Results. 780 patients met study inclusion criteria and 86% (667/780) received vaccine. Characteristics of PLWH with and without vaccine are presented in Table 1. Older characters, lower HIV viral load, and virologic suppression had a statistically significant (<0.05) association with vaccine receipt in unadjusted analysis. Only older age (p<0.01) was significantly associated with vaccine in logistic regression modeling (Table 2), however this relationship was non-linear.

Table 1. Characteristics of patients living with HIV during the 2020-2021 Influenza vaccination season

| Characteristic | No Vaccine | Vaccine | p-value |
|---------------|------------|---------|---------|
| Age ≥ 50     | 40 (37.6)  | 57 (48.6) | 0.012   |
| Male          | 63 (50.6%) | 423 (45.6%) |         |
| Female        | 39 (43.4%) | 238 (35.7%) |         |
| Non-virologic positive | 0.0% | 1 (0.2%) |         |
| Non-virologic negative | 0.0% | 1 (0.2%) |         |
| White         | 82 (72.2%) | 482 (72.2%) |         |
| Black         | 11 (27.8%) | 173 (27.8%) |         |
| More than one race   | 0.0% | 12 (1.8%) |         |
| Hispanic       | 81 (51.6%) | 476 (71.1%) |         |
| Non-Hispanic White | 18 (11.6%) | 121 (18.1%) |         |
| No Medicaid    | 10 (12.4%) | 70 (10.5%) |         |
| No private     | 0.0% | 2 (3.0%) |         |
| Non-Medicare   | 54 (47.9%) | 260 (39.5%) |         |
| Medicare       | 35 (38.8%) | 222 (32.2%) |         |
| Medicaid       | 37 (29.3%) | 186 (27.7%) |         |
| Medicaid       | 54 (60.2%) | 398 (59.5%) |         |
| Medicare       | 45 (38.8%) | 266 (42.0%) |         |
| Medicaid       | 90 (71.7%) | 103 (30.2%) | 0.142    |
| CDC-defined AIDS | 60 (60.2%) | 382 (58.6%) |         |
| CDC-defined AIDS | 45 (38.8%) | 266 (42.0%) |         |
| CD4 Count <200 | 464 (313.79) | 509 (303.79) | 0.860    |
| White and non-white | 20 (5.08) | 20 (5.08) | 0.110    |
| No            | 86 (85.5%) | 615 (92.0%) |         |
| No            | 17 (16.0%) | 62 (78.6%) |         |

Table 2. Multivariable Analysis of Baseline Characteristics

| Characteristic | Odds Ratio (95% Confidence Interval) | p-value |
|---------------|-------------------------------------|---------|
| Age ≥ 50      | 1.05 (0.27, 1.22)                  | 0.002   |
| % Federal Poverty Level | 0.65 (0.34, 1.22) | 0.179   |
| Sex Female    | 0.77 (0.50, 1.18)                  | 0.466   |
| Race White    | 0.87 (0.55, 1.40)                  | 0.822   |
| AIDS-defined No | 1.17 (0.74, 1.84) | 0.497   |
| Insurance     | 1.51 (1.02, 2.36)                  | 0.692   |

Conclusion. A very high rate of PLWH received vaccine, far exceeding local and national benchmarks, with EMR data unlikely to have fully captured all vaccines. The role of the COVID-19 pandemic in vaccine amongst PLWH is not yet known. While older age was associated with vaccine in adjusted analysis, the number of unvaccinated patients was small, confidence intervals wide, and associations consequently weak. Larger studies are needed to further investigate factors associated with vaccine receipt amongst PLWH.

Disclosures. Deborah A. Kahal, MD, MPH, FACP, Gilead (Speaker's Bureau)Viiv (Speaker's Bureau)Elizabeth M. La, PhD, Desmon Curran, PhD, Ahmed Saleem, MSc, National Foundation for the Centers for Disease Control and Prevention, Atlanta, GA; Centers for Disease Control and Prevention, Atlanta, GA; Centers for Disease Control and Prevention, Atlanta, GA, USA, Atlanta, Georgia

Session: P-02. Adult Vaccines

Background. Two pneumococcal vaccines are currently recommended for use in U.S. adults: 23-valent pneumococcal polysaccharide vaccine (PPSV23) and 13-valent pneumococcal conjugate vaccine (PCV13). Recommendations for adult PCV13 use were supported by a large randomized-controlled trial (RCT) demonstrating PCV13 efficacy against pneumococcal pneumonia (PnPn) and vaccine-type (VT) PnPn in older adults. New pneumococcal conjugate vaccines are expected to be licensed for adults in late 2021 and recommendations for use among adults will be reviewed and revised, as needed. We conducted a systematic review to summarize evidence on the vaccine efficacy and effectiveness (VE) of PPSV23 and PCV13 against PnPn among adults.

Methods. We conducted a search of literature published from 1998 to February 2021 on PCV13 and PPSV23 VE studies using eight reference databases. Studies targeting adults with immunocompromising conditions were excluded. VE results with 95% confidence intervals (CI) were abstracted and stratified by vaccine product, outcome evaluated (PnPn and VT PnPn), study design, and effect measure. When applicable, random effects models were used to estimate pooled VE and I-squared statistic was reported to assess heterogeneity.

Results. Of 3,422 screened studies, we included 15 studies three on PCV13 and 12 on PPSV23 (Table 1). In addition to the RCT, we identified two observational studies for PCV13 (Table 1); however, pooled VE of the observational studies was not estimated due to differences in methods for reporting results. Pooled PPSV23 VE against PnPn from two RCTs was 68% (95% CI: 31, 80 I-squared=0%). Pooled VE of PCV13 against VT PnPn from three observational studies was 16% (95% CI: 8, 25 I-squared=0%). PPSV23 effectiveness against PnPn was limited with a pooled VE of 25% (95% CI: 7, 37 I-squared=78%) from nine observational studies.

Table 1. Vaccine efficacy and effectiveness of 13-valent pneumococcal conjugate vaccine and 23-valent pneumococcal polysaccharide vaccine against pneumococcal pneumonia outcomes

| Author | Study Design | Vaccine product | VE% (95% CI) | VE% (95% CI) |
|--------|--------------|-----------------|--------------|--------------|
| PPSV23 | RCT          | 41 (34 to 48)   | 28 (6 to 54) |
| PPSV23 | TNO          | 11 (9 to 25)    | 4 (0 to 50)  |
| PCV13  | RCT          | 78 (74 to 82)   | 38 (32 to 43) |
| PCV13  | TNO          | 74 (70 to 78)   | 32 (28 to 36) |

13. The Efficacy and Effectiveness of Pneumococcal Vaccines against Pneumococcal Pneumonia among Adults: A Systematic Review and Meta-analysis

Lana Childs, MPH; Miwako Kobayashi, MD, MPH; Jennifer Loo Farr, MPH; Tamara Plishihi, PhD; National Foundation for the Centers for Disease Control and Prevention, Atlanta, GA; Centers for Disease Control and Prevention, Atlanta, GA, USA, Atlanta, Georgia

Session: P-02. Adult Vaccines