

# PERCEPTIONS OF AND PREFERENCES FOR ORAL OR LONG-ACTING INJECTABLE ANTIRETROVIRAL TREATMENT REGIMENS IN THE UNITED STATES AND CANADA

CP. Garris<sup>1</sup>, S. Heidenreich<sup>2</sup>, E. Arthurs<sup>3</sup>, K. Cutts<sup>4</sup>, FA. Spinelli<sup>1</sup>, H. Collacott<sup>2</sup>, E. Lowman<sup>5</sup>, H. Rice<sup>6</sup>, B. Lebouché<sup>7</sup>, GN. Chua<sup>2</sup>, H. Gelhorn<sup>4</sup>

<sup>1</sup>Viiv Healthcare, RTP, NC, US; <sup>2</sup>Evidera, London, UK; <sup>3</sup>GlaxoSmithKline, Mississauga, ON, Canada; <sup>4</sup>Evidera, Bethesda, MD, US; <sup>5</sup>Midland Medical Center, Oakland Park, FL, US; <sup>6</sup>Rice Medical Group, Mountain View, CA, US; <sup>7</sup>Centre for Outcomes Research & Evaluation, Research Institute of the McGill University Health Centre, Montreal, QC, Canada

## BACKGROUND AND OBJECTIVES

- A long acting injectable (LAI) antiretroviral (ART) regimen of cabotegravir plus rilpivirine is in development for monthly or every other month administration.<sup>1</sup> HIV patients in the clinical trials reported a higher preference for LAI compared with daily oral ART.<sup>1</sup> However, it is important to understand patients' preferences for HIV treatments outside of clinical trials.
- Objectives: To understand patients' and physicians' satisfaction and unmet needs with modern-era ART, preferences for switching from an oral to a LAI mode of administration, and characteristics associated with preferences for LAI ART.**

## METHODS

- An online survey was conducted among people living with HIV (PLHIV) and physicians treating PLHIV in the US and Canada, using existing panels. Survey questions included sociodemographic and clinical characteristics, stigma and satisfaction with current HIV treatments, and a Discrete Choice Experiment (DCE) to assess preferences for switching HIV medications. A mixed logit model estimated respondents' preferences for switching to an injectable treatment or another oral treatment over staying with their current treatment.

Table 1. Attributes and Levels for the DCE

Treatment Attributes	Oral Treatment	Injectable Treatment
Dosing Frequency	One Pill, Every day	Two Injections, Every month Two Injections, Every two months
Risk of Side Effects	5 out of 100 patients (5%) develop side effects. 15 out of 100 patients (15%) develop side effects. 30 out of 100 patients (30%) develop side effects.	5 out of 100 patients (5%) develop side effects. 15 out of 100 patients (15%) develop side effects. 30 out of 100 patients (30%) develop side effects.
Forgivability	Less forgivability than the current treatment Same forgivability as the current treatment More forgivability than the current treatment	1 week of forgivability after missed dose 2 weeks of forgivability after missed dose 3 weeks of forgivability after missed dose
Food and Mealtime Restrictions	More restrictions than the current treatment Same restrictions as the current treatment Fewer restrictions than the current treatment	None

Figure 1. Example Physician DCE Choice Task<sup>a</sup>

**Physician Challenge Scenario: You notice that the patient increasingly misses a treatment dose. You are concerned that the treatment does not fit very well into your patient's lifestyle.**

**Task 1 of 18**

Frequency	Switch to injectable treatment	Switch to oral treatment
Frequency	Your patient receives two injections at the same time every month at your clinic	Your patient takes the oral treatment every day
Risk of side effects	5 out of 100 patients (5%) develop mild to moderate side effects.	15 out of 100 patients (15%) develop mild to moderate side effects.
Forgivability	1 week of forgivability after missed dose	More forgivability than the current treatment
Food and Mealtime restrictions	None	Same restrictions as the current treatment

Please make your recommendation

Recommend switching to this injectable treatment

Recommend switching to this oral treatment

Recommend staying on current treatment

If the patient insisted on switching, what would you recommend?

Recommend switching to this injectable treatment

Recommend switching to this oral treatment

*[Only presented forced choice if physician recommended staying on current treatment]*

<sup>a</sup>Patients were presented with a set of challenges associated with HIV treatment and asked to identify the one most closely representing their current situation. The selected treatment challenge was then used to provide context for each patient as they responded to each of the choice questions in the DCE. For physicians, challenge scenarios were varied for each choice task.

## RESULTS

### Sample

- 553 patients completed the survey, patient demographics are described in **Table 2**.
- 456 physicians completed the survey (US: N=305, CAN: N=151); mean (SD) time treating PLHIV was 13 years (8.1), on average 36% of their clinical time was dedicated to HIV care.

Table 2. Patient Sociodemographic and Clinical Characteristics

	Overall (N =553)	US (N =453)	Canada (N =100)
<b>Gender n, %</b>			
Female	183 (33%)	146 (32%)	37 (37%)
Male	365 (66%)	304 (67%)	61 (61%)
Transgender	5 (1%)	3 (1%)	2 (2%)
<b>Age Mean (SD)</b>	39 (12)	40 (12)	38 (12)
<b>Sexual Orientation<sup>1</sup> n, %</b>			
Straight	344 (62%)	282 (62%)	62 (62%)
LGBTQ	159 (29%)	132 (29%)	27 (27%)
MSM	46 (8%)	35 (8%)	11 (11%)
<b>Ethnicity n, %</b>			
Hispanic/Latino	77 (14%)	77 (17%)	N/A
<b>Racial Background n, %</b>			
White/Caucasian	311 (56%)	250 (55%)	61 (61%)
African American	105 (19%)	96 (21%)	9 (9%)
Asian	31 (6%)	16 (4%)	15 (15%)
Other	106 (19%)	91 (20%)	15 (15%)
<b>Time since initiating therapy n, %</b>			
<1 year ago	102 (18%)	76 (17%)	26 (26%)
1–3 years ago	152 (28%)	123 (27%)	29 (29%)
3–5 years ago	78 (14%)	64 (14%)	14 (14%)
5–10 years ago	96 (17%)	86 (19%)	10 (10%)
10+ years ago	120 (22%)	102 (23%)	18 (18%)
<b>Healthcare professional responsible for treatment n, %</b>			
ID Specialist	230 (42%)	198 (44%)	32 (32%)
IM or PCP	94 (17%)	72 (16%)	22 (22%)
PA or NP	36 (7%)	36 (8%)	0 (0%)
HIV Specialist	190 (34%)	145 (32%)	45 (45%)

ID = Infectious Disease; IM = Internal Medicine; LGBTQ = Lesbian, Gay, Bisexual, Transgender, or Queer; MSM = Men Having Sex with Men; NP = Nurse Practitioner; PA = Physician Assistant; PCP= or Primary Care Physician; SD = standard

<sup>1</sup>LGBTQ and MSM are mutually exclusive.

### Treatment Satisfaction, Adherence and Stigma

- On a scale from 1 (totally unsatisfied) to 7 (totally satisfied), mean satisfaction with current ART medications was 5.5 (SD=1.4) for patients and 5.2 (SD=1.0) for physicians; 72% of patients and 93% of physicians were not totally satisfied.
- Common reasons for dissatisfaction among patients included: the need to take medication every day (37%), treatment side-effects (27%), impact on when (25%) and what (23%) patients can eat, and the constant reminder of having HIV (24%).
- Common circumstances in which physicians recommended switching treatments were: treatment resistance (58%), toxicity (54%), virologic failure (53%), and poor adherence (50%).
- About half of the patients (50%) reported that they forgot to take their medication at least once in the past 4 weeks; 27% intentionally did not take their medication.
- Patients reported high levels of stigma: 65% of patients reported feeling concerned about other people finding out about their HIV status, and 85% said they are very careful who they tell that they have HIV. Additionally, 66.9% said they try to hide that they have HIV.

### Preference Results

- Among patients, mode of administration significantly influenced their decisions to switch from their current medication (both to oral and injectable); while, increased risk of side effects and more food and mealtime restrictions (for orals) significantly deterred them from switching. Forgivability and dosing frequency (for injectables) were not significant factors (**Figure 2a**).
- Among physicians, mode of administration and risk of side effects were also significant predictors of recommending a switch (both to oral and injectable). Forgivability, dosing frequency (for injectables), and food and mealtime restrictions (for orals) were much less important, but significant among physicians (**Figure 2b**).
- Physicians were more likely to recommend staying on current therapy if the current treatment challenge was only lifestyle; if the treatment challenge was adherence or side effects physicians were significantly more likely to recommend a switch (**Figure 2b**).

Figure 2a. Patient Preferences for Switching HIV Therapies

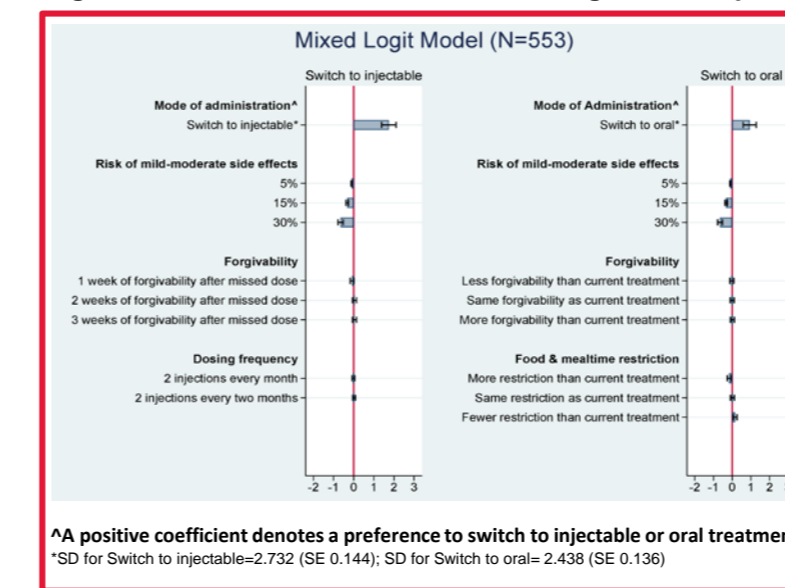
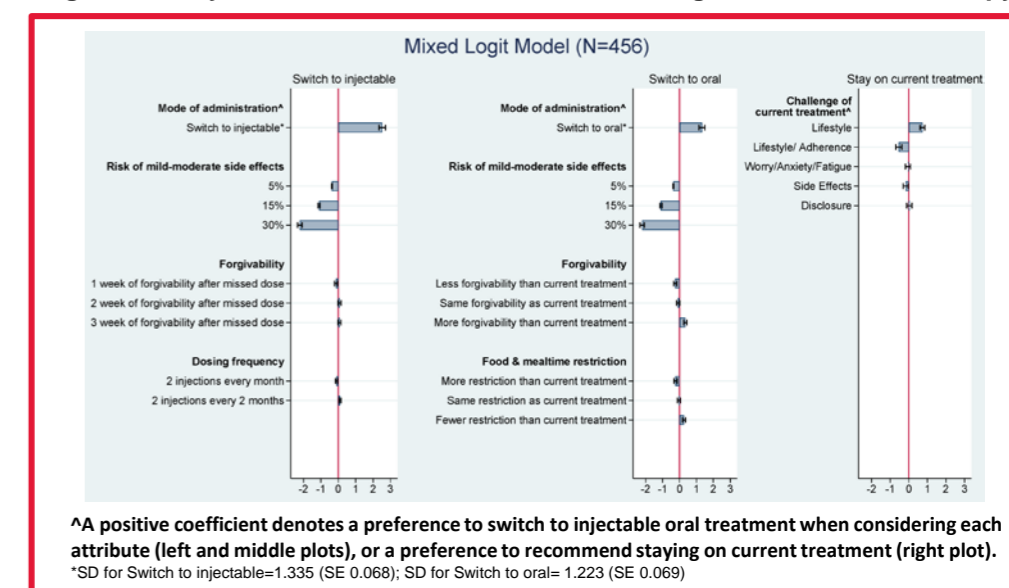
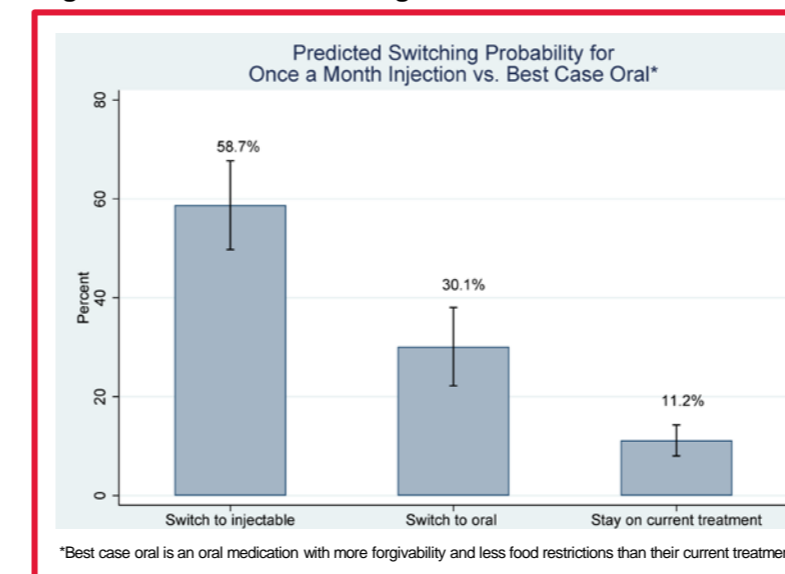


Figure 2b. Physician Preferences for Recommending a Switch in HIV Therapy



- If presented with the choice between switching to a once a month injectable, best-case oral (more forgivability, less food restrictions) or staying on their current treatment, the majority (58.7%) of patients were predicted to choose the injectable (**Figure 3**).
- Key predictors of patients' preferences: patients who had forgotten to take their medication at least once in the past 4 weeks were more likely to switch to an injectable (p<0.001), and those who reported their treatment challenge was lifestyle-related were more likely to stay on their current treatment (p<0.01).
- Between 55%–61% of physicians were predicted to recommend switching to once a month injectable, depending on the treatment challenge scenario for each choice.

Figure 3. Predicted Switching Probabilities – Patients



## LIMITATIONS

- Recruitment was conducted via patient and physician panels, and patients self-reported their HIV diagnosis.
- The sample included a higher than expected proportion of patients identifying as straight, therefore results may not be completely representative of the population of North American PLHIV.

## CONCLUSIONS

- This study suggests that there is still an unmet need for people living with HIV regarding treatment satisfaction and that many PLHIV experience internalized stigma. These issues may be, at least partially, addressed by a novel long-acting injectable treatment.
- Patients and physicians valued switching from their current medication (to injectable and to another oral) positively, with a stronger preference for switching to the long-acting injectable treatment.
- Understanding the attributes that play an important role in treatment decision making for patients can help guide future discussions with health care providers and payers.

## References

- Overton ET et al. Monthly long-acting cabotegravir and rilpivirine is non-inferior to oral ART as maintenance therapy for HIV-1 infection: Week 48 pooled analysis from the Phase 3 ATLAS and FLAIR studies. IAS 2019, Abstract 1291.