



# Improving Sepsis Care in the Emergency Department (ED)

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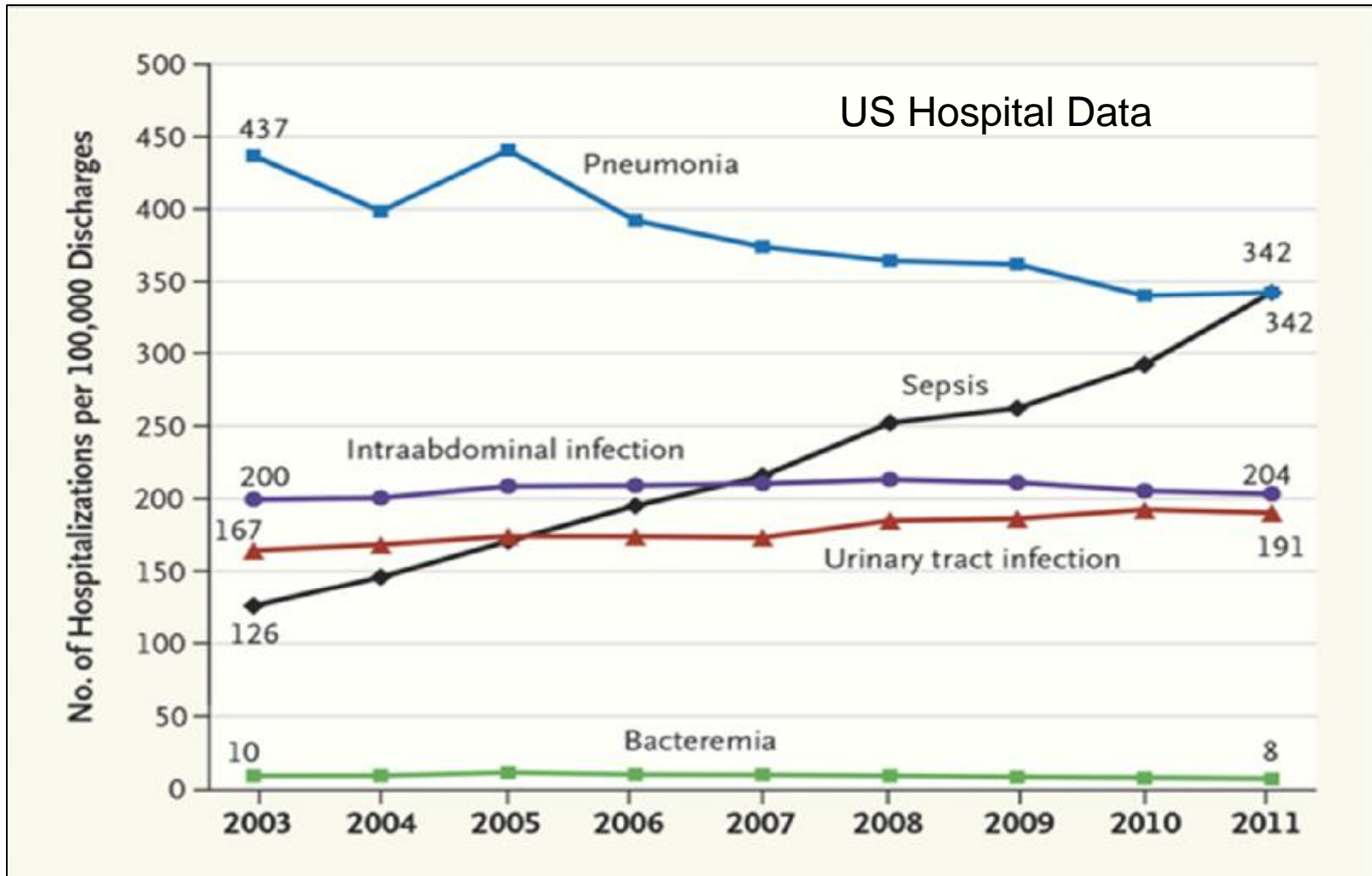
# What is Sepsis?

**Sepsis** is the response of the human body to an infection leading to

**Severe sepsis**, acute organ dysfunction secondary to infection, and

**Septic shock**, severe sepsis plus low blood pressure not reversed with fluid resuscitation.

# Why Important?

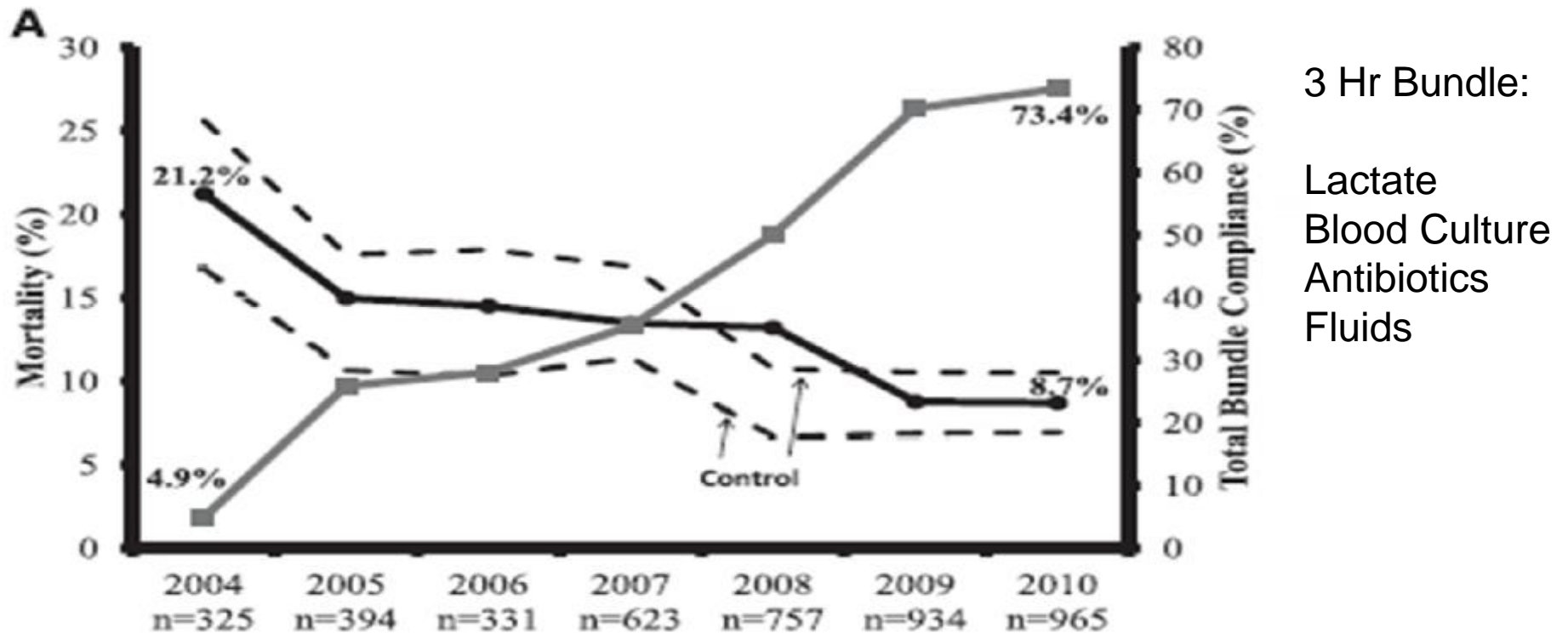




# Some facts about Sepsis...

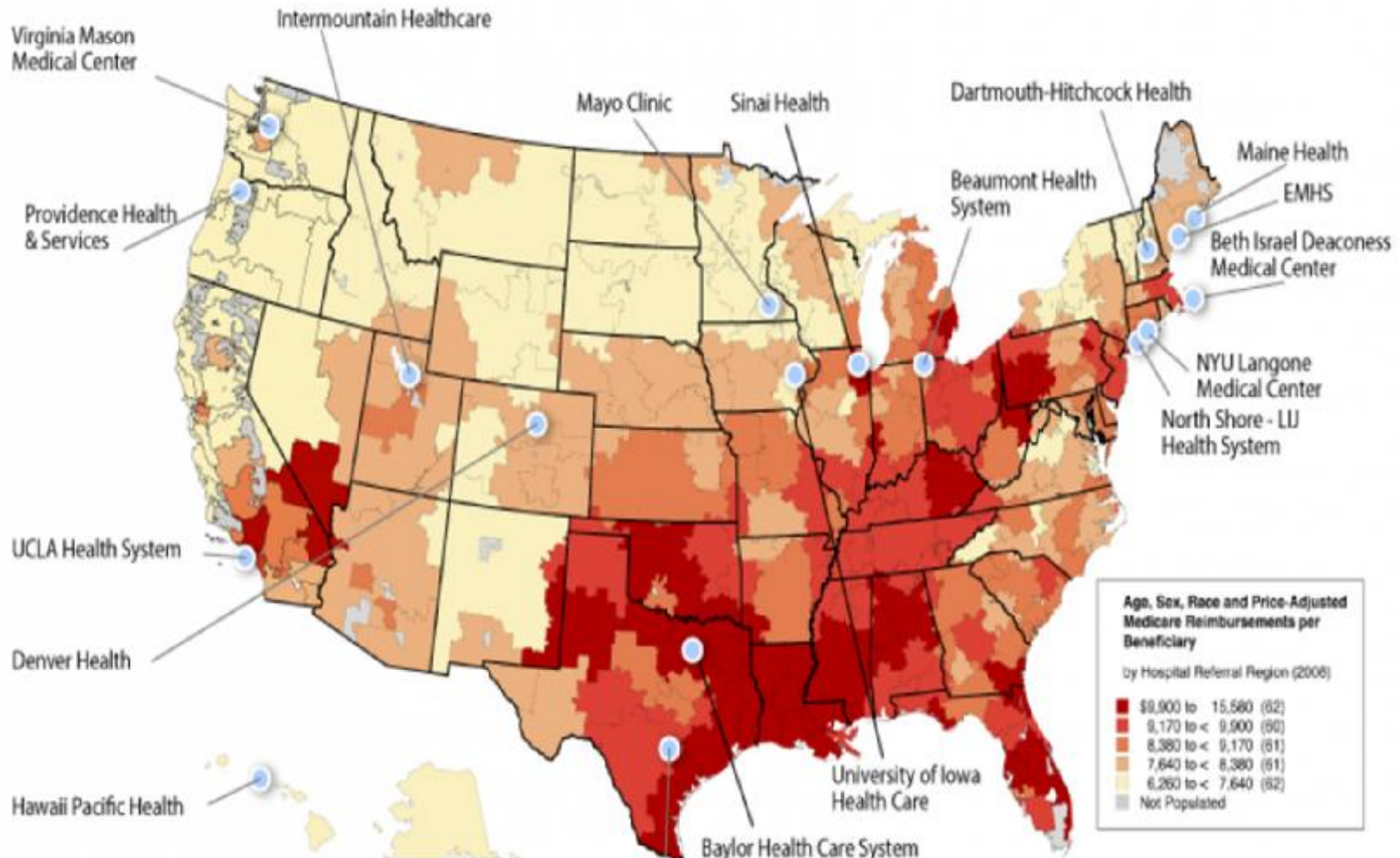
- 10<sup>th</sup> leading cause of death in the US.
- Estimated 750,000 cases each year with mortality rates between 28% to 50%.
- Annual cost of the disease is estimated to be around \$16.7 billion.
- A 2010 study found that as many as one in two patients that die in the hospital had sepsis.

# Impact of early recognition and treatment, the “bundle”



Intermountain HC 2004 -2010

# High Value Healthcare Collaborative



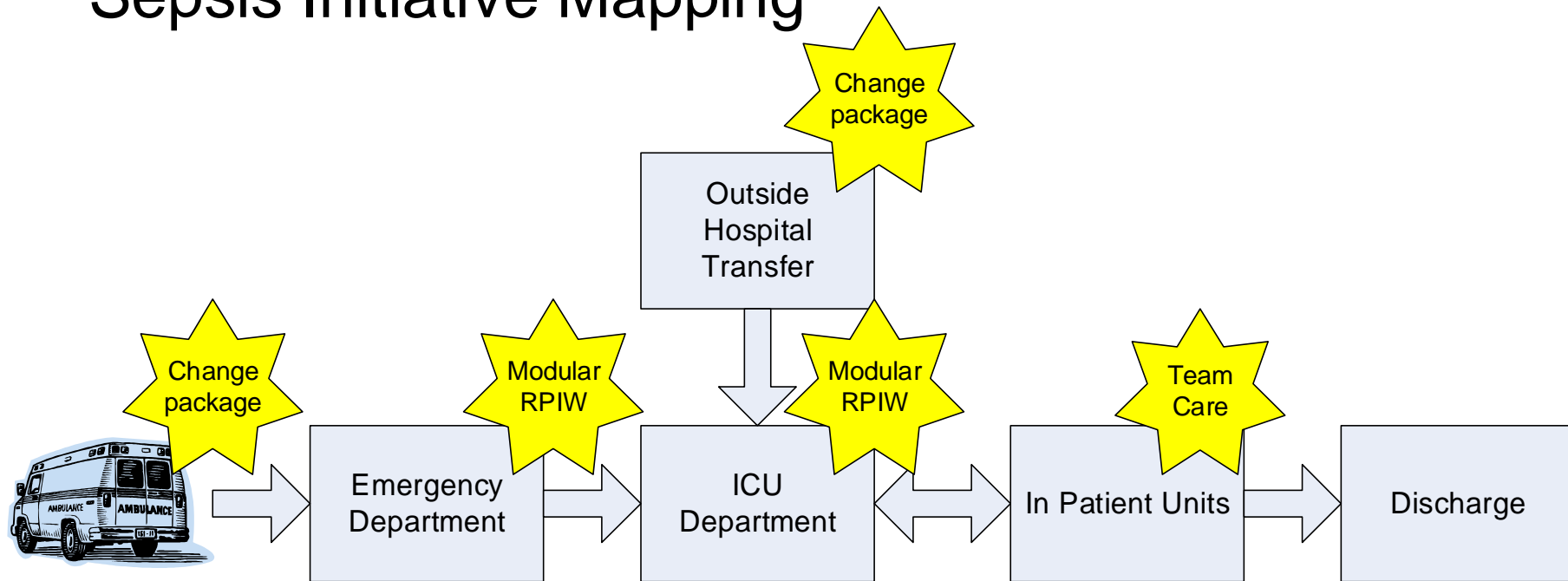


# Our status as of Fall 2013

- Performance far below expectations
- 1 to 2 years behind other member hospitals
- Needed to show improvement within 90 days
- Work had to be done in a way that allowed rapid diffusion across the system



# Sepsis Initiative Mapping



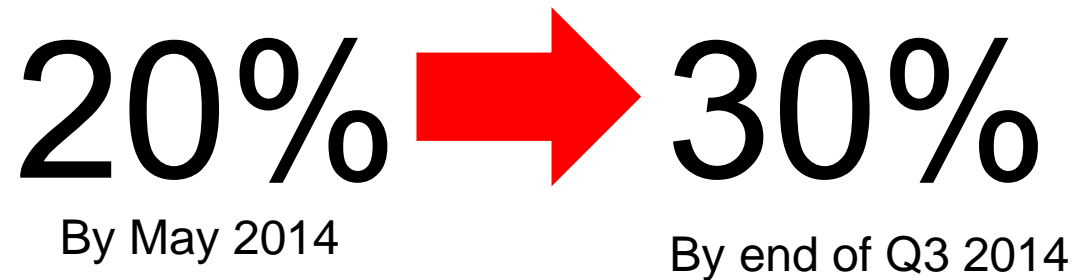




# ED Team Goal

Cross-functional team including ICU Nursing, Lab & Pharmacy

3 hr Bundle compliance goals:





# ED Improvement Approach

Jan 22nd

Feb 20th

Modular RPIW – 4 sessions  
Cross-functional team  
Define, Measure & Analyze

Feb 10th

Thru Oct

Implementation Team – 1 hr per week  
Physicians, Nurses & Residents  
Analyze, Improve & Control

April 1 “Go Live”

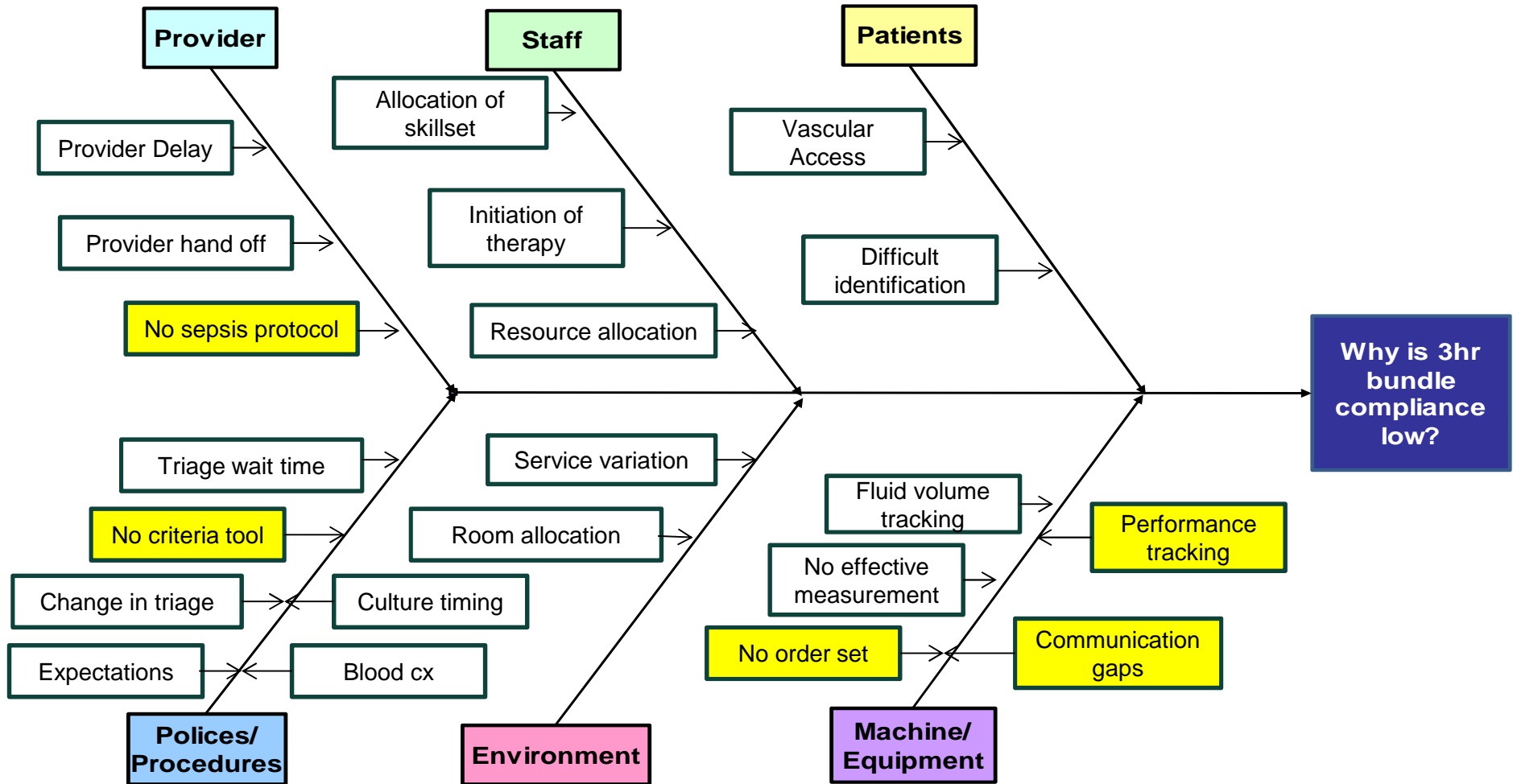




# ED Communication Tactics

Stakeholders (Audience)	Information Needed	Communication Medium (How)	When (Date)
ED Staff	Inform staff of Sepsis kickoff and board posting	Email	By 1/28
ED Staff	Mtg outputs, request for feedback, project update	ED Sepsis Team Board	Weekly board update
ED Nurses	Inform nurses of current work & next steps by team	Nursing huddles	Weekly
ED Residents	Residents update group on team progress and plans	Weekly meetings	Weekly resident meetings
ED Leadership	Updated actions, feedback and next steps	Leadership meeting	Every Monday

# ED 3hr Bundle Compliance Cause & Effect



# ED – Level 2 Room to IV Times

## Background

The ED Sepsis team is trying to understand the current capability of door to IV time for our Level 2 patients. This data represents the average time from when a patient is roomed until an IV is started.

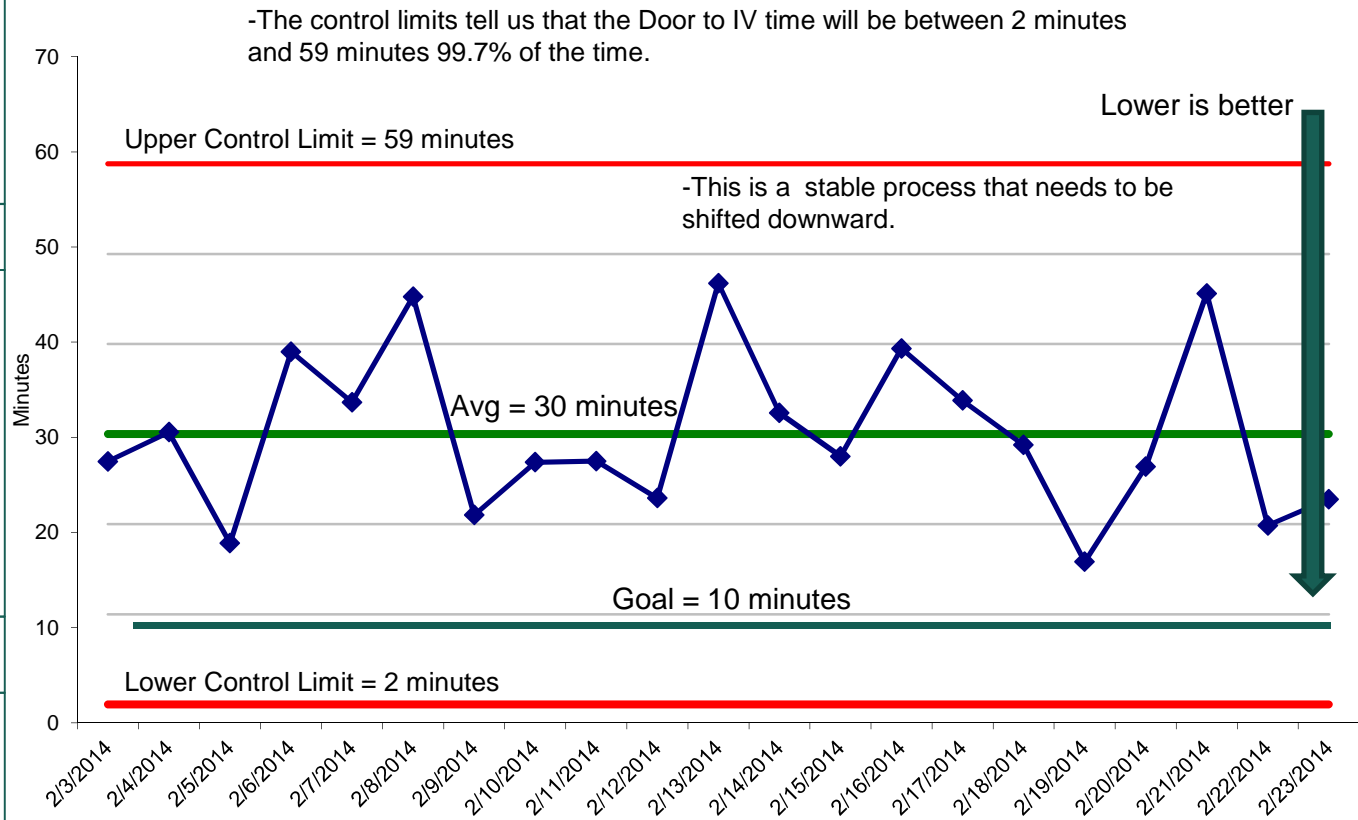
## Data Collection

Each point represents the daily average door to IV time. This data excludes ambulance patients, psych patients and any patient not requiring an IV. This data is manually collected each week by nurse managers. The data is reviewed for accuracy and then averaged by day for posting.

## Goal

- Understand our current performance.
- Create awareness among staff that will help us improve our performance to future goal of 10 minutes.

Average Daily Door to IV Times





# ED Quick Wins

Lactate changes - 50 minute decrease

Added “Super SIRS” as Chief Complaint  
Activated appropriate resources quickly

Decreased room to IV start by 50%

Utilized existing resources for improved patient  
flow/time

Increased team communication



# PDSAs

Identification

Triage

Lactate testing and timing

Treatment

Vascular access

Fluids

Antibiotic





# ED Go Live Achievements

- ED kick off January 22nd
- April 1
  - Criteria Tool in Triage
  - Sepsis Order set
  - Pharmacy optimization
  - Primary Complaint Alert
  - Weekly data and scorecard review

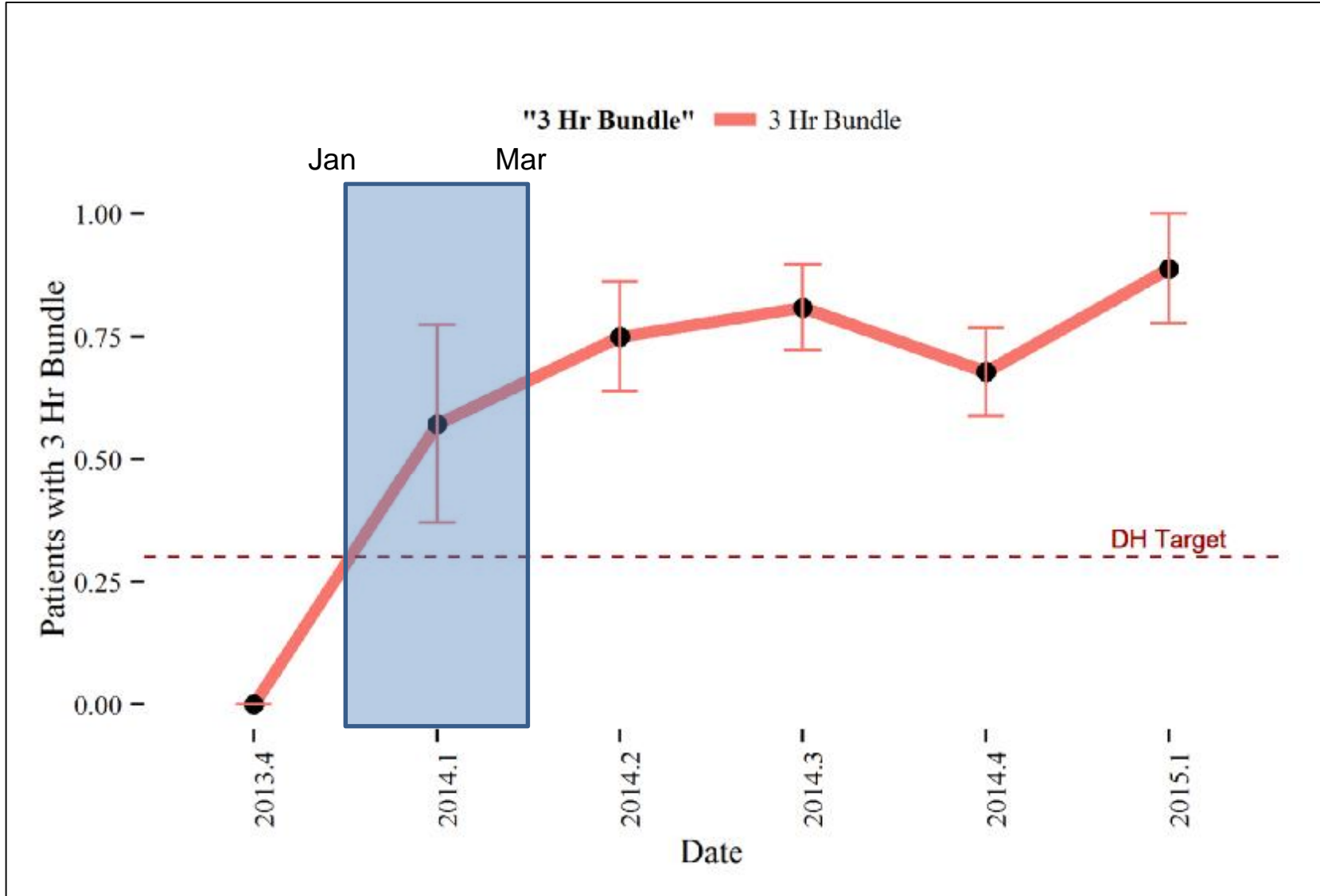


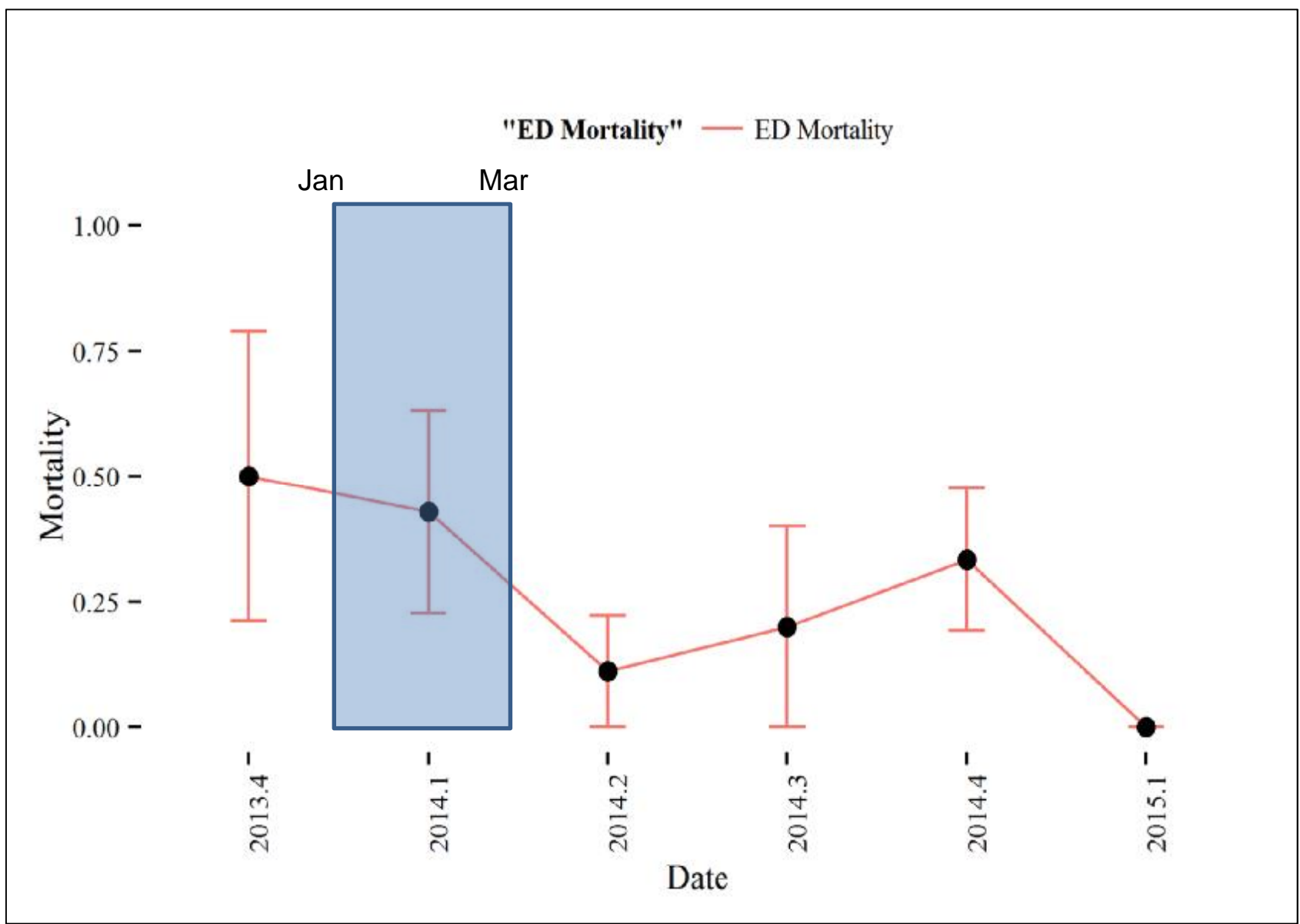
# ED Scorecard

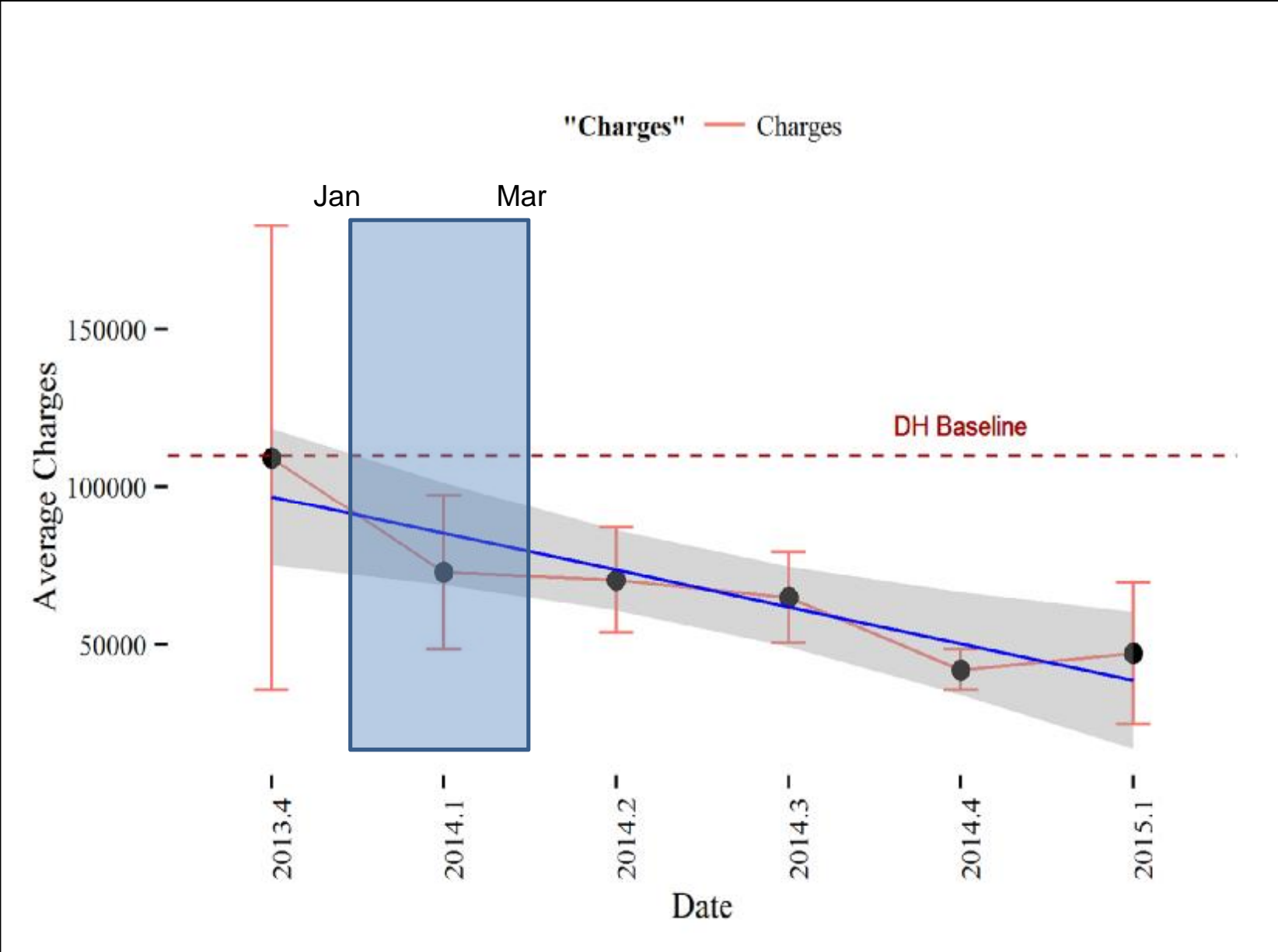
Category	Metric
	# Total patients >18
All Patients	Total Lactates Ordered
	% Pts w/ lactate admitted
Admitted Adults w/ Lactate >3 and/or SBP <90	
All Staff	Number of Patients
All Staff	Avg Door to Lactate Time
All Staff	Avg Order to Abx Given Time
All Staff	% Patients with Fluid Orders
Physicians	Avg Room to Doc Time
Physicians	Avg Room to Abx Ordered Time
Nursing	Avg Arrival to Room Time



# Results









# Success Factors

- Engaged sponsors early – formed a partnership
- Breakthrough goal setting – Leadership clears a path  
“This needs to happen in 90 days”
- Feedback to staff on performance / ownership & engagement
- Cross functional team membership and advanced planning



# Questions?





Thank you!