6-Month Outcomes of Every 2 Months Long-Acting Cabotegravir and Rilpivirine in a Real-World Setting – Effectiveness, Adherence to Injections, and Patient-Reported Outcomes of People Living With HIV in the German CARLOS Cohort

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Disclosures

- The CARLOS study is funded by ViiV Healthcare
- Celia Jonsson-Oldenbüttel:
  - Received fees for advisory board meetings from Gilead, Janssen-Cilag, Merck Sharp & Dohme, ViiV Healthcare
  - Received speaking fees from Janssen-Cilag, ViiV Healthcare, Clinical Care Options
  - Served as a consultant to ViiV Healthcare

Background

- Cabotegravir (CAB) + rilpivirine (RPV) dosed every 2 months (Q2M) is a complete long-acting (LA) injectable regimen that offers an alternative mode of drug administration with less frequent dosing than daily oral antiretroviral therapy (ART)[1,2]

- The efficacy and safety of switching from oral ART to CAB + RPV LA Q2M has been demonstrated in the setting of a large, randomized clinical trial (ATLAS-2M; NCT03299049)[3]

- The prospective CARLOS cohort was initiated to generate the first real-world evidence describing the effectiveness, adherence to injections, and patient experience of participants choosing CAB + RPV LA in routine clinical care in Germany

- Here we describe interim outcomes at the time of injection 4/Month 6 (M6)

ART, antiretroviral therapy; CAB, cabotegravir; LA, long-acting; M, month; Q2M, every 2 months; RPV, rilpivirine.

1. Prescribing information Vocabria depot injection suspension. Germany Jun 2022.
2. Prescribing information Rekambys depot injection suspension. Germany Jan 2022.
3. Jaeger H, et al. *Lancet HIV*. 2021;8(11):e679–e689.

Methods

- CARLOS is a non-interventional, 3-year multicenter cohort study including people living with HIV (PLHIV) who switched from suppressive daily oral ART to CAB + RPV LA Q2M, in accordance with the label[1,2]
- **Analysis population:**
  - Inclusion criteria: participants who reached the M6 window (target date for injection 4 ± 63 days) or those who discontinued treatment but would have reached M6 at the time of data cutoff (May 6, 2022)
    - Inclusion criteria for effectiveness set: participants from the analysis population who received ≥1 injection
    - Exclusion criteria for effectiveness set: participants with missing viral load data in M6 window or who were lost to follow-up
- **Outcome measures:**
  - Virologic suppression (HIV-1 RNA <50 c/mL) at M6 using the effectiveness set (discontinuation = failure)
  - Tolerability (injection site reactions [ISRs] and drug-related adverse events [AEs])
  - Adherence to ±7-day dosing window
  - Change in treatment satisfaction evaluated using the HIV Treatment Satisfaction Questionnaire status version (HIVTSQs, 12-item version)

AE, adverse event; ART, antiretroviral therapy; CAB, cabotegravir; HIVTSQs, HIV Treatment Satisfaction Questionnaire status version; ISR, injection site reaction; LA, long-acting; M, month; Q2M, every 2 months; RPV, rilpivirine.

1. Prescribing information Vocabria depot injection suspension. Germany Jun 2022.
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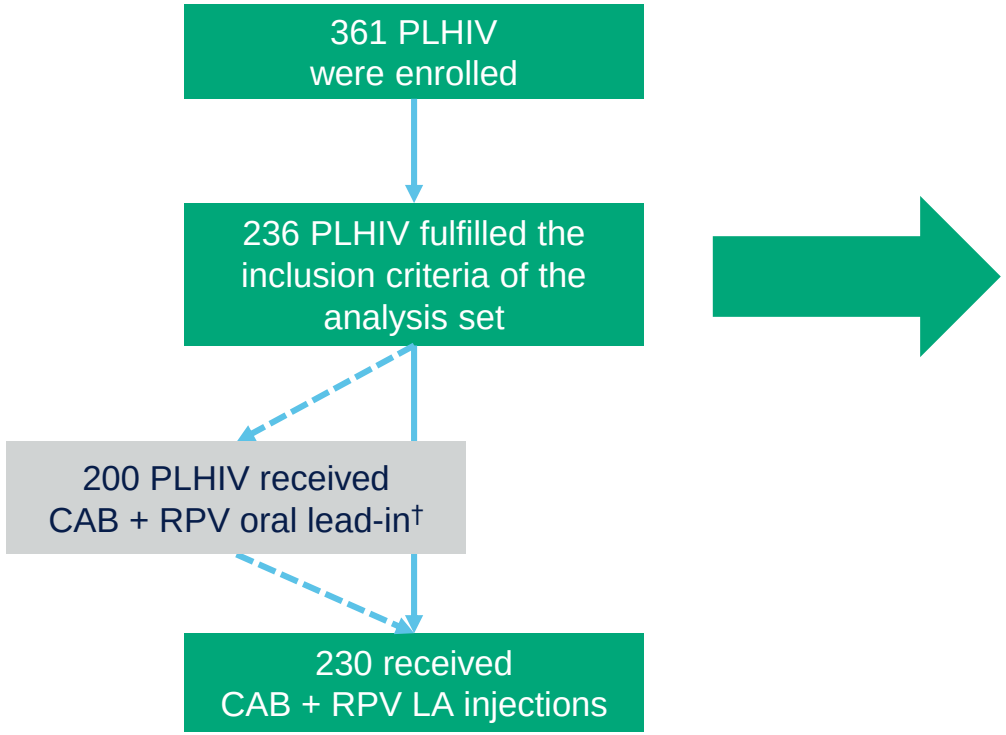
Study Population



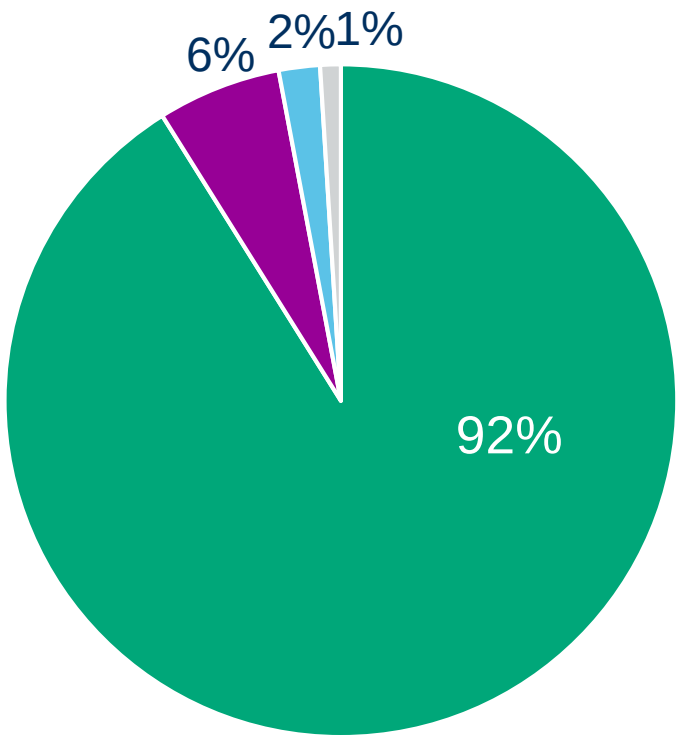
n (%) unless stated otherwise	CAB + RPV LA Q2M	N*
Sex at birth		
Male	225 (95)	236
Age		
Median years (IQR)	43.0 (36–50)	
<50 years	176 (75)	236
50–65 years	59 (25)	
>65 years	1 (0.4)	
Baseline risk factors[1]		
BMI ≥30 kg/m^2	23 (12)	189
HIV-1 subtype A6/A1	3 (2)	141
No current/historic resistance test at switch	93 (39)	236
HIV history		
History of AIDS (CDC C)	20 (8)	236
Time on ART, median years (IQR)	8.0 (5–12)	210
PLHIV with ≥3 previous regimens	106 (45)	236
Prior ART regimen (at baseline, >10%)		
B/F/TAF	55 (24)	229
DTG/3TC	43 (19)	

- Overall, 15.3% (n=36/236) of participants started CAB + RPV LA without an oral lead-in, with the main reasons being "patient preference without medical need" (n=31/36; 86.1%) and "difficulty swallowing" (n=2/36; 5.6%)
- 24 participants had 1 known baseline risk factor, 1 participant had 2 known risk factors[1] (BMI ≥30 kg/m^2 and HIV-1 subtype A6/A1)
  - Additionally, a resistance test was not available for 10 of these participants at time of switch

*Observed data. Percentages are based on observed data. †6 participants discontinued during oral lead-in phase.
ART, antiretroviral therapy; B/F/TAF, bictegravir/emtricitabine/tenofovir alafenamide; BMI, body mass index; CAB, cabotegravir; DTG/3TC, dolutegravir/lamivudine; IQR, interquartile range; LA, long-acting; PLHIV, people living with HIV; Q2M, every 2 months; RPV, rilpivirine.
1. Cutrell AG, et al. *AIDS.* 2021;35(9):1333–1342.

Reasons for Switch

Reasons for switch to CAB + RPV LA from the healthcare provider perspective (n=236)



*Other reasons (n=2): "intense dreaming" and "weight gain."
ART, antiretroviral therapy; CAB, cabotegravir; LA, long-acting; RPV, rilpivirine.

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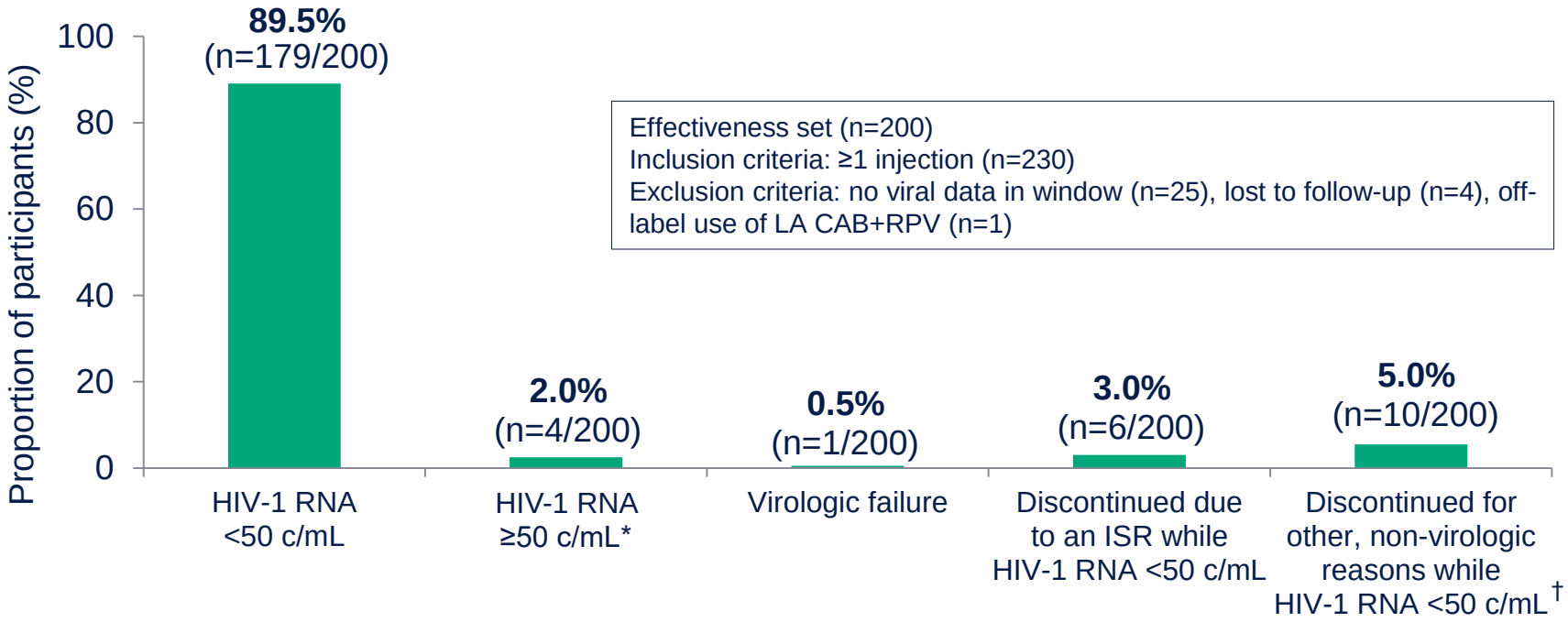
Effectiveness: Virologic Outcomes at M6



- At M6, the virologic suppression rate was 89.5% (n=179/200)
- Overall, 1 participant (0.5%, n=1/200) fulfilled the criterion for virologic failure (confirmed HIV-1 RNA ≥200 c/mL or single HIV-1 RNA ≥200 c/mL followed by treatment discontinuation)
  - 1 with emergent INSTI (L74I, T97A, E138K, Q148R, N155H) and NNRTI RAMs (Y181C); HIV-1 subtype B, BMI=23 kg/m^2, injections in window
  - 1 additional virologic failure occurred with off-label use of CAB+RPV LA (discovered post-hoc; prior virologic failure with an agent of NNRTI class); with NNRTI RAMs (K101E, Y181C, G190A) detected at failure; HIV-1 subtype C, BMI=20 kg/m^2, injections in window

* 2 participants with single HIV-1 RNA ≥200 c/mL and 2 participants with HIV-1 RNA ≥50 c/mL.
† 6 participants who discontinued because they preferred oral ART, 2 participants with adverse drug reactions other than ISRs, 2 withdrawals of consent.
ART, antiretroviral therapy; BMI, body mass index; INSTI, integrase strand transfer inhibitor; ISR, injection site reaction; M, month; NNRTI, non-nucleoside reverse transcriptase inhibitor; RAM, resistance-associated mutation.

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Tolerability: Drug-Related AEs and Injection Site Reactions (ISRs)

Drug-related AEs through M6 (including oral lead-in and oral therapy to cover missed doses)	CAB + RPV LA Q2M n=236
Drug-related AEs (excluding ISRs), n	50*
Grade 1–2 events	50*
Serious drug-related AEs, n	1†
Grade 3 events	1†
Discontinuation due to drug-related AEs, n (%)	6 (2.5%)‡

ISRs through M6	CAB + RPV LA Q2M n=230
Number of injections, n	866
ISR events, n	218§
Grade 1–2 events, n	218
Grade 3 events, n	0
Discontinuation due to ISRs, n (%)	6 (2.6%)

- The most common (>2 events) drug-related AEs excluding ISRs were pyrexia (n=10), pain (n=6), headache (n=6), pain in extremity (n=3), nausea (n=3), fatigue (n=3), and sleep disorder (n=3)

*In 21 participants (8.9%).
†In 1 participant (0.4%): hospitalization due to worsening of anxiety disorder.
‡In 2 participants during the injection phase: headache (n=1) and worsening of anxiety disorder (n=1). In 4 participants during the oral lead-in phase: headache and insomnia (n=1), nausea (n=1), fatigue (n=1), and pruritus (n=1).
§In 65 participants (27.5%).
AE, adverse event; CAB, cabotegravir; ISR, injection site reaction; LA, long-acting; M, month; Q2M, every 2 months; RPV, rilpivirine.

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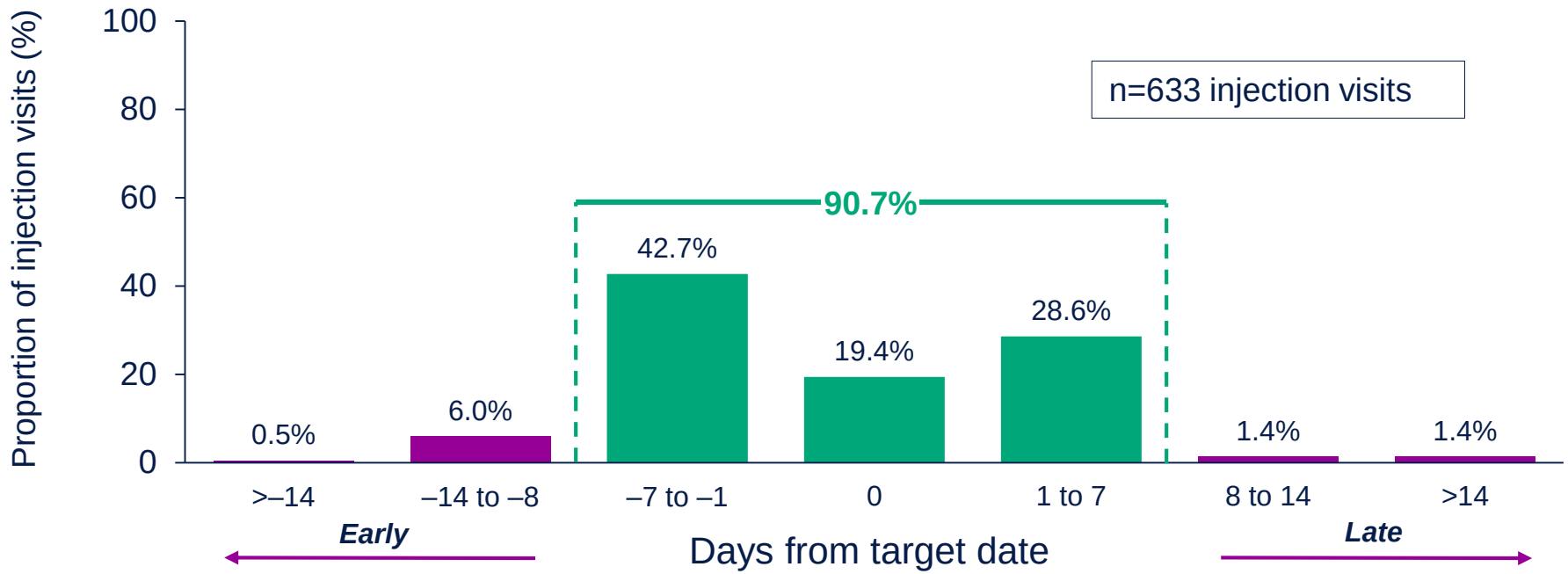
Adherence to ±7-Day Dosing Window



- Overall, 97.2% of injections occurred within the dosing window or earlier; 2.8% (n=18/633) occurred late
  - The most common reasons for late injections were missed appointments (n=11) and pandemic/COVID-19-related delays (n=3)
- Of the late injections, 6 were covered with oral therapy (oral CAB + RPV [n=3], other ART [n=3]; median duration, 13 days; range, 7–22 days), 2 participants had an HIV-1 RNA level ≥50 c/mL at data cut (50 c/mL; 65 c/mL), and 1 participant received an additional loading dose*

*Additional loading dose occurred after an injection delay of <1 month. Not a requirement as per Summary of Product Characteristics.
ART, antiretroviral therapy; CAB, cabotegravir; RPV, rilpivirine.

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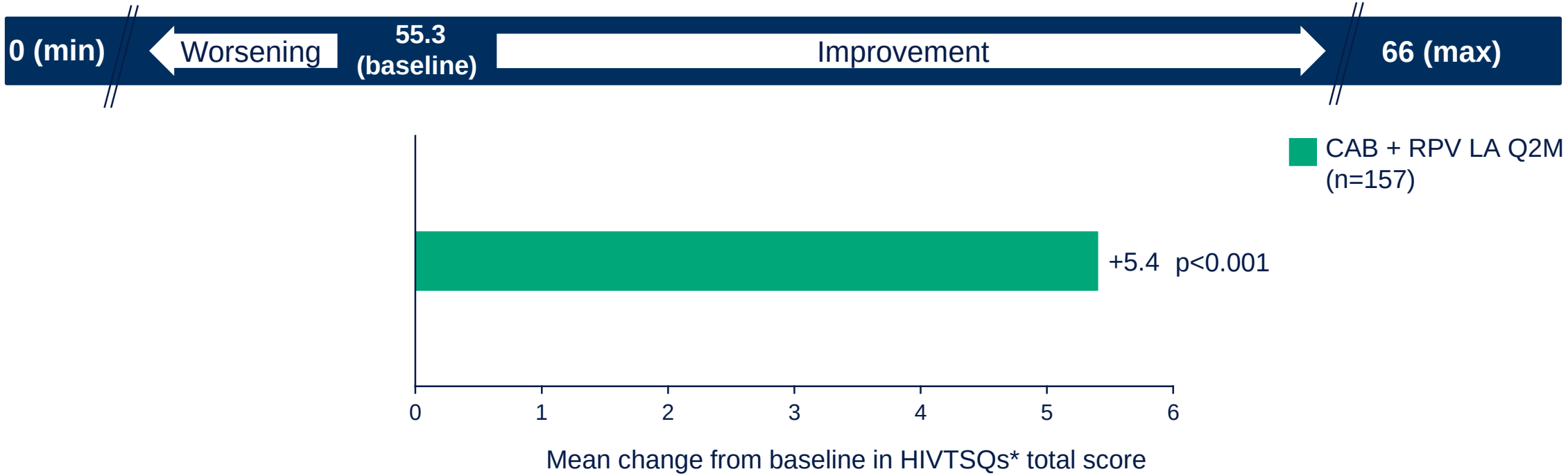
Change in Treatment Satisfaction Score (HIVTSQs)



- For PLHIV who completed the HIVTSQs* at baseline (mean total score, 55.3) and M6 (mean total score, 60.6), a statistically significant increase in total score was observed (mean change, +5.4; p<0.001; n=157)

*HIVTSQs: 12-item version; range per item 0–6, where 0 = “very dissatisfied” and 6 = “very satisfied.” Total score = sum of item 1–11, item 12 presented separately; range for total score 0–66; positive changes indicate improvement.
CAB, cabotegravir; HIVTSQs, HIV Treatment Satisfaction Questionnaire status version; LA, long-acting; M, month; PLHIV, people living with HIV; Q2M, every 2 months; RPV, rilpivirine.

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Conclusions

- In this real-world cohort, every 2 months CAB + RPV LA demonstrated high rates of virologic suppression with low rates (0.5%) of virologic failure in the first 6 months, following switch from oral ART
- The vast majority of participants were adherent to injections in routine clinical practice, with >97% of injections administered within the dosing window or earlier
- The tolerability profile of CAB + RPV LA observed in this real-world study was consistent with observations from the Phase 3/3b clinical trial program, with low rates of treatment discontinuation due to ISRs
- Despite high baseline scores, treatment satisfaction increased significantly following switch from oral ART to every 2 months CAB + RPV LA

ART, antiretroviral therapy; CAB, cabotegravir; ISR, injection site reaction; LA, long-acting; RPV, rilpivirine.

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