this study was to describe the temporal, geographic, and clinical trends and characteristics of infective endocarditis associated with IDD (IDD-IE) and to identify opportunities for better quality care of people with IDD.

**Methods.** We reviewed charts for all admissions coded for both IE and drug use disorders at the University of Virginia Medical Center (UVA) from January 2000 to July 2016. A random sample of 30 admissions coded for IE per year were reviewed to evaluate temporal trends in the proportion of IDD associated IE cases.

**Results.** There were a total of 76 patients with IDD-IE during the study period, with a 7-fold increase in cases of IDD-IE from the early 2000s to 2016. The proportion of IE that was IDD-associated increased by nearly 10% each year (prevalence ratio of IDD per year: 1.09, 95% CI: 1.05–1.14). Patients with IDDIE had longer hospital stays [median days (interquartile range); IDD-IE: 17 (10–29); non-IDD-IE: 10 (6–18); P = 0.001] with almost twice the cost of admission as those without IDD [median (interquartile range); IDD-IE: $47,899 ($24,578-$78,144); non-IDD-IE: $26,460 ($10,220-$60,059); P = 0.001]. In 52% of cases, there was no documentation of any discussion regarding addiction treatment.

**Conclusion.** IDD-IE cases are increasing in Virginia leading to higher morbidity and healthcare costs. IDD-IE may provide an opportunity for the delivery of IDD treatment, counseling, and harm reduction strategies.

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1023. A Controlled-Release Prescription Oral Opioid Can Prolong *S. aureus* Survival in Injection Drug Preparation Equipment and Potentially Increase Bacteremia Risk

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**Background.** *S. aureus* is the most common pathogen associated with injection drug use-associated endocarditis (IDUAIE). Our center has a high incidence of IDUAIE and the opiate of choice in our population is hydromorphone-controlled release (HCR), a prescribed oral opiate widely used in Canada and Europe. The complex technique for preparation for injection provides multiple opportunities for contamination of the solution and the controlled-release preparation contains several excipients (carboxydrates, protein, and iron), which could enhance Staphylococcal survival. A large amount of drug remains in the injection drug preparation equipment (IDEPE) after each use and therefore, used IDEPE is saved by people who inject drugs (PWID) for subsequent reuse by adding more water and then injecting the solution intravenously.

**Methods.** Used IDEPE was collected from active PWID, rinsed with sterile water, aspirated into a syringe in a technique which mimicked reuse of equipment by PWID, and then plated on Mannitol salt agar (MSA). Bacterial isolates from local bacteremic PWID were used to test the survival of *S. aureus* (MRSA and MSSA) and *S. pyogenes* on unused IDEPE with HCR or hydromorphone immediate release (HIR). The solutions were aspirated using techniques similar to that of local PWID and then plated on MSA and Blood agar.

**Results.** A total of 109 used IDEPE samples were collected between March 2017 and March 2018. *S. aureus* was detected in 15/94 (16%) IDEPE samples that had been used for injection of HMC (seven MRSA, seven MSSA, and two borderline resistant [one sample contained both MRSA and MSSA]), but 0/15 (0%) samples used for injection of HMC (seven MRSA, seven MSSA, and two borderline resistant [one sample contained both MRSA and MSSA]) contained *S. aureus* when IDPE containing HCR solutions spiked on unused IDEPE.

**Conclusion.** IDEPE that has been used in the preparation of HCR is frequently contaminated with *S. aureus*; in vitro HCR, but not HM, prolongs the survival of *S. aureus* among adult (>18) inpatients with first episode IE.

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1025. Microbial Epidemiology of Infectious Endocarditis in the Intravenous Drug Abuse Population: A Retrospective Study in East Tennessee

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**Background.** Infective endocarditis (IE) is one of the most serious infections affecting intravenous drug users (IVDU). IVDU have a higher incidence of IE compared with the general population. There are a limited number of reports on the epidemiology of this infection from the South Eastern United States. We determined the prevalence, and the microbial epidemiology, of IE cases at our institution. We then compared this data to data from other geographical regions. This was done to help aid physicians with choosing empiric treatment regimens, for IE, pending culture results.

**Methods.** A retrospective cohort of 299 cases of IE was analyzed between January 2011 and July 2017 at a university hospital in East Tennessee. Demographic, microbiologic, intravenous substance use status, radiographic, and echocardiographic data were collected.

**Results.** Of the 299 cases, 184 (61.5%) were IVDU and 115 cases (38.5%) were non-IVDU. IVDU and non-IVDU positive cultures rates were similar at 87% and 86%, respectively. Methicillin-resistant *Staphylococcus aureus* (MRSA) was more likely to occur in IVDU (OR 2.8, P = 0.001) and was the most common pathogen at 77 out of the 184 cases (42%). Twenty-three of the 115 (20%) cases grew MRSA in the non-IVDU population. Methicillin-sensitive *Staphylococcus aureus* was the second most common bacteria for IVDU with 36 out of 184 cases (19.6%). IVDU patients were more likely infected with Pneumococcus (OR 3.384, P = 0.027), which occurred in 20 of the 184 cases (10.9%). IVDUs also experienced more right heart involvement vs. left sided involvement (OR 2.19, P = 0.004).

**Conclusion.** *S. aureus* was the most common pathogen for IE in IVDU followed by *P. aeruginosa*. Data from this study solidify that in IVDU, or if there is suspicion of intravenous drug use, first-line broad-spectrum antibiotics with excellent MRSA and *P. aeruginosa* coverage is essential to empirically cover for IE. Extra attention for right-sided heart involvement should also be made on IVDU with imaging modalities.