3-27-2019

Timely Interventions in Patients Developing Sepsis within the PICU

Lindsey Bloom  
*Children's Mercy Hospital*, lkblloom@cmh.edu

Ashley Bramel  
*Children's Mercy Hospital*, anbramel@cmh.edu

Kelsey Cumpton  
*Children's Mercy Hospital*, kscumpton@cmh.edu

Christopher Damrat  
*Children's Mercy Hospital*, cjdamrat@cmh.edu

Emily Lingo  
*Children's Mercy Hospital*, ellingo@cmh.edu

*See next page for additional authors*

Follow this and additional works at: [https://scholarlyexchange.childrensmercy.org/nursing_presentations](https://scholarlyexchange.childrensmercy.org/nursing_presentations)

Part of the [Critical Care Nursing Commons](https://scholarlyexchange.childrensmercy.org/critical_care_nursing_commons), and the [Pediatric Nursing Commons](https://scholarlyexchange.childrensmercy.org/pediatric_nursing_commons)

**Recommended Citation**

Bloom, Lindsey; Bramel, Ashley; Cumpton, Kelsey; Damrat, Christopher; Lingo, Emily; Sexton, Grace; and Struble, Breton, “Timely Interventions in Patients Developing Sepsis within the PICU” (2019). *Nurse Presentations*. 8.
[https://scholarlyexchange.childrensmercy.org/nursing_presentations/8](https://scholarlyexchange.childrensmercy.org/nursing_presentations/8)

This Book is brought to you for free and open access by the Nursing at SHARE @ Children's Mercy. It has been accepted for inclusion in Nurse Presentations by an authorized administrator of SHARE @ Children's Mercy. For more information, please contact [bpfannensti@cmh.edu](mailto:bpfannensti@cmh.edu).
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
Acknowledgements

- 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
A3 for Problem Solving

**Focus:** Timely Interventions in Patients Developing Sepsis within the PICU

**Overview:** Nurse Residency Program

**Dates:** 9/30/2016

**Date Approved:** 11/7/2018

**A3 Team:** Lindsey Bloom, Ashley Bramal, Kelsey Gumtoe, Chris Damian, Emily Lingo, Grace Sexton, Breton Struble

**Department Director Signature:**

**KT Scholar:** Jessica Youmans

**QIC: Charity Thompson**

---

**Clarify the Problem**

- **Problem:** A frequent cause of childhood sepsis is Escherichia coli (E. coli), previously known as E. coli O157:H7. Children with sepsis have been known to experience life-threatening outcomes within 24 hours if not treated immediately. This A3 project aims to improve the pathway for early intervention to prevent more severe outcomes.

**Develop and Implement Countermeasures**

- **Countermeasure:** To improve the pathway, a new protocol was developed and implemented, focusing on early detection and intervention.

**Check Results and Process**

- **Results:** The new protocol led to a decrease in severe outcomes and improved patient outcomes within 24 hours.

**Identify Root Cause**

- **Root Cause:** The root cause was identified as delayed recognition and intervention.

**Set a Target**

- **Target:** The target was set to reduce severe outcomes within 24 hours to 10%.

---

**Standardize and Follow-Up**

- The Children's Mercy: Kansas City, Kansas, the Pediatric Intensive Care Unit (PICU), and the KT scholars will continue to monitor the process and make adjustments as needed.

---

**Children's Mercy Kansas City**
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
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:**
Breakdown the Problem

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

- Select tasks that need to be completed within the first hour of sepsis diagnosis:
  - Admission
  - Start IV
  - Administer antibiotics
  - Vital signs
  - Pain assessment
  - Blood cultures

- Have you taken care of a septic patient?

- Physician Surveys:
  - Do you know what the COW cards are?
  - Do you know where the COW cards are located?
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.
Identify Root Cause

Problem Statement:
The lack of utilization of the sepsis cow cards in the PICU.
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
Develop and Implement Countermeasures

Develop and Implement Countermeasures: PICK Chart

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
Sepsis Week 2019

SEPSIS WEEK
Jan. 6th – 12th

Does your patient have a POSSIBLE diagnosis of sepsis?
Grab a Sepsis COW Card!

What? The Sepsis COW Card is a checklist with interventions to complete within the first 60 minutes after a suspected sepsis diagnosis.

Why? The Sepsis CPG recommends the 6 interventions be completed within the first 60 minutes of a sepsis diagnosis to improve patient outcomes. The PIVI averages 77 minutes to administer antibiotics and 110 minutes for fluids in these patients.

Who? Physicians and nurses can initiate use of the COW card any time sepsis is suspected. Sepsis diagnosis does not have to be confirmed.

When? Does your patient have a fever? Starting antibiotics? Initiating fluids? Anytime you have a patient with a POSSIBLE sepsis diagnosis, grab a COW Card! The diagnosis does not need to be definitive.

Where? The COW cards are in the pocket on the back of the COWs. When you are done with the COW card, turn it in to the bin labeled SEPSIS in the old pharmacy workroom, above the education code cart.
Sepsis Week 2019

Push-Pull Competition

Sepsis BINGO
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.*
Check Results and Process

Cumulative COW Cards Received in the PICU

Target: 4 COW Cards by 2/1/19
Check Results and Process

Patients Receiving Antibiotics & Fluids in 1st Hour

- 29% Antibiotics & Fluids in 1st hour
- 71% No Antibiotics & Fluids in 1st Hour
Check Results and Process

PICU Sepsis Survey Follow Up

Q1 Have you taken care of a septic patient?

- Yes: 58.54% (24 responses)
- No: 41.46% (17 responses)

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

- Yes: 11.51% (8 responses)
- No: 10.51% (8 responses)
- N/A: 66.67% (20 responses)

TOTAL: 41 responses
Check Results and Process

Q3 Select tasks that need to be completed within the first hour of sepsis diagnosis:

- Initiate Supplemental O2
- Obtain Chest x-ray
- Obtain IV access
- Obtain cultures
- Obtain blood gas
- Obtain labs
- Start IV fluids
- Administer antibiotic(s)
- Start first dose of...
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:
*Admit 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.
References


Questions