HIV care providers. These results have implications to engage more PLWH into care, particularly in states that have increased access to primary care through healthcare expansions.
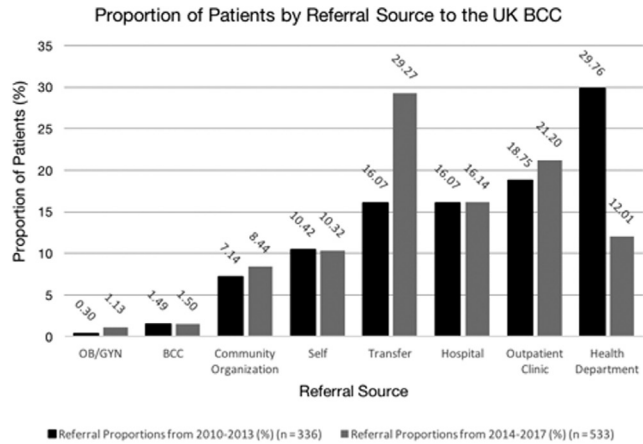

Proportion of Patients by Referral Source to the UK BCC

Figure 1. Proportion of Patients by Referral Source for the Years 2010–2013 and 2014–2017.

Disclosures. All authors: No reported disclosures.

596. Case Study of Motivational Interviewing Intervention in Patients Non-Adherent to Antiretroviral Therapy

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Background. Motivational interviewing (MI) may have a positive impact on antiretroviral therapy (ART) adherence. However, few studies focus on non-adherent patients at high risk of viral transmission, as identified by unsuppressed viral load.

Methods. Patients on ART with detectable viral load (VL) were identified from a major academic HIV clinic and referred to the study by physicians. Inclusion criteria were patients with over two clinic visits in the year prior, with most recent VL over 200 copies/mL. An MI trained social worker recruited participants, obtained written consent and provided a small financial incentive, and conducted MI sessions. After initial session, patients chose whether to continue further follow-up sessions. Patient VLs were compared between those measured before and after the intervention. Statistical analysis was limited by small sample size.

Results. Of 700 active patients in May 2014, 62 patients met enrollment criteria by chart review. Of those, 29 were referred by physicians for enrollment. Nine declined participation and four were lost to follow-up before the first session. Three participants were excluded in this analysis due to missing VL measurements. Average sessions per participant were 3 (range 1–8). Average VLs measured after intervention were 8 (range 1–19), spanning an average of 25 months (range 2–36).

Of the 13 patients enrolled, 10 achieved VL suppression after the intervention. Six of these patients had a reemergence of VL >200 copies/mL, but five were able to lower their VL again below 200 copies/mL. Thus by the end of study dates, 9/13 (69%) had a viral load <200 copies/mL. Of the eight who had not had a recorded VL <200 copies/mL in the year prior to study dates, six achieved suppression at some point after the intervention. At the end of the study dates, of 13 initial participants, eight remain engaged with the social worker, two had discontinued sessions after agreeing their goals had been accomplished, and three were lost to follow-up. There was an average 52% decrease in the log 10 VL of patients after intervention as compared with before.

Conclusion. Although small and descriptive, this study shows potential impact of MI on a population of non-adherent patients at high risk of viral transmission.

Disclosures. All authors: No reported disclosures.

597. Pharmacist-Led Interventions for Inpatient HIV-Related Medication Errors

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Background. Inpatient HIV-related medication errors occur in up to 86% of patients. The purpose of this study was to evaluate the number of antiretroviral therapy (ART)- and opportunistic infection (OI)-related medication errors following the implementation of pharmacist-directed interventions.

Methods. This quasi-experiment assessed adult patients with HIV who received ART, OI prophylaxis, or both from December 1, 2014 *to* February 28, 2017 (pre-intervention) or December 1, 2017 *to* February 28, 2018 (post-intervention). Pre-intervention patients were assessed retrospectively, verbal and written education were provided, then prospective audit and feedback was conducted for post-intervention patients. The primary outcome was rate of ART-related medication errors in the pre- vs. post-intervention groups. Secondary outcomes included time to resolution of ART- and OI-related medication errors, OI-related medication errors, types of errors, rate of acceptance of recommendations, in-hospital mortality, length of stay, and 30-day readmission.

Results. Sixty-seven patients were included in each group (pre- and post-intervention). ART errors occurred in 44.8% and 32.8% ($P = 0.156$), respectively. OI prophylaxis errors occurred in 11.9% vs. 9% ($P = 0.572$), respectively. No difference was found in types of errors between groups, except medication omission decreased significantly in the post-intervention group (31.3% vs. 11.9%; $P = 0.006$). The number of pharmacist-based interventions increased in the post-intervention group (6.3% vs. 52.9%; $P = 0.001$). No statistical difference was found in average time to error resolution (72 vs. 48 hours; $P = 0.123$), but errors resolved during admission significantly increased (50% vs. 86.8%; $P < 0.001$). No difference was found in rate of intervention acceptance, which was high in both groups.

Conclusion. In this quasi-experiment, ART and OI prophylaxis medication errors were numerically reduced in the pharmacist-led intervention period, and medication errors were resolved a day faster in the post-intervention period. Future interventions targeting prescribing errors upon admission include follow-up education and evaluation of medication reconciliation practices in HIV-infected patients.

Disclosures. All authors: No reported disclosures.

### 598. Choosing Wisely with CD4 Counts: When Less Is More

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Background. The HIVMA and Choosing Wisely campaign recommend using a simple lymphocyte panel for monitoring CD4 counts of patients with HIV. This panel shows CD4 absolute and percentage counts only. Complex lymphocyte panels, which are more comprehensive and expensive, often do not offer more clinically valuable information. Increasing the rate of simple panel utilization can significantly save costs for the healthcare system without compromising care.

Methods. A before-and-after study was conducted in two community-based teaching hospitals with total capacity of 418 inpatient beds, and an outpatient HIV/AIDS center. All panels ordered from March 2016 to March 2018 were included in the study. Intervention started in November 2017. Simple panel was shown as the default test when CD4 test was ordered in the electronic health record while complex panels were eventually phased out. Panels ordered before and after the intervention were counted, and proportions compared. Costs were computed based on 2017 Medicare reimbursement rates.

Results. A total of 1,701 panels were done in the study period. 1,401 were ordered pre-intervention (20 months) while 300 were post-intervention (5 months). Complex panels represented 99% ($n = 1,398$) of tests ordered pre-intervention. The average cost of each test was $167.67. The healthcare system lost ~$183,051 due to added expense of complex panels during this period. In the post-intervention period, proportion of complex panels fell by 85% (95% CI 80.57–88.5, $P < 0.0001$). Average cost per test post-intervention lowered to $55.54. The mean difference was $112.13 and was statistically significant (95% CI 107.78–116.47; $P < 0.0001$). The percentage of simple panels consistently increased month-per-month post-intervention. In the last month of the study period, 100% of orders were simple panels (Figure 1).

Figure 1: Proportion of Lymphocyte Panels Ordered Before and After Intervention
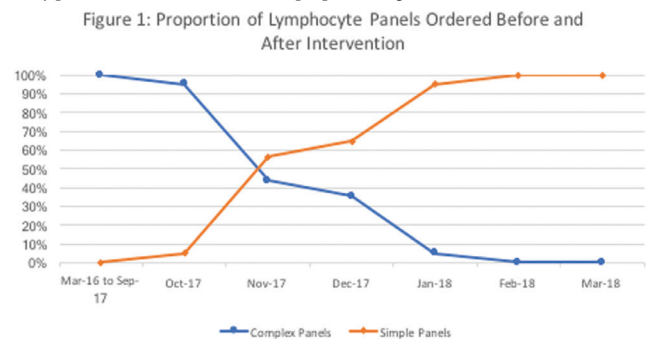
Conclusion. Use of complex panels for monitoring CD4 count caused unnecessary expenses and resulted in significant losses for the healthcare system. An efficient and effective intervention to increase the use of simple panels was to implement an opt-out policy. Simple panels were set as the default test unless the provider specified otherwise. The intervention is projected to save ~$98,761 in 2018.

Disclosures. All authors: No reported disclosures.

599. Expanding HIV Training in Internal Medicine Residency Program: A Prospect to Meet the HIV Workforce Demand

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Background. Advances in HIV treatment changed the landscape of the epidemic from a fatal to a chronic disease. The number of patients living with HIV is expected to increase as they are living longer. Compared with the general population, older HIV-infected patients suffer additional comorbidities and often take several medications, leading to polypharmacy and drug interactions. Besides that the HIV population is aging, more patients know their status or want to access pre-exposure prophylaxis for prevention. Furthermore, the HIV workforce is aging and retiring without a new generation of providers to replace them. There is a fundamental concern about the readiness of future physicians to care for the HIV population. In response to this anticipated workforce shortage, an HIV Training Track was established at Yale Primary Care Residency Program in 2012.

Methods. Two to three residents were recruited into the HIV training track each year. Residents have their continuity practice in the institution's HIV Clinic and rotate on the inpatient HIV Firm each year. Otherwise, residents participate in all of the core rotation and curricular activities of the Primary Care Residency. The authors will (i) display the process of building the infrastructure of the HIV training program, (ii) describe the curriculum, and (iii) share the 5 years experiences and outcomes.

Results. The program enrolled a cohort of 11 residents between 2012 and 2017. Residents managed a panel of 30–40 HIV-patients with diverse demographics. A medical record review revealed high performance measures in HIV and non-HIV conditions. 100% of eligible patients were on ART, 92% of patients were retained in care and 92% of those on ART had HIV viral suppression. In addition, all residents completed an HIV knowledge assessment test and showed 26% increase in their score at 1 year. There was 100% retention of residents and faculty. Residents and patients demonstrated high satisfaction with the program.

Conclusion. A novel HIV training track is feasible and can be successfully implemented. Expanding HIV-specific curricula within primary care residency program can build workforce of providers to meaningfully care for the aging HIV population.

Disclosures. All authors: No reported disclosures.

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600. To Study the Status of HIV Disclosure in Children and Adolescents

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Background. Disclosure to HIV-infected children regarding their diagnosis is important as expanding numbers of HIV-infected children attain adolescence and may become sexually active. HIV disclosure is an important step toward long-term disease management and necessary for the transition from pediatric care into adolescent and adult care settings.

Methods. This was a cross-sectional study carried out in 144 caregivers of Children and adolescents aged between 6 and 16 years of age attending the pediatric ART clinic. The subjects were enrolled consecutively and were interviewed using a structured questionnaire after taking written informed consent. The questionnaire included information on the demographic details, the disclosure status of HIV infection in children and perceptions about disclosure of status to the child.

Results. The mean age of children was 11.40 ± 2.86 years. Although 93.8% of caregivers believed children should know their HIV status, the prevalence of disclosure to the child was only 33.3%. Disclosure had been done primarily by caregivers (72.9%). Caregivers reported that (22.9%) children self-disclosed. Majority of caregivers felt 10–12 years as the appropriate age for disclosing the HIV infection status. Most of children 89.6% acquired HIV through vertical transmission. Majority of care givers 83.3% believed that care givers are most suitable person for disclosure. Furthermore, in our study 66.7% children were unaware of this HIV status and most common reason (92.7%) for their nondisclosure was child does not understand about illness and others to be 82.3% did not disclose as child may tell secret to others and 66.7% child is too young to understand the disease. There was increase in drug compliance 47.9% and improvement in behavior 12.5% noticed in children.

Conclusion. In our study prevalence of HIV disclosure was 33.3% there was increase in drug compliance, improvement in behavior, school performance and attendance. Most common reason for their nondisclosure was child does not understand illness and child may tell secret to others.

Disclosures. All authors: No reported disclosures.

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601. Prescription Drug Misuse in an HIV-Infected US Military Cohort

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Backgrounds. Prescription drug misuse (PDM) has markedly increased over the last decade and is a significant contributor to the national opioid epidemic. HIV+ individuals are particularly vulnerable to PDM as they experience high levels of chronic pain, anxiety and depression. We examined the prevalence of PDM and associated risk factors among HIV-infected subjects in our cohort.

Methods. The US Military HIV Natural History Study (NHS) is comprised of HIV+ active duty, retired military personnel and dependents. Since 2014, participants have completed a computerized behavioral survey regarding patterns of drug use and sexual behavior. We specifically queried topics including use of narcotics, benzodiazepines or stimulants without a prescription or use of medications not as prescribed. Logistic regression was used to compare those reporting and not reporting a lifetime history of PDM. Analyses used anonymous data.

Results. Among 1,558 respondents, 292 (18.7%) reported a history of PDM. The median age of individuals reporting history of PDM was 45 years (interquartile range [IQR] 31–53) compared with individuals without PDM (41 years; IQR 29–35; $P = 0.049$); the groups did not differ by race, CD4 count or viral load. The prevalence of lifetime PDM was highest among dependent individuals (31.8%), compared with retired (20.6%) or active-duty personnel (15.9%; $P = 0.003$ for comparison). After adjusting for age and duty status, military officers were significantly less likely to report PDM than enlisted personnel (OR 0.51; IQR 0.31–0.85). Those with a history of PDM were more likely to consume ≥3 alcoholic drinks/day (OR 1.9; IQR 1.4–2.5). In a sub-analysis of active-duty personnel only (median age 30 years), individuals reporting a history of PDM had fewer years since HIV diagnosis (median 2.9 years vs. 3.9 years, $P = 0.019$).

Conclusion. We found prevalent PDM among HIV-infected military personnel and beneficiaries, and PDM was associated with at-risk drinking. This is the first estimate of PDM among HIV+ active-duty personnel, and longitudinal studies in similar cohorts will be useful in further characterizing the epidemiology of PDM. The higher prevalence among recently diagnosed active-duty personnel may suggest an increasing scope of PDM in this group, and interventions to decrease PDM are urgently needed.

Disclosures. All authors: No reported disclosures.

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602. Factors Associated With Erectile Dysfunction Diagnosis in HIV-Infected Individuals: A Case–Control Study

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Background. HIV-infected men have increased incidence of erectile dysfunction (ED) compared with men without HIV infection. Risk factors for ED among HIV-positive individuals have not been widely described.

Methods. A retrospective cohort study was completed evaluating participants in the US Military HIV Natural History Study, a cohort of HIV-infected active duty members and beneficiaries. Men with a diagnosis of ED after HIV diagnosis were included ($n = 488$). Cohort controls ($n = 976$) without ED diagnosis were matched 2:1 by age at HIV diagnosis. Multivariate logistic regression model was used to identify risk factors for ED.

Results. At HIV diagnosis, the median CD4 count was similar for cases (523 cells/µL, IQR 396–675) and controls (508 cells/µL, IQR 366–673; $P = 0.310$) and the overall median age was 32 years. At ED diagnosis, cases had a median age of 43 years (IQR 37.0–49.0) and 445 (92.3%) were on antiretroviral therapy (ART). The median time from HIV diagnosis to ART start was longer for cases (5.0 years, IQR 2.0–9.0) compared with controls (3.0 years, IQR 1.0–6.0; $P < 0.001$). Cases had a higher proportion of the following diagnoses compared with controls ($P < 0.001$ for all): depression (33.4% vs. 21.7%), hypertension (37.9% vs. 20.4%), hyperlipidemia (54.3% vs. 32.4%), tobacco use (31.1% vs. 23.1%), sleep apnea (14.8% vs. 4.2%) and diabetes/cardiovascular disease (CVD)(10.5% vs. 4.7%). Multivariate logistic regression model is reported below (table).

Logistic Regression Model to Predict ED

Characteristic	Odds Ratio	95% CI	P-value
Sleep apnea	2.62	1.69–4.05	<0.001
Time from HIV diagnosis to ART start > mean	2.07	1.58–2.71	<0.001
African-American race	1.76	0.90–3.42	0.096
Diabetes/cardiovascular disease	1.61	1.01–2.58	0.048
Tobacco use	1.42	0.99–2.04	0.057
Hypertension	1.36	1.02–1.82	0.034
Hyperlipidemia	1.26	0.96–1.64	0.092
Depression	1.24	0.94–1.63	0.130
CD4 count <200 cells/µL at HIV diagnosis	0.63	0.32–1.25	0.184
Prior protease inhibitor use	0.43	0.31–0.60	<0.001