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Antimicrobial Stewardship

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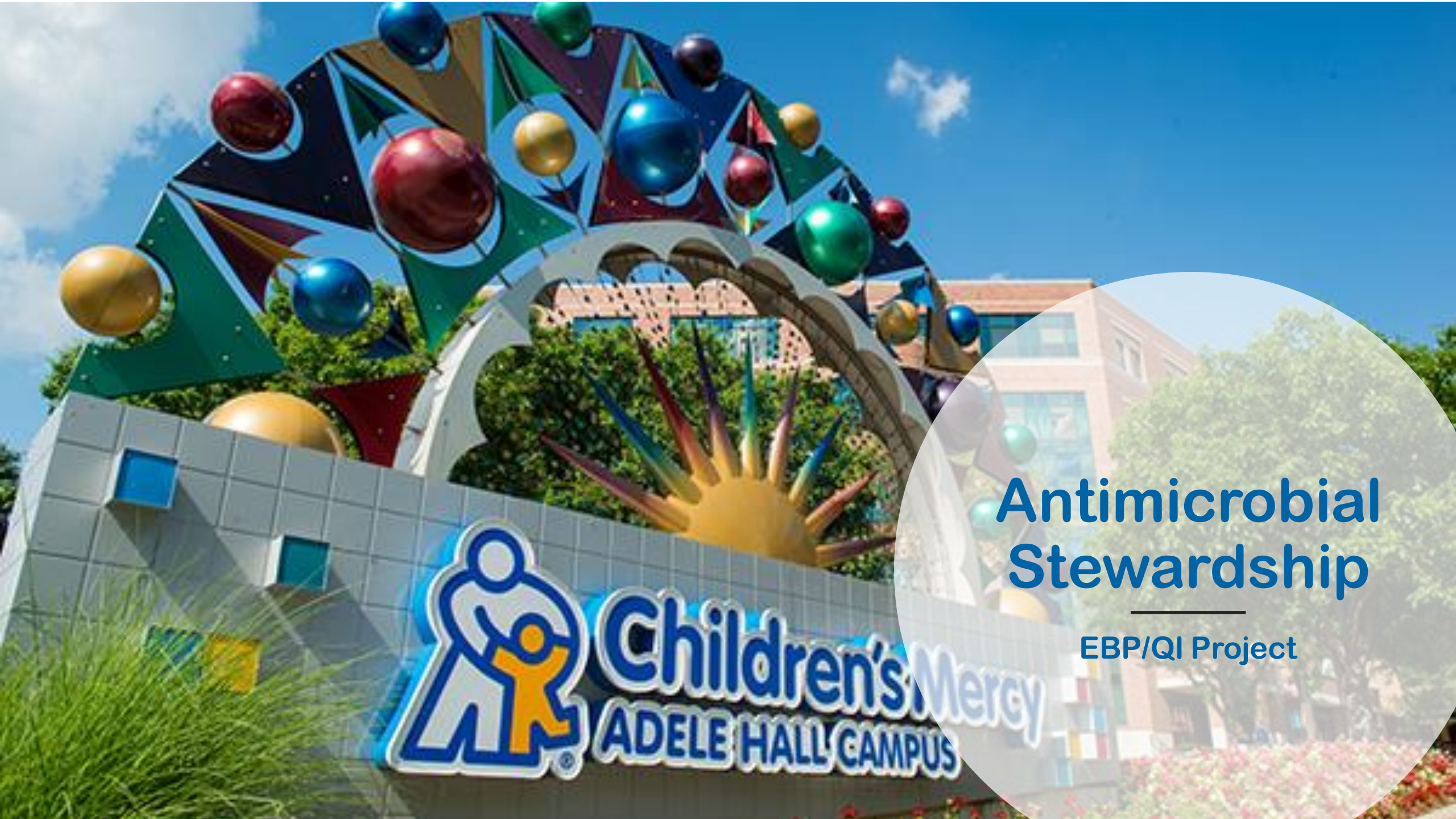


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Antimicrobial Stewardship

EBP/QI Project

Bio Sketch

- Morgan Hudson, BSN, RN has been a Nurse on the pediatric cardiology unit at Children's Mercy Hospital for a year. She participated in the Nurse Residency Program which began in February, 2019. Morgan implemented an Evidence Based Practice project to assess the nurses' role in antimicrobial stewardship on 4-Sutherland.
- Hannah Eisele-Miller, BSN, RN, is a nurse on the pediatric cardiology floor at Children's Mercy Hospital. She participated in the Nurse Residency Program which began in February 2019. Hannah and Morgan implemented an Evidence Based Practice project to assess the nurse's role in antimicrobial stewardship on 4-Sutherland.

Abstracts

Background: The 2018 Cohort of 4-Sutherland nurses implemented multiple education tools in hopes of creating awareness regarding antimicrobial stewardship. The 2019 Cohort of 4- Sutherland nurses created a hands-on tool to implement antimicrobial stewardship into the unit.

Purpose: To increase perceived value of the nurses' role in antimicrobial stewardship within 4-Sutherland by February 1, 2020.

Synthesis of Literature: Research regarding the RN's role in antimicrobial stewardship programs is minimal and qualitative. The research found a knowledge gap regarding the nurse's role. The CDC and ANA released six specific roles for nurses to implement regarding antimicrobial stewardship.

Implementation Strategies: A trial run was completed which involved an additional portion on the RN brains. Satisfaction surveys were taken to assess nurse feedback. DSA cycles consisted of implementing a daily unit quiet time from 1500-1600, education on noise levels at an all staff update, and signs on all monitors showing proper limits to prevent unnecessary alarms.

Evaluation: Nurse satisfaction increased by 10% overall with the addition of an antibiotic portion on the brain. During team rounds, antibiotic regimens were discussed 94% of the time.

Antimicrobial Stewardship

Morgan Hudson, BSN, RN
Hannah Eisele-Miller, BSN, RN

Acknowledgements

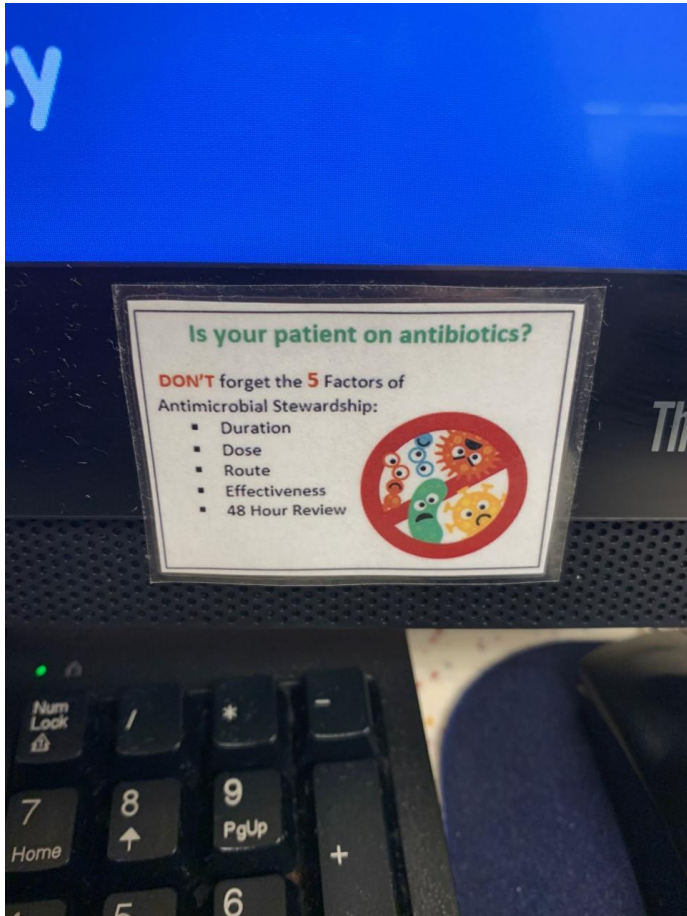
- Amy Straley, MSN, RN, CPN
- Julie Lang, MSN, RNC- NIC, CPST
- Janet Franzen, MSN, RN, NE-BC
- Cheryl Powers, MSN, RN, NE-BC
- Becca Dietz, MSN, RN, CPN
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- Bridget Ryan, BSN, RN, CPN
- Shannon Lysaught, BSN, RN, QIC
- Elizabeth Monsees, PhD, MBA, RN, CIC, FAPIC



WHO'S AWESOME?
YOU'RE AWESOME

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Previous Cohort



- The previous cohort's goal was to increase awareness of antimicrobial stewardship. One of the measures they took to do so was adding a sticker listing the 5 factors of AMS on the computer monitors at the nurse's stations.

A3 Team: Hannah Eisele-Miller, Morgan Hudson (4 Sutherland)

Department Director Signature:

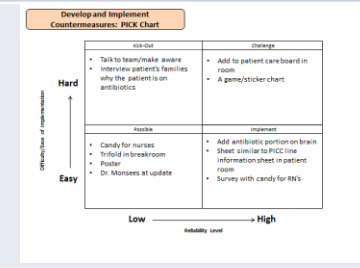
Cheryl Powers 11/15/19

Clarify the Problem

- Lack of integration of nurses' role on antimicrobial stewardship on 4 Sutherland during RN to RN handoff
- Nurses should understand & discuss 80% of patients who are on antibiotics
- Charge nurse survey showed that during physician rounds patients' antibiotic therapy was discussed 90 % of the time
- 100% of nurses feel that it is important to know why their patient(s) are on antibiotics
- 55% of nurses see the value in having an antibiotic portion on the RN brain

Develop and Implement Countermeasures

- Have nurses fill out pre-implementation survey to address root cause
- Go live for implementation of new RN brain on November 25th to December 6th, 2019
- Start post-implementation questionnaire on December 6th, 2019

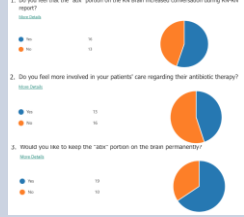


Break Down the Problem

- Our subpopulation focuses on the 4-Sutherland nurses at Children's Mercy Hospital. There are multiple factors that contribute to the problem including a lack of knowledge, the nurse not being present during rounds, interpersonal communication during rounds, and role confusion with antimicrobial stewardship.



Check Results and Process



Overall, the countermeasure lead to a 10% improvement in value from 55%-65%.

MAR | ABX Y/N

Task List

Set a Target

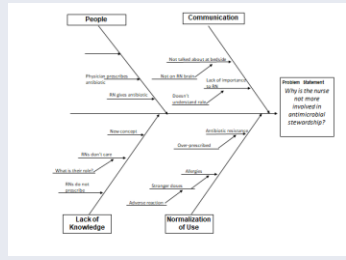
- Our goal is to increase nurses' perceived value of the antibiotic portion on the RN brain from 55% to 80%. This goal should be reached by February 1st, 2020
- By increasing value this will in turn increase the bedside nurses' perception of their role in antimicrobial stewardship.

Standardize and Follow Up

- Keep antibiotic portion on the brain.
- Make a much more actionable tool that triggers RN to discuss antibiotic with provider.
- 5-Sutherland ADIOS Antibiotic Engagement Tool

Identify Root Cause

- There are many factors affecting the lack of nurse involvement in antimicrobial stewardship and the nurse's role regarding the subject. These include a lack of knowledge, lack of communication, the normalization of use, and the people involved.
- There appear to be differing opinions about the nurse's role within antimicrobial stewardship. Many nurses felt that it was the role of the pharmacists and physicians to review antibiotic usage.



Clarify the Problem

- **Problem**

- There is a lack of integration of nurses' role on antimicrobial stewardship on 4-Sutherland during RN to RN handoff.

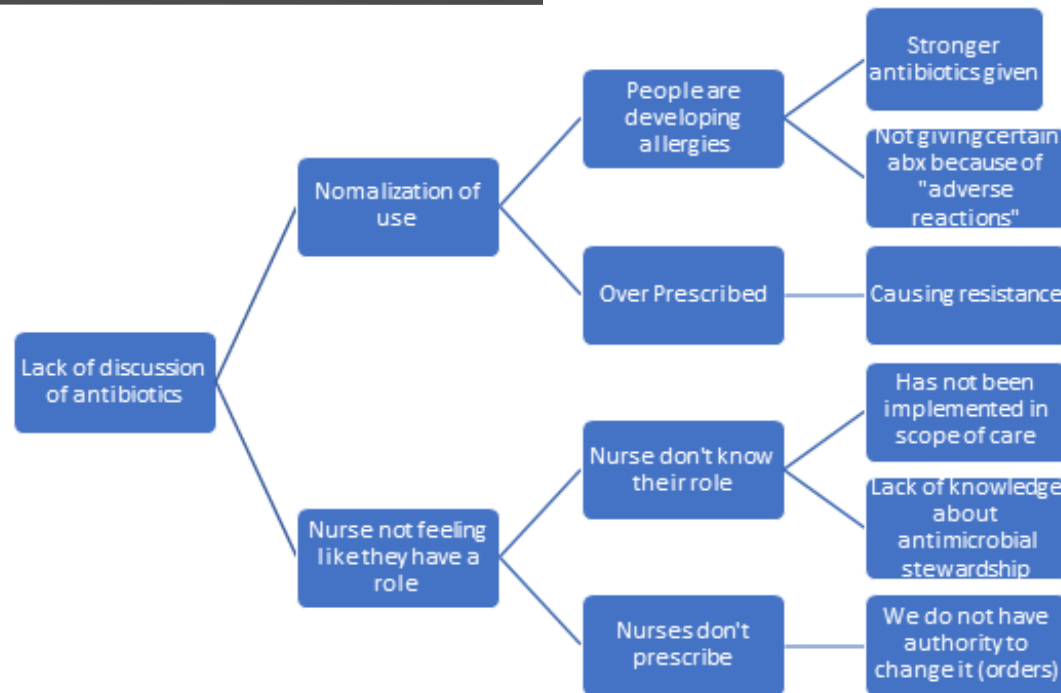
- **Target Condition**

- Nurses should understand and discuss 80% of patients who are on antibiotics.

- **Current Condition**

- 100% of nurses feel that it is important to know why their patient(s) are on antibiotics.
- 55% of nurses see the value in having an antibiotic portion on the RN brain.

Breakdown the Problem



- Our subpopulation focuses on the 4-Sutherland nurses at Children's Mercy Hospital. There are multiple factors that contribute to the problem including a lack of knowledge, the nurse not being present during rounds, interpersonal communication during rounds, and role confusion with antimicrobial stewardship.
- Barriers encountered: nurse push-back

Set a Target

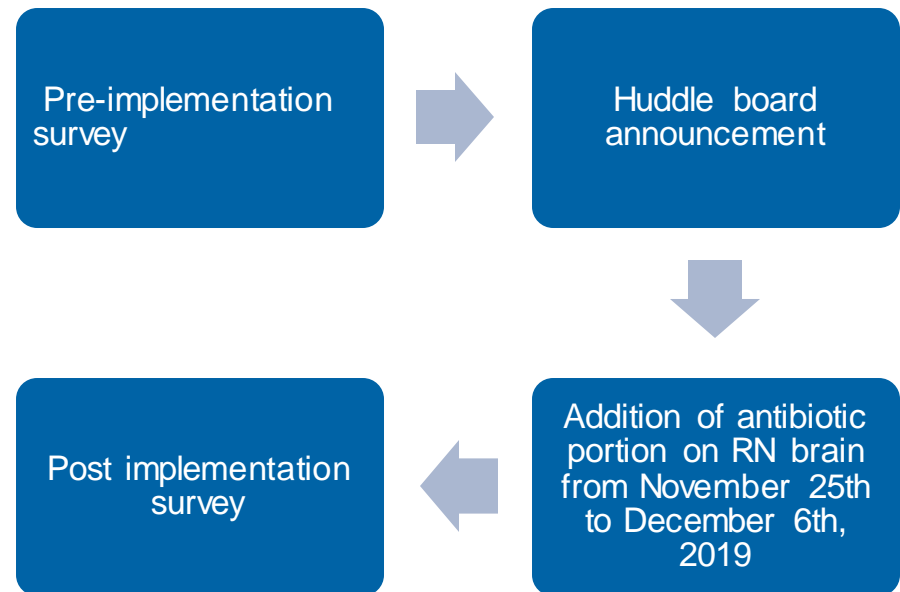
- Our goal is to increase nurses' perceived value of the antibiotic portion on the RN brain from 55% to **80%**. This goal should be reached by **February 1st, 2020**
- By increasing value, this will increase the bedside nurses' perception of their role in antimicrobial stewardship.

Identify Root Cause

- There are many factors affecting the lack of nurse involvement in antimicrobial stewardship and the nurse's role regarding the subject. These include a lack of knowledge, lack of communication, the normalization of use, and the people involved.
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Implementations

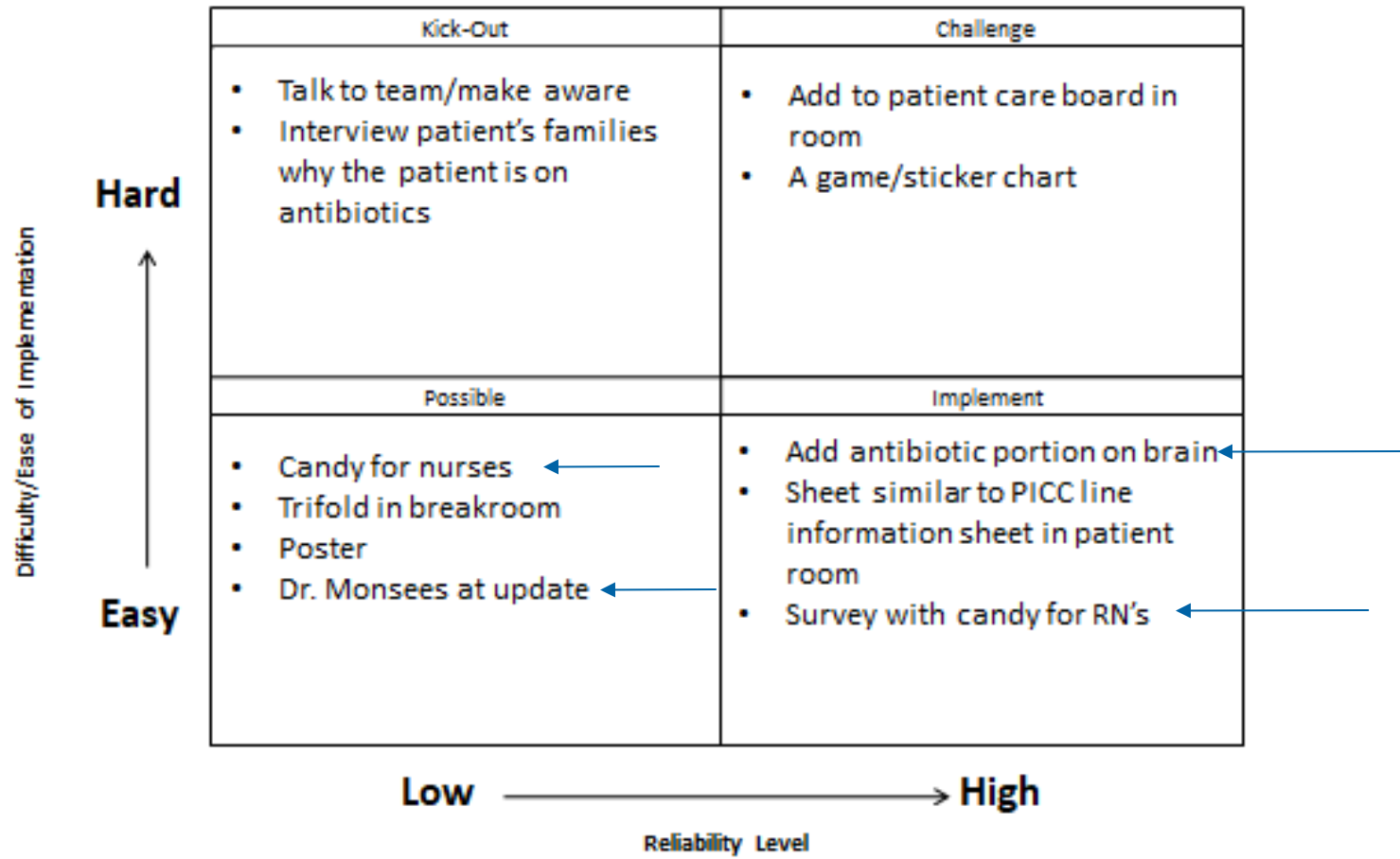
Develop and Implement Countermeasures



Charge Nurse Survey

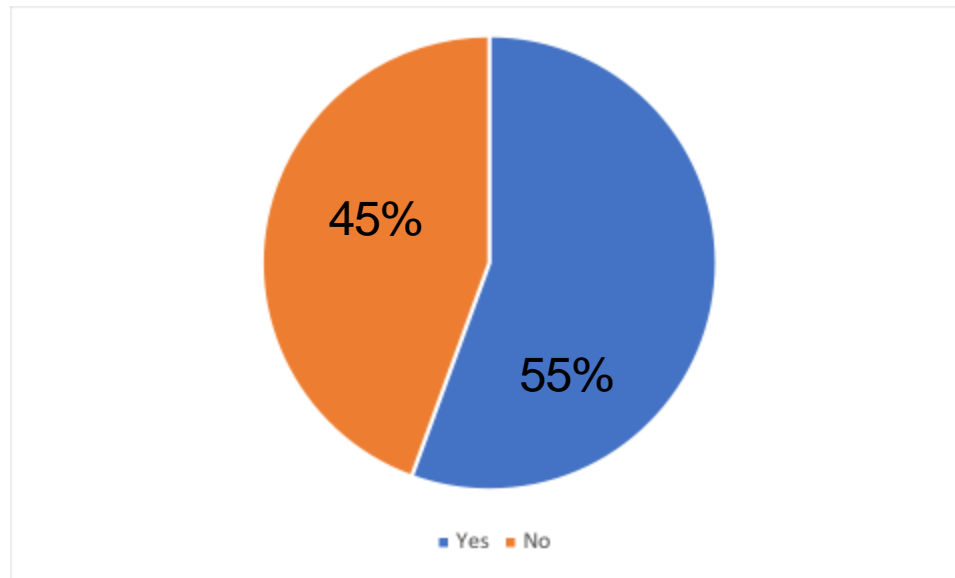
- A Charge Nurse survey was also attempted to discover how many nurses brought up their patients' antibiotics during team rounds.
 - Antibiotics were discussed 91% of the time during team rounds.
 - (One time RN was not present and they were not discussed; one time RN was present and they were not discussed)
- Results were difficult to obtain due to several reasons
 - Bedside nurse not always available during rounds
 - Another team member initiating antibiotic conversation

Develop and Implement Countermeasures: PICK Chart

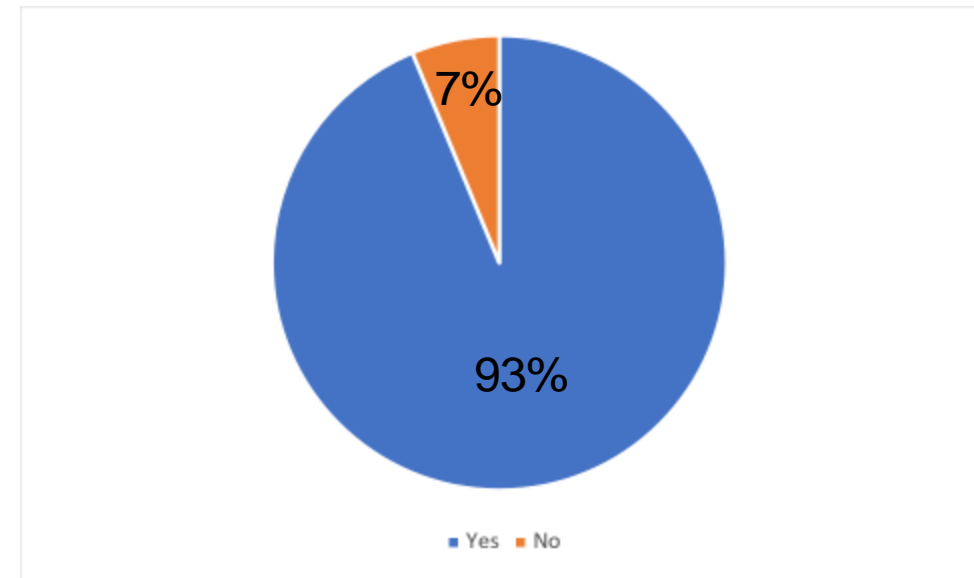


Pre-Implementation Survey

Do you feel it would be helpful to have a standard antibiotic portion on the RN Brain?



Do you feel it is important to know why your patient is on antibiotics?



What we implemented on our Brain:

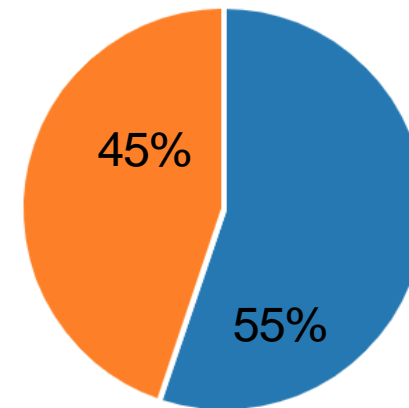
<input type="checkbox"/> MAR	ABX Y/N
<input type="checkbox"/> Task List	

Name:		Social hx:	
Room #:			
Team:		Isolation:	
DOB:	Age:	Wt:	Allergies:
			STOP SAFETY CHECKS
			<input type="checkbox"/> PID band
			<input type="checkbox"/> Code Sheet- Name & Wt
			<input type="checkbox"/> PL Labels
			<input type="checkbox"/> Monitor Limits/Event History
			<input type="checkbox"/> Skn & O2 Functioning
			<input type="checkbox"/> RT Box Locked, Med Box ✓
			<input type="checkbox"/> Urgent Medical Supplies
Pain		VS	PEWS
			<input type="checkbox"/> PL Alertsheets
			<input type="checkbox"/> Remove Hazardous Supplies
* Neuro		07	19
* Cardio		08	20
* Resp		09	21
* G/GU		10	22
* Skin Ortho		11	23
* Intake/Output		12	00
		13	01
<input type="checkbox"/> Bath		<input type="checkbox"/> Linens	<input type="checkbox"/> Mouth Care
		14	02
ORDERS: CR / Sat O2:		15	03
Diet/Feeds:		16	04
Labs/Results:		17	05
Procedures/Consults:		18	06
		19	07
<input type="checkbox"/> MAR	ABX Y/N		
<input type="checkbox"/> Task List			
V Access:		Dress Δ	Cap Δ Line Δ
MF & Rates:			∞
Wounds/Drains/Tubes:			∞
<input type="checkbox"/> Update Clear Care Board/Nursing Goals		Parent Questions/Needs:	

Check Results and Process

1. Do you feel that the "abx" portion on the RN Brain increased conversation during RN-RN report?

[More Details](#)

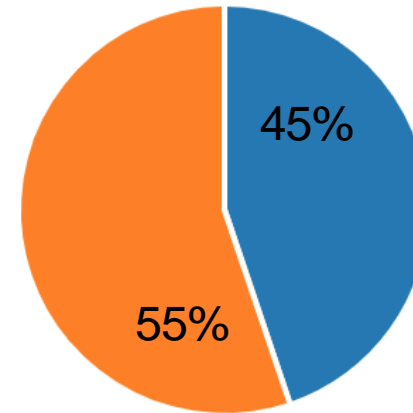


Check Results and Process

2. Do you feel more involved in your patients' care regarding their antibiotic therapy?

[More Details](#)

● Yes	13
● No	16

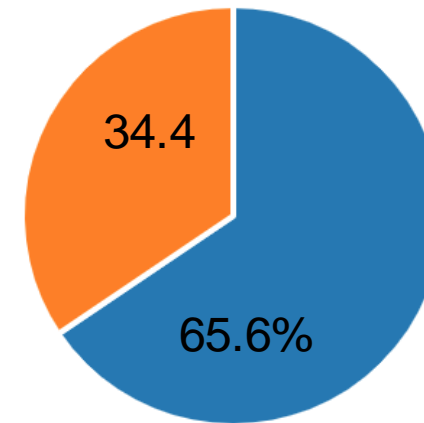


Check Results and Process

3. Would you like to keep the "abx" portion on the brain permanently?

[More Details](#)

● Yes	19
● No	10



Survey Comments

I've forgotten to use the ABX portion on the brain and I feel that others have too. Maybe if we keep it on there longer we will start to use it more!

I feel like the Abx box could have been used more than it was, and when it was used it was helpful!

I think we actually are pretty good about making sure to have the conversation regarding what med and the length of time. I dont think its a bad idea to keep on the brain as a reminder. I do not feel like I have been able to change anything in plan of care regarding the abx prescribed unless its a situation where access is lost and we advocate for PO

I feel like there is already quite of information on the brain and that ABX are usually or should already be talked about when you get to the MAR section of the brain.

I actually used the ABX portion and included it in my verbal report, but I didn't find that anybody who gave report to me did the same. I don't feel it increased conversation.

The brain is very small. That area I usually use for other items and now I do not have room for those items.

I replied yes but can you make it smaller so I can still write about other meds

I have been gone and didn't know it was even there. Anyway, noone mentioned it in my report this morning and I do have patients on abx.

Most people didn't go over it in huddle

Did use at report time, at all.

I don't necessarily think that nursing (especially on night shift) is super involved with antibiotic therapy. I think that it would be more for day shift nurses since they are able to be present and involved in rounds. I do think that the box sparked a conversation about abx and made it clear as to what abx the patient was on and why. I also think it was good to know what day the patient was on!

We tend to know why pts are on ABX (NEC, appy, infections) and looking into documents will tell us end dates and which ABX the pt should be on. There is an entire department dedicated to this (infectious disease) and they are the ones who control ABX type and length, so why do I need to talk about it in report. If I want information about it, I will look it up in the chart. If I want an end date, I will look at the MAR. We have too much to do already and we don't have the time to do it all.

Keep it!

Never saw it on the brain

Didn't know there was even a ABX box

I don't think it helps

I think it is another section of the brain that gets looked over. I think as a nurse you should know to ask why your pt is on abx or at least where in the chart you can look to find the answer.

I don't feel like people necessarily took it seriously and this may be the reason that I don't feel like it was very useful

During report the box was never discussed

It just gets skipped during report frequently

Standardize and Follow Up

<input type="checkbox"/> MAR	ABX Y/N
<input type="checkbox"/> Task List	

Keep antibiotic
portion on the brain

Make a much more
actionable tool that
triggers RN
to discuss antibiotic
with provider

5-Sutherland
ADIOS Antibiotic
Engagement Tool

5-Sutherland ADIOS Tool

ADIOS Antibiotic Engagement Tool Education
Nurses should ensure patients receive the right antimicrobial for the right indication & right duration to prevent harm.
Harm from antimicrobials includes antibiotic resistance, antibiotic side effects, C. difficile infections, & increased cost

What is an Antimicrobial?

- Antimicrobials = antibiotics, antifungals, antivirals
- **Antibiotics** treat bacteria
- **Antifungals** treat fungi
- **Antivirals** treat viruses
- **Where to find this?** Order on MAR

What is the planned Duration?

- Being aware of the planned duration is important to **prevent patients from missing necessary doses or receiving unnecessary doses**
- Length of treatment is often selected from guidelines or chosen specifically for a patient
- **Common Durations (ranges may vary per patient – consider discussing with MD/pharmacist)**
- **Where to find this?** Progress notes, MAR stop date

What are Indications for Antimicrobials?

- Considering the indication is **useful when selecting treatment and reassessing** once cultures result
- Including indications **helps communicate complete treatment plans** with patients/families
- **Prophylaxis** = prevent infection
- **Treatment** = treat active infection
- **Non-Infectious** = used for other indications besides infection
- **Where to find this?** Progress notes, order on MAR

Why is it important to transition to oral therapy?

- IV to PO transitions **minimize line entries, complications & reduce cost**
- RNs can **evaluate if patients are improving or tolerating PO** to help determine treatment while collaborating with MDs/Pharmacists on the route
- IV antibiotics are required for endocarditis, meningitis, CLABSI, or other serious infections
- For patients able to take oral medications, Pharmacists can help identify potential formulary options

Suggestions for future education?

ADIOS Antibiotic Engagement Tool
Unit: _____ Date: _____
Type of Transition:
 Shift to Shift Patient Transfer

Antimicrobial?

Antibiotic-Antifungal/viral ordered?

Yes, antibiotic/fungal/viral(s)
 Is/are _____
 If Vanc or aminoglycosides, levels due _____
 Couldn't easily find information in MAR

Duration?

Planned "stop" date reflects the duration of what is ordered on MAR?

Yes
Patient is on day ___ of ___ course
 No – stop date is unclear/unknown or mismatch exists between planned or ordered stop dates → CONSIDER contacting MD/PharmD
 Couldn't easily find information in MAR

Indication?

Is it clear to you why the patient is actively receiving this antimicrobial therapy?

Yes
 No → CONSIDER contacting MD/PharmD
 Couldn't easily find information in MAR

Oral?

Consistently eating/drinking?
 Yes No I don't know

Able to take oral medications?
 Yes **No → CONSIDER Child Life**

Suggestions?

Do you have any concerns about antimicrobial therapy?
(e.g. line issues, pt. developing rash or ADR)
 Yes → CONSIDER contacting MD/PharmD
 No

Thank you for participating!
Questions? Elizabeth Monsees 44531
Is there anything you would like to share?

05.08.19

We're on the Scope!

Antimicrobial Stewardship Program (ASP)

Did you know?

Antimicrobials are a community resource, meaning they are the one class of medications that lose effectiveness over time and use, so the more we use them, the less effective they become. It's important that each of us "stewards" or uses these valuable drugs wisely. Even people who have not been exposed to antimicrobials can be at risk for acquiring infections that cannot be adequately treated with existing antimicrobial therapies.

Antimicrobial resistance is an important public health challenge. In the United States, each year, at least 2 million people acquire an antimicrobial-resistant infection resulting in approximately 23,000 deaths. The Centers for Disease Control and Prevention (CDC) recommend a series of practices that address the problem about antimicrobial resistance by ensuring therapies are used responsibly.

What is antimicrobial stewardship?

To steward antimicrobials means we optimize the selection, dosage, and duration of antimicrobial (antibiotics, antifungals, antivirals) treatment that **results in the best clinical outcome** for the treatment or prevention of infection with **minimal toxicity to the patient** and minimal impact on subsequent resistance.

Who is an antimicrobial steward?

Everyone! We are all responsible for preserving and promoting appropriate antimicrobial use.

At Children's Mercy, we have a dedicated antimicrobial stewardship team of infectious disease physicians, pharmacists, APRNs, RNs, microbiologists, and data analysts who all work to serve the needs of frontline clinicians to ensure that

Our team collaborates with clinicians to optimize antimicrobial use through these additional initiatives:

Inpatient Antimicrobial Initiatives

48 Hour Time Out

- Task triggers for a specific antimicrobial review at 48 hours
- Pharmacist discusses antimicrobial plans with team and documents in the EMR

Mandatory Antimicrobial Indications

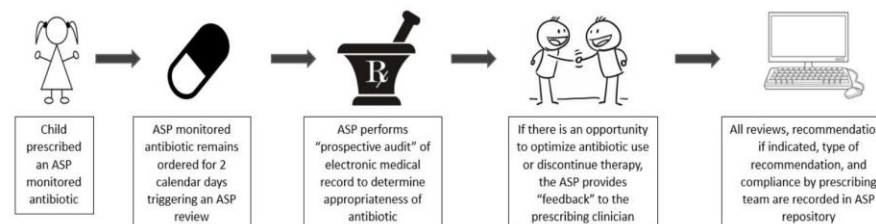
- Selected at CPOE
- Broad infectious categories for antibiotic indications (ENT, CNS, etc)
- Prophylaxis or treatment options for antivirals/antifungals

Mandatory Antimicrobial Durations

- Required at CPOE
- Reviewed by team pharmacists daily using Antimicrobial DC Report
- "Double-check" performed daily by ASP

EMR: electronic medical record, CPOE: computerized physician order entry; ENT: ear, nose, throat; CNS: central nervous system

Steps involved with CMH ASP Prospective Audit and Feedback



Conclusion

Was AIM Statement met?

- No, but there was a 10% overall improvement

Pediatric nursing implications

- Nurses should play an active role in antimicrobial stewardship
- Antibiotic awareness can improve patient safety and outcomes

Lessons learned from working on project

- Changing processes within an organization can lead to negative staff feedback

References

- Monsees, E., Goldman, J., & Popejoy, L. (2017). Staff nurses as antimicrobial stewards: An integrative literature review. *American Journal of Infection Control*, 45(8), 917-922. doi:10.1016/j.ajic.2017.03.009
- American Nurse Association. (2017). Redefining the antibiotic stewardship team: Recommendations from the American Nurses Association/Centers for Disease Control and Prevention workgroup on the role of registered nurses in hospital antibiotic stewardship practices. *Nursing World*.
- Centers for Disease Control and Prevention. (2017). *Core elements of hospital antibiotic stewardship programs*. Retrieved from <https://www.cdc.gov/antibiotic-use/healthcare/implementation/core-elements.html>



Questions?