Table 2: Results			
No. (%)	Control Group (n=100)	Pharmacist Group (n=100)	P-value OR [95% CI]
Percentage of Levels within Goal	54.18%	66.8%	<0.0001 1.7 [1.31-2.21]
• Number of Vancomycin Levels within Goal Range	272	312	
• Number of Vancomycin Levels Drawn	502	467	
Adverse Drug Events	43 (43)	39 (39)	0.66 0.84 [0.48-1.48]
Number of patients with a vancomycin level ≥ 25	29 (29)	24 (24)	0.52 0.77 [0.41-1.45]
Number of patients with Serum Creatinine ≥ 50% baseline	13 (13)	5 (5)	0.08 0.35 [0.12-1.03]

Disclosures. **All authors:** No reported disclosures.

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 are identified, education given, and corrective actions taken. SEP-1 adherence before and after PAF implementation was reviewed.

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 repeat lactic 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 protocols and promote a culture of safety. SEP-1 is a complex core measure that may transition 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

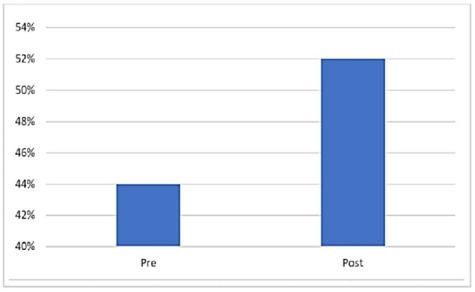
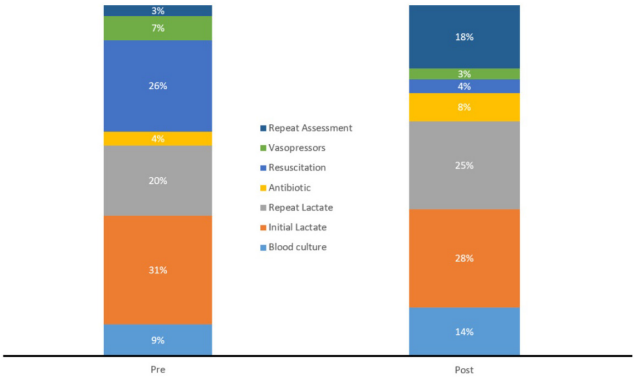


Figure 2. SEP-1 core measure component failures pre and post intervention



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758. High-Throughput Mining of Electronic Medical Records Using Generalizable Autonomous Scripts

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Background. The electronic medical record (EMR) has become a modern compendium of health information, from broad clinical assessments down to an individual's heart rate. The wealth of information in these EMRs hold promise for clinical discovery and hypothesis generation. Unfortunately, as these systems have become more robust, mining them for relevant clinical information is hindered by the overall data architecture, and often requires the expertise of a clinical informatician to extract relevant data. However, as the information presented to the clinician through the digital workspace is derived from the core EMR database, the format is well structured and can be mined using text recognition and parsing scripts.

Methods. Here we present a program which can parse output from Epic Hyperspace®, generating a relational database of clinical information. To facilitate ease of use, our protocol capitalizes on the familiarity of Microsoft Excel® as an intermediary for storing the raw output from the EMR, with data parsing and processing scripts written in SAS V9.4 (Cary, North Carolina).

Results. As a proof of concept, we extracted the diagnosis codes and standard laboratories for 190 patients seen in our Congenital Cytomegalovirus Clinic at Texas Children's Hospital in Houston, Texas. Manual extraction of these data into Microsoft Excel® took 1 hour, and the scripts to parse the data took less than 5 seconds to run. Data from these patients included: 3800 ICD-10 codes (along with their metadata) and 33,000 individual laboratory values. In total, more than 850,000 characters were extracted from the EMR using this technique. Manual review of 10 randomly selected charts, found the data in perfect concordant with the EMR, a direct reflection of the fidelity of the parsing scripts. On average, an experienced user was able to enter three ICD-10 codes each minute, and six individual laboratory values per minute. At best, this same process would have taken at least 110 hours using a conventional chart review technique.

Conclusion. High-throughput data mining tools have the potential to improve the feasibility of studies dependent upon information stored in the EMR. When coupled with specific content knowledge, this approach can consolidate months of data collection into a day's task.

Disclosures. **All authors:** No reported disclosures

759. High-Dose Daptomycin Is Well Tolerated via 2-Minute Infusion

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Background. Intravenous (IV) base solution shortages pose issues in the administration of IV antimicrobials and necessitate alternative administration strategies. Safety data supports 2-minute infusions of IV daptomycin up to the labeled dose of 6 mg/kg. The purpose of this study was to evaluate the safety of administering high-dose daptomycin (HDD) (>6 mg/kg) as a 2 minute IV infusion compared with traditional 30-minute infusion.

Methods. IRB-approved, retrospective cohort in a five-hospital health system admitted 9/1/17–9/1/18. Inclusion criteria: Patients receiving HDD as either a rapid 2 minute IV push (IVP) or a traditional 30-minute infusion (IVI) while inpatient. Exclusion criteria: <2 doses of HDD, pregnant, age <18, concomitant medication associated with infusion reactions (e.g., amphotericin B or monoclonal antibody). Primary outcome: proportion of patients with infusion-related reactions (IRR) after daptomycin administration. Infusion-related reactions were assessed using the Naranjo algorithm and adjudicated by 2 reviewers blinded to administration strategy. Bivariate statistical tests were used to compare patient characteristics and outcomes between groups. Data were reported using descriptive statistics and measures of central tendency.

Results. 300 patients included: IVP n = 200, IVI n = 100, representing a total of 1697 administrations. Median age IVP 61 (49, 71), IVI 63 (52, 74). Median BMI IVP 28 (23, 35), IVI 27 (23, 32). Median daptomycin dose IVP 700 (550, 900), IVI 700 (600, 900) with mg/kg doses of 8.2 (7.9, 10) and 8.3 (8, 10), respectively. Administration site was similar in both groups with the most common central venous catheters. Potential IRR occurred in 4% of the IVP arm and 1% of IVI arm, P = 0.28. After adjudication, IRR occurred in 1% of both treatment groups. Descriptions of IRR are in Table 1 and only 1 patient in the IVI arm required discontinuation. CPK elevations: 3% of entire cohort.

Conclusion. Administering HDD as an IVP was not associated with increased risk of IRR compared with IVI. This administration may be advantageous during fluid shortages and in outpatient administration.

Table 1. Infusion Related Reactions, n (%)	Rapid Infusion (IVP) (% of reactions)	Traditional Infusion (% of reactions)
Adjudicated Reaction	2 (1)	1 (1)
Fever	1 (50)	0
SOB	1 (50)	0
Skin reaction	0	1 (100)
Naranjo algorithm, score		
Doubtful, 0	0	0
Possible, 1-4	1 (50)	0
Probable, 5-8	1 (50)	1 (100)
Definite ≥ 9	0	0

Disclosures. **All authors:** No reported disclosures.

760. 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 (HIVMA) primary care guidelines recommend DEXA screening for all HIV-infected postmenopausal women and men aged ≥50 years. The purpose of this study was to asses the frequency of DEXA utilization within a tertiary-care urban academic center in the Midwest and to identify prevalence of osteoporosis.

Methods. A representative sample PWH age ≥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%) diagnosed 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 HIVMA'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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761. 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 primary diagnosis of sepsis from January 30, 2018–December 31, 2018; out of which 130 were readmitted within 30 days.An Infectious Disease trained physician reviewed all 130 index admissions and readmissions. Sepsis was defined as per the Centers for Medicare and Medicaid Services (CMS) sepsis-1 mandate: 2 of 4 SIRS criteria + suspected infection.

Results. All 130/130 (100%) index hospital admissions had a primary discharge diagnosis of sepsis, out of which only 85/130 (65%) met criteria for sepsis. While coded as sepsis, in 45/130 (35%) cases no infectious etiology was found. Among 130 readmissions 51 (39%) truly met criteria for sepsis. The infectious etiologies of index admissions included urinary tract infections (UTI) (18), pneumonia (16), bacteremia (16), abscess (9), Clostridium difficile infection (CDI) (8), cellulitis (5), neutropenic fever (5), cholecystitis (4), meningoencephalitis (1), candidemia (1). Readmissions that met criteria for sepsis included pneumonia (10), UTI (8), abscess (7), CDI (5), bacteremia (5), osteomyelitis (4), cellulitis (4), neutropenic fever (3), candidemia (2), and cholecystitis (2).

Conclusion. Shockingly 35% of the index admission cases were misdiagnosed as sepsis and as high as 61% on re-admissions. Increasing clinical awareness and compliance with CMS may have led to overdiagnosis and treatment of sepsis. Given the significant treatment and prevention initiatives that are being undertaken; reliable sepsis definition and coding is warranted for accurate surveillance purposes.

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762. 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 returned in 44/45 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 KTs). Among positive tests, 56% (14/25 - 10 bacterial and 4 fungal infections) were confirmed by culture, antigen, or PCR. Mean time to diagnosis for culture, PCR, antigen, and KT was 16.4, 3, 5.5, 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 4 clinical scenarios where the KT provided value: patients with suspected invasive fungal infections, culture-negative endovascular infections/endocarditis, possible discitis or paravertebral infection, and pulmonary disease in AIDS. Future efforts will include outreach for prevention of invasive diagnostic procedures when a KT is pending or positive.

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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 antibiotics1. 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 2–3. 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

	Patients > 80 years of age (n = 562)	Patients < 80 years of age (n=4,618)
Discharged to SNF or Rehab unit	62.1%	36.3%
Discharged to home	37.9%	63.7%
Male	57.7%	56.7%
Female	42.3%	43.3%
Comorbidities		
Diabetes	46.4%	34.7%
CKD	47.5%	35.8%
CAD	49.1%	23.5%
CHF	37.5%	18.6%
Charlson Comorbidity Index </= 1	33%	37.6%