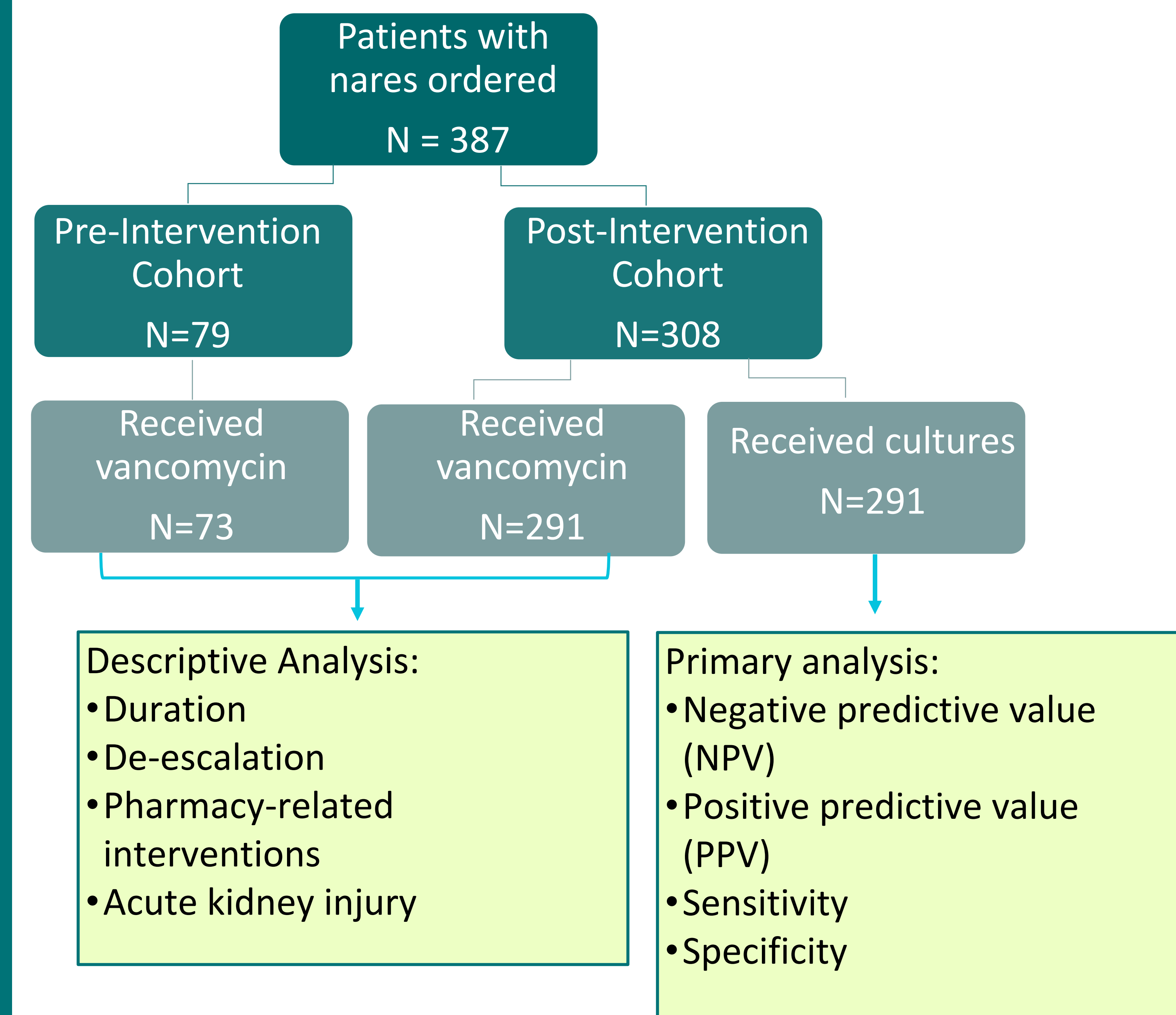


BACKGROUND

- Though MRSA nares screening has proven its negative predictive value for de-escalation within antimicrobial stewardship programs for pneumonia, there is a lack of clinical evaluation for its utilization for MRSA infections in wounds within a burn, surgical, and trauma population.
- University Medical Center in New Orleans (UMCNO) is a 448 bed, academic Level I Trauma Center, with three intensive care units including burn and trauma, and extensive surgical services.
- The purpose of this study was to evaluate the utility of MRSA nares PCR screening within a wide range clinical specimens and its impact on antimicrobial stewardship.

STUDY DESIGN

- Study Design:**
- IRB approved, single center, retrospective cohort study
 - Inclusion: All patients aged ≥18 years tested for MRSA colonization admitted from Nov 2020-Jan 2021 and Nov 2021-Jan 2022



RESULTS

Table 1. Baseline Characteristics

Demographics	Pre-Intervention Cohort, N=79	Post-Intervention Cohort, N=308
Age, years (±SD)	63 (±15)	54.6 (±15.9)
Weight, kg (IQR)	88 (148-240)	84.3 (145.4-218.2)
Male, n (%)	50 (63)	199 (64.6)
Race/Ethnicity, n (%)		
White/Caucasian	32 (40.5)	99 (32.1)
African American	44 (55.7)	168 (54.5)
Admitted to ICU, n (%)	60 (75.9)	154 (50.9)
Trauma, n (%)	1(1.3)	56 (18.2)
COVID-19 positive, n (%)	20 (25.3)	42 (13.6)
Point of care, n (%)		
Home	59 (74.6)	244 (79.2)
Hospital transfer	18 (22.8)	52 (16.8)
Mortality, n (%)	31 (39.2)	53 (17.2)

Table 2. Primary Analysis

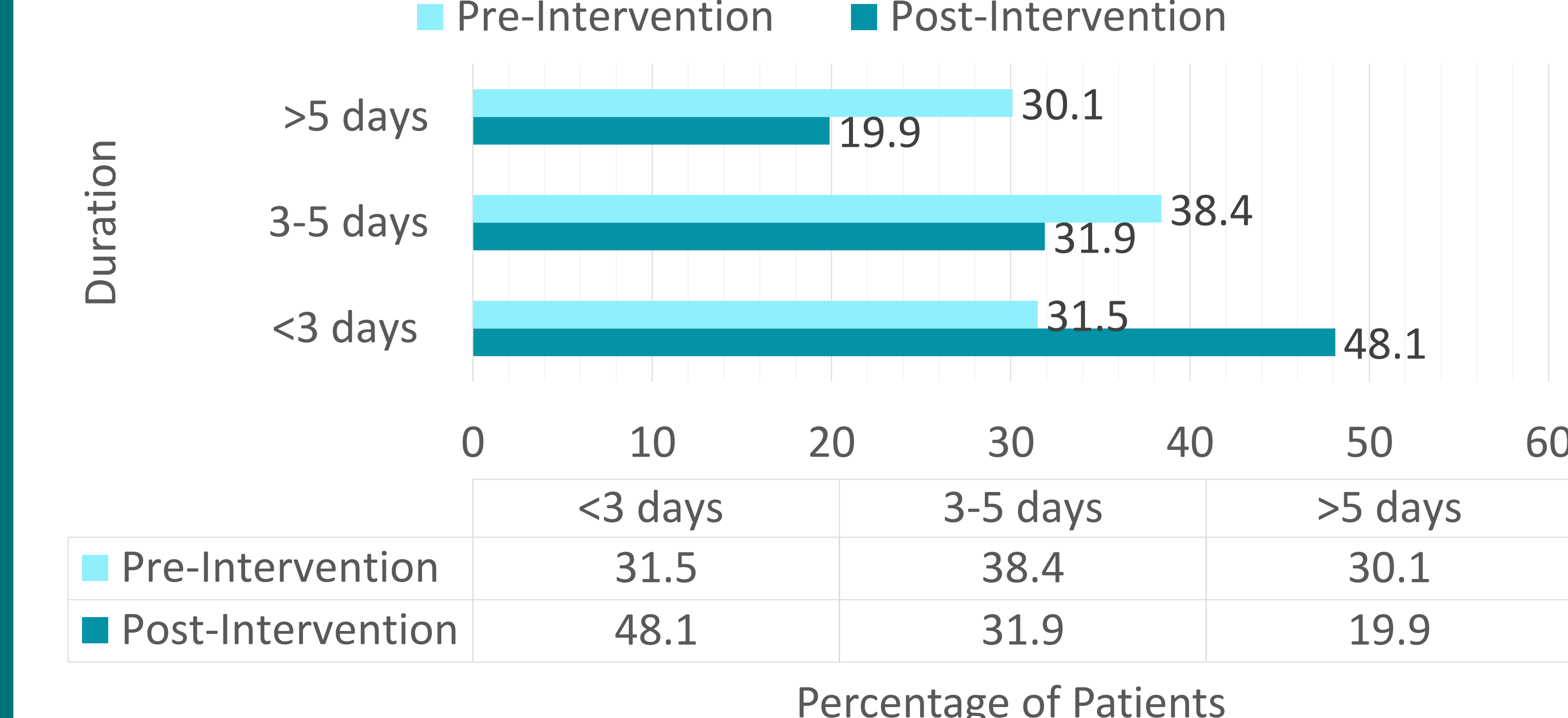
Observed Culture	Negative Predictive Value (%)	Positive Predictive Value (%)	Sensitivity (%)	Specificity (%)	Prevalence (%)
Respiratory (n=131)	99.03	48.15	92.85	88.03	10.68
Blood (n=282)	100	11.48	100	80.36	11.47
Urine (n=154)	100	2.78	100	77.12	0.65
Wound (n=61)	100	50	100	84.9	13.11
Sterile fluid (n=22)	100	20	100	80.95	4.5
Cerebrospinal fluid (n=12)	100	N/A	N/A	91.67	N/A
Bone (n=3)	100	100	100	100	33.3
Total (n=665)	99.8	21.09	96.88	81.67	4.8

Table 3. Intervention Analysis

Outcome	Pre-Intervention (n=73)	Post-Intervention (n=291)
Vancomycin duration, days (IQR)	3 (2-6)	3 (2-5)
AKI, n (%)	33 (45.2)	63 (21.6)
Ordered by pharmacy, n (%)	46 (63)	177 (60.8)
Time to result, hours	34.2	2.6
Percentage de-escalation of vancomycin	23	47
Percent of pharmacy interventions	17.8	23

RESULTS

Figure 1. Vancomycin Duration Analysis



DISCUSSION

- The study was limited through its design, mainly through its single center, retrospective, and small sample size population, but included patients admitted to a tertiary care hospital with extensive surgical services, large percentage ICU patients, and high prevalence of MRSA
- Documented pharmacy interventions, allowed direct observation of antimicrobial stewardship, signifying that days of therapy were tied to nares ordering
- Potential selection bias of patients occurred by including a population with higher clinical suspicion for MRSA infections by selecting for patients with MRSA PCR ordered
- Culture data was limited in variability with a low number of cerebrospinal, sterile, and bone cultures. Data did not include more specific details of culture, including site and type
- Pharmacist interventions were underestimated as verbal interventions regarding the MRSA PCR were not accounted for

CONCLUSION

- The MRSA nares PCR has a high total NPV and sensitivity within tertiary care hospital with burn and trauma population
- Blood and urine cultures have low PPV and specificity
- Vancomycin stewardship led to a decrease in AKI and increase in pharmacy interventions and de-escalation

AUTHOR DISCLOSURE

Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.