

was a CMV recipient-positive, donor-negative allogeneic/haploidentical HCT recipient. Two centers provided prophylaxis to all cord blood recipients regardless of CMV status. Among these 23 prophylaxis centers, there were 10 different reported prophylaxis regimens. Fifty-one (89%) respondents confirmed an interest in a randomized trial to assess the efficacy of letermovir prophylaxis against CMV reactivation. The preferred comparator for such a trial was placebo/nothing (55%) followed by high dose acyclovir (24%).

**Conclusion.** A significant proportion (40%) of pediatric BMT centers in the United States administer CMV prophylaxis to at least a subset of their HCT recipients. The variation in prophylaxis regimens highlights the lack of comparative effectiveness data to guide clinical decisions. Nearly all centers, regardless of whether they currently provide prophylaxis, reported an interest in a trial assessing the utility of letermovir prophylaxis in children.

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### 1903. Cost Minimization Analysis of a Preferred ARV Prescribing Pathway for Treatment-Naïve HIV-Positive Patients

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**Background.** There were 266 new attendees to the HIV clinic of St. James' Hospital in 2016. HIV care is expensive. The modelled lifetime cost of treating one HIV-positive patient in the UK is estimated at £360,800, with ARVs accounting for 68% of the cost. This audit aims to assess potential savings in ARV spend if a cost-based prescribing approach was adopted for suitable treatment-naïve patients of the clinic.

**Methods.** A retrospective analysis of newly attending HIV-positive patients attending the HIV Clinic in 2016 was undertaken. Treatment-naïve patients were identified. 2016 ARV drug acquisition costs were obtained from the St. James' Hospital Finance department. The cost of first-line ARV regimens were calculated. Patients were evaluated for their suitability for the lowest-cost, first-line ARV regimen by analysing baseline viral loads, CD4 counts, resistance patterns, renal function, bone health and HLA B5701 status. The price difference between their prescribed regimens and the most cost-effective first-line regimen was calculated.

**Results.** From January to December 2016, there were 266 new attendances. One hundred fifty-four of these patients (58%) were treatment naïve. The treatment regimens were ascertained for 145/154 (94%). A cost difference of approx. €390 per month existed between the most expensive and least expensive first-line ARV regimens. The monthly cost of ARV regimens prescribed came to €152,949.09, equating to an annual spend of €1,835,389.08. The predicted monthly ARV cost of the cost-based prescribing approach has been calculated at €139,186.27 with an annual cost of €1,670,235.24. This would lead to an annual saving of €165,153.84, equating to 9% of the 2016 ARV spend for this population.

**Conclusion.** This audit outlines the potential cost-effectiveness of a cost-based prescribing approach for suitable treatment-naïve patients that also adheres to best clinical practice guidelines. It demonstrates that significant cost savings (9%) can be made by simple analysis of ARV costs. These data can be used to support future options in ARV procurement and tender-processing for the department and nationally. It can also serve as a template in the construction of a pathway for the safe and cost-effective switching of ARV regimens of patients already on established regimens when generic ARV medications become available in Ireland.

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### 1904. Impact of Mail Order Pharmacy Use on Viral Suppression Among HIV-Infected Patients

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**Background.** There are many barriers to adherence to antiretroviral medications, including pharmacy accessibility. Few studies have evaluated the impact of pharmacy distance or use of mail order pharmacy services on HIV viral load suppression relative to use of an "in-person" pharmacy. The purpose of our study was to determine whether there is a difference in viral suppression rates among patients who utilize mail order pharmacy services vs. an in-person pharmacy for filling antiretroviral prescriptions. Our study also looked at the effect of distance and travel time to viral suppression for patients who use in-person pharmacy services.

**Methods.** This was a single-center, retrospective cohort study of adult HIV-positive patients who received care between 2006 and 2015 at an urban HIV care clinic. We collected patient demographic information, ART regimen, home address, pharmacy address, and laboratory values. For patients who utilized retail pharmacies, patients' home addresses and the location of the pharmacy were geocoded using ESRI's StreetMap Premium geocoding service. We calculated patients' travel distance to pharmacy and travel time to pharmacy along a street network in a private vehicle. Chi-squared tests and logistic regression were used to determine the association between in-person or mail order pharmacy services and distance to pharmacy and viral suppression (viral load  $\leq$ 200 copies/mL).

**Results.** There were 214 patients in the mail order group and 214 patients included in the in-person pharmacy group. Baseline characteristics were similar between the groups, with the exception of more people who inject drugs in the mail order group (6.1% vs. 1.8%,  $P = 0.05$ ). No difference in viral load suppression was observed between groups (21.7% vs. 20.2%,  $P = 0.679$ ). There was no difference in viral suppression depending on the distance (1.46 miles away in viral suppressed patients vs. 1.36 miles,  $P = 0.75$ ) or travel time to pharmacy (7 minutes vs. 6.6 minutes,  $P = 0.75$ ) for the in-person pharmacy group. Factors found to be significantly associated with suppressed viral loads were older age, white race, and higher CD4 counts.

**Conclusion.** Viral suppression was not associated with pharmacy type, distance to pharmacy, or travel time to pharmacy.

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### 1905. Real-World Insights into Quality Improvement across 11 HIV Clinics in the United States

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**Background.** As people with HIV are living longer, focusing quality improvement (QI) initiatives on health maintenance and comprehensive patient-centered care is essential. This QI study evaluated chart-document performance in selected HIV care practices across the United States.

**Methods.** Participants were randomly selected from 11 Ryan White-funded HIV clinics in community ( $n = 7$ ), hospital ( $n = 3$ ), and academic ( $n = 1$ ) settings. At baseline, 200 consecutive charts (~20 per clinic) were reviewed for documentation of guideline-directed practices. Clinic teams participated in audit-feedback interventions to develop improvement plans. Three months later, consecutive charts were reviewed according to baseline methods. Chi-square tests were conducted to analyze pre- and post-intervention differences.

**Results.** Significant improvements were seen in sexually transmitted infection (STI) screening, and patient counseling on sexual risk, pre-exposure prophylaxis (PrEP), and antiretroviral therapy (ART). Documentation of several health maintenance measures improved significantly.

**Conclusion.** Audit-feedback of QI measures improved performance. This approach can inform future QI initiatives.

**Table:** HIV Patient Characteristics and Percentages of Charts Documented for Quality Measures

|   | Baseline<br>(n = 200) | Post-Intervention<br>(n = 120) | P-value |
|---|-----------------------|--------------------------------|---------|
| Demographic characteristics <sup>a</sup>    |                       |                                |         |
| Median years of age                         | 51                    | 40                             | <0.001  |
| Median years since HIV diagnosis            | 18                    | 12                             | <0.001  |
| % female/male/transgender                   | 24/75/1               | 16/84/0                        | 0.054   |
| Sexual Health Assessment and HIV Prevention |                       |                                |         |
| STI screening                               | 43                    | 64                             | <0.001  |
| Counseling on sexual risk                   | 22                    | 48                             | <0.001  |
| Counseling on PrEP for sexual partners      | 11                    | 23                             | 0.003   |
| Sexual partners prescribed PrEP             | 9                     | 15                             | 0.100   |
| Health Maintenance Assessment               |                       |                                |         |
| Glucose                                     | 78                    | 91                             | 0.003   |
| Transaminases                               | 77                    | 92                             | 0.001   |
| Cardiovascular risk calculation             | 71                    | 74                             | 0.541   |
| Lipid profile                               | 59                    | 64                             | 0.359   |
| 25OH Vitamin D level                        | 16                    | 27                             | 0.021   |
| Bone densitometry for patients >50 years    | 7                     | 5                              | 0.299   |
| Creatinine clearance                        | 15                    | 58                             | <0.001  |
| Shared Decision-Making                      |                       |                                |         |
| Patient counseling on                       |                       |                                |         |
| ART risks and benefits                      | 53                    | 66                             | 0.056   |
| Understanding ART                           | 33                    | 69                             | <0.001  |
| Exploring patients' ART concerns            | 31                    | 46                             | 0.008   |
| Opportunities for patients to ask questions | 51                    | 82                             | <0.001  |

<sup>a</sup>Analyses for continuous and categorical variables based on Mann-Whitney U test and chi-square test, respectively

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Investigator, Research support. Sangamo: Sub Investigator, Research support. C. Hicks, ViiV Healthcare: Employee, Salary. P. Shalit, Gilead: Consultant, Investigator and Speaker's Bureau, Consulting fee, Research support and Speaker honorarium. ViiV: Consultant and Speaker's Bureau, Consulting fee and Speaker honorarium. Janssen: Consultant, Investigator and Speaker's Bureau, Research support and Speaker honorarium. Merck: Speaker's Bureau, Speaker honorarium. W. D. Hardy, Gilead Sciences: Consultant and Investigator, Consulting fee and Research support. ViiV Healthcare: Consultant and Investigator, Consulting fee and Research support. Amgen: Investigator, Research support. Janssen: Investigator, Research support. Merck: Investigator, Research support. J. Carter, PRIME Education, LLC: Employee, Salary. L. Simone, PRIME Education, LLC: Employee, Salary. T. Sapir, PRIME Education, LLC: Employee, Salary. Gilead Sciences Inc.: Independent medical education provider, Educational grant.

**1906. Hospitalization Rates Among Persons With HIV Who Gained Medicaid or Private Insurance in 2014**

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**Background.** The Ryan White Program (RWP), which provides safety net outpatient healthcare coverage to thousands of low-income persons with HIV (PWH), does not pay for inpatient care. Many PWH who relied on RWP transitioned to either Medicaid or private insurance (private) with the Affordable Care Act in 2014. It is unknown whether such transitions affected hospitalization rates.

**Methods.** We included patients from three HIV Research Network sites (two in Medicaid expansion states, one in a nonexpansion state) who relied solely on RWP in 2013. Patients either stayed in RWP through 2015, or changed to Medicaid or private in 2014. 2015 hospitalization rate ratios were modeled using negative binomial regression, adjusting for demographics, CD4 count, HIV viral load (VL), clinic site, and number of 2013 hospitalizations.

**Results.** Our sample of 1,634 patients was 73% male, 46% Black, 36% Hispanic; median age was 45 years (IQR 37,52) and median CD4 count 526 cells/μL (356, 716); 85% had a VL ≤400 copies/mL. Ninety-five patients were hospitalized in 2015. Unadjusted hospitalization rates (per 100 person years) were 8.4, 21.3, and 7.4 in 2013 and 6.3, 20.2, and 3.7 in 2015 for those who remained in RWP, switched to Medicaid, or switched to private, respectively. Switching to Medicaid or private was not associated with 2015 hospitalization rates (IRR 1.26 (95% CI 0.71–2.23) and 0.48 (0.18–1.28), table). Older age, CD4 <200, VL >400, and number of 2013 hospitalizations were associated with higher rates.

**Conclusion.** Among PWH relying on RWP in 2013, changing to either Medicaid or private insurance was not associated with a change in hospitalization rate. Among PWH, gaining inpatient coverage does not appear to increase inpatient utilization.

Incidence Rate Ratios for Hospitalization, 2015 (n = 1634)

| Characteristic                | IRR  | 95% CI    |
|-------------------------------|------|-----------|
| Insurance in 2015             |      |           |
| RWP                           | –    |           |
| Private                       | 0.48 | 0.18–1.28 |
| Medicaid                      | 1.26 | 0.71–2.23 |
| Gender                        |      |           |
| Female                        | –    |           |
| Male or transgender           | 0.86 | 0.47–1.58 |
| Race                          |      |           |
| White or other                | –    |           |
| Black                         | 1.19 | 0.62–2.27 |
| Hispanic                      | 0.83 | 0.40–1.72 |
| Age                           |      |           |
| 18–34                         | –    |           |
| 35–44                         | 0.91 | 0.45–1.83 |
| 45–54                         | 1.51 | 0.75–3.07 |
| 55–64                         | 2.18 | 1.08–4.41 |
| Risk factor                   |      |           |
| Heterosexual or other         | –    |           |
| IVDU                          | 1.77 | 0.68–4.60 |
| MSM                           | 1.68 | 0.92–3.05 |
| CD4 count                     |      |           |
| <200                          | 5.0  | 2.60–9.61 |
| 200–499                       | 1.26 | 0.71–2.22 |
| ≥500                          | –    |           |
| VL ≤400                       | 0.55 | 0.32–0.94 |
| No. of hospitalizations, 2013 | 1.97 | 1.44–2.68 |

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**1907. Barriers at the Last Hurdle: Implementing Advance Care Planning for People Living with HIV**

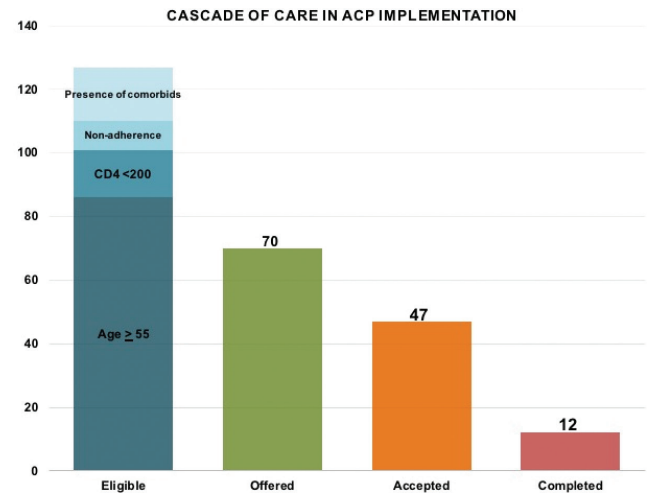
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**Background.** Advance care planning (ACP) is an increasingly relevant clinical practice as the HIV epidemic ages. In addition to a “graying” cohort of stable people living with HIV (PLHIV), late presentations predominate among newly-diagnosed older people in Singapore. Despite the availability of antiretroviral therapy (ART), prognosis remains guarded in these late presenters and PLHIV with poor adherence for whom ACP is more urgently needed. We sought to evaluate ACP implementation using a cascade-of-care model and determine barriers to its completion among PLHIV receiving care in an HIV specialty clinic.

**Methods.** Eligible PLHIV were identified during multidisciplinary meetings of the National University Hospital's HIV care team from January 2016 to December 2017. Eligibility was based on any of the following: age ≥55; current CD4 <200; ART nonadherence; or comorbidities potentially contributing to reduced life expectancy. ACP was offered to eligible PLHIV by their primary HIV doctor. If accepted, trained ACP facilitators continued the process of communication between PLHIV, doctors and loved ones. The process was completed with documentation of an agreed plan for future medical decisions, incorporating patient's personal beliefs and goals, and with a nominated healthcare spokesperson.

**Results.** Among 432 PLHIV screened, 127 (29.4%) were eligible for ACP. Of these, 70 (55.1%) were offered, 47 (37.0%) accepted, and 12 (9.4%) completed ACP. Majority (38, 80.9%) who accepted ACP were ≥55 years old. Most were male (43, 91.4%) and of Chinese ethnicity (72%). We found no significant differences between those who were offered, accepted and completed ACP.



**Barriers were examined via root cause analysis.** Social stigma surrounding death (cultural beliefs) and HIV (isolation, fear of disclosure, lack of a potential spokesperson) were the major patient-centered barriers to ACP. Time constraint was the main healthcare provider-centered factor.

**Conclusion.** Fewer than 10% of eligible PLHIV completed ACP. Interventions to address barriers along the cascade are urgently needed to ensure that the increased life expectancy of PLHIV translates into increased opportunities for ACP. All healthcare providers should dedicate time, address stigma and correct misconceptions by incorporating ACP discussions into the routine care of PLHIV.

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**1908. Development of an Electronic Health Record Generated Alert for Prophylaxis Against Pneumocystis Jirovecii Pneumonia in the Setting of High-Dose Steroids**

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