



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

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# Quality Improvement Education through Experiential Learning

## BACKGROUND

- MRSA is an important cause of infections in the ICU.
  - The CDC lists MRSA as a threat in the US due to antibiotic resistance.
  - Residents are expected to participate in QI activities during training.
  - Integration of residents into hospital QI activities provides an opportunity to align QI projects with institutional goals.
  - Resident participation in QI activities can improve resident skills and contribute toward a culture of safety and improvement.
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# Quality Improvement Education through Experiential Learning


## METHODS

- 2017-2018 Academic Year: Internal Medicine Resident QI Team addressed MRSA screening in ICU
- Project Goal: Decrease vancomycin usage in ICU
- Curriculum Goal: Involve residents in all aspects of QI project implementation
- Intervention: Change MRSA screening from culture to PCR testing, so clinicians can know negative results sooner and d/c vancomycin



# Quality Improvement Education through Experiential Learning


## RESULTS: Resident Action Steps

- Resident QI Team met with: ICU Nurses, Pharmacy Leaders, ID and Critical Care Specialists, Research Faculty, Hospital Informatics, Billing and Laboratory Staff.
  - Residents submitted IRB application, reviewed historic data (2 months) to confirm issue, and presented their screening change plan to Hospital Critical Care and Policy committees.
  - Residents educated **nurses on change in screening**, implemented intervention, and collected post-intervention data (2 months).
  - Residents disseminated results at local Medical Education conference and discussed next cycles of change.
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# Quality Improvement Education via Experiential Learning

## RESULTS: Project Intervention

- Culture Results reported ~48 hours vs. PCR results ~2 hours
  - Cost [patient charge]: Culture \$8 [\$71]; PCR \$14[\$137]
  - Pre-Intervention MRSA screenings (n=356): 94% culture, 6% PCR testing
  - Post-Intervention MRSA screenings (n=321): 3% culture, 97% PCR testing
  - Vancomycin use results have **not** shown improvement across study periods (i.e., % initiation or crude duration).
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# Quality Improvement Education through Experiential Learning

## CONCLUSIONS / LESSONS LEARNED

- Residents can be involved in all key steps in hospital-approved QI initiatives.
- A successful change in the MRSA screening method occurred.
- PCR results not yet consistently used in antibiotic deceleration.
- Opportunities for additional resident participation in cycles of change
  - > 2018-2019 (Education of ICU nurses, pharmacists and providers)
  - > 2019-2020 (Number screened, timing of screening, and antibiotic selection)

**Thank You!**

