

# Patterns of retention in care during clients' first 12 months after HIV treatment initiation in Zambia: A retrospective cohort analysis using routinely collected data

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## Background

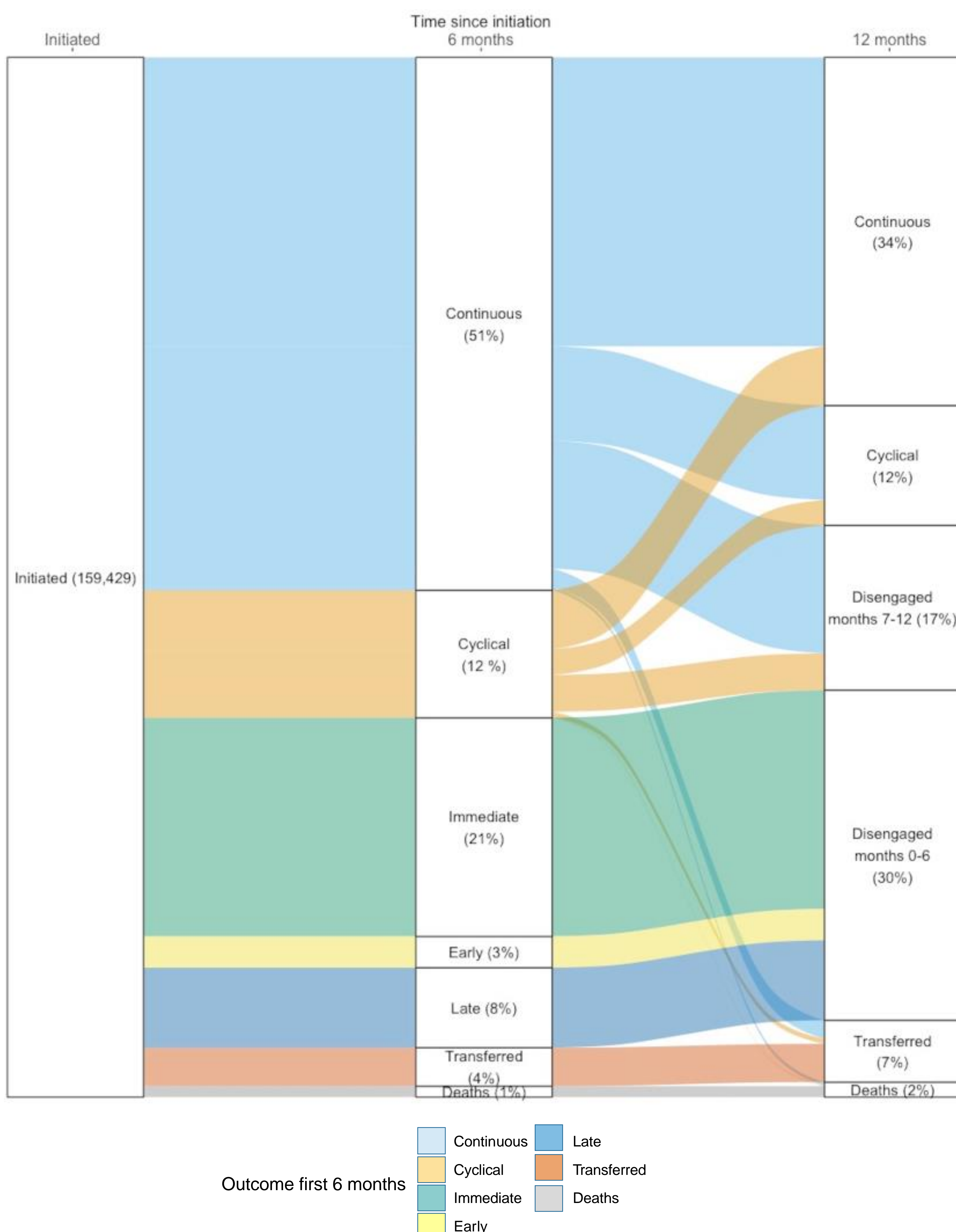
- Clients in their first year after HIV treatment initiation or re-initiation are at highest risk of treatment interruption, yet little is known about the precise timing or patterns of early interruptions.
- We used routinely collected medical record data to define and describe patterns of engagement in Zambia during ART clients' first year.

**A MAJORITY OF ALL ART CLIENTS IN ZAMBIA EXPERIENCE TREATMENT INTERRUPTIONS AND CYCLICAL ENGAGEMENT, AND/OR DISENGAGEMENT DURING THEIR FIRST YEAR AFTER TREATMENT INITIATION.**

## Methods

- Used electronic medical record data from 566 Zambian facilities supported by CIDRZ and provided by leDEA<sup>†</sup>
- Described patterns of engagement among those presenting for initiation of ART from 2018 to 2022.
- Merged clinic visits and other interactions (medication dispensing, laboratory tests) to create "service events."
- Categorized service events as **attended on time, ≤28 days late, or >28 days late** and used these visit categories to define engagement patterns for months 0-6 and months 7-12 after initiation.
- Engagement patterns:
  - **Continuous:** No treatment interruption ≥ 28 days.
  - **Cyclical:** ≥1 visit late >28 days but returned to care.
  - **Disengagement:** missing a scheduled visit by >28 days and without evidence of return.
    - **Immediate disengagement:** No visit or service delivery after ART initiation visit.
    - **Early disengagement:** ≥1 visit after ART initiation, last observed visit ≥3 months after ART initiation.
    - **Late disengagement:** ≥1 visit after date of ART initiation, but last observed visit occurs in period 4-6 months after initiation.

Figure 1: Patterns of engagement by time



## Results

- Participants: 159,429 individual clients (61% female, median age 33).
- Of the 466,101 service events observed after initiation, 63% occurred as planned, 26% were ≤28 days late, and 11% were >28 days late.
- At month 6, 51% clients were continuously engaged, 12% cyclically engaged, and 33% disengaged.
- 2/3 of disengagement in months 0-6 (21% of cohort) was immediate (no return visit after initiation).
- During months 7-12, 54% of clients who had been continuously engaged in months 0-6 remained continuous, while 18% moved to cyclical engagement.
- Among those in a cyclical pattern in months 0-6, 47% moved to being continuously engaged by month 12.
- Only 34% of the study population were continuously engaged for the full-12 month period.

## Limitations

- Data were limited to facilities in the leDEA dataset.
- Results omit silent transfers--disengagement may reflect self-transfer to other facilities.
- We do not have rates of adherence and used the dispensing interval as a proxy for medication possession.
- Continuous engagement could be over- or under-estimated, depending on whether clients had extra ART in hand when they were classified as late or disengaged.

## Conclusions

- Fewer than 60% of clients initiating ART between 2018 and 2021 at Zambian facilities remained continuously engaged, with no treatment interruptions > 28 days, at month 6, and <40% remained continuously engaged at month 12.
- Cyclical engagement and re-engagement are very common and may call for a new model of service delivery and/or adjustments in the timing and targeting of retention support.



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