



The Central Alert Team: Remote real-time sepsis surveillance and clinical decision support creates a new care model

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Problem Statement

The risk of death from sepsis ranges from 30% to 80% depending on severity. Sepsis contributes to one in every three hospital deaths. Survival decreases and hospital length of stay for every hour antimicrobials are delayed (www.ncbi.nlm.nih.gov).

Sepsis Before CAT Team, Epic, and Project One

- Only 22% of sepsis alerts are screened in 30 minutes or less
- Average care response time is greater than 60 minutes
- Sepsis calls to the help team are de-prioritized
- Bundle Compliance Average All Hospitals July 2016 is 34%
- Multiple EHR systems create disparate care processes

Problem Analysis

1. Missed early identification of sepsis
2. No quality analytic system in the 2 of our 5 hospitals
3. Data reporting up to 3 months in lag time
4. Two hospitals had no sepsis alerts
5. Hospitals with automated sepsis alerts had limited resources to screen/respond to sepsis alerts
6. Hospital Sepsis Mortality O:E > 1.0 and as high as 1.52

Epic Tool Development

BestPractice Advisory - Telctest,Gettysburg

High Priority (Advisory: 1)

SIRS Advisory

This patient meets SIRS Criteria and may have sepsis.
SIRS = Systemic Inflammatory Response Syndrome

Vitals:

11/10/17 1156	12/12/17 0848
Pulse: (!) 120	(!) 120
Resp: (!) 26	(!) 26
Temp: (!) 39 °C (102.2 °F)	(!) 39 °C (102.2 °F)

SIRS Labs	Organ Failure Labs
No results found for: WBC No results found for: GLUCOSE	No results found for: LACTATE, BILIRUBIN TOTAL, CREATININE

Open Order Set **Do Not Open** Sepsis / SIRS / Septic Shock *preview*

Open Order Set **Do Not Open** Lactic Acid Stat Now and in 3 Hours *preview*

Order **Do Not Order** SIRS Communication: Patient evaluated, condition is not SIRS or patient actively on sepsis treatment protocol

Acknowledge Reason

I am a consultant- I will notify the pri... Additional chart review needed I have yet to assess the patient.

I am not a direct care provider for this...

Accept

Solution

In FY 2018 WellSpan Health embarked on a 3 year journey to achieve national top performing status in sepsis care, focusing on three core strategies, inclusive of improvement of clinical reliability by the care teams (and related standard work).

A telemonitoring and remote team of experienced nurses was created for all WSH Hospitals, to receive, screen, validate and research sepsis/SIRs alerts, communicate with physicians, nurses and other care team members (i.e. Pharmacy, Lab), providing real time clinical decision support. They also oversee the administration of evidence based treatment, through monitoring and follow up on treatment timing, compilation and response.

Central Alert team provides several solutions

- ✓ Early identification of sepsis with timely screening and notice
- ✓ Minimizes alert fatigue for bedside team
- ✓ Improvement in sepsis treatment bundle initiation, and in bundle compliance
- ✓ Employee Sepsis and Sepsis treatment education

Implementation Plan

Implementation and Planning	York Hospital	Gettysburg Hospital	Ephrata Community Hospital	Good Samaritan Hospital	WellSpan Surgery and Rehabilitation Hospital
Go Live Central Alert Team	9/5/2017 Emergency Department, OB, PEDs	7/10/2017	5/5/2017	5/5/2017	8/14/2017
Waiting Room Abnormal Lab Surveillance	5/7/2018	Planned August 2018	*	*	NA
Total Hospital Sepsis/SIRs Monitoring	IP Planned September 2018	7/10/2017	5/5/2017	5/5/2017	8/14/2017

Results

Goal for monitoring to improve bundle compliance met:

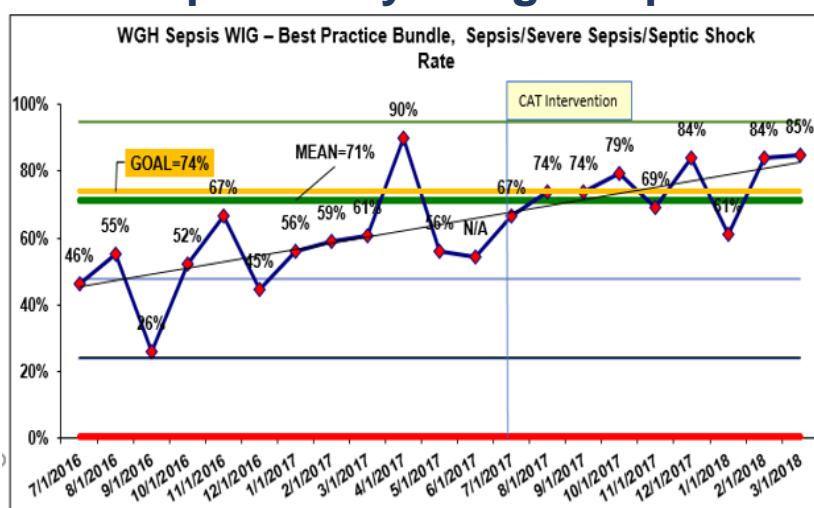
- ✓ Overall (total all Entities) Average Bundle Compliance improvement from July 2016 to May 2018 of 51%

Goal for early intervention and screening met:

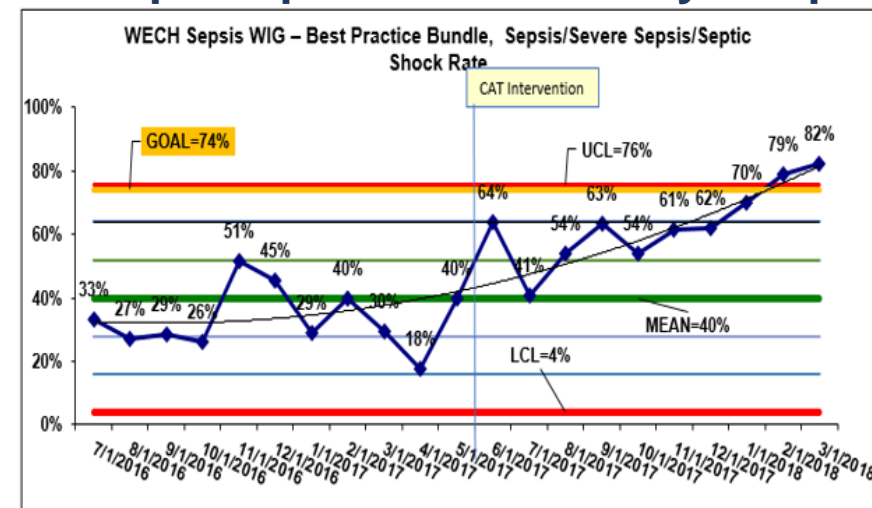
- ✓ Time to Screen July 2017 to March 2018 average 12.12 minutes (goal 30 minutes or less)

Results

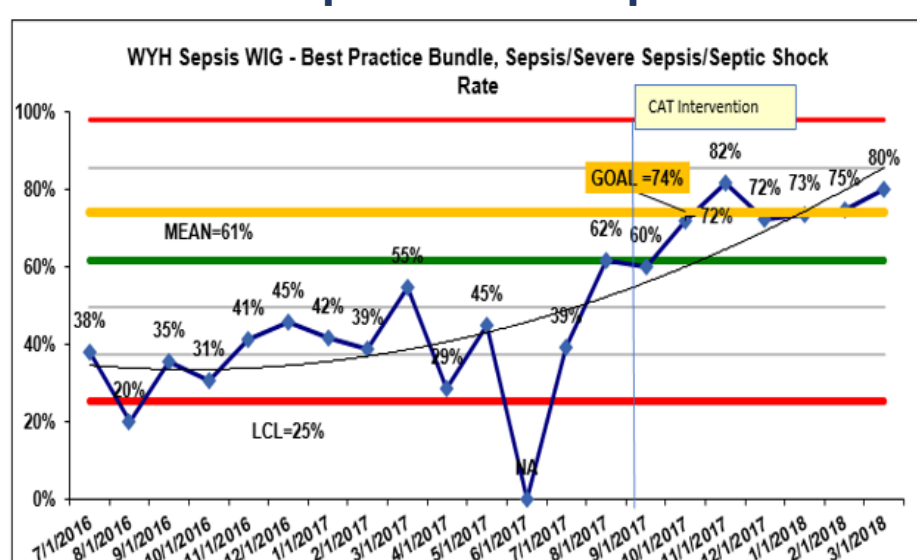
WellSpan Gettysburg Hospital



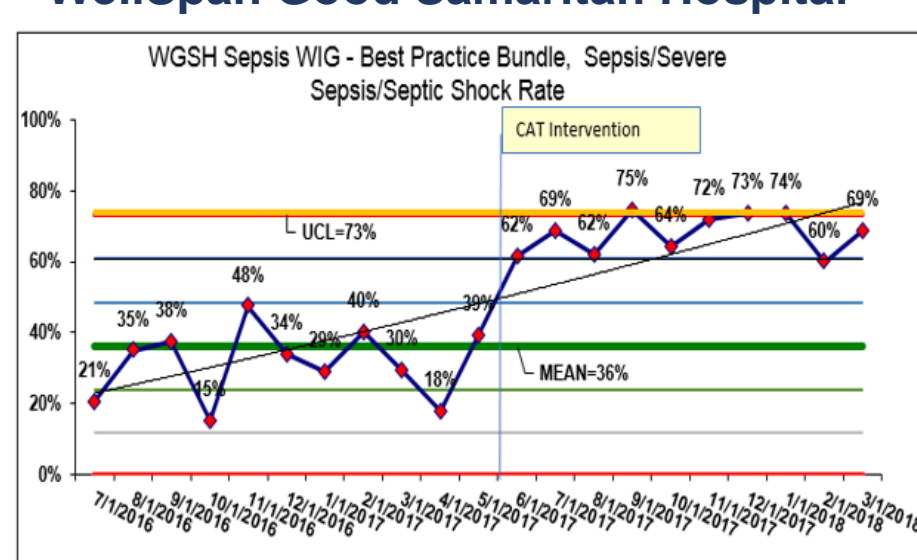
WellSpan Ephrata Community Hospital



WellSpan York Hospital



WellSpan Good Samaritan Hospital



From July 2017 through June 2018, the Central Alert Team performed the triage, review and screening of Sepsis alerts for 12,548 patients.

By April 2018, the Sepsis Mortality O:E for each hospital dropped below 1.0 – Range of 0.47 to 0.7.