Table 2. Results

| No. (%) | Control Group | Pharmacist Group | P-value (95% CI) |
|---------|---------------|------------------|-----------------|
|         |               | (n=100)          | (n=100)         |                 |
| Percentage of Levels within Goal | 54.3% | 66.6% | 1.7 [1.31-2.11] | <0.001 |
| Number of vancomycin Levels below Goal Range | 272 | 332 | 0.06 | 0.94 [0.03-1.48] |
| Number of vancomycin Levels Drawn | 502 | 467 | 0.53 | 0.77 [0.43-1.41] |
| Advance Drug Events | 43 (43) | 39 (39) | 0.35 | 0.20 (0.07-0.52) |
| Number of patients with vancomycin level 2.5 | 29 (29) | 24 (24) | 0.53 | 0.53 [0.30-1.00] |
| Number of patients with Serum Creatinine ≥ 50% | 1.3 (13) | 5 (5) | 0.00 | 0.20 [0.02-1.00] |

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757. Impact of a Sepsis Improvement Team with Prospective Audit and Feedback on SEP-1 Core Measure Adherence in an Urban Community Hospital

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Background. Adherence to the CMS sepsis core measure (SEP-1) has been a challenge for facilities nationwide. Checklists, electronic medical record (EMR) alerts and order sets have been shown to improve compliance. We implemented a comprehensive SEP-1 guideline with order sets, checklists and EMR alerts at an urban community hospital. Subsequently, a SEP-1 improvement team with an infectious disease physician and a nurse led a prospective audit and feedback (PAF) program to help improve adherence and reduce errors. We seek to understand the impact of PAF on SEP-1 compliance.

Methods. Quasi-experimental pre- and post-intervention study of SEP-1 compliance at a 151-bed urban community hospital from January 2015 to December 2018. PAF intervention was started on July 2017. Cases were reviewed, SEP-1 failures identified, and feedback given to nurses and clinicians involved within 48 hours of admission. Gaps in adherence were identified, education given, and corrective actions taken.

Results. A total of 307 cases met the SEP-1 inclusion criteria. PAF was successfully implemented. There were 169 SEP-1 cases before and 138 after implementation of PAF. The success rate increased from 44% to 52% with PAF (Figure 1). The most common reasons for failure were initial and repeated lactis acid on both groups (Figure 2).

Conclusion. Prospective audit and feedback for SEP-1 improved compliance rates at our facility. Prospective audit can help identify core measure failures early and provide immediate feedback to clinicians. Nurses and laboratory personnel. Immediate feedback by the SEP-1 improvement team may help increase SEP-1 awareness, strengthen existing educational programs, and promote a culture of safety. SEP-1 is a complex core measure that may translate to pay-for-performance. An ID physician-led SEP-1 improvement team with PAF may be an area for future value-based care opportunities for ID physicians.

Figure 1. SEP-1 Adherence before and after PAF

Figure 2. SEP-1 core measure component failures pre and post intervention

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676. Integrating Diagnostics of Tomorrow into Clinical Practice Today: One Infectious Disease Group’s First 90 Days Experience with the Karius® Test

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Background. Infection disease (ID) groups covering inpatient and office, antimicrobial stewardship, and infection prevention duties may welcome an opportunity to streamline diagnostics via metagenomic next-generation sequencing (NGS). But the appropriate patient profile for NGS has yet to be defined. In 2019, we began using the Karius® Test (KT), an NGS test that identifies and quantifies microbial cell-free DNA in plasma.

Methods. On January 10, 2019 our ID group (7 MDs and an APN covering 14 Illinois hospitals) began using the KT (Redwood City, CA), 5 ml of whole blood is collected, spun to plasma, and shipped to Karius for analysis. Following NGS, human sequences are removed and remaining sequences are aligned to a curated pathogen database of >1,000 organisms. Organisms present above a statistical threshold are quantified in DNA molecules per microliter (MPM) and reported.

Results. Over 90 days 45 KTs were ordered on 42 patients (mean age = 46), including 3 repeat tests. Thirty-six were inpatients (8 in the ICU) with a mean 4.7 days to ID consult and length-of-stay of 16 days. 31% (13/42) were immunocompromised: i.e., transplant, oncology, or HIV/AIDS. Fine needle or open biopsies were performed on 13 patients and 13 patients had bronchoscopy; 30.8% (8/26) were diagnostic of infection. A valid KT result was received in 44/42 tests (mean 3.5 days from ID consult), 56.8% (25/44) of tests were positive for one or more organisms (a single pathogen was detected on 11 KT). Among positive tests, 56% (14/25 - 10 bacterial and 4 fungal infections) were confirmed by culture, antigen, or PCR. Time mean to diagnosis for culture and TDF - light (KT was 16.4, 5.2, and 3.5 days, respectively. In 3 cases, the KT was the only positive test but correlated with the clinical scenario resulting in antimicrobial changes (Pneumocystis jirovecii pneumonia in AIDS, pulmonary aspergillosis in AIDS, and Fusobacterium nucleatum septic thrombophlebitis).

Conclusion. We identified 6 clinical scenarios where the KT provided value: patients with suspected invasive fungal infections, culture-negative endovascular infections/endocarditis, possible disseminated or paravertebral infection, and pulmonary disease in AIDS. Future efforts will include outreach for prevention of invasive diagnostic procedures when a KT is not indicated.

Disclosures. All authors: No reported disclosures.

763. 30 Day Readmission Outcomes in Patients Over 80 Years of Age Enrolled in an Outpatient Parenteral Antibiotic Therapy (OPAT) Program

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Background. OPAT is a well-established model of care for the monitoring of patients requiring long-term IV antibiotics. We have previously reported a reduction in the 30-day readmission rate to our facility for patients managed in our OPAT program. However, little has been published to date regarding outcomes in OPAT patients over 80 years of age. Our OPAT program was established in 2013. Patients can be discharged to a facility or home to complete their course of antibiotics.

Methods. We conducted a retrospective chart review of all OPAT patients discharged from our facility from 2015 to 2018. Patients were divided into two groups based on age, <80 (n = 4618) and ≥80 (n = 562).

Results. Patient demographics are listed in Table 1. The overall 30-day readmission rate for patients older than 80 was 27.8%. For patients over 80 that had a follow-up ID clinic appointment, the 30-day readmission rate decreased to 15.7%. For patients younger than 80, the 30-day readmission rate was 36.0% with a decrease to 16.2% if patients were evaluated in the outpatient clinic. Figure 1. Staphylococcus Aureus was the predominant organism in both age categories. Vancomycin was the most common antibiotic used in both age groups followed by β-lactams.

Conclusion. In general, patients aged over 80 years were more likely to be discharged to a facility to complete their antibiotic course than younger patients. These patients also were more likely to have other comorbidities. The 30-day readmission rate in each age group was relatively similar. OPAT in patients over age 80 can have similar 30-day readmission rates as for patients less than 80 years of age.

Table 1. Patient Demographics

| Age Group | Time on OPAT | Discharged to Shf or Rehab unit | Discharged to home | Total Readmissions |
|-----------|--------------|--------------------------------|-------------------|-------------------|
| <80       | 3,416        | 62.3%                          | 36.3%             | 10.6%             |
| ≥80       | 562          | 57.7%                          | 36.7%             | 16.2%             |

Disclosures. All authors: No reported disclosures.

Table 1. Infections Listed (no. (%) of tests yielding positive results)

| Infection         | No. of Tests | Positive Results (no. %) |
|-------------------|--------------|--------------------------|
|                  | No. of Tests | Positive Results (no. %) |
|                  | No. of Tests | Positive Results (no. %) |
|                  | No. of Tests | Positive Results (no. %) |
|                  | No. of Tests | Positive Results (no. %) |
|                  | No. of Tests | Positive Results (no. %) |
|                  | No. of Tests | Positive Results (no. %) |
|                  | No. of Tests | Positive Results (no. %) |
|                  | No. of Tests | Positive Results (no. %) |
|                  | No. of Tests | Positive Results (no. %) |

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670. Assessment of DEXA Scan Ordering Among Infectious Disease Providers at a Large Tertiary-Care Urban Academic Center in the Midwest

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Background. Osteoporosis is compromised bone strength that predisposes to fracture. It can be diagnosed by Dual-energy x-ray absorptiometry (DEXA) measurement of bone mineral density (BMD). Persons with HIV (PWH) are at higher risk for the development of osteoporosis. As such, the HIV Medicine Association’s (HVMA) primary care guidelines recommend DEXA screening for all HIV-infected postmenopausal women and men aged ≥50 years. The purpose of this study was to assess the frequency of DEXA utilization within a tertiary-care urban academic center in the Midwest and to identify prevalence of osteoporosis.

Methods. A retrospective sample of PWH aged ≥50 from our institution’s outpatient infectious disease (ID) clinic were included. All subjects had at least one clinic visit in the last year, were on antiretroviral therapy (ART), and virally suppressed. Unblinded chart review was performed to assess if DEXA was ordered, was DEXA ordered by an ID physician, was DEXA completed, results of DEXA, and whether patients were on a tenofovir disoproxil fumarate (TDF)-containing regimen.

Results. 225 charts were reviewed. 186 (83%) patients were men, with a median age of 58 (range of 50–85). DEXA scans were ordered on 39 (17%) patients, 9 (23%) of which were ordered by their ID provider. Twenty-eight (72%) DEXA scans were performed. Of scans completed, 11 (39%) diagnostic osteoporosis, 15 (54%) osteopenia, and 2 (7%) showed normal BMD. Of all charts reviewed, 29 (13%) were on TDF-containing regimens. Of those individuals with diagnosed abnormal BMD (26), only 1 (4%) was on a TDF-containing regimen.

Conclusion. Despite HVMA’s recommendation for osteoporosis screening in PWH, only 17% of eligible patients with well-controlled HIV in our clinic had been referred for DEXA. Of those who had undergone DEXA screening, nearly all (93%) had abnormal BMD. Further investigation is necessary to explore provider and patient barriers for osteoporosis screening in PWH.

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671. Sepsis Readmissions and Coding in Two Community Hospitals

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Background. An estimated 1.7 million adults in the United States develop sepsis and nearly 270,000 Americans die because of sepsis annually. A diagnosis of sepsis increases hospitalization costs, antibiotic usage, and mortality. Admissions for sepsis account for a high proportion of 30-day readmissions, creating a major financial burden for the healthcare system. However, reliable measurement of sepsis incidence remains challenging given increasing clinical awareness, changes in diagnosis/coding practices and changing definitions. We thus sought to evaluate sepsis readmissions and coding practices at 2 community hospitals (226, 99 beds).

Methods. A total of 997 hospitalizations occurred at both institutions with a median age of 58 (range of 50–85). DEXA scans were ordered on 39 (17%) patients, 9 (23%) of which were ordered by their ID provider. Twenty-eight (72%) DEXA scans were performed. Of scans completed, 11 (39%) diagnostic osteoporosis, 15 (54%) osteopenia, and 2 (7%) showed normal BMD. Of all charts reviewed, 29 (13%) were on TDF-containing regimens. Of those individuals with diagnosed abnormal BMD (26), only 1 (4%) was on a TDF-containing regimen.

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Poster Abstracts • OFID 2019-6 (Suppl 2) • 5339