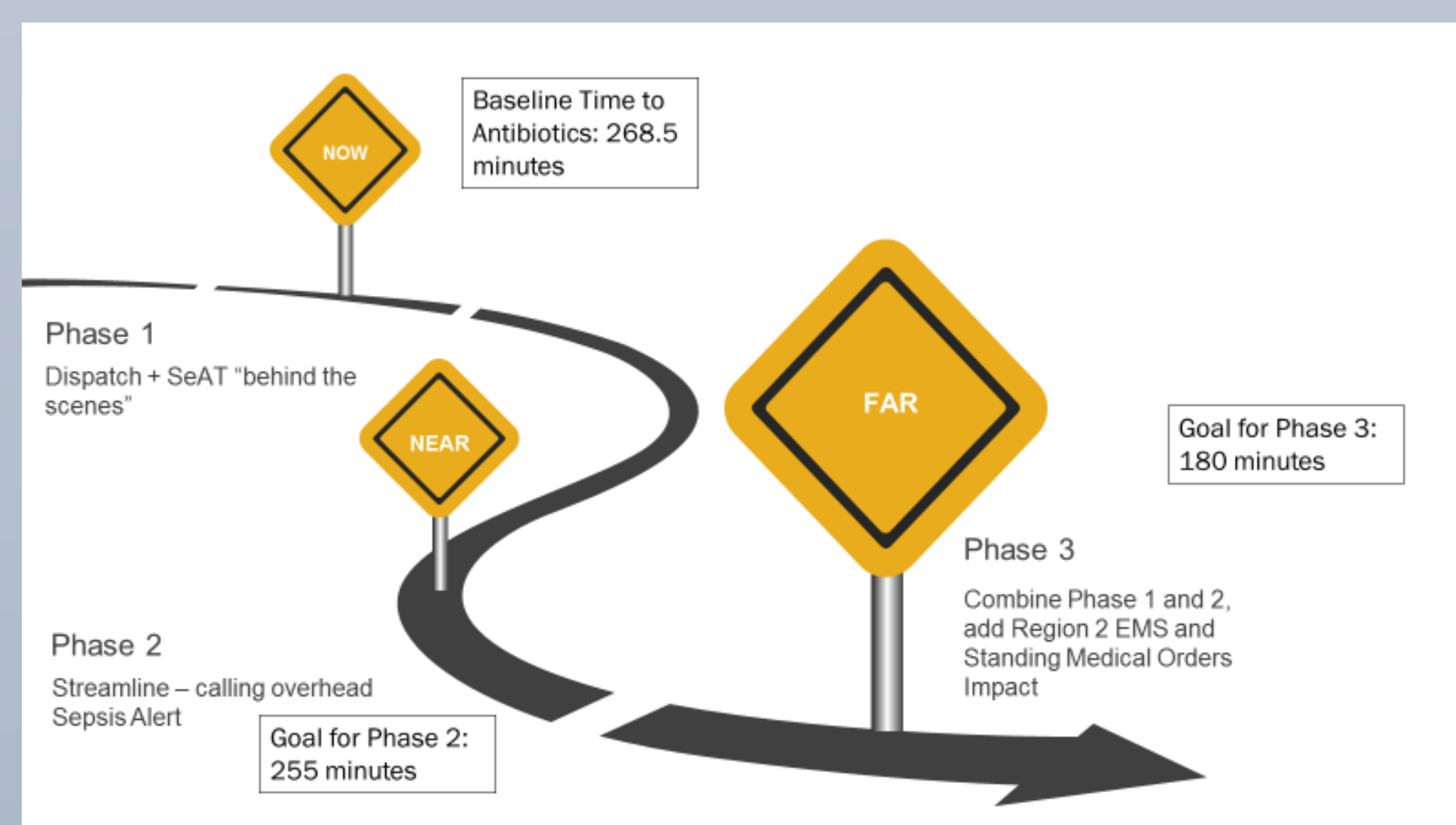
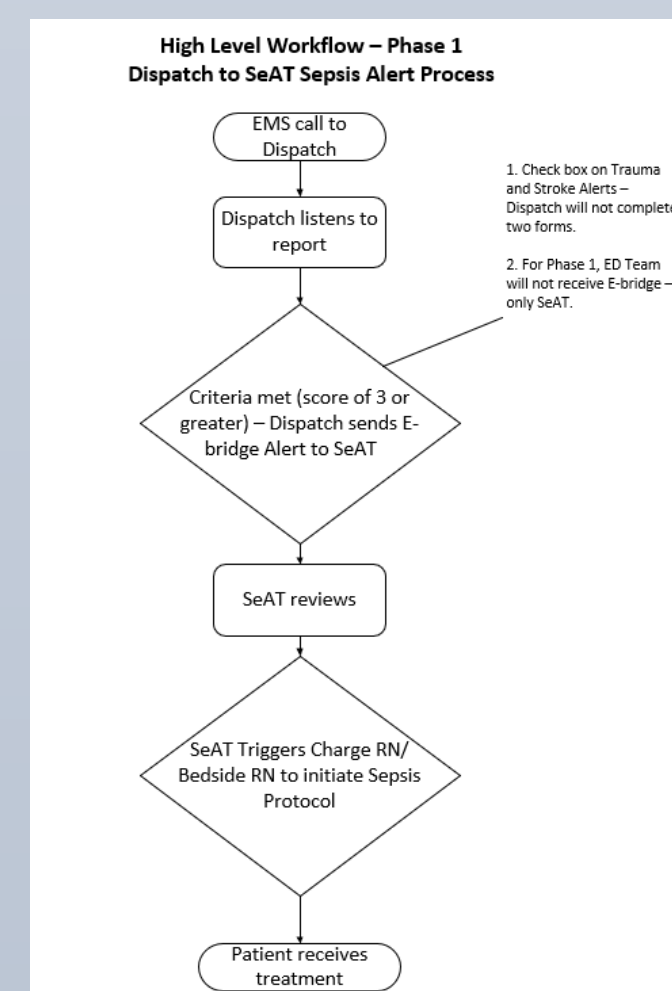
- Baseline: 268 minutes for all ED patients arriving via EMS
- Time to Antibiotics is slower for patients arriving by EMS versus walk-in/private vehicle
- Sepsis Core Measure Time Target: 180 minutes to initiate antibiotics
- Mismatch between target time and baseline time to antibiotics

Arrival via EMS	Average of Time to Initial Antibiotics (in minutes)
Yes	268.54
No	206.16
Grand Total	250.77

DESIGN/METHODOLOGY

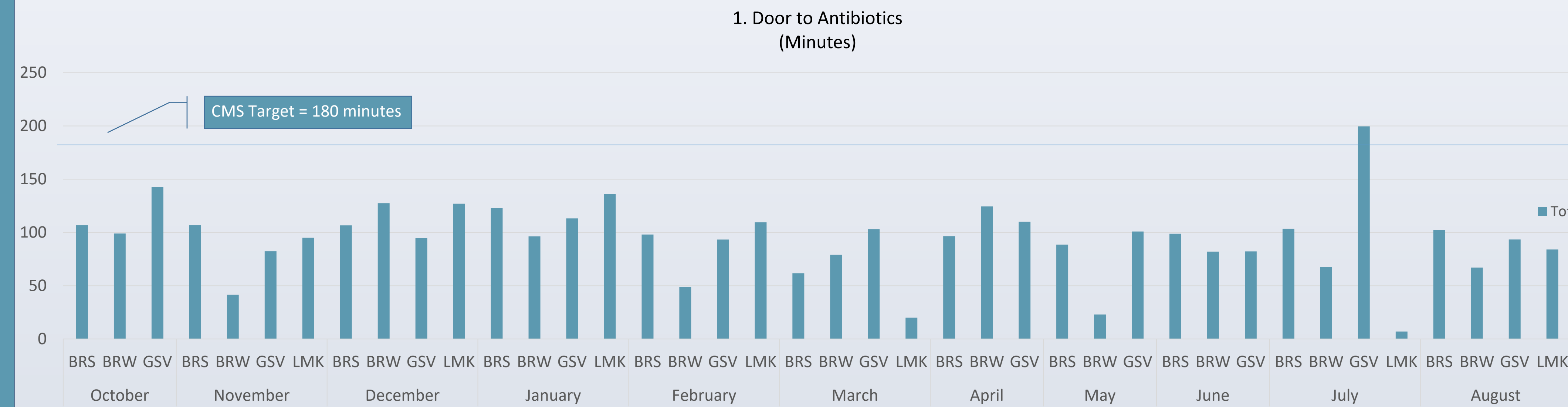
Pilot Study (beginning Oct 25, 2021)

- Dispatch Identification of Infection patients through “3-100s” Sepsis Criteria
 - “3 100s”: HR > 100; SBP < 100; Temp > 100F
- Dispatch Alert to Sepsis eAlert Team (SeAT) via e-Bridge
- SeAT review and communication to ED care team for infection gaps
- Phased Approach to eventual Sepsis Alert to ED Care Staff leveraging PDCA & A3 problem solving



KEY METRIC: TIME TO ANTIBIOTICS

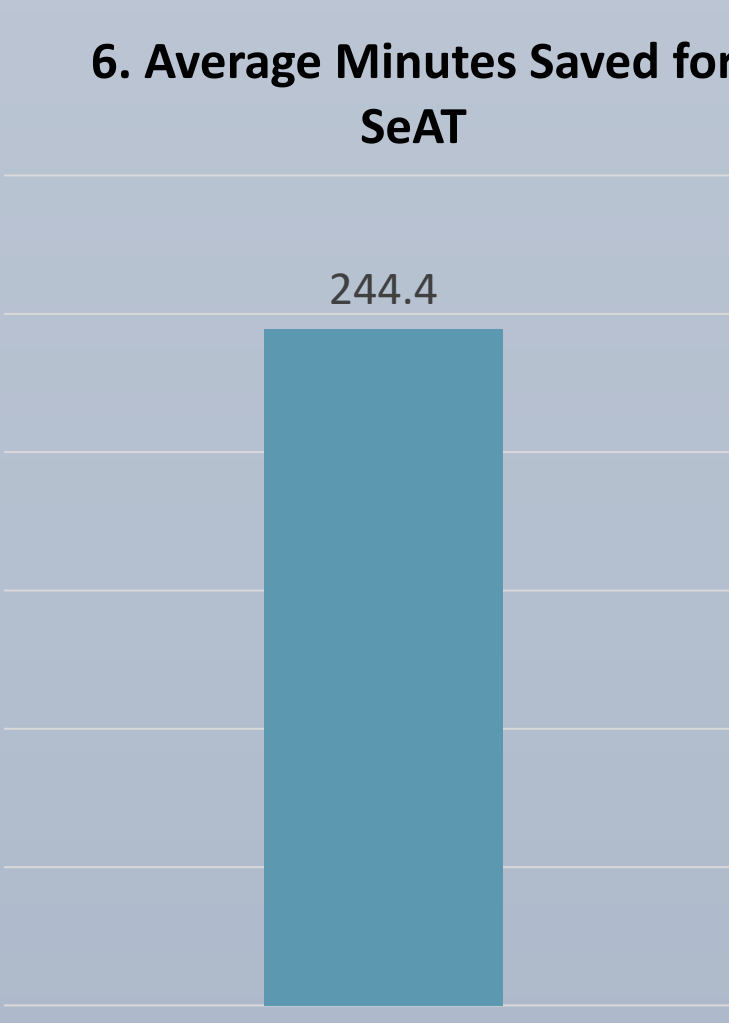
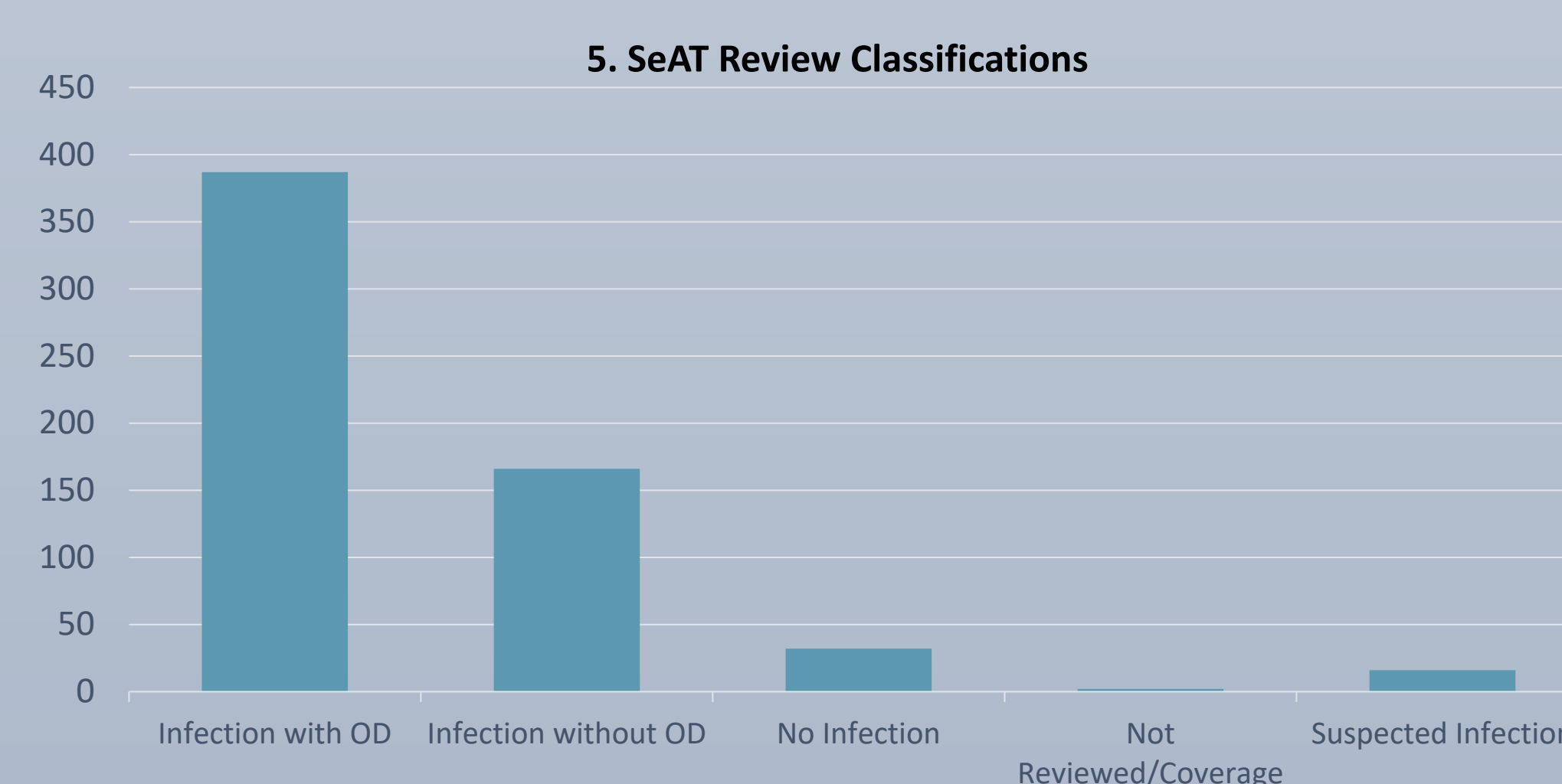
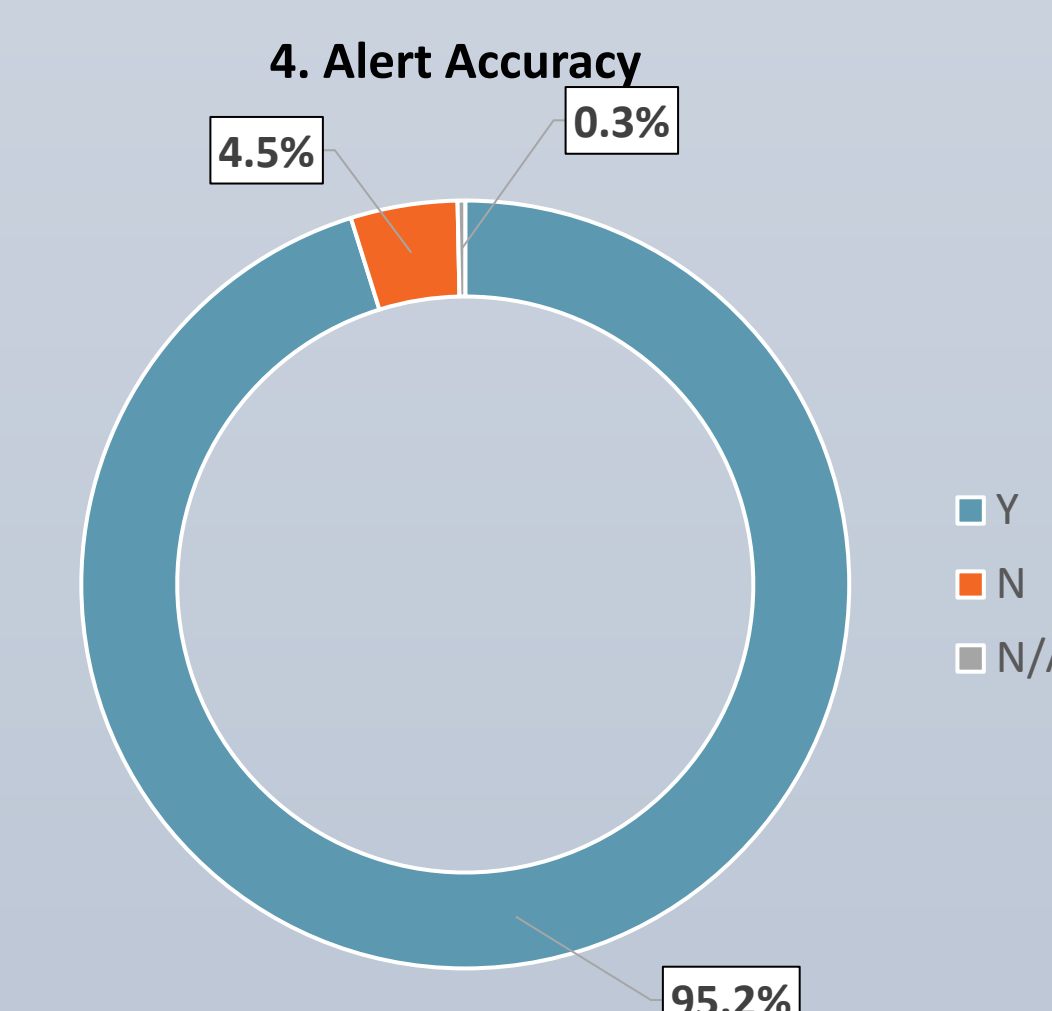
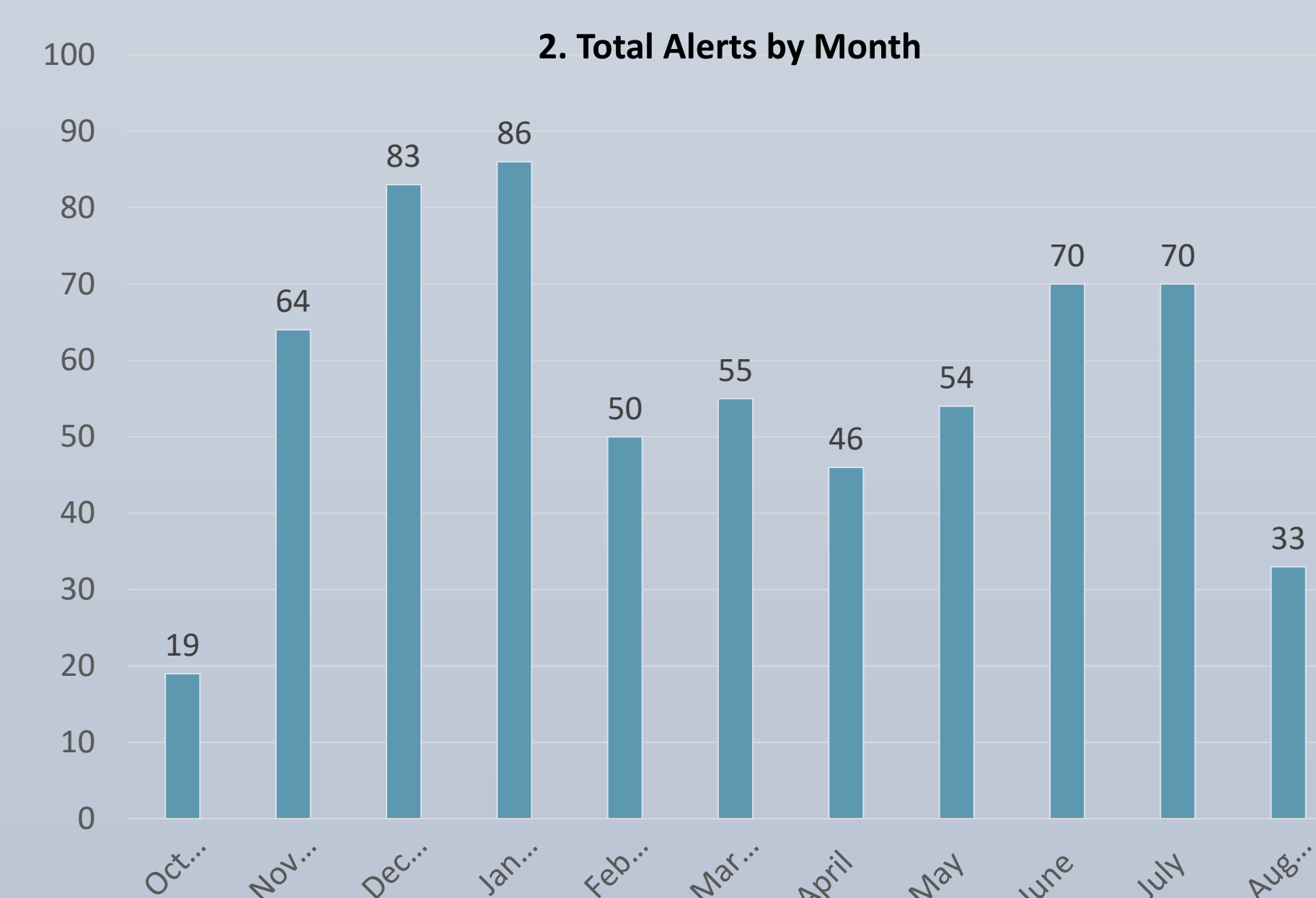
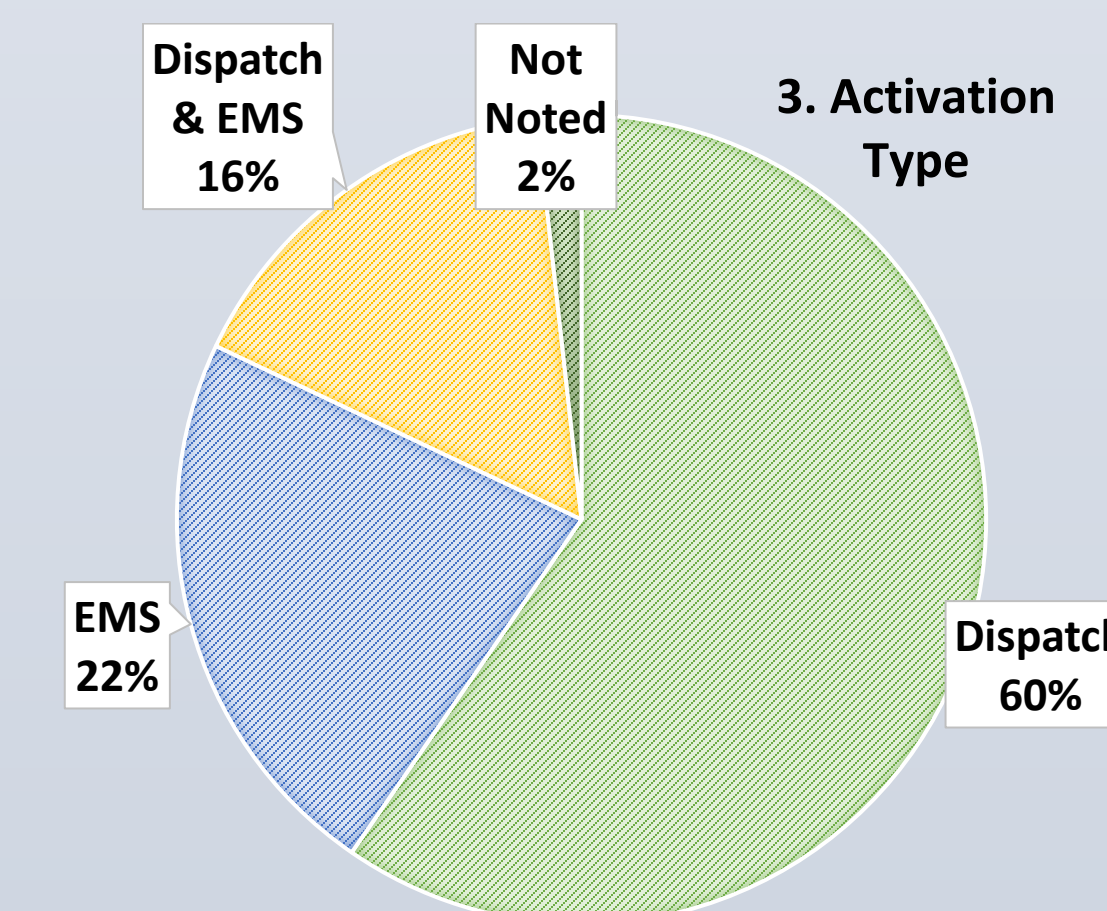
- In terms of the main objective to reduce the average time to antibiotics from the baseline of 268 minutes, the first phase saw an average decrease in time to antibiotics from 268 to 130 minutes. This surpassed the Phase 3 goal proposed and is less than the CMS Target Time of 180 minutes.



PILOT RESULTS

Results (through 8/15/2022):

- The average volume of alerts per month was 64.
- The majority of alerts were called by Dispatch but as the pilot matured, EMS alerts increased.
- Taken all alert activations into account, alert accuracy to identify infection was 95%.
- The majority of patients identified were patients already meeting sepsis criteria (Infection with Organ Dysfunction- OD).
- Most importantly, the pilot saved the SeAT 244 minutes as compared to the traditional alert utilized.



IMPLICATIONS

- Decrease in Time to Treatment has been correlated with improved patient outcomes, including decreases in:
 - Length of Stay
 - Total Cost
 - Complications
 - Re-admissions
- Poor outcomes (including mortality) for sepsis patients can be reduced by 3-7% with every hour of decrease in antibiotic administration
- Preliminary results indicate that the “3 100s” criteria may have utility outside of the skilled nursing setting.
- Time saved for SeAT enables more patients to be reviewed/educated for discharge which also supports better patient outcomes.

FUTURE DIRECTIONS

- Research Study evaluating:
 - qSOFA criteria versus “3 100s”
- Evaluate the contribution of Covid on Time to Antibiotic Administration in patients with pneumonia
- Target Times recalculated to align with new Surviving Sepsis guidelines (60 minutes)
- Activation of Phase 2
- Collaboration with Dispatch, Stroke, and Trauma programs to increase efficiency across the different programs
 - Auto-generated alerts to appropriate contacts based on clinical criteria relayed to Dispatch
 - Reduction of forms to 1 form for efficiency
- Auto-generated data from Dispatch in a format (i.e., Excel) that can be immediately analyzed

TEAM MEMBERS

- Carol Ann Gelderman, MS, BSN, RN, PMP
- Erick Giraldo, NRP
- Ginger Sizemore, BSN, RN
- Joanna Williams, MSN, BSN, RN, CPHQ, ACM-RN, CCM
- Wilson Pierce, MSN, RN, CNEcl, TCRN