their doctor's opinion, then convenience and route of administration; least important were treatment location, adverse events, and cost.

Conclusion. In these patients presenting to the ED with ABSSSI, the majority were admitted to the hospital and received IV ABX. Patient preferences for treatment location varied, but many valued therapies that could prevent admission. These data suggest opportunities for improving ABSSSI care by engaging the patient and offering treatment alternatives they may not be aware of.

Disclosures. K. R. Keyloun, Allergan: Employee, Salary. D. P. Nicolau, Allergan: Grant Investigator, Scientific Advisor and Speaker's Bureau, Consulting fee, Research grant and Speaker honorarium. J. L. Kuti, Allergan: Grant Investigator, Investigator, Scientific Advisor and Speaker's Bureau, Consulting fee, Research grant and Speaker honorarium

701. Frequently Identified Gaps in Antimicrobial Stewardship Programs in Critical Access Hospitals

Philip Chung, PharmD, MS, BCPS¹; Regina Nailon, PhD, RN²; Kate Tyner, RN, BSN, CIC²; Sue Beach, BA²; Scott Bergman, PharmD, BCPS-AQ ID, FIDSA³; Margaret Drake, MT, ASCP, CIC^{2,4}; Teresa Fitzgerald, RN, BSN, CIC²; Elizabeth Lyden, MS⁵; Mark E. Rupp, MD⁶; Michelle Schwedhelm, MSN, RN²; Maureen Tierney, MD, MSc⁴; Trevor Van Schooneveld, MD⁶ and Muhammad Salman Ashraf, MBBS⁶; ¹Nebraska Antimicrobial Stewardship Assessment and Promotion Program, Nebraska Medicine, Omaha, Nebraska, ²Nebraska Infection Control Assessment and Promotion Program, Nebraska Medicine, Omaha, Nebraska, ³Department of Pharmacy, Nebraska Medicine, Omaha, Nebraska, ⁴Division of Epidemiology, Nebraska Department of Public Health, Lincoln, Nebraska, ⁵College of Public Health, University of Nebraska Medical Center, Omaha, Nebraska, ⁶Division of Infectious Diseases, University of Nebraska Medical Center, Omaha, Nebraska

Session: 74. Stewardship: Data and Program Planning
Thursday, October 5, 2017: 12:30 PM

Background. Nebraska (NE) Infection Control Assessment and Promotion Program (ICAP) is a CDC funded project. ICAP team works in collaboration with NE Department of Health and Human Services (NEDHHS) to assess and improve infection prevention and control programs (IPCP) in various health care settings including resource limited settings like critical access hospitals (CAH). Little is known about the existing gaps in antimicrobial stewardship programs (ASP) of CAH. Hence, we decided to study the current level of ASP activities and factors associated with these activities in CAH.

Methods. NE ICAP conducted on-site surveys in 36 CAH from October 2015 to February 2017. ASP activities related to the 7 CDC recommended core elements (CE) including leadership support (LS), accountability, drug expertise (DE), action, tracking, reporting, and education were assessed using a CDC Infection Control Assessment Tool for acute care hospitals. Descriptive analyses evaluated CAH characteristics and frequency of CE implementation. Fisher's exact, Mann-Whitney, and Kruskal-Wallis tests were used for statistical analyses examining the association of various factors with level of ASP activities.

Results. The 36 surveyed CAH had a median of 20 (range 10–25) beds and employed a median of 0.4 (range 0.1–1.6) infection preventionist (IP) full-time equivalent (FTE)/25-bed. Frequency of CE implementation varied among CAH with action and LS as the most (69%) and least (28%) frequently implemented elements, respectively. Close to half (47%) of surveyed CAH had implemented ≥ 4 CE but only 14% of facilities had all 7 CE. Median bed size and IP FTE/25-bed were similar among CAH with 0–2, 3–5, or ≥ 6 CE in place. CAH with LS or accountability for ASP implemented higher median numbers of the remaining CE compared with CAH without LS or accountability (5 vs. 2, $P < 0.01$ and 4 vs. 2, $P < 0.01$, respectively). Facilities with The presence of LS, accountability and drug expertise were more likely to have all 4 remaining CE implemented than others (56% vs. 8%, $P < 0.01$).

Conclusion. LS, accountability, and DE are important factors for the implementation of the remaining 4 CE in CAH. Although LS was the least frequently implemented CE, when present was associated with implementation of most of the other CE. Acquiring LS will facilitate implementation of additional ASP efforts in CAH.

Disclosures. All authors: No reported disclosures.

702. Frequently Identified Gaps in Antimicrobial Stewardship Programs in Long-Term Care Facilities

Philip Chung, PharmD, MS, BCPS¹; Regina Nailon, PhD, RN²; Kate Tyner, RN, BSN, CIC²; Sue Beach, BA²; Scott Bergman, PharmD, BCPS-AQ ID, FIDSA³; Margaret Drake, MT, ASCP, CIC^{2,4}; Teresa Fitzgerald, RN, BSN, CIC²; Elizabeth Lyden, MS⁵; Mark E. Rupp, MD⁶; Michelle Schwedhelm, MSN, RN²; Maureen Tierney, MD, MSc⁴; Trevor Van Schooneveld, MD⁶ and Muhammad Salman Ashraf, MBBS⁶; ¹Nebraska Antimicrobial Stewardship Assessment and Promotion Program, Nebraska Medicine, Omaha, Nebraska, ²Nebraska Infection Control Assessment and Promotion Program, Nebraska Medicine, Omaha, Nebraska, ³Department of Pharmacy, Nebraska Medicine, Omaha, Nebraska, ⁴Division of Epidemiology, Nebraska Department of Public Health, Lincoln, Nebraska, ⁵College of Public Health, University of Nebraska Medical Center, Omaha, Nebraska, ⁶Division of Infectious Diseases, University of Nebraska Medical Center, Omaha, Nebraska

Session: 74. Stewardship: Data and Program Planning
Thursday, October 5, 2017: 12:30 PM

Background. Nebraska (NE) Infection Control Assessment and Promotion Program (ICAP) is a CDC funded project. ICAP team works in collaboration with

NE Department of Health and Human Services (NEDHHS) to assess and improve infection prevention and control programs (IPCP) in acute care, outpatient and long-term care facilities (LTCF). New Centers for Medicare and Medicaid Services (CMS) regulation requires LTCF to develop antimicrobial stewardship programs (ASP) by November 2017. Hence, we decided to study the current level of ASP activities and associated factors in LTCF.

Methods. NE ICAP conducted on-site surveys in 30 LTCF from 11/2015 to 3/2017. ASP activities related to 7 CDC recommended core elements (CE) including leadership support (LS), accountability, drug expertise, action, tracking, reporting, and education were assessed using the CDC Infection Control Assessment Tool for LTCF. Gap frequencies were calculated for CE. Fisher's exact, Mann-Whitney and Kruskal-Wallis tests were used for statistical analyses examining the associations of LS, accountability, bed size (BS), hospital affiliation (HA), presence of trained infection preventionist (IP), and IP weekly hours (WH)/100-bed for IPCP with level of ASP activities.

Results. Of the 30 LTCF surveyed, 23% had HA and 60% had trained IP. Median BS, IP WH/100-bed for IPCP, and number of CE implemented were 60.5, 6.5, and 3, respectively. Only 1 (3%) LTCF had all 7 CE in place. LTCF with LS had a higher median number of the 6 remaining CE implemented compared with LTCF without LS (3 vs. 2; $P = 0.03$). Similarly, LTCF with accountability for ASP had a median of 3 remaining CE in place as opposed to 2 in LTCF without accountability ($P < 0.05$). LTCF with LS, accountability, and ≥ 20 IP WH/100-bed for IPCP were more likely to implement ≥ 2 of the last 4 CE, i.e., action, tracking, reporting and education (100% vs. 30%, $P < 0.05$). LTCF with ≥ 20 IP WH/100-bed dedicated towards IPCP were more likely to have ≥ 5 CE in place than the LTCF with lower dedicated IP time (60% vs. 8%, $P < 0.05$).

Conclusion. Implementation of all 7 ASP CE in LTCF is uncommon. The presence of LS, accountability for ASP, and ≥ 20 IP WH/100-bed for IPCP are significant factors driving implementation of more ASP CE. Further guidance is needed for LTCF to assist them in dedicating appropriate IP time towards IPCP for promoting ASP as IP time varies greatly among LTCF.

Disclosures. All authors: No reported disclosures.

703. Structure of Antimicrobial Stewardship Programs in Leading U.S. Hospitals

Derrick Nhan, BEng¹; Eric Lentz, BSc (c)2018²; Marilyn Steinberg, RN³; Chaim Bell, MD, PhD^{1,4,5} and Andrew M Morris, MD, SM^{1,4,5}; ¹Medicine, University of Toronto, Toronto, ON, Canada, ²University of Toronto, Toronto, ON, Canada, ³Sinai Health System, Toronto, ON, Canada, ⁴Medicine, University Health Network, Toronto, ON, Canada, ⁵Medicine, Sinai Health System, Toronto, ON, Canada

Session: 74. Stewardship: Data and Program Planning
Thursday, October 5, 2017: 12:30 PM

Background. Antibiotic use has drastically changed the course of modern medicine. However, the overuse and often inappropriate use of antibiotics has led to the development of resistant strains of bacteria. Increasingly, healthcare systems struggle to deal with the burden of fighting infections that no longer respond to common antibiotic-based treatments. One strategy used to combat antibiotic resistance is the implementation of hospital-based Antimicrobial Stewardship Programs (ASP). ASP structure among the top U.S. hospitals may provide insight into which of the Infectious Diseases Society of America (IDSA) and the Society for Healthcare Epidemiology of America (SHEA) ASP recommendations are most efficacious given limited resources. We thus administered a survey to better understand the elements of an ASP that are utilized at these top-rated hospitals.

Methods. We surveyed the 50 highest ranking hospitals in various specialties using the 2015–2016 U.S. News lists of top hospitals. This corresponded to 137 adult and 70 pediatric sites. We inquired as to which components of the 2016 IDSA and SHEA ASP guidelines were implemented at each site. Appropriate persons at each hospital were contacted by telephone and email.

Results. Overall, 102 of 207 hospitals responded (49.3%). Of these 87.2% had an active ASP, and 57.1% were active for more than 5 years. Interventions most widely adopted included prospective auditing of antimicrobial usage ($n = 65$, 87.8%), pre-authorization of antimicrobials ($n = 61$, 82.4%), and antimicrobials restricted to infectious disease physicians ($n = 52$, 70.3%). The most widely implemented optimization strategies included promoting transition from intravenous to oral antibiotics ($n = 68$, 93.2%) and strategies to minimize antimicrobial therapy duration ($n = 56$, 76.7%). The least common interventions included antimicrobial time-outs ($n = 17$, 23.0%) and ASP intervention in cases with high risk of *Clostridium Difficile* infection ($n = 27$, 36.5%). The least common optimization strategy was the use of time-sensitive stop orders ($n = 27$, 37.0%).

Conclusion. Most leading U.S. hospitals selectively implement IDSA and SHEA recommendations. Understanding the structure of ASPs in these hospitals will assist other hospitals in implementing their programs.

Disclosures. All authors: No reported disclosures.

704. Antimicrobial Stewardship Practices Reported by California Hospitals Following New Legislative Requirements: Analysis of National Healthcare Safety Network Annual Survey Data, 2014–2015

Kyle Rizzo, MPH¹; Melissa Kealey, PhD, MPH¹ and Erin Epton, MD²; ¹Healthcare-Associated Infections Program, California Department of Public Health, Richmond, California, ²Healthcare-Associated Infections Program, Center for Healthcare Quality, California Department of Public Health, Richmond, California

Session: 74. Stewardship: Data and Program Planning
Thursday, October 5, 2017: 12:30 PM

Background. New legislation required California hospitals to adopt and implement an antimicrobial stewardship policy by July 1, 2015. The policy must be in accordance with guidelines established by the federal government and professional organizations. Hospitals were also required to establish a physician-supervised multidisciplinary antimicrobial stewardship program (ASP) committee and appoint at least one physician or pharmacist who completed stewardship training. Since 2008, hospitals were mandated to evaluate the judicious use of antibiotics and report ASP activities to hospital quality improvement committees. We analyzed California hospitals' responses to National Healthcare Safety Network (NHSN) Annual Surveys from 2014 and 2015 to describe ASP implementation progress in the setting of the new requirements.

Methods. The NHSN Annual Surveys included 15 questions that correspond with the Centers for Disease Control and Prevention (CDC) Core Elements of Hospital ASP. The ASP guideline includes three infrastructure elements (Leadership Support, Accountability, Drug Expertise) and four implementation elements (Actions, Tracking and Monitoring, Reporting, Education). We assessed hospital implementation of the ASP core elements and evaluated progress from 2014 to 2015.

Results. We analyzed surveys from 386 of 388 eligible California hospitals (99.5%). The proportion of hospitals reporting implementation of all core elements increased significantly from 59.3% in 2014 to 69.2% in 2015 ($P < 0.001$). Hospitals that reported implementation of all ASP infrastructure elements were more likely to have instituted all implementation elements compared with hospitals without all infrastructure elements in place (unadjusted risk ratio: 2.4 [95% confidence interval: 1.5, 3.7]; $P < 0.001$). Educating clinicians about appropriate use of antimicrobials was the least implemented element among ASP in 2015 ($N = 316$; 81.9%).

Conclusion. California hospitals demonstrated ASP implementation progress within one year following new state legislative requirements. NHSN Annual Survey data provided information to identify opportunities for public health outreach to further advance ASP adoption.

Disclosures. All authors: No reported disclosures.

705. Antibiotic Use Among Future Health Professionals: A Multicentre Cross-Sectional Study of Chinese Medical Student

Yanhong Hu, PhD¹; Xiaolin Wang, PhD²; Joseph D Tucker, PhD M.D.³; Paul Little, MBBS, BA, MD, DLSHTM, MRCP, FRCGP¹; Michael Moore, BM, BS, MRCP, FRCGP¹ and Xudong Zhou, PhD²; ¹Primary Care and Population Sciences, University of Southampton, Southampton, United Kingdom, ²School of Public Health, Zhejiang University, Hangzhou, China, ³Infectious Diseases, University of North Carolina, Chapel Hill, North Carolina

Session: 74. Stewardship: Data and Program Planning
Thursday, October 5, 2017: 12:30 PM

Background. Antibiotic use leads to antibiotic resistance and antibiotic misuse is high in China and other developing countries. This may arise from beliefs and behaviours of doctors and the pressure they receive from patients. This study aims to understand antibiotic use behaviour for self-limited illness among medical students - the future healthcare professionals.

Methods. This is part of a large cross-sectional study of Chinese university students of science, social science and humanities, and medicine. An electronic survey health belief model (HBM) questionnaire was distributed at six universities in China from September to November 2015. The score assessment was based on the constructs of HBM theory. Chi-squared and multivariable logistic regression and adjusted odd ratios (aOR) were used to assess the relationship between demographic characteristics, antibiotic use knowledge and behavior.

Results. In total, 11455 students were asked to participate and 11192 (97.5%) completed the questionnaires. 1819 medical students completed the survey. In the past month 529 (29%) medical students reported at least one self-limited illness. Of those, 285 (54%) self-medicated and 77 (27%) of them used antibiotics. 111 (21%) saw a doctor among whom 64 (58%) received antibiotics. 133 (25%) did nothing. In the past year, 279 (15%) of students used antibiotics for prophylaxis, 273 (15%) ever demanded an antibiotic from a doctor, 1166 (64%) kept a personal stock of antibiotics, 1034 (57%) bought antibiotics at a pharmacy, 97% of these without a prescription. Students with high HBM scores about antibiotics were significantly less likely to self-medicate with antibiotics (aOR 0.37, 95% CI 0.15-0.91, $P = 0.031$), to use antibiotics for prophylaxis (aOR 0.35, 95% CI 0.21-0.60, $P < 0.0001$) or demand an antibiotic (aOR 0.46, 95% CI 0.26-0.81, $P = 0.007$). Students whose father has a higher education level, whose mother is a doctor or who are from urban areas were more likely to stock antibiotics and self-medicate.

Conclusion. High rates of antibiotic self-medication (54%) and stocking (64%) were found among medical students. Along with the high rates of unnecessarily prescribed antibiotics by doctors (58%), there is clearly a need for effective antibiotic stewardship and training programs in Chinese healthcare institutions and medical schools.

Disclosures. All authors: No reported disclosures.

706. Physician Perspectives on the Optimization of Carbapenem Use in a Four Hospital, Large Urban Healthcare System

Paula Frew, PhD, MA, MPH^{1,2,3,4}; Vincent Fenimore, PhD, M.Ed.^{1,5}; Jesse T. Jacob, MD⁶; Amy Sherman, MD⁷; Federico Palacio Bedoya, MD^{8,9}; Tiffany Goolsby, PharmD¹⁰; Jan Pack, PharmD¹¹; Krysta Johnson-Martinez, MD¹²; Jordan Wong, PharmD¹³; Mary Elizabeth Sexton, MD¹⁴; Sheetal Kandiah, MD MPH¹⁵;

Scott Fridkin, MD⁷ and Robert Gaynes, MD¹⁶; ¹Department of Medicine, Division of Infectious Diseases, Emory University School of Medicine, Atlanta, Georgia, ²Hubert Department of Global Health, Rollins School of Public Health, Emory University, Atlanta, Georgia, ³Department of Behavioral Sciences and Health Education, Rollins School of Public Health, Emory University, Atlanta, Georgia, ⁴Atlanta VA Medical Center, Atlanta, Georgia, ⁵Hubert Dept. of Global Health, Emory University - Rollins School of Public Health, Atlanta, Georgia, ⁶Emory University School of Medicine, Atlanta, Georgia, ⁷Medicine, Emory University School of Medicine, Atlanta, Georgia, ⁸Emory University School of Medicine, 201 Dowman Dr, Georgia, ⁹Emory Antibiotic Resistance Center, Atlanta, Georgia, ¹⁰Pharmacy, Atlanta Veterans Medical Center, Decatur, Georgia, ¹¹Pharmacy, Emory University Hospital, Atlanta, Georgia, ¹²Medicine, Atlanta Veterans Medical Center, Decatur, Georgia, ¹³Pharmacy, Grady Health System, Atlanta, Georgia, ¹⁴Georgia Emerging Infections Program, Decatur, Georgia, ¹⁵Medicine, Emory University, Decatur, Georgia, ¹⁶CDC, Atlanta, Georgia

Session: 74. Stewardship: Data and Program Planning
Thursday, October 5, 2017: 12:30 PM

Background. Carbapenem resistance is an emerging public health threat, but provider-level drivers for carbapenem use are not well understood. We aimed to explore prescribing physician attitudes, beliefs, and knowledge to provide evidence on carbapenem use current practices.

Methods. We conducted in-depth interviews with physicians representing different specialties and experience levels at 4 urban hospitals in Atlanta using a semi-structured interview guide developed by a team of clinicians and experts in qualitative research and implementation science. We performed team-based qualitative analyses inclusive of codebook development, iterative coding, and interrater reliability assessment. Pearson correlation tests were used to evaluate patterns and relationships based on $R \geq 0.80$ to determine themes.

Results. Among 35 physicians, most were men (57%) and attending physicians (51% in practice for 1-10 years; 14% >10 years); 34% were house staff, and they represented 10 practice areas including hospital medicine (28%), critical care (22%), and surgery/surgical specialties (13%). Four major themes emerged: 1) a broad variation in general concern (e.g., lowest in surgery and highest in hospital medicine) about antibiotic resistance across specialties and provider levels; 2) patient management challenges attributed to initial emergency department (ED)/outside facilities' prescribing practices; 3) more frequent carbapenem use reported by trauma surgeons and oncologists (compared with other specialties) and 4) concern that information sources (e.g., Up-to-Date, Epocrates[®], hospital antibiograms) for aiding in antibiotic choice decision-making were limited, scattered, and not perceived as tailored to specialty.

Conclusion. The findings reflect differences in perceived attitudes, value, and norms toward carbapenem use across practice areas and identify areas to target interventions, in particular antibiotic starts in the ED. Although there is strong support for antibiotic stewardship policies and practices, providers desire approaches targeted to their specialty and tailored to address relevant issues.

Disclosures. S. Fridkin, Pfizer: Consultant and Grant Investigator, Consulting fee and Research support

707. Comparison of an Emergency Department-Specific Antibiogram to Hospital Antibiogram: Influence of Patient Risk Factors on Susceptibility

Jessica Miller, Pharm.D.; Amina George, Pharm.D. and Sarah M. Wiczorkiewicz, Pharm.D., BCPS AQ-ID; Pharmacy, Advocate Lutheran General Hospital, Park Ridge, Illinois

Session: 74. Stewardship: Data and Program Planning
Thursday, October 5, 2017: 12:30 PM

Background. Traditional antibiograms use local resistance patterns and susceptibility data to guide empiric antimicrobial therapy selection. However, antibiograms are rarely unit-specific and do not account for patient-specific risk factors. The objective was to develop an Emergency Department (ED)-specific antibiogram and evaluate the impact of risk factors on antimicrobial susceptibility.

Methods. This retrospective, single-center descriptive study used culture and susceptibility data from January 1 to December 31, 2016 to create an ED-specific antibiogram for the most commonly isolated organisms. Susceptibilities were then compared with the hospital antibiogram. All ED isolates were further stratified by the following risk factors: age, disposition from ED, previous antimicrobial use and/or hospitalization within 30 days, and presenting location. Descriptive statistics, Pearson Chi-Square/Fisher's Exact Tests, and logistic regression were performed. A two-tailed p -value of <0.05 was considered statistically significant.

Results. A total of 2158 isolates from the ED were included: *Escherichia coli* (EC) ($n = 1244$), *Klebsiella pneumoniae* (KP) ($n = 232$), *Proteus mirabilis* (PM) ($n = 131$), *Pseudomonas aeruginosa* (PA) ($n = 103$), *Staphylococcus aureus* (SA) ($n = 303$), and *Enterococcus faecalis* (EF) ($n = 145$). The majority of patients were <65 years old ($n = 1088$) and presented from the community ($n = 1800$) with no antimicrobial exposure ($n = 1628$) nor hospitalization ($n = 1895$) within 30 days. There were no statistically significant differences between the ED and hospital antibiogram ($n = 5739$) for KP, PM, PA, SA, and EF. The hospital antibiogram overestimated EC resistance rates for cefazolin (20% vs. 15.6%, $P = 0.049$), ceftriaxone (9.6% vs. 6.4%, $P < 0.033$), and ciprofloxacin (23.7% vs. 15.4%, $P < 0.006$). There were significantly more risk factors present in patients discharged from the ED vs. those admitted ($P < 0.0001$). Healthcare facility residence had the greatest impact on susceptibility, especially EC (81.8% vs. 34.9%, $P < 0.0001$) and PM (75.3% vs. 33%, $P < 0.0001$) ciprofloxacin susceptibility.