

**Results:** During the study period, 16,376 procedures were performed with perioperative antibiotic administration. Cefazolin (12,756; 77.9%) was most frequently administered followed by clindamycin (1,396; 8.5%), and vancomycin (735, 4.5%). PCN allergy was reported in 2,051 (12.5%) patients, of which 1,180 (57.5%) had record of previously receiving a cephalosporin. Interestingly, 694 (33.8%) and 11,799 (82%) patients with and without a reported PCN allergy respectively received cefazolin perioperatively ( $P < 0.001$ ). The incidence of joint replacement SSI was higher in patients with a reported PCN allergy (6 of 97; 6.2%) compared to those without (12 of 671; 1.8%) ( $P=0.018$ ). CDI occurred in 44 (1.1%) of 3,883 and 70 (0.5%) of 12,493 patients who received a non-cefazolin or cefazolin respectively for prophylaxis (OR 2.1; 95% CI 1.5–2.9). In multivariate analysis controlling for surgery type, age, weight, and renal function, receipt of a non-cefazolin antibiotic was independently associated with developing CDI (OR 1.6; 95% CI 1.1–2.4).

**Conclusion:** Patients with a reported PCN allergy were more likely to receive a non-cefazolin antibiotic perioperatively and were more likely to develop a SSI following hip or knee replacement. Administration of a non-cefazolin antibiotic was independently associated with increased risk of CDI. Efforts should be made to minimize inappropriate avoidance of first line perioperative prophylaxis due to reported PCN allergies.

**Disclosures:** Ryan K. Dare, MD, MS, Accelerate Diagnostics, Inc (Research Grant or Support)

### 97. Assessment of Personal Protective Equipment Adherence in Red Box Using Remote Video Auditing

Vansha Singh, MBBS, MD<sup>1</sup>; Akshay Khatri, MBBS<sup>2</sup>; Aradhana Khameraj, RN, MSN, CIC<sup>3</sup>; Rehana Rasul, MA MPH<sup>3</sup>; Rebecca Schwartz, Ph.D<sup>3</sup>; Prashant Malhotra, MD<sup>2</sup>; Bruce Farber, MD, FIDSA, FACP<sup>3</sup>; <sup>1</sup>Northshore University Hospital, Northwell Health, Manhasset, New York; <sup>2</sup>Donald and Barbara Zucker School of Medicine, Manhasset, New York; <sup>3</sup>Northshore University Hospital Northwell Health, Manhasset, New York; <sup>4</sup>Feinstein Institute of Medical Research Northwell Health, Manhasset, New York; <sup>5</sup>Northwell Health, Manhasset, New York

**Session:** O-19. HAI Prevention: SSIs, Disinfection, and Hand Hygiene

**Background:** "Red box (RB)" is a delineated space in the entry way to a patient(pt) room(rm) that facilitates communication between pt and health care provider (HCP) without the latter needing to don/doff personal protective equipment (PPE). It decreases PPE use where unnecessary and increases pt satisfaction ratings. Remote Video Auditing (RVA) is a novel technique used to ensure adherence to isolation precautions. In this study, we used RVA to compare HCP compliance rates with PPE use in isolation rms with or without RB.

**Methods:** A prospective observational study (2/26/19-2/27/20) was designed to evaluate HCP compliance with PPE when entering or exiting droplet/contact isolation rms. RB was demarcated by red tape as a 3-ft area at rm entrance, >6 ft from the head of the bed. Cameras were placed at the entry of 4 rms with RB (RB rms) and 2 isolation rms without RB (control rms). Adherence to gowns, gloves, masks and hand hygiene (HH) was reviewed by trained independent remote observers to maintain uniformity. When HCPs stayed in the RB, compliance at exit was calculated. Compliance was compared between events of HCPs going beyond the RB and those of HCPs entering/exiting control rms using binomial regression models with log link.

**Results:** RVA captured 6959 pt encounters in 6 rms over a year. Consistent with RB protocol, when HCPs utilized the RB, 69.9% did not practice HH, 91.6% did not utilize gloves and 95.2% did not use gowns (Table 1). When HCPs went beyond the RB, there was significantly increased non-compliance with PPE and HH in RB rms compared with control rms (Table 2). Healthcare-associated infection (HAI) rates for this unit assessed using NHSN criteria demonstrated no increase as compared to prior years.

Table 1: Non-Compliance among those who entered Red Box but did not go into the room fully

	Non-compliance rates % (95% CI) [n/N]			
	Total	Contact isolation	Droplet isolation	Droplet and contact isolation
<b>Glove</b>	91.6 (89.7–93.2) [894/976]	92.2 (90.1–93.8) [743/806]	86.3 (78.9–91.4) [101/117]	95.7 (85.4–98.8) [44/46]
<b>Gown</b>	95.2 (93.5–96.4) [929/976]	94.5 (92.8–95.9) [762/806]	99.2 (95.3–99.8) [116/117]	95.7 (85.4–98.8) [44/46]
<b>Hand Washing</b>	69.9 (66.8–72.9) [62/875]	70.7 (67.3–74.0) [508/714]	67.6 (58.4–75.5) [75/111]	80.5 (45.5–73.8) [26/43]
<b>Doff</b>	69.5 (64.8–73.9) [274/394]	65.8 (60.2–70.9) [196/298]	84.1 (73.6–90.8) [58/69]	63.3 (64.1–93.3) [20/24]
<b>Mask</b>	80.8 (78.3–83.2) [789/976]	85.9 (83.3–88.1) [692/806]	50.4 (41.5–59.3) [59/117]	67.4 (62.9–79.1) [31/46]

Notes. 95% CI = 95% confidence interval calculated by Wilson's method. Totals may not add to 977 due to NA or No card in View results.

Table 2: Comparison of non-compliance between group that went beyond Red Box Vs. Control group without Red Box

Outcome	Visit Type	RB	Control	Red Box vs. Control	
		Non-compliance rate % (95% CI)	Non-compliance rate % (95% CI)	IRR (95% CI)	P Value
<b>Hand washing (N=6404)</b>	Entry	81.1 (78.8–83.4)	73.5 (70.1–77.1)	1.10 (1.06–1.15)	<.0001
	Exit	41.8 (39.1–44.6)	36.0 (32.0–40.5)	1.16 (1.02–1.32)	<b>0.0249</b>
<b>Glove (N=6537)</b>	Entry	36.7 (34.3–39.3)	23.2 (20.7–26.0)	1.58 (1.42–1.76)	<.0001
	Exit	74.2 (69.9–78.7)	70.8 (66.4–75.5)	1.05 (1.02–1.08)	<b>0.0023</b>
<b>Gown (N=6576)</b>	Entry	42.6 (40.9–44.3)	24.7 (22.1–27.6)	1.72 (1.53–1.94)	<.0001
	Exit	93.0 (91.8–94.2)	89.2 (86.9–91.7)	1.04 (1.01–1.07)	<b>0.0075</b>
<b>Mask (N=6548)</b>	Entry	46.5 (43.2–50.1)	38.1 (35.0–41.5)	1.22(1.16–1.29)	<.0001
	Exit	51.3 (47.6–55.3)	51.1 (47.3–55.3)	1.00(0.97–1.04)	<b>0.8358</b>
<b>DOFF (N=1696)</b>	Exit	45.5 (42.8–48.5)	46.5 (42.3–51.0)	0.98(0.88–1.10)	<b>0.7273</b>

Incidence rate ratio (IRR); ratio of noncompliance rate in Redbox to the noncompliance rate in the control.

**Conclusion:** RVA, a novel, labor-efficient and objective method, was used for observing and comparing PPE compliance in RB rms. Consistent with the purpose of RB, >90% HCPs did not use PPE while confined within it. However, HCPs going beyond the RB were more non-compliant with PPE use as compared to HCPs in control rms. While HAI rates were not increased, this finding is concerning – HCPs going beyond RB may not have used PPE (even in close proximity) due to a false sense of security due to RB. Re-education about optimal use of the RB or discontinuing RB should be considered.

**Disclosures:** All Authors: No reported disclosures

### 98. Antibiotic Stewardship Interventions Significantly Improve Preferred Antibiotic Prophylaxis in Total Joint Arthroplasty

Katelyn Quartuccio, PharmD, BCPS<sup>1</sup>; Raquel Roberts, PharmD<sup>2</sup>; Kelly E. Pillinger, PharmD, BCIDP<sup>2</sup>; Eric Heintz, MD<sup>2</sup>; Jessica Stern, MD, MS<sup>2</sup>; Thomas Myers, MD, MPT<sup>2</sup>; <sup>1</sup>University of Rochester Medical Center, Highland Hospital, Rochester, New York; <sup>2</sup>University of Rochester Medical Center, Rochester, New York

**Session:** O-19. HAI Prevention: SSIs, Disinfection, and Hand Hygiene

**Background:** Most patients reporting a penicillin (PCN) allergy can tolerate cefazolin, the preferred prophylaxis in a total joint arthroplasty (TJA). The purpose of this study was to evaluate surgical prophylaxis in patients with a reported PCN allergy undergoing a TJA following a stewardship intervention that included updates to institutional guidelines, reclassification of severe PCN allergy, standardization of ordering processes, and participation of a physician champion.

**Methods:** This was a single center, retrospective study of adult orthopedic patients greater than 18 years old who underwent a primary elective TJA at a 261-bed community hospital from March 1, 2017 to August 30, 2017 (pre-intervention) and from March 1, 2019 to August 30, 2019 (post-intervention). The primary outcome was the difference in the composite rate of the following: 1) Patients with a reported non-severe PCN allergy without MRSA risk factors who received cefazolin; 2) Patients with a non-severe PCN allergy with MRSA risks factors who received cefazolin plus vancomycin; and 3) Patients with a severe PCN allergy who received vancomycin prior to a primary elective TJA.

**Results:** A total of 180 patients with a documented PCN allergy were evaluated (90 patients in the pre-intervention group and 90 patients in the post-intervention group). Rash and hives were the most commonly reported allergies in both groups (71% vs 61%,  $P=0.2076$ ). Post-intervention revealed a significant increase in the primary outcome of appropriate perioperative antibiotic (55% vs 91%,  $P < 0.001$ ), largely driven by patients with non-severe allergy [47% (36/76) vs 96% (73/76),  $P < 0.001$ ]. No patients had signs of an allergic reaction thought to be due to cefazolin, including 8 patients with severe PCN allergy. No patients in either group developed a surgical site infection or *C. difficile* infection within 90 days post-procedure.

**Conclusion:** A multifaceted antibiotic stewardship intervention increased preferred prophylaxis in elective primary TJA. Patients with non-severe PCN allergies, even those reporting hives or local swelling, can tolerate cefazolin without issue. Patients with severe PCN allergy should undergo further evaluation as cefazolin may be a safe option.

**Disclosures:** Katelyn Quartuccio, PharmD, BCPS, AstraZeneca (Consultant) Kelly E. Pillinger, PharmD, BCIDP, Pharmacy Times (Other Financial or Material Support, Speaker)

### 99. Effectiveness of Antibiotic Prophylaxis Among Patients Undergoing Elective Transurethral Resection of the Prostate in the Era of Antibiotic Resistance

Thana Khawcharoenporn, MD, MSc<sup>1</sup>; Pimjira Kanoktipakorn, MD<sup>1</sup>; <sup>1</sup>Thammasat University, Bangkok, Krung Thep, Thailand

**Session:** O-19. HAI Prevention: SSIs, Disinfection, and Hand Hygiene

**Background:** Data existing on effectiveness of antibiotic prophylaxis (AP) for transurethral resection of the prostate (TURP) are limited in the era of antibiotic resistance.

**Methods:** A 4-year prospective observational cohort study was conducted among patients undergoing TURP in an academic tertiary-care hospital during 2016–2019. Patients were excluded if pre-operative (pre-op) urine cultures were not sent or grew mixed (>2) organisms, or they had pre-op urinary tract infection (UTI) or lost follow-up after TURP. Appropriateness of AP was defined as 1) correct dosing and duration and narrowest spectrum according to the hospital AP guidelines and local epidemiology and 2) being active against uropathogens isolated from the pre-op culture. Primary outcome was the rate of UTI within 30 days post TURP compared between appropriate antibiotic prophylaxis (AAP) and inappropriate antibiotic prophylaxis (IAP) groups.

**Results:** 342 patients were screened and 61 were excluded. Of the 281 patients included, 139 (49%) received AAP and 142 (51%) received IAP. The reasons for IAP were prescribing too broad-spectrum antibiotics (57%), inactive antibiotics (41%) and incorrect dosing (2%). Pre-op urine cultures were no growth in 148 patients (53%). Among the 133 positive urine cultures with 144 isolates, *Escherichia coli* (52%) was the most commonly isolated. Thirty-one percent of these 144 isolates produced extended-spectrum beta-lactamase (ESBL) and 23 (16%) isolates were multidrug-resistant. The resistant rates of Enterobacteriaceae were 73% for ciprofloxacin, 65% for TMP-SMX and 46% for ceftriaxone. The two most commonly prescribed prophylactic antibiotics were ceftriaxone (51%) and ciprofloxacin (34%). The rate of UTI within 30 days post-TURP was significantly higher in IAP group compared to AAP group (47% vs 27%;  $P < 0.001$ ). Prescribing inactive prophylactic antibiotics was the independent factor associated with 30-day post-TURP UTI (adjusted odds ratio 2.88;  $P=0.001$ ).

**Conclusion:** Appropriate antibiotic prophylaxis significantly reduced UTI within 30 days of elective TURP. Obtaining pre-op urine culture and prescribing an active prophylactic agent are critical for preventing post-TURP UTI in the era of antibiotic resistance.

**Disclosures:** All Authors: No reported disclosures

### 100. Effect of Disinfection Tracking System on Cleaning Events of Portable Medical Equipment

Patrick Crowley, DO<sup>1</sup>; Hector E. Ramirez, MD<sup>1</sup>; JulieAnn Martel, BS<sup>2</sup>; Mark Stibich, PhD MHS<sup>3</sup>; Sarah Simmons, DrPH<sup>4</sup>; Deborah G. Passey, PhD<sup>5</sup>; Yonhui Allton, Master of Science in Healthcare Administration<sup>6</sup>; Piyali Chatterjee, PhD<sup>7</sup>; Hosoon Choi, PhD<sup>8</sup>; John David. Coppin, MPH<sup>9</sup>; Marjory D. Williams, PhD, RN, NEA-BC<sup>9</sup>; Chetan Jinadatha, MD, MPH<sup>10</sup>; <sup>1</sup>Baylor Scott & White Hospital, Temple, Texas; <sup>2</sup>Central Texas Veterans Health Care System, Temple, Texas; <sup>3</sup>Xenex, Santa Fe, New Mexico; <sup>4</sup>Xenex Disinfection Services, San Antonio, Texas; <sup>5</sup>University of Utah, Salt Lake City, Utah; <sup>6</sup>VBA, Waco, Texas; <sup>7</sup>Central Texas Veterans Healthcare System, Temple, Texas; <sup>8</sup>Central Texas Veterans Research Foundation, Temple, Texas; <sup>9</sup>CTVHCS, Temple, Texas; <sup>10</sup>Central Texas Veterans Health Care System, Temple, TX, Temple, Texas

**Session:** O-19. HAI Prevention: SSIs, Disinfection, and Hand Hygiene

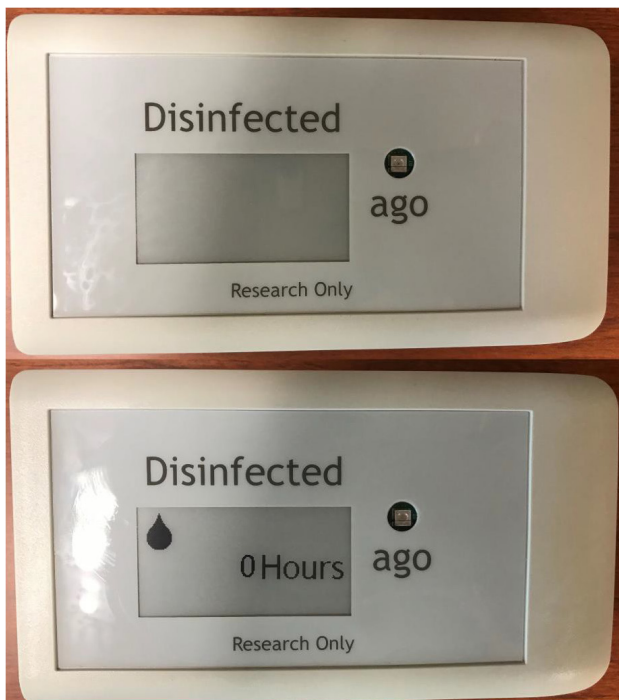
**Background:** Portable Medical Equipment (PME) can play a vital role in transmission of multidrug-resistant organisms. Cleaning PME is challenging and protocols vary by institution. Tracking of PME cleaning events is usually performed manually and demonstration of compliance with protocols is difficult. We studied a Disinfection Tracking Systems (DTS) to understand its potential role in tracking disinfection events of PME and whether its implementation led to improvement in the number of cleaning events. The DTS device was designed to automatically register several types of disinfection events and could be set to display time since last disinfected on the screen.

**Methods:** For a 25-day period, a single acute care unit received a DTS device with the display screen off but with the ability to detect and log disinfection events in a database from a disinfectant wipe. After the 25-day screen-off period the DTS units screen was turned on to display the number of hours since the last recorded disinfection event (Figure 1) for a 42-day period. DTS devices were placed on 10 computer-on-wheels (COW) and 5 vitals machine (VM). An interrupted time series analysis, using a Bayesian model compared the number of events in the display screen-off to the screen-on period.

**Disinfection Tracking System with Screen-off and Screen-on**

**Results:** During the 25-day screen-off period, there were a total of 345 events captured with 61 events on VM and 284 on COWs averaging 0.49 and 1.26 cleaning events for VM and COWs respectively per day. During the 42-day screen-on period, there were 845 total disinfection events with 104 events on VM and 741 events on COWs with 0.50 and 1.76 mean events for VM and COWs respectively per day. The mean events per device per day in the screen-on period for COWs were 1.32 (1.10 – 1.57) times greater than those in the screen-off period. The mean events per device per day in the screen-on period for VM devices was 1.37 (0.89 – 2.01) times greater than those in the screen-off period.

**Conclusion:** Disinfection events for COWs and VMs were found to be above the local policy requirements. Implementation of a DTS device was able to increase the rate of disinfection events for COWs potentially due to the prompt on the screen. Additionally, it captured disinfection events successfully on the database demonstrating its effective to be a tool for demonstration of compliance.



**Disclosures:** Mark Stibich, PhD MHS, Xenex Disinfection Services, Inc (Board Member, Employee) Sarah Simmons, DrPH, Xenex Disinfection Services (Employee, Shareholder) Chetan Jinadatha, MD, MPH, AHRQ (Research Grant or Support) Department of Veterans Affairs (Other Financial or Material Support, Owner: Department of Veterans Affairs. Licensed to: Xenex Disinfection System, San Antonio, TX)Inventor (Other Financial or Material Support, Methods for organizing the disinfection of one or more items contaminated with biological agents)NiH/NINR (Research Grant or Support)NSF (Research Grant or Support)Xenex Healthcare Services (Research Grant or Support)

### 101. Who Does Not Show up for Followup in an HIV Prep Clinic?

Robert Williams, Jr., n/a<sup>1</sup>; Timothy P. Flanagan, MD<sup>2</sup>; Lauri Bazeran, MS<sup>3</sup>; Jun Tao, PhD<sup>1</sup>; Christina Chu, BA<sup>4</sup>; Elizabeth S. Silva, MPH<sup>5</sup>; Alexi Almonte, BA<sup>4</sup>; Madeline Montgomery, MPH<sup>6</sup>; Philip Chan, MD, MS<sup>1</sup>; Brown University, Providence, Rhode Island; <sup>2</sup>The Miriam Hospital and Brown University, Providence, Rhode Island; <sup>3</sup>The Miriam Hospital, Providence, Rhode Island; <sup>4</sup>Miriam Hospital, Providence, Rhode Island; <sup>5</sup>Lifespan, East Greenwich, Rhode Island

**Session:** O-20. HIV PrEP Prevention: Improving Uptake and Persistence

**Background:** Understanding real-life HIV pre-exposure prophylaxis (PrEP) care is key to address HIV infection. An HIV PrEP clinic was started in Providence, RI in 2013, performing outreach to men who have sex with men (MSM) and other high-risk individuals. Our prior clinical studies and other literature have shown that many high-risk patients do not return for followup PrEP visits. We sought to better identify correlates of patients who were lost to follow up (LTFU), with implications for improving PrEP care retention.

**Methods:** Data was collected from all cis-gender patients who first presented to the RI PrEP Clinic from 2013 to mid-2019. Correlations in demographic information and behaviors related to PrEP care were demonstrated through descriptive analysis. A multivariate analysis was then performed to elucidate possible predictors. LTFU was defined as having no subsequent visit within six months of the initial appointment after being prescribed PrEP.

**Results:** Of 570 patients, most identified as male (96%), White (65%), and non-Hispanic (82%). 65% of patients made one followup appointment within six months of intake, and 35% were LTFU. The following characteristics correlated with higher rates of LTFU: being below 25 years of age (17% vs 27%; p=0.002), illicit drug use (42% vs 53%; p=0.02), and having both same and opposite-sex partners (7% vs 16%). Characteristics which correlated with lower rates of LTFU included only having same-sex partners (88% vs 74%; p< 0.001), alcohol use (86% vs 80%; p=0.04), and bachelor's degree completion (71% vs 49%; p< 0.001). Race, gender, and risk behavior showed no correlation.

**Conclusion:** A clear understanding of mechanisms of retention is high priority for forming care protocol interventions. Given trends with age, education, and PrEP indication, targeted interventions are needed to improve retention in HIV PrEP care and reduce incidence in at-risk communities.

**Disclosures:** All Authors: No reported disclosures

### 102. Improving Implementation of HIV Pre-exposure Prophylaxis: Lessons Learned from Young Women in Rural South Africa

Alisse Hannaford, MD<sup>1</sup>; Noxolo Khumalo, n/a<sup>2</sup>; Sarah Norton, MD<sup>3</sup>; Anthony Moll, MBChB<sup>2</sup>; Sheela Shenoi, MD, MPH<sup>4</sup>; <sup>1</sup>Hospital of the University of Pennsylvania, Philadelphia, Pennsylvania; <sup>2</sup>Church of Scotland Hospital, Tugela Ferry, KwaZulu-Natal, South Africa; <sup>3</sup>Duke University, Durham, North Carolina; <sup>4</sup>Yale University, New Haven, Connecticut

**Session:** O-20. HIV PrEP Prevention: Improving Uptake and Persistence

**Background:** Young women in South Africa are at particularly high risk for acquiring HIV, yet implementation of HIV prevention programmes in rural settings lags. We examined the experiences and perceptions of young women initiating pre-exposure prophylaxis (PrEP) in a rural setting under real-world programmatic conditions, in order to strengthen future PrEP delivery to this population.

**Methods:** Young women initiating PrEP in Msinga, a municipality in KwaZulu-Natal province, were interviewed about their motivation to start PrEP and their experiences in taking PrEP. Interviews were conducted at PrEP initiation and longitudinally as they returned to clinic monthly for medication refills.

**Results:** Among seventeen sexually active at-risk young women (IQR 18–22.5 years old) who initiated PrEP, 71% lived in a household receiving a government grant, 24% had history of an STI and 71% reported inconsistent condom use. All participants disclosed PrEP use to a family member, but only 20% informed their male sexual partner. All expressed uncertainty regarding their partners' sexual activities as a primary motivation for PrEP initiation. Social support from family and friends as well as interacting with other young women taking PrEP were identified as important facilitators. Barriers to PrEP included lack of community awareness about PrEP, limited clinics offering PrEP, HIV stigma, and logistics of accessing healthcare facilities. Young women valued a peer PrEP champion to facilitate and maintain successful engagement in care, as well as patient-centered PrEP delivery models that allow for care outside traditional clinic facilities.

**Conclusion:** Input from young women has the potential to significantly enhance and expand PrEP implementation. Tailored implementation efforts should include strengthening the role of community health workers, improving community-wide PrEP education, empowering women within their relationships, facilitating skill building for PrEP disclosure to partners, incorporating community PrEP champions, and developing alternative PrEP delivery models including community-based delivery.

**Disclosures:** All Authors: No reported disclosures