

Impact of a Nurse-Pharmacist Driven Antimicrobial Stewardship: Redefining the Team

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Background

- The Centers for Disease Control and Prevention and the World Health Organization have recognized the worldwide emergence of antimicrobial resistance that has limited and complicated the treatment of infections.¹
- In 2017, the Joint Commission mandated acute care hospitals to implement antimicrobial stewardship (AMS) programs. Core elements were developed to help hospitals achieve this goal.²
- In 2019, the core elements were updated incorporating nursing-based actions.²
- Our institution's AMS program includes all the core elements apart from nursing involvement.

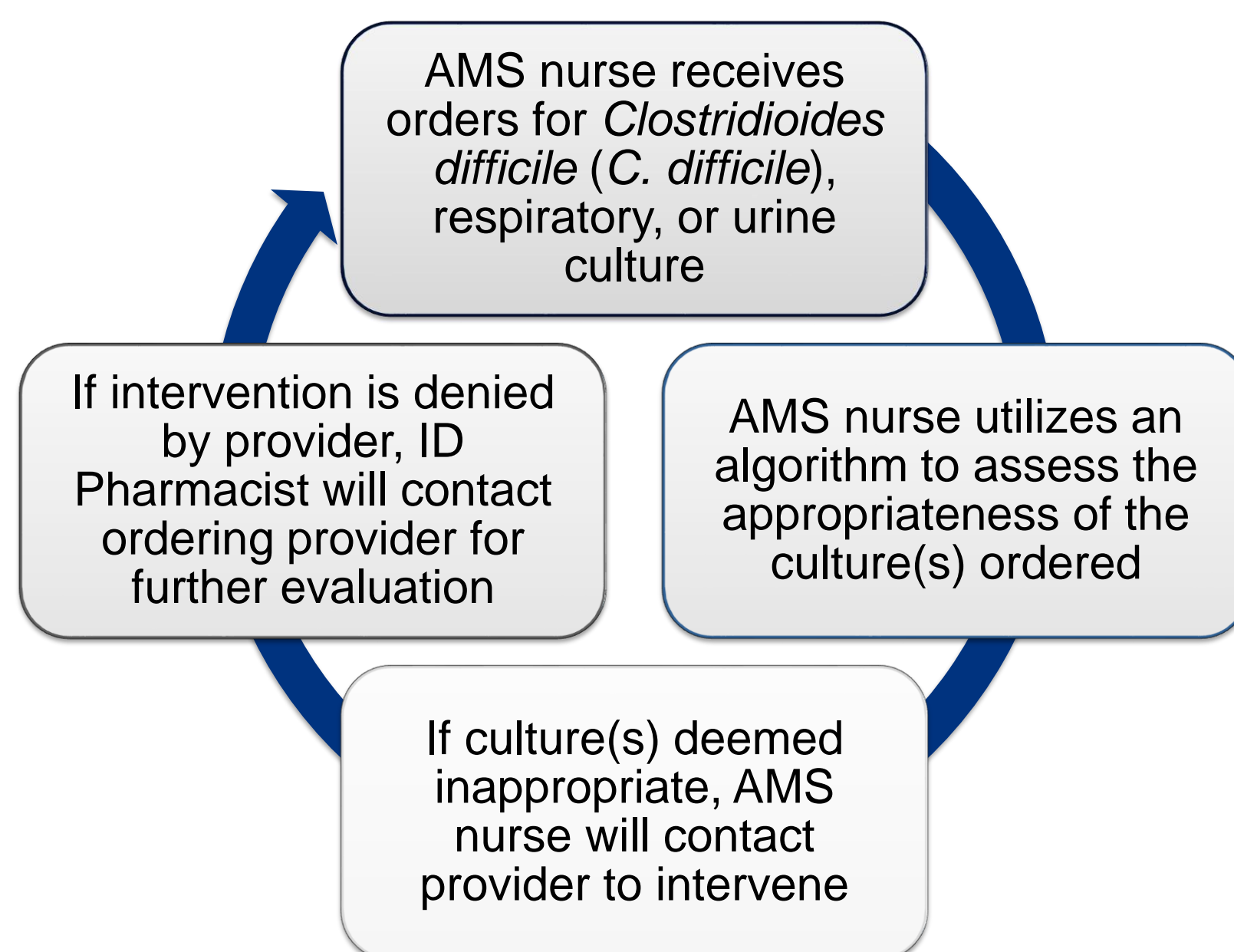
Objective

- To integrate bedside nurses in collaboration with pharmacy to expand our institution's AMS program and improve microbiology cultures.

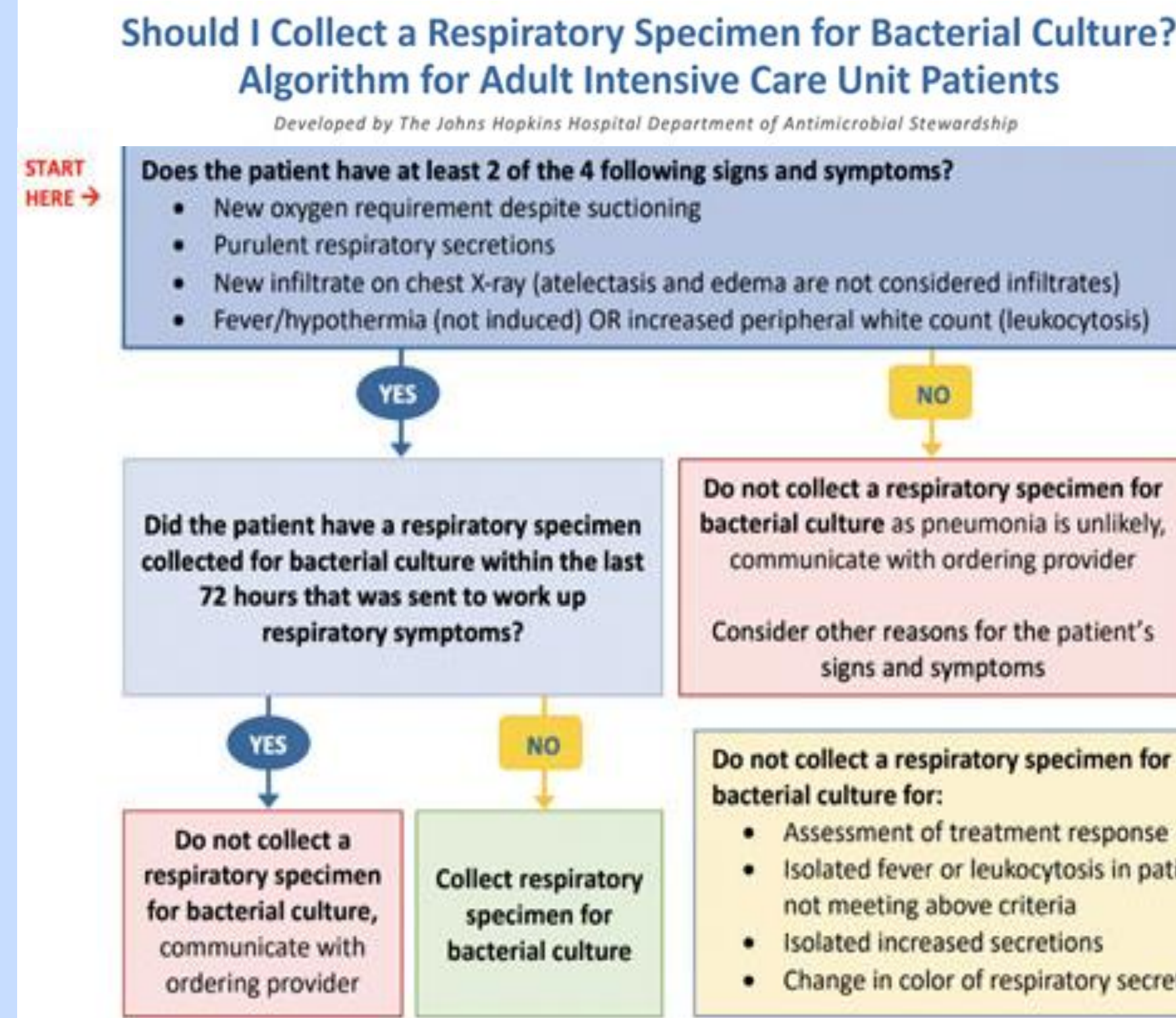
Methods

Developed a toolkit which consists of three parts:

1. Identify AMS nurses and garner leadership support
2. Provide education (continuing education program)
3. Develop AMS culture algorithms to guide nursing to appropriate culturing practices with ID involvement

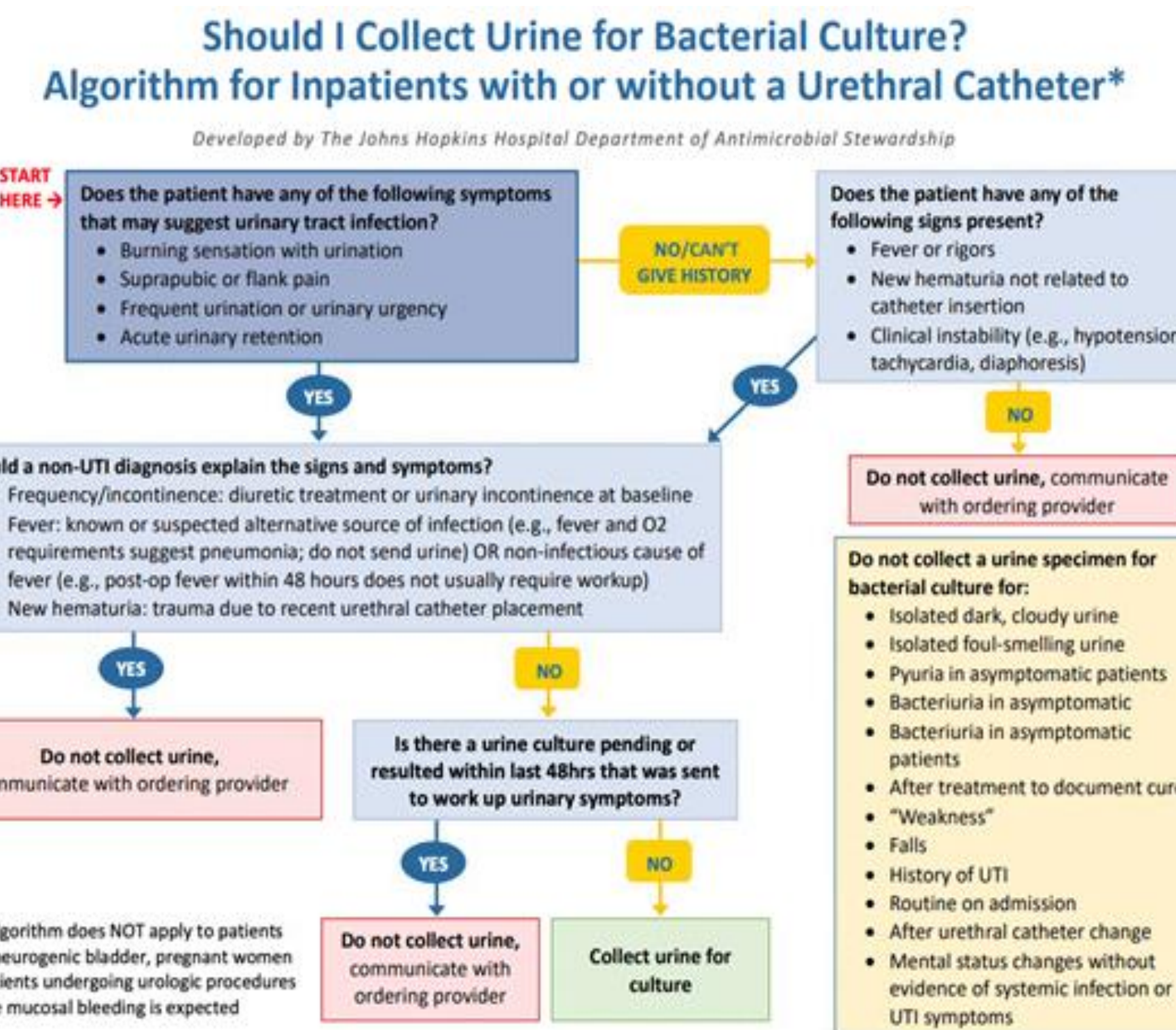


AMS Culture Algorithms³



Tips to Avoid Inappropriate C. difficile Testing

1. Don't test patients for *C. difficile* if they had < 3 unformed stools in the past day
2. Don't test patients who received laxatives within the past 48 hours (stop laxatives and monitor)
3. Don't test patients in whom diarrhea has an alternative explanation (e.g., laxatives, tube feedings) in the absence of evidence of disease (persistent diarrhea, abdominal pain, leukocytosis, fever)
4. Don't retest within 7 days
5. Don't test for cure
6. Don't test based on smell or color of stool



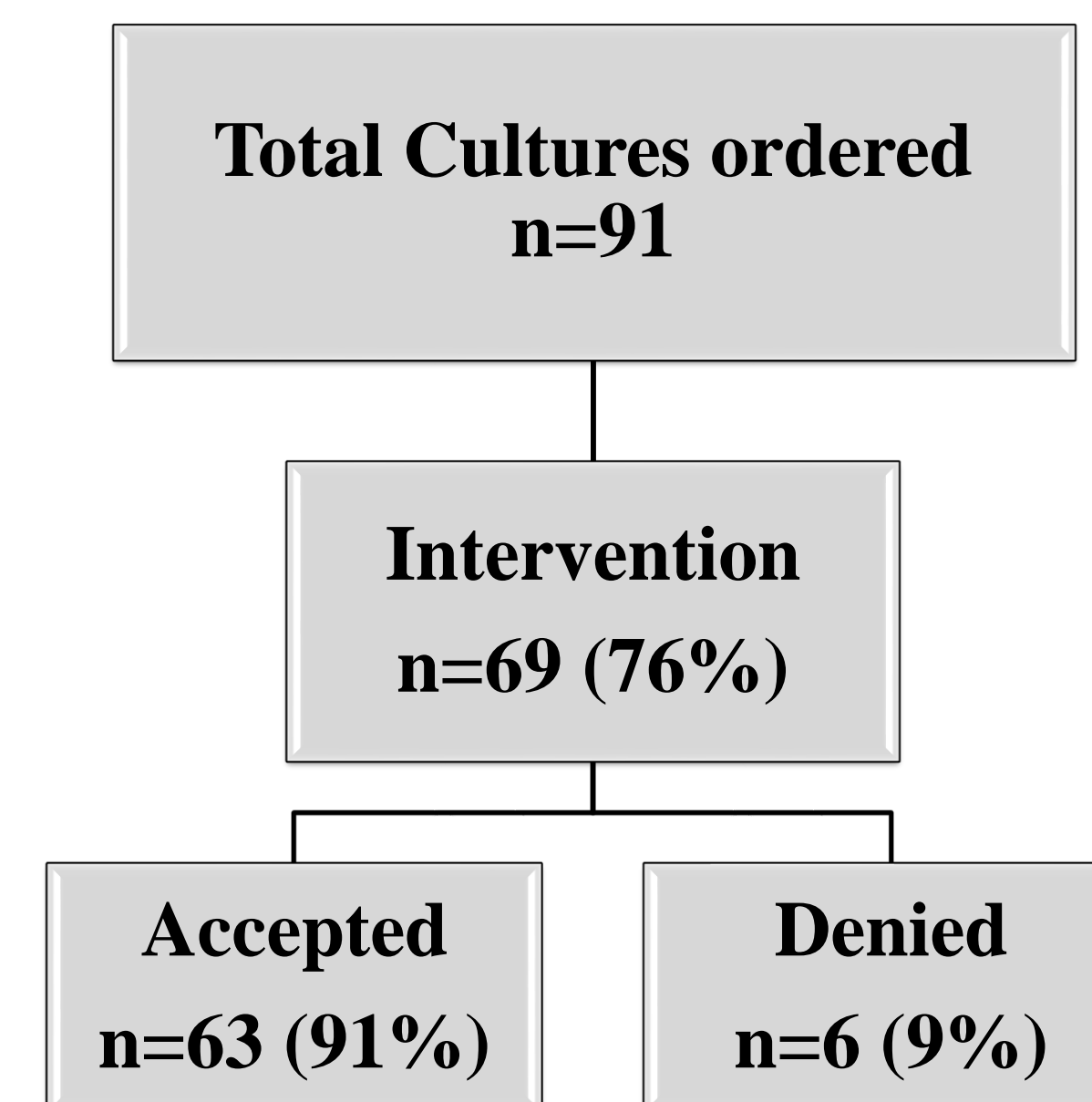
Aim Statement and Measures

Aim Statement	
	≥20% of ICU <i>C. difficile</i> , respiratory, and urine culture interventions made by nurse-pharmacist AMS team will be accepted by March 4 th , 2022
Measures	
Outcome	The percentage of interventions accepted for inappropriate <i>C. difficile</i> , respiratory, and/or urine cultures weekly
Process	<ul style="list-style-type: none"> The time (in hours) to discontinue inappropriate <i>C. difficile</i>, respiratory, and/or urine cultures Intervention by type
Balancing	The average time the nurse/pharmacist spent to assess appropriateness of <i>C. difficile</i> , respiratory, and urine cultures

Results

Baseline Characteristic n= 129	
Mean age in years, (range)	60 (20-99)
Male, n(%)	70 (54)

Outcome Measure:

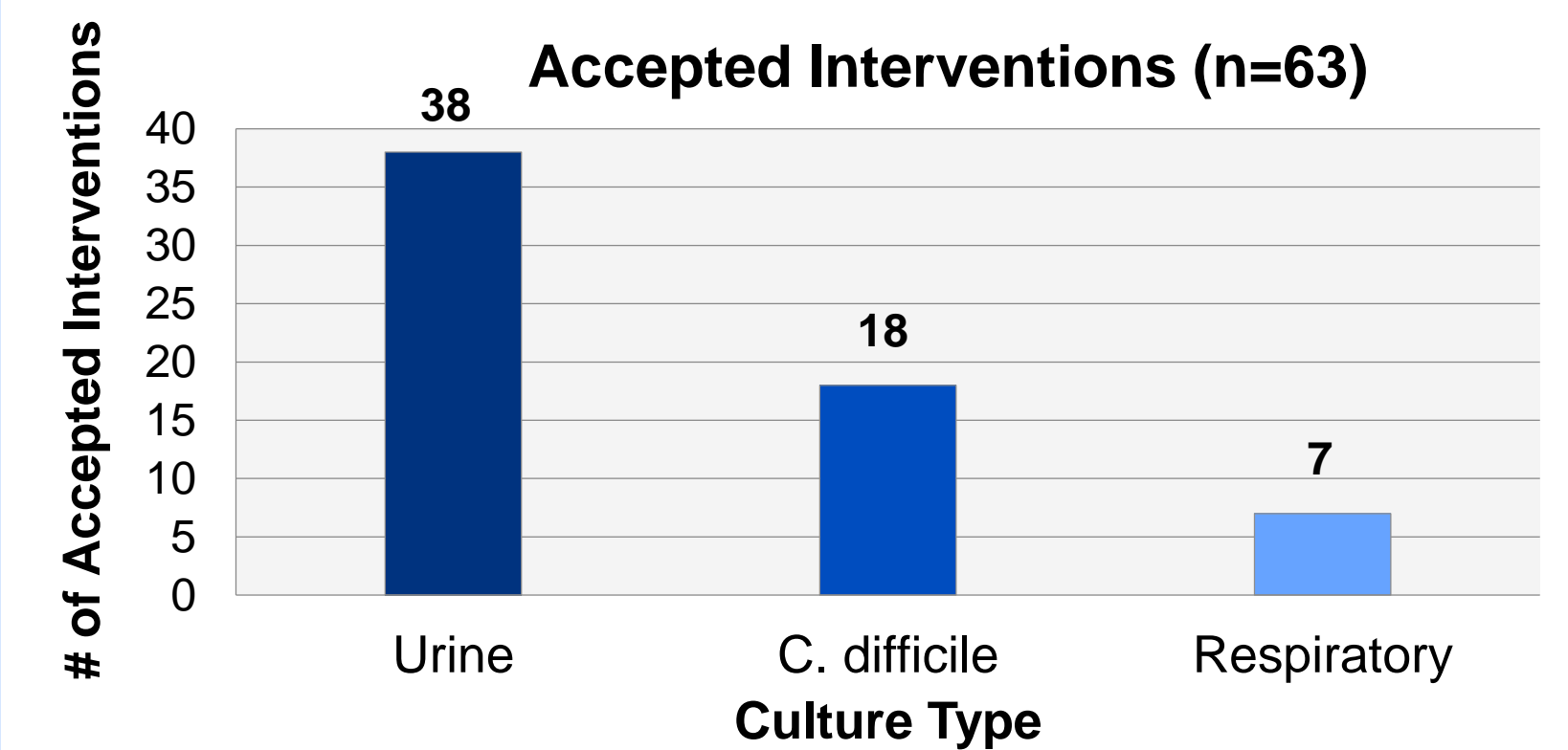


Results

Process Measures:

The time to discontinue inappropriate *C. difficile*, respiratory, and/or urine cultures:

- Mean: 2 hours Range: 1-12 hours



Balancing Measure:

The average time the nurse/pharmacist spent to assess appropriateness of *C. difficile*, respiratory, and urine culture:

- 15 minutes

Conclusions

- Nurse/pharmacist collaboration led to improved microbial culture practices in the ICU
- Pharmacists support and guidance for interdisciplinary teams in AMS will elevate patient care
- Future vision is to expand further to other hospital services

Limitations

- Single center study
- Small sample size
- Staffing turnover
- Data collected during weekdays only

References

1. Olans RN, Olans RD, DeMaria A Jr. The Critical Role of the Staff Nurse in Antimicrobial Stewardship—Unrecognized but Already There. Clin Infect Dis. 2016 Jan 1;62(1):849
2. CDC. Core Elements of Hospital Antibiotic Stewardship Programs. Atlanta, GA: US Department of Health and Human Services, CDC; 2019. Available at <https://www.cdc.gov/antibiotic-use/core-elements/hospital.html>. Accessed September 5, 2021
3. Toolkit to Enhance Nursing and Antibiotic Stewardship Partnership. John Hopkins's Medical Center. <https://www.hopkinsmedicine.org/antimicrobial-stewardship/nursing-toolkit/index.html>. Accessed August 25, 2021

Disclosures

The authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities.