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BARRIERS AND FACILITATORS TO UTILIZATION OF DIFFERENTIATED HIV SERVICE DELIVERY MODELS IN LUWERO DISTRICT, UGANDA

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ABSTRACT

Differentiated HIV service delivery (DSD) models have improved antiretroviral therapy (ART) adherence, retention in care, and viral suppression globally. However, their utilization in low- and middle-income countries, including Uganda, remains constrained by health system, community, and socioeconomic challenges. This study explored the barriers and facilitators influencing the utilization of differentiated HIV service delivery models among people living with HIV in Luwero District, Uganda. Methods: A cross-sectional qualitative study was conducted in three health facilities in Luwero District: Luwero General Hospital, Katikamu Health Centre III, and Ziobwe Health Centre III. Twelve purposively selected key informants were interviewed, including facility managers, ART clinic in-charges, HIV counsellors, and expert clients (four participants per facility). Data were collected using semi-structured interview guides and analyzed thematically. Results: Utilization of DSD models were influenced by health system, community, and socioeconomic factors. Facilitators included integrated HIV services, shorter waiting times, community health education, peer counselling, lower transportation costs, and proximity of community drug distribution points. Barriers included long travel distances, poor transport networks, poverty, inadequate support from health workers, concerns about confidentiality, and heavy workloads among healthcare providers, which limited access to and utilization of DSD services. Conclusions: Utilization of differentiated HIV service delivery models is shaped by multiple interrelated health system, community, and socioeconomic factors. Strengthening community-based HIV services, improving access to distribution points, addressing transport challenges, increasing staffing levels, and enhancing support for community health workers could improve the utilization of DSD models among people living with HIV.

Keywords: Differentiated service delivery, HIV, People living with HIV, Barriers and facilitators, Qualitative research, Uganda

INTRODUCTION

Globally, HIV remains a major public health challenge, with approximately 39 million people living with the virus in 2023 (1). Significant progress has been made in expanding access to antiretroviral therapy (ART), with 29.8 million people receiving ART by the end of 2023 (2).

However, disparities in treatment access, adherence, and retention continue to hinder efforts to achieve the UNAIDS 95-95-95 targets.

Since 2015, the World Health Organization (WHO) has recommended differentiated service delivery

(DSD) models for HIV treatment to support “treat all” and in recognition of the diversity of needs of people living with HIV (3). Differentiated Service Delivery (DSD) models are client-centred approaches that adapt HIV services to meet the needs and expectations of people living with HIV by tailoring ART delivery to individual circumstances. Globally, the implementation of DSD models has shown promising results in improving ART adherence, retention, and viral suppression (3,4). Countries with well-established healthcare systems, such as the United States and parts of Europe, have successfully integrated DSD models through strategies like multi-month dispensing (MMD), decentralized drug distribution, and telemedicine-based ART refills (5). Studies indicate that patients enrolled in DSD models have better treatment outcomes compared to those receiving conventional facility-based care (6,7). However, several social and institutional factors have resulted into low performance of these models mostly in low- and middle-income countries.

In Africa, which bears the highest HIV burden, approximately 25.6 million people were living with HIV in 2023, with about 20.1 million on ART (8). While ART coverage has improved significantly, retention in care remains a challenge (9). Studies have shown that many stable people living with HIV continue to receive ART through conventional facility-based services, contributing to congestion in health facilities and prolonged waiting times (9,10). It's noted that different countries in Africa have differently adopted and integrated the DSD models. For instance, South Africa, which has the largest ART programme in the world, has integrated several DSD models, including adherence clubs and decentralized drug pick-up points, improving patient retention (11). Similarly, Kenya and Zambia have expanded community-based ART programmes, leading to improved health outcomes (12,13). Nevertheless, the issues such as ART medicine stockouts, understaffing, poor monitoring and tracking, stigma, and confidentiality remain barriers to the community-based DSD utilization (9).

In East Africa, countries such as Kenya, Tanzania, and Rwanda have made substantial progress in implementing DSD models (13,14). Kenya has introduced Community ART Groups (CAGs) and fast-track ART refill models that have improved ART adherence and retention (12). Tanzania has adopted similar strategies, with over 40% of stable people living with HIV receiving ART through DSD models (15), while Rwanda has integrated community-based ART distribution into its national HIV programme to improve access (16). But still, the integration of DSD models in most of the local communities is still very low and wanting, and this is assumed to be due to several unidentified factors.

In Uganda, an estimated 1.4 million people are living with HIV, with about 1.2 million receiving ART (17). The country has adopted DSD models to improve HIV service delivery through facility-based models such as Fast Track Drug Refills (FTDR), Facility-Based Individual Management (FBIM), and Facility-Based Groups (FBG), alongside community-based models including Community Client-Led ART Delivery (CCLAD) and Community Drug Distribution Points (CCDP) (18). Despite the availability of the different DSD models listed above, this does not coincide with actual acceptance and use of these models among people in communities. In Luwero District, District Health Information System (DHIS-2) data indicate that only 10% of stable people living with HIV are enrolled in community-based DSD models despite national targets and ongoing interventions (19). However, in this region of Luwero district, there is scanty evidence available regarding the barriers and facilitators of DSDM utilization. Understanding these factors is important for improving uptake of appropriate DSD models and strengthening HIV service delivery. Hence, this research sought to understand factors that determine the use of differential HIV service delivery models by people living with HIV who are under ART in Luwero district, Uganda.

Materials and Methods

Study Design

This study employed a cross-sectional qualitative design to explore barriers and facilitators influencing the utilization of differentiated HIV service delivery (DSD) models among people living with HIV in Luwero District, Uganda (20). The study was conducted at Luwero General Hospital, Katikamu HCIII, and Ziobwe HCIII (21). A qualitative approach was chosen because it enabled an in-depth exploration of participants' experiences and perspectives regarding DSD model utilization.

Study Setting and Participants

This study was conducted in Luwero District, Uganda, at Luwero General Hospital, Katikamu HC III, and Ziobwe HC III. These facilities were purposively selected because they provide HIV care to approximately 4,055, 1,008, and 1,160 people living with HIV (PLHIV), respectively. The study targeted key informants involved in the implementation and delivery of differentiated HIV service delivery models (DSDMs). Luwero District has an established ART delivery system comprising three hospitals, four HC IVs, and 22 HC IIIs offering ART services, providing an appropriate setting to explore facility- and community-based DSDMs (21). The district was selected because of its relatively high HIV prevalence (6.3%) and persistently low uptake of community-based DSDMs (4.5–8%) between 2020 and 2023 despite national interventions (22). The continued reliance on facility-based models contributed to service congestion, making Luwero District an appropriate setting for exploring the barriers and facilitators influencing DSDM utilization among PLHIV (23).

Sampling and Recruitment

A qualitative approach using key informant interviews (KIIs) was employed. Twelve key informants were purposively selected from the three study facilities, with four participants recruited from each facility. Participants included Facility Managers, ART Clinic In-charges, HIV

Counsellors, and Expert Clients (long-term ART users with disclosed HIV status). Selection was based on participants' roles, experience, and involvement in ART service delivery. Data were collected using a semi-structured interview guide and continued until data saturation was reached, defined as the point when no new themes or insights emerged (24). Participants were eligible if they were healthcare workers from the selected facilities, had worked for at least six months, and provided informed consent.

Data Collection

Data were collected through key informant interviews using a semi-structured interview guide. The interview guide explored factors influencing the utilization of differentiated HIV service delivery models, including experiences, perceptions, barriers, and facilitators related to ART service delivery. Interviews were conducted in private settings, lasted approximately 45–60 minutes, and were conducted in English or Luganda depending on participant preference. With consent, interviews were audio-recorded and supplemented with field notes. Audio recordings were transcribed verbatim to ensure accurate representation of participants' views. The researcher and research assistant were trained in qualitative interviewing techniques, ethical procedures, probing skills, and documentation to ensure consistency and quality during data collection.

Data Analysis

Data analysis employed thematic analysis as outlined by some scholars (25,26). Transcripts were read repetitively to achieve familiarity, followed by inductive, line by line coding, allowing codes to emerge from the data rather than being predetermined. Similar codes were iteratively grouped into clusters, forming a preliminary coding framework that was refined as patterns became apparent. Two analysts independently coded the transcripts, with discrepancies resolved through discussion and reference to the original data to

ensure consistency and minimize bias. Researcher reflexivity was maintained through reflective discussions, acknowledging potential preconceptions and their influence on interpretation. Clusters were subsequently organized into overarching themes, which were reviewed, refined, defined, and named to ensure coherent representation of the data. Study findings are presented through these themes, illustrated with participants' quotations to capture diverse stakeholder perspectives.

Ethical Considerations

Ethical approval was obtained from Bugema University Research and Ethics Committee and the Uganda National Council for Science and Technology. Permission was obtained from participating in health facilities. Written informed consent was obtained from all participants after explaining the study purpose, procedures, risks, benefits, and voluntary participation. Confidentiality was ensured through private interviews, anonymized data, and secure data storage. Participants could withdraw at any time without penalty.

Results

Facilitators to HIV Differentiated HIV Service Delivery Utilization

Theme 1: Convenience Through Reduced Waiting Time

"The first drug refills allow a patient to stay in a facility for like 10–15 minutes... their waiting time has completely reduced. A patient would see it not necessary to wait for health workers to go to the community... when they come to the facility, within a few minutes, they are off" (Female Respondent, KI-005).

"In the community models, there is short waiting time. Within less than five minutes someone picks medicines and goes back to work rather than waiting in long lines at the facility" (Female Respondent, KI-001).

"There are always low waiting hours... clients spend less time at the community point" (Female

Respondent, KI-009), and that "people enjoy them and never want to come back to the facility because they spend less than five minutes at the CDDP" (Male Respondent, KI-008).

Theme 2: Community Health Education and Social Support

"Every time patients come for treatment, health education is done daily, even in the community by peers and health workers. Patient education both at the facility and in the community has positively influenced the uptake of all these models" (Female Respondent, KI-001).

"The utilization of these models depends on how you explain the different models to the clients. At the beginning, some are resistant... but later, as we move on, they get the advantages" (Male Respondent, KI-008).

"When people come together in communities, they share experiences and counsel themselves. They know how to handle such problems better than even us" (Female Respondent, KI-010).

Theme 3: Integration of Services

Integration of other health services into community drug distribution points was reported to improve acceptance and utilization of differentiated HIV service delivery models. Participants explained that including other services helped reduce the focus on HIV-only services. One respondent explained,

"We are slowly integrating other services like family planning, vaccination, and NCD screening into our CDDPs. Integration of services into CDDPs is key... we include vaccination, family planning, and screening to disguise HIV-only clinics" (Female Respondent, KI-005).

Theme 4: Reduced Financial Burden Through Community-Based Services

Community-based models were reported to reduce the financial burden associated with accessing HIV services by reducing transport costs. One respondent explained,

“A person who would have used 20,000 shillings to come to Katikamu is just going to walk a short distance or use 2,000 shillings to go to the mosque or school where we deliver drugs” (Female Respondent, KI-001).

“Community-based models save a lot of money. Transport is one of the major hindering factors in our patients” (Male Respondent, KI-010).

Barriers to HIV Differentiated HIV Service Delivery Utilization

Theme 5: Income, Distance, and Transportation Challenges

Despite the benefits of differentiated HIV service delivery models, financial challenges, long distances, and transport difficulties remained barriers affecting access. Some participants highlighted that limited income affected clients’ ability to meet their needs. One respondent stated, “We work to earn money to support the kids. We don’t know what to do. We have no money” (Male Respondent, KI-006).

“The challenge of long distance still stands out as a barrier..... we keep doing mapping and developing more CDDPs to reach those burdened by long travel. Clients who come within the vicinity of the health facility, even if they are eligible for some community models, usually opt to come to the facility because it’s nearer” (Female Respondent, KI-001).

“A patient comes like 30 kilometers away.....one cannot bring them together. They will continue to come to the facility” (Female Respondent, KI-005). “Sometimes the roads flood, and if you don’t have a 4x4 vehicle, you may not reach there on time. Some roads go through swamps... during rainy seasons you can never cross, and transport costs are very high” (Female Respondent, KI-008).

Theme 6: Challenges with Community Health Worker Support

“Some clients haven’t really felt secure with some of the community health workers attached to them in their communities” (Female Respondent, KI-001).

“On our side as health workers, the workload is usually high, most of the days are covered with facility or community models, and at times we end up failing to provide ample support to each client” (Male Respondent, KI-008).

Theme 7: Gaps in Integration of Services

Although integration of services was reported as a facilitator, some participants reported challenges in accessing integrated services.

“My father was not able to get any help from the government in terms of the integration of services” (Female Respondent, KI-012).

Discussion

Facilitators of Utilization of Differentiated HIV Service Delivery Models

Theme 1: Convenience Through Reduced Waiting Time

This study found that reduced waiting time facilitated utilization of differentiated HIV service delivery models, particularly community-based models. Patients were able to get their treatment services at their convenience, without spending much time in queues. Similar findings were reported in Kampala, Uganda, where facility-based DSD models were associated with longer waiting times (7). Likewise, Mando and colleagues in Kenya found that long waiting times reduced satisfaction and retention in care (27).

Theme 2: Community Health Education and Social Support

Community health education and social support facilitated utilization by improving awareness, acceptance, and peer encouragement. According to the study results, providing health education services to HIV clients in their communities not only plays a key role in demystifying myths and misconceptions regarding HIV treatment and care, but also promotes increased adoption of the community DSD models. Similar findings have been reported in Uganda, where community health education improved awareness and utilization of community-based DSD models (28). Likewise,

Lavoie and colleagues in Kenya found that health education increased knowledge and uptake of DSD models (13). Peer support was also identified in Bushenyi District, Uganda, as an important facilitator of community-based DSD utilization (29).

Theme 3: Integration of Services

Integration of HIV services with other health services facilitated utilization by improving service acceptability. According to the results, facility-based DSD models were more utilized than the community DSD models. Uganda's Ministry of Health recommends integrated HIV and chronic disease services through DSD implementation guidelines (30). Similarly, Humphrey and colleagues in Kenya found that integrated service delivery improved retention and ART adherence (31).

Theme 4: Reduced Financial Burden Through Community-Based Services

Reduced transport costs facilitated utilization, particularly among low-income clients. Results showed that the integration of community DSD models reduced the transport burden for clients accessing the HIV services. Similar findings from Malawi showed that low-income clients preferred community-based DSD models because of their affordability and proximity (26). In central Uganda, higher-income clients were more likely to use facility-based DSD models, whereas lower-income clients preferred community-based models (32). In contrast, studies from Zimbabwe (33) and Mozambique (34) reported no association between income and DSD utilization.

Barriers to Utilization of Differentiated HIV Service Delivery Models

Theme 5: Income, Distance, and Transportation Challenges

This study identified poverty, long travel distances, and transport challenges as barriers to DSD utilization. Many clients were experiencing challenges of bad / impassable roads and lack of money for transport to the service centers. Similar findings were reported by Belay and colleagues,

who found that shorter travel distances improved participation in DSD models (33). Baleeta and colleagues also reported that transport barriers reduced clinic attendance and ART refills (37), while Humphrey and colleagues found that transport costs discouraged utilization of facility-based DSD models (31).

Theme 6: Community Health Worker Support Challenges

Limited support from community health workers hindered utilization of DSD models. According to results, too much work for the health workers reduced their time to provide extra support to the HIV clients. Similar concerns regarding inadequate community health worker support were reported by Lavoie and colleagues in Kenya (13).

Theme 7: Gaps in Integration of Services

Although integration of services facilitated utilization, this study also identified gaps in its implementation, particularly within community-based services, mainly concerning irregularities associated with service uptake in the communities. Uganda's Ministry of Health promotes integrated HIV care to improve efficiency and client satisfaction (30), while Humphrey and colleagues reported that integrated service delivery improved retention and ART adherence (31).

Conclusions and Implications

This study found that the utilization of differentiated HIV service delivery (DSD) models among people living with HIV in Luwero District was shaped by both facilitators and barriers. Facilitators included integration of services, reduced waiting time, community health education, peer support, reduced transport costs, and proximity to community drug distribution points. Barriers included poverty, long distances, poor transportation, limited community health worker support, concerns about confidentiality, and heavy health worker workload.

The findings suggest that improving the utilization of DSD models requires strengthening the factors

that facilitate access while addressing the barriers that limit their use. Expanding integrated community-based services, increasing community drug distribution points in hard-to-reach areas, strengthening community health worker capacity, addressing confidentiality concerns, and improving transport and staffing may enhance the utilization of differentiated HIV service delivery models among people living with HIV.

REFERENCES

- 1) UNAIDS. HIV and AIDS Response 2020. 2021.
- 2) Semo BW, Ezeokafor N, Adeyemi S, Kpamor Z, Mugo C. Differentiated service delivery models for antiretroviral treatment refills in Northern Nigeria: Experiences of people living with HIV and health care providers—A qualitative study. *PLoS One* [Internet]. 2023;18(7 July):1–13. Available from: <http://dx.doi.org/10.1371/journal.pone.0287862>
- 3) World Health Organisation. Summary of the Global HIV epidemic 2022 [Internet]. 2022 [cited 2024 Mar 22]. Available from: <https://www.who.int/data/gho/data/themes/hiv-aids>
- 4) Oluoch RP, Mutinda D, Karama M, Oundo J, Nganga Z. Community Perceptions Affecting Uptake & Retention On Antiretroviral Therapy By PIHIV : A Qualitative Study Among Residents Of An Urban Informal Settlement In Kenya. 2019;32(1):82–92.
- 5) Godfrey C, Vallabhaneni S, Shah MP, Grimsrud A. Providing differentiated service delivery to the ageing population of people living with HIV. *J Int AIDS Soc.* 2022;25(S4):83–7.
- 6) Nsanzimana S, Remera E, Ribakare M, Burns T, Dlodlu S, Mills EJ, et al. Phased implementation of spaced clinic visits for stable HIV-positive patients in Rwanda to support treat all. *J Int AIDS Soc.* 2017 Jul 21;20(Suppl 4):21635–21635.
- 7) Atuhaire L, Shumba CS, Nyasulu PS. “My condition is my secret”: perspectives of HIV positive female sex workers on differentiated service delivery models in Kampala Uganda. *BMC Health Serv Res.* 2022;22(1):1–13.
- 8) UNAIDS. Global AIDS Monitoring 2023. 2023;
- 9) Belay YA, Yitayal M, Atnafu A, Taye FA. Barriers and facilitators to the implementation and scale up of differentiated service delivery models for HIV treatment in Africa: a scoping review. *BMC Health Serv Res* [Internet]. 2022;22(1):1–23. Available from: <https://doi.org/10.1186/s12913-022-08825-2>
- 10) Lakoh S, Jiba DF, Vandy AO, Poveda E, Adekanmbi O, Murray MJS, et al. Assessing eligibility for differentiated service delivery, HIV services utilization and virologic outcomes of adult HIV-infected patients in Sierra Leone: a pre-implementation analysis. *Glob Health Action* [Internet]. 2021;14(1). Available from: <https://doi.org/10.1080/16549716.2021.1947566>
- 11) Mokhele I, Huber A, Rosen S, Kaiser JL, Lekodeba N, Ntjikelane V, et al. Satisfaction with service delivery among HIV treatment clients enrolled in differentiated and conventional models of care in South Africa: a baseline survey. *J Int AIDS Soc.* 2024;27(3):1–11.
- 12) May B. Hiv/aids Patient Experience and Factors Associated With Satisfaction in Differentiated Service Delivery in Kiambu County. 2021;(November). Available from: <http://erepository.uonbi.ac.ke/handle/11295/160172>
- 13) Lavoie MCC, Koech E, Blanco N, Wangusi R, Jumbe M, Kimonye F, et al. Factors associated with enrollment into differentiated service delivery model among adults with HIV in Kenya. *AIDS* [Internet]. 2023 Dec 1 [cited 2025 Mar 8];37(15):2409–17. Available from: https://journals.lww.com/aidsonline/fulltext/2023/12010/factors_associated_with_enrollment_into.17.aspx

- 14) Burengelo D, Kitinya C, Kagaruki G, Philbert D, Soka G, Donard F, et al. Differentiated Services Delivery Model and its associated outcomes among people living with HIV in Tanzania: A cross-sectional study. *Tanzan J Health Res.* 2023;24(3):172–84.
- 15) Mutalemwa P, Eric F, Ngadaya E, Chagula A, Bwana VM, Lubinza C, et al. Community-based HIV services during Differentiated Service Delivery Models: a cross-sectional survey from nine regions in Tanzania. *Tanzan J Health Res.* 2023;24(1).
- 16) Sebeza J, Muiruri C, Riedel DJ, Stafford K, Omari H, Memiah P, et al. Is the Differentiated Service Delivery Model Suited to the Needs of People Living with HIV in Rwanda? *AIDS Behav* [Internet]. 2024 Sep 1 [cited 2025 Mar 8];28(9):2941–9. Available from: <https://link.springer.com/article/10.1007/s10461-024-04376-1>
- 17) Ministry of Health. Uganda National Expanded Program on Immunisation. *Minist Heal* [Internet]. 2024; Available from: <https://www.health.go.ug/programs/uganda-national-expanded-program-on-immunisation-uneipi/>
- 18) Baleeta K, Muhwezi A, Tumwesigye N, Kintu BN, Riese S, Byonanebye D, et al. Factors that Influence Satisfaction of People Living with HIV(PLHIV) with Differentiated ART Delivery Models in East Central Uganda: A Cross-Sectional Study. *Res Sq.* 2021;1:21.
- 19) DHIS-2. District Health Information System. 2024;
- 20) Gavrilov LA, Gavrilova NS. *The Biology of Life Span: A Quantitative Approach.* Harwood Academic Publisher; 1991.
- 21) MoH-Uganda. Implementation Guide for Differentiated Service Delivery Models of HIV and TB Services in Uganda. 2020;(March):1–121.
- 22) DHIS-2. District Health Information System. 2023;
- 23) Katongole SP, Mukama SC, Nakawesi J, Bindeeba D, Simons E, Mugisa A, et al. Enhancing HIV treatment and support: a qualitative inquiry into client and healthcare provider perspectives on differential service delivery models in Uganda. 2024;0:1–16.
- 24) Saunders B, Sim J, Kingstone T, Baker S, Waterfield J, Bartlam B, et al. Saturation in qualitative research: exploring its conceptualization and operationalization. *Qual Quant.* 2018;52(4):1893–907.
- 25) Makoni A, Chemhuru M, Chimbetete C, Gombe N, Mungati M. Factors associated with male involvement in the prevention of mother to child transmission of HIV , Midlands Province , Zimbabwe , 2015 - a case control study. *BMC Public Health.* 2016;1–9.
- 26) Pascoe S, Huber A, Mokhele I, Lekodeba N, Ntjikelane V, Sande L, et al. The SENTINEL study of differentiated service delivery models for HIV treatment in Malawi, South Africa, and Zambia: research protocol for a prospective cohort study. *BMC Health Serv Res.* 2023;23(1):1–10.
- 27) Mando RO, Moghadassi M, Juma E, Ogollah C, Packel L, Kulzer JL, et al. Patient preferences for HIV service delivery models; a Discrete Choice Experiment in Kisumu, Kenya. *PLOS Glob Public Heal* [Internet]. 2022;2(10 October):1–14. Available from: <http://dx.doi.org/10.1371/journal.pgph.0000614>
- 28) Sendaula E, Loy AA, Patrickson A. Utilization of ART Services Among People Living with HIV During the COVID-19 Pandemic: A Case of Kampala District. *Open AIDS J.* 2022;16(1):1–6.
- 29) Oyet D, Niyonzima V, Akol G, Onyait E, Twinomugisha D, Wambera DK, et al. Barriers and Facilitators to Utilization of Community Drug Distribution Points Among People Living with HIV in Bushenyi District, South-Western Uganda: A Qualitative Study. *HIV/AIDS - Res Palliat Care.* 2023;15(October):633–40.

- 30) MoH. Ministry of Health the Republic of Uganda Consolidated Guidelines for the Prevention and Treatment of Hiv and Aids in Uganda. 2022;(November).
- 31) Humphrey J, Carlucci JG, Wanjama EK, Naanyu V, Muli L, Alera JM, et al. Child Health and AIDS Implementing WHO ' s Differentiated Service Delivery Model for Pregnant and Breastfeeding Women and Infants Living with HIV : Insights from Kenyan Healthcare Providers. 2025;14:1–10.
- 32) Guthrie T, Muheki C, Rosen S, Kanoowe S, Lagony S, Greener R, et al. Similar costs and outcomes for differentiated service delivery models for HIV treatment in Uganda. BMC Health Serv Res. 2022;22(1):1–10.
- 33) Strauss M, George G, Mantell JE, Mapingure M, Masvawure TB, Lamb MR, et al. Optimizing Differentiated HIV Treatment Models in Urban Zimbabwe: Assessing Patient Preferences Using a Discrete Choice Experiment. AIDS Behav [Internet]. 2021;25(2):397–413. Available from: <https://doi.org/10.1007/s10461-020-02994-z>
- 34) Uetela DAM. Process, impact and economic evaluation of differentiated service delivery models for HIV treatment in Mozambique. 2023;