# It Takes a Village: Reducing Empiric Vancomycin Use by Leveraging Primary Team Pharmacist Oversight of a 72-hour Approval Process

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## Problem

- Vancomycin is often empirically prescribed for patients admitted to the hospital with severe infections to provide broad-spectrum gram-positive coverage, including methicillin resistant *Staphylococcus aureus* (MRSA) coverage.
- When initiated empirically, vancomycin is often continued for ≥48 hours while awaiting cultures or improvement in clinical status.
  - However, after a 48-72 hour time-frame, if MRSA is not isolated in culture and the patient is clinically stable, empiric vancomycin should be discontinued in most cases.
- Overuse of antibiotics and unnecessarily long courses increases the risk of antibiotic toxicity (e.g. nephrotoxicity) and the development of bacterial resistance.
- Usage of vancomycin at UCM based on benchmarking data with other academic medical centers and NHSN standardized antibiotic administration ratio (SAAR) data was observed to be higher than our peers in previous years, suggesting the need for optimization of use

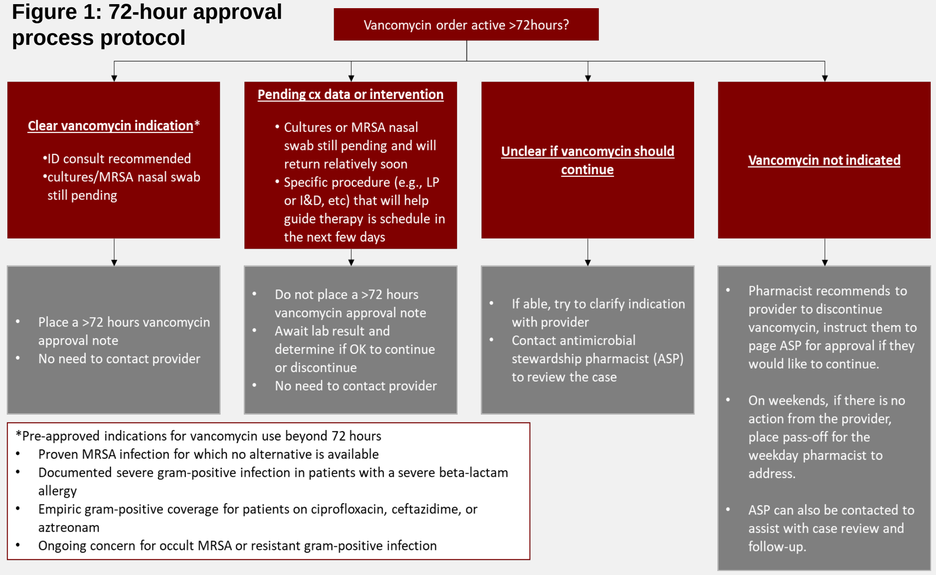
## Goal

- Our goal was to implement an intervention to reduce intravenous vancomycin utilization by focusing on empiric durations of therapy

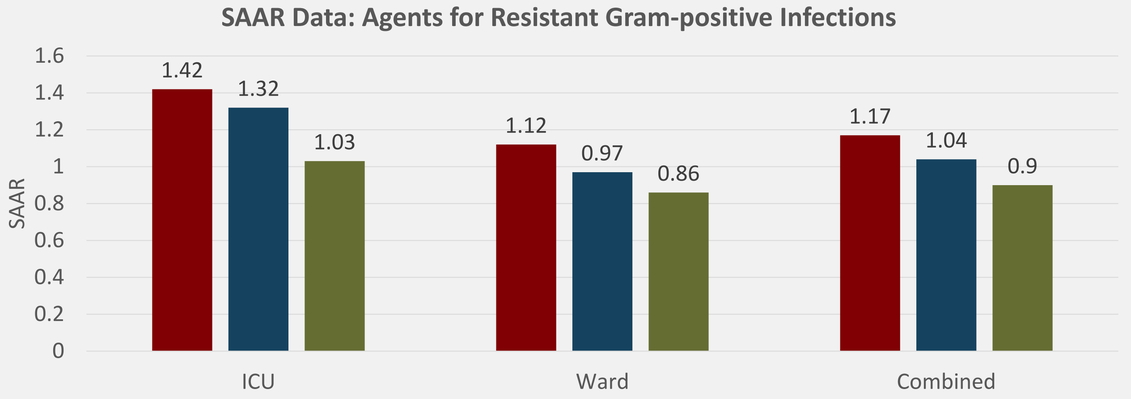
## Strategy

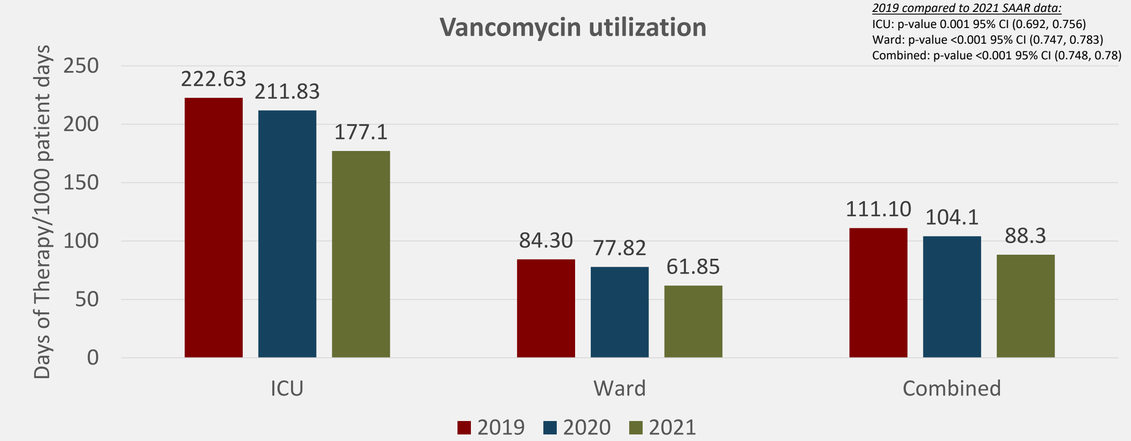
- On February 1, 2020, we implemented a protocol (Figure 1) requiring providers to obtain approval from the primary team clinical pharmacist to continue empiric intravenous vancomycin regimens >72 hours for adult inpatients
  - In May 2019 we also implemented a 'pharmacist-to-order' MRSA nasal swab protocol for all patients initiated on anti-MRSA therapy

**Figure 1: 72-hour approval process protocol**




## Impact




*2019 compared to 2021 SAAR data:*
ICU: p-value 0.001 95% CI (0.692, 0.756)
Ward: p-value <0.001 95% CI (0.747, 0.783)
Combined: p-value <0.001 95% CI (0.748, 0.78)

## Conclusion

- Following the implementation of the 72 hour vancomycin approval process lead by the antimicrobial stewardship program and carried out by our clinical pharmacy team, we have observed a sustained decrease in vancomycin utilization in both ICU and non-ICU patients
- Based on SAAR data, we have reduced our overall vancomycin utilization to a level that is lower than our peers (SAAR <1)

## Acknowledgements

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