Conclusion. Mean PrEP adherence at a safety net PrEP program in Atlanta was high and PrEP discontinuation rates were comparable to other PrEP clinics nationwide. We found no association with individual factors previously linked to lower adherence, including Black race, younger age, and insurance status. Program-related factors that may have impacted these findings need to be investigated. Other future areas of research include strategies to optimize engagement in care in younger patients.

Disclosures. Bradley L. Smith, Pharm.D., AAHIVP, Gilead Sciences, Inc (Advisor or Review Panel member)

Abstracts • OFID 2021:8 (Suppl 1) • S37

Table 2. PrEP Adherence and Discontinuation at the GHS PrEP Program from 2018 to 2020 (N=154)

| Adherence on PrEP (mean, SD) | n (%) |
|------------------------------|-------|
| High adherence               | 119 (77.3) |
| Low adherence                | 35 (22.7) |
| Active in program            | 83 (53.8) |
| Discontinued PrEP            |       |
| Permanently discontinued     | 71 (46.1) |
| Re-engaged in program        | 62 (87.3) |
| Months in program (mean, SD) | 9.8 (6.4) |
| Positive STI                 | 33 (21.4) |
| Seroconversion               | 1 (0.6) |

Table 4. Multivariate analysis of individual factors associated with PrEP discontinuation and low adherence

| PrEP Discontinuation (n=71) | P-value |
|----------------------------|---------|
| Age at referral            | 0.0061  |
| Race                       | 0.1569  |
| Gender                     | 0.3599  |
| Insurance                  | 0.7741  |
| PrEP indication            | 0.9314  |
| Low adherence (n=35)       |         |
| Age at referral            | 0.5072  |
| Race                       | 0.5601  |
| Gender                     | 0.9988  |
| Insurance                  | 0.3999  |
| PrEP indication            | 0.4263  |

Table 2. Age-adjusted YPLL per 1,000 person-years

| Race/ethnicity and sex group | aYPLL per 1,000 yrs (95%CI) |
|------------------------------|-----------------------------|
| Non-Hispanic White males     | 308.6 [308.0-309.2]         |
| Non-Hispanic White females   | 411.5 [405.6-417.4]         |
| Non-Hispanic Black males     | 470.7 [468.5-472.9]         |
| Non-Hispanic Black females   | 592.5 [588.4-596.6]         |

Table 2. Multivariable linear regression for YPLL

| Variable                    | Adjusted β coefficient [95% CI] | P-value |
|-----------------------------|---------------------------------|---------|
| HIV risk factors            |                                 |         |
| MSM (reference)             | 1.0                             |         |
| Heterosexual females        | 5.58 [4.08, 6.59]               | <0.001  |
| Heterosexual males          | 0.49 [0.04, 1.61]               | 0.390   |
| Other/IDU males             | 1.26 [0.34, 2.37]               | 0.260   |
| Other/IDU females           | 1.07 [0.72, 1.63]               | <0.001  |
| Race/ethnicity              |                                 |         |
| NH White race (reference)   | 1.0                             |         |
| NH Black                    | 0.77 [0.90, 1.51]               | 0.042   |
| Other                       | 1.01 [0.40, 2.81]               | 0.274   |
| Age at HIV infection (per year) | 0.66 [0.09, 0.63] | <0.001 |
| CD4 cell count at clinic entry (per cells/μl) | -0.004 [-0.003, 0.001] | 0.572 |
| Log10 HIV RNA at clinic entry | 1.04 [0.07, 1.21] | <0.001 |
| Hepatitis C virus coloinfection | -1.96 [2.83, 1.09] | 0.061 |
| Year of clinic entry (per year) | 0.22 [0.14, 0.30] | <0.001 |

Conclusion. Despite marked improvement over time, sex disparities in mortality as well as sex and race disparities in YPLL remained among PWH in care in this cohort. YPLL is a useful measure for examining persistent gaps in longevity and premature mortality among PWH.

Disclosures. Peter F. Rebeiro, PhD, MHS, Gilead (Other Financial or Material Support, Single Honorarium for an Expert Panel)

53. Sex and Race Disparities in Premature Mortality among People with HIV: A 21-Year Observational Cohort Study

Background. Since the availability of antiretroviral therapy, mortality rates among people with HIV (PWH) have decreased; however, this trend may fail to quantify premature deaths among PWH. We assessed trends and disparities in all-cause and premature mortality by sex, HIV risk factor, and race, among PWH receiving care at the Vanderbilt Comprehensive Care Clinic from January 1998 – December 2018.

Methods. We examined mortality trends across calendar eras using person-time from clinic entry to date of death or December 31, 2018. We compared mortality rates by demographic and clinical factors and calculated adjusted incidence rate ratios (AIRR) and 95% confidence intervals (CI) using multivariable Poisson regression. For individuals who died, years of potential life lost (YPLL) were obtained from the expected years of life remaining by referencing US sex-specific period life tables at age and year of death; age-adjusted YPLL (aYPLL) rates were calculated. We examined patient factors associated with YPLL using multivariable linear regression.

Results. Among the 6,531 individuals (51% non-Hispanic [NH] White race, 40% NH Black race, 21% female) included, 956 (14.6%) died. Mortality rates dramatically decreased during the study period (Figure). After adjusting for calendar era, age, injection drug use, hepatitis C virus (HCV), year of HIV diagnosis, history of AIDS-defining illness, CD4 cell count, and HIV RNA at clinic entry, only female sex (AIRR=1.32, 95% CI: 1.13–1.55 vs. males) but not NH Black race (AIRR=1.02, 95% CI: 0.88–1.17 vs. NH White race) was associated with increased mortality. In contrast, aYPLL per 1,000-person years was significantly higher for both female and NH Black PWH (Table 1). In adjusted models including CD4 cell count, HIV RNA, HCV, and year of clinic entry, higher YPLL remained associated with NH Black race, female sex regardless of HIV risk factor, and younger age at HIV diagnosis (Table 2).

54. Self-Perception of Risk for HIV Acquisition and Calculated Risk for HIV Acquisition Among Active Duty Air Force Members with Newly Diagnosed HIV Infection

Background. Since the availability of antiretroviral therapy, mortality rates among people with HIV (PWH) have decreased; however, this trend may fail to quantify premature deaths among PWH. We assessed trends and disparities in all-cause and premature mortality by sex, HIV risk factor, and race, among PWH receiving care at the Vanderbilt Comprehensive Care Clinic from January 1998 – December 2018. We compared mortality rates by demographic and clinical factors and calculated adjusted incidence rate ratios (AIRR) and 95% confidence intervals (CI) using multivariable Poisson regression. For individuals who died, years of potential life lost (YPLL) were obtained from the expected years of life remaining by referencing US sex-specific period life tables at age and year of death; age-adjusted YPLL (aYPLL) rates were calculated. We examined patient factors associated with YPLL using multivariable linear regression.

Results. Among the 6,531 individuals (51% non-Hispanic [NH] White race, 40% NH Black race, 21% female) included, 956 (14.6%) died. Mortality rates dramatically decreased during the study period (Figure). After adjusting for calendar era, age, injection drug use, hepatitis C virus (HCV), year of HIV diagnosis, history of AIDS-defining illness, CD4 cell count, and HIV RNA at clinic entry, only female sex (AIRR=1.32, 95% CI: 1.13–1.55 vs. males) but not NH Black race (AIRR=1.02, 95% CI: 0.88–1.17 vs. NH White race) was associated with increased mortality. In contrast, aYPLL per 1,000-person years was significantly higher for both female and NH Black PWH (Table 1). In adjusted models including CD4 cell count, HIV RNA, HCV, and year of clinic entry, higher YPLL remained associated with NH Black race, female sex regardless of HIV risk factor, and younger age at HIV diagnosis (Table 2).

Conclusion. Despite marked improvement over time, sex disparities in mortality as well as sex and race disparities in YPLL remained among PWH in care in this cohort. YPLL is a useful measure for examining persistent gaps in longevity and premature mortality among PWH.

Disclosures. Peter F. Rebeiro, PhD, MHS, Gilead (Other Financial or Material Support, Single Honorarium for an Expert Panel)
patients (29%) were married or partnered compared to High SPR patients (14%; p=0.04). There was no difference in self-reported condom use (≥50% of the time) between Low (63%) and High (72%) SPR groups (p=0.28). Documented history of sexually transmitted infections was similarly high in both groups (≥70%; p=0.85). Previous HIV pre-exposure prophylaxis (PrEP) use was uncommon in both groups (≥70% of the time) between Low (63%) and High (72%) SPR patients (p=0.28) and documented history of sexually transmitted infections was similarly high in both groups (≥70%; p=0.85). There was no difference in self-reported condom use (≥50% of the time) between Low (63%) and High (72%) SPR patients (p=0.28) and documented history of sexually transmitted infections was similarly high in both groups (≥70%; p=0.85).

Conclusion. USAF members with incident HIV infection more commonly identified with low SPR despite similar risk behaviors and CRs as high SPR patients. The development of patient education programs and promotion of HIV prevention services including PrEP are needed to reduce incident HIV cases in the USAF. Validated HIV risk calculators like the DHRS may also assist medical providers in identifying candidates for HIV prevention services.

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55. Infective Endocarditis After Surgical or Transcatheter Aortic Valve Replacement

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Session: O-12. Endocarditis

Background. Infective endocarditis (IE) can complicate both surgical aortic valve replacement (SAVR) and transcatheter aortic valve implantation (TAVI) with significant morbidity and mortality despite differing pathogenesis. In the presence of limited data from direct comparison studies and recent expansion of TAVI to younger and lower-risk patients, we compared the incidence and timing of IE in TAVI versus SAVR.

Methods. Using data from the TriNetX electronic health records network, we identified (1) a cohort of patients who underwent TAVI between January 2016 and December 2020 (CPT procedure code 1021150) and (2) a propensity-score-matched cohort of patients who underwent SAVR (CPT procedure codes 1035167 or 1029693), without any associated transcatheter procedure. We examined the incidence of IE (captured with ICD-10 codes I33, I38, or I39) over a 5-year follow-up period and matched the cohorts for demographic data and clinically relevant background history. We used Kaplan-Meier estimates and Cox proportional hazards models to compare incidence between matched cohorts.

Results. We identified 6,302 patients with TAVI and 6,302 matched patients with SAVR. The baseline characteristics of the cohorts were well balanced, Table 1. All standardized mean differences were < 0.05, indicating adequate matching between cohorts. The Kaplan-Meier mortality at 5 years was 38.0% in the TAVI vs. 22.0% in the SAVR cohort (log-rank P < 0.001). There were 290 cases with IE in the TAVI and 604 cases in the SAVR cohort. The corresponding 5-year event rates were 10.0% vs. 16.9% (log-rank P < 0.001), respectively, Figure 1. The risk ratio of TAVI vs. SAVR related IE over the entire 5-year period was 0.48 (95%CI 0.42 — 0.55; P < 0.001). However, the relative risk for IE was non-proportional between groups over the 5-year period, with an early pronounced incidence among SAVR relative to TAVI patients and gradual convergence of the hazard rates over time, Figure 2.

Table 1: Baseline Patient Characteristics of Patients of Transcatheter Aortic Valve Implantation (TAVI) vs. Surgical Aortic Valve Replacement (SAVR) After Matching

| Characteristic | TAVI (N=6,302) | SAVR (N=6,302) | SMD |
|---------------|---------------|---------------|-----|
| Demographics  |               |               |     |
| Age (mean ± SD), years | 74.3 ± 9.3 | 74.3 ± 9.6 | 0.0005 |
| Male, N (%) | 4055 (64.3) | 4055 (64.3) | 0.0005 |
| Race/Ethnicity, N (%) |           |               |     |
| White | 5061 (80.0) | 5061 (80.0) | 0.0005 |
| Not Hispanic or Latino | 5061 (80.0) | 5061 (80.0) | 0.0005 |
| Black or African American | 322 (5.0) | 322 (5.0) | 0.0007 |
| Past Medical History, N (%) |          |               |     |
| Hypertension | 4440 (70.5) | 4440 (70.5) | 0.0007 |
| Diabetes melitus | 1363 (30.6) | 1363 (30.6) | 0.0008 |
| Dyslipidemia | 3710 (68.9) | 3710 (68.9) | 0.0015 |
| Obesity | 1482 (23.5) | 1482 (23.5) | 0.0015 |
| Ischemic heart disease | 4243 (67.3) | 4243 (67.4) | 0.0010 |
| Heart failure | 2299 (38.5) | 2299 (38.5) | 0.0017 |
| Congestive cardiomyopathy | 1000 (19.9) | 1000 (19.9) | 0.0009 |
| Atrial fibrillation and flutter | 1800 (29.2) | 1800 (29.2) | 0.0007 |
| Nonischemic mitral valve disease | 1622 (25.7) | 1622 (25.7) | 0.0002 |
| Rheumatic heart disease | 1552 (24.8) | 1552 (24.8) | 0.0059 |
| Acute and chronic kidney disease | 1500 (24.0) | 1500 (24.0) | 0.0085 |
| Chronic lower respiratory disease | 1544 (24.5) | 1544 (24.5) | 0.0074 |
| Intestinal lung disease | 552 (8.8) | 552 (8.8) | 0.0016 |
| Pulmonary hypertension and pulmonary embolism | 1158 (18.1) | 1158 (19.2) | 0.0241 |
| Congestive heart disease | 516 (14.1) | 516 (15.6) | 0.0030 |
| Atherosclerosis and aortic disease | 2326 (36.9) | 2326 (36.8) | 0.0252 |
| Venous thrombosis | 669 (10.9) | 669 (11.0) | 0.0005 |
| Liver disease | 596 (9.0) | 596 (9.0) | 0.0002 |
| Neurology | 1645 (26.1) | 1645 (26.1) | 0.0091 |
| Previous cardiac surgery | 309 (5.9) | 309 (5.9) | 0.0000 |
| Pacemaker | 314 (5.0) | 314 (5.0) | 0.0073 |
| Implantable cardioverter defibrillator | 118 (1.9) | 118 (1.9) | 0.0005 |
| Previous history of endocarditis | 114 (1.8) | 114 (1.8) | 0.0018 |

Table 2: Denver HIV Risk Scores of Active Duty Air Force Members with Incident HIV Infection

| HIV Risk Score | Low Self Perceived Risk | High Self Perceived Risk | P value |
|---------------|------------------------|--------------------------|---------|
| Age <50 | 0 | 12 (14) | B (12) |
| Age ≥50 | 4 | 24 (27) | B (27) |
| CD4 <350 | 10 | 31 (36) | B (36) |
| CD4 ≥350 | 15 | 12 (15) | B (15) |
| Gender | | | |
| Male | 21 | 76 (97) | 69 (89) |
| Female | 7 | 2 (3) | 2 (3) |
| Race/Ethnicity* | | | |
| Black | 9 | 38 (41) | 30 (37) |
| Other | 13 | 11 (17) | 12 (18) |
| Other | 9 | 0 (12) | 12 (18) |
| Other | 36 | 46 (51) | 39 (45) |
| Sexual Practices | | | |
| Sex with Male | 22 | 64 (79) | 56 (68) |
| Vaginal Intercourse | 10 | 31 (37) | 21 (25) |
| Receptive Anal Intercourse | 5 | 61 (71) | 56 (68) |
| Other Risk Factors | | | |
| Past HIV Testing* | | | |
| History of anemia | 0 | 4 (5) | 10 (13) |
| smoker | 0 | 0 (0) | 0 (0) |
| Hypertension | 0 | 0 (0) | 0 (0) |
| Hypothyroidism | 0 | 0 (0) | 0 (0) |
| AIDS | 0 | 0 (0) | 0 (0) |
| Other | 0 | 0 (0) | 0 (0) |
| Genetics | 0 | 0 (0) | 0 (0) |

Figure 1. Cumulative 5-Year Incidence (Kaplan-Meier Estimates) of Infective Endocarditis Among Matched Transcatheter Aortic Valve Implantation (TAVI) vs. Surgical Aortic Valve Replacement (SAVR) Recipients

Figure 2. Cumulative 5-Year Incidence (Kaplan-Meier Estimates) of Infective Endocarditis Among Matched Transcatheter Aortic Valve Implantation (TAVI) vs. Surgical Aortic Valve Replacement (SAVR) Recipients