De-escalation Interventions for Hospitals

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No financial interests or relationships to disclose

Optimizing antimicrobial therapy - a core function of stewardship programs - helps to reduce complications associated with these drugs, improve patient outcomes, reduce cost, and slow antimicrobial resistance.

De-escalation Interventions

Prospective Audit & Feedback

Antiobiotic Time-Outs

MRSA PCR Testing

Definition of De-escalation

- Discontinuation of one or more antimicrobials used as part of combination empirical therapy
- Change from a broad-spectrum to a narrower spectrum antimicrobial

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Advantages

- Decreased exposure to broad antibiotics, which may contribute to decrease in AMR
- Potential for decreased risk for side effects
- Often decreased cost
- Potentially decreased LOS

- Rapid diagnostics can be very helpful

Possible Pitfalls

- May not address initiation of unnecessarily broad empiric antibiotics
- What constitutes de-escalation is not always clear
- Associated with increase in total duration of antibiotics
- Not all cultures are useful for de-escalation

Prospective Audit & Feedback

Prospective Audit & Feedback

Common things to look for during reviews:

- Too-broad empiric antimicrobials
- Redundant antibiotics (double anaerobic coverage, etc.)
- Treatment of asymptomatic bacteriuria or bacteriuria without pyuria
- Opportunities for de-escalation based on cultures
- Duration of therapy
- *S. aureus* or *S. lugdunensis* bacteremia or candidemia without ID consults
- Other high-priority abx: fluoroquinolones, clindamycin

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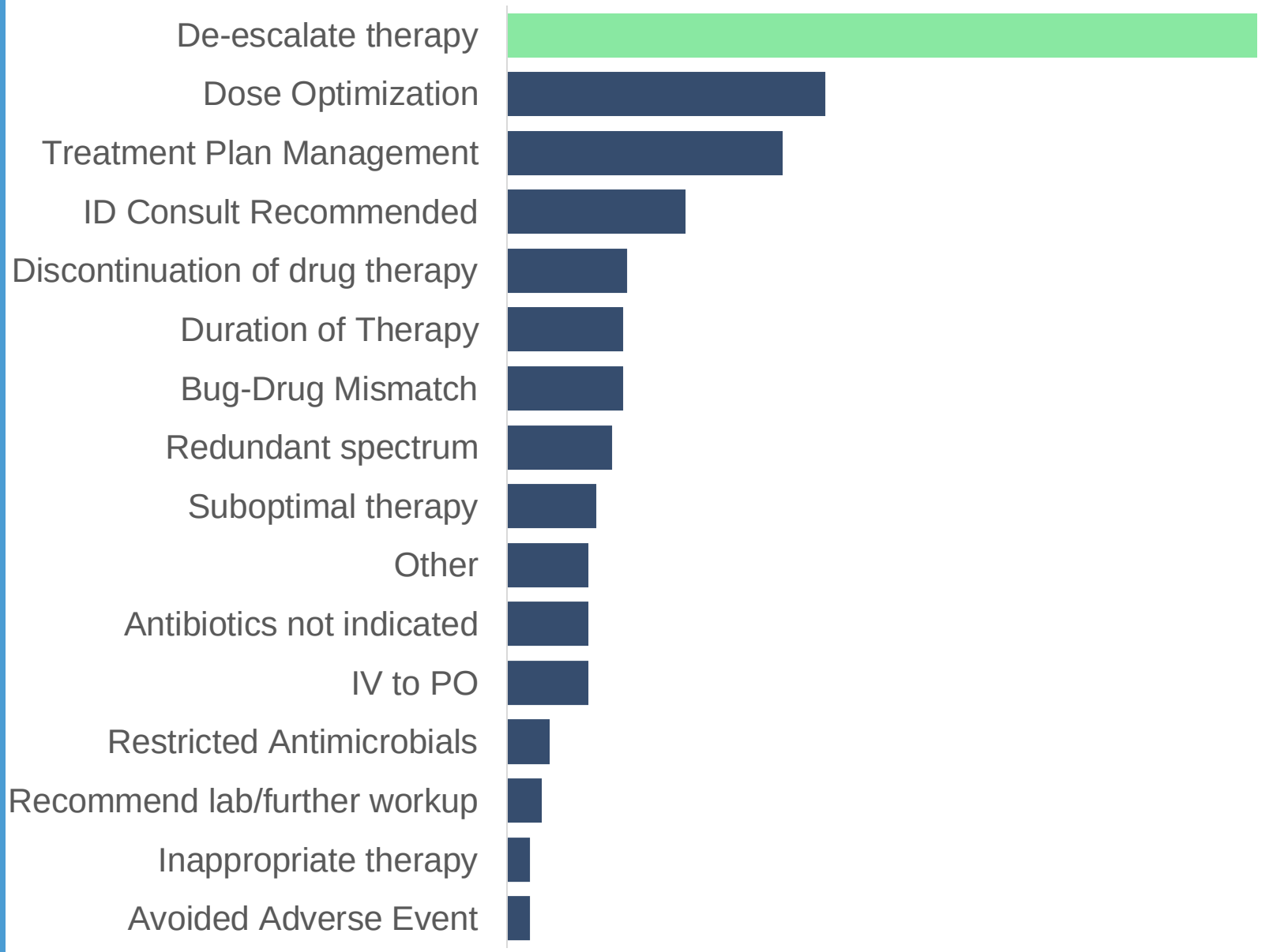
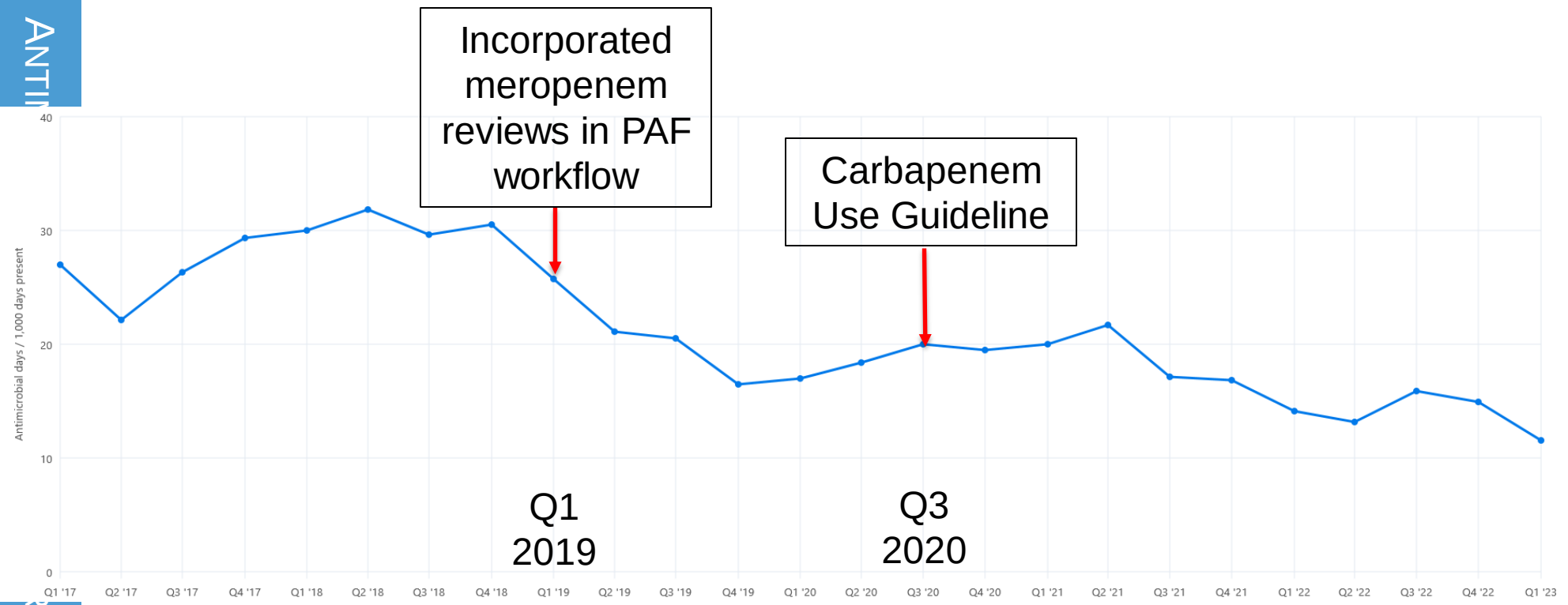
Prospective Audit and Feedback Interventions



Meropenem Use 2017-2023

Days of therapy/1000 days-present



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Antibiotic Time-Outs

Antibiotic Time-outs

Committing to antibiotic time-outs is a culture change. As with any habit, it takes time for it to become second nature. Across our participating services, we've seen nurse coordinators, physicians, and pharmacists take the lead to ensure that time-outs happen consistently. Service line leaders can help by encouraging their teams to participate and adapting the time-out process to their team's needs."

What is a “Time-out?”

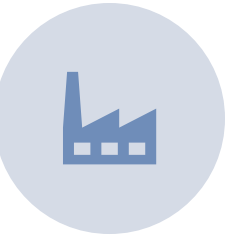
Formal reassessments of antimicrobials prescribed to patients under the care of a clinical team

- Typically take place 2-3 days following the start of treatment
- Consider culture results, patient response to determine if adjustments are needed to:
  - ✓Drug
  - ✓Dose
  - ✓Duration
  - ✓Route of administration

Readiness Checklist:
Are you ready for a time-out?

DEFINING NEED

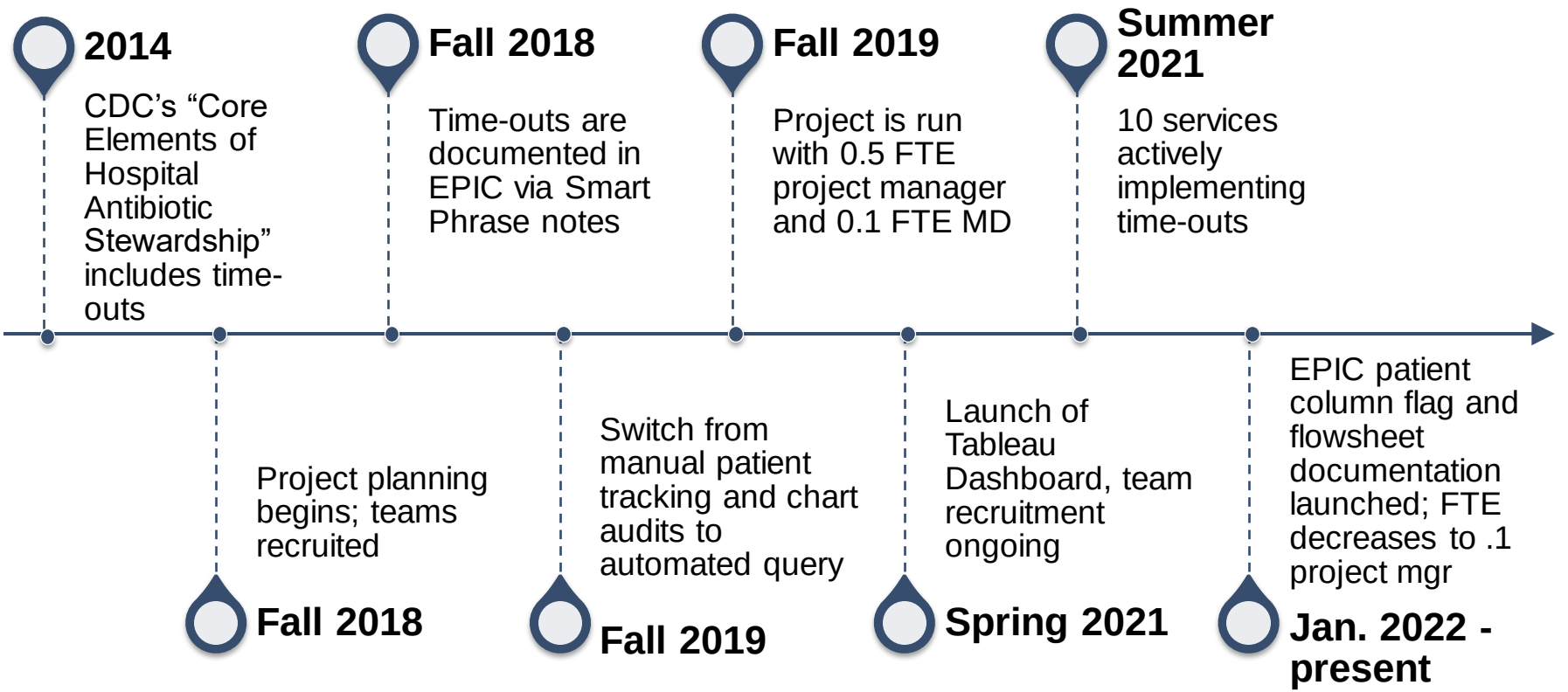
WILLINGNESS TO IMPLEMENT CHANGE



INFRASTRUCTURE, RESOURCES, AND CURRENT PRACTICE

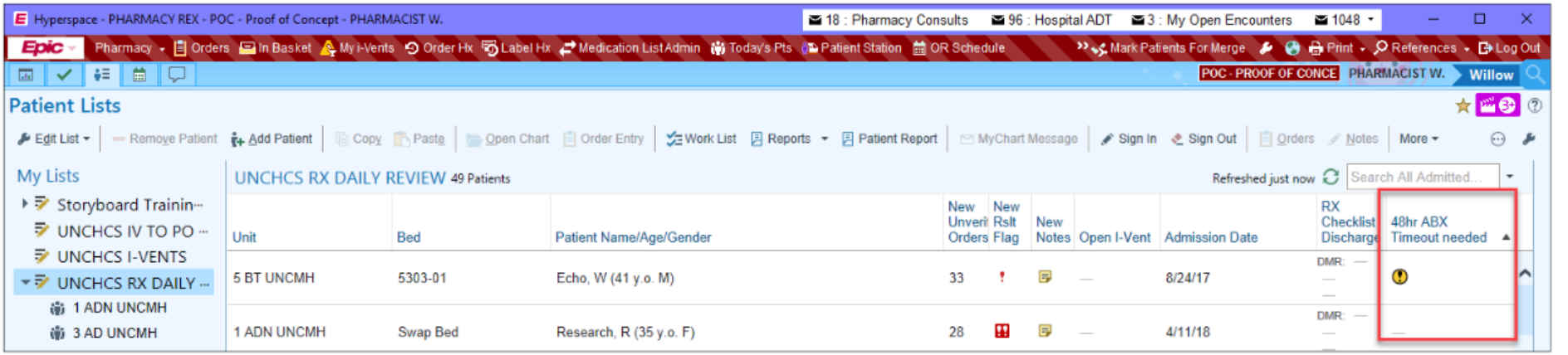
SUSTAINABILITY

Project Timeline



Evolution of a Silent System Wide Epic BPA

- **48 Hour Time-out Needed patient column is available system wide**
- **Participating patient care teams are the only ones that are wrenching this column in**



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Antibiotic Time Outs

Created By: Michael Swartwood, BSN, RN, CAPM

Percent of Eligible Patients With a Time Out

Goal: 80%

	MDA	FAM MED	HBC	PMA+PMB	PICU	BICU
022	100%	88%	100%	50%	100%	
022	100%	100%	100%	100%	100%	
022	100%	100%	0%	100%	100%	
022	50%	90%	0%	100%	100%	
022	100%	92%		100%	100%	
022	67%	89%		100%		

Current Services (Month of Adoption):
MDA (11/18) HBD (2/19), HBC (2/19), Family Medicine Blue (4/19), Family Medicine Green (4/19), PMB (11/19), PMA (1/20), PICU (6/20), Family Medicine Teal (7/21), BICU (8/21)

9,311
Total Patients Evaluated

3,714
Total Time Outs Conducted

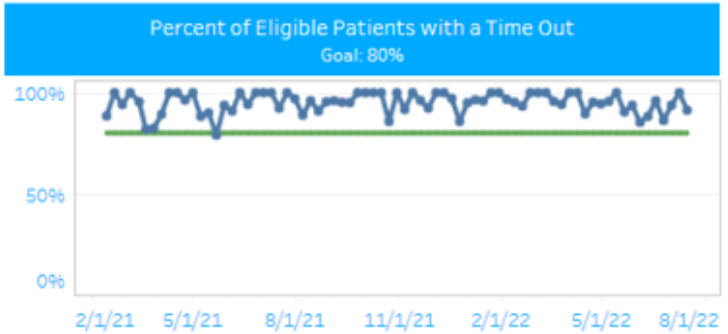
942
Total Time Outs With Recommendations for Change

Percent of Time Outs Within Time Limits

Goal: 80%

	MDA	FAM MED	HBC	PMA + PMB	P
July 16, 2022	100%	88%	100%	100%	10
July 9, 2022	80%	100%	50%	100%	10
July 2, 2022	100%	100%		50%	10
June 25, 2022	100%	90%		90%	8
June 18, 2022	80%	92%		100%	7
June 11, 2022	100%	89%		60%	

Percent of Eligible With a Time Out Goal:80%
86.40%
95.18%
88.63%
96.72%
99.58%
92.11%
85.71%
80.59%



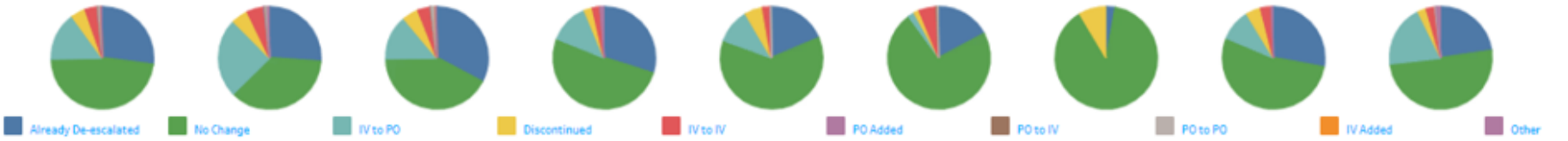
Cumulati With Go
MDA
FAM MED
HBC
PMA+PME
PICU
BICU
HBB/HBD
BEST

Day of Week Ending

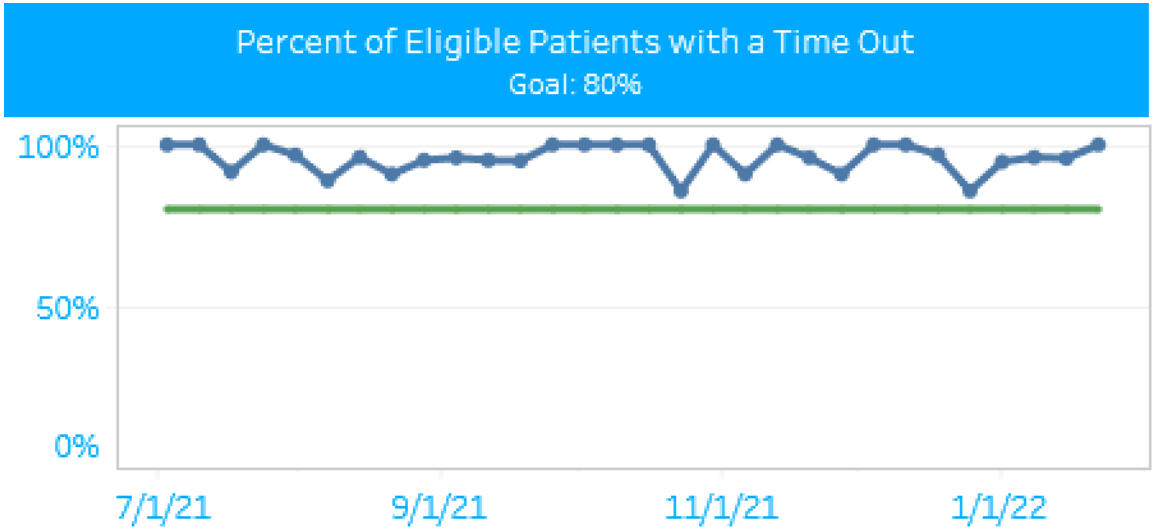
February 10, 2021 — July 16, 2022

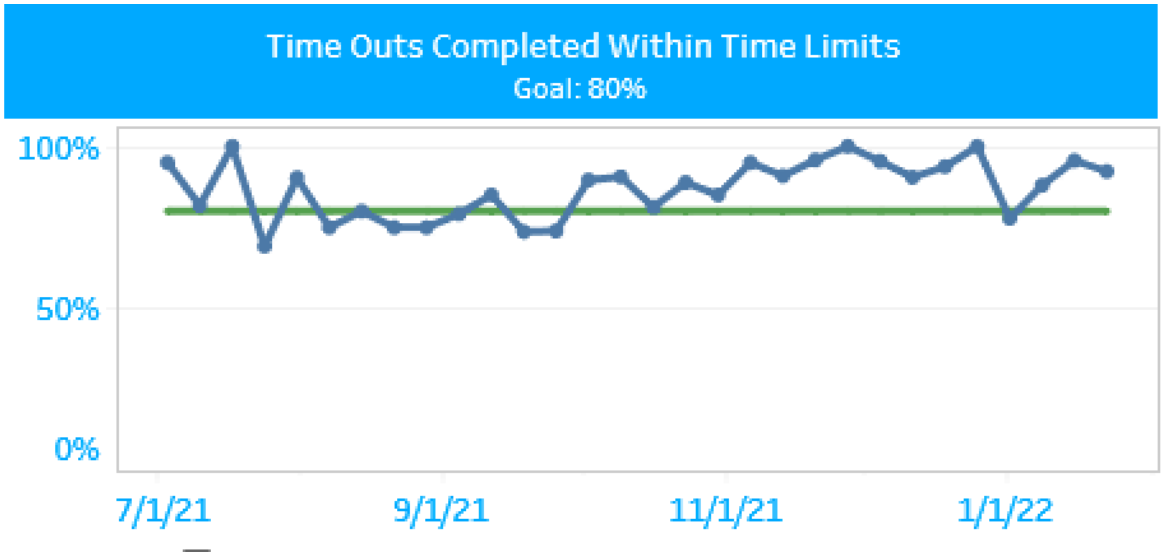
Antibiotic Time Out Decisions

Totals | MDA | Family Medicine | HBC | PMA+PMB | PICU | BICU | HBB/HBD | BEST



High Performance Despite COVID Surges





Pros and Cons of This Approach

Strengths

- **Asset Light and Scalable**
- Antimicrobial stewardship becomes routine on part of team's daily practice
- Once set up, monitoring performance benchmarks and reporting them to teams is efficient and uses little FTE.

Obstacles

- Diverted attention due to pandemic
- Rounds already include high-quality daily antibiotic assessment
- Rounding schedules (surgical teams, etc.)

Summary and Takeaways

Highlights importance of working with project champions and optional implementation

By working with partner teams, we work to integrate antimicrobial stewardship into rounds and into the culture of patient care teams

Ability to roll out EPIC tools system wide while maintaining targeted roll out of tool by wrenching in alerts via patient list column

Automation via BusinessObjects and Tableau allow small project FTE to impact large number of patients.

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Rapid MRSA Screening

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MRSA PCR Nasal Swab for Suspected Pneumonia

SCREEN DETAILS

MRSA Screen
EPIC: LAB234 requires a nasal ESwab™ (swab both nostrils).

Early screening is essential for accurate detection of MRSA.

Screening is quick, and results should be available within 3 hours.

Positive MRSA PCR does not establish MRSA as a respiratory pathogen.

MRSA PCR Nasal Swab for Suspected Pneumonia

CLINICAL UTILITY

This test's **high negative predictive value (96.5%) to rule out MRSA as a respiratory pathogen** allows early de-escalation of antimicrobial therapy.

High negative predictive value is **maintained for up to two weeks** after negative results.

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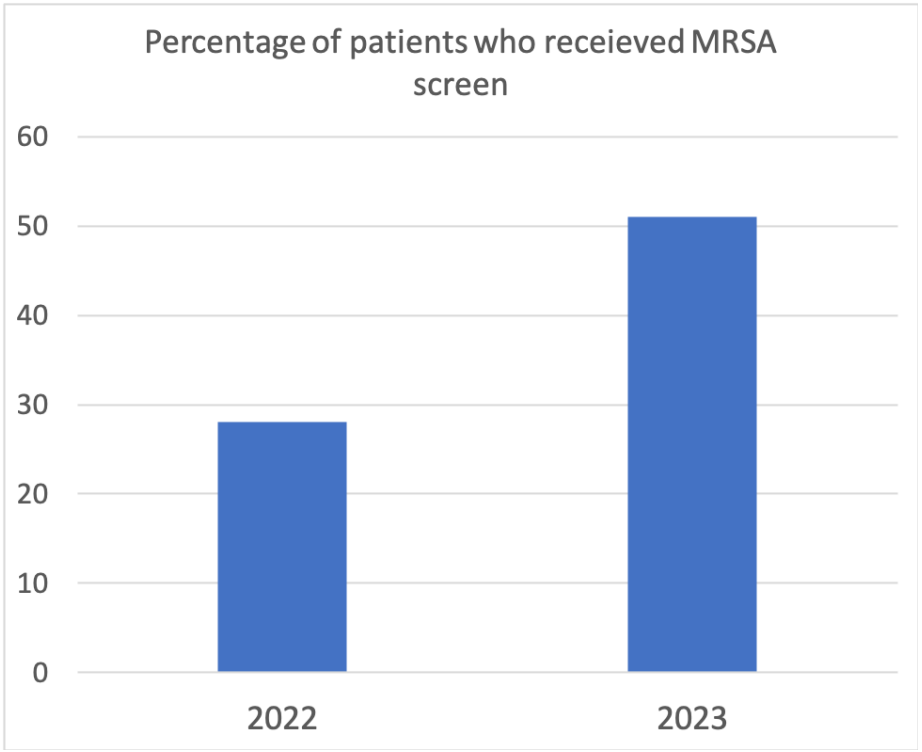
MRSA PCR Nasal Swab for Suspected Pneumonia

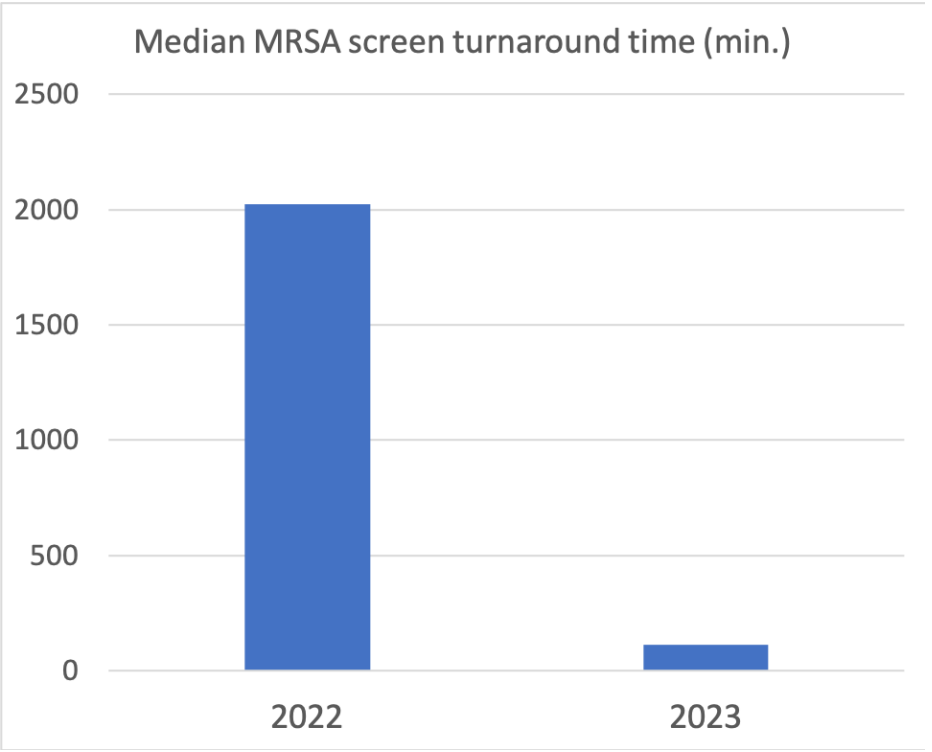
UNDERSTANDING MRSA SCREEN RESULTS IN PATIENTS WITH SUSPECTED PNEUMONIA

− **Negative MRSA Screen:** consider stopping anti-MRSA therapy for clinically stable patients

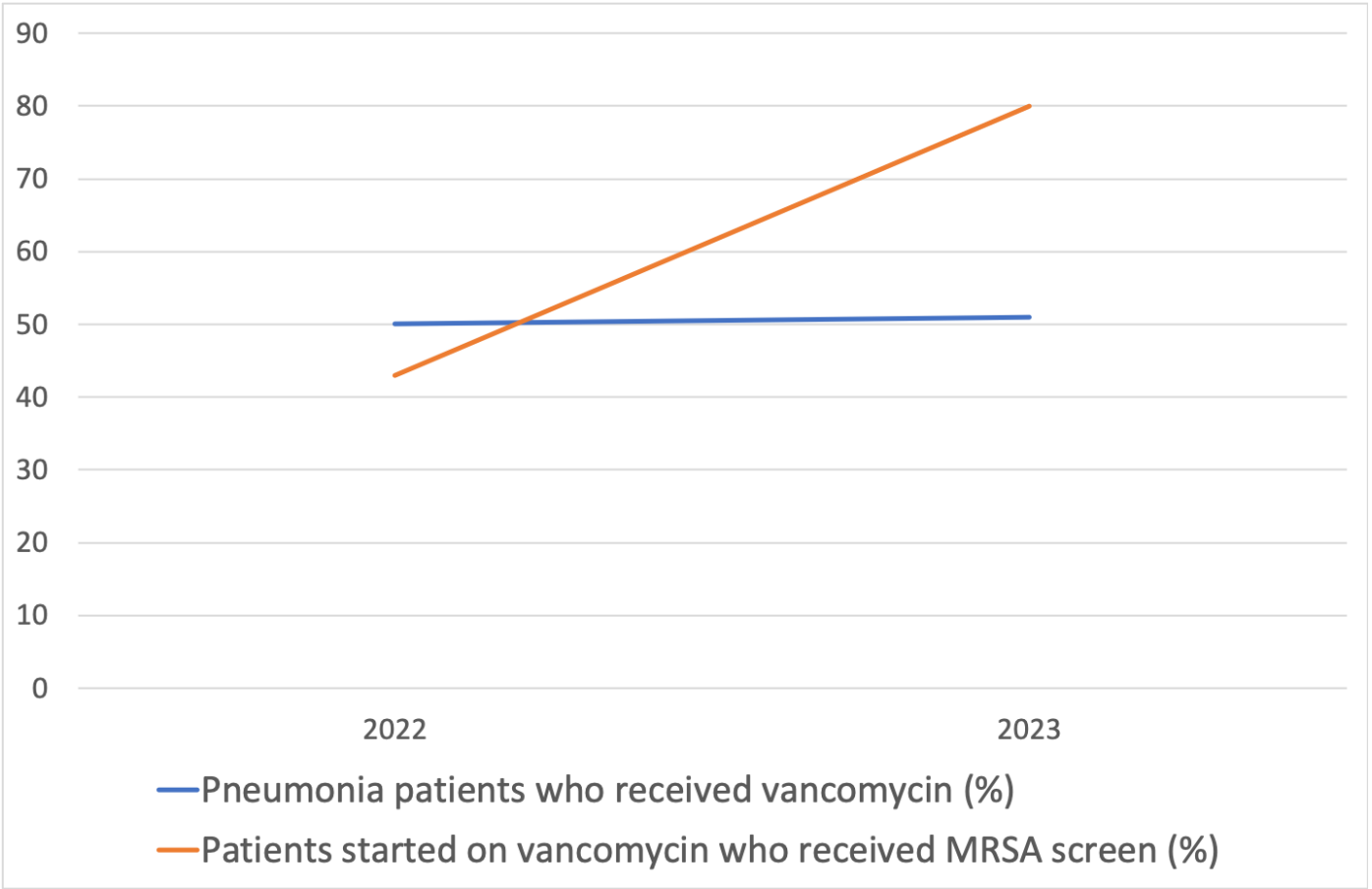
\+ **Positive MRSA Screen:** use clinical judgement in deciding whether to continue anti-MRSA therapy

Providers are Ordering the MRSA PCR



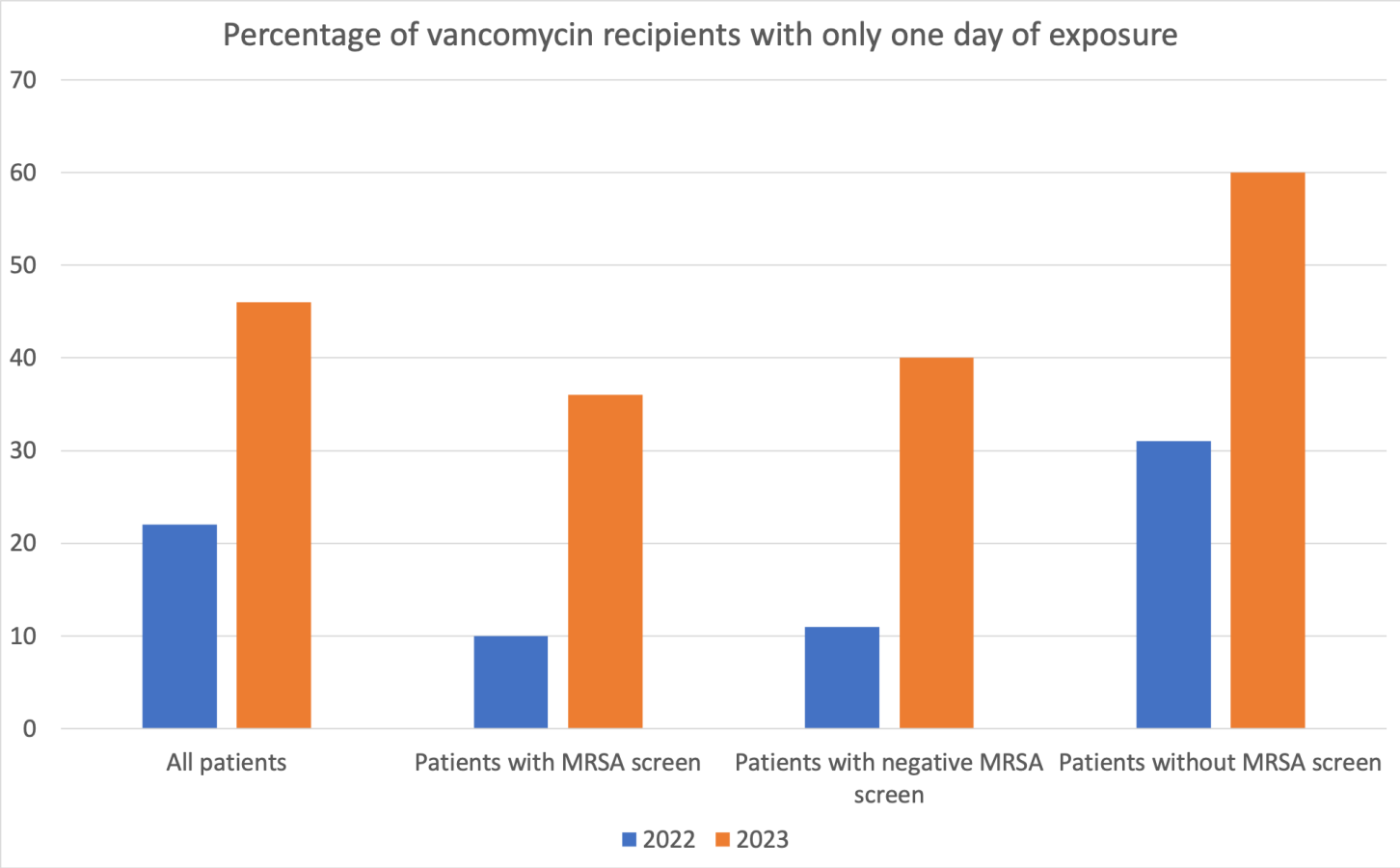


- Providers are still starting vancomycin at similar rates, but ordering the MRSA screen much more often when they do



Results

- More patients received just a single day of vancomycin, regardless of whether they received MRSA screens



Discussion

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