Engaging Quality Improvement Education Through In-Depth Resident Experiential Learning

W. John Yost, MD (UnityPoint Health – Des Moines)
Chief Academic Officer
Poster Slam
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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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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
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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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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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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!