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Timely Interventions in Patients Developing Sepsis within the PICU

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Timely Interventions in Patients Developing Sepsis within the PICU

Graduate Nurse Residents
PICU Winter Cohort 2018

Lindsey Bloom, Ashley Bramel, Kelsey Cumpton,
Christopher Damrat, Emily Lingo, Grace Sexton, & Breton Struble

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ACCREDITED PRACTICE TRANSITION PROGRAM AMERICAN NURSES CREDENTIALING CENTER

UMKC School of Medicine

BEST CHILDREN'S HOSPITALS U.S.News RANKED IN 10 SPECIALTIES 2018-19

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- Unit Leadership - Michelle Waddell
- Physicians – Dr. Jay Rilinger and Dr. Marita Thompson
- KT Scholar - Jessica Youmans
- QIC - Charity Thompson
- Additional Support for project - Adonia Ligouri

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A3 for Problem Solving

Focus: Timely Interventions in Patients Developing Sepsis within the PICU	Owner: Nurse Residency Program	Date: 9/30/2018	Date Approved: 11/7/2018
A3 Team: Lindsey Bloom, Ashley Bramel, Kelsey Cumpton, Chris Damrat, Emily Lingo, Grace Sexton, & Breton Struble		Department Director Signature:	KT Scholar: Jessica Youmans QIC: Charity Thompson

Clarify the Problem

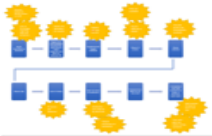
A literature review completed by Jarrod Dolor with Evidence-Based Practice (EBP) found education via simulation, instituting a nurse-driven care bundle, and sepsis education have been found to improve time to IV fluids and antibiotics in septic patients (Bruce et al., 2015; Kumar et al., 2015; Mattison et al., 2016; Ojan et al., 2016; Tromp et al., 2016). The Children's Mercy Sepsis Collaborative Workgroup with the assistance of the EBP Department have created Care Process Models (CPM) and order sets to help streamline the care of septic patients. Looking at patients developing sepsis within the PICU the median time to fluids from Clinically Derived time Zero is 110 minutes & the median time from antibiotic order to administration is 72 minutes. Both medians are above the target range of <60 minutes set by the CPM.

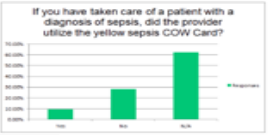
The Summer 2017 Nurse Resident Cohort ended their PICU Sepsis project with the development of a Computer on Wheels (COW) card which went live on 7/16/18. The COW card is to be initiated by a physician and then passed to the nurse caring for the patient to help ensure the rapid assessment portion of the CPM is completed within 60 minutes of diagnosis. On average the PICU has 4 patients develop sepsis each month and as of 8/7/18 no COW Cards have been completed.

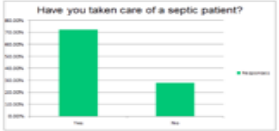
Care Process Model:

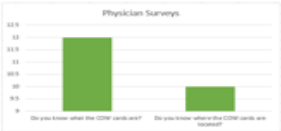
COW Card:

Break Down the Problem









Set a Target

Our goal is to collect sepsis COW cards to better communicate among the team to ensure the treatment tasks are completed within the first hour, which will be evidenced by collecting 4 cards by 2/1/19. This QI initiative will ultimately translate into improved outcomes in septic patients in the PICU.

Identify Root Cause

Develop and Implement Countermeasures

Check Results and Process

Standardize and Follow Up

- The Children's Mercy Hospital's Sepsis Collaborative Workgroup, PICU Intensivists, NLNs, and KT scholar Jessica Youmans will continue to track time to antibiotics and fluids within the unit to determine if changes need to be made to the current process.
- Cow cards are revised to reflect our time zero as the PICU admission—all specified interventions must be completed within the first hour after admission to the PICU.
- The next group of Nurse Residents will focus on promoting the revised COW card, and implementing a designated Sepsis RN in the PICU.

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IMPROVEMENT ACADEMY

Clarify the Problem

- Literature review
- Care Process Models (CPM)
- PICU median time to interventions from Clinically Derived time Zero
  - 110 minutes for fluid administration
  - 72 minutes for antibiotic administration

MD/CRNP/RN Rapid Assessment

- Begin Supplement O2 regardless of SpO2
- Immediate IV Access, IV Escalation Plan
- NS or LR 20-30 mL/kg boluses
- Order antibiotics and labs, obtain cultures
- Administer 1st antibiotic within first 60 minutes
- Correct hypoglycemia, hypocalcemia
- Use Critical Care Sepsis Power Plan

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Sepsis COW Card

- The Summer 2017 Nurse Resident Cohort ended their PICU Sepsis project with the development of a Computer on Wheels (COW) card which went live on 7/16/18
- On average the PICU has 4 patients develop sepsis each month and as of 8/7/18 no COW Cards had been completed

Your patient was diagnosed with **SEPSIS** at

_____

To be Completed in the 1st Hour

Start Time:

- ❑ Initiate Supplemental Oxygen
- ❑ Obtain IV Access
- ❑ Obtain Cultures
- ❑ Obtain Labs
- ❑ Start IV Fluids
- ❑ Start 1st Dose of Antibiotics

Completion Time:

Initials of RN:

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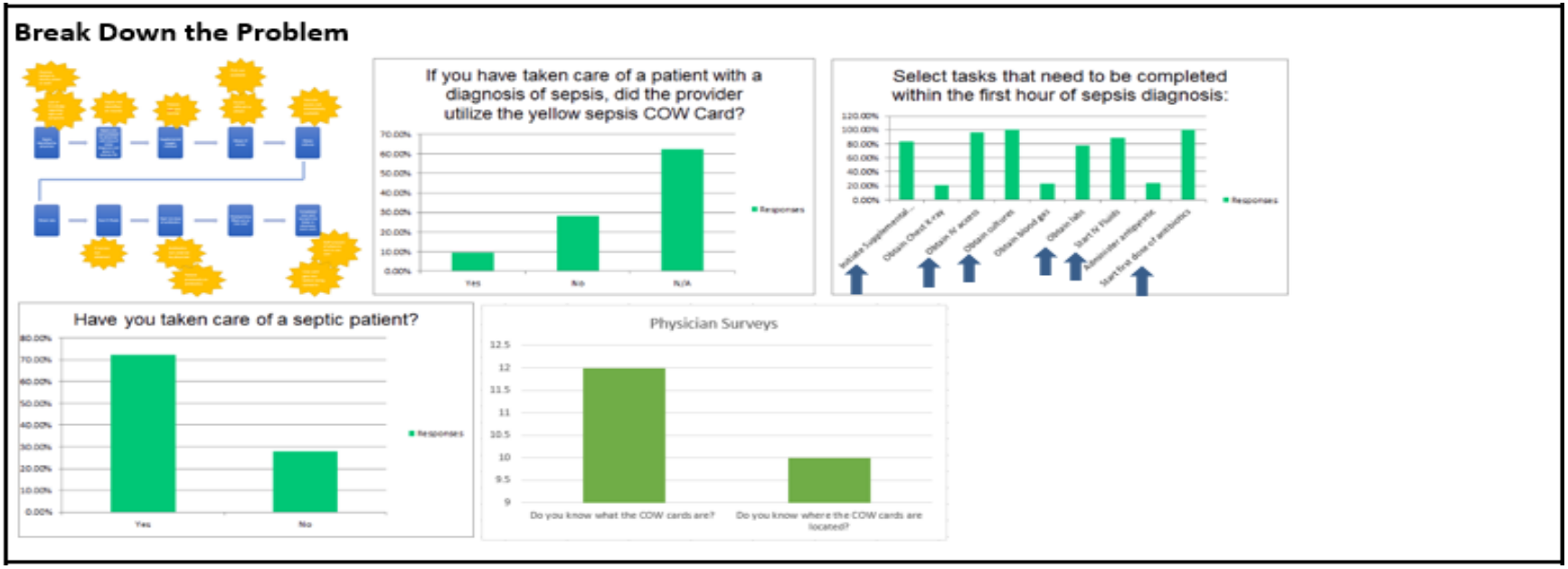
Breakdown the Problem



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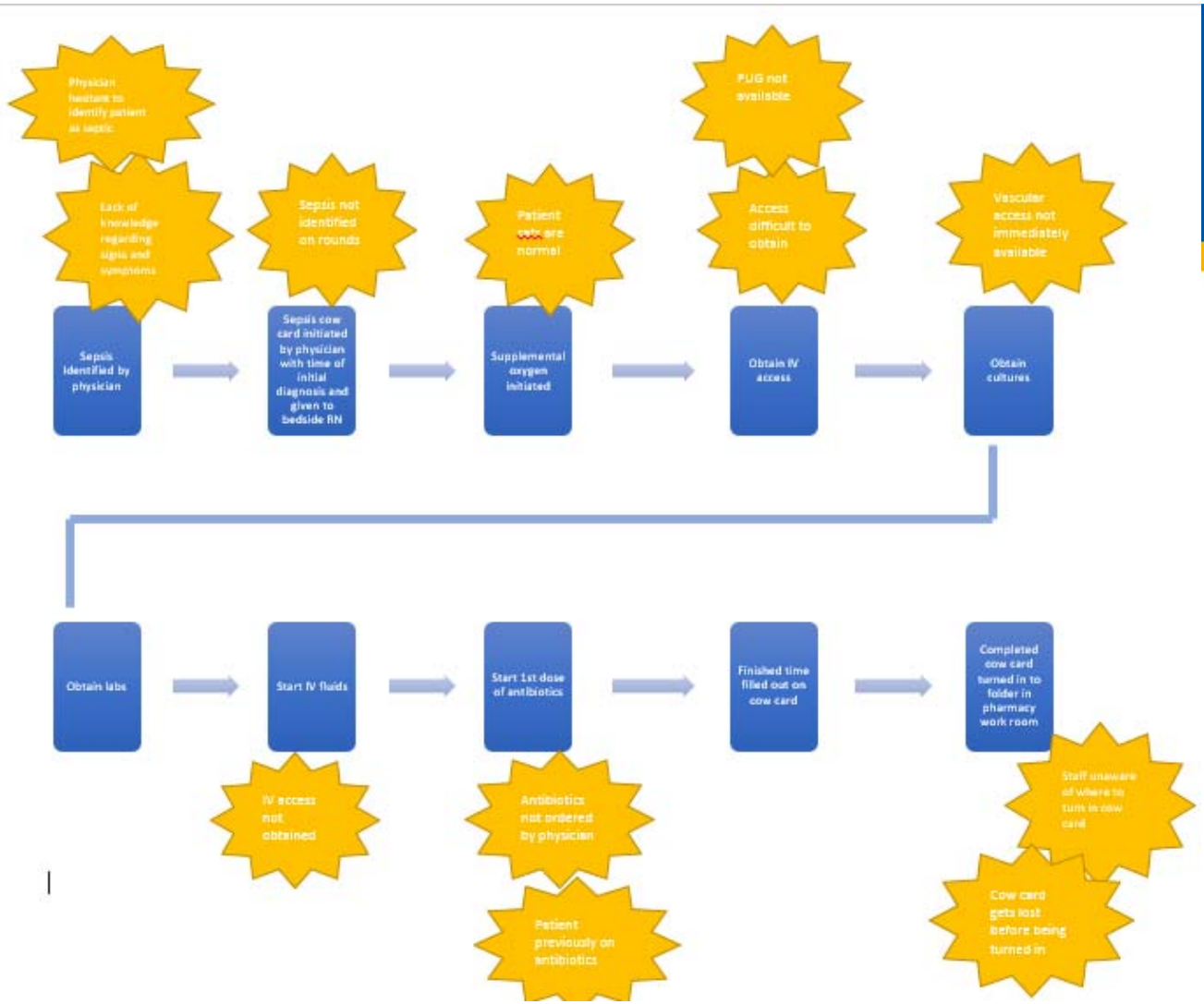

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Set a Target

- As of 09/10/18, 0 cards have been collected. Our goal is to collect sepsis COW cards to better communicate among the team to ensure the treatment tasks are completed within the first hour, which will be evidenced by collecting 4 cards by 02/01/19.

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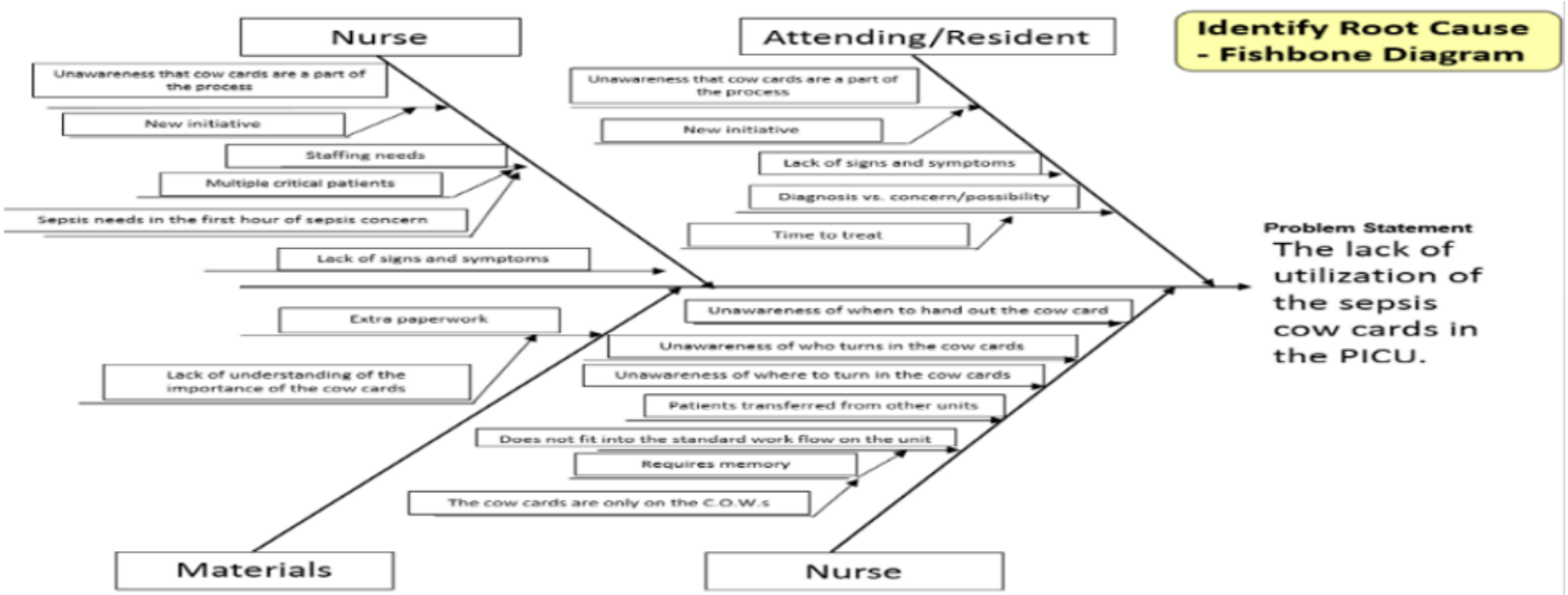
Identify Root Cause



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Identify Root Cause

- Unaware that COW cards are part of the process by both the bedside nurse and the attending and/or resident.
- Unaware of where to turn in the COW cards

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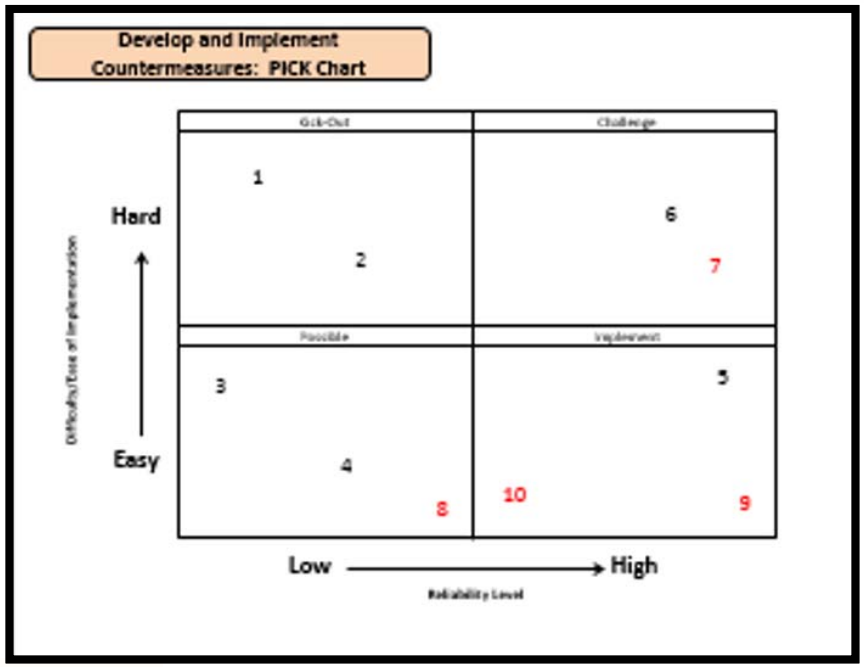
Develop and Implement Countermeasures



1	ED Process Implementation
2	COW Card Text
3	Communication with ED
4	CAs pick up COW cards
5	Sepsis RN
6	3rd pager with Sepsis RN
7	Sepsis Week
8	Bathroom flyer
9	COW cards at Nurses station
10	Power Point

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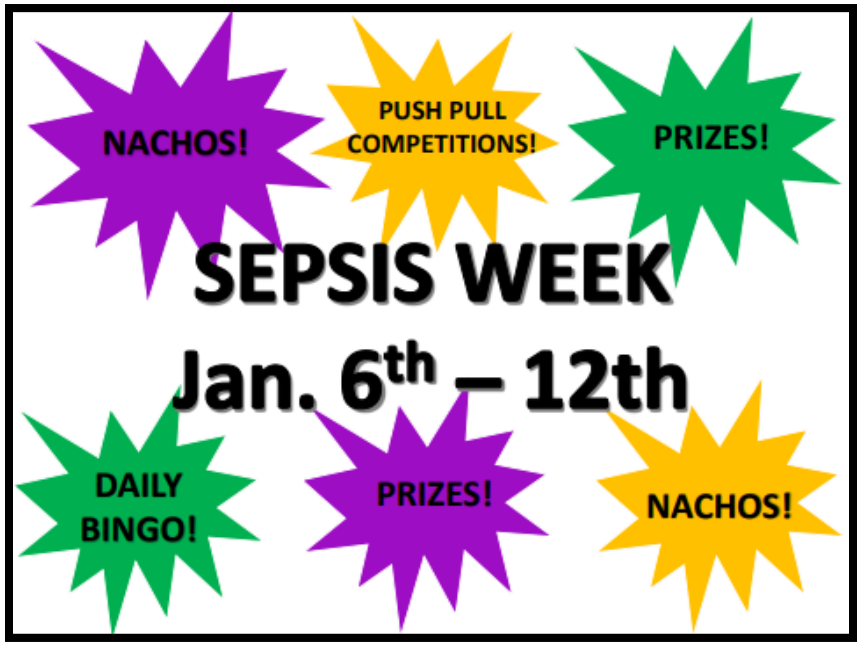
Sepsis Week 2019



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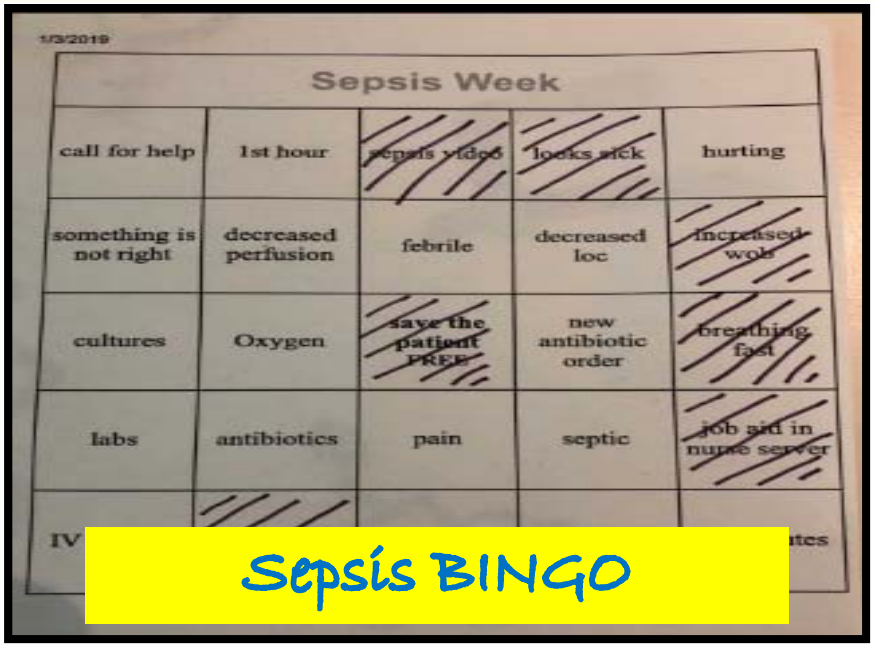
Sepsis Week 2019



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Countermeasures

- Revised Sepsis COW Card

SEPSIS COW CARD

Your patient has a possible diagnosis of **SEPSIS** at

_____

*Once completed, return to the old pharmacy workroom SEPSIS bin above the code cart

To be completed within the 1st hour

Start Time:

Time completed:

_____ Initiate Supplemental Oxygen

_____ Obtain IV Access

_____ Obtain Cultures

_____ Obtain Labs

_____ Start IV Fluids

_____ Start 1st Dose of Antibiotics

Completion time of all tasks:

Initials of RN:

***If unable to complete ANY of the above tasks, contact your attending ASAP.**

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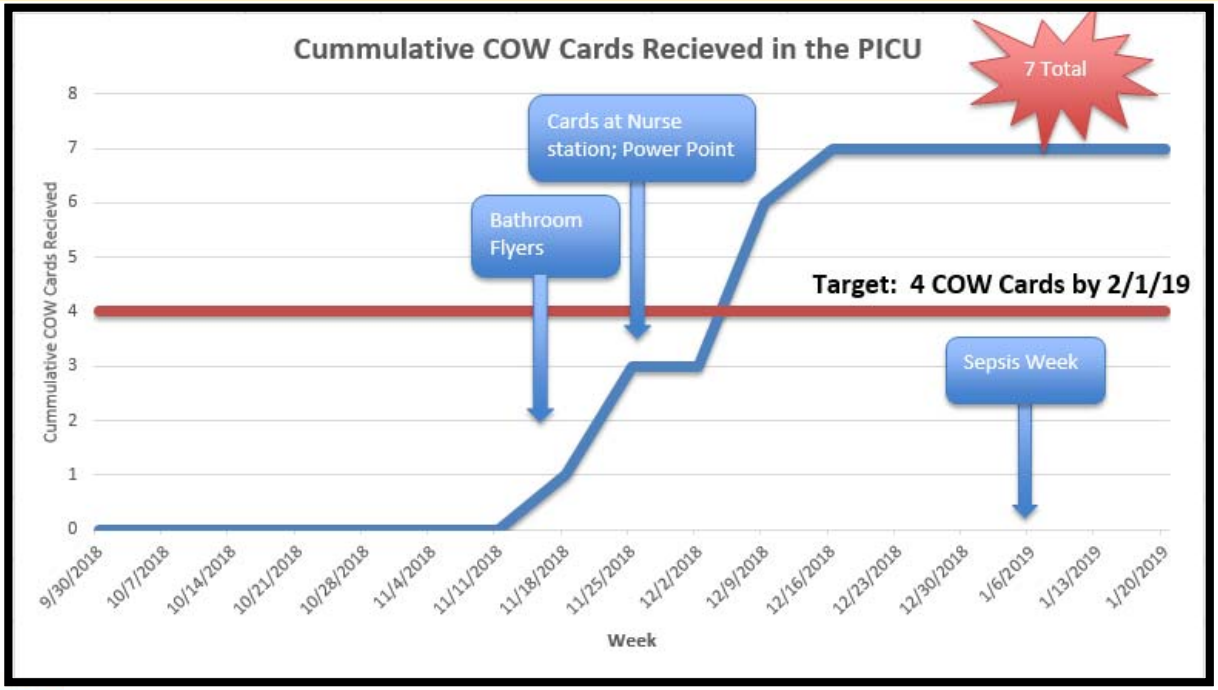
Check Results and Process



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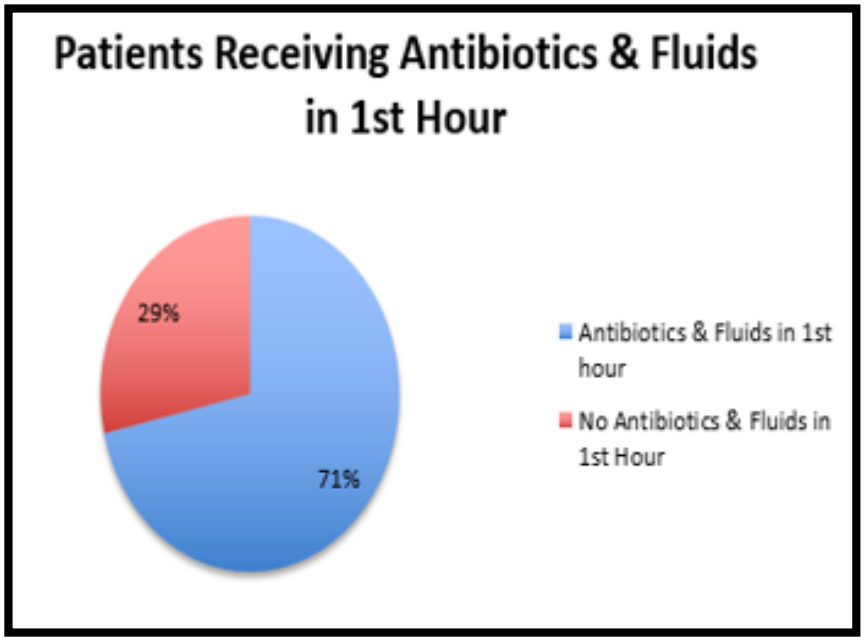
Check Results and Process



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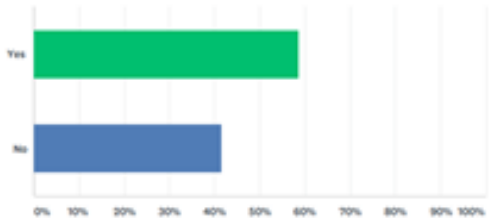
Check Results and Process

PICU Sepsis Survey Follow Up

Q1 Have you taken care of a septic patient?

Answered: 41 Skipped: 0

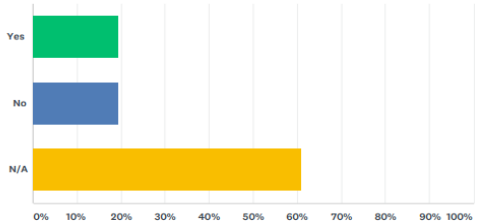


ANSWER CHOICES	RESPONSES	
Yes	58.54%	24
No	41.46%	17
TOTAL		41

PICU Sepsis Survey Follow Up

Q2 If you have taken care of a patient with a diagnosis of sepsis, did the provider utilize the yellow sepsis COW card?

Answered: 41 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	19.51%	8
No	19.51%	8
N/A	60.98%	25
TOTAL		41

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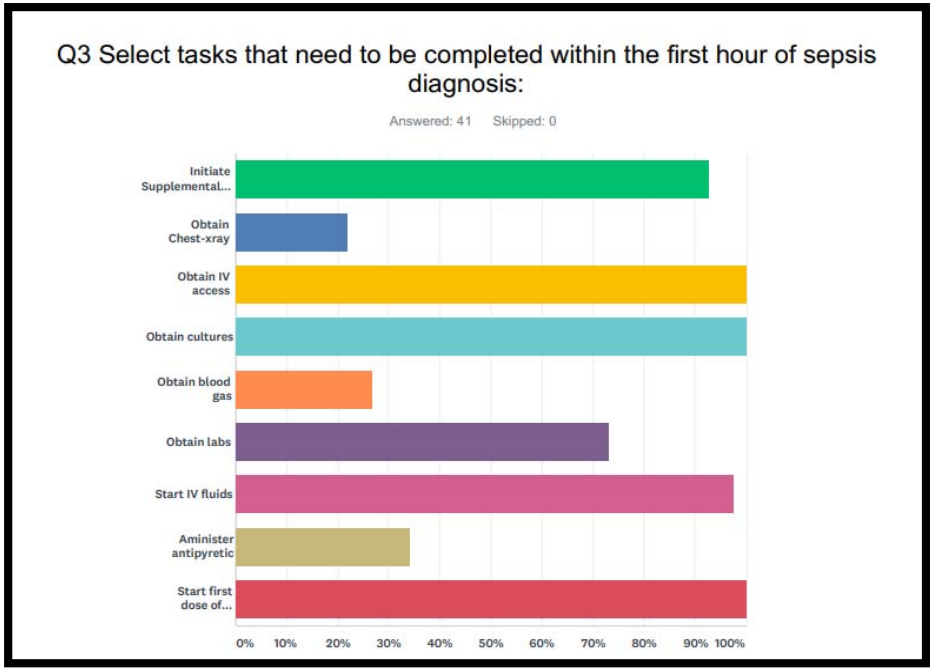
Check Results and Process



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Standardize and Follow Up

- COW Cards were revised
- Continuing to improve sepsis interventions in the PICU
- The next group of Nurse Residents will focus on promoting the revised COW Card, and implementing a designated Sepsis RN in the PICU.

SEPSIS COW CARD

Time of PICU admission OR *possible* sepsis diagnosis:

_____

*Once completed, return to the old pharmacy workroom SEPSIS bin above the code cart

To be completed within the 1st hour

Start time:

*Admitted to PICU and/or interventions were started

Time completed:

____ Initiate Supplemental Oxygen
____ Obtain IV Access
____ Obtain Cultures
____ Obtain Labs
____ Start IV Fluids
____ Start 1st Dose of Antibiotics

Completion time of all tasks:

Initials of RN:

***If unable to complete ANY of the above tasks, contact your attending ASAP.**

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Questions

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