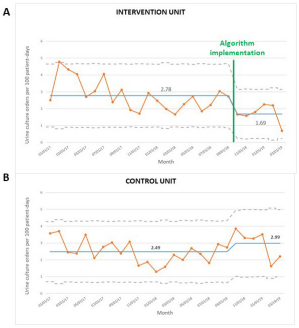


Figure 2: Trends of urine culture order rates per 100 patient-days in the intervention (A) and control (B) units. Orange line: monthly rate per 100 patient-days . Light blue line: mean rate. Gray line: control limits.

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

2085. Bedside Nurses Improve Antimicrobial Stewardship and Infection Prevention Outcomes: Results of a 3.5-Year Study in Three Hospital Telemetry Units

David Ha, PharmD, BCIDP[1]; Mary Bette Forte, MSN-Ed, RN[2]; Victoria Broberg, RN[2]; Rita Olans, DNP, CPNP-PC, APRN-BC[3]; Richard Olans, MD, FIDSA[4]; Kelsey OYong, MPH, CIC[5]; Ravina Kullar, PharmD, MPH, FIDSA[6]; Nora Catipon, MSN, RN, GNP-BC[2]; Vickie Ancheta, RN[2]; Mamta Desai, CLS, MBA, CIC[2]; Yesenia Khattak, CIC[2]; Donna Okamoto[2]; Donna Lira, RN, CIC[2]; Sarah Chan, PharmD[2]; John Mourani, MD[2]; Daniel Gluckstein, MD[2]; James McKinnell, MD[5]; [1]KGI School of Pharmacy/Pomona Valley Hospital Medical Center, Los Angeles, California; [2]Pomona Valley Hospital Medical Center, Pomona, California; [3]MGH Institute of Health Professions, School of Nursing, Boston, Massachusetts; [4]Melrose-Wakefield Hospital, Boston, Massachusetts; [5]Los Angeles County Department of Public Health, Los Angeles, California; [6]Doctor Research, LLC, Santa Monica, California

Session: 239. Antibiotic Stewardship: Nursing
Saturday, October 5, 2019: 12:15 PM

Background. Minimal literature exists to demonstrate the quantitative impact of bedside nurses in antimicrobial stewardship (AMS). We initiated bedside nurse-driven AMS and infection prevention (AMS/IP) rounds on three inpatient telemetry units of a community regional medical center. Rounds were nurse-driven, involved an infectious diseases (ID) pharmacist and infection preventionist, and were designed to complement traditional ID pharmacist and ID physician AMS rounds. Rounds were focused on use of antibiotics, urinary catheters (UCs), and central venous catheters (CVCs). Recommendations from rounds were communicated by the bedside nurse either directly to providers or to the ID pharmacist and ID physician for intervention.

Methods. This was an observational, multiple-group, quasi-experimental study conducted over 3.5 years (July 2015 to December 2018) to characterize the impact of bedside nurse-driven AMS/IP rounds on antibiotic, urinary catheter and CVC use, hospital-onset *C. difficile* infection (CDI), catheter-associated urinary tract infections (CAUTI), and central line-associated bloodstream infections (CLABSI). Outcomes were assessed in two cohorts based on time of AMS/IP rounds implementation (Cohort 1 implemented on one telemetry unit in July 2016, Cohort 2 implemented in two telemetry units in January 2018).

Results. A total of 2,273 patient therapy reviews occurred (Cohort 1: 1,736; Cohort 2: 537). Of these reviews, 1,209 (53%) were antibiotics, 879 (39%) were urinary catheters, and 185 (8%) were CVCs. Pre- vs. post-intervention, significant reductions were observed in both cohorts for mean monthly antibiotic days of therapy per 1,000 patient-days (Cohort 1: 791 vs. 688, $P < 0.001$; Cohort 2: 615 vs. 492, $P < 0.001$), UC days per patient day (Cohort 1: 0.25 vs. 0.16, $P < 0.001$; Cohort 2: 0.19 vs. 0.14, $P < 0.001$), CVC days per patient day (Cohort 1: 0.15 vs. 0.11, = 0.002; Cohort 2: 0.09 vs. 0.07, p = 0.005), and CDI per 10,000 patient-days (Cohort 1: 17.8 vs. 7.1, p = 0.035; Cohort 2: 19.1 vs. 5.4, p = 0.003). Numerical reductions were observed in CAUTI and CLABSI per 10,000 patient-days.

Conclusion. Bedside nurses can improve AMS and IP outcomes in a scalable fashion when supported by an interdisciplinary AMS/IP team and are complimentary to traditional AMS and IP practices.

	Cohort 1			Cohort 2		
	Pre	Post	P-value	Pre	Post	P-value
Total Patient Therapy Reviews	-	1,736	-	-	537	-
Antibiotic Reviews	-	956	-	-	253	-
Urinary Catheter Reviews	-	674	-	-	205	-
CVC Reviews	-	106	-	-	79	-
Antibiotic use (mean monthly days of therapy per 1000 PD)						
All NHSN Groups	791	688	<0.001**	615	492	<0.001**
NHSN Group 1	226	211	NS	166	122	<0.001**
NHSN Group 2	359	313	0.002**	259	225	0.008**
NHSN Group 3	170	126	<0.001**	97	71	<0.001**
NHSN Group 4	36	39	NS	94	78	0.025*
Urinary catheter utilization ratio (mean monthly catheter days per PD)	0.25	0.16	<0.001**	0.19	0.14	<0.001**
CVC utilization ratio (mean monthly catheter days per PD)	0.15	0.11	0.002**	0.09	0.07	0.005**
Hospital onset CDI (mean monthly events per 10,000 PD)	17.8	7.1	0.035*	19.1	5.4	0.003**
CAUTI (mean monthly events per 10,000 PD)	4.2	1.4	NS	3.4	1.3	NS
CLABSI (mean monthly events per 10,000 PD)	2.0	0.0	0.022*	1.9	0.7	NS

Note: NS, not significant; PD, patient days; NHSN, National Healthcare Safety Network; NHSN Group 1, Broad spectrum antibacterial agents predominantly used for hospital-onset/multi-drug resistant infections; NHSN Group 2, Broad spectrum antibacterial agents predominantly used for community-acquired infections; NSHN Group 3, Anti-MRSA antibacterial agents; NHSN Group 4, Antibacterial agents predominantly used for surgical site infection prophylaxis; * p-value < 0.05; ** p-value < 0.01

Disclosures. **All authors:** No reported disclosures.

2086. Antimicrobial Stewardship: Why Do Not Nurses Question the White Coat?

Sharon Sumner, RN, BSN, CIC[1]; Sandra F. Hanson, MPH, RN, CIC[1]; Katreena C. Merrill, PhD, RN[2]; [1]Intermountain Healthcare, Taylorsville, Utah; [2]Brigham Young University, PROVO, Utah

Session: 239. Antibiotic Stewardship: Nursing
Saturday, October 5, 2019: 12:15 PM

Background. Resistance to antimicrobials has become a global issue. To combat this, registered nurses (RNs) need to be active participants with prescribers in an interdisciplinary approach to antimicrobial stewardship (AS). The prescriber role in AS has been well developed; however, more is needed to understand how RNs can contribute to AS efforts. The purpose of this study was to describe nurses comfort level with questioning providers about antimicrobials.

Methods. A survey was sent to point of care RNs in a healthcare system (approx. 4000). A total of 600 useable responses were received (Response rate = 15%). The survey included 4-items about antimicrobial delivery. (1) What percent of the time do you know why the patient is receiving an antimicrobial? (2) Would you feel comfortable raising concerns about antimicrobials to the treatment team? (3) In the last 30 days have you questioned the antimicrobial choice, dose, route or duration? (4) Have you ever given an antimicrobial you thought was inappropriate? Data were analyzed using descriptive statistics. Differences by demographics (age, gender, ethnicity, education level and location) were assessed using χ^2 statistics.

Results. Nurses reported that 84% of the time they knew "why" an antimicrobial was given. There was no difference by demographics. Over 80% of nurses also reported they felt comfortable raising concerns about antimicrobials. Nurses working in smaller hospitals reported being more comfortable raising concerns than nurses working in larger hospitals ($P = 0.023$). In the past 30 days, 19% of RNs questioned choice, 13% dose, 16% route, and 27% duration of antimicrobials. Nurses with Baccalaureate degree or higher were more likely to question antimicrobial dose ($P = .023$). However, 27% of RNs reported they had given an antimicrobial they thought was inappropriate. More RNs working in rural hospitals reported giving antimicrobials they thought were inappropriate compared with those working in larger hospitals ($P = .013$).

Conclusion. Providers as well as RNs need to collaborate to improve AS. Nurses in this study were not always comfortable raising concerns and administered antimicrobials they viewed as inappropriate. Providers may want to take steps to encourage collaboration with RNs about AS.

Disclosures. **All authors:** No reported disclosures.

2087. Electronic Capture and Feedback of Standardized Antibiotic Clinical Indications Data Among Community Hospitals

April Dyer, PharmD, MBA, MSCR[1]; Angelina Davis, PharmD, MS[2]; Eric Gregory, PharmD[3]; Melissa D. Johnson, PharmD, MHS[1]; Travis M. Jones, PharmD[1]; Rebekah W. Moehring, MD, MPH[1]; Elizabeth Dodds Ashley, PharmD, MHS[1]; [1]Duke Center for Antimicrobial Stewardship and Infection Prevention, Durham, North Carolina; [2]Duke Antimicrobial Stewardship Outreach Network, Durham, North Carolina; [3]The University of Kansas Health System, Kansas City, Missouri

Session: 240. Antibiotic Stewardship: Regional
Saturday, October 5, 2019: 12:15 PM

Background. Antibiotic clinical indications allow stewardship programs to assess therapy appropriateness; however, many hospitals that require antibiotic indications upon order entry lack standardized mapping of indications leading to variability in entered values. Electronic capture and feedback of standardized antibiotic clinical indications data may allow hospitals to more effectively compare indication-specific prescribing trends among facilities.

Methods. We collected antibiotic indications from electronic medication orders for 6 DASON hospitals. These indications were mapped to a list of 15 standardized indication categories created by consensus of the DASON stewardship team. To demonstrate the feasibility and utility of standardized clinical indications mapping, we evaluated agents given for the indication *C. difficile* infection (CDI) in 2018. Differences between the hospitals were compared with highlight the added benefit of standardized indication data in evaluating antibiotic use and adoption of local guidelines.

Results. For 249,916 antibiotic days of therapy (DOT) with an indication available, a total of 125 unique indications were reported. Of note, 3 facilities allowed more than one indication to be entered at prescriber discretion. The distribution of antibiotic DOT mapped to the standardized indication list can be seen in Figure 1. The most common indication was the other category (19.5%). These were primarily other, no additional information (47%) or empiric therapy for an unknown source of infection (17%). Additional indications in the other category included chronic obstructive pulmonary disease exacerbations and sexually transmitted infections (< 5% each). Figure 2 depicts the agents used for CDI indication between facilities. Despite universal adoption of local guidelines where oral vancomycin is the drug of choice for treating CDI, there was variability seen in vancomycin CDI DOT (range: 60 – 80% of CDI DOT).

Conclusion. Stewardship programs can implement standardized antimicrobial indications to facilitate electronic capture, feedback, and comparison and efficiently identify stewardship targets. Additionally, hospitals may use these data to explore the appropriateness of antibiotic use.

Figure 1. Distribution of Standardized Antibiotic Indications for Community Hospitals

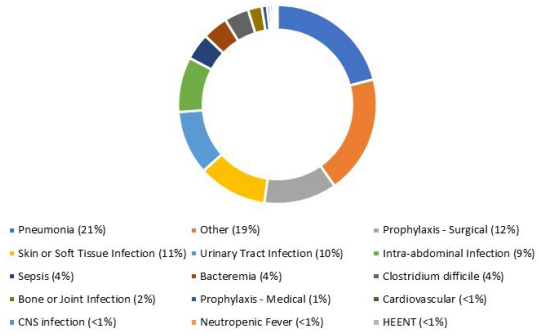
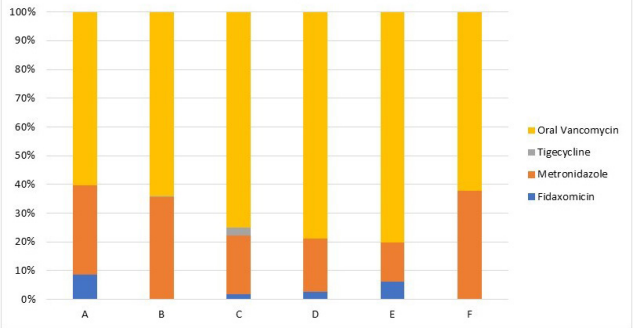


Figure 2. Percent of CDI Days of Therapy by Agent Per Facility



Disclosures. **All authors:** No reported disclosures.

2088. Cross-sectional Analysis of Administrative Structure and Practices for Hospital Antimicrobial Stewardship Programs (ASPs) in a Large Metropolitan City

David Ha, PharmD, BCIDP[1]; Thomas Lee[2]; Timothy Gauthier, PharmD, BCPS-AQ ID[3]; Kelsey OYong, MPH, CIC[4]; James McKinnell, MD[4]; [1]Keck Graduate Institute School of Pharmacy/Pomona Valley Hospital Medical Center, Los Angeles, California; [2]Keck Graduate Institute School of Pharmacy, Claremont, California; [3]Miami Veterans Affairs Healthcare System, Miami, Florida; [4]Los Angeles County Department of Public Health, Los Angeles, California

Session: 240. Antibiotic Stewardship: Regional
Saturday, October 5, 2019: 12:15 PM

Background. Los Angeles (LA) County is large and diverse urban southern California county with a population of over 10 million and a multitude of hospitals. The state of California required hospitals to implement ASPs in July 2015. This collaborative with the LA County Department of Public Health sought to characterize administrative structure and practices of hospital ASPs in the county.

Methods. A survey of LA County hospital ASPs was conducted from November 2018 to April 2019. Initial telephone and email screenings were performed to confirm individuals' involvement in hospital ASPs prior to survey participation.

Results. Overall, 40 of 87 (46%) hospitals responded. Of these, 90% (36/40) were private hospitals and 68% (27/40) were part of a multi-hospital network. All hospitals (40/40) reported an active ASP with 53% (21/40) established for 5 years or longer. Only 65% (26/40) reported meeting all seven CDC core elements of hospital ASPs and 85% (34/40) reported having an ASP committee. Of those with ASP committees, individuals who chaired or co-chaired the committee were predominantly ID physicians (33/34, 97%). Most held meetings quarterly (18/34, 53%). Committee member meeting attendance "all or most of the time" was highest for pharmacists (34/34, 100%) and ID physicians (33/34, 97%) and lowest for information technology (IT) personnel (9/34, 27%) and non-ID physicians (12/34, 35%). ASP committees reported to a mean of 2.4 other committees, most frequently to pharmacy and therapeutics (P&T) (32/34, 94%) and infection control (IC) (24/34, 71%). ASP committees received reports from a mean of 2.3 committees, most frequently from IC (22/34, 65%). Few ASP committees (<20%) reported to any of patient/medication safety, quality, sepsis, laboratory, risk management or nursing committees. Risk assessments and strategic planning were performed by only 35% (12/34) and 56% (19/34), respectively.

Conclusion. Our study demonstrates additional need in LA County hospital ASPs to meet CDC core measures as well as enhance ASP administrative structure. Notably, ASP committees appear to be siloed with P&T and IC with minimal reporting to other committees, do not frequently perform risk assessments or strategic planning, and have low meeting attendance by IT personnel and non-ID physicians.

Disclosures. **All authors:** No reported disclosures.

2089. Effect of the Duke Antimicrobial Stewardship Outreach Network (DASON): A Multi-Center Time Series Analysis

Michael E. Yarrington, MD[1]; Elizabeth Dodds Ashley, PharmD, MHS[1]; Melissa D. Johnson, PharmD, MHS[1]; Angelina Davis, PharmD, MS[2]; April Dyer, PharmD, MBA, MSCR[1]; Travis M. Jones, PharmD[1]; Daniel J. Sexton, MD[1]; Deverick J. Anderson, MD, MPH[1]; Rebekah W. Moehring, MD, MPH[1]; [1]Duke Center for Antimicrobial Stewardship and Infection Prevention, Durham, North Carolina; [2]Duke Antimicrobial Stewardship Outreach Network, Durham, North Carolina

Session: 240. Antibiotic Stewardship: Regional
Saturday, October 5, 2019: 12:15 PM

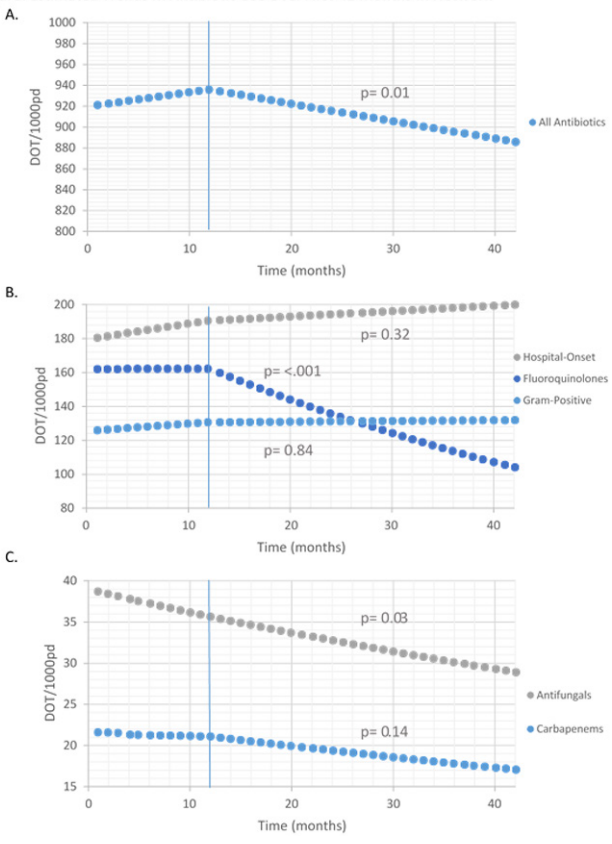
Background. DASON is a 30-member, community hospital network in the southeastern United States that supports the development and growth of local antibiotic stewardship programs (ASPs). Collaborative activities include on-site visits from liaison clinical pharmacists, data sharing for routine feedback and benchmarking, and educational programs.

Methods. We performed a retrospective cohort analysis of antibiotic use (AU) in 17 hospitals that participated in DASON for a minimum of 42 months during 2013–2018. Segmented negative binomial regression models were used to estimate the change in facility-wide AU after an initial 1-year assessment, planning, and ASP intervention initiation period. Baseline AU trend (1 to 12 months) was compared against AU following the first year (13 to 42 months). Monthly AU rates were measured in days of therapy (DOT) per 1,000 patient-days (pd). Models assessed overall AU and specific antibiotic groups, as defined by the National Healthcare Safety Network AU option. The models controlled for hospital size, presence of a pre-existing formal ASP upon network entry, and year of network entry.

Results. Hospital data included a total of 2,988,930 pd over 5 years. Facility-wide AU was increasing during the first year of network entry and then began decreasing by 0.2% per month ($P = 0.01$, figure). Fluoroquinolone use was stagnant in year one and then decreased by 1.5% per month ($P \leq 0.001$, figure). Antifungal agents were decreasing in year one and continued to decrease 0.7% per month thereafter ($P = 0.03$, figure). Agents predominantly used for resistant Gram-positive infections and broad-spectrum agents used for hospital-onset infections were increasing during year one and then attenuated afterward, though the slope change did not reach statistical significance. The presence of a pre-existing formal ASP was not a significant covariate in any model, while bed size and year of network entry significantly contributed to models of some antibiotic groups.

Conclusion. Participation in DASON was associated with a decline in total AU and fluoroquinolone use, and a trend toward attenuated use of other broad-spectrum agents in community hospitals. Collaborative network experiences can help local ASPs achieve reductions in AU.

Figure: Estimated Trends in Antibiotic Use Over First 42 Months in Network



Disclosures. **All authors:** No reported disclosures.