year of their HIV diagnosis positively correlated with early diagnosis (CD4 >200 copies) \((P = 0.007)\). System driven screenings for HIV also positively correlated with early diagnosis (CD4 >200 copies) \((P < 0.001)\).

**Conclusion.** Waiting for clinical suspicion is not enough. To prevent patients from developing life-threatening AIDS-defining illnesses screening must be done at each interaction with the healthcare system for high-risk patients and annually for patients without risk factors.

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Background. The misuse of HIV diagnostic tests can delay HIV diagnosis, contribute to HIV transmission, incur unnecessary costs, and pose legal risks. Prompted by case reports of misused HIV diagnostic tests, we developed a method to systematically evaluate HIV diagnostic testing that utilized an observational medical database, evaluated performance at different levels (e.g., system, facility, clinician), adjudicated clinical practice patterns as adherent or nonadherent to guidelines, quantified the impact of clinical practice deviations, and identified targets for intervention.

**Methods.** We used graph theory to assess patterns of HIV testing in a national healthcare system. We obtained all HIV screening tests, viral loads, and resistance tests performed January 1, 2015, to January 31, 2019, excluding HIV-positive and deceased individuals (Figure 1). We modeled the CDC’s HIV diagnostic testing guidelines as a directed graph (Figure 2A). Each node in the graph represented a test, and the edges pointed from one test to the next in chronological order. We then graphed each patient’s HIV testing. This set of patient-level graphs was aggregated into a single graph. Finally, we compared the two graphs, the first representing the CDC’s recommended approach to HIV diagnostic testing and the second representing the observed patterns of HIV testing, to assess for clinical practice deviations.

**Results.** The HIV diagnostic testing of 1.643 million patients from 130 facilities provided 8.790 million HIV diagnostic test results for analysis (Figure 1). Significant deviations from recommended practice were found including the use of HIV resistance tests \((n = 3,007)\) and HIV nucleic acid tests \((n = 16,567)\) instead of the recommended HIV screen (Figure 2B). The estimated costs of nonadherent testing totaled $2.427 million in 2018 dollars.

**Conclusion.** We developed a method that modeled a complex medical scenario as a directed graph. When applied to HIV diagnostic testing, we identified deviations in clinical practice from guideline recommendations. The model enabled the identification of intervention targets and prompted systemwide policy changes to reduce nonadherent orders and enhance HIV detection (Figure 3). This approach could be applied to diverse medical scenarios.
December 31, 2018, with at least 1 HIV RNA reading during the study period. We collected sociodemographic information, ART regimen, adherence (PDC—percentage of days covered), and clinical characteristics. Patients were stratified by pharmacy type: local (traditional pharmacy without adherence services), local specialty (traditional pharmacy with adherence services and same-day, couriered delivery), and mail order (mail order pharmacy with or without adherence services). Pearson Chi-squared tests and binary logistic regression were used to examine the effect of pharmacy type on VS (HIV viral load ≤ 50 copies/mL).

Results. A total of 1,014 patients met study criteria: 164 (16%) utilized a local, 720 (71%) a local specialty, and 130 (13%) a mail order. VS rates were similar across pharmacy types: local (91%), semi-specialty local (88%), and mail order (96%). After adjusting for sociodemographic characteristics, ART regimen, ART adherence and other clinical characteristics, there was no association between pharmacy type and VS when comparing local and mail to local specialty pharmacy types (local—aOR: 0.98, 95% CI, 0.46–2.12; mail—aOR: 1.65, 95% CI, 0.46–6.0). Factors found to be negatively associated with VS were single marital status (aOR: 0.49; 95% CI, 0.24–0.95), current or historical opportunistic infection (aOR: 0.51; 95% CI, 0.26–0.99), and usage of a multidisc or dual ART regimen (aOR: 0.46; 95% CI, 0.16–0.98).

Conclusion. Despite additional services offered by some pharmacies, no differences were observed in HIV VS between pharmacy types.

Disclosures. All authors: No reported disclosures.

1304. Pharmacist Impact on HIV Management in a Psychiatric Patient Population
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Friday, October 4, 2019: 12:15 PM

Background. Patients with mental illnesses are more than four times more likely to have human immunodeficiency virus (HIV) compared with the general population. HIV management can be especially challenging in these patients due to potential substance abuse, drug interactions, and nonadherence. The purpose of this study was to determine the impact of pharmacist management of antiretroviral (ARV) therapy in a psychiatric patient population.

Methods. This is an institutional review board-approved, single-center, retrospective study of patients admitted to a psychiatric hospital for an order for one or more ARV medication(s) between October 2016 and March 2017 (no pharmacist involvement), October 2017 and March 2018 (partial pharmacist involvement), and November 2018 and January 2019 (consistent pharmacist involvement). Patients were excluded if less than 18 years of age, pregnant, incarcerated, or taking ARV medication(s) for a non-HIV indication. The primary outcome was difference in appropriateness of ARV therapy prior to and during pharmacist involvement. Secondary outcomes were appropriateness of opportunistic infection (OI) prophylaxis and laboratory testing.

Results. A total of 37 patients were included per group. A greater number of appropriate ARV regimens were initiated with partial pharmacist involvement compared with no pharmacist involvement (62% vs. 32%, P = 0.0096), as well as with consistent pharmacist involvement compared with partial pharmacist involvement (84% vs. 62%, P = 0.0327). There was a trend toward increased HIV viral load draws with partial vs. no pharmacist involvement (54% vs. 43%, P = 0.24) and additionally with consistent vs. partial pharmacist involvement (62% vs. 54%, P = 0.32). With consistent pharmacist involvement, more patients had a resulted CD4 cell count (65%) than with both partial and no pharmacist involvement (57%). Of the patients requiring OI prophylaxis, appropriate prophylaxis was initiated in more patients with consistent pharmacist involvement (57%) than with partial pharmacist involvement (50%) or no pharmacist involvement (11%).

Conclusion. Pharmacist involvement in HIV management in a psychiatric patient population increased appropriateness of ARV therapy, laboratory testing, and OI prophylaxis.

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1305. Use of a Clinical Pharmacist to Reduce Inpatient ART (Antiretroviral Therapy) Errors
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Background. Continuous antiretroviral therapy (ART) that results in viral suppression is the goal of therapy for people living with HIV (PLWH). This results in improved clinical outcomes and prevents transmission to partners. University Medical Center is an urban charity hospital that provides the majority of inpatient care to PLWH in the city of New Orleans. HIV care providers noticed many ART errors during transitions of care, particularly in inpatient admissions. Impartial regimens and interactions can occur when non-HIV providers manage patients in the hospital leading to resistance and viral failure.

Results. Out of 1,312 patients presenting with a confirmed CNS infection, 664 (50.6%) had an HIV test done. A total of 81 patients (12.2%) were newly diagnosed with HIV during admission. Patients who underwent HIV testing were more likely to present with more seizures on presentation (P < 0.0001) and more seizures on presentation (P < 0.05). HIV testing also varied by type of CNS infection: community-acquired meningitis (98/142, 69.0%); encephalitis (180/261, 69.0%); and healthcare-associated meningitis (86/289, 29.7%). In only 35 out of 547 patients (6.4%) presenting with acute aseptic meningitis aseptic meningitis (300/643, 46.6%), and healthcare-associated meningitis (86/289, 29.7%). In only 35 out of 547 patients (6.4%) presenting with acute aseptic meningitis aseptic meningitis (300/643, 46.6%), and healthcare-associated meningitis (86/289, 29.7%). In only 35 out of 547 patients (6.4%) presenting with acute aseptic meningitis (300/643, 46.6%), and healthcare-associated meningitis (86/289, 29.7%). In only 35 out of 547 patients (6.4%) presenting with acute aseptic meningitis (300/643, 46.6%), and healthcare-associated meningitis (86/289, 29.7%).