



Disclosures. All authors: No reported disclosures.

1062. Provider-Based Survey to Determine the Relative Importance of Clinical Factors Used to Make Empiric Antibiotic Decisions

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Background. Despite advances in rapid organism identification, clinicians must make empiric antibiotic decisions prior to knowing the causative organism. Though many risk factors and patient characteristics have been studied and incorporated into predictive clinical decision support tools for empiric antibiotic prescription, little evidence exists on the relative importance of these factors in clinician judgment. The purpose of this study was to establish how providers evaluate patient and clinical risk factors when making empiric antimicrobial decisions.

Methods. An anonymous survey tool was distributed in February 2019 to medical providers who routinely prescribe antibiotics in 4 acute care hospitals throughout the University of Pennsylvania Health System. Providers were asked to rank the importance of 12 clinical factors using a 5-point scale from not important at all (1) to extremely important (5) in 3 unique clinical scenarios: uncomplicated cystitis, septic shock of unknown etiology, and uncomplicated pneumonia.

Results. Response rate was 30% (217/732). The importance of each factor varied among different clinical scenarios except for prior antibiotic exposure, local resistance patterns, drug-drug interactions, and treatment guidelines. However, the absolute difference varied by the factor and clinical scenario. Presence of indwelling catheter(s) had the largest absolute variation (median difference of 2 between septic shock and pneumonia, $P < 0.001$), and it was one of the top 5 most important factors for septic shock, but the least important factor for pneumonia.

Conclusion. The importance of clinicians place on clinical factors varies in different clinical scenarios. A better understanding of clinical decision-making in empiric antibiotic prescribing has the potential to guide stewardship efforts and clinical decision support.

Table 1: Median Importance of Clinical Factors in Different Clinical Scenarios

Factor	Median Importance			p-value
	Cystitis	Septic Shock	Pneumonia	
Comorbidities	3	4	4	<0.001
Indwelling catheter(s)	4	5	3	<0.001
Immunosuppression	4	5	4	<0.001
Prior infection	4	5	4	<0.001
Prior antibiotic exposure	4	4	4	0.06
Prior microbiology	5	5	4	<0.001
Antibiotic allergies	5	5	4	0.01
Local resistance patterns	4	4	4	0.24
Risk of adverse drug event	3	2	3	0.02
Prior admissions/procedures	4	4	4	0.10
Drug-drug interactions	3	3	3	1.00
Treatment guidelines	4	4	4	0.21

Disclosures. All authors: No reported disclosures.

1063. A Healthcare Worker-Informed Approach to the Hospital-to-Home Transition on Oral Antibiotics

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Session: 132. Antibiotic Stewardship: Program Evaluation
Friday, October 4, 2019: 12:15 PM

Background. Improved antibiotic decision-making during the hospital-to-home transition is an important but under-addressed target for antimicrobial stewardship. This study aims to provide a healthcare worker-informed approach to characterize prescriber antibiotic decision-making and patient medication management at discharge to identify barriers to and strategies for antibiotic stewardship during the hospital-to-home transition.

Methods. Semi-structured interviews were conducted at an academic medical center with relevant stakeholders including house staff ($n = 10$), nurses ($n = 2$), nurse practitioners ($n = 5$), inpatient pharmacists ($n = 4$), and discharge coordinators ($n = 2$). Interviews focused on challenges to antibiotic decision-making and patient medication management at discharge. Transcripts were independently coded and analyzed by two physicians using the constant comparative method.

Results. We identified four main barriers to antibiotic decision-making at hospital discharge: (1) uncertainty over antibiotic choice (due to lack of microbiology data), (2) pressure to discharge, (3) lack of control over antibiotic decision-making (attending-led decision with little room for input), and (4) lack of awareness of cost and insurance coverage. We also identified challenges to patient medication management specific to patient education: (1) role ambiguity around who provides education and (2) lack of education to patients around side effects. To improve antibiotic decision-making, prescribers relied heavily on institutional guidelines and interaction with experts in informing antibiotic choices, and used multidisciplinary approaches to verify antibiotic cost and availability. Five strategies to improve medication management were proposed: (1) assessing patient health literacy when providing instructions, (2) an in-hospital trial of the oral antibiotic to ensure tolerance, (3) ensuring the patient leaves the hospital with the antibiotic in hand, (4) care coordination after discharge, and (5) close follow-up with prescribers after discharge.

Conclusion. Our findings identify barriers to discharge antibiotic decision-making and medication management that allow for targeted interventions to improve antibiotic decision-making during the hospital-to-home transition.

Disclosures. Sara E. Cosgrove, MD, MS, Basilea: Consultant; Theravance: Consultant.

1064. Antimicrobial Stewardship Program at a Large Academic Medical Center, Impact Over 12 Years

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Session: 132. Antibiotic Stewardship: Program Evaluation
Friday, October 4, 2019: 12:15 PM

Background. The University of Minnesota Medical Center (UMMC) is a tertiary care facility, which has had a comprehensive antimicrobial stewardship program (ASP) for 12 years.

Methods. The antimicrobial stewardship team is comprised of a full-time PharmD and ID staff physicians. Recommendations are placed in the electronic medical record as a progress note. Verbal recommendations may also be made.

Results. There was a downward trend in Hospital-acquired (HA) *C. difficile* diarrhea from 2007 to 2014 from 1.2 to 0.5/1000 patient-days (pt day). Rates appear stable from 2014 to 2019 with adjustment for change to NHSN lab-based CDI surveillance (Figure 1). From 2009 to 2019 a decrease was seen in VRE hospital-acquired infections (HAI) from 0.53 to 0.21/1,000 patient-days and in MRSA HAIs from 0.2 to 0.14/1,000 patient-days. Newly acquired ESBL HAIs have remained relatively stable from 2009 to 2019 at 0.09 to 0.05/1,000 patient-days. CRE HAIs are low but stable rates at 0.02/1,000 patient-days (Figure 2). We track antimicrobial utilization for internal and national reporting (starting in July 2017). A SAAR for all Antibacterial agents (ICUs, wards, and oncology units) of 1.33 in 2018. Our top four agents average DOT; piperacillin/tazobactam (66.81), cefepime (34.40), oral levofloxacin (23.56) and intravenous meropenem (21.49). We demonstrate lower average DOT for our restricted antimicrobials (206.21) as compared with our nonrestricted antimicrobials (236.74) (Figure 3). Cost savings continued from year to year. After adjusting for inflation annually, our expected costs (\$84.08) compared with actual costs (\$40.12 ytd 2019), demonstrates effective cost management of antimicrobial agents. (Figure 4)

Conclusion. We observed a decrease in HAIs VRE and *C. difficile* infections after 3 years of operation, and MRSA after 5 years. This downward trend has continued. ESBL HAIs remain relatively stable and CRE are stable at low rates but remain emerging HAIs of concern. We are now focusing efforts on limiting unneeded fluoroquinolone and carbapenem use. We continue to analyze our SAAR data and internal DOT data to identify areas of opportunity to improve antimicrobial use. The ASP outcomes have continued to cost justify ongoing efforts. The effects of the program and the Infection Prevention Department appear to be synergistic.