Background. Cabotegravir (CAB) and rilpivirine (RPV) are under development as a novel long-acting (LA) regimen for maintenance of HIV virologic suppression. Pooled data from pivotal phase III trials demonstrated noninferiority of CAB + RPV LA given as gluteal intramuscular injections vs current antiretroviral regimen (CAR) on the primary endpoint of HIV-1 ribonucleic acid (RNA) ≥50c/mL at Week 48, with high levels of adherence. Long-term adherence to dosing visits and outcomes after use of oral CAB+RPV to cover planned missed injections in FLAIR through Week 96 and in LATTE-2 through Week 256 is reported here.

Methods. Virologically suppressed participants (HIV-1 RNA < 50c/mL) were randomized to switch to CAB+RPV LA or to continue CAR. On-time injections occurred every 4 weeks or every 8 weeks (LATTE-2 only) within a ±7-day dosing window of the projected dosing date. Adherence to LA therapy was calculated as the number of on-time injection visits divided by the number of expected dosing visits through the period of follow up. Injection visits outside the prespecified window and missed injection visits with or without use of oral dosing were characterized.

Results. Of 605 expected injection visits through Week 96 in FLAIR, 97% of injections were given within the allowed ±7-day dosing window, with 43% on the projected dosing date. 45 (< 1%) injection visits were early and 107 (2%) were late. Adherence to 9803 expected injection visits in LATTE-2, through Week 256, was similarly high, with 96% of injections given within the allowed ±7-day dosing window and 39% on the projected dosing date. For 31 missed injection visits in 18 participants across both trials, 30 were covered with oral CAB+RPV, with all participants maintaining HIV-1 RNA < 50c/mL through the last study visit. In those participants who used oral CAB+RPV for planned treatment interruptions, 3 had repeat use on ≥2 separate occasions.

Conclusion. Participants maintained high levels of long-term adherence to CAB+RPV LA, through 2-5 years of follow up, with 97% of injections given within the ±7-day dosing window in the FLAIR and LATTE-2 clinical trials. Oral CAB+RPV to cover planned missed visits provides an effective strategy to maintain virologic suppression during short periods of LA treatment interruption.

Disclosures. Paula Teichner, PharmD, GlaxoSmithKline (Shareholder)/ViiV Healthcare (Employee) Sterling Wu, PhD, GlaxoSmithKline (Employee, Shareholder) David Damico, DO, MSci, Cynthia Cooper, MD, Oosh R. Upadhye, MPH, MBA, Joseph Poll, MD, FAAPS, David Margolis, MD, MPH, Rodica Van Solingen-Ristea, MD, Kati Vandermeulen, MSc, William Spreen, PharmD, Parul Patel, PharmD, Viiv Healthcare, Research Triangle Park, NC; GlaxoSmithKline, Collegeville, Pennsylvania; GSK, Mississauga, ON, Canada; 1Janssen Research & Development, LLC, Beerse, Antwerpen, Belgium; 2Janssen Research & Development, LLC, Beerse, Antwerpen, Belgium

Session: P-47. HIV: Treatment

Background. People living with HIV (PLWH) with Medicaid historically have lower viral suppression (VS) rates than those with other insurance. VS rates with Medicaid expansion (ME) are unknown. We examined HIV outcomes (engagement in care, VS) by insurance status for a non-urban Southeastern Ryan White HIV/AIDS Program Clinic cohort for year after ME.

Methods. Participants were PLWH ages 18-63 who attended ≥1 HIV medical visit/year in 2018 and 2019. Log-binomial models were used to estimate the association of characteristics with Medicaid enrollment prevalence and one-year risks of engagement in care and VS in 2019.

Results. Among 577 patients, 241 (42%) were newly eligible for Medicaid due to ME and 79 (33%) enrolled (Figure 1a). For those without Medicaid, Medicaid enrollment was higher for those with incomes < 100% FPL (adjusted prevalence ratio [aPR] 1.67; 95% confidence interval [CI] 1.00–1.86) compared to those with incomes ≥101% FPL. Those enrolled in Medicaid due to ME had 87% engagement in care compared to 80-92% for other insurance plans (Figure 1b). Controlling for 2018 engagement, older age (adjusted risk ratio [aRR] for 10 years 1.03, 95% CI 1.00–1.05; Table 1) was associated with being engaged in 2019. Engagement was lower for those with employment-based insurance (aRR 0.91, 95% CI 0.83–0.99) and Medicare (aRR 0.87, 95% CI 0.78–0.96). Of those with viral loads in 2018 and 2019 (n=549), those who newly enrolled in Medicaid due to ME had 85% VS compared to 87-99% for other insurance plans (Figure 1c). In univariate analysis, age, income, and baseline viral load status were associated with viral suppression (Table 2), and those with Medicaid due to ME (aRR 0.90, 95% CI 0.81–1.00) were less likely to achieve VS compared with others.
Table 1: Engagement in Care Outcomes in 2019 for People Living with HIV: Frequencies and results of univariate and multivariate log-binomial model (OR > 1.77)

| Characteristic | Engagement in Care (%) | crude RR (95%CI) | adjusted RR (95%CI) |
|---------------|------------------------|------------------|---------------------|
| Overall       | 464 (83.1)             |                  |                     |
| Age (per 10 year increase) | NA                  | 1.01 (1.00-1.05) | 1.03 (1.00-1.05)    |
| Sex           |                        |                  |                     |
| Male          | 357 (85.1)             | Ref              |                     |
| Female        | 107 (85.7)             | 1.02 (0.94-1.00) |                     |
| Race/Ethnicity|                        |                  |                     |
| Non-Hispanic White | 225 (84.9)        | Ref              |                     |
| Non-White     | 269 (82.2)             | 1.02 (0.95-1.10) |                     |
| Income (2019) |                        |                  |                     |
| <100% FPL     | 201 (83.4)             | Ref              |                     |
| 101-139% FPL  | 45 (82.2)              | 0.99 (0.84-1.16) | 0.91 (0.79-1.04)   |
| 140-199% FPL  | 168 (84.9)             | 1.05 (1.01-1.10) | 0.97 (0.84-1.15)   |
| ≥200% FPL     | 65 (81.7)              | 1.07 (1.03-1.12) | 0.95 (0.83-1.10)   |
| Insurance Status (2019) |            |                  |                     |
| Ind/Self Pay   | 91 (91.9)              | Ref              | Ref                 |
| Employer-based | 132 (85.5)           | 0.91 (0.85-2.00) | 0.91 (0.85-0.99)   |
| Public        | 126 (79.5)             | 0.87 (0.77-0.98) | 0.87 (0.78-0.99)   |
| Medicaid      | 74 (86.1)              | 0.92 (0.84-1.01) | 0.92 (0.83-1.01)   |
| Medicaid Expansion | 69 (87.1)     | 0.95 (0.86-2.00) | 0.95 (0.86-0.99)   |
| Uninsured     | 43 (88.6)              | 0.90 (0.83-1.05) | 0.90 (0.83-1.07)   |
| Rural Residence|                      |                  |                     |
| Urban         | 325 (81.6)             | Ref              |                     |
| Rural         | 139 (87.6)             | 1.03 (0.99-1.05) |                     |
| HIV Risk Factor: MSMAL |              |                  |                     |
| Other Risk Factor | 220 (82.2)  | Ref              |                     |
| MSMAL HIV Risk Factor | 225 (84.3) | 1.01 (0.99-1.03) |                     |
| HIV Risk Factor: Heterosexual |                |                  |                     |
| Other Risk Factor | 203 (81.6)  | Ref              |                     |
| HIV Risk Factor: MSMAL |              |                  |                     |
| Other Risk Factor | 211 (85.5)  | 1.06 (0.93-1.20) |                     |
| HIV Risk Factor: IDU   | 214 (81.5)  | 1.05 (0.94-1.16) |                     |
| CD4 HIV Risk Factor | 90 (88.8)    | 1.05 (0.91-1.23) |                     |
| HIV/AIDS Diagnosis: HIV Diagnosis | 277 (81.2) | Ref              |                     |
| HIV/AIDS Diagnosis | 217 (81.1)  | 1.01 (0.94-1.08) |                     |
| Baseline Engagement in HIV Care |          |                  |                     |
| Not Engaged   | 54 (79.4)              | Ref              | Ref                 |
| Engaged       | 464 (83.1)             | 1.14 (1.05-1.24) | 1.11 (1.01-1.22)   |

1. Some characteristics were collapsed into less categories to avoid sparse data bins; 2. Covariates that had crude prevalence rates with 95% confidence intervals that did not cross 1.00 were included in the adjusted model. Covariates that had large magnitude effects (OR > 1.00 or < 1.00) were also included in the adjusted model.

Table 2: Viral Suppression Outcomes in 2019 for People Living with HIV: Frequencies and results of univariable log-binomial model (n = 549)

| Characteristic | Viral Suppression, n (%) | crude RR (95%CI) |
|---------------|--------------------------|------------------|
| Overall       | 515 (93.8)               |                  |
| Age (per 10 year increase) | NA                  | 1.02 (1.01-1.03) |                     |
| Sex           |                          |                  |                     |
| Male          | 312 (94.1)               | Ref              |                     |
| Female        | 213 (93.1)               | 0.99 (0.94-1.03) |                     |
| Race/Ethnicity|                          |                  |                     |
| Non-Hispanic White | 240 (94.3)       | Ref              |                     |
| Non-White     | 275 (93.1)               | 0.99 (0.95-1.04) |                     |
| Income (2019) |                          |                  |                     |
| <100% FPL     | 200 (88.2)               | Ref              |                     |
| 101-139% FPL  | 70 (90.0)                | 1.01 (0.93-1.10) |                     |
| 140-199% FPL  | 116 (97.8)               | 1.09 (1.04-1.15) |                     |
| ≥200% FPL     | 66 (90.0)                | 1.13 (0.97-1.18) |                     |
| Insurance Status (2019) |            |                  |                     |
| Individual Private | 84 (94.7)            | Ref              |                     |
| Employer-based | 132 (93.8)           | 1.04 (0.99-1.11) |                     |
| Public        | 112 (97.4)               | 1.03 (0.99-1.11) |                     |
| Medicaid      | 75 (87.1)                | 0.92 (0.83-1.01) |                     |
| Medicaid Expansion | 68 (85.2)     | 0.90 (0.81-1.00) |                     |
| Uninsured     | 43 (95.6)                | 1.01 (0.93-1.09) |                     |
| Rural Residence|                        |                  |                     |
| Urban         | 312 (94.6)               | Ref              |                     |
| Rural         | 137 (92.9)               | 0.98 (0.92-1.03) |                     |
| HIV Risk Factor: MSMAL |            |                  |                     |
| Other Risk Factor | 271 (93.1)  | Ref              |                     |
| MSMAL HIV Risk Factor | 244 (94.6) | 1.02 (0.97-1.06) |                     |
| HIV Risk Factor: Heterosexual |          |                  |                     |
| Other Risk Factor | 237 (94.6)  | Ref              |                     |
| HIV Risk Factor: IDU |            |                  |                     |
| Other Risk Factor | 218 (92.8) | 0.98 (0.93-1.02) |                     |
| HIV/AIDS Diagnosis: HIV Diagnosis | 250 (94.2) | Ref              |                     |
| HIV/AIDS Diagnosis | 215 (93.6)  | 0.99 (0.95-1.03) |                     |
| Baseline HIV Viral Load Status |            |                  |                     |
| Undetectable  | 43 (72.9)                | Ref              |                     |
| Detectable    | 425 (97.0)               | 1.12 (1.06-1.17) |                     |

1. Some characteristics were collapsed into less categories to avoid sparse data bins; 2. An adjusted model was not performed because too few people had detectable viral loads (n=54).

Abbreviations: RR: Risk Ratio, CI: Confidence Interval, FPL: Federal Poverty Level, HIV: Human Immunodeficiency Virus, MSM: Men who have sex with men, IDU: Injection Drug Use, AIDS: Acquired Immunodeficiency Syndrome
Among 102 participants (53% female), median duration of ART viral loads, lower CD4 counts, and lower patient-reported ART adherence, but these using the Wilcoxon rank sum test and Fisher’s exact test. Comparisons of the two groups were conducted comorbidities, CD4 counts, number of missed HIV care appointments, self-reported endpoint was HIV-RNA viral load. Secondary endpoints included ART adherence, substance use, comorbidities, and healthcare engagement between the two groups. We sought to determine reasons for disengagement and return to care in neglected rural settings. Using convenience sampling, surveys were completed by 102 PLWH who disengaged from ART (minimum 90 days) and subsequently resumed care. A subset (n=60) completed individual in-depth interviews. Questions assessed HIV knowledge, stigma, barriers to health care, and reasons for both disengaging and returning to care. Results. Among 102 participants (53% female), median duration of ART discontinuation was 9 months (IQR 4-22). Participants had HIV knowledge gaps regarding HIV transmission and increased risk of tuberculosis. Two thirds were unaware that ART prevents transmission to other sexual partners. The major contributors to LTFU were mobility and structural barriers. PLWH traveled for an urgent family need or employment and were not able to collect ART while away. Structural barriers included inability to access care, due to lack of financial resources to reach distant clinics, HIV stigma, dissatisfaction with being treated at an HIV specific clinic, pill fatigue and lack of social support. Illness was the major precipitant of returning to care. Conclusion. Among those returning to HIV care, patient motivation to continue ART was high, but mobility and structural barriers impede longitudinal HIV care in rural South Africa, threatening the gains made from expanded ART access. To achieve 90-90-90, future interventions to improve retention must address barriers relevant to rural settings including emphasis on patient-centered care such as multi-month ART prescriptions, expanding medication distribution sites, including community-based dispensing sites, integrating ART into primary care, and facilitating linkage to remote facilities when away from their home clinic. Healthcare workers should be capacitated to identify patients’ barriers to chronic care and intervene on those at high risk of LTFU. Disclosure. All Authors: No reported disclosures

103.2 More Similar than You May Think: A Comparison of Perinatally vs. Behaviorally Infected Young Adults Living with HIV Maria Ng, MD1; Frances Wallach, MD2; Rebecca Schwartz, Ph.D;2; Rehana Rasul, MA MPH1; North Shore University Hospital, Manhasset, New York; Northwell Health, Manhasset, New York; Feinstein Institute of Medical Research Northwell Health, Manhasset, New York Session: P-47: HIV Treatment Background. Many perinatally infected people living with HIV (PLWH) have reached adulthood. It is important to understand differences in key outcomes between this group and those who were behaviorally infected with HIV. We sought to determine if there were differences in HIV-RNA viral load, antiretroviral therapy (ART) adherence, substance use, comorbidities, and healthcare engagement between the two groups. Methods. This retrospective study was performed at Northwell’s Center for AIDS Research and Treatment in Manhasset, NY from November 1, 2016 to December 31, 2018. The sample size included 38 perinatally infected PLWH and 51 behaviorally infected PLWH. Data were extracted from the electronic medical record. The primary endpoint was HIV-RNA viral load. Secondary endpoints included ART adherence, comorbidities, CD4 counts, number of missed HIV care appointments, self-reported sexual activity, and substance use. Comparisons of the two groups were conducted using the Wilcoxon rank sum test and Fisher’s exact test. Results. Perinatally infected PLWH were more likely to have suppressed viral loads, lower CD4 counts, and lower patient-reported ART adherence, but these differences were not statistically significant. Perinatally infected PLWH were also more likely to be female and unemployed, and to report consistent condom use. Sexually transmitted diseases were only detected in the behaviorally infected group. Perinatally infected PLWH were also less likely to report alcohol use. However, smoking and illicit drug use were similar between the two groups. There was no difference in racial composition. Asthma and hypertension were the most commonly recorded comorbidities and did not differ in prevalence between the groups (Table 1). The pattern of change in CD4 counts over time was similar between the two groups and both groups maintained average CD4 counts above 200 cells throughout the study (Table 2) (Figure 1). The number and percent of missed appointments were similar between the groups. Patient Characteristics Compared by Perinatally Infected vs. Behaviorally Infected

| VARIABLE | CATEGORY | TOTAL (N=69) | PERINATAL (N=38) | BEHAVIORAL (N=31) | p-value |
|----------|----------|-------------|-----------------|-------------------|---------|
| AGE YEARS | Male | 31 | 18 | 13 | 0.227 |
|          | Female | 78 | 20 | 58 | 0.065 |
|          | Total | 109 | 38 | 71 | 0.375 |
|          | Median | 18 | 17 | 19 | 0.614 |

Notes: Medication. IQ=interquartile range. NS=not estimated. EnDi=End of life. a. Median | b. p-value from Fisher’s exact test unless otherwise specified. c. p-value from Wilcoxon rank sum test.