Background

- Daily oral antiretroviral therapy (OART) revolutionized outcomes (viral suppression and significantly improved survival) in patients living with HIV (PLWH).
- Treatment is life-long. Patients may face barriers that impact their ability to remain adherent.
- Long-acting OART (LA-OART) agents are being investigated to enable more personalized choice.
- Patient-reported outcome (PRO) measures can provide unique insights, from patient perspective, on impact of or on a health state or treatment.
- It is important to understand attributes with potential effects on adherence among PLWH.

Methods

- A targeted literature review (TLR) was conducted on facilitators and barriers to adherence specific to PLWH and OART.
- Conducted in PubMed, EMBASE & PsycINFO
- Identified qualitative research exploring PLWH experiences with daily OART; focus on attributes defined as facilitators and/or barriers to adherence.
- Then, non-interventional, cross-sectional qualitative concept elicitation (CE) interview study in the U.S., following FDA PRO guidance.
- One-on-one CE interviews were conducted over telephone by trained qualitative interviewers, following a semi-structured discussion guide.
- Target of 7 physicians experienced in treating PLWH, some in CDC-prioritized areas for HIV.
- Target of 25 to 30 PLWH (waves of 5 participants) to achieve concept saturation.
- Criteria: 18-70 years old, live in U.S., English-speaking, willing to share treatment experiences, have confirmed diagnosis of HIV, currently taking daily OART or on drug-holiday, and not in clinical trial in prior year.
- Aspirational targets by age group, race, ethnicity, and sub-groups[15] - men who have sex with men (MSM), heterosexual, people who inject drugs (PWID), and transgender broadly selected based on epidemiological data of HIV incidence and prevalence in U.S.[5]
- Interviews transcribed verbatim. Researchers coded to framework, ordering by number of participants mentioning concept and by number who prioritized concept.
- Patient verbatims assembled from CE interviews (n=28) to achieve concept saturation.

Objectives

- To develop a conceptual understanding of the facilitators and barriers to adherence to daily OART and represent this in a conceptual model (CM).
- To develop a conceptual understanding of the facilitators and barriers to switching to a hypothetical LA-OART and represent this in a CM.

Results

Figure 1. Conceptual Model Development

- From TLR, developed preliminary Conceptual Model to understand adherence to Daily OART (25 concepts; 9 facilitators, 16 barriers).
- Interviewed 25 concepts from TLR; Identified 13 new concepts.
- From CE interviews, developed Preliminary Conceptual Model of Adherence Concepts Important When Considering Switch to Weakly OART (23 concepts).
- PLWH endorsed all 38 concepts for understanding adherence to daily OART.
- PLWH endorsed all 38 concepts for understanding adherence to LA-OART.
- Added 3 new unique concepts.

Table 1. Selected PLWH Demographics

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Total n=38 (aspirational target)</th>
<th>Demographic</th>
<th>Total n=38 (aspirational target)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td>Treatment Experience on Daily OART</td>
<td></td>
</tr>
<tr>
<td>18-29 years</td>
<td>5 (6)</td>
<td>&lt; 5 years</td>
<td>2 (1)</td>
</tr>
<tr>
<td>30-49 years</td>
<td>9 (9)</td>
<td>5 – 10 years</td>
<td>10 (9)</td>
</tr>
<tr>
<td>50-70 years</td>
<td>14 (17)</td>
<td>&gt; 10 years</td>
<td>16 (18)</td>
</tr>
<tr>
<td>Sub-group</td>
<td></td>
<td>Geography</td>
<td></td>
</tr>
<tr>
<td>MSM</td>
<td>18 (13)</td>
<td>CDC prioritized area</td>
<td>19 (17)</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>8 (6)</td>
<td>Treatment history with daily OART</td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>3 (3)</td>
<td>On 1st daily OART</td>
<td>3 (3)</td>
</tr>
<tr>
<td>Women</td>
<td>1 (1)</td>
<td>On 2nd daily OART</td>
<td>4 (4)</td>
</tr>
<tr>
<td>Other</td>
<td>4 (5)</td>
<td>On 3rd or daily OART</td>
<td>20 (20)</td>
</tr>
</tbody>
</table>

List 1. Barriers and Facilitators of Adherence to Daily OART: Final Conceptual Model

Facilitators to Adherence (16 concepts)
- Belief in treatment efficacy
- Perception that treatment improves physical health
- Use of medication to reduce risk of transmission
- Patient buy-in during regimen selection
- Access to behavioural health services
- Fear of drug resistance from poor adherence
- Supportive groups
- Supportive family, partners, friends, in the household
- HIV activism/ leadership
- HIV+ partner
- Dosing regimen that fits routine (convenience)
- Small pill size
- Use of a regimen-taking reminder system
- Low-frequency dosing regimen
- Treatment regimen facilitating infrequent clinic attendance
- Case management and/or care coordination

Either Facilitator or Barrier to Adherence (3 concepts)
- Relationship with treating healthcare team
- Access to HCP/AART

List 2. Barriers and Facilitators of Adherence Following a Hypothetical Switch from Daily to LA-OART: Final Conceptual Model

Facilitators to Adherence (8 concepts)
- Belief in treatment efficacy
- Patient buy-in during regimen selection
- Use of medication to reduce risk of transmission
- Fear of drug resistance from poor adherence
- Dosing regimen that fits routine
- Small pill size
- Use of regimen-taking reminder system
- Reduced preoccupation w/regimen-taking

Barriers to Adherence (13 concepts)
- Medication side effects (e.g., weight gain)
- Fear of switching to a new regimen from an efficacious regimen and routine that have been working well
- Doubt over new regimen efficacy, non-adherence
- Accidental non-adherence (forgetting to take)
- High pill burden
- Out-of-pocket costs (co-pays)
- Regimen with a food requirement
- Difficulty swallowing pills (of any size)
- Regimen serving as reminder of HIV status
- Mental health issues / emotional difficulties
- Failure of disclosure of HIV status
- Shame from HIV status
- Stigma associated with HIV status

No single or collection of existing PROs, among the 56 reviewed, capture all the concepts in either the CM to understand adherence to daily OART or the CM to understand adherence considerations when switching to a LA-OART.

The CMs will inform the development of new PRO measures to address gaps in existing PROs and for use in appropriate clinical research for PLWH.