

# Engaging Quality Improvement Education Through In-Depth Resident Experiential Learning

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## INTRODUCTION

- Residents are expected to participate in quality improvement (QI) activities during training.
- QI activities should involve didactic & experiential training.
- MRSA is an important cause of infections in the ICU.
- CDC lists MRSA as a significant threat in the U.S.
- Integration of residents into hospital QI activities provides opportunities to align resident-led QI initiatives with institutional goals.

## PURPOSE

To report resident executed QI processes contributing toward a systematic institutional change in vancomycin usage in the ICU.

## METHODS

**Overview:** Internal Medicine Resident QI Team addressing MRSA screening in the ICU at an academic teaching hospital.

**Time Period:** 2017-2018 Academic Year

**Project Goal:** Decrease vancomycin usage in the ICU

**Curriculum Goal:** Involve residents in all aspects of project

**Intervention:** Change MRSA screening from culture to PCR testing, so clinicians can know negative results sooner and discontinue vancomycin when appropriate.

## METHODS

**Primary Objective:** Change MRSA screening from culture to PCR testing.

**Outcome Measure:** Percentage of screenings performed using PCR in a historic 60 day period versus comparable 60 day period.

**Curriculum Measure:** Documentation of all major project steps and resident involvement in these actions.

Institutional Review Board approval granted for project.

## RESULTS

### Resident Action Steps:

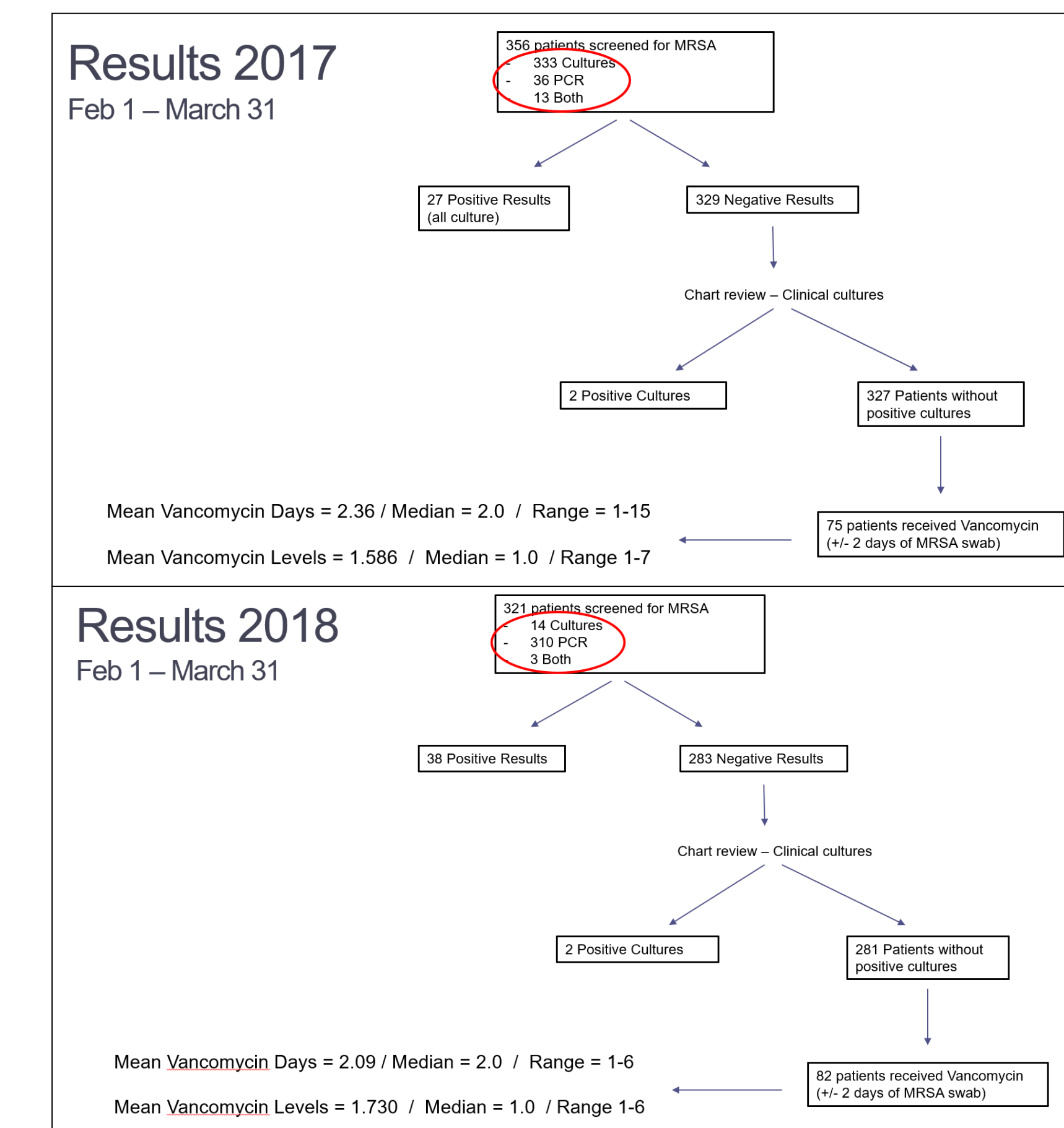
- Met with: ICU Nurses; Pharmacy Leaders; ID and Critical Care Specialists; Research Faculty; Hospital Informatics; Billing and Laboratory Staff.
- Acquired & reviewed historic data
- Presented requested change in MRSA screening to Hospital Critical Care & Policy Committees
- Educated nurses on screening change
- Implemented change (MRSA screening by PCR)
- Acquired & collected post-data
- Disseminated results at Medical Education conference and discussed next cycles of change

## RESULTS: Continued

Culture results were reported ~48 hours vs. PCR results ~2 hours.

Screening	Cost to Hospital	Charge to Patients
Nasal Culture	\$7.69	\$71.22
Nasal PCR	\$13.80	\$136.99

Screening	Cost to Hospital	Charge to Patient
Vancomycin Administration	\$6.82	\$66.56
Vancomycin Drug Level	\$6.24	\$192.50



## DISCUSSION: Barriers & Strategies

### Key Findings

- Pre-data MRSA screenings(n=356): 94% culture, 6% PCR testing
- Post-data MRSA screenings(n=321): 3% culture, 97% PCR testing

### Limitations

- Vancomycin deceleration data did not improve across periods

### Next Steps and Sustainability

- Continue to educate, evaluate % screened & screening timing