

A Toolkit for Health Facilities Differentiated Care For HIV and Tuberculosis

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This toolkit highlights successful differentiated-care approaches implemented in a number of settings and countries in sub-Saharan Africa. The toolkit will be further updated as more experience is gained with these and similar approaches.

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In particular, this document has been enhanced by discussions with staff and documentation of the innovative service delivery approaches implemented by The AIDS Support Organization (TASO) in Uganda and MSF clinics across sub-Saharan Africa.

TASO is a Ugandan nongovernmental organization that currently provides antiretroviral treatment (ART) to over 50,000 clients through 11 service centers across Uganda, representing 12 percent of patients on ART in the country. MSF is an international humanitarian-aid organization that has pioneered delivery of community-based models of quality HIV and TB care.

We are also thankful for input and feedback from colleagues at the World Health Organization (WHO), the President's Emergency Plan for AIDS Relief (PEPFAR), the Joint United Nations Programme on HIV/AIDS (UNAIDS), the Bill & Melinda Gates Foundation, Stop TB Partnership and MSF during the drafting of this toolkit.

NOTE:

Comments (Roman numerals i, ii, iii...) on items within the text of the toolkit are footnoted at the bottom of the relevant page.

Citations (Arabic numerals 1,2,3...) referring to published work will be found in the *References* section at the end of the toolkit.

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Glossary

ANC	antenatal clinic
ART	antiretroviral therapy (for HIV)
CAG	community ART group
CCLAD	community client-led ART delivery
CDDP	community drug-distribution point
Client flow /patient flow	the movement of patients at a health facility, from one station (location) to another, from entry to exit
Client segmentation	grouping of clients into subgroups that share similar characteristics, face similar constraints, or have similar needs
Confirmed cases	people tested positive for HIV or TB (also “positive cases”)
Decentralization	the process of delegating or transferring significant authority and resources from the central ministry of health to other institutions or to field offices of the ministry at other levels of the health system (provincial, regional, district, sub-district, primary health-care post, and community)
Differentiated treatment and care	service-delivery models that are adapted to address the specific requirements of a subgroup of clients
DOTS	Directly Observed Treatment, Short-course (TB): a TB control strategy recommended by the World Health Organization ¹
DR-TB	drug-resistant TB
Health facilities	centers where health services are delivered; they can range from small health posts to larger dispensaries or hospitals. In this document, the terms <i>facilities</i> and <i>sites</i> are used interchangeably.
HIS	Health Information System
HTS	HIV testing and screening
Index testing	a focused approach in which the household and family members (including children) of people diagnosed with HIV are offered HIV testing services; also referred to as <i>index case HIV testing</i>
Integration	the co-location and sharing of services and resources across different disease areas. In the context of HIV, this may include the provision of HIV testing, prevention, care and treatment services alongside other health services, such as TB, sexually transmitted infection or viral hepatitis services, antenatal care, contraceptive and other family-planning services, and screening and care for other conditions, including non-communicable diseases
Key populations	defined groups that, owing to specific higher-risk behaviors, are at increased risk of HIV irrespective of the epidemic type or local context. These guidelines refer to the following groups as key populations: men who have sex with men, people who inject drugs, people in prisons and other closed settings, sex workers, and transgender people.

Lay community health worker	any person who performs functions related to health-care delivery and has been trained to deliver specific services but has not received a formal professional or paraprofessional certificate or tertiary education degree
MAC	medicines adherence club
MSF	Médecins sans Frontières
MSM	men who have sex with men (aka males who have sex with males)
OI	opportunistic infection
OSDV	On-Site Data Verification
PITC	provider-initiated testing and counseling (HIV)
PODI	point de distribution communautaire (French) = CDDP (community drug distribution point)
Positive cases	people tested positive for HIV or TB (also “confirmed cases”)
PSG	peer support group
Prevalence	the proportion of a population living with HIV/TB
QI	quality improvement
RSQA	Rapid Service Quality Assessment
SAT	self-administered treatment
Sites	see “Health facilities”
Stable patient (HIV)	(definitions vary from site to site: but would typically involve one or more of the criteria listed here) a patient receiving ART for at least 6 to 12 months, without treatment regimen change for at least three months, with undetectable viral load and no disruption in ART adherence.
Sero-discordant couple	a couple in which one partner is HIV-positive and one is HIV-negative
Task-shifting	a process of delegation in which tasks are conducted, where appropriate, by less specialized health workers
TASO	The AIDS Support Organization, an HIV service organization working alongside the Ministry of Health in Uganda
VMMC	voluntary medical male circumcision

I. Introduction

1 What is the context of this toolkit?

National programs supported by the Global Fund and partners are making a significant impact in the fight against HIV, TB and malaria. The Global Fund 2015 Results Report shows that 17 million lives have been saved and there has been a decline of one-third in the number of people dying from HIV, TB and malaria since 2002, in countries where the Global Fund invests.²

Despite growing success, lifesaving services are not yet available to everyone who needs them. As UNAIDS points out, global and regional data help to provide a snapshot of the HIV epidemic but they hide the national, subnational and local diversities of the AIDS epidemic and the affected populations within the local epidemics.³ The same applies to TB, where the Stop TB Partnership is calling for the TB community to find new ways of reaching the most vulnerable and marginalized populations. PEPFAR has also developed a revised approach to operational planning and decision-making along the same lines.^{4,5}

Variations in health outcomes exist across different sitesⁱⁱ in many countries and are further affected by a range of geographic, economic, demographic and social factors. Previous clinic-based models of care have often provided undifferentiated care that does not match people's individual needs and has not taken these factors sufficiently into account.⁶ However, some sites have developed promising approaches to maximizing delivery of services and matching them to client needs and constraints.

As illustrated by case examples throughout the toolkit, the use of these approaches has contributed to better outcomes for clients, improved coverage and supported improved quality of services while using resources more efficiently.

Three inter-related categories of successful approaches have been observed and documented from these sites:

- **differentiated care** in service delivery,
- **improved management** of the facility, and
- **better utilization of site data** to identify potential improvements.

This toolkit is concerned primarily with **differentiated care** (*see box below*), although the care options discussed are closely linked with and often require improved facility management and effective data utilization for their success.

Differentiated care is used here in its broadest overall sense, including all services aimed at identifying, diagnosing, treating and supporting people in need of HIV and/or TB services. This is also sometimes called *tiered care*, *patient-centered care* or *patient-tailored care*.

Differentiated care approaches at site level depend on:

- Understanding specific needs and constraints of site client groups;
- Understanding site client views on barriers to screening, testing and treatment;
- Understanding health service provider views on barriers to screening, testing and treatment;
- **Adaptation and improvement of service delivery** for screening and testing, treatment and care, and delivery of drugs, based on information gained from clients and providers about needs, constraints and barriers.

ⁱ The UNAIDS Strategy 2016–2021 outlines its revised approach: *Fast-Track to end AIDS* (*see Reference 15*). The Stop TB Partnership is developing with the TB community a “Global Plan to Stop TB, 2016–2020”, calling for a paradigm shift in how countries, regions and the world can work to end TB by 2035.

ⁱⁱ Sites are defined as centers where health services are delivered; they can range from small health posts to larger dispensaries or hospitals. In this document, the terms facility and site are used interchangeably

Successful implementation of differentiated service delivery has the potential to realize **site-level cost efficiencies of up to 20 percent** while maintaining or improving patient health outcomes.ⁱⁱⁱ The approaches also empower service users to be more engaged in their treatment and care, leading, for example, to improved attendance rates and adherence to treatment. Service providers can also benefit from more effective and efficient working methods and the satisfaction of observing their clients' improved outcomes.

Importantly, in most cases **the approaches do not require policy changes or significant additional resources**, since they are adaptations of what is already being implemented at the site level. Some initial investment may be necessary to support professional development and quality improvement, but the intention is not to implement new programs or processes requiring extra resources.

If these approaches are brought to scale the potential impact is significant. As yet, their implementation is limited, but shifting from a coverage approach to a resource-maximization approach should make it possible for countries and facilities **to achieve better outcomes and ultimately reach more people with the same resources**.

Planning for differentiated care also needs to be **supported by evidence from validated and up-to-date data**. The data will be used to monitor and track progress and improve understanding about specific situations. It will help to identify strengths and key areas for improvement, and to define and implement quality-improvement activities.

2 Who is this toolkit for and what is its aim?

This document is meant for managers of health facilities/sites in low-resource settings (site managers, clinicians, nurses and other health workers) who are seeking to improve efficiencies in health service delivery. Varying degrees of policy flexibility are allowed to facility managers, but the approaches identified in this document will normally fit within these flexibilities.

The toolkit shares documentation of good practices and provides information and practical steps on how sites can develop differentiated approaches. The aim is to encourage greater use of differentiated care in increased numbers of facilities and to achieve the same or better results with the same or less resources, and without policy changes or additional resources.

Site managers can use this toolkit to learn about approaches and practices that achieve greater efficiencies in health service delivery. Each of the three differentiated care modules is designed so that it can be used without reference to the other modules. However, it is important to read through all three modules to gain a comprehensive understanding of differentiated care approaches before selecting which approaches will be relevant to a specific context.

Program managers and national health programs can refer to this toolkit for information on the options available to develop differentiated care, as observed in different settings. They can support and encourage the use of relevant practices through national guidelines and policies, referring site managers to this toolkit for further information on how to implement the identified practices.

It is hoped that the principles of differentiated care in the toolkit will also be used or adapted for other diseases or settings, for example other long-term infections and chronic non-communicable diseases.

ⁱⁱⁱ For community HIV drug dispensing and ART refill, this 20 percent figure is based on published research and direct observations of TASO in Uganda. For community-based DOTS, it is based on two published papers.

3 How was this toolkit developed?

The toolkit draws on in-country observation of management and organizational practices at 45 high-performing sites^{iv} in Kenya, Uganda, and Senegal; over 50 interviews with global experts; and review of more than 200 case studies and existing literature. The two main criteria for the approaches described in this toolkit included:

- Those that have, in most cases, been implemented and observed in a number of countries. Their replication would generally not require policy changes and would depend primarily on site-level planning and decisions;
- Those that may include a reorganization of service delivery or reallocation of resources, but would not require extra investments, although some initial investment in set-up and training would usually be required.

The toolkit is presented as a work in progress. Currently (2015) there are many gaps in documentation although the literature is being added to constantly. This first edition of the toolkit describes examples from sub-Saharan Africa that focus mainly on HIV, with a smaller number on TB. It is intended that further documentation on scaling up differentiated approaches for TB (especially multidrug-resistant TB) and malaria care, as well as HIV, will be available for inclusion in further revisions of the toolkit.

4 What does this toolkit contain?

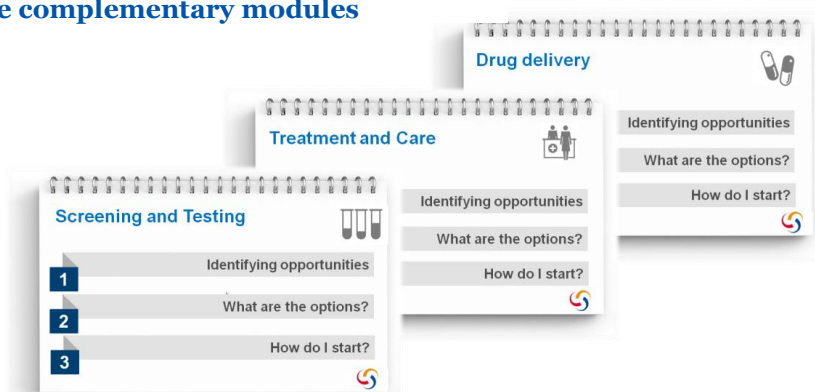
The toolkit starts with a section on **transforming data into information**, emphasizing the key importance of supporting differentiated care with accurate data collection and analysis for planning and modifying approaches.

The toolkit continues with three inter-related modules covering differentiated approaches for: **screening and testing**, **treatment and care**, and **drug delivery**.

Each differentiated care module contains brief operational guidance, aimed at helping site managers to:

- **Determine** if the approach is relevant to a facility's context and/or challenges (see: "*Identifying differentiated care opportunities*");
- **Understand** options and examples of the approach – what it means and what it looks like (see: "*What are the options?*");
- **Define** how to adapt the practice(s) (see: "*How do I start?*").

Three complementary modules



Following the modules, the toolkit offers a selection of tools and further resources for developing differentiated approaches. Glossary and References sections are included at the end of the document.

^{iv} High-performing sites were identified by Country Coordinating Mechanisms, Principal Recipients, Local Fund Agents and Global Fund Grant Management Department colleagues. Verification of performance was determined by comparing health outcomes of identified sites with national averages.

II. Transforming Data into Information for Differentiated Care

Section at a glance

Aim

To highlight the importance of utilizing data as resources for analysis and planning of differentiated approaches

Key points

- Facilities benefit from using routine data, plus data from additional sources, to help with decision-making, adapt ways of working and support improvements in quality of care
- Data collection and use should be included as early as possible in planning processes

Plans for differentiated care need to be supported by evidence. This is best done with data collected at the facility level. Rigorous and regular data collection and analysis processes help to:

- i. understand the specific situation at a given level (e.g., service, sub-national or program level),
- ii. identify strengths on which to build and key areas for improvement, and
- iii. define and implement concrete quality improvement activities.

At the service level, data can be generated through routine patient monitoring and case reporting, with additional information from, for example, surveillance and health facility assessments (including quality of services and vital registration when available). These enable health-care providers to:

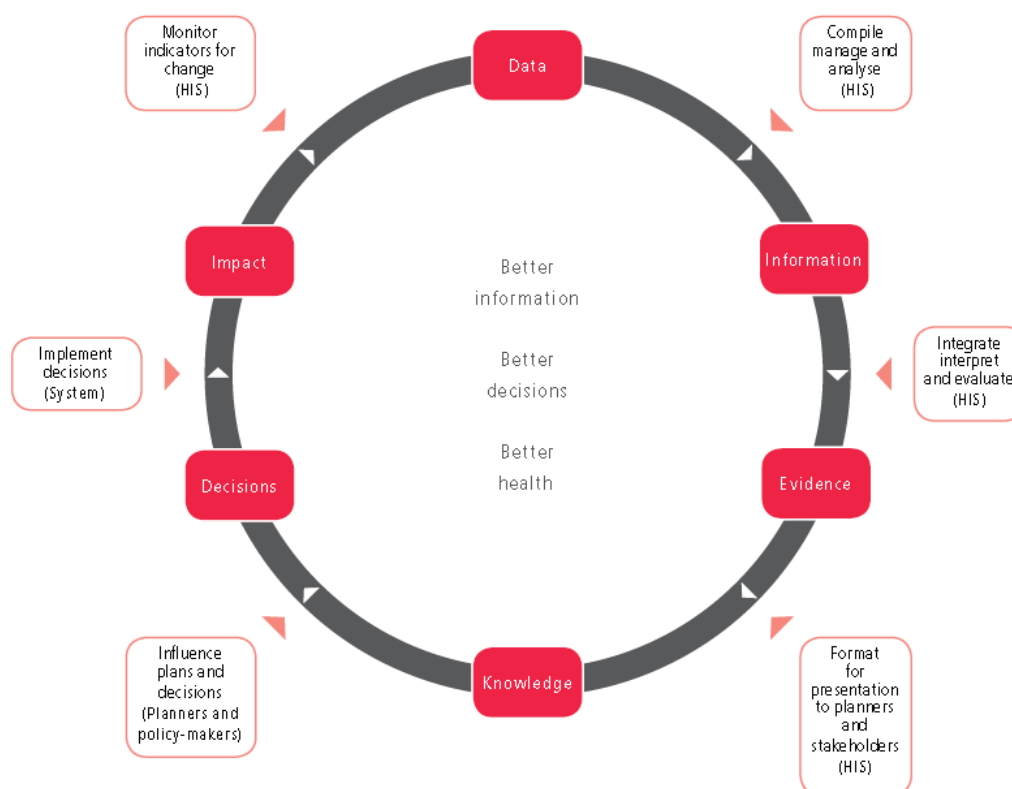
- ensure regular/rigorous clinical patient management (with a focus on quality),
- monitor loss to follow-up and drug resistance,
- establish accountability for quality improvement initiatives, and
- improve facility management by identifying efficiencies and areas for improvement.

Global Fund assessment of program and data quality:

As part of its program quality strategy, the Global Fund is strengthening its support of program and data quality assessment, based on a differentiated and customized approach, with a focus on working with country processes, and utilizing globally accepted tools. The Global Fund is supporting regular health facility assessments using tools from the WHO-led joint stakeholder process to harmonize health facility assessments, Data Quality Reviews utilizing the WHO Data Quality Review Toolkit, and a menu of programmatic and/or targeted quality assessment activities, such as specific programmatic spot checks. The strategy for assessing program and data quality is targeted to not only meet the Global Fund's internal reporting and risk assurance needs but to also ensure high-quality programs for impact.

At the program level, strategic information forms the evidence base for programming disease-specific responses: routine indicator reporting; surveillance/sentinel data; program reviews; evaluations; operational/implementation research and modeling. These data are only of strategic value if they are analyzed, synthesized and transformed into information that is accessible and understandable to managers, planners and other stakeholders (Fig 1).⁸

Figure 1: Transforming data into information and evidence for decision-makers



Source: Health Metrics Network. Framework and standards for country health information system. Geneva: WHO; 2008system. Geneva: WHO; 2008

Findings from five country case studies⁹ revealed that most facilities were not using the data that they collect to improve the quality of their services. There were also gaps in feedback from the regional level to the facilities on the data they reported. This highlights the need to include data collection and use as early as possible in relevant planning processes.

However, there are other countries that have embarked on innovative strategies in using data. The example from Uganda below illustrates TASO's approach to data collection, analysis and usage, including frequent monitoring meetings, regular performance review, and action planning and implementation. This is recommended as a best-practice example for replication or adaptation in other settings and countries.

Example 1: Data analysis and usage - TASO, Uganda^v

Context: TASO Masaka and TASO Jinja provide a range of HIV services from urban centers located close to district hospitals with large catchment areas. Both centers are experiencing high demand for all HIV services, including ART.

What TASO did: TASO implemented a systematic process for data analysis and review on patient-centered indicators in the Masaka and Jinja HIV centers.



1. Analysis of the indicators: Every indicator was analyzed by the quality improvement team from one of three perspectives:

- comparison with a target value set by the facility manager,
- benchmarking with other sites, or
- evolution of the indicator over time.

The quality improvement team then identified indicators with poor performance as areas for improvement and drafted action plans to discuss in performance reviews with the facility staff.

2. Performance review: Quarterly performance review meetings were structured in three steps:

- General review to summarize positive progress and key improvement areas
- Specific discussions for each area of improvement. The quality improvement team compiled a list of possible actions compiled based on discussions with the management and facility staff, with the facility manager taking decisions on which actions should be taken forward
- Impact review of action plans launched in previous performance reviews. This sometimes requires temporary monitoring and analysis of specific indicators for specific action plans.

3. Implementation of action plans: The quality improvement teams monitored each action within the action plans decided in the performance reviews, defined in terms of:

- **Objective:** the specific aim of the plan, e.g. to reduce waiting time from 4 to 3 hours within six months
- **Description** of the activities: Clear measures to be deployed to realize the objective
- **Roles and responsibilities:** person-in-charge for each action to be identified and on-boarded in the project
- **Monitoring process:** includes quantitative assessment, feedback from staff and/or patients, monitoring of specific indicators and defining the frequency of reviews.

Key messages:

Several benefits of this approach have been observed at both of the TASO centers:

- **Helps to make decisions and take actions:** Management of the facilities emphasized that the indicators analysis was useful to help them make decisions at the facility level.
- **Change in ways of working:** The facilities saw more engagement from staff to implement actions and improve services when it was based on data-driven decisions and they were able to see the impact of the changes over time.
- **Easy to implement:** Both facilities implemented the new process with existing resources, with the assistance of the monitoring and evaluation and quality improvement teams. TASO was already conducting client exit interviews and compiling patient data that were used for the data analysis.
- **Implementation in other facilities may require workarounds and/or more monitoring and evaluation and quality improvement expert input** since TASO Masaka and Jinja have more resources than most other centers.

^v Global Fund 2014–2015 field visits and follow-up

III. Module 1: Differentiated Screening and Testing Approaches

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Module 1 at a glance

Aim

Identify ways for sites to improve the efficiency of screening and testing strategies to increase the number of confirmed cases found within and outside facilities

Key points

Differentiated screening and testing can improve the cost-efficiency of existing approaches by:

- Focusing attention on those in need, based on available data;
- Adapting service delivery to the needs and preferences of patient groups and the constraints of services providers;
- Providing service options and ensuring linkage to treatment and prevention services.

1 Introduction

HIV prevention activities, including testing and counseling, account for ~19 percent¹⁰ of total domestic and international spending on HIV; for TB, spending on diagnosis accounts for ~14 percent¹¹ of total domestic and international spending. The benefits of these investments could be maximized if measures were implemented to increase the number of positive cases found through HIV or TB screening and testing, which will help both disease areas to reach their ambitious goals, namely:

- 90 percent of people living with HIV knowing their status, 90 percent of people who know their status to access HIV treatment and 90 percent of people on HIV treatment to achieve viral suppression by 2020; (in 2015: only ~50 percent of people with HIV knew their status in sub-Saharan Africa¹²)
- 90 percent decrease in new TB cases between 2015 and 2035¹³, finding at least 90 percent of all TB cases in the population and reaching at least 90 percent of the most vulnerable, underserved or at-risk people with treatment by 2025¹⁴ (2015: estimated ~3 million people with TB “missed” every year¹⁵).

This module aims to help facility managers identify how to improve the efficiency and costs of their existing testing approaches within the flexibilities they are allowed, through influencing site service delivery models and targets. Program managers will also find this module relevant, for example, to inform discussion of how to prioritize areas or population segments for out-of-facility testing.

Optimizing the use of resources at the site level should aim to increase the number of confirmed cases found and/or decrease the cost of testing and will depend on a number of site-level factors. WHO guidance on how to improve strategic program planning for HIV testing services provides support to inform decision-making in this area.¹⁶

It is important to recognize that there may be higher costs for some testing services for underserved groups (e.g. displaced persons) who may have greater barriers to access. Costs will also vary depending on which diagnostic tools are routinely available in any given setting, both for HIV testing and for TB screening and testing.

Differentiated screening and testing approaches are based on the preferences of targeted groups; the cost of service delivery; and the expected testing efficiency.

In line with the renewed emphasis on targeting locations, populations and interventions that deliver the greatest impact,¹⁷ WHO recommends that countries consider a **strategic mix of testing services for HIV**¹⁸ to facilitate early diagnosis of as many people as possible, aiming to maximize yield, efficiency, cost-effectiveness and equity. This mix includes:

- *integration* of HIV testing and screening with other health services,
- *decentralization* of HIV testing and screening to primary health care facilities and outside of the health system, and
- *task-shifting*.

This toolkit provides examples of:

- *Focused out-of-facility screening and testing*: testing campaigns for specific populations to maximize the number of confirmed cases found,
- *Integrated out-of-facility screening and testing*: providing screening and testing along with other services in outreach activities (e.g. immunization campaigns) to decrease unit costs of services,
- *Integrated provider-initiated screening and testing*: providing screening and testing along with other services in facilities, (e.g. HIV screening and testing in TB clinics, or antenatal and child health clinics, or TB screening and testing in HIV clinics).

2 Identifying differentiated screening and testing opportunities

Facilities utilize a range of approaches for screening and testing – these can generally be categorized as:

- *On-site*: services offered within health facilities such as primary care clinics, inpatient wards, outpatient clinics including TB and HIV clinics;
- *Out-of-facility*: testing or screening offered in community settings, for example home-based index testing, door-to-door outreach, or service provision in schools, workplaces and other community venues.

Managers can use the following questions to identify opportunities to adapt differentiated screening and testing approaches to their context:

- *What is the testing efficiency and cost of the different testing options?*
- *How can I improve the testing and cost-efficiency?*
- *How can I improve the site's mix of testing approaches?*

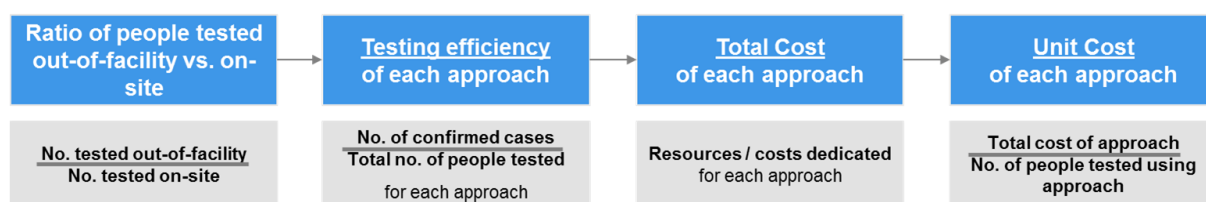
All testing approaches must be accompanied with proper linkages to care and treatment, and referrals to other services¹⁹.

What is the testing efficiency and cost of the different testing approaches?

A comparison of the number of positive cases found from out-of-facility approaches with the number found from on-site approaches, along with data on the resources and costs for each approach will, as shown in Figure 2, enable calculation of:

- the testing efficiency (i.e. confirmed cases as a ratio of total numbers tested), and
- the costs of each approach, per person and overall.

Figure 2: Calculation of testing efficiency and costs of a testing approach



Example 2: CDC testing strategy design – Mozambique²⁰

Context: CDC supports Mozambique's Ministry of Health to deliver HIV services and strengthen health system capacity. It provides clinical support for seven provinces with 75 percent of the country's people living with HIV. An estimated 11.5 percent of adults (age 15–49) in the country live with HIV. In 2011, 17 percent of adult women and 9 percent of adult men received HIV testing.

What CDC did: In 2011, CDC conducted a review of its HIV testing and counseling approaches, considering cost, testing efficiency and alignment with overall programmatic priorities such as prevention of mother-to-child transmission and voluntary medical male circumcision. Testing activities had focused on gross numbers of people tested, without considering population group characteristics and constraints, and the costs and health service ability to ensure linkages to care. CDC changed its testing strategy to focus on finding more confirmed HIV-positive cases with the same effort and ensuring that all people testing positive for HIV initiated treatment. Key populations and areas with higher prevalence were targeted. Trained local community counselors now provide HIV counseling and testing in the community and refer people who are HIV-positive to health units, also screening for TB and educating residents on hypertension, malaria and diarrheal diseases.²¹

Performance: In 2012, a review of the revised strategy's implementation showed that the testing efficiency of the approaches had increased by 27 percent, while the overall volume of testing had decreased by 6 percent; the proportion of outreach activities compared to overall testing activities had fallen from 59 percent to 32 percent.

Key messages:

- The change of focus reduced out-of-facility efforts and increased their efficiency by targeting at-risk populations or areas with higher prevalence.
- Successful partnership with nongovernmental organizations reached more people through community testing and referral expanded the health workforce and increased access for rural communities.

How can I improve the testing- and cost efficiency of testing approaches?

Three approaches can assist in maximizing efficiency of testing approaches:

- *Integration* – offering testing and screening together with other care services (e.g. primary care, antenatal care, immunization), thereby decreasing the unit cost of testing per client; this would generally be more relevant in high-burden settings;
- *Focus on specific population groups* – increasing the number of positive cases found per number of people tested by focusing services on groups with a higher HIV or TB prevalence or on vulnerable groups with unknown prevalence;
- *Geographical targeting of people most at risk* – identifying locations within the facility catchment area where people are underserved or there is higher risk and specific localized epidemics (so-called “hotspots”), for example. mines and factories with high levels of air pollution (TB risk), fishing encampments, truck stops and areas of poverty or overcrowding where there is the greatest need for HIV and/or TB treatment and prevention.²²

How can I improve the mix of testing approaches?

Awareness of the efficiency and cost of their testing approaches will enable sites to determine the best combination of in-facility vs. out-of-facility approaches. They may need to reduce inputs with lower testing efficiency or higher cost and redirect resources towards approaches with higher efficiencies and/or lower costs.



3 What are the options?

3.1 Focused out-of-facility screening and testing

Out-of-facility screening and testing approaches are very diverse. In most cases their aim is to bring services away from the facility, closer to potential clients. *Focused* out-of-facility screening and testing aims to reach specific under-served groups or prioritize implementation in specific geographical areas or clinical settings, according to epidemiology and current levels of testing coverage.

Prioritization should be based on knowledge gathered from existing data relevant to the location and on engaging communities and health providers in discussion, needs analysis and planning processes to identify which specific groups to target and how.

Further reading

- WHO consolidated guidelines on HIV testing services
- WHO recommendations for investigating contacts of persons with infectious tuberculosis in low- and middle-income countries

Typical populations that benefit from focused out-of-facility screening and testing:

- *Key populations* with a higher disease burden due to higher vulnerabilities (based on local epidemiological data) such as truckers, sex workers, and men who have sex with men to address their access barriers to testing, it may be worth offering screening and testing at their workplace or places of gathering at times that are more convenient and confidential for them (e.g. moonlight clinics);^{vi}
- *Family members of people with TB or HIV*: offering index testing^{vii} can help address barriers to testing for at-risk people who may not attend the facility;
- *Populations living in specific areas*: for example, offering out-of-facility services where people with high vulnerability to HIV or TB can be found, e.g. at transport hubs, border crossings or specific places where people most at risk reside or work (e.g. mines);
- *People with restricted access to treatment services*, who may choose to avoid testing if treatment is not available to them or confidentiality is not protected (e.g. adolescents, stigmatized minorities).

^{vi} Moonlight clinics are open from 6pm onwards until as late as 3 or 4am in high-risk settings e.g. transport hubs, LGBT areas, and targeting truck drivers, MSM, sex workers, etc. who would not wish to be tested during the day due to stigma attached to their work and lifestyles.

^{vii} Index testing (index case testing) is a focused approach in which the household and family members (including children) of people diagnosed with HIV or TB are offered screening and testing services.

Various out-of-facility models exist, with different costs; for instance:

- Temporary activities, renting space for service delivery;
- Mobile outreach with trucks or vans;
- Door-to-door outreach;
- Using community facilities or drop-in centers.



Costs should be assessed when designing the strategy to ensure that focused out-of-facility approaches are cost-effective. WHO provides an assessment of typical cost-per-person-tested for different types of focused out-of-facility activities in low- to upper-middle-income countries for HIV²³.

Example 3: Focused outreach to key populations – TASO Uganda^{viii}

Context: TASO sought to reach populations with higher-than-average HIV prevalence; prevalence among sex workers is ~35 percent, for instance.^{ix} Specifically, TASO identified key populations around its sites that had higher prevalence than local/regional averages.

What TASO did: Each TASO site targeted different key populations according to its location (e.g. fisher folk and plantation workers at TASO Entebbe, truckers at TASO Jinja).

Service-delivery models were adapted to reach out to those populations. For instance, HIV testing and counseling was brought to the farms to reach plantation workers. “Moonlight clinics” were set up at points close to where sex workers or truckers gather, with adjusted schedules (counselors and lab technicians worked from 6 pm to 1 am instead of daytime hours).

TASO also engaged community members to facilitate outreach and build trust with clients. Community members were recruited as volunteers, and were integrated into workforce planning. They facilitated outreach by helping sites target the right places (e.g. clubs, bars, neighborhoods) and the best times to access those needing services.

Performance: While the positivity rate varies from population to population, at the TASO Mbarara site, the rate of HIV-positive individuals identified through testing was 14.5 percent when testing sex workers and 6.3 percent when testing truckers. In contrast, the overall HIV prevalence in Mbarara district is 6.1 percent, with only 40 percent of HIV-positive people knowing their status correctly (2011 AIDS indicator survey).

Key messages

- Targeting people most-at-risk with testing and counseling efforts increased the efficiency of those efforts;
- Targeting also helps to provide more accurate estimates of HIV prevalence in key populations and high-risk occupations.

^{viii} Global Fund 2014–2015 field visits and follow-up

^{ix} 2011 figure – <http://www.avert.org/hiv-aids-uganda.htm>

Example 4: Focused prison outreach - TB REACH Zambia²⁴

Context: Prison living conditions constitute risks for TB transmission (e.g. overcrowded closed settings) as well as HIV. In Zambia, there is no systematic screening for TB in prisons. Infected inmates cannot access treatment easily, and inmates and staff lack TB awareness.

What TB REACH did: TB REACH targeted six prisons (with a total of 7,700 inmates and 30 percent of Zambia's total prisoners) to implement systematic TB screening along with HIV testing. Prisoners underwent TB screening when they entered and exited the prison as well as once during incarceration as part of a massive inmates-testing campaign. To facilitate access to inmates, peers were trained for screening. Peer inmates acted as community health workers conducting daily routine checks. Staff and their families were also tested in view of their exposure to patients.

Collected sputum was sent either to labs within the prison or to mobile lab units. Inmates testing positive were then sent to nearby treatment facilities administered by the Ministry of Health.

Performance: TB prevalence across the six prisons registered 5.4 percent, vs. 0.3 percent at the national level.^x TB REACH's focused outreach in the six Zambian prisons increased the TB case notification for all forms by 132 percent. Overall prevalence of HIV was 22.9 percent but 37 percent among individuals testing positive for TB. In the targeted prisons and encampments, prevalence of TB was 18 times higher than the Zambian national estimate.

Key messages:

- Focused outreach has the capacity to identify much greater numbers of TB- and HIV-positive individuals in prison environments, and periodic mass screening may be highly beneficial where resources for routine screening are lacking;
- Rapid, accurate point-of-care diagnostic tools will greatly facilitate the effectiveness of mass and routine screening in prisons;
- The involvement of inmate peer educators proved advantageous for screening and testing, referrals and follow-up.

3.2 Integrated out-of-facility screening and testing

Many health centers provide out-of-facility services to reach people who have difficulties in accessing facilities. Such initiatives can include door-to-door primary care (such as testing blood pressure, providing basic health checks or de-worming) or a full campaign of immunization, for instance. HIV testing or TB screening are often combined with these services in areas or settings with high HIV and/or TB burdens.

This approach can be combined with other out-of-facility initiatives to provide HIV or TB testing in remote areas, or to reach specific populations. Nurses or community health workers conduct testing or collect samples for the laboratory where a dedicated laboratory technician analyzes the results.

Integrated out-of-facility screening and testing can make it possible to test more people at a marginal cost. WHO also now recommends HIV testing by trained lay providers working in the community as a task-sharing measure to increase effectiveness and efficiency of services.²⁵

Further reading

- TB REACH collection of case studies "Improving Tuberculosis Case Detection"

^x WHO, 2013 figures

Typical population groups that benefit from integrated out-of-facility testing include:

- *TB patients who are potentially co-infected with HIV*: Integration of HIV testing into sputum-collection campaigns;
- *Infants and children*: Targeting through immunization campaigns
- *Pregnant women, new mothers and infants*: Testing for HIV and screening for TB during mother and child health outreach;
- *Rural communities living in remote areas*: Testing for HIV and screening for TB alongside other primary care services;
- *Injecting drug users*: integrating HIV testing with harm reduction outreach services; integration of HIV testing with opioid substitution treatment outreach for same population;
- *Men*: offering HIV testing during community health campaigns, at weekends or in locations such as markets or bars where men are more likely to attend.²⁶

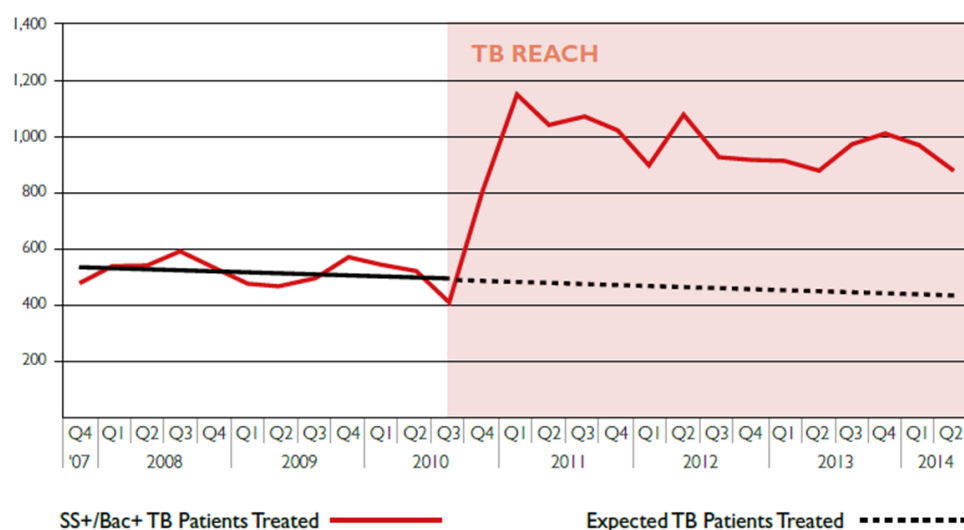
Example 5: Reaching rural communities – TB REACH, Ethiopia²⁷

Context: Sidama is a rural area of Ethiopia with an estimated 7.4 million inhabitants, of which ~70 percent live more than ten kilometers (six miles) away from health facilities. TB transmission is sustained by difficulty in accessing health services along with a lack of awareness of TB risks and transmission.

What TB REACH did: TB REACH worked with health extension workers (HEWs) already conducting routine door-to-door visits in remote communities. TB REACH contributed to covering their salaries and training to enable them to integrate TB testing and awareness-raising into routine activities. Patients thought to have TB infection (e.g. coughing for two or more weeks) were asked to provide a sputum sample which was then analyzed at the nearest lab with coordination and support from project supervisors. Smear-positive patients were initiated on treatment by supervisors in the same community, without the oversight of a presiding clinician; they also screened household contacts of diagnosed patients and initiated isoniazid preventive therapy for asymptomatic children. HEWs also provided treatment support; conducting follow-up visits, collecting sputum specimens to monitor treatment and reporting drug side effects and treatment outcomes.

Performance: The number of people identified and treated for TB more than doubled, increasing by 110.8 percent over historical trends. Since health extension workers are female, that helped boost the number of confirmed cases found among women. Major costs included personnel-related expenses (e.g. salary, training, phone credit) and sputum analyses by the labs.

Figure 3: Evolution of smear-positive (SS+)/bacteriological-positive (Bac+) TB patients^{xi} treated following the start of TB REACH outreach vs. business as usual



Key messages:

- Other interventions were needed to support this approach: community advocacy and awareness raising; a specimen transport system; engagement of key stakeholders.
- Integration of HIV testing with TB testing in this setting could be a worthwhile development of this approach

^{xi} SS+: sputum smear-positive patients; Bac+: bacteriologically-positive patients

3.3 Integrated facility-based provider-initiated screening and testing

WHO recommendations for HIV testing and screening are as follows:

- in generalized epidemics, provider-initiated testing and counseling (PITC) should be offered to all clients and in all services;
- in concentrated HIV epidemics, PITC should be offered to clients in clinical settings who present with symptoms or are at risk of HIV infection (e.g. key populations), including presumed and confirmed TB cases.

In non-integrated settings, PITC often requires the client to move from one clinic room or station to another for testing. For instance, a pregnant woman at antenatal clinic would have to move to a laboratory or testing center and wait in line with other clients for testing.

In-facility integration consists of offering and providing testing at multiple stations on-site. This can include HIV testing in TB care settings and screening for TB in HIV care settings to identify co-infected clients. Integration is especially relevant for sites that offer many types of health services and have a high volume of clients (particularly critical in settings of high prevalence).

Typical groups that benefit from in-facility integrated testing (as recommended by WHO for HIV)²⁸ include:

- *Clients in areas with high burden of HIV and TB:* HIV testing offered in TB clinics, and TB screening offered in HIV clinics²⁹
- *Pregnant women:* Testing offered in antenatal clinics. The service should also be made available to partners of women attending the clinics
- *Infants and children:* Screening and testing integrated into child health programs
- *Male adolescents and adult men:* Screening and testing integrated with VMMC in countries where this is offered
- *Inpatients:* Screening and testing integrated with inpatient services, especially in nutrition wards.

Example 6: Integrated HIV testing – Mukono Health Centre IV, Uganda^{xii}

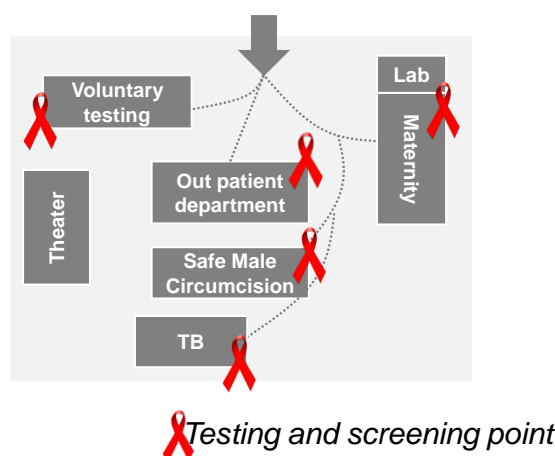
Site context: Mukono Health Centre IV is situated in a peri-urban area in the vicinity of Kampala, Uganda. Administered by the Ministry of Health, it employs 110 health workers, supported by 17 volunteers serving ~500 clients a day. Overall adult HIV prevalence in Uganda is 7.2 percent.

What Mukono IV did: Mukono provided services for HIV, TB, antenatal care, and maternity. As part of its HIV services, Mukono dedicated a testing clinic that clients attend on a voluntary basis. Realizing that clients for other services were likely to be HIV-positive yet still not get tested, the site management decided to integrate testing across the various clinics.

HIV testing was therefore made available at clinics for voluntary medical male circumcision, TB treatment (focusing on clients potentially co-infected with HIV), antenatal care and maternity.

Mukono trained its nurses and clinicians to run HIV tests and to channel HIV-positive clients to pre-treatment counseling. In addition, it equipped all stations with testing kits, a cooler for conservation of sputum samples, and a flow chart on every table.

Figure 4: Mukono Health Centre IV facility map



Performance: With integrated HIV testing at all stations, Mukono has tested ~100 additional clients every day and initiated treatment for HIV-positive individuals.

Key messages:

- A relatively simple change in the way HIV testing is offered can significantly increase uptake and ensure that people testing positive are referred quickly for treatment and care
- Availability of testing across the facility's clinics supports messaging on HIV prevention.
- Health workers in all clinics are more aware of, and able to follow-up on, patients with HIV.

^{xii} Global Fund 2014–2015 field visits and follow-up

4 How do I start?

4.1 Defining the plan

Prioritization of approaches should be based on knowledge gathered from existing data and on engaging communities and health providers in discussion, needs analysis and planning processes.

Key elements of the implementation plan would include:

- Identification of a lead person in charge of conducting the analysis, proposing the approach, and reporting on progress
- Devising of a clear plan and schedule for the processes of implementation and monitoring, with key milestones
- Planning for communication to staff and clients.

Checklist before implementation

Clearly defined:

- Lead person
- Priorities
- Workplan
- Monitoring plan
- Communication plan

Analyses to be conducted before starting include:

- Assessment of which approaches are relevant to the site among the options, based on: current testing approaches, populations with increased risk of HIV infection and specific needs (such as key populations; infants, children and adolescents), accessibility of services and demographics of clients
- Assessment of current barriers to service delivery and the resources available
- Prioritization of which relevant approaches should be implemented. It is safer to implement new approaches one at a time, so that staff can more easily manage disruption, and sites can learn from the experiment.

Tool 1: Example of a client preferences and needs survey

Tool 2: Example of a template to measure client waiting times and satisfaction

4.2 Focusing on specific population groups

Outreach for key populations and populations with specific needs:

Optimal service delivery should be defined according to population needs and can include: outreach (key populations), integrated services (priority populations such as children, infants) or specific clinic hours (e.g. adolescents needing adolescent-friendly health services, specific hours etc)

Managers will need to prioritize locations for out-of-facility initiatives and maximize the efficiency of outreach activities. Two key factors for these processes are:

- *Data analysis:* Using existing data relevant to the site concerning people with increased risk of HIV infection such as key populations (sex workers, MSM and other sexual minorities, people who inject drugs) or other populations with specific needs (e.g. adolescents).
- *Community engagement:* Sites can engage with community members to increase their understanding of the needs of specific groups, and determine the best places (e.g. hotels, clubs, markets) and specific times to reach them. Community volunteers can be integrated into workforce planning for outreach activities.

Further reading

- HIV/AIDS Alliance participatory tools for community engagement
- WHO guidelines on: systematic screening for active tuberculosis
- WHO consolidated guidelines on HIV Testing & Screening

Different populations will need to be reached through a range of approaches. This will depend on their specific needs and preferences but could include: outreach visits, integrated services and/or dedicated clinic hours for defined groups.

Example 7: HIV vulnerability-mapping – USAID/FHI360, Senegal³⁰

Context and objective: The USAID/FHI360 health program in Senegal designed a methodology to map population group vulnerabilities.^{xiii} The aim was to provide data to inform planning for targeted outreach.

What they did: Four medical regions were mapped. Mapping incorporated general socioeconomic information (e.g. unemployment rates) and epidemiological information (e.g. HIV prevalence). The main vulnerability factors were outlined, such as poverty, illiteracy or certain type of economic activities (e.g. mining). Hotspots of high vulnerability were highlighted ranging through entire neighborhoods, settlements, or even individual bars or train stations. Service providers were given access to the vulnerability profile of each area, with a high level of detail.

What it involved: The mapping required three months of work. Extensive data research and analyses were conducted with the support of statisticians. Sociologists engaged with informants from local communities who provided insights both on the local social fabric and on the barriers to HIV service delivery. In addition, focus groups with people from vulnerable communities were organized to refine the understanding of how to improve service delivery.

Key messages:

- Vulnerability mapping provides key data to prioritize highly vulnerable populations and areas where targeted outreach could be beneficial
- These data also provide a basis for targeting specific groups and communities for recruitment of volunteers to sensitize communities and to support and deliver health system interventions.

4.3 Infants and children – priority populations

All infants of mothers who have received PMTCT services should be followed up and routinely offered early infant diagnosis (EID). Those diagnosed with HIV should be started on ART. However, some infants are lost to follow-up, and some mothers with HIV may not have received PMTCT services.

Prioritizing additional pediatric case finding is important. This can be achieved through integrated HIV testing, depending on the epidemiological situation. In high-burden settings HIV testing should be routinely available through a variety of services that are accessed by the mothers with their infants/children. Also, scaling up EID can be facilitated by task sharing with lay providers.

In low prevalence settings immunization and under-5 clinics should test HIV-exposed infants who were not tested for HIV as part of PMTCT services. HIV testing for children and other family members of anyone known to be living with HIV should be prioritized in all settings³¹.

^{xiii} Vulnerabilities are defined by UNAIDS as 'unequal opportunities, social exclusion, unemployment or precarious employment and other social, cultural, political, and economic factors that make a person more susceptible to HIV and to developing AIDS.' *UNAIDS Terminology Guidelines, 2011*

Example 8: Integrated pediatric HIV testing – The Lighthouse, Malawi³²

Context: Kamuzu Central Hospital (KCH), in the capital Lilongwe, is the main provider of adult and pediatric HIV services in the central region. The Lighthouse at KCH offers opt-in HIV testing and counseling (HTC) for adults and children. In June 2004, Lighthouse was the first clinic to provide free antiretroviral treatment (ART) in the public sector, but few children accessed the services.

What KCH/Lighthouse did: In Q4 2004, PITC and an ART clinic were introduced at the KCH pediatric department. Counselors in conducted daily sensitization sessions on HIV-related topics, highlighting the need for HTC, for caregivers of children admitted to the three wards and under-5 clinic. During ward-rounds, if clinicians and nurses thought HTC for the child was needed, the caregiver was referred to the HTC room. Here, the caregivers and older children received pre-test counseling, using a checklist. The caregiver then had the choice to opt-in for HIV testing for the child in question.

Performance: Over 95 percent of caregivers gave consent for testing. Between the two comparison periods (Q1 2003–Q3 2004 and Q4 2004–Q4 2006) the median proportion per quarter of tested child clients rose from 3.8 percent to 9.6 percent and the proportion of child ART starters rose from 6.9 percent to 21.1 percent. The proportion of registered children starting ART each quarter increased from 26 percent to 53 percent.

Key messages:

- The uptake of HIV pre-test counseling, opt-in testing and ART for children increased dramatically with their integration into pediatric services
- This approach offers high potential to maximize EID of HIV and support significantly increase pediatric ART uptake
- Similar approaches could be utilized for infant and child TB screening

4.4 Assessing additional resource needs

Sites need to assess resource requirements and costs before starting.^{xiv} Upfront investments may be required^{xv} for training additional staff on screening, testing and counseling, and possibly some basic equipment (for example, coolers for diagnostic tests or sputum samples). Data collection and recording tools (registers, computers etc) may also need to be upgraded.

4.5 Establishing optimal approaches for screening and testing

Sites can start to establish which approaches to prioritize with a list of all the screening and testing approaches (in- or out-of-facility) conducted in a year. For each approach, they can then use the method outlined at the beginning of this module (*see Figure 2*) to calculate the testing and cost-efficiency of the approach. They can also calculate the estimated costs of each approach, including human resources, testing supplies and equipment, and other expenses such as travel costs.

Sites will then be able to compare different approaches in combination with the data collected on client needs and preferences and information about the locations and populations most in need. This will support informed decision-making about the optimal approaches to be planned and implemented by a facility.

^{xiv} Human resource requirements may include additional staff, reallocation of tasks, training for new tasks/processes/tools; additional equipment may include equipment for different testing stations, financial resources to fund human resources and equipment needs

^{xv} This depends on previous approaches (e.g. if there have been no community-based or out-of-facility testing approaches, additional investments would be needed for transport, manpower and testing kits)

4.6 Monitoring implementation

Sites can use productivity indicators to monitor the *effectiveness* of implementation, for example by using simple ratios such as:

- number of clients tested per health worker, and
- outcome indicators focusing on specific health outcomes and client satisfaction with services.

In both cases, sites will need to collect data on baseline values (before implementation of differentiated approaches) so that they can compare them with the actual values when the approach has been used for a defined amount of time; the difference between the two sets of values will help with assessing the effects of differentiated care.

It is important to use existing indicators, to avoid adding new ones as far as possible, and to make full use of data that is already being collected at sites for reporting to national level. Extra indicators may be needed to help in monitoring progress at site level - three types of indicators that will be needed for monitoring testing and screening include the following:

- *Cost-effectiveness:*
 - *Unit cost per person tested:* total cost of the testing approach over total number of patients tested;
 - *Share of testing cost vs. total site expenditures* (to be compared with guidelines provided by the national program and used for adjusting the type of differentiated approaches implemented);
- *Testing efficiency: Number of confirmed persons with HIV found over number of people tested;*
- *Linkage to care looking at the treatment initiation rate: this is the number of patients tested positive initiating treatment in the next month over number of confirmed cases found.*

Tool 2: Example of a template to measure client waiting times and satisfaction

Tool 3: Examples of tables to monitor differentiated care

IV. Module 2: Differentiated Treatment and Care Approaches

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Module 2 at a glance

Aims

- Identify ways to improve the cost-efficiency, client-centredness and acceptability of treatment services/
- Explain how to leverage site- and community level data to inform decisions/
- Discuss differentiated options for patients to access services.

Key outcomes

Differentiated treatment and care approaches can improve the outcomes, quality and cost-efficiency of treatment by:

- Leveraging available data to define service-delivery models;
- Adapting service delivery to clients' needs and preferences , improving treatment adherence and success;
- Enabling simpler approaches and processes for service-delivery;
- Increasing clinic capacity in ways that reduce loss-to-follow-up, support better adherence and enable more efficient use of human resources.

1 Introduction

This module focuses on successful approaches to differentiated treatment and care for HIV and TB. Its purpose is to support site managers in the design and implementation of service-delivery models that address clients' needs and providers' constraints. Each approach aims to improve the efficiency of services by addressing clients' specific needs and lowering barriers to care.

Sites can implement either one or a combination of the following approaches:

- *Differentiated schedules*: adapting or dedicating hours, or clinic days, for specific client groups (e.g. adolescents, sero-discordant couples);
- *Differentiated locations*: providing services to certain groups of clients (e.g. TB/HIV co-infected clients, children) in a dedicated area of the site (e.g. room, tent), or at separate sites;
- *Differentiated client flows*: adapting the client pathway at the facility for specific client groups (e.g. new clients, sick clients).

Differentiated treatment and care approaches are most applicable to facilities that have a high volume of patients and provide all health services. The approaches should increase cost-efficiency by optimizing staff workload. They should further improve health outcomes for patients through higher adherence to treatment and retention in care through the combined effects of targeted counseling, peer support, reduced waiting times and reduced congestion at the facility.

Design of approaches can start from what is known about client perspectives on existing arrangements for services and the proposed new models of service delivery. Managers will be assisted in their work if they actively seek suggestions from clients on how best to adapt and use these models to their benefit. Community and client engagement is vital to bring meaningful improvements in services.

The first part of this module focuses on identifying the opportunity to adapt *differentiated treatment and care approaches* according to the context. The second provides examples of successful practices observed at sites. The third provides guidance on how to start implementing the practices.

Differentiated drug delivery approaches are discussed in detail in Module 3 of this toolkit. Although drug delivery is a key element of treatment and care, it also offers specific and cost-effective opportunities to innovate that are best described in a separate module. Approaches detailed in Module 3 can be used in conjunction with those in Module 2; in most cases it could be beneficial to implement both together.

2 Identifying differentiated treatment and care opportunities

The following four questions will help managers use available data to identify opportunities to adapt differentiated treatment and care approaches to their context:

a) What are the different client groups using the facility and what are their specific needs and constraints?

This information may come from available data on clients' characteristics. However, more detailed and up-to-date information can be obtained from clients and community representatives, and they should be invited to contribute their experiences and suggestions. Some examples include:

- *Demographics:* children, adolescents, men, women, marginalized or minority groups such as undocumented migrants, ethnic and sexual minorities etc;
- *Health conditions:* those with TB-HIV co-infection; pregnant women; people with drug-resistance, or with chronic conditions;
- *Physical constraints:* for example, people who have disabilities, live or work far from facilities, or have little or no financial means;
- *Increased vulnerability:* such as injecting drug users, sex workers.

Use available data for planning

- On average, how many clients visit my site per day?
- Are there enough health workers to treat all clients?
- For HIV-positive clients: how does the clients' retention rate compare to national / regional averages?
- For TB-positive clients: how high is the treatment success rate for all new cases?
- Are there some disparities in retention rates / treatment-success rates between different client groups?
- Are my clients complaining (for instance, about waiting times, or the number of visits required before starting treatment)?

b) What barriers are clients and service providers facing?

Client perspective – examples may include:³³

- *Access difficulties, such as distance from facilities, constraining work hours, travel costs;*
- *Clinic difficulties such as crowded spaces, lack of privacy, lack of confidentiality or respect from service providers, long waiting times, repeated visits for checks before starting treatment;*
- *Stigmatization by community members, service providers, or other clients at the site (actual/enacted or perceived/feared by the client).*

Service-provider perspective – examples may include:

- *Insufficient resources (e.g. lack of trained workers, space or infrastructure, financial means, equipment, drug shortages);*
- *Unclear/insufficient guidance e.g. on care and stigma reduction for different client groups, management of facilities and supplies, monitoring requirements and making use of data for service improvement.*

c) What are the opportunities to adjust the current service-delivery model?

Service-delivery models are a combination of:

- *Who provides the service (opportunities for task-shifting) – doctors, nurses, lay community health workers, peer patients or clients;*
- *Where the service is provided – at various points in the health centers (regional and district hospitals, health centers, dispensaries, etc) vs. distribution points in communities or at home;*

Further reading

- WHO guidelines and recommendations on task-shifting
- WHO operational guidelines

- *How often the service is provided – for clinical consultations and for drug refills (depending on maximum duration of refill that may be given).*

Various combinations of approaches are possible based on site analysis of the above categories. Client feedback will help managers to find combinations that best serve client needs and constraints and help them to work around their own constraints as service providers. Sites often offer several options to their clients to meet different needs.

d) How large are the client groups?

If clients from a specific group were all to attend on the same day or at the same place, would there be enough clients for a dedicated service (i.e. is there a “critical mass”) or conversely would there be too many in relation to the available human and other resources?

If there are not enough clients for a site to implement a dedicated service, they should be integrated in the general clinic routine, as well as clients who are unable to benefit or do not want to use the differentiated services. If there would be too many for a single day or place, it would be necessary to plan, for example, for multiple clinic days for that client group.

Differentiated treatment and care approaches are particularly relevant at sites with a high volume of clients. In high-volume settings, client sub-groups are likely to be large enough to justify dedicated services. However, adaptations of these approaches can still be considered for implementation by smaller sites – for example, less frequent clinic days for smaller client numbers - as this could still benefit some client groups. The relevance of a combination of approaches depends on the sites’ setting (e.g., rural, peri-urban, urban), the volume of clients and clients’ expressed preferences.

3 What are the options?

3.1 Differentiated schedules

What this means: Sites can dedicate specific clinic days to specific groups of clients. This has the added advantage that it facilitates group counseling sessions as well as targeted health talks.

Frequent barriers: Many health centers provide services to all types of clients within the same opening hours, irrespective of client preferences and needs. This situation can create barriers to quality services for clients and for the site.

- *Client perspective* – For some client groups, such as working adults, the need to visit the site during daytime opening hours could mean that they may not be able to attend work and therefore risk loss of income, worsened by extended waiting times. For others, attending facilities at the same time as the general population can risk exposing them to stigma (e.g. pregnant women, adolescents, sex workers, sexual minorities);
- *Site-management perspective* – Lack of staff is often an issue; e.g there need to be sufficient counselors or nurses to provide counseling or health talks. There may also be a lack of space for these activities and for infection control related to people with active TB. Differentiated approaches may help sites be more efficient, for example by reducing congestion, providing opportunities for group counseling sessions.

Description of the approach: Typical clinic days could include:

- *Clinic day for pregnant women/adolescents/couples (including sero-discordant couples): helps to maintain privacy and avoid stigma³⁴, and improve quality of care through group-counseling and health talks to address each client group’s specific needs (for example, pregnancy management, nutrition advice, prevention practices);³⁵*

- *Clinic day for co-infected clients: providing integrated TB/HIV services enables clients to receive both treatments in the same setting instead of attending two different facilities, and to receive targeted group-counseling sessions. Facilities should invest in effective infection control measures such as separation of TB infected clients from uninfected HIV clients and ventilation in waiting areas;*
- *Late or early opening hours and/or Saturday clinics: providing flexibility for people who work long hours and avoiding the stigma and potential cost of taking time off during daytime hours to attend the site. This may be particularly useful for drug refills. This approach may require some rearrangement of staff schedules, additional staff and/or financial incentives;*
- *Special clinic days or hours for TB patients³⁶: assists with infection control and facilitates group health talks and defaulter follow-ups;*
- *Separate clinic days for patients in different phases of treatment (e.g. intensive phase vs. continuation phase for TB): simplifies delivery of group health talks and defaulter follow-up;*
- *Drug-resistant (MDR or XDR) TB clinics or clinic days: reduces transmission risks and differentiates TB patients to provide specialized care to drug resistant patients.*

How many clinic days should be dedicated to a specific group?

This depends on the size of the target client group. Health workers should aim to see at least as many patients during the dedicated schedule as are seen in the regular schedule. Then sites can decide how many clinic days should be dedicated ranging from one day a month to several days per week.

Example 9: Differentiated schedules for children – Riruta, Kenya^{xvi}

Site context: Riruta Health Centre is situated on the outskirts of Nairobi and provides HIV, TB and parent/child health care. In 2014, 42 staff (including 11 volunteer community health workers) served ~120 clients per day.

What Riruta Health Centre did: Of ~5,000 clients active on ART at Riruta Health Centre, ~200 were children. Initially, children followed a similar pathway through services to that for adults. Health talks were targeted at adults and children together. In 2011, Riruta started to implement differentiated schedules, with the last Thursday of each month dedicated to children. Health workers delivered child-focused health talks on issues specific to them (e.g. stigma in school) or health talks for their parents to explain specific aspects of childcare.

Site performance: Retention of children on ART has improved at Riruta. Before 2011, the average loss-to-follow-up after 12 months was 26 percent. Since 2011, this figure has reduced to 19 percent (i.e. a 28 percent decrease). CD4 counts increased significantly among children, improving fourfold over the period (from 11 percent on average before 2011 to 46 percent after 2011).^{xvii}

Key messages:

- The differentiated schedule for children on ART allowed focused and increased support to both children and their parents;
- Retention in care and ART outcomes for children have improved dramatically.

^{xvi} Global Fund 2014–2015 field visits and follow-up

^{xvii} Patients as of March 30, 2015 who have been on ART for more than 12 months

3.2 Differentiated clinics

What this means: Sites can dedicate waiting areas or clinic space to specific client groups.

Frequent barriers: Often, all clients are seen by health providers in the same clinic space and wait in the same area. This can lead to overcrowding and sometimes to stigmatization (for instance, between adolescents and adults),^{37 38} and providers can only offer general health talks and individual counseling sessions that are limited by staff capacity and space.

By integrating services (for example, providing HIV care in maternal and child health clinics, TB services in HIV settings or HIV services in TB settings),^{39,40,41} or by dedicating clinics to specific client groups, it is possible to reduce stigmatization and improve the efficiency of service provision.

Description of the approach: Typical examples of dedicated spaces include:

- *Children's clinic:* Staff can progressively specialize to care for children; talks and counseling sessions can be grouped and targeted in a child-friendly environment (for example, space to play while waiting);
- *Adolescent clinic:* Adolescents can have their own dedicated area with access to targeted communication on prevention and to specialized counselors.⁴² Adolescents with HIV generally prefer to interact with their peers to share experiences. They value support from peer groups, teen clubs and providers trained to discuss adolescent-specific issues;⁴³
- *Antenatal clinic:* TB or HIV services can be provided within antenatal clinics^{44,45} so that pregnant women do not have to go to several places within the health facility, thus reducing their waiting time and time away from home;
- *TB-HIV co-infected patients' area:* services for both HIV and TB delivered either at the TB clinic or at the HIV clinic, so that clients do not have to go to more than one clinic or facility.⁴⁶ Effective TB infection control measures would be essential in both HIV and TB settings;
- *TB clinics for drug-resistant patients:* separate space or clinic for drug-resistant TB clients for infection control and to serve their specific needs.

Implementation when space at the facility is limited:

Some sites have enough space to dedicate separate rooms to specific client groups. Sites with limited space have found different ways to dedicate locations to specific groups. Examples include:

- waiting or service areas in outdoor spaces or temporary structures (such as tents),
- combining this approach with *differentiated schedules* as previously described,
- providing dedicated space to specific groups on specific days or times of day.

Implementation when the target group is small:

The above suggestions may not be workable if the target group is small. In this case, clients who would benefit from this approach could be referred to another nearby facility that has sufficient patients and is able to offer dedicated spaces and times for different types of client. This will require appropriate referral systems that allow the service provider to follow-up the referral to ensure that the patient is receiving treatment at the referred facility.

Example 10: Integrated TB & HIV clinic – Kericho, Kenya⁴⁷

Context: In Kenya, TB patients and HIV patients generally receive their treatment in two separate clinics linked by a referral mechanism. This system increases the waiting time for co-infected patients who have to access both sites and wait twice for treatment.

What Kericho District Hospital did: Aiming to serve co-infected patients better, it initiated integrated services in 2005 that provide both TB and HIV treatment at the same delivery point:

- TB-treatment facilities were expanded to include HIV-treatment facilities;
- TB staff were trained for ART delivery and HIV counseling;
- HIV patients without TB were treated in a separate clinic, situated a few yards away for infection control purposes, to which TB patients were channeled once cured.

Performance: In 2010, co-infected patients had a TB treatment success rate of 75 percent, compared to 40 percent in 2005 before services were integrated. Further, the loss-to-follow-up in ART reduced from 35 percent in 2005 to 13 percent in 2010.

Key messages:

- Integration of HIV care into the TB care setting reduced waiting times for patients and was followed by significant improvements in TB success rates and reduction in losses to ART follow-up;
- Integration required upgrading of TB clinics to include HIV services and additional HIV training for existing TB staff;
- Infection control for non-TB HIV patients was easily achieved by physical separation within the same site.

3.3 Differentiated client flows on site

What this means: Sites can designate specific pathways through services for specific groups of patients.

Frequent barriers: In many settings, clients follow the same steps of the patient-management process whatever the purpose of their visit. For example, new patient files have to be created for new clients visiting the site; yet returning clients often have to follow the same route as new clients, causing frustration and delay (which can discourage clinic attendance). Similarly, returning clients looking only for drug refills, or clients coming only for laboratory tests may have to go through all the consultation steps required for new clients.

Description of the approach: Client groups that would be eligible for differentiated patient flows need to be identified (e.g. new patients vs. returning patients, stable vs. non-stable). Once identified, sites need to define specific criteria and different clinic flows for each group.

Examples of these criteria as observed at sites include:

- New clients – e.g. clients on their first visit to the facility;
- Returning new clients – e.g. less than 2 months on ART or less than three clinic visits for HIV; less than 1 month on TB treatment;
- Returning clients with a good adherence record – e.g. less than two missed appointments in one year of ART for HIV clients; 100% adherence during intensive treatment phase for TB clients;
- Stable clients – e.g. undetectable viral load, no opportunistic infections;
- Special needs – e.g. pregnant women, children, adolescents, people with HIV/TB co-infection.

Client flows (pathways) through the site can be varied depending on the purpose of the visit and their eligibility to be “fast-tracked”^{xviii} and omit some steps of the flow. Different client flows would require processes and tools to ensure patient records are updated promptly and accurately (e.g. laboratory or pharmacy tracking tools for fast-track patients).^{xix}

Examples of differentiated client flows could include the following:

- *New clients for ART*: enrolment, triaging, consultation, pre-ART counseling and adherence counseling sessions, pharmacy, and other services if required (e.g. nutritionist, social worker);
- *Returning ART clients due for CD4 or viral load tests*: go directly to the laboratory, see clinicians to get their results, and then go to the pharmacy;
- *Returning stable clients* with good adherence records and coming only for drug refill can go directly to the pharmacy.^{xx}

Differentiated client flows increase patient satisfaction by reducing waiting times while providing all required health services. This approach allows health workers to focus on clients who need the most attention (e.g. new or unstable clients).⁴⁸ From the site perspective, this represents efficiency gains in terms of reduced cost of treatment and increased productivity of workers.

^{xviii} Fast-tracked refers to when a patient can skip unnecessary steps of the complete consultation process

^{xix} Fast track at the site can include: skipping a step – such as registration or consultation or counseling – and proceeding directly either to testing for CD4 count or sputum or to drug dispensing at the pharmacy

^{xx} There are several differentiated care possibilities for managing stable clients; this is the subject of forthcoming WHO guidelines

Example 11: Differentiated client flows – TASO Jinja, Uganda^{xxi}

Site context: TASO Jinja is a peri-urban center providing ART. In 2014, 26 health workers, half of them volunteers, served ~120 clients a day.

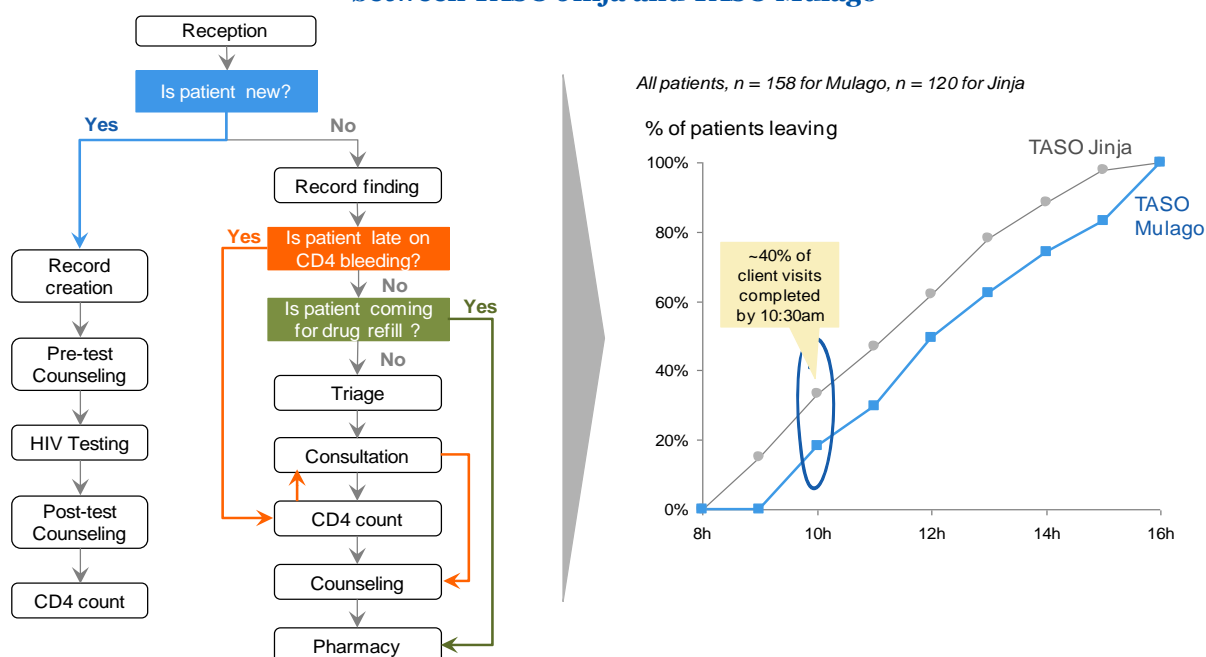
What TASO Jinja did: At first, all clients had to go through every step of the client pathway at the site, regardless of the purpose of their visit. This system led to long waiting times for clients. To address this, TASO Jinja decided to triage clients as they entered the site based on the purpose of their visit.

New clients follow a defined pathway through pre- and post-test counseling, HIV testing and CD4 count. Pathways for returning clients are determined by their patient record. A patient attending late for a CD4 count proceeded directly to the laboratory. Stable clients coming only for drug refills accessed the pharmacy directly, skipping the clinical consultation.

Performance: ~40 percent of clients complete their visit by 10:30 am, compared with ~25 percent at other sites such as TASO Mulago.

TASO Jinja is now considering specific appointment times (morning vs. afternoon) instead of all clients attending in the morning. This aims to reduce waiting times and maintain staff productivity throughout morning and afternoon. Morning appointments will be dedicated to clients requiring laboratory work (a lengthy process); clients needing only drug refills or consultations may be given afternoon appointments.

Figure 5: Differentiated client flows at TASO Jinja, and comparison of waiting times between TASO Jinja and TASO Mulago



Key messages

- This approach benefits both clients and staff through reduction of waiting times and congestion;
- Splitting appointments between mornings and afternoons for different types of clients could further increase these advantages.

4 How do I start?

4.1 Defining the plan

Key elements of the implementation plan include:

- Identification of a lead person in charge of conducting the analysis, proposing the approach, and reporting on progress;
- Devising of a clear schedule for implementation, with key milestones;
- Planning for communication to the staff and to the clients.

Analyses to be conducted before starting include:

- Assessment of which approach is relevant to the site among the options, based on: treatment approaches currently in use, populations with increased risk of HIV infection and specific needs (such as key populations; infants, children and adolescents), service accessibility and client demographics;
- Prioritization of which relevant approaches should be implemented. It is safer to implement new approaches one at a time, so that staff can more easily manage disruption, and sites can learn from the experiment;
- Assessment of current barriers to service delivery and the resources available.

Checklist before implementation

Clearly defined:

- Lead person
- Priorities
- Workplan
- Communication plan

4.2 Assessing resource needs

The approaches described in this document do not require additional resources in the run phase. However, they will require upfront investments. Sites need to have a clear understanding of resource requirements before starting. Resources may include: human resources, extra materials/equipment, and financial support.^{xxii}

Resource needs for differentiated treatment approaches require mainly some re-allocation of resources or a minimal upfront investment in training and/or additional materials, including:

- *Training, forming, supervising and monitoring the approaches:* sites need to ensure that these tasks are clearly defined and assigned to specific staff in the facilities;
- *Training staff* to conduct group-counseling sessions and targeted health talks;
- *Ensuring adequate communication* to staff and clients about differentiated service-delivery models – via signboards, leaflets, or wall posters for instance;
- *Needs assessments* on questions such as whether the site will implement longer working hours or weekend services, and whether additional financial compensation to existing staff or hiring additional staff is needed;
- *Upfront investment* in extra equipment, TB infection control measures.

Tool 4: Example of a poster on ART adherence clubs

^{xxii} Human resources: requirements may include extra staff, reallocation of tasks, training for new tasks/processes/tools; additional resources: may include extra equipment for different testing stations, financial resources for human resources/equipment needs

4.3 Understanding client group needs and barriers

Sites can rely on clients' and healthcare workers' knowledge to:

- pre-identify client groups;
- understand specific needs and constraints for each client group;
- identify the site's barriers in delivering services to specific groups;
- test the choice of service-delivery model prior to implementation.

Further reading

- HIV/AIDS Alliance participatory tools for community engagement
- WHO guidelines on: systematic screening for active tuberculosis
- WHO consolidated guidelines on HIV Testing & Screening

Information about needs and barriers relevant to the facility can be obtained through methods such as:

- *Informal discussions*: informal discussions during staff meetings; discussions with clients during exit interviews or while waiting for treatment. These provide insights into patients' preferences and barriers to treatment. Findings need to be synthesized and shared with managers;
- *Focus group interviews*: conducted with health workers (doctors, nurses, volunteers) or with specific client groups. Site managers should identify relevant clients for these groups - a typical focus group would include 5-15 people interviewed for 1-2 hours. Group facilitation should be either by an external person or a staff member who is experienced in steering group discussions;
- *Surveys*: a confidential list of questions is distributed to staff or clients waiting at the site, and the results are collected and analyzed. Anonymous surveys allow respondents to answer freely and can reach a large number of clients.

Data from client feedback should be analyzed in relation to the facility's current services to provide a basis for selecting relevant treatment and care options.

Tool 1: Example of a client preferences and needs survey

Tool 2: Example of a template to measure client waiting times and satisfaction

Tool 5: Examples of focus group activities

Example 12: Group interviews - TASO Jinja, Uganda^{xxiii}

(see Tool 2 for examples of activities conducted during these sessions)

Description: TASO Jinja is a dedicated urban HIV center in eastern Uganda. In 2014, 26 health workers, half of them volunteers, served ~120 clients per day.

What TASO did: TASO Jinja organized four focus groups to establish what was important to clients and identify barriers they faced. Each focus group lasted ~1.5 hours and included a clinician or counselor, the monitoring and evaluation officer, and six to eight people from a single client group. The groups included pregnant women, children, adolescents, and working adults. Discussions aimed to come up with four to five key actions that could improve the service user experience.

Learnings: The focus groups enabled TASO to identify the root causes of low adherence and the drivers of high adherence. The main behaviors highlighted by clients were:

- missing one or several appointments,
- interrupting treatment for a couple of days, and
- not completing a full visit on-site owing to long waiting times.

These behaviors were dependent on perceived convenience of appointments and quality of service provision (relationship with health workers, health talks).

Key messages

- Focus groups provided key information for optimizing ART care and support;
- The focus groups could also be used to get client feedback to see if selected approaches suit their needs or should be adapted in a different way to serve them better;
- Varying membership of focus groups can add fresh perspectives – for example, service users with a community leader as facilitator and no facility staff in attendance can offer different perspectives from a group with perceived “authority figures”.

4.4 Initiating implementation

Defining eligibility criteria and referral procedures

Sites need to define clear criteria that establish which clients can participate in the selected differentiated approaches. For example, the criteria for fast-track drug refills will need adjustment to the local context, but will likely include:

- *How long the client has been on ART* – preferably more than 6-12 months;
- *How long the client has been on the current treatment regimen* – preferably at least three months;
- *Demographics* – older than 18 and not pregnant;
- *Response to ART* – undetectable viral load, if testing is routinely available; alternatively, demonstrated adherence using an objective measure (e.g. pharmacy dispensing record);
- *Overall health* – no current illness, stable weight/nutritional assessment.

^{xxiii} Global Fund 2015 field visit

Note that even when clients fulfill all the criteria they should make the final decision to participate and should be free to choose whichever differentiated model they prefer, depending on their clinical care requirements. They may need to be referred back to the health facility for closer monitoring if any health issues arise. Any client can opt to go back to regular ART care within the facility at any point, but in addition, there can be specific procedures for referring clients to the clinician/facility immediately for closer follow-up. Such clients include:

- Clients newly diagnosed with TB or other active opportunistic infections;
- Clients with a change in viral load to above 1,000 copies/ml or with other evidence of clinical or immunological failure (e.g. reducing CD4 count);
- Clients with evidence of medication-related toxicity (e.g. anemia).

Familiarization and training of providers

Health workers and other service providers in direct contact with clients need to be familiar with the models, be trained to implement the selected approach, and trained to enter data and maintain records that will help in future analysis of results. Regular training sessions should be offered to all new staff. Specifically:

- *Clinicians / nurses / counselors:* should become advocates for the selected approach, and need to be able to communicate the different options to the clients and encourage eligible clients to enroll in them; they should also know how to transfer or refer out clients when relevant;
- *Community / primary health workers/expert clients:* need to understand how the model works and how to use tools to assess and monitor the health status of clients. Before implementation, training should be provided and any concerns should be addressed.

Promoting different models among clients



Existing communication channels should be utilized, to help clients make an informed decision on which option they prefer for treatment and drug delivery. Channels include health talks in waiting areas, support groups, home visits by community health workers, and discussion during clinical consultations.

The information should also be incorporated into adherence counseling sessions, both during ART preparation and in the first few months on ART so that patients know what options are available from the onset. Posters and leaflets at the facility can be used to reinforce information and messages.

The main items of information to communicate are:

- What the available options are;
- How these models work;
- Who is eligible to participate;
- Who to contact.

[Tool 4: Example of a poster on ARV adherence clubs](#)

4.5 Monitoring implementation

Both program and site managers should monitor key indicators to ensure the effectiveness of implementation. Sites can monitor productivity indicators by using simple ratios such as:

- the number of clients receiving care compared with the number of health workers, and
- outcome indicators focusing on clients' satisfaction and health outcomes.

In both cases, sites need to compare the baseline value (before implementation of differentiated approaches) with the actual value when the approach has been used for a defined amount of time: the difference between the two sets of values will help with assessing the effects of differentiated care.

Sites should also track the outcomes and costs of delivering differentiated services. Very often, these indicators are already part of routine data collection systems.

Useful indicators that can be tracked to monitor progress include

- Number of clients seen by health workers per day;
- Average waiting time at the site per client;
- % of clients “satisfied” or “very satisfied” with service delivery at the site;
- % appointments missed in target client groups over a certain period of time;
- % of target client group currently receiving ART for 6 months or more;
- Retention of target HIV client group over 12 months;
- % of HIV client group virally suppressed or, where viral load testing is not available, demonstrated to be adherent;
- TB treatment success rate for all new cases in client group.

[Tool 2: Example of a template to measure client waiting times and satisfaction](#)

[Tool 3: Examples of tables to monitor differentiated care](#)

[Tool 6: Example of an ART monitoring tool](#)

V. Module 3: Differentiated Drug Delivery

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Module 3 at a glance

Aim

Improve the efficiency, acceptability and uptake of drug delivery services by developing differentiated options based on client needs and preferences

Key outcomes

Differentiated drug delivery approaches can improve the outcomes, quality and cost-efficiency of treatment by:

- Improving the quality of service by rationalizing drug refill times and adapting drug delivery to the needs and preferences of patient groups, with improved treatment adherence and success
- Allowing service providers to focus resources on those in need
- Decreasing costs of drug delivery where possible

1 Introduction

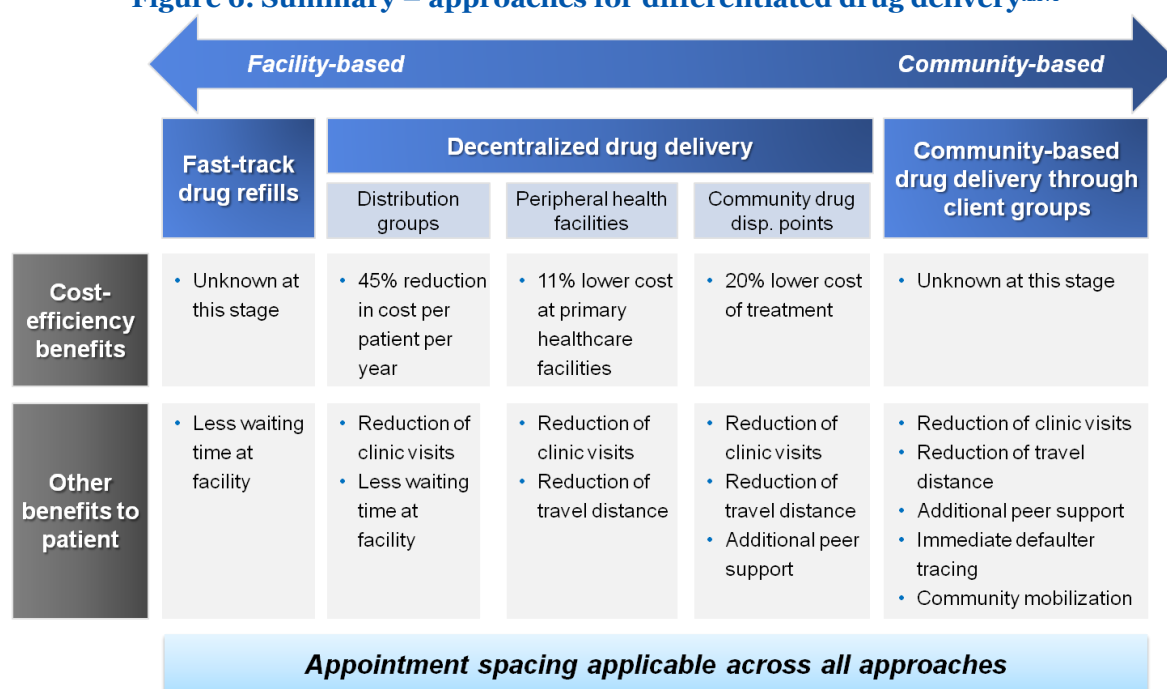
This module focuses on differentiated drug delivery approaches. *Delivery* includes providing (dispensing) drugs to patients as well as ensuring continuous, reliable and quality supplies of drugs and other commodities for treatment and care.

Differentiated drug delivery approaches offer specific and cost-effective opportunities to innovate. They can differ to match the needs and preferences of specific client groups. Service providers have considerable flexibility for designing options based on: service location, frequency of visits, and type of provider.^{xxiv xxv}

Specific examples include:

- *Facility-based drug delivery*, such as:
 - Fast-track drug refill: clients have direct access to the pharmacy for drug refills (useful for facility-based and community-based models);
 - Facility-based distribution groups: peer counselors distribute drugs to groups members (also possible for community-based adherence clubs);
 - Decentralized drug delivery at peripheral / lower-level health facilities;
 - Decentralized drug delivery by health-facility staff in communities;
- *Community-based drug delivery* through client groups or lay providers;
- *Appointment spacing*: supplying drugs for longer periods, allowing reduction of clinical consultation frequency (for facility- and community-based models).

Figure 6: Summary – approaches for differentiated drug delivery^{xxvi}



^{xxiv} WHO Operational Guidelines

^{xxv} An International AIDS Society project on Differentiated Models of ART Delivery is currently in progress and a report on the findings should be available in mid-2016

^{xxvi} Modified summary of approaches from MSF report - *Reaching closer to home*. Médecins Sans Frontières Dec. 2013, with cost efficiency estimations from footnote xxxvi and references 65, 67

2 Identifying differentiated drug delivery opportunities

The following questions will help managers to use available data to identify opportunities to adapt *differentiated drug delivery approaches* to their context:

a) What is the profile of clients in my facility? To address this question, one can look at factors such as:

- *Patient composition* – for example, stable clients who have been on treatment for a long time vs. numbers of new clients;
- *Personal constraints* – for example, number of clients located in remote communities with long travel time, distance or high travel costs to the facility.

b) What barriers are clients or service providers facing?

Substantial loss-to-follow-up is frequently a feature of HIV and TB treatment.^{49, 50 51}. This is influenced by a range of barriers that affect both clients and service providers:

- *Client perspective* – Examples of typical barriers⁵² for access and adherence to treatment include:
 - *Physical barriers to access* (distance to the facility, difficult travel conditions, poor availability of drugs);
 - *Time and cost constraints* (e.g. remote location, constraining work hours, travel cost, loss of income while accessing health services, long waiting times);
 - *Stigma* from community, family or service provider (e.g. lack of privacy, confidentiality or respect);
 - *Lack of treatment support* from peers, community or family.
- *Service-provider perspective* – Barriers may include:
 - *High volume of clients* at the facility, leading to congestion and lengthy waiting times for clinical appointments and at the pharmacy;
 - *Supply chain difficulties* such as national or local shortages, logistics problems, problems with quantification, ordering and inventory management;
 - *Inadequate tools and space* for dispensary record-keeping, storage and security against theft of drugs;
 - *Lack of human resources* for pharmacy management and dispensing.

c) What are the opportunities to adjust the current service-delivery model?

Sites need to develop approaches that best address clients' needs and constraints, while working around the constraints of service providers, potentially offering several combination options to clients. Any service-delivery model is a combination of three factors, each of which has potential for adjustment:

- *Who* provides the service – e.g. doctors, nurses, lay community health workers, clients;
- *Where* the service is provided – at various points in the health centers (regional and district hospitals, health centers, dispensaries, etc) vs. distribution points in communities or at home;
- *How often* the service is provided – e.g. every three months for drug refills (depending on maximum duration of refill that may be given).

Facilities can vary the frequency of visits, type of service provider, or service location to improve client satisfaction. These should improve retention in care and are observed to be more cost-effective in most instances. Improving drug management systems such as stock control, theft prevention and maintaining effective relationships with suppliers will also support cost-effectiveness, help to maintain consistent service quality and influence retention in care.

d) Which site contexts are most relevant for implementing these approaches?

Differentiated drug delivery approaches should be considered by all sites, based on client feedback and interest in uptake of these models, and assessment of available data. However, they are particularly suitable for sites with a high volume of clients or clients traveling from remote areas.

High-volume sites with long waiting times will benefit from innovations that reduce congestion and the time that clients spend at the facility. For clients from remote areas, a differentiated approach could be utilized to bring treatment closer to them and reduce or eliminate their transport costs/times.

The community context should also be taken into account, for example what levels of stigmatization are there, what peer networks are available? Staff will need to work with clients to understand these factors and help to minimize stigmatization and make optimum use of peer support for adherence and follow-up.



3 What are the options?

3.1 Appointment spacing

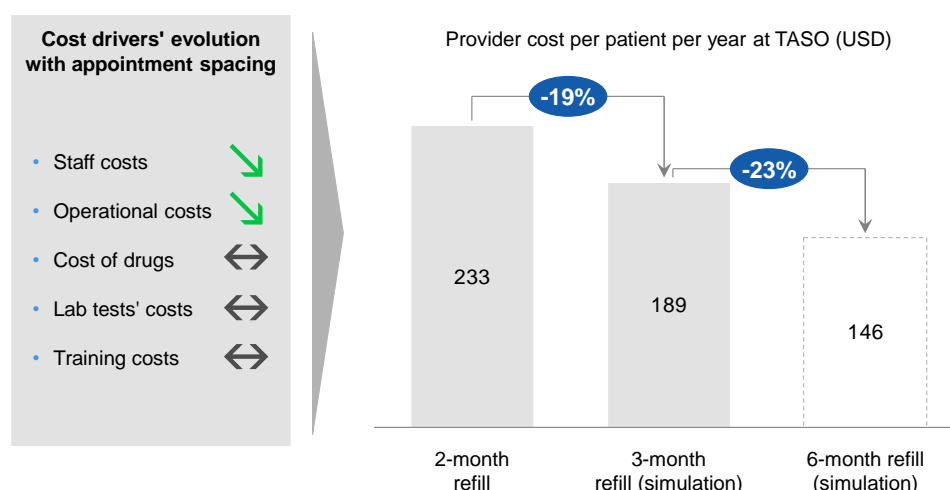
Description of the approach: Appointment spacing is an approach that can be applied across community- and facility-based approaches. In facilities, frequent clinic visits and follow-ups are often required for all clients, regardless of how long they have been on treatment; sometimes several visits for check-ups are required even before treatment is started.

Treatment for new HIV clients is monitored closely e.g. at weekly or bi-weekly appointments. Established and stable clients usually get the maximum duration of drug refill possible (three months in most settings). TB treatment is monitored weekly during the intensive phase, then every two weeks for the continuation phase.

Based on WHO criteria, sites can offer different appointment frequencies on the basis of the client's profile. For example, they can offer separate appointments for clinical consultations (once every three or six months) and for drug refills. Frequency of clinical consultations could reduce to once per year for stable HIV clients who have been on treatment for more than 12 months and are virally suppressed and have good adherence; they can be allowed drug refills for extended periods (e.g. re-supply every three months)⁵³

For TB patients, the duration of drug refill can be varied, based on the model of treatment. For example, if the client comes to the facility for DOTS, then the drugs are given on a daily basis. If the client chooses to have a family member or community health worker facilitate DOTS, drugs can be provided for one or two weeks (or more during the continuation phase if the patient is stable).

Figure 7: Potential cost savings from appointment spacing, TASO Uganda



Methodology: Calculation of potential cost savings from appointment spacing TASO, Uganda^{xxvii}

Step 1: Identify drivers of treatment cost for patients

- *Staff costs* – personnel providing direct services and assistance to ART clients;
- *Operational costs* – clinic equipment and furniture, land and clinic rental, car and related costs, utilities such as electricity, water, phone, etc;
- *Drug costs* – pharmacy services, drugs including ARVs, opportunistic infections, vitamins, nutritional support;
- *Laboratory costs* – lab services and supplies;
- *Training costs* – workshops, training activities, supervision and support costs.

Step 2: Compute baseline cost per client visit

Average cost per TASO client visit based on 2012 cost analysis = US\$38.86 per visit.

Step 3: Estimate annual cost of treatment based on frequency of drug refills

- two-month refill based on six visits per patient per year = US\$233;
- three-month refill assumes reducing visits per patient from six to four per year with 33 percent savings in staff and operational costs (based on breakdown from Step 1) = US\$189;
- six-month refill assumes reducing visits per patient from four to two per year with 50 percent savings in staff and operational costs (based on breakdown from Step 1) = US\$146.

^{xxvii} Based on research on patient treatment cost in TASO, Uganda from *Retrospective review of task-shifting community-based programs supporting ART treatment and retention in Uganda*. Okoboi S (unpublished)

Example 13: Appointment spacing – Riruta, Kenya^{xxviii}

Site context: Riruta Health Centre is situated on the outskirts of Nairobi and provides HIV, TB and parent/child health care. In 2014, 42 staff (including 11 volunteer community health workers) served ~120 clients per day

What Riruta Health Centre did: With large numbers of HIV clients each day, the center realized an opportunity to reduce the frequency of drug refills for their more stable clients who had been on treatment for more than 12 months.

Performance: As of February 2015, 50 percent of ART clients had drug-refill durations longer than three months. The percentage of clients lost-to-follow-up on three- and four-month drug refills was 10 percent and 4 percent, respectively, compared to the overall loss-to-follow-up of 26 percent for the facility. While there is a bias in the selection of more stable clients with good adherence history, it suggests that appointment spacing does not increase the likelihood of loss-to-follow-up.

Key messages:

- Drug supply planning – long-term drug forecasting was needed to ensure adequate drug supplies. The facility realized that although they submit monthly drug requests to the procurement agency, they had to do quarterly forecasting of their needs to cater to clients receiving three to four months of drug refills;
- Regular viral load monitoring is needed to track client health outcomes such as adherence to ensure no deterioration in health despite less-frequent clinical interactions.

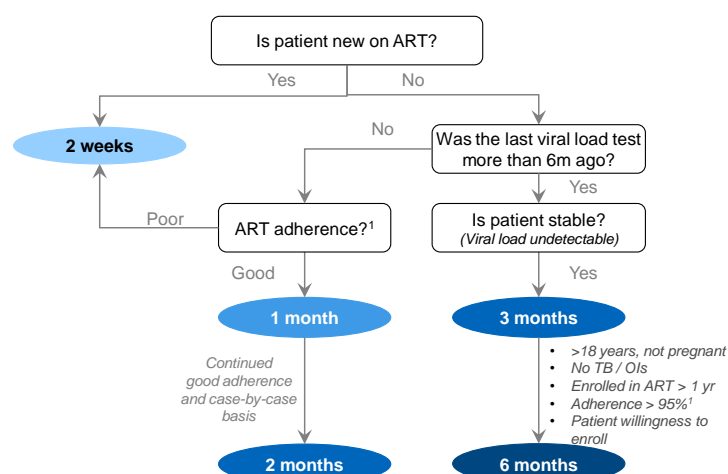
^{xxviii} Global Fund field visits in 2014–2015 and follow-ups

Example 14: Fast track refills and appointment spacing – Homa Bay, Kenya^{xxix}

Site context: Homa Bay County Referral Hospital (HBCRH) is a regional Level 5 hospital, providing ART since 2004, with ~8,000 clients currently on ART. In 2014, 156 health providers and 60 community health workers served ~150 clients per day.

What HBCRH did: The clinic identified a high proportion of stable ART clients. In November 2014 they started to offer six-month clinical appointments and fast-track drug refills every three months for stable clients.

Figure 8: Decision-making criteria for appointment spacing in HBCRH:



Performance: As of May 2015, ~1,839 clients were enrolled in the six-month appointment-spacing pilot in Homa Bay, with encouraging preliminary results in the attendance of expected patients. Eighty-three percent of clients on three-month refills and 86 percent of clients on six-month refills attended their appointments on time.^{xxx}

Key messages:

- Clinicians took some time to buy into the new approach– initially, they were either uncomfortable giving six-month appointments or did not spend enough time sensitizing the clients to it, and uptake was low. When clinicians understood the benefits of the model for the clients and the facility, they became vocal advocates for it;
- Regular reporting in customized templates to track the success and progress of the six-month appointments was important, to track the number of appointments given by clinicians (which highlighted the initial low up-take) and patient attendance.

Observed efficiency: Data from other sites illustrates some potential cost efficiencies:

- Preliminary cost analysis from TASO in Uganda shows that up to 20 percent cost-efficiency can be achieved by reducing the operational and staff costs of treatment per patient through three-month or six-month drug refills;
- Similar results from the Infectious Diseases Institutes in Kampala showed that cost per person per year fell by nearly 20 percent when stable individuals had three-monthly consultations with a nurse, six-monthly consultations with a physician, and monthly pharmacy-only ART refills, although individual outcomes were similar between patient groups.⁵⁴

^{xxix} Global Fund field visits in 2014–2015 and follow-ups

^{xxx} Preliminary results compiled by Homa Bay county and Médecins Sans Frontières

3.2 Facility-based drug delivery

Fast-track drug refill

Sites can adapt the clients' pathways, based on the purpose of their visit and eligibility to skip a few steps of the process. For example, stable ARV clients with a good adherence record could be "fast-tracked" and access the pharmacy directly for refills; they would see the clinician at longer intervals depending on their condition and treatment protocols.

By adapting client flows to the purpose of clients' visits, average client time at the facility and service bottlenecks can be reduced.⁵⁵ Patient satisfaction is likely to rise and adherence to treatment should improve.⁵⁶

Facility-based drug delivery groups

This involves group distribution of drugs for stable clients attending adherence clubs at the facility. Clubs are facilitated by peer educators or expert clients, with referrals to nurses and/or doctors when required. They also function as peer-support groups. They have been piloted and implemented by MSF in several contexts, as well as by other organizations.

The evidence is that clients receiving their drugs through such groups have similar health outcomes to those receiving facility-based treatment; the clubs receive positive feedback from clients and service providers alike.^{xxxix,57} They typically consist of groups of up to 30 clients who meet every few months (according to maximum drug refill available) for less than an hour.

Participation is offered to all adults who have been on ART for at least 12 months and are considered clinically stable with an undetectable viral load (where available). Essential tasks such as weighing and symptom-based health assessments are provided by a trained peer educator or expert client⁵⁸ who acts as the club facilitator. Assessments are captured in patient records and monitored by clinic staff via a reporting linkage between the club facilitator and the clinic.

Any client reporting symptoms is referred back to the main ART clinic for prioritized assessment by a nurse. All members of the club see a nurse twice a year – once for blood tests and then two months later for their annual clinical check-up. The club facilitator is also responsible for completing the club register.

Observed efficiency: Other data illustrate potential cost efficiencies from on-site clubs:

- A cost-effectiveness study in South Africa showed that the cost per patient year was 45 percent lower in the adherence-club model compared to the mainstream model of care;
- The adherence-club model poses fewer barriers to ongoing access to care: with shorter waiting times, higher acceptability of services, and fewer missed clinic appointments.⁵⁹

Adherence clubs decongest facilities by shifting consultations and drug collections for stable clients to non-clinical staff (e.g. peer educators).^{xxxii} The clubs reduce the time clients spend at the clinic, and provide peer support and more flexibility (e.g. meetings on Saturday morning for working adults). For the facility, task-shifting helps to reduce the cost of treatment and the workload.

^{xxxix} Qualitative feedback from club members and service providers in 2015 from medication adherence clubs in Kibera, Kenya

^{xxxii} Qualitative feedback from club members and service providers in 2015 from medication adherence clubs in Kibera, Kenya

Example 15: Medication Adherence Clubs (MACs) – Kibera, Kenya⁶⁰

Context: In Kibera, Nairobi, the health clinic provides primary healthcare, HIV care and treatment (5,000+ active patients), non-communicable diseases (2,000+ patients), TB services (~30 currently active patients), and maternity services.

What happened in Kibera: In 2013, MSF and the Kenyan Ministry of Health introduced MACs as an alternative to standard care for stable HIV, diabetic and hypertension patients in Kibera, Nairobi. MACs enable groups of up to 30 HIV/NCD patients to collect medication refills every three months on Saturday mornings.

Performance: Of 5,028 HIV/NCD patients at Kibera, 44 percent were eligible and 1,432 (64 percent) then enrolled in MACs. A total of 43 (2 percent) were referred back to clinical care. A total of 109 MAC meetings were held, representing 2,208 individual refills. From patient feedback, MACs are seen as acceptable, timesaving, and a source of disease information and peer support.

Key messages:

- Successful integration of care for NCDs and HIV is feasible and beneficial, based on this;
- These MACs were organized in an high-density population area of urban Nairobi; different settings such as rural areas where clients have to travel further to clinics might require an adapted approach;
- Clearly defined health outcomes were used to measure client progress and ensure adherence to treatment, with entry of data into the MAC register that was validated by facility staff before entering into the patient files.

3.3 Decentralized drug delivery

Two possible options are utilized for drug delivery outside the facility and closer to the community but still under the supervision of medical staff. These are: delivery at existing peripheral health facilities, and community drug distribution points.

Decentralized drug delivery at peripheral health facilities

Facilities can decentralize treatment and care to peripheral facilities (e.g. health posts in Senegal or Level 2 dispensaries in Kenya). These facilities refer clients to the higher-level facility in the event of any complications. The health outcomes of patients at primary health clinics is typically as good as, or better than, the outcomes at a hospital-based clinic and the cost of treatment per patient is lower.⁶¹

Additional logistics and training are needed, so decentralization of drug delivery only makes sense if it serves a specified minimum volume of patients. For instance, a group of 10-15 patients was cost-effective for health posts to provide treatment and care in Senegal. This number will vary depending on context and prevalence and sites should conduct an analysis prior to planning decentralization.

Decentralized drug delivery in communities by health-facility staff

Facilities can bring drug delivery closer to clients through community drug distribution points (CDDPs). Clients visit the distribution point every two or three months for drug refill and report to the facility every six months or annually for clinical tests. The tests could also be facilitated by collecting the blood samples at the distribution point and transporting them to the laboratory in the facility for processing.

Example 16: Decentralized health facility ART delivery – Ziguinchor, Senegal^{xxxiii}

Context: In Senegal, each of the 76 districts typically has one main health center providing all HIV care and treatment, including drug delivery.

What happened in Bignona District, Ziguinchor: In 2013, the Ministry of Health decentralized HIV services, in particular drug delivery, to health-post level in 16 districts. Districts were selected on the basis of prevalence; health posts were selected on the basis of coverage area, distance to the main health center, and local availability of a lab. Patients collect their drugs at the health post, but go to the health center for consultations and care in some cases (and less frequently).

Performance: Decentralization of drug delivery is effective in eight out of thirty health posts in the district of Bignona. There was promising impact on the loss-to-follow-up at the health posts vs. the health center – it is 17 percent at the health center, and just 1 percent at the health posts.

Key messages:

- Staff training was required to raise the awareness of doctors and about the decentralization to get their buy-in and full support and reduce their fears of an increase in supervision load;
- Health posts had to reorganize to provide a separate area for client consultation (to maintain confidentiality) and adequate space for drugs and files storage.

Observed efficiency: CDDPs are a means of reaching clients in their own communities and reducing treatment costs for the facility. Preliminary analysis shows that CDDP models have a lower cost of service delivery (~20 percent reduction in cost per patient per year) while achieving similar or better health outcomes (Figure 9).

MSF launched similar CDDPs (PODIs) in Kinshasa, Democratic Republic of Congo.^{xxxiv} Three CDDPs were opened throughout the city, enabling 2,500 HIV patients to access ARTs in their community. Preliminary research indicates that the cost at the CDDPs is just 40 percent of the cost at a public health center⁶² (mainly attributed to lower human-resources expenditures in response to task-shifting). From the patient's perspective, travel costs were estimated to be three times higher when attending health centers than when attending CDDPs; average waiting time was 85 minutes at the health centers compared with just 12 minutes at CDDPs.

Further reading

- MSF toolkits:
 - Reaching closer to home,
 - Community ART Group toolkit,
 - Community engagement for antiretroviral treatment, etc.

^{xxxiii} Global Fund field visits in 2014–2015 and follow-ups

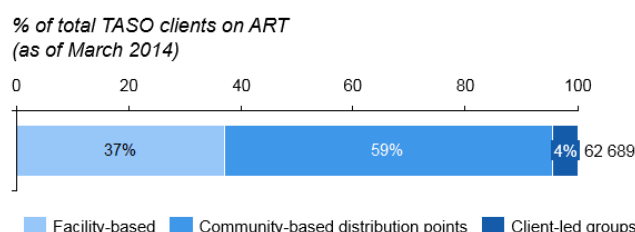
^{xxxiv} In French, CDDPs are referred to as PODIs – Points de Distribution Communautaires

Example 17: Decentralized community drug delivery – TASO, Uganda^{xxxv}

What TASO does: Stable HIV clients on ART receive their drugs and CD4 test in their own community from a professional health worker every two to three months at a CDDP. Expert clients are in charge of supporting adherence and reminding clients of appointments.

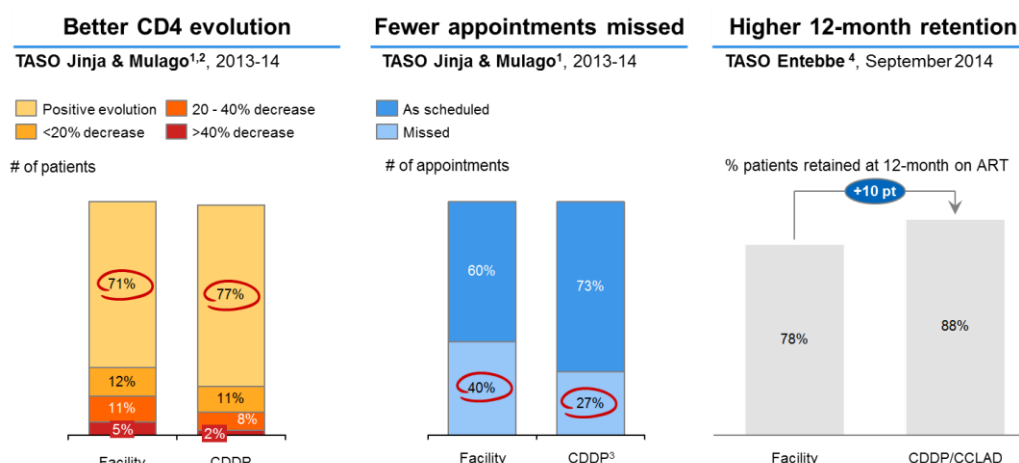
Performance: ~Sixty percent of TASO clients on ART receive community-based care. This has contributed to reduced congestion and waiting time for consultations for clients at the clinic.

Figure 9: TASO's split of clients between facility and community-based approaches



Further, outcomes from the CDDP model are better or equivalent to those from facility-based models: better CD4 evolution, fewer appointments missed, and higher 12-month retention.

Figure 10: Impact of TASO's CDDP model on outcomes^{xxxvi}



Key messages:

- Clearly defined eligibility and exclusion criteria were set by for the community models: having been on ART for more than ten weeks; clinically stable with CD4 count above 350; adherence record above 95 percent; and client consent;
- The CDDP model has produced results that are at least as good, and often better than, clinic-based drug delivery for stable clients.

^{xxxv} Global Fund field visits in 2014–2015 and follow-ups

^{xxxvi} 1. Data from Jinja TASO site and Mulago TASO site databases (Dec 2012–Sept. 2014) :

2. Including only patients with at least two CD4 counts in the period and with first count >350

3. Patients in CDDP before Dec 2012

4. Data from TASO Entebbe; retention data for the 12-month cohort as of end of September 2014 (started ART in July–September 2013)

Example 18: Expansion of community-based DOTS – Tanzania⁶³

Context: Although the DOTS strategy has been implemented throughout Tanzania since 1986, it was administered mainly in health facilities by 2004. DOTS expansion had been limited by scarce resources. Available services were overcrowded with TB patients, many of them also HIV positive. TB patients were discontented with long waiting hours and resulting economic losses.

What Tanzania did: A community-based DOTS model was implemented using ‘guardians’ (family member or close relative living with the client), or cured TB patients who lived close to the client’s home, to give TB medication to clients and observe the effects.

Performance: Treatment success rates for patients under community and health-facility-based DOTS were 85 percent and 83 percent, respectively⁶⁴, of national targets. Community-based DOTS reduced costs by 35 percent – specifically, 27 percent for health facilities and 72 percent for patients.⁶⁵ Reduced visits to TB clinics were the main reason for this. A qualitative study found the majority of patients (75 percent) were satisfied with community DOTS options and preferred it because of convenience, reduced costs and saved time.⁶⁶

Key messages:

- Effective supervision and monitoring of both the patients and the treatment supporters are necessary to track progress and ensure the success of community DOTS;
- Community DOTS is only viable if it is acceptable and sensitive to the needs of the local clients and community. In this case, the acceptability and effectiveness of community DOTS was studied in selected settings to determine how to best adapt to the local context.

Community-based drug delivery through client groups

This out-of-facility approach is similar to the facility-based adherence clubs described above. Members of a group of stable ART clients in a community take turns collecting drugs from the clinic or CDDP and deliver them to individual members; they also provide adherence support and outcome monitoring for one another. Each member receives a clinical consultation and blood tests when they visit the clinic or community point to collect the drug refills, or once a year when the entire group attends together for consultations.



This model can be adapted in different ways. One variation involves groups electing a group leader who is delegated to collect the drugs from the clinic or CDDPs and further distribute them to the other patients. The group members usually contribute a fee to cover the leaders’ transport costs. All patients are required to attend the site or the CDDP every 6-12 months for a clinical consultation.

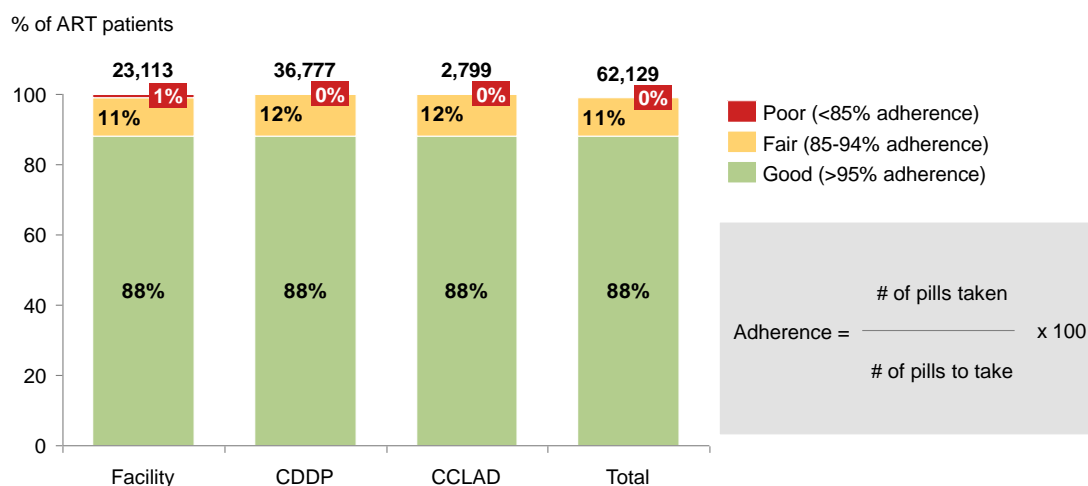
For clients, this model reduces the number of visits needed for treatment and reduces travel time and costs. Facilities benefit from reduction in number of clients visiting. Groups also provide additional peer support to clients, the opportunity for immediate defaulter tracing, and the potential for community mobilization. The groups help to maintain or improve client retention and health outcomes,⁶⁷ while reducing the cost of treatment.

Example 19: Community client-led ART delivery (CCLAD) – TASO, Uganda^{xxxvii}

What happened at TASO: For CCLAD, drug delivery to patients was partly delegated to clients involved in the CDDP, who were divided into peer support groups (PSGs). PSG leaders had the task of going to the CDDP to collect ARTs for all members.

Performance: CCLAD models achieved similar treatment outcomes compared to facility-based models and community-based drug delivery by facility staff.

**Figure 11: Impact of CCLADs on adherence across models
(all TASO sites, January – March 2014)**



Key messages:

- Clearly defined eligibility and exclusion criteria were developed. The CCLAD eligibility criteria were: having been on ART for more than four years, clinically stable with a CD4 count above 350, good adherence record (above 95 percent) and client consent. Exclusion criteria included children, pregnant women and adolescents, poor adherence, poor response to ART (CD4 count consistently below 350 for more than six months), TB co-infection or presence of any malignancies
- A simple data collection tool tracking key client indicators was developed with the help of Peer Leaders, who fill the forms for all group members and send them to the facility for review by clinicians and providers. The monitoring and evaluation team transcribes this information to the clinic ART register to ensure the data is captured in one main system (which feeds information to the national data reporting tool)
- Pre-packaging of drugs, labeled and packed separately, makes distribution of refills to individual clients easier. If non-pharmacy staff hand out drugs to clients, pharmacy staff need to pre-package and label them for each client in preparation for delivery
- Transport costs: the group of seven to ten clients contributed a nominal user fee to cover the cost of transportation for the leader to collect the drugs each time.

^{xxxvii} Global Fund field visits in 2014–2015 and follow-ups

Example 20: Community ART Groups – Thyolo, Malawi⁶⁸

Context: ART services have been decentralized in Malawi since 2003. However, patients remained dependent on facilities to receive treatment, and increased ART coverage has meant heavier workloads for health workers.

What MSF did: In 2012, MSF supported the Ministry of Health to implement Community ART Groups (CAGs) for stable patients. CAG representatives attend sites every second month for drug refills, and have clinical consultations once a year and viral load tests once every two years.

At the end of 2013, over 1,500 patients on ART were regrouped into more than 250 CAGs supported by four sites in the rural area around the town of Thyolo. Site support consists of setting up the CAGs, training its members, and monitoring its activities.

Performance: The average number of ART refill visits per person per year dropped from 6.5 to 2.6 (i.e. a reduction of 62 percent) between initiation of CAGs to ten months later. The Ministry of Health is now considering implementation of CAGs across the country.

Key messages:

- This approach depends on effective supply chain management to peripheral sites in order to maintain continuous drug supplies in way that responds flexibly and quickly to changes in demand
- Pre-packaged drugs make distribution of drug refills to individual clients quicker and easier. If non-pharmacy staff hand out drugs to clients, pharmacy staff need to pre-package and label them for each client in preparation for delivery
- Setting up of CAGs requires some resource inputs to prepare health surveillance assistants for their role in formation, training and supervisions of the CAGs – this investment develops an essential support structure and put help to avoid potential issues during implementation
- Stable patients may still be at risk of treatment failure despite a lack of clinical symptoms. Routine annual viral load testing will help to ensure that the client is adherent to treatment. Access to viral load monitoring is not a pre-condition for developing a CAG but it is an important enabler to simplify eligibility criteria and monitoring.

Example 21: of self-administered DR-TB continuation phase treatment – Khayelitsha, South Africa⁶⁹

Context: Khayelitsha is a peri-urban town in South Africa where nearly 200 cases of drug-resistant tuberculosis (DR-TB) are detected each year. In 2007, due to rising incidence of DR-TB, MSF began piloting a decentralized model of care for DR-TB patients. Even in the decentralized model, however, clients still had to attend a primary health care center for daily clinic-based DOTS throughout the treatment period.

What MSF did: In mid-2012, MSF initiated self-administered treatment (SAT) for DR-TB clients in continuation phase. This community-supported model provided an alternative to daily clinic-based DOTS. A regular (weekly or monthly) supply of DR-TB medication was provided to adherent clients for daily self-administration. This was combined with individual counseling to identify and tackle specific adherence barriers, weekly home visits and ongoing support from a Community Care Worker (CCW). Clients were further encouraged to identify a treatment partner to provide support at home or work.

Performance: Between July 2012 and December 2014, 161 potentially eligible DR-TB clients were identified and 133 (83%) were approved for SAT. Encouragingly, treatment success rate has not deteriorated under this model of care. Further analysis of DR-TB treatment outcomes on the pilot is expected in 2016.

Key messages:

- Stringent processes and criteria are used to select clients for SAT. A multidisciplinary team met on a weekly basis select cases; those not selected had issues such as previous adherence concerns, patient preference to remain on clinic-based DOTS, HIV-related issues, poor clinical condition, or possible treatment failure
- A client monitoring process is needed to track client progress and identify new problems that impact adherence, to highlight discuss client concerns and provide emotional support or encouragement when needed. Community health workers can monitor clients on weekly follow-up visits. Treatment partners at work or home, identified and counseled by clinic staff, can also provide feedback to the clinic.

4 How do I start?

4.1 Defining the plan

Key elements of the implementation plan include:

- *Identification of a lead person* in charge of conducting the analysis, proposing the approach, and reporting on progress;
- Devising a clear schedule for implementation, with key milestones;
- *Planning for communication* to the staff and to the clients;
- *Conducting analyses* before start-up, including:
 - assessment of which approach is relevant to the site among the options, based on: current treatment approaches, populations with increased risk of HIV infection and specific needs (such as key populations; infants, children and adolescents), accessibility of services and demographics of clients;
 - prioritization of which relevant approaches should be implemented - it is generally safer to implement new approaches one at a time, so that staff can more easily manage disruption, and sites can learn from the experiment;
 - assessment of current barriers to service delivery and the resources available.

Checklist before implementation

Clearly defined:

- Lead person
- Priorities
- Workplan
- Communication plan

4.2 Assessing resource needs

Resource needs for differentiated treatment approaches may require some re-allocation of resources or a minimal upfront investment in training and/or additional materials, including:

- *Training, forming, supervising and monitoring the approaches:* sites need to ensure that these tasks are clearly defined and assigned to specific staff in the facilities;
- *Training staff* to conduct group-counseling sessions and targeted health talks;
- *Ensuring adequate communication* to staff and clients about differentiated service-delivery models – via signboards, leaflets, or wall posters for instance;
- *Needs assessments* on questions such as whether the site will implement longer working hours or weekend services, and whether additional financial compensation to existing staff or hiring additional staff is needed;
- *Upfront investment* in extra equipment, TB infection control measures.

4.3 Understanding client groups needs and barriers

Sites can rely on clients' and healthcare workers' knowledge to:

- pre-identify client groups;
- understand specific needs and constraints for each client group;
- identify the site's barriers in delivering services to specific groups;
- test the choice of service-delivery model prior to implementation.

Information about needs and barriers relevant to the facility can be obtained through methods such as:

- *Informal discussions:* informal discussions during staff meetings; discussions with clients during exit interviews or while waiting for treatment. These provide insights into patients' preferences and barriers to treatment. Findings need to be synthesized and shared with managers;
- *Focus group interviews:* conducted with health workers (doctors, nurses, volunteers) or with specific client groups. Site managers should identify relevant clients for these groups - a typical focus group would include 5-15 people interviewed for one to two hours. Group facilitation should be either by an external person or a staff member who is experienced in steering group discussions;
- *Surveys:* a confidential list of questions is distributed to staff or clients waiting at the site, and the results are collected and analyzed. Anonymous surveys allow respondents to answer freely and can reach a large number of clients.

Once client feedback is received, the data should be analyzed in relation to the facility's current services in order to serve as the basis for selecting relevant treatment and care options.

Tool 1: Example of a client preferences and needs survey

Tool 2: Example of a template to measure client waiting times and satisfaction

Tool 5: Examples of focus group activities

4.4 Initiating implementation:

Defining eligibility criteria and referral procedures

Sites need to define clear criteria that establish which clients can participate in the selected differentiated approaches. For example, the criteria for fast track drug refills will need adjustment to the local context, but will likely include:

- *How long the client has been on ART* – preferably more than 6-12 months;
- *How long the client has been on the current treatment regimen* – preferably at least three months;
- *Demographics* – older than 18 years and not pregnant;
- *Response to ART* – undetectable viral load, if testing is routinely available; alternatively, demonstrated adherence using an objective measure (e.g. pharmacy dispensing record);
- *Overall health* – no current illness, stable weight/nutritional assessment.

Note that even when clients fulfill all the criteria they should make the final decision to participate. The doctor will be able to offer options based on the patient's clinical status, and the client should be free to choose from these options, depending on their personal circumstances and preferences.

Clients may need to be referred back to the health facility for closer monitoring if any health issues arise. Any client can opt to go back to regular ART care within the facility at any point, but in addition, there can be specific procedures for referring clients to the clinician/facility immediately for closer follow-up. Such clients include:

- Clients newly diagnosed with TB or other active opportunistic infections;
- Clients with a change in viral load to above 1,000 copies/ml or with other evidence of clinical or immunological failure (e.g. reducing CD4 count);
- Clients with evidence of medication-related toxicity (e.g. anemia).

Tool 7: MSF Eligibility criteria for Community ART Groups

Familiarization and training of providers

Health workers and other service providers in direct contact with clients need to be familiar with the models, be trained to implement the selected approach, and trained to enter data and maintain records that will help in future analysis of results. Regular training sessions should be offered to all new staff. Specifically:

- *Clinicians/nurses / counselors*: should become advocates for the selected approach and need to be able to communicate the different options to the clients and encourage eligible clients to enroll in them; they should also know how to transfer or refer out clients when relevant;
- *Community/primary health workers/expert clients*: need to understand how the model works and how to use tools to assess and monitor the health status of clients. Before implementation, training should be provided and any concerns should be addressed.

There are also some extra tasks that different cadres of workers will need to perform as part of delivering differentiated drug delivery – these are outlined in *Tool 8*.

Tool 8: Additional tasks for differentiated drug delivery

Promoting different models among clients

As also mentioned in Module 2, clients need sufficient information to help them to make an informed decision on their preferred options for treatment and drug delivery. Health talks in waiting areas, support groups, home visits by community health workers, discussions with a clinician and adherence counseling sessions can all be utilized to help with decision making. Messages can be reinforced through posters and leaflets available at the facility and from community organizations.

The main items of information to communicate are:

- What options are available;
- How these options work;
- Who is eligible to participate in specific options;
- Who to contact.

Tool 2: Example of a poster on ARV Adherence Clubs

4.5 Planning for drug supply and operations management

Where the facility wants to implement appointment spacing and fast track, the pharmacy needs to be equipped with sufficient drug supplies to provide three to four months of treatment to clients (based on the maximum duration of drug refill allowed by national guidelines). For the other models, it is important to ensure that the peripheral sites and communities receive the right quantity of drugs with a proper system in place to ensure drug quality and manage constant supply.

There are three steps to ensuring the required sufficient and flexible drug supply:

- *Planning:* Plan and order the required drug quantities in advance with regard to the number of clients and the change in supply that the selected approach involves (e.g. a longer duration of drug refills may require moving from monthly to quarterly or annual planning of drug supply);
- *Managing transport and logistics:* Approaches that relocate drug delivery to peripheral sites or use community-based models will need drugs that are pre-packed or dispensed for individual patients (e.g. CDDPs and community ART groups)
- *Tracking consumption:* The pharmacist might need new tools, or adjustments to existing tools, to track drugs supplied outside the facility and monitor them against the quantity delivered to the clients.



4.6 Monitoring implementation

Both program and site managers should monitor key indicators to ensure the effectiveness of implementation. Sites will need to compare baseline values (before implementation of differentiated approaches) with the actual value when the approach has been used for a defined amount of time: the differences will help with assessing the effects of differentiated drug delivery.

Sites should also track the outcomes and costs of delivering differentiated services. Very often, these indicators are already part of routine data collection systems.

Useful indicators that can be tracked to monitor progress include

- Number of clients seen by health workers per day;
- Average waiting time at the site per client;
- % of clients “satisfied” or “very satisfied” with drug delivery at the site;
- % drug pick-ups missed by target clients over a certain period of time;
- % of target client group currently receiving ART for 6 months or more;
- Retention of target HIV client group over 12 months;
- Percentage of HIV client group virally suppressed or, where viral load testing is not available, demonstrated to be adherent;
- TB treatment success rate for all new cases in client group.

Tool 2: Example of a template to measure client waiting times and satisfaction

Tool 3: Examples of tables to monitor differentiated care

Tool 6: Example of an ART monitoring tool

VI. Tools for differentiated approaches

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Tool 1: Example of a client preferences and needs survey

Respondents' profile				
What is your gender?		FEMALE	MALE	OTHER
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(If female) Are you pregnant?		Yes	<input type="checkbox"/>	No <input type="checkbox"/>
How old are you?				
<input type="checkbox"/> Below 20	<input type="checkbox"/> 20 to 35	<input type="checkbox"/> 36 to 50	<input type="checkbox"/> Over 50	
What is your occupation?				
Have you had a positive HIV test result?		Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Have you had a positive TB test result?		Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Identification of barriers to treatment from clients' perspective				
How often do you come to the site?				
<input type="checkbox"/> Once a week	<input type="checkbox"/> Twice a month	<input type="checkbox"/> Every month	<input type="checkbox"/> Every two months	<input type="checkbox"/> Every three months
<input type="checkbox"/> Less than every three months				
How much time do you usually spend at the site?				
<input type="checkbox"/> Less than 30 mins	<input type="checkbox"/> 30–60 mins	<input type="checkbox"/> Between 1hr and 2hrs	<input type="checkbox"/> Between 2hrs and 4hrs	<input type="checkbox"/> More than 4hrs
How far from the site do you live?				
How long does it take you to reach the site?				
Have you ever missed an appointment? If yes, what are the reasons?		Yes	<input type="checkbox"/>	No <input type="checkbox"/>
While waiting at the site, do you feel disturbed by other clients? If yes, can you say why?		Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Do you choose the time of your visit based on the type of client you expect to be with you at site? If yes, can you say why?		Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Do you feel comfortable when interacting with health workers?		Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Do you feel that they listen to you and understand your needs?		Yes	<input type="checkbox"/>	No <input type="checkbox"/>

Do you consider health workers are fully competent to treat you?

Yes

☐

No

☐

While at the site, do you think that you spend enough time with doctor?

Yes

☐

No

☐

Identification of barriers to treatment from health workers' perspective

Do you think that you are able to spend enough time with clients?

Yes

☐

No

☐

.....
Do you think that you have all the equipment you need for carrying out your tasks?

Yes

☐

No

☐

.....
Do you think that you need additional support from peers to carry out your tasks?

Yes

☐

No

☐

.....
Do you think that your client interactions (including health talks) are focused enough to address their specific needs?

Yes





























































☐

No

☐

Tool 2: Example of a template to measure client waiting times and satisfaction

The following is a template that sites can use to measure waiting time at the site and client satisfaction with service delivery. With this information, sites can assess the importance of waiting-time management to improve client satisfaction.

Patient #	At what time did you arrive at the facility? (a.m. or p.m.)	Time of departure / exit	How satisfied are you regarding your health-status improvement over the last 12 months / since you started your treatment	How satisfied are you regarding services delivered by the facility?
1			    	    
2			    	    
3			    	    
4			    	    
5			    	    
6			    	    

Tool 3: Examples of tables to monitor differentiated care^{xxxviii}

Table for differentiated screening and testing approaches^{xxxix}

Category	Indicator	Relevant benchmark	Baseline value	Actual value	Variation (%)
Cost effectiveness	Cost of testing approach over number of people tested positive	Other testing approaches			
	Total cost of testing approach over total number of patients tested				
	Testing costs vs site's total expenditures	National guidelines			
Efficiency	Number of positive cases found over number of people tested	Other testing approaches			
Linkage to care	Number of patients tested positive initiating treatment at site in the next month over number of positives found	Aim for 100%			

Table for differentiated treatment and care approaches

Category	Indicator	Source	Baseline value	Actual value	Variation (%)
Productivity	Average number of clients seen by each health worker per day	Client registry			
Outcomes	% of target client group currently receiving ART	Client files, potentially already reported to national program			
	Retention of target client group over 12 months (HIV) (e.g. % people still attending and taking treatment correctly after 12 mths)	Cohort analysis, potentially already reported to national program			
	% of client group virally suppressed (HIV)	HIV viral load monitoring for patients			
	% of TB treatment success rate for all new cases in client group	Client files, potentially already reported to national program			
Client satisfaction	Average waiting time (h) at site per client	Cf. template Tool 2			
	% of clients "satisfied" or "very satisfied" with service delivery at site	Exit interviews			
	% appointments missed in target client groups over a defined period of time	Client registry			

^{xxxviii} See the WHO Consolidated strategic information guidelines for HIV in the health sector for guidance on data for national and global HIV indicators.

^{xxxix} *Efficiency* – caution is required with interpretation of this indicator; change may be due to either a change in incidence of new cases, or increased yield from the approach.

Table for differentiated drug delivery approaches

Category	Indicator	Source	Baseline value	Actual value	Variation (%)
Productivity	Average number of clients seen by each health worker per day	Client registry			
	No. of clients enrolled in specific client groups for selected approach	Client files or registry			
Outcomes	% of target client group currently receiving ART	Client files, potentially already reported to national program			
	Retention of target client group over 12 months (HIV) (e.g. % people still attending and taking treatment correctly after 12 mths)	Cohort analysis, potentially already reported to national program			
	% of client group virally suppressed (HIV)	HIV viral load monitoring for patients			
	% of TB treatment success rate for all new cases in client group	Client files, potentially already reported to national program			
Client satisfaction	Average waiting time (h) at site per client	Cf. template Tool 2			
	% of clients "satisfied" or "very satisfied" with service delivery at site	Exit interviews			
	% appointments missed in target client groups over a defined period of time	Client registry			

Tool 4: Example of a poster on ARV Adherence Clubs



- ▶ Get to know and support each other
- ▶ Get 2 months supply of ARVs
- ▶ Get clinical check up once a year



Tool 5: Examples of focus group activities

TASO Jinja is a dedicated HIV peri-urban center in Uganda. There, 26 health workers, half of them volunteers, serve ~120 clients per day.

In May 2015, TASO Jinja organized 4 focus groups to identify what matters to clients and the barriers they are facing.

Facilities selected groups of 8 to 12 patients, who participated in an open discussion with facilitators chosen by the facility.

Each session lasted approximately two hours and comprised 4 major activities, including:

- **Roundtable (20 mins):** Patients were asked to introduce themselves by giving their name, age, work and marital status and year of treatment initiation. In addition they were asked if they had missed an appointment since the beginning of treatment, or had forgotten to take their pills once or several times over the past three months.
- **Mind-mapping (60 mins):** Facilitators started by asking patients: “What do you expect from your treatment at TASO?” Patients were invited to give their opinion and share their experience. Key insights/inputs/ideas were written on the board.
- **Emotional faces (20mins):** Facilitators showed patients photos of people conveying different emotional expressions, and asked them to propose an interpretation of what the people could be thinking with regard to their treatment. This activity enabled patients to remember personal experiences and share concrete aspects of their life in treatment.
- **Outcome prioritization (20mins):** The last activity consisted of asking patients to select the top five items identified during the focus group, in order to enable the facility to prioritize outcomes.

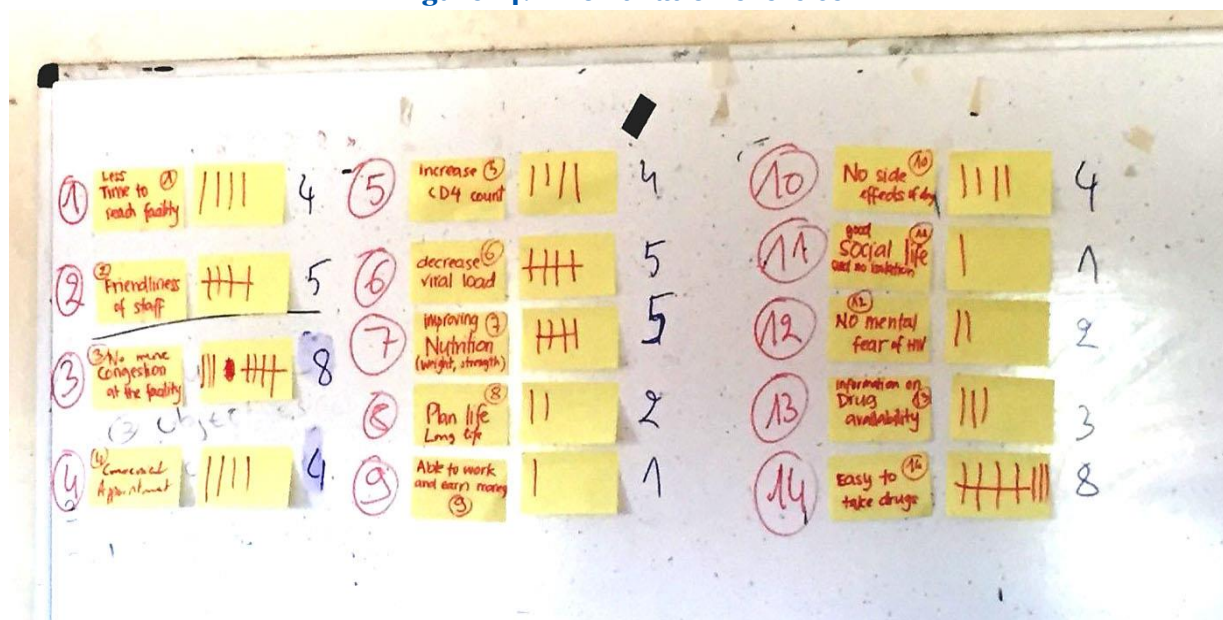
Figure 12: Output of mind-mapping at the first focus group conducted at TASO Jinja



Figure 13: Examples of photos shared with patients



Figure 14: Prioritization exercise



Overall, this exercise enabled TASO Jinja to identify the drivers for treatment adherence amongst clients.

These focus groups can also be used to get client feedback on the proposed changes to the service delivery models (e.g. special clinic days or different flows) and understand if they address their needs and constraints or if the services should be adapted differently.

Tool 6: Example of an ART monitoring tool (For client-led adherence groups supported by TASO in Uganda)

THE AIDS SUPPORT ORGANIZATION (TASO) - UGANDA
CCLAD MONITORING FORM

CDDP Name..... CDDP Code CCLAD Group Code..... Peer Leader Name..... Peer Leader Phone Number

District..... Sub-county..... Parish..... Village

FILLED IN BY TASO STAFF

Reviewer's Code.....

Next refill date.....

TB Screening: Please fill an ICF form for each client

S/ N	Registration Number (<i>To be filled when pre-packing</i>)	Name (<i>To be filled when pre-packing</i>)	Did client fall sick since last refill? (Yes or No)	If Yes, received any treatment? (Yes or No)	If yes, Where? (use codes below)	Were you admitted (Yes or No)	Reason for admission (specify)	Sexually active (Yes or No)	Is Client Pregnant Y or N or N/A	Family Planning Method Currently used (Use codes below)	Number of Condom pieces given		ART Regimen (please fill in the drug Codes)	(please complete drug Codes eg AR03)	Pills dispensed	Pills returned ()	Have you missed taking your drugs in the last 3 days	Sign
											M	F						
1														AR				
														AR				
														AR				
														Cotri/Dap				
2														AR				
														AR				
														AR				
														Cotri/Dap				
3														AR				
														AR				
														AR				
														Cotri/Dap				
4														AR				
														AR				
														AR				
														Cotri/Dap				
5														AR				
														AR				
														AR				
														Cotri/Dap				

Codes for treatment facility: 1. Health center 2. TASO Center 3. TASO Outreach 4. Hospital 5. Private clinic

Codes for FP Method: 1) Pills 2) condoms 3) IUD 4) Implant 5) injection 6) permanent 7) others 8) None

CCLAD Form 2013

(Type text)

Tool 7: MSF Eligibility criteria for Community ART Groups (CAGs)⁷¹

Description: CAGs have been started with stable patients on ART, although sites vary in their definitions of stability. MSF is also piloting CAGs for non-stable patients, such as those not yet eligible for ART, children, adolescents, pregnant women and patients on second line treatment. The table provides an overview of current criteria and how these could evolve based on changes in the context. The following criteria will need to be further adapted to the local context.

Who can join a CAG and when:

Current criteria	Future criteria
More than 6 months on ART	At first viral load < 1,000 copies/ml (if earlier than 6 months on ART)
More than 3 months on current regimen (according to local regimen)	-
CD4 count >350 cells/uL	Viral load <1,000 copies/ml In absence of viral load: Stable patients with no current evidence of immunological or clinical failure
No active TB or other active opportunistic infection	HIV-TB co infected patients if attending for TB drug refill at clinic
Not on second line treatment	-
Not pregnant	Pregnant or lactating women if attending for ANC/PNC follow-up at clinic
Age cut-off varying from above 15 years to above 18 years	Any child on a stable (non-weight dependant) adult dose of ART

Tool 8: Additional tasks for differentiated drug delivery

Differentiated drug delivery approaches may require that the tasks of some non-medical staff (e.g. counselors, CHWs, expert patients) be adapted. MSF has highlighted the importance of recognizing these “lay cadres,”^{xl} as they contribute greatly to the service delivery for HIV and TB by supporting testing and counseling, adherence counseling and community-based delivery models.⁷² There is a need for a framework to systematically recognize, train, supervise and include them in the national policies.⁷³

Additional tasks and support for appointment spacing / fast track

- Receptionist: perform triage by identifying clients coming for drug refills, finding their records, and directing them to pharmacy
- Pharmacist: dispense drugs for longer periods as agreed with prescribers (planning and ensuring drugs’ availability – refer to Module 3, section 3.5 on drug-supply planning)
- Clinician: monitor progress of clients to ensure that health outcomes are maintained and ensure pharmacy staff are kept informed of any prescription changes

Additional tasks and support for adherence clubs

- Nurse/counselor: identify and train expert clients to facilitate the club
- Data clerk/monitoring and evaluation manager: collect, verify and enter data collected during the health assessments at the clubs

Additional tasks and support for drug distribution at lower-level facilities

- Clinician/nurse: train relevant staff in these facilities; transfer-out existing clients or refer new clients and monitor progress in initial months
- Pharmacist: liaise closely with clinicians/nurses and ensure that drugs and other commodities are delivered to the peripheral facility, and track usage

Additional tasks and support for community drug distribution points

- Nurse/counselor: dispense drugs, measure patient’s weight and conduct symptom-based general health assessments
- Expert clients: provide peer support and counseling at the time of drug distribution
- Pharmacist: liaise with supervisors of expert clients and community health workers, plan for required drug supplies on the specific days, and ensure safe transportation of packages
- Clinician/nurse: support team on six-monthly appointments to collect blood samples and conduct health assessments

Additional tasks and support for community ART groups

- Expert clients: dispense drugs, measure weight and conduct symptom-based general health assessments; provide counseling and support while dispensing drugs
- Nurse/counselor: identify and train expert patients to facilitate the club
- Pharmacist: pre-pack drugs for individual patients marked with their name and details, and ensure safe transportation of packages
- Data clerk/monitoring and evaluation manager: collect, verify and enter data collected from the health-assessment forms completed by expert patients

^{xl} “Lay cadre” describes any health worker: performs functions related to healthcare delivery; is trained in the context of the intervention, and has no formal professional or paraprofessional certificate or degree in tertiary education – as defined in Lewin 2010: *Lay health workers in primary and community health care for maternal and child health and the management of infectious diseases*. Lewin S et al., Cochrane Database Syst Rev 3:CD004015, 2010

VII. Further Resources

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NOTE: All major guidelines can be found on the websites of WHO (www.who.int) or UNAIDS (www.unaids.org).

This section of the toolkit provides a list of resources to help you understand the value of differentiated treatment and care approaches or to support their implementation. It is organized by topics. It is not a comprehensive list and additional materials can be found by looking at our partners' websites.

1 General guidelines

- *The health journey, understanding the dimensions of care and treatment for people living with HIV. A community centered methodology.* International HIV/AIDS Alliance 2006
http://www.aidsalliance.org/assets/000/000/730/263-Health-journey_original.pdf?1406298118
- *Diagnostics access initiative to achieve the 90-90-90 treatment target.* UNAIDS, 2015
http://www.unaids.org/en/resources/documents/2015/20150422_diagnostics_access_initiative
- *Systematic screening for active tuberculosis: principles and recommendations.* WHO, 2013
<http://www.who.int/tb/tbscreening/en/>
- *Pathways to better diagnostics of tuberculosis.* STOP TB Partnership & WHO, 2009
<http://www.stoptb.org/assets/documents/research/2009.pdf>
- *Consolidated guidelines on HIV testing services. 5Cs: consent, confidentiality, counseling, correct results and connection.* WHO, July 2015 <http://www.who.int/hiv/pub/guidelines/hiv-testing-services/en/>
- *Task shifting: global recommendations and guidelines.* WHO, 2008
<http://www.who.int/healthsystems/TTR-TaskShifting.pdf>

2 Differentiated screening and testing

- *Uptake of Community-Based HIV Testing during a Multi-Disease Health Campaign in Rural Uganda.* Chamie G et al., PLOS, 2014
<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0084317>
- *Coordinating HIV testing with combination prevention: a new strategic direction for the CDC Mozambique program.* Shodell D, Honwana N, McOwen J., 2013
<http://pag.ias2013.org/Abstracts.aspx?AID=1860>
- *Improving tuberculosis case detection. A compendium of TB REACH case studies, lessons learned and a monitoring and evaluation framework.* STOP TB Partnership, TB Reach, 2014
http://www.stoptb.org/assets/documents/resources/publications/technical/TB_Case_Studies.pdf
- *Recommendations for investigating contacts of persons with infectious tuberculosis in low- and middle-income countries.* WHO, 2012
http://apps.who.int/iris/bitstream/10665/77741/1/9789241504492_eng.pdf
- *Planning, implementing, and monitoring, home-based HIV testing and counseling. A practical handbook for sub-Saharan Africa.* WHO, 2012
<http://www.cdc.gov/globalaids/Resources/prevention/docs/HomeBasedHIVTestingAndCounselingHandbook.pdf>

3 Innovative testing and screening approaches

- *Increasing access to HIV counseling and testing through mobile services in Kenya: strategies, utilization and cost-effectiveness.* Grabbe KL et al., Journal of Acquired Immune Deficiency Syndromes, 2010 http://scholar.harvard.edu/files/menzies/files/grabbe_jaids_2010.pdf
- *SMS printers aid early infant diagnosis of HIV/AIDS in Nigeria.* WHO & mHealth Alliance, 2013
http://www.who.int/reproductivehealth/publications/mhealth/infant_diagnosis_hiv_nigeria/en/
- *Mobile device for disease diagnosis and data tracking in resource-limited settings.* Chin CD et al., Clinical Chemistry, 2013 <http://files.icap.columbia.edu/files/uploads/clinchem.2012.199596.full.pdf>

4 Key populations

- *Adolescent HIV Care and Treatment, a training curriculum for multidisciplinary healthcare teams. Trainer manual.* ICAP, CDC, PEPFAR and François-Xavier Bagnoud Center, March 2011
<http://icap.columbia.edu/resources/detail/adolescent-hiv-care-and-treatment>
- *Information note on adolescents* – Global Fund (to be added when published)
- *Improving retention, adherence & psychosocial support within PMTCT services.* A toolkit for health workers. ICAP <http://icap.columbia.edu/resources/detail/prevention-of-mother-to-child-transmission-pmtct-of-hiv-resources>
- *Integrating gender into HIV/AIDS programmes in the health sector: Tool to improve responsiveness to women's needs.* WHO, 2009
http://www.who.int/gender/documents/gender_hiv_guidelines_en.pdf
- *Guideline on HIV disclosure counseling for children up to 12 years of age.* WHO, 2011
http://www.who.int/hiv/pub/hiv_disclosure/en/
- *HIV testing and counseling in prisons and other closed settings.* WHO, 2009
http://www.unodc.org/documents/hiv-aids/Final_UNODC_WHO_UNAIDS_technical_paper_2009_TC_prison_ebook.pdf
- *Guidance on couples HIV testing and counselling – including antiretroviral therapy for treatment and prevention in sero-discordant couples.* WHO, 2010
<http://www.who.int/hiv/pub/guidelines/9789241501972/en/>
- *Guidance on testing and counselling for HIV in settings attended by people who inject drugs: Improving access to treatment, care and prevention.* WHO, 2009
http://www.who.int/hiv/pub/idu/searo_wpro_tc/en/
- *IATT Option B/B+ Toolkit.* IATT, 2015
http://mightymail.gorillawebstudio.com/t/ViewEmail/r/00C9E90F95C684142540EF23F30FEDED/C67FD2F38AC4859C/#toc_item_o

5 Community engagement

- *Community involvement in tuberculosis care and prevention: towards partnerships for health.* WHO, 2008 <http://www.who.int/tb/publications/2008/9789241596404/en/>
- *Community-based antiretroviral therapy delivery, experiences of Médecins sans Frontières.* UNAIDS and Médecins Sans Frontières, 2015
http://www.unaids.org/en/resources/documents/2015/20150420_MSF_UNAIDS_JC2707
- *Reaching closer to home. Progress implementing community-based and other adherence strategies supporting people on HIV treatment.* Médecins Sans Frontières, Dec. 2013
http://www.msf.org/sites/msf.org/files/reaching_closer_home.pdf
- *Community ART Group Toolkit. How to implement the CAG model.* Médecins Sans Frontières, Dec. 2013 http://www.msf.org/sites/msf.org/files/cag_toolkit.pdf
- *Community engagement for antiretroviral treatment. Participatory tools and activities for civil society organizations working with people with HIV.* International HIV/AIDS Alliance, 2006
http://www.aidsalliance.org/assets/000/000/982/Trainers_manual_Community_engagement_for_ART_original.pdf?1409672556

6 TB/HIV integration

- *Community-based TB and HIV integration. Good practice guide.* International HIV/AIDS Alliance and PATH, 2013 http://www.path.org/publications/files/HIV-TB_integration_guide.pdf
- *WHO policy on collaborative TB/HIV activities.* WHO, 2012
http://www.who.int/tb/publications/2012/tb_hiv_policy_9789241503006/en/

- *Best practices in the integration of TB and HIV/AIDS services, experience from five countries.* Wandwalo E et al., July 2010 <http://www.tbcare1.org/publications/>

7 Monitoring tools

- *MSF CAG toolkit* – <http://samumsf.org/blog/portfolio-item/cmc/>
- *MSF ART Adherence Clubs* – <https://www.msf.org.za/sites/msf.org.za/files/Publication/Documents>
- *WHO guide for monitoring and evaluating national HIV testing and counselling (HTC) programmes* – <http://www.who.int/hiv/pub/vct/9789241501347/en/>

8 Managing drug supply

- *Essential drugs: Practical guidelines intended for physicians, pharmacists, nurses and medical auxiliaries*, 2013 edition – *Organization and management of a pharmacy* page 297 onwards. http://refbooks.msf.org/msf_docs/en/essential_drugs/ed_en.pdf
- *Handbook of supply management at first-level health care facilities* <http://www.who.int/management/resources/procurement/handbookforsupplymanagement.pdf>
- *MDS-3 Managing Access to Medicines and Health Technologies (Third Edition)*, chapters 30, 31, 33: *Ensuring good dispensing practice*; Management Sciences for Health, 2012
<http://apps.who.int/medicinedocs/documents/s19607en/s19607en.pdf> (chapter 30)
<http://apps.who.int/medicinedocs/documents/s19577en/s19577en.pdf> (whole document)
- *Where there are no Pharmacists: A Guide to Managing Medicines for All Health Workers.* S Andersson, B Snell, TWN/HAI Asia Pacific, 2010.
http://www.twshop.com/index.php?main_page=product_info&products_id=408; or
<http://www.inrud.org/ICIUM/ConferenceMaterials/269-snell-b.pdf>

VIII. References

- ¹ *The five elements of DOTS*. WHO. Available from: <http://www.who.int/tb/dots/whatisdots/en/>
- ² *Results Report 2015 – The Global Fund*. <http://www.theglobalfund.org/en/news/2015-09-21-Report-Shows-17-Million-Lives-Saved/> (see page 7)
- ³ *The GAP Report UNAIDS / JC2656* (English original, July 2014, updated September 2014) http://www.unaids.org/sites/default/files/media_asset/UNAIDS_Gap_report_en.pdf
- ⁴ *Stop TB Partnership Annual Report 2014*; UNOPS, 2015 http://www.stoptb.org/assets/documents/resources/publications/annualreports/STOPTB_annualeport_2014_web.pdf
- ⁵ *PEPFAR 3.0 Controlling the Epidemic: Delivering on the Promise of an AIDS-free Generation* The Office of the U.S. Global AIDS Coordinator, December 2014 <http://www.pepfar.gov/documents/organization/234744.pdf>
- ⁶ *Reframing HIV care: putting people at the centre of antiretroviral delivery*. Duncombe, C., et al. (2015), *Tropical Medicine & International Health*, 20: 430–447. Available from: <http://onlinelibrary.wiley.com/doi/10.1111/tmi.12460/full>
- ⁷ *Monitoring & Evaluation: Data and Service Quality Assessment*. The Global Fund. Available from: <http://www.theglobalfund.org/en/me/documents/dataquality/>
- ⁸ *Consolidated strategic information guidelines for HIV in the health sector*. WHO, May 2015. Available from: <http://www.who.int/hiv/pub/guidelines/strategic-information-guidelines/en/>
- ⁹ *Technical Report: Feasibility of proposed quality criteria for monitoring and improving HIV services USAID/Health Care Improvement Project*. - September 2011. Available from: https://www.usaidassist.org/sites/assist/files/feasibiliy_hiv_quality_criteria_sept11.pdf
- ¹⁰ *Global Report*. UNAIDS, 2013. Available from: http://www.unaids.org/sites/default/files/media_asset/UNAIDS_Global_Report_2013_en_1.pdf
- ¹¹ *Tuberculosis financing and funding gaps*. WHO and Global Fund, 2012. Available from: http://www.who.int/tb/dots/funding_gaps/en/
- ¹² *90–90–90: An ambitious treatment target to help end the AIDS epidemic*. UNAIDS, 2014. Available from: http://www.unaids.org/sites/default/files/media_asset/90-90-90_en_0.pdf
- ¹³ *Post-2015 Global TB strategy and targets*. WHO, 2015. Available from: http://www.who.int/tb/post2015_TBstrategy.pdf
- ¹⁴ *Global Plan to Stop TB 2016 -2020*, Stop TB partnership. Available from: <http://www.stoptb.org/global/plan/plan2/>
- ¹⁵ *TB, Reach the 3 million*. WHO, 2014. Available from: <http://www.who.int/campaigns/tb-day/2014/campaign-brochure/en/>
- ¹⁶ *Consolidated guidelines on HIV testing services*. WHO, July 2015. Available from: <http://www.who.int/hiv/pub/guidelines/hiv-testing-services/en/>
- ¹⁷ *Fast-Track: Ending the AIDS epidemic by 2030* UNAIDS / JC2686 2014 http://www.unaids.org/sites/default/files/media_asset/JC2686_WAD2014report_en.pdf
- ¹⁸ *Consolidated guidelines on HIV testing services*. WHO, July 2015. Available from: <http://www.who.int/hiv/pub/guidelines/hiv-testing-services/en/>
- ¹⁹ *Consolidated guidelines on HIV testing services*. Pg 33 & 38. WHO, July 2015. Available from: <http://www.who.int/hiv/pub/guidelines/hiv-testing-services/en/>
- ²⁰ *Coordinating HIV testing with combination prevention: a new strategic direction for the CDC Mozambique program*. Shodell D et al., 7th IAS Conference on HIV Pathogenesis and Treatment: Abstract

no. MOPE166, 2013. Available from:

<https://www.aids2014.org/Default.aspx?pageId=11&abstractId=200748281>

²¹ *Mozambique Increases Access to HIV Testing*. Available from:

<http://www.jhpiego.org/content/mozambique-increases-access-hiv-testing>

²² *PEPFAR Country/Regional Operational Plan (COP/ROP) 2015 Guidance* U.S. DEPARTMENT OF STATE

<http://www.pepfar.gov/documents/organization/237669.pdf>

²³ *Consolidated guidelines on HIV testing services*. WHO, July 2015. Available from:

<http://www.who.int/hiv/pub/guidelines/hiv-testing-services/en/>

²⁴ *Screening for tuberculosis and testing for human immunodeficiency virus in Zambian prisons*. Katie R Maggard et al, *Bull World Health Organ* 2015; 93:93–101. Available from:

<http://www.who.int/bulletin/volumes/93/2/14-135285/en/>

²⁵ *Consolidated guidelines on HIV testing services*. WHO, July 2015. Available from:

<http://www.who.int/hiv/pub/guidelines/hiv-testing-services/en/>

²⁶ *Uptake of Community-Based HIV Testing during a Multi-Disease Health Campaign in Rural Uganda*.

Chamie G, et al. (2014). *PLoS ONE* 9(1): e84317. Available from:

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0084317>

²⁷ *Improving tuberculosis case detection. A compendium of TB REACH case studies, lessons learned and a monitoring and evaluation framework*. STOP TB Partnership, TB Reach, 2014. Available from:

http://www.stoptb.org/assets/documents/resources/publications/technical/TB_Case_Studies.pdf

²⁸ *Consolidated guidelines on HIV testing services*. WHO, July 2015. Available from:

<http://www.who.int/hiv/pub/guidelines/hiv-testing-services/en/>

²⁹ *Best practices in the integration of TB and HIV/AIDS services, experience from five countries*. Wandwalo E et al., July 2010. Available from:

http://www.challengetb.org/publications/tools/tb_hiv/Best_Practices_Integration_TB_HIV_AIDS_Servic.es.pdf

³⁰ *Analyses et cartographies régionales de la vulnérabilité au VIH/SIDA. Région de Kédougou. Rapport final*. USAID and FHI 360, 2014 (unpublished)

³¹ *Consolidated guidelines on HIV testing services*. WHO, July 2015. Available from:

<http://www.who.int/hiv/pub/guidelines/hiv-testing-services/en/>

³² *Effect of provider-initiated testing and counselling and integration of ART services on access to HIV diagnosis and treatment for children in Lilongwe, Malawi: a prepost comparison*. Weigel R et al. (2009) *BMC Pediatr* 9(80). Available from: <http://www.biomedcentral.com/1471-2431/9/80>

³³ *Why are antiretroviral treatment patients lost to follow-up? A qualitative study from South Africa*. Miller CM et al. *Tropical Medicine International Health* 2010. Available from:

<http://www.ncbi.nlm.nih.gov/pubmed/20586960>

³⁴ *Addressing low uptake of antiretroviral drugs for prevention of mother-to-child transmission of HIV in sub-Saharan Africa*. International HIV/AIDS Alliance, 2014. Available from:

http://www.aidsalliance.org/assets/000/000/737/90670-Addressing-PMTCT-uptake_original.pdf?1406299595

³⁵ *Integration of HIV/AIDS services with maternal, neonatal and child health, nutrition, and family planning services*. Lindegren ML et al., *Cochrane Database of Systematic Reviews*, 2012. Available from:

<http://www.ncbi.nlm.nih.gov/pubmed/22972150>

³⁶ *The effect of complete integration of HIV and TB services on time to initiation of antiretroviral therapy: a before-after strategy*. Kerschberger B et al., *PLOS ONE*, Oct. 2012. Available from:

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3465310/>

³⁷ *All in: End Adolescent AIDS*. UNAIDS, 2015. Available from:

http://www.unaids.org/en/resources/documents/2015/20150217_ALL_IN_brochure

³⁸ *Antiretroviral therapy for HIV infection in adults and adolescents*. WHO, 2010. Available from:

<http://www.who.int/hiv/pub/arv/adult2010/en/>

-
- ³⁹ *The effect of complete integration of HIV and TB services on time to initiation of antiretroviral therapy: a before-after strategy.* Kerschberger B et al., PLOS ONE, Oct. 2012. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3465310/>
- ⁴⁰ *Integrated delivery of HIV and tuberculosis services in Sub-Saharan Africa: a systematic review.* Uyei J, Coetzee D, Macinko J, Guttmacher S, The Lancet, Nov. 2011. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/22035614>
- ⁴¹ *Best practices in the integration of TB and HIV/AIDS services, experience from five countries.* Wandwalo E et al., July 2010. Available from: [http://www.challengeitb.org/publications/tools/tb_hiv/Best Practices Integration TB HIV AIDS Services.pdf](http://www.challengeitb.org/publications/tools/tb_hiv/Best_Practices_Integration_TB_HIV_AIDS_Services.pdf)
- ⁴² *Adolescent HIV Care and Treatment, a training curriculum for multidisciplinary healthcare teams. Trainer manual.* ICAP, CDC, PEPFAR and François-Xavier Bagnoud Center, March 2011. Available from: <http://www.medbox.org/zambia/adolescent-hiv-care-and-treatment-a-training-curriculum-for-health-workers-zambia-trainer-manual/preview?q>
- ⁴³ *HIV and adolescents: guidance for HIV testing and counseling and care for adolescents living with HIV;* WHO guidelines 2013. Available from: <http://www.who.int/hiv/pub/guidelines/adolescents/en/>
- ⁴⁴ *Integration of HIV/AIDS services with maternal, neonatal and child health, nutrition, and family planning services.* Lindegren ML et al., Cochrane Database of Systematic Reviews, 2012. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/22972150>
- ⁴⁵ *Antiretroviral therapy in antenatal care to increase treatment initiation in HIV-infected pregnant women: a stepped-wedge evaluation.* Killam WP et al., AIDS. 2010. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/19809271>
- ⁴⁶ *Community-based TB and HIV integration. Good practice guide.* International HIV/AIDS Alliance and PATH, 2013 http://www.aidsalliance.org/assets/000/000/719/90636-Good-practice-guide-Community-based-TB-and-HIV-integration_original.pdf?1406297871
- ⁴⁷ *Successes and Challenges in an Integrated Tuberculosis/HIV Clinic in a Rural, Resource-Limited Setting: Experiences from Kericho, Kenya.* Shaffer D et al., 2012. Available from: <http://www.hindawi.com/journals/art/2012/238012/>
- ⁴⁸ *Task shifting: global recommendations and guidelines.* WHO, 2008. Available from: <http://www.who.int/healthsystems/TTR-TaskShifting.pdf>
- ⁴⁹ *Patient retention in antiretroviral therapy programs up to three years on treatment in sub-Saharan Africa, 2007-2009: systematic review.* Fox MP, Rosen S. Tropical Medicine & International Health 2010. Available from: <http://onlinelibrary.wiley.com/doi/10.1111/j.1365-3156.2010.02508.x/abstract>
- ⁵⁰ *Loss to follow up from tuberculosis treatment in an urban informal settlement (Kibera), Nairobi, Kenya: what are the rates and determinants.* Kizito KW, Dunkley S, Kingori M, Reid T, Trans R Soc Trop Med Hyg. 2011. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/20889176>
- ⁵¹ *Interventions to improve or facilitate linkage to or retention in pre-ART (HIV) care and initiation of ART in low- and middle-income settings – a systematic review,* Govindasamy D et al. Journal of the International AIDS Society, 2014. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4122816/>
- ⁵² *Why are antiretroviral treatment patients lost to follow-up? A qualitative study from South Africa.* Miller CM, Kethlapile M, Rybasack-Smith H, Rosen S. Tropical Medicine International Health 2010. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/20586960>
- ⁵³ *Task shifting: global recommendations and guidelines.* WHO, 2008. Available from: <http://www.who.int/healthsystems/TTR-TaskShifting.pdf>
- ⁵⁴ *Potential impact of task-shifting on costs of antiretroviral therapy and physician supply in Uganda.* Babigumira JB, et al., BMC Health Serv Res, 2009. Available from: <http://www.biomedcentral.com/1472-6963/9/192>
- ⁵⁵ *Community-based antiretroviral therapy programs can overcome barriers to retention of patients and decongest health services in sub-Saharan Africa: a systematic review.* Decroo T et al. International Health 2013; 5(3). Available from: <http://www.ncbi.nlm.nih.gov/pubmed/24030268>

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- ⁵⁶ *Strategies to address clinic waiting time and retention in care: lessons from a large ART centre in South Africa*. 17th International Conference on AIDS and STIs in Africa, 7-11 Dec. 2013. Available from: http://www.researchgate.net/publication/268512763_Strategies_to_Address_Clinic_waiting_time_and_Retention_in_are_Lessons_from_a_large_ART_centre_in_South_Africa_Background_to
- ⁵⁷ *ART adherence clubs: A long-term retention strategy for clinically stable patients receiving antiretroviral therapy*. Wilkinson, L. Southern African Journal of HIV Medicine, 2013. <http://www.sajhivmed.org.za/index.php/hivmed/article/view/77/118>
- ⁵⁸ *Task shifting: global recommendations and guidelines*. WHO, 2008. Available from: <http://www.who.int/healthsystems/TTR-TaskShifting.pdf>
- ⁵⁹ *Cost-effectiveness of ART adherence clubs for long-term management of clinically stable ART patients*. Bango F et al. International Conference on AIDS and STIs in Africa, December 2013, Cape Town. Available from: <http://www.sajhivmed.org.za/index.php/hivmed/article/view/77/118>
- ⁶⁰ *Medication Adherence Clubs: a potential solution to managing large numbers of stable patients with multiple chronic diseases in informal settlements*. Khabala, K. B. et al. (2015). Tropical Medicine & International Health, 20: 1265–1270. Available from: <http://onlinelibrary.wiley.com/doi/10.1111/tmi.12539/abstract> (specific instance where care for NCDs and HIV was integrated)
- ⁶¹ *Treatment outcomes and cost-effectiveness of shifting management of stable ART patients to nurses in South Africa: an observational cohort*. Long L, Brennan A, Fox MP et al., PLOS Med 2011. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3139666/>
- ⁶² *Community Models of care explained*. Médecins Sans Frontières. Available from: <http://www.msf.org/article/hivaids-community-models-care-exp>
- ⁶³ *Effectiveness of community-based directly observed treatment for tuberculosis in an urban setting in Tanzania: a randomised controlled trial*. Wandwalo E et al., The International Journal of Tuberculosis and Lung Disease, Volume 8, Number 10. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/15527158>
- ⁶⁴ *Effectiveness of community-based directly observed treatment for tuberculosis in an urban setting in Tanzania: a randomised controlled trial*. Wandwalo E et al., The International Journal of Tuberculosis and Lung Disease, Volume 8, Number 10, October 2004, pp. 1248-1254(7) . Available from: <http://www.ncbi.nlm.nih.gov/pubmed/15527158>
- ⁶⁵ *Cost and cost-effectiveness of community based and health facility based directly observed treatment of tuberculosis in Dar es Salaam, Tanzania*. Wandwalo E et al., Cost Eff Resour Alloc. 2005; 3: 6. Available from: <http://resource-allocation.biomedcentral.com/articles/10.1186/1478-7547-3-6>
- ⁶⁶ *Acceptability of community and health facility-based directly observed treatment of tuberculosis in Tanzania urban setting*. Wandwalo E et al., Health Policy. 2006 Oct; 78(2-3):284-94. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/16352370>
- ⁶⁷ *Reaching closer to home. Progress implementing community-based and other adherence strategies supporting people on HIV treatment*. Médecins Sans Frontières, Dec. 2013. Available from: http://www.msf.org/sites/msf.org/files/reaching_closer_home.pdf
- ⁶⁸ *Reaching closer to home. Progress implementing community-based and other adherence strategies supporting people on HIV treatment*. Médecins Sans Frontières, Dec. 2013. Available from: http://www.msf.org/sites/msf.org/files/reaching_closer_home.pdf
- ⁶⁹ *Decentralized diagnosis and treatment of drug-resistant tuberculosis in Khayelitsha, South Africa*. Médecins Sans Frontières, Mar. 2015. Available from: <http://www.msfaaccess.org/content/report-decentralized-diagnosis-and-treatment-dr-tb-khayelitsha>
- ⁷⁰ *Community ART Group Toolkit. How to implement the CAG model*. Médecins Sans Frontières, Dec. 2013. Available from: http://www.msf.org/sites/msf.org/files/cag_toolkit.pdf
- ⁷¹ *Community ART Group Toolkit. How to implement the CAG model*. Médecins Sans Frontières, Dec. 2013. Available from: http://www.msf.org/sites/msf.org/files/cag_toolkit.pdf
- ⁷² *Consolidated guidelines on general HIV care and the use of antiretroviral drugs for treating and preventing HIV infection: recommendations for a public health approach*. Geneva: WHO, 2013. Available from: http://apps.who.int/iris/bitstream/10665/85321/1/9789241505727_eng.pdf

Supplement to the Consolidated guidelines on general HIV care and the use of antiretroviral drugs for treating and preventing HIV infection: recommendations for a public health approach. Geneva: WHO, 2014. Available from: http://apps.who.int/iris/bitstream/10665/104264/1/9789241506830_eng.pdf.

Guidance on Provider initiated HIV testing and counseling in health facilities. Geneva: WHO and UNAIDS, 2007. Available from: <http://www.who.int/hiv/pub/vct/pitc/en/>

A qualitative assessment of a community antiretroviral therapy model in Tete, Mozambique. Rasschaert F et al., PLoS One 20;9(3):e91544e. 2014. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/24651523>

Community-supported models of care for people on HIV treatment in sub-Saharan Africa. Bemelmans M et al., Tropical Medicine & International Health 19;8:968-977, 2014. Available from: <http://onlinelibrary.wiley.com/doi/10.1111/tmi.12332/abstract>

⁷³ *HIV/TB Counselling: Who's Doing the Job? Time for Recognition of Lay Counsellors.* Médecins Sans Frontières, Aug. 2015. Available from: http://www.msf.org/sites/msf.org/files/final_web_counsellor_report_one_page.pdf