UNAIDS AND MÉDECINS SANS FRONTIÈRES 2015 | REFERENCE

COMMUNITY-BASED ANTIRETROVIRAL THERAPY DELIVERY

EXPERIENCES OF MÉDECINS SANS FRONTIÈRES

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Cover: Members of a community ART group, Gutu District, Zimbabwe.
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INTRODUCTION

At the end of 2013, 12.9 million people were receiving antiretroviral therapy (ART) globally; that same year, the percentage of people with HIV receiving ART rose to 37% (up from 10% in 2006) *(1)*. While this marks a significant improvement, it means that of the 35 million people living with HIV at the end of 2013, 22 million people—3 in 5 people living with HIV—were not accessing ART.[i]

Sub-Saharan Africa accounts for 24.7 million (or 71%) of the global total of people living with HIV. Although there are significant differences among countries, treatment access in the region is at 37%, the same as it is globally, and 87% of people living with HIV in the region who know their HIV status are receiving ART. This indicates that the removal of barriers to testing and knowing one's status is critical, as are continuous efforts to improve how people living with HIV are linked to treatment and supported to remain in care and continue treatment once it has begun.

Community-based service delivery has been an integral part of the response to HIV. To meet the UNAIDS targets to end the AIDS epidemic by 2030, adapting ART delivery systems to meaningfully include community-based services will be essential *(2)*. These community systems must be resourced and scaled up, but achieving scale requires more than that: it demands a transformation in how community-based services are linked and integrated with health systems.

Where health systems face a shortage of clinical staff, community-based service delivery can share the load and create increased efficiency through improved linkages and synergies *(3)*. The models of community-based ART delivery presented here move beyond conventional systems through the strong involvement of communities along the continuum of care.

The 2013 World Health Organization (WHO) *Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection* recommend that while the provision of ART can be maintained in the community, operational guidance is needed for this to happen in practice *(4)*.[ii]

As national, provincial and district teams address the various challenges in ART delivery, mapping out existing models of ART delivery by different stakeholders and documenting good practices at the community level can support scale-up and the adaptation of models to local contexts. Effective models should then be included in national treatment guidelines.

i The estimated number of people living with HIV receiving ART by mid-2014 was 13.6 million.
ii Further implementation considerations for community-based delivery of ART are presented in the WHO March 2014 supplement to the *Consolidated guidelines*, and further guidance is anticipated in the 2015 revision of the WHO *Consolidated ARV guidelines (5, 6)*.

No single approach exists for community ART delivery, and different approaches have been developed in sub-Saharan Africa. Models need to be adapted to their context in recognition of anumber of factors, such as barriers to access and retention in care, the extent of service decentralization and task shifting, the availability of safe and simple ART regimens, health service capacity, and regulatory or logistical constraints on ART delivery. More importantly, models of care need to be relevant, appropriate and responsive to the needs of people living with HIV.

Most community-based ART delivery models, however, demonstrate:

- Reduced burdens for patients and the health system.
- Increased retention in care.
- Lower service provider costs.

The success of community ART models depends on sufficient, reliable support and resources, including a cadre of lay workers, a flexible and reliable medication supply, access to quality clinical management and a reliable monitoring system for patient care (ideally including viral load). The models also require ongoing evaluation and further adaptation in order to reach more patients who are at high risk of loss to follow-up.

This document

This document is part of a series of case studies demonstrating innovative, high-impact strategies for community-based service delivery to be developed by UNAIDS in partnership with civil society. The goal is to encourage the increased inclusion, costing and resourcing of community-based actions in national responses to HIV, particularly in national plans and Global Fund to Fight AIDS, Tuberculosis and Malaria concept notes and grant implementation.

This document presents experiences of how community-based antiretroviral therapy (ART) delivery can improve both the level of access to treatment and the quality of health outcomes for people living with HIV. These experiences illustrate that community-based ART delivery is efficient, effective and high quality.

This document draws from several Médecins sans Frontières (MSF) reports and articles regarding its experiences with community-supported ART delivery.

Member of a community ART group collecting antiretroviral medicines for other group members, Khonjeni Health Clinic, Malawi.

EXPERIENCES OF MÉDECINS SANS FRONTIÈRES WITH COMMUNITY-BASED MODELS OF ANTIRETROVIRAL THERAPY DELIVERY

A continuum of strategies ranging from health service-driven to client-driven options is used to optimize long-term ART delivery (see Table 1).

Each of the strategies separate clinical consultations at the health facility by a trained nurse or doctor from the dispensing of ART (refills). ART delivery is provided by a lay cadre or patients, either in-group or individually, at a health facility or in the community; thus, it is no longer linked by space or time to the clinical consultation.

These strategies generally target stable patients on ART, and while there is no agreed definition of "stable" in this context, patients generally are considered to be stable if they have been taking ART successfully for a minimum period of time, have no concurrent illness, have experienced a degree of immune recovery (or are virologically suppressed), and are able to adhere to ART *(7)*. The aim of these strategies is to reduce the burden on clients and health-care providers when refilling medications.

These different strategies have now been applied in eight countries: the Democratic Republic of the Congo, Guinea, Kenya, Lesotho, Malawi, Mozambique, South Africa and Zimbabwe.

Table 1

Summary of MSF strategies for alternative models for delivery of long-term anitretroviral therapy

Health system-driven → Patient-driven

	Key objectives	Appointment spacing and fast-track drug refill	Adherence clubs		Community ART distribution points	Community ART groups (CAGs)
			Facility-based clubs	Community-based clubs		
Patient's perspective	Reduce costs (time + transport)	▪ Reduction of clinical visits ▪ Less time spent at clinic for drug refills	▪ Reduction of clinical visits ▪ Less time spent at clinic for drug refill	▪ Reduction of clinical visits ▪ Reduction of distance for drug refill	▪ Reduction of clinical visits ▪ Reduction of distance for drug refill	▪ Reduction of clinical visits ▪ Reduction of distance for drug refill
	Increase peer support	No	At club in health facility and potentially beyond into community	At club in community and beyond	At distribution point by expert patient	At CAG meeting in community and beyond
	Enhance community participation	No	Potentially	Potentially	Potentially	Potentially
Health care service perspective	Reduce workload					
	▪ nurse	Yes	Yes	Yes	Yes	Yes
	▪ pharmacist	Yes	No	No	Yes	Yes
	▪ counsellor, community health worker, expert patient	-	No (facilitation by club)	No (facilitation by club)	No (distribution and monitoring)	No (formation, training and supervision of CAG)
	Maintain/improve health outcomes					
	▪ adherence	Unknown	Yes	Unknown	Unknown	Unknown
	▪ retention	Yes	Yes	Unknown	Yes	Yes
	Improve self-management of patients	Individual patient empowerment	Adherence support	Aherence support and tracing	Organization of services for drug refill, adherence support, tracing and testing	Drug refill, adherence support, tracing and testing

Adherence club meeting, South Africa.

Adherence clubs

Adherence clubs follow several key principles:

- Group distribution of medications is provided at the health facility or community level for stable patients who are on ART.
- Peer counsellors dispense medications, measure patient weight and conduct symptom-based general health assessments.
- Peer support is provided by peer counsellors and peer groups when medication is distributed.

ART adherence clubs have been piloted in Khayelitsha township in South Africa, and they have been shown to prevent over-use of facilities by shifting consultations and ART collection for stable patients to adherence clubs that are organized at the clinic or in the community by peer educators. From a client perspective, club-based distribution reduces time spent at the clinic; from the health service perspective, it reduces the clinic workload.

In the facility-based ART adherence clubs, groups of up to 30 people living with HIV meet every two months for less than an hour. Participation

is open to any adult who has been on ART for at least 12 months and who is considered clinically stable, with an undetectable viral load.

The groups provide essential tasks, such as measuring weight and conducting symptom-based general health assessments. The results are recorded by a peer educator or lay counsellor who acts as the club facilitator. Since legislation may require that only staff with a dispensing licence distribute medication, antiretroviral drugs are pre-packaged and labelled for each participant; they are then brought to the group by the club facilitator. Any person living with HIV reporting symptoms that suggest illness, adverse side-effects or weight loss is referred back to the main clinic for prioritized assessment by a nurse.

All club members see a nurse twice a year: once for blood tests, and then two months later for their annual clinical check-up. The club facilitator also is responsible for completing the club register. Clubs are located in community venues or the homes of members. This allows members to access medication closer to their homes, and it enables more people to join the clubs.

Table 2

Adherence club model

SOUTH AFRICA–Khayelitsha model	
Context:	Urban
Target group:	Stable patients on ART
ART refill:	Every two months at health facility/community
Clinical visit for patient:	Yearly for viral load and clinical consultation
Referral mechanism back to clinic:	By lay worker and self-referral
Number of clubs and patients:	231 clubs, ±5900 patients
Patient uptake:	23% of patients on ART (including community clubs)
Retention in care:	97% at 40 months
Extended functions:	Utilizing alternative health points to support management and drug supply for community clubs
Resource needs:	Lay workers as facilitators of clubs; resources for club outreach
National response:	Adoption and quick roll out in City of Cape Town and Western Cape Province; National Department of Health provisional endorsement

Community ART distribution points

Community ART distribution points follow several key principles:

- Individual distribution of medication is provided in the community for stable patients on ART.
- Members from networks of people living with HIV dispense medications, measure weight and conduct symptom-based general health assessments.
- Peer support is provided by expert patients when medication is distributed.

Community ART distribution points have been piloted in Kinshasa in the Democratic Republic of the Congo. Transportation is expensive for people living with HIV who visit the few health facilities providing ART in the city. In addition people living with HIV are at high risk of exposure to stigma and discrimination.

MSF works with local networks of people living with HIV to establish community ART distribution points, bringing medication delivery closer to patients' homes, free of charge. These distribution points are managed by people living with HIV who are trained to provide ART refills, adherence support and follow-up of basic support and follow-up health assessments. People living with HIV who have been on ART for more than six months, have no active opportunistic infections and possess a CD4 count above 350 cells/μL are considered stable and eligible for participation in these community ART distribution points.

Clients attend the distribution point every three months for ART refills; they also report to the health service annually for clinical consultation and blood tests (for CD4 count testing). Referral to clinical care is done by lay workers from networks of people living with HIV, and clients who do not show up for their visits are traced by peer counsellors through phone calls or local support group networks. The distribution points also offer free HIV testing and counselling at the community level.

Community distribution points require lay workers for staffing, secure spaces to store medication and a means of transportation to bring medication from the health facility to the distribution posts.

Table 3

Community ART distribution points model

DEMOCRATIC REPUBLIC OF THE CONGO–Kinshasa model	
Context:	Urban
Target group:	Stable patients on ART
ART refill:	Every three months at community distribution point
Clinical visit for patient:	Yearly for CD4 and clinical consultation
Referral mechanism back to clinic:	By lay worker and self-referral
Number of patients:	2162
Patient uptake:	43% of active patients on ART
Retention in care:	89% at 12 month follow-up (2012)
Extended functions:	Tracing by lay workers and support groups, HIV testing and distribution points
Resource needs:	Lay workers, accommodation, transport and storage of medication
National response:	Recognition as good practice

Community ART groups

Community ART groups (CAGs) follow several key principles:

- They are self-formed groups of stable patients on ART from a community in the same geographic location.
- Group members take turns collecting antiretroviral medicines at the clinic.
- Clinical consultation and blood drawing is done in-group at the clinic or when a member needs a drug refill.
- Group members perform community-based delivery of medications, provide adherence support and monitor treatment outcomes.

In Tete, Mozambique, self-formed groups of six stable patients on ART take turns collecting antiretroviral medication when they visit the clinic for their semi-annual appointments and blood tests (for CD4 count testing). These visits are scheduled in such a way that someone collects the medicines every month. Clients then organize delivery of the antiretroviral medicines to other group members in the community. Group members also provide adherence support and monitor treatment outcomes; if there are any problems, clients present themselves at the clinic, or they are referred by other CAG members.

Table 4

Community ART groups model

MOZAMBIQUE–Tete model	
Context:	Rural district
Target group:	Stable patients on ART, pre-ART, children/ adolescents and pregnant women
ART refill:	Monthly in community ART group (CAG)
Clinical visit for patient:	Every six months for combined drug refill, clinical check-up and blood drawing for CD4 testing
Referral mechanism back to clinic:	Self-referral or other CAG members
Number of groups and patients:	2023 groups, 8181 patients (September 2013)
Patient uptake:	~50% of those eligible
Retention in care:	95% after 20 months follow-up in CAG
Extended functions:	Testing by community counsellors through CAGs
Resource needs:	Linkage between CAG and health centre (counsellor) critical
National response to pilot:	CAGs as national strategy

The CAG model has been transferred to other contexts through the adaptation and simplification of procedures, tools and visit schedules (such as three monthly medication refills and yearly clinical consultations with viral load monitoring). MSF has further refined the model for specific key populations—such as pregnant mothers and adolescents—and it is exploring how CAGs can improve HIV testing, linkages to care and pre-ART retention.

Appointment spacing and fast-track ART refill: community-based approaches in health facilities

The community-supported strategies for ART delivery described above should be combined with facility-based strategies to reduce the burden placed on patients and health-care workers when medications must be refilled. This can be done by spacing clinic appointments and ensuring rapid access to ART refills.

Appointment spacing and fast-track ART refills follow several key principles:

- Provide individual facility-based strategy for stable patients on ART.
- Reduce the frequency of clinical consultations by allowing the acquisition of medication for longer periods.
- Enable direct access to the antiretroviral dispenser for individual medication refill and adherence checks.

In Chiradzulu, Malawi, a protocol for appointments was established that required stable patients to attend the clinic only once every six months for clinical assessments and once every three months to collect their antiretroviral medication. Health Surveillance Assistants (HSAs)—paid community health workers who are part of the health system—provide the quarterly antiretroviral refills at health centres; they also check client adherence according to a standardized assessment tool. When problems arise, the HSAs refer clients back to the medical staff for clinical consultations.

Other countries have adopted changes in pharmacy regulation and practice that allows for a combination of greater supplies of antiretroviral medication and fewer appointments. Sites with access to viral load monitoring are now moving to yearly clinical visits for clients, with antiretroviral refills occurring every two or three months.

Table 5

Clinic-based fast-track ART strategies

MALAWI–Chiradzulu model	
Context:	Rural
Target group:	Stable patients on ART
ART refill:	Every three months at health facility
Clinical visit for patient:	Every six months for clinical consultation and yearly for viral load
Referral mechanism back to clinic:	By health surveillance assistant and self-referral
Number of patients:	8566
Patient uptake:	20% of active patients on ART
Retention in care:	97% at 12 month follow-up
Resource needs:	Health surveillance assistants
National response:	Issues around lay cadre handling medication

Member of a community ART group notes the number of pills remaining after doing a pill count at the end of the month, Malawi.

LESSONS LEARNED: CONSIDERATIONS FOR SUCCESSFUL MODEL IMPLEMENTATION

Important lessons continue to be learned as these models are rolled-out and brought to scale by international nongovernmental organizations and ministries of health (with limited international partner support). A number of critical enablers have been identified that ensure these models function well and avoid introducing the shortcomings of the health system into community care.

Taking these models to scale requires strong leadership from national ministries of health; it also needs the engagement of the community of people living with HIV to ensure accountability and local adaptation. Prior to implementing any of these models, a formal consultation process should occur at the national and district levels with health-care providers, networks of people living with HIV and community representatives. This will help determine which refill strategy is the best fit for the given context. Ensuring adequate training and ongoing supervision from district health teams also will be essential to a successful scale-up.

Flexible and reliable medication supply

Procurement, pharmacy management and supply chain management to peripheral sites are critical for implementing community-based models. Supply chain weaknesses can lead to shortages of antiretroviral medicines, so these weaknesses must be carefully monitored and reported.

Reducing health service contact may require a change in policies for prescribing medicines in order to allow the dispensing of more than a month's supply of antiretrovirals. While this is currently allowed in many countries, the policy is limited by insufficient quantities of medication, delays in its supply or general shortages in funding. The recent switch by most countries to a first-line ART regimen that is provided as a fixed-dose combination for all adults can be expected to simplify medication supply and improve adherence,[iii] further supporting community-based models of care *(8, 9)*.

A supported lay workers cadre

In each of these models, community members are involved in key tasks that support the establishment, training, monitoring and facilitation of peer groups. They also perform some basic clinical responsibilities (such as providing symptom-based general health assessments).

A critical challenge in many countries is the lack of a framework to support lay or basic trained workers as part of the overall health service; remuneration, retention packages and adequate supervision often are lacking *(10, 11)*. A major stumbling block for ministries of health is the unwillingness to include a new group in their budget while existing ones are facing difficulties with remuneration and retention. Given the precedents for such lay support in other areas of health care—such as the model of community case management of malaria *(12)* and the WHO's recent recommendation that trained and supervised community health-care workers dispense ART between regular clinic visits *(13)*—such restrictions should be lifted.

Access to quality clinical management

Self-managed care depends on reliable referral to health professionals if the health of the person living with HIV deteriorates; it also requires regular contact with health services every 6–12 months to ensure a minimum level of clinical and biological monitoring. This minimal level of clinical management was partly achieved in these community-based models by equipping people living with HIV with the skills to

iii This fixed-dose combination is tenofovir+lamivudine/emtricitabine+efavirenz.

provide peer adherence support and education on how to identify potential signs and symptoms of tuberculosis, common opportunistic infections, significant weight loss or antiretroviral-specific toxicity.

Involvement of community stakeholders

Community stakeholders have been consulted in the planning and implementation of community-based models. Early experience shows that collaboration with local networks of people living with HIV has the potential to stimulate increased demand for accountability from the health system through a so-called watchdog role that monitors medication stock-outs or other breakdowns in the quality of patient care. This is one reason why the current trend of reduced funding from international partners for these networks is a concern *(14)*—with adequate funding for civil society, including networks of people living with HIV, community-based models potentially can enable community engagement and participation in accountability within the scale-up of the HIV response.

Reliable monitoring system

Finally, monitoring and evaluation are essential parts of the implementation of any community model. Accountability for patient clinical management, antiretroviral therapy management and adherence support must be preserved, while still maintaining the capacity to provide troubleshooting for inevitable problems.

Key indicators

To ensure programme accountability, a number of indicators should be followed at the clinic level. These include client attendance at the medication distribution points and the receipt of medications. Routine electronic simplified monitoring systems can help track these key indicators, potentially supported by mHealth.

Approaches to costing

Community-based ART delivery models may feature an initial minimal cost, and they can offer cost savings over traditional facility-based models of care. Prior to selecting a model, it is important to determine and consider their respective overall costs and general cost-effectiveness in different settings. Understanding the resources needed to implement these models—including performing time and workload analyses of health-care workers—must be adjusted for different settings *(15)*.

ADDITIONAL RESOURCES

Bemelmans M, Baert S, Goemaere E et al. (2014). Community-supported models of care for people on HIV treatment in sub-Saharan Africa. Tropical Medicine & International Health. August 2014;19(8):968–977 (available from http://onlinelibrary.wiley.com/doi/10.1111/tmi.12332/pdf, accessed 22 January 2015).

Community ART group toolkit: How to implement the CAG model—bringing treatment closer to home and empowering patients. Cape Town: SAMU (available from http://samumsf.org/blog/portfolio-item/cmc/, accessed 22 January 2015). A set of videos explaining the models also can be downloaded from the same site.

Reaching closer to home. Cape Town: MSF Southern Africa Medical Unit (SAMU) (available from http://www.msf.org/sites/msf.org/files/reaching_closer_home.pdf, accessed 22 January 2015).

ART adherence club report and toolkit. Khayelitsha, South Africa: MSF, 2014 (available from http://samumsf.org/download/art-adherence-club-report-and-toolkit-khayelitsha/, accessed 22 January 2015).

Other MSF resources on community models of HIV care can be found on http://samumsf.org/community-models-of-HIV-care/.

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