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586. The Aging Epidemic: Virologic Control, Immunologic Recovery, Treatment Regimens, and Clinical Outcomes Among Older Adults Living with HIV in Washington, DC
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Background. As the number of older people living with HIV (PLWH) in the US rises, there is a need to identify factors that lead to poorer clinical outcomes. This study aimed to identify age-based disparities in virologic, immunologic, and clinical disease control.

Methods. We analyzed data from the DC cohort, a longitudinal observational cohort of patients receiving HIV care at 15 clinics in 2011–2016 in Washington, DC. We compared 608 patients aged ≥60 years with 832 patients aged 18–59 years. t-Test and Wilcoxon rank-sum test were conducted for continuous variables, and chi-square or Fisher’s exact tests for categorical variables.

Results. Older patients reported less MSM-related (25% vs. 60%, P < 0.0001) and more IDU-related (18% vs. 4.5%, P < 0.0001) HIV acquisition than younger patients. The proportion of older patients with CD4 >500 cells/μL was higher at enrollment (56% vs. 53%, P = 0.0067), but lower at CD4 nadir (18% vs. 21%, P < 0.0001) and at most recent recording (60% vs. 69%, P = 0.0003). Younger patients were more likely to have HIV VL >200 copies/mL at enrollment (35% vs. 11%, P < 0.0001), recently (18% vs. 6%, P < 0.0001), and peak VL >100,000 copies/mL during the study period (15% vs. 4%, P < 0.0001). Viral re-emergence after initial suppression was less common in older PLWH overall (27% vs. 39%, P < 0.0001), but more common in older patients infected ≥20 years (29% vs. 22%, P = 0.0607). There was a shift toward novel ART regimens (TAF and INSTI) during the study period, with more older patients on an INSTI by its end (45% vs. 50%, P = 0.0007). Among older patients, 23% had chronic kidney disease (CKD), and 24% had a serum creatinine rise of ≥1.50 mg/dL during the study period. Of patients with CKD, 16% remained on TDF. The incidence of malignancies during the study period was 3.5% among younger and 14.3% among older patients. These were mainly (92.2%) non-AIDS-defining cancers.

Conclusion. Older PLWH in DC have a high burden of complications related to renal dysfunction, lower CD4 counts, and non-AIDS-defining malignancies; those with longer duration of infection also had more viral re-emergence. Opportunities to improve care include closer monitoring for resistant virus and new cancers, and consideration of ART regimens with high efficacy and better renal safety profiles.

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587. HIV Care Outcomes Among PWID in San Francisco, 2009–2015
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Background. Around 16% of HIV infections in the United States are among persons who inject drugs (PWID). PWID have a higher mortality than other persons living with HIV due to delayed diagnosis, lower use of antiretroviral therapy (ART), and other factors. Understanding the specific barriers to virologic suppression, however, is challenging as PWID are less likely to engage in care. Here we present trends in HIV care indicators for PWID in San Francisco from 2009 to 2015, using a novel system of care indicators for PWID.

Methods. We analyzed data from the CDC-led National HIV Behavioral Surveillance behavioral health surveys. These data will inform international and local initiatives for care indicators for PWID in San Francisco from 2009 to 2015, using a novel system of care indicators for PWID.

Results. HIV prevalence among PWID was 11.4% in 2009, 12.0% in 2012, and 16.8% in 2015. The percentage of PWID living with HIV who knew their HIV+ status, (i) were on ART, and (iv) for 2015 only, were virally suppressed (33% vs. 36% vs. 39% and 16% vs. 22% vs. 25% vs. 42% vs. 46%, P < 0.0001). Viral re-emergence after initial suppression was less common in older patients (32% vs. 50%, P < 0.0001), but more common in older patients infected ≥20 years (38% vs. 22%, P = 0.0607). There was a shift toward novel ART regimens (TAF and INSTI) during the study period, with more older patients on an INSTI by its end (41% vs. 49%, P = 0.0007). Among older patients, 23% had chronic kidney disease (CKD), and 24% had a serum creatinine rise of ≥1.50 mg/dL during the study period. Of patients with CKD, 36% remained on TDF. The incidence of malignancies during the study period was 3.5% among younger and 14.3% among older patients. These were mainly (92.2%) non-AIDS-defining cancers.

Conclusion. Old PLWH in DC have a high burden of complications related to renal dysfunction, lower CD4 counts, and non-AIDS-defining malignancies; those with longer duration of infection also had more viral re-emergence. Opportunities to improve care include closer monitoring for resistant virus and new cancers, and consideration of ART regimens with high efficacy and better renal safety profiles.

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588. Retrospective Analysis of Clinical Characteristics and Treatment Patterns Among HIV Patients with Commercial and Medicare Advantage Health Insurance in the United States
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Background. With modern antiretroviral (ARV) regimens, HIV infection has evolved into a manageable chronic condition. The ultimate goal of treatment is to maximize the virologic suppression of HIV virus while minimizing intolerability,
Methods. A retrospective cohort study of adults (≥18 years) with ≥1 ARV pharmacy claim from January 1, 2012 to March 31, 2017 and ≥1 HIV-1 diagnosis code in the Cerner Research Database. A claims-based algorithm was used to identify lines of therapy (LOT), including the most recent LOT (LOT0) and previous LOTs dating back to January 1, 2007. Subjects were continuously enrolled 12 months prior to the start of LOT0 (baseline) and comorbidities assessed. Treatment-naive subjects were defined as having <1 LOT and baseline viral load (VL) ≥100,000 copies/mL. Subjects with ≥1 LOT were defined as treatment-experienced. Study variables were summarized descriptively and results were stratified by treatment status, insurance type, and age groups. Results. There were 18,699 eligible subjects, of whom 27% were treatment naive. Average age was 47 years (±12), 84% were male, 51% Caucasian, and 82% had commercial insurance. Common baseline comorbidities among subjects were hyperlipidemia (41%), cardiovascular disease (41%), hypertension (34%), and depression (17%). Most comorbidities increased with age except for depression and anxiety, which were mostly constant across age groups. Among all subjects, the average cumulative proportion of days covered with an ARV was 85%. Average total pills per day, ARV and non-ARV, increased with age corresponding with Medicare subjects having 9.2 and commercial subjects having 3.7 pills per day.

Conclusion. The results of the study supported that improved medication response in patients suffering from HIV, management of comorbidities and overall medication burden has become increasingly complex. HIV treatment guidelines suggest streamlined ARV regimens may be considered as patient complexity evolves over time to decrease disease burden through avoidance of drug-drug interactions and total pill burden.

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591. Impact of an Antimicrobial Stewardship (ASP) Initiative Evaluating Antiretroviral Regimens for HIV-Positive Patients

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Background. Accurate medication reconciliation upon hospital admission is crucial for patients with human immunodeficiency virus (HIV) to ensure continuation of appropriate antiretroviral therapy (ART). An ART policy was implemented at our institution which restricted ART ordering to infectious diseases physicians to increase appropriate ART prescribing following admission. The purpose of this study was to evaluate the effectiveness of the HIV medication restriction policy on the appropriateness of ART re-ordering upon admission.

Methods. This was a single-center, retrospective chart review conducted from July 1, 2016 to post intervention. The post intervention group included adult patients with HIV who received one or more doses of ART prior to implementation of the HIV medication restriction policy. The post-intervention group included adult patients with HIV who received one or more doses of ART after implementation of the exclusion criteria. Exclusion criteria included patients who were treated for hepatitis B infection or prophylaxis, HIV post-exposure prophylaxis, or patients receiving a first dose of ART for occupational exposure. Home ART medication regimen and inpatient ART medication regimen were evaluated. The primary endpoint was to compare the rate of appropriate medication initiation, while subjects were completed before and after implementation of the HIV medication restriction policy. The secondary endpoint was to compare the time to restart of ART following admission.

Results. A total of 115 patients were included in this study. Appropriate medication reconciliation increased from 76% to 100% after implementation of the policy (P = 0.014). However, the mean time to re-initiation of ART increased from 7.9 hours to 14.5 hours after implementation of the policy (P = 0.01). ART regimens were restarted within 24 hours of admission in 96.7% of the pre-HIV policy group vs. 84% in the post-HIV policy group (P = 0.02).

Conclusion. The mean time to re-initiation of ART increased after implementation of the HIV policy. However, restriction of ART ordering to infectious diseases physicians significantly increased the rate of appropriate medication reconciliation for patients with HIV. In light of these results, a procedure will be established to ensure the timely re-initiation of ART.

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592. Determining the Impact of an Antiretroviral Stewardship Team on the Care of HIV-Infected Patients Admitted to an Academic Research Institution

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Background. The American Society of Health-System Pharmacists and The American Academy of HIV Medicine have established guidelines on the pharmacist’s role in the hospital setting. Antimicrobial stewardship programs (ASPs) have been shown to improve institutional outcomes including antibiotic resistance and hospital-acquired infections. Antiretroviral Stewardship Programs (ASPs) have recently been established in an effort to improve antiretroviral therapy (ART) adherence and patient outcomes. Despite the simplicity of current ART regimens, medication errors still frequently occur. This study evaluated the impact of an antimicrobial stewardship (ASP) team in identifying and reducing ART medication errors.

Methods. A retrospective chart study was conducted to evaluate ART medication errors pre- and post-implementation of an ASP initiative in HIV-positive patients admitted between July 16, 2017 and December 2017. The ASP team consisted of a PGY2 infectious diseases (ID) pharmacy resident and an ID clinical specialist. The ASP intervention focused on identifying and reducing medication errors. The objectives of this study were to: (1) assess for improved ART adherence and (2) assess for improved ART adherence and (3) assess for decreased ART errors.

Results. A total of 243 errors were identified in 175 patients; 119 errors (n = 78) in the pre-intervention group and 203 patients (159/243; 66%), and completeness of regimen (42/243; 17%). Drug–drug interactions involving integrase inhibitors and cetoners were the most frequently occurring medication errors in both cohorts. There was a statistically significant increase in errors detected, and subsequently corrected in the pre-intervention group compared with the post-intervention group (12/119 vs. 85/124, P < 0.001). Of the 39 errors that were missed by the ASP team, six were not detected, 12 occurred post-review, and were not accepted by the primary team.

Conclusion. Pharmacists play a vital role in mitigating errors in HIV-infected patients upon hospital admission. However, continuous review throughout the hospital course and at discharge, as well as education of all practitioners, is critical to preventing propagation of errors.

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