microbiological methods, using the VITEK 2 compact system (Biomereix), which allows the simultaneous identification of Gram-positive and Gram bacteria -negative and combine the identification and TSA results in a single report. Six hospitals used automated methods and one institution used manual method for antimicrobial susceptibility testing.

Results. Samples of seven Gram-negative and two Gram-positive bacteria collected between Dec/2019-Nov/2020 from HAI isolates were analyzed: 565 Klebsiella, 293 Escherichia coli, 153 Proteus, 403 Pseudomonas, 174 Acinetobacter, 153, 361 Staphylococcus aureus, and 176 Enterococcus. Antibiotic resistance profile of each strain is summarized in Figures 1, 2, and 3.

Resistance profile: Klebsiella, E. coli, Proteus.

820. Optimal Specimen Source(s) for Carbapenemase-Producing Acinetobacter Colonization Screening
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Session: P-45: HAI Surveillance

Background. Infection prevention (IP) strategies are implemented to limit the transmission of healthcare-associated infections (HAIs), which are estimated to occur in 1 out of 31 hospitalized patients per day in the United States. Carbapenem-resistant Acinetobacter (CRA) cause HAIs classified as an urgent threat by CDC. When carbapenem-resistant CRA (CP-CRA) are isolated, containment strategies are implemented, including screening patients at high risk for colonization with CP-CRA. Point prevalence surveys (PPS) are conducted to assist with HAI outbreak investigations and identify colonized patients.

Methods. Herein, we describe results from culture-based CP-CRA colonization testing of multiple specimen sources (rectal, skin (axilla/groin or groin), respiratory, and/or wound). A total of 744 PPS specimens from 356 patients, across six states, were obtained from February 2019 to May 2021 for CP-CRA colonization screening including 30% (224/744) rectal, 52% (390/744) skin, 10% (73/744) respiratory, and 8% (57/744) wound sources. The specimens were plated onto both non-selective (blood agar) and selective media (MacConkey, ESBL CHROMagar, Acinetobacter CHROMagar), and RT-PCR was performed for detection of the Acinetobacter-specific carbapenemase genes blaOXA-23, blaOXA-24, and blaKPC.

Results. Twelve percent (90/744) of specimens, representing 17% (62/356) of patients, were positive for detection of blaOXA-23 and/or blaOXA-24, CP-CRA. The majority (96%) of CP-CRA harbored blaOXA-23. Of the 62 colonized patients, 52% (32/62) had more than one collection source and 47% (15/32) of those had more than one source positive for CP-CRA. There was no consensus regarding a single source type across positive specimens. However, rectal or skin swab collection alone would potentially miss 2% (4/163) or 8% (14/186) of positive specimens, respectively.

Conclusion. These data suggest that rectal or skin source collection alone could be sufficient for detection of CP-CRA. Overall, multiple factors should be considered to guide the source(s) for CP-CRA specimen collection, such as infection type, regional prevalence, patient factors, and/or IP gap(s) within a facility.

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821. Changes in Cleaning Practices and Non-conventional Personal Protective Equipment Use due to SARS-CoV-2 and Association with Increases in Multi-drug Resistant Organism Cases
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Session: P-45: HAI Surveillance

Background. During the pandemic of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), policy at a Minnesota hospital changed to state that environmental services would not clean rooms of patients with confirmed or suspected SARS-CoV-2 infections, requiring nursing staff to perform these duties. Investigation of a cluster of carbapenem-resistant Enterobacterales (CRE) in patients hospitalized in the same or adjoining rooms on the medical intensive care unit (MICU) raised concern. Whether SARS-CoV-2 cleaning practices and non-conventional personal protective equipment (PPE) use led to transmission of multi-drug resistant organisms (MDROs).

Methods. Infection Prevention conducts passive surveillance for MDRO acquisition and bloodstream infections. Passive surveillance of SARS-CoV-2 was performed early in the pandemic. Active surveillance SARS-CoV-2 testing on admission was initiated in July 2020 and active surveillance testing for admitted patients every 7 days was initiated in December. Incident cases of vancomycin-resistant Enterococcus (VRE), extended-spectrum β-lactamase-producing organisms (ESBL), methicillin-resistant S. aureus (MRSA), and CRE were determined for hospitalized patients prior to March 1, 2020 and February 28, 2021, excluding patients with infection on admission. Rates of hospitalized patients testing positive for SARS-CoV-2 per 100 patient days were compared to rates of patients testing positive for VRE, ESBL, MRSA, and CRE per 100 patient days respectively. The same rate comparisons were completed for the MICU. Using the F-Test Two-Sample to determine variance, the Two-Sample T-test assuming unequal variances was applied to each comparison.

Results. Correlation was significant between rates of SARS-CoV-2 and VRE (p < 0.005), ESBL (p < 0.005), MRSA (p < 0.005), and CRE (p < 0.005) (Table 1). MICU correlation was significant between rates of SARS-CoV-2 and VRE (p < 0.005), ESBL (p < 0.005), MRSA (p < 0.005), and CRE (p < 0.005) (Table 2).

Table 1: Two-sample T-test results assuming unequal variances: Hospital COVID rates per 100 patient days vs. rates of incident positive tests for VRE, ESBL, MRSA, and CRE per 100 patient days

| Infection | Months | Mean (COVID) | Mean (MDRO) | df | Stat | P-total | Critical | P-total (1-tail) | Critical (1-tail) |
|-----------|--------|-------------|-------------|----|------|---------|----------|-----------------|-----------------|
| COVID vs. VRE | 12 | 0.002 | 0.011 | 11 | 4.213 | 0.004 | 2.201 |
| COVID vs. ESBL | 12 | 0.002 | 0.010 | 11 | 4.383 | 0.002 | 2.201 |
| COVID vs. MRSA | 12 | 0.002 | 0.012 | 12 | 4.397 | 0.009 | 2.179 |
| COVID vs. CRE | 12 | 0.002 | 0.018 | 12 | 5.446 | 0.002 | 2.201 |

Table 2: Two-sample T-test results assuming unequal variances: Hospital COVID rates per 100 patient days vs. rates of incident positive tests for VRE, ESBL, MRSA, and CRE per 100 patient days

Conclusion. Benchmarks for antibiotic resistance in the most common organisms causing healthcare-associated infections were defined, and can be used as indicators for healthcare assessment, specially in developing countries institutions.

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Conclusion. The relationships between the rates of SARS-CoV-2 and four MDROs were statistically significant. It can be inferred from this data that changes in hospital cleaning and non-conventional PPE use may have led to an increase in transmission of MDROs in this facility.

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822. Tenofovir Alafenamide (TAF) is an Independent Risk Factor for Hyperlipidemia in Persons with Human Immunodeficiency Virus (HIV) on Antiretroviral Therapy (ART)
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Session: P-46; HIV: Complications and Co-infections

Background. ART-associated weight gain, metabolic disorders, and co-morbidities such as cardiovascular disease are challenges in long-term human immunodeficiency virus (HIV) care. We explore the effects of different ART classes on lipids at The Ohio State University Medical Center Infectious Diseases Clinic.

Methods. This was a retrospective, cohort study of adult PWH on ART for ≥ 3 months seen at our clinic from 1/1/2015 to 1/1/2017. Patients with CD4< 200 cells/mm3 and viral load >200 copies/mL, history of malignancy or pregnancy were excluded. LDL and TC values were collected over the study period. The primary outcome was change in total cholesterol (TC), high density lipoprotein (HDL) cholesterol, and non-HDL cholesterol over the study period. Multivariable regression was used to model these outcomes.

Results. Among 411 PWH who met criteria, 87.4% were male, and 43.3% had a baseline diagnosis of hyperlipidemia. 21.1% were on a protease inhibitor (PI), 45% were on a non-nucleoside reverse transcriptase inhibitor (NNRTI), and 37% were on an integrase strand transfer inhibitor (INSTI). 70.1% were on tenofovir disoproxil fumarate (TDF) and emtricitabine (FTC). 20.7% were on abacavir (ABC) and lamivudine (3TC), and 4.4% were on TAF/FTC. The mean population (MP) difference in TC was -1.54 ± 1.34 mg/dL (p=0.025), the MP difference in non-HDL cholesterol was -1.78 ± 1.26 mg/dL (p=0.016), and the MP difference in HDL cholesterol was 0.24 ± 0.43 mg/dL (p=0.84). In multivariable linear regression models (Table 1), TAF/FTC was associated with a change of TC of 18.2 ± 6.4 mg/dL (P = 0.005), a change of non-HDL cholesterol of 12.0 ± 6.0 mg/dL (p=0.046), and a change of HDL cholesterol of 6.2 ± 2.1 mg/dL (p=0.003). These models included terms for months of follow up, male gender and baseline hyperlipidemia. Though race, diabetes mellitus, and ethnicity were not significant in the model, after adjustments for them, PWH on TAF/FTC showed a change of TC of 18.0 ± 6.4 mg/dL (P=0.005), a change of non-HDL cholesterol of 11.8 ± 6.0 mg/dL (P=0.051), and a change of HDL of 6.2 ± 2.1 (p=0.03). Multivariable Linear Regression Models for Change in Total Cholesterol and Non-HDL Cholesterol

Figure 1. Percentage of PLWH and PLWoH with multimorbidity and selected comorbid conditions. Abbreviations: COPD=chronic obstructive pulmonary disease; GI=gastrointestinal; PLWH=people living with HIV; PLWoH=people living without HIV All p-values <0.001 except GI Disorders (p=0.14).

Conclusion. In the Medicare FFS population, multimorbidity and polypharmacy were highly prevalent in PLWH despite their substantially younger age compared to PLWoH. Our findings highlight the need to consider comorbidities and medications in HIV management including ARV regimens to minimize medication burden and drug interactions, which might improve clinical outcomes.

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824. Characteristics, Comorbidities, and Medication Burden among People Living with HIV in the U.S. Medicare Program
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Session: P-46; HIV: Complications and Co-infections
Background. Among the 1.2 million people living with HIV (PLWH) in the U.S., many are covered by Medicare, a federally funded health insurance program for elderly (≥65 years) and disabled (<65 years) individuals. Medicare has emerged as a major source of HIV care for PLWH. Given limited research in this population, a better understanding of patient characteristics, comorbidities, and comication use among PLWH in the Medicare Program is needed to help optimize clinical care.

Methods. A retrospective claims analysis of a national cross-sectional sample of fee-for-service (FFS) Medicare beneficiaries with continuous medical and prescription coverage in 2018 was conducted using 100% Medicare administrative claims. The PLWH group included individuals with ≥ 1 HIV diagnosis code in medical claims and ≥1 pharmacy claim for an anchor antiretroviral (ARV) drug (i.e., NNRTI, PI or INSTI) in 2018. The comparison group included a random sample of Medicare beneficiaries without HIV (PLWoH). Sociodemographic characteristics, comorbidities, and medication use were compared between PLWH and PLWoH.

Results. The study sample included 86,856 PLWH and 552,645 PLWoH. PLWH were more likely to be younger (mean age: 57.4 vs 71.1 years and < 65 years: 72% vs 18%), male (75% vs 42%), Black (42% vs 10%), eligible for Medicare due to disability (3% vs 27%) and receiving full low-income subsidies (77% vs 31%); all p< 0.001. Prevalence of ≥3 comorbidities was high in PLWH (70.2%) and only slightly lower than in PLWoH (71.7% < 0.001). Prevalence of neuropsychiatric conditions, chronic kidney disease, liver disease, COPD, hepatitis B, and hepatitis C were higher in PLWH (Figure 1). The mean hierarchical condition categories risk score was higher in PLWH vs PLWoH (1.81 vs. 1.32; p < 0.001). On average, polypharmacy was higher among PLWH vs PLWoH (annual number of unique medications: 12.6 vs. 9.4 for all drugs and 10.3 vs. 9.4 for non-ARV drugs, both p< 0.001).

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