

POLICY BRIEF ON INTEGRATING AND STRENGTHENING MONITORING OF DIFFERENTIATED ART SERVICE DELIVERY



BACKGROUND

Since 2016 the World Health Organization (WHO) has recommended differentiated service delivery (DSD) (1), defined as “a client-centred approach that simplifies and adapts HIV services across the cascade, in ways that both serve the needs of people living with HIV better and reduce unnecessary burdens on the health system” (2). These recommendations include approaches for DSD of antiretroviral therapy (ART) that are less intensive and provide person-centred services to improve both quality and retention in care. As a result many countries have introduced or are scaling up DSD ART models. Currently, countries and partners are seeking to strengthen monitoring of differentiated ART service delivery to address implementation gaps and crucially improve patient outcomes.

Recognizing the need for guidance on monitoring DSD of HIV treatment, WHO published the 2022 *Consolidated guidelines on person-centred HIV strategic information*, which included for the first time guidance and recommendations for the collection, reporting and use of data on DSD for ART (Box 1) (3). This policy brief summarizes this guidance along with progress in country implementation and innovations from key countries.

Box 1 Recommendation on monitoring DSD of HIV treatment, WHO 2022 Consolidated guidelines on person-centred HIV strategic information

Integrate and strengthen data collection and reporting of differentiated service delivery in HIV patient monitoring systems to improve treatment outcomes and programmatic efficiency.

- a. Integrate and strengthen data collection and reporting of differentiated service delivery within the HIV patient monitoring system, linking to monitoring of community-delivered services while ensuring that health facilities retain overall responsibility for clinical care and follow-up.
- b. Monitor the impact of differentiated service delivery on treatment outcomes, including retention, viral load suppression and programme efficiencies, for example, reduced clinical visits and staff time.

Source: WHO 2022 (3).

MINIMUM DATASET AND KEY RECOMMENDED DATA ELEMENTS FOR DSD OF HIV TREATMENT

WHO recommends a minimum dataset to help countries prioritize the key data to collect in HIV patient monitoring systems for HIV testing and treatment including DSD (see [Web Annex A \(4\)](#)). Fig. 1 summarizes the recommended data elements for monitoring DSD of HIV treatment. These should be integrated into existing patient monitoring tools and electronic medical record (EMR) systems in line with updates to WHO HIV treatment and care service delivery recommendations. The data collected will enable health care providers and programme managers at all levels to monitor the coverage, quality and impact of DSD services. In summary, the minimum dataset covers the following major aspects of ART DSD:

- DSD eligibility criteria and date of assessment (should be added to existing patient monitoring tools).
- Which DSD ART model patients are enrolled in currently as well as switching between models (for example, from community-based to facility models or from individual to group DSD ART models) and reasons for switching. These data enable longitudinal person-centred monitoring, which in turn improves patient care and management by ensuring continued access to DSD for HIV treatment.
- Data to be reviewed and used to identify individuals that require service delivery transitions into other models of care. This includes age, pregnancy and breastfeeding status, elevated viral load, advanced HIV disease, clients lost to follow up that do not collect their ARV medication, as well as client preferences and the availability of DSD models. These data should be used to identify and flag individuals that may benefit from transition into less intensive models, or the reverse (back to intensive models/standard of care) or lateral transitions to other DSD ART models to meet client needs and preferences.
- In addition, it is useful to monitor and ensure key DSD elements are being provided (for example, ART refills, clinical monitoring, psychosocial support) and where (community, clinic, pharmacy, laboratory). Patient monitoring tools/EMRs should capture ARV drug pick-up date, supply of ART and other services provided – for example, psychosocial support, adherence counselling or laboratory testing.

Fig.1 Key data elements for monitoring differentiated ART service delivery in patients records



ARV= antiretroviral drug; ART = antiretroviral therapy; DSD= differentiated service delivery; VL=viral load

Source: WHO 2022 (3).

Monitoring and assessing whether eligible PLHIV are receiving DSD ART i.e. missed opportunities for DSD is important for addressing programmatic gaps. Updated WHO HIV patient monitoring tools including a generic [HIV care and treatment card](#) (4), [community ART tool](#) (5) and [ART register](#) (6) adapted to capture DSD ART are available to support country implementation. Critically, facility-based patient monitoring remains the main data system and should capture key information on DSD ART irrespective of where services are delivered for integrated care and programme monitoring.

RECOMMENDED KEY INDICATORS TO MONITOR DSD OF HIV TREATMENT

HIV patient monitoring systems should provide accurate and timely data on the diverse services and delivery models for DSD of ART. This requires adaptation of patient monitoring systems and tools and the introduction of indicators to monitor the unique aspects of DSD. Box 2 summarizes the five priority indicators recommended by WHO to monitor coverage, uptake and outcomes of DSD of ART.

Box 2 Priority indicators for DSD of HIV treatment

- – **DSD 1. Multi-month ARV dispensing:** Percentage of people living with HIV and currently on ART who are receiving multi-month dispensing of ARV medicine during the reporting period;
- **DSD.2. Uptake of DSD ART models among people living with HIV:** Percentage of people newly enrolled in DSD ART models among those eligible;¹
- **DSD.3. Coverage of DSD ART models among people living with HIV on ART:** Percentage of people living with HIV enrolled in DSD ART models among those eligible¹ for DSD ART (for facilities with electronic health information systems) or among people living with HIV currently on ART (for facilities with paper-based systems) during the reporting period;
- **DSD.4. Retention in DSD ART models:** Percentage of people retained in DSD ART during the reporting period;²
- **DSD.5. Viral suppression among people living with HIV engaged in DSD ART models:** Percentage of people living with HIV engaged in DSD ART models who have virological suppression (<1000 copies/mL).

● = Core indicator (a set of 25 indicators designated as essential for tracking progress against national targets).

¹ Eligibility for DSD of ART as defined in national guidelines.

² Includes all people living with HIV on ART receiving DSD of ART regardless of whether they switch models.

Source: WHO 2022 (3).

COUNTRY IMPLEMENTATION

By July 2022, 114 countries reporting to the Global AIDS Monitoring reported adopting policies for the implementation of WHO's recommendation on multi-month ARV dispensing, with a three-month interval being most frequent (63% (92/146) (8)). Programmatic data from the US President's Emergency Plan for AIDS Relief (PEPFAR)-supported countries (except South Africa) showed an increase between October 2019 and June 2020 from 46% to 69% in the percentage of people living with HIV who received three or more months of ARV refills (9). Country adoption and progress in monitoring DSD of ART among countries reporting to WHO are summarized in Table 1, while Box 3 highlights country innovation and best practice from Burundi.

Box 3 Country innovation: supporting community-level data exchange and use of DSD of ART in Burundi to improve service delivery and address treatment interruption

The national AIDS, STI and viral hepatitis control programme (PNLS/IST/HV) in Burundi, with the support of FHI 360's Reaching an AIDS-Free Generation (RAFG) project funded by PEPFAR/USAID, developed DSD ART models and piloted the first national DSD model, a community adherence group (CAG), in 2020.

In this model, a group of people living with HIV in the same area and with the same ART refill appointment schedule receives a three-month dispensation of ARVs in their community from a leader who collects the ARVs from facilities for the entire group. The project supported PNLS/IST/HV to develop, update, validate, and disseminate standard operating procedures, job aids, registers, and reporting tools for the CAG model. The PNLS/IST/HV, supported by RAFG, also introduced and scaled-up the fast track model, which allows for accelerated health facility dispensing of three to six months ARVs; outreach model, in which peers deliver ARVs to the homes of people living with HIV; and the adherence club model, in which ARVs are distributed at support groups managed by health care workers and at health facilities for specific populations such as clients receiving prevention of mother to child transmission services and youth.

To address challenges with community-level DSD data collection, the RAFG project is developing a web-based tool called the HAFI application to be incorporated as a module of the national electronic medical records system (SIDAInfo) after validation by the SIDAInfo technical working group. 'HAFI' in Kirundi means closer, and the application allows for service data collected in the community (for example, on ARVs distributed, isoniazid prevention treatment (IPT) and viral load samples taken) to be communicated via SMS to the web-based dashboard at the health facility and then synced with SIDAInfo. The HAFI application pulls information of enrolled clients from SIDAInfo and automatically tracks DSD clients who discontinue treatment. Using SMS, internet connection is unnecessary, thus overcoming connectivity issues, and due to its simplicity, minimal training is needed. HAFI has simplified data collection for DSD models and strengthened data use for improved service delivery and is now being scaled up in Burundi.

Source: FHI 360, Burundi.

Table 1 Adoption/progress and innovations in monitoring DSD of HIV treatment in several countries, reported to WHO by November 2022

Country	Key indicators to monitor DSD of ART	Programme enablers	Data available on: i) disaggregation ii) model switching (Y/N) iii) stopping DSD ART (Y/N) iv) re-engagement in DSD ART (Y/N)	Programme data on DSD ART: i) routinely reviewed and used ii) data quality reviewed/assessment activities implemented
Burundi	1. number of PLHIV enrolled in different DSD ART models (outreach; fast track; adherence group; community ART groups (CAG)/PODI ^a) 2. PLHIV receiving IPT in DSD models 3. PLHIV in DSD models with a delayed ART appointment 4. PLHIV in DSD deceased	New registers and DSD reporting tools for patient monitoring. Health care providers trained. PNLS technical partnership with FHI 360.	i) gender, age; DSD model, services provided (IPT and VL test) ii) yes iii) yes iv) no.	i) monthly, quarterly, and annually ii) supervision and mentoring.

ART = antiretroviral therapy; CAG = community ART group; DDD = decentralized drug distribution; DSD = differentiated service delivery; EMR = electronic medical record; IPT = isoniazid preventive treatment; M&E = monitoring and evaluation; MMD = multi-month dispensing; MoH = ministry of health; PLHIV = people living with HIV; PNLS = National AIDS control programme Burundi; TWG = Technical Working Group; VL = viral load

^a PODI are three multi-month ARV dispensing community groups managed by a facilitator who collects ART from facility for all participants.

Table 1 (continued) Adoption/progress and innovations in monitoring DSD of HIV treatment in several countries, reported to WHO by November 2022

Country	Key indicators to monitor DSD of ART	Programme enablers	Data available on: i) disaggregation ii) model switching (Y/N) iii) stopping DSD ART (Y/N) iv) re-engagement in DSD ART (Y/N)	Programme data on DSD ART: i) routinely reviewed and used ii) data quality reviewed/assessment activities implemented
Côte d'Ivoire	1. number of HIV-positive patients on ARVs classified as stable 2. number of HIV-positive ARV patients enrolled in differentiated care 3. number of patients enrolled in differentiated ART models of care.	DSD data collection and reporting tool available. Health care providers trained on DSD and data collection and reporting tool.	i) gender, age, key population ii) yes iii) yes iv) yes.	i) quarterly and at M&E TWG meetings ii) data quality assessments at district level, training and mentoring on data quality.
Ethiopia	1. number of adults and children who are currently on ART, disaggregated by regimen and DSD model*	Health care providers trained on new tools and monitoring approaches for DSD ART. Monthly MMD data from EMR and weekly MMD data collected and analysed via mobile application, with feedback provided to regional health bureaus.	i) gender, age, viral load test result ^b ii) yes iii) yes iv) yes.	i) monthly and quarterly. Country capability maturity model completed to review progress in DSD scale-up. ii) joint supportive supervision and joint annual review meetings.
Ghana	1. multi-month ARV dispensing* 2. uptake of DSD ART models among PLHIV who know their HIV status* 3. coverage of DSD ART models among PLHIV who know their HIV status and are on ART* 4. retention in DSD ART model* 5. viral suppression among PLHIV engaged in DSD ART models.*	Testing and treatment registers adapted to track DSD implementation. Protocol developed to conduct DSD performance review.	i) gender, age, pregnancy status, DSD model ii) yes iii) yes iv) yes.	i) monthly, quarterly, biannually, annually ii) no.

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*Indicators that align with the WHO priority indicators recommended for DSD of ART (see Box 3 for details).

^b VL test result disaggregation: suppressed, low level viremia (<1000 copies/mL) and high viral load (>1000 copies/mL)

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Laos	None. DSD of ART not yet adopted. MMD and ARV drug distribution through peer networks implemented during COVID-19 lock down via the civil society organisation programme.	Civil society organisation database captures data on PLHIV receiving ARVs through peer networks.	i) no ii) no iii) yes iv) no.	i) no ii) no.
Liberia	The following indicators introduced but not nationally: 1. number of clients eligible for DSD ART 2. number of clients who are offered DSD ART models 3. number of clients who accepted DSD ART models 4. number of clients who arrived at the DSD point for ARV refills 5. number of clients who did not arrive at the DSD ART point for ARV refills.	Staff sensitization on data collection tools and monitoring approaches. Training of pharmacists and facility focal points on DDD app (facilitates data exchange between health facilities and ARV pick-up point providers). Technical partnership with FHI 360.	i) gender, age, pregnancy status, key population, DSD ART model ii) yes iii) yes iv) no.	i) monthly ii) weekly chart and register audit at health facilities and monitoring of data input into data collection and reporting app.
Mozambique	1. among eligible clients, % enrolled in DSD* 2. % of eligible clients enrolled in at least one DSD model of care.	Health care providers trained in DSD tools and registers including electronic data management system	i) age, DSD model, province, health facility ii) yes iii) yes iv) yes.	i) quarterly (partners) and annual DSD performance reviews led by MoH ii) site visits and annual data quality assessment.
Nigeria	1. total number of PLHIV who are receiving ART during the month, disaggregated by: 3-month MMD, 4-month MMD, 5-month MMD, 6-month MMD* 2. number of PLHIV on ART newly enrolled in differentiated care model during the month, disaggregated by facility-based model or community-based model.	Health care providers trained on new tools and monitoring approaches for DSD ART	i) gender, age (<15, 15+ years), DSD model ii) no iii) no.	No data collected yet with the revised national tools.

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Table 1 (continued) Adoption/progress and innovations in monitoring DSD of HIV treatment in several countries, reported to WHO by November 2022

Country	Key indicators to monitor DSD of ART	Programme enablers	Data available on: i) disaggregation ii) model switching (Y/N) iii) stopping DSD ART (Y/N) iv) re-engagement in DSD ART (Y/N)	Programme data on DSD ART: i) routinely reviewed and used ii) data quality reviewed/assessment activities implemented
Philippines	1. number of PLHIV on ART by dispensing modality, that is, DSD model (in-facility, courier delivery, transient hub) ^{c,d} 2. ART retention at 12 months and 24 months, by DSD ART model ^{d*} 3. PLHIV on ART on multi-month ARV dispensing ^{d*} 4. viral suppression among PLHIV, by ART dispensing modality, that is, DSD model. ^{d*}	Health care providers trained on new tools and monitoring approaches for DSD ART	i) gender, age, key population, DSD ART model, area of residence, facility ii) yes iii) yes iv) yes.	i) no ii) yes.
Sierra Leone	1. % of ART clients in facility DSD models (fast track, individual and/or group) ^e 2. % of ART clients in community DSD models (fast track, individual and/or group) ^e 3. % of ART clients receiving MMD ^{e*} 4. % of ART clients who switch model ^e 5. % who stop DSD model ^e 6. clients who re-engage in DSD model. ^e	Indicators and tools not yet introduced	i) gender, age, pregnancy status, key population, DSD ART model ii-iv) data not yet available.	i) MMD data is reviewed at monthly and quarterly data review meetings held at national and district levels ii) quarterly data quality assessment at national and district levels.

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*Indicators that align with the WHO priority indicators recommended for DSD of ART (see Box 3 for details).

^c Transient hub refers to the practice of picking up ARV refills at various hubs and not in the treatment site where the client is registered.

^d Indicators developed but not yet incorporated into the national electronic health information system.

^e Tools under review and still to be pilot-tested. Full implementation of DSD ART with data collection to begin January 2023.

Table 1 (continued) Adoption/progress and innovations in monitoring DSD of HIV treatment in several countries, reported to WHO by November 2022

Country	Key indicators to monitor DSD of ART	Programme enablers	Data available on: i) disaggregation ii) model switching (Y/N) iii) stopping DSD ART (Y/N) iv) re-engagement in DSD ART (Y/N)	Programme data on DSD ART: i) routinely reviewed and used ii) data quality reviewed/assessment activities implemented
Uganda	1. Number of active clients, disaggregated by DSD ART model 2. VL suppression, disaggregated by DSD ART model.*	Health care providers trained on data collection and reporting tool	i) gender, age, DSD ART model, TB/HIV status ii) no iii) no iv) no.	i) quarterly ii) quarterly performance reviews, supervision and mentorship.
Zambia	1. % of clients still in DSD ART 12 months after enrolment in DSD* 2. % of clients who were still virally suppressed at 12 months after enrolment in DSD* 3. proportion of clients in each DSD ART model 4. proportion of clients in community DSD models 5. proportion of clients enrolled in facility DSD models. Additional DSD indicators in use. [†]	Specific module on M&E developed in the national DSD training package for programme officers and strategic information officers	i) gender, age, pregnancy status, DSD ART model ii) yes iii) yes iv) yes.	i) quarterly for MMD and biannually depending on the indicator ii) no.

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*Indicators that align with the WHO priority indicators recommended for DSD of ART (see Box 3 for details).

[†] An additional eight DSD ART indicators are collected and used.

Countries have made encouragingly significant progress in introducing indicators to monitor DSD of ART into the patient monitoring and data systems and regularly reviewing and using these data for service delivery improvements. Countries have also invested in a range of capacity building activities to strengthen monitoring and evaluation of DSD of ART. As seen in Table 1, the indicators adopted by countries vary, but most are at a minimum able to track the number of individuals enrolled in DSD ART models and disaggregate these data by at least age and sex. Going forward, WHO encourages countries to standardize DSD indicators and the minimum dataset, in line with the WHO 2022 guidelines, to monitor the coverage and uptake of DSD ART and to assess whether eligible individuals are receiving DSD ART services and record the key treatment outcomes of retention and viral suppression.

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