Improving Access to HIV Treatment Services through Community Antiretroviral Distribution Points in Uganda

COUNTRY: Uganda IMPLEMENTING PARTNER: The AIDS Support Organization (TASO)

In Uganda, stable clients need ways to access medications closer to their homes to minimize the cost and disruption of remaining adherent to antiretroviral therapy (ART). In 2006, The AIDS Support Organization (TASO) developed a new program to provide ART care and treatment to eligible patients at “community drug distribution points” (CDDP). The project promotes a sustainable, cost-effective, and community-based option for ART dispensing.

WHAT WAS THE PROBLEM?

The majority of ART services provided in resource-limited settings are done so in standardized yet inefficient ways, making long-term ART adherence and retention difficult. Differentiated Models of Care (DMOC) can reduce the cost for patients, provide tailored ART adherence support, reduce congestion in ART facilities, and lay the foundation for patient-centered chronic disease wellness systems. Different elements of the traditional service delivery model can be modified to make long-term HIV treatment easier for patients and health care workers alike, though this requires ongoing monitoring and refinement to optimize service delivery models for different populations and geographies. In Uganda, stable clients needed ways to access medications closer to their home, which could minimize the cost and disruption of continuing on ART.

WHAT IS THE SOLUTION?

In Uganda, The AIDS Support Organization (TASO), a Ugandan non-governmental organization (NGO) originally formed to provide support to people living with HIV (PLHIV), developed a community-based ART delivery program starting in 2006 whereby ART care and treatment are delivered to consenting, stable HIV patients at a pre-identified community site called the “community drug distribution point (CDDP)”. Patients are eligible if they have been on ART for 10 weeks, have no evidence of opportunistic infections, and have stable weight measurements. A viral load test has not been required for eligibility, though as viral load testing has gradually replaced CD4 testing as the preferred way to monitor effectiveness of ART, it can be used as another criterion to enroll a patient in community ART delivery. Consenting clients are provided a 2-month supply of ART and an appointment at the CDDP for continued care. Core services provided at the CDDP by TASO staff in collaboration with ‘expert patients or clients’ (or who are also HIV+ individuals, trained in peer support services and knowledgeable about navigating HIV care and treatment services) includes:

- Refills every two to three months
- Assessment of clinical status by trained clinicians every 6 months
- Psychosocial support by expert clients,
- TB screening, weight measurement, and lab testing
The chosen community site is any location chosen by a group of clients from that locality in consultation with the local leaders. The clients convene regularly to receive their medication refills and other services, including counseling and treatment monitoring. This site should be at least 5 km from the nearest ART-accredited health facility, and may be a school, place of worship, a residence, or a local government building. Patients with new health concerns are re-referred to the ART clinic for assessment and follow-up. The objectives of the model include:

- To reduce the cost of delivering antiretroviral drugs (ARVs) to clients while increasing access;
- To maximize the use of available human resources, including community volunteers and ART clients themselves;
- To continuously work towards a sustainable community-based option to ensure continued adherence to ART; and
- To enhance monitoring of patient adherence to ART and promote HIV prevention, as per the national goals of accelerated HIV prevention through index client testing as an entry point to the community.

In Uganda, CDDPs have been implemented in all districts supported by TASO. Through September 2017, approximately two thirds of patients on ART supported by TASO receive their drugs through a CDDP (~80,000 PLHIV), across 20 districts in 8 regions of the country. The clinical team (based at the health facility) visits each CDDP twice per year. A schedule is drafted at the beginning of the year to plan two visits where clinical teams visit patients at the CDDP to provide a clinical assessment and lab testing (e.g. viral load). In between these visits, every 2-3 months a team of 1 or 2 social workers (depending on the size of the CDDP) brings pre-packed ARVs and basic attendance/monitoring registers to the CDDP to distribute the drugs and ask basic questions to screen for potential problems. ARVs are pre-packed before each visit at the health facility using the attendance registers.

For patients who do not show up for their CDDP visit, Community ART Support Agents (CASAs), typically expert clients (people living with HIV), report back to the facility by phone. When time allows during the day, the staff visiting the CDDP visit the homes of the clients that have missed appointments. If that is unsuccessful, health facility staff continue to reach out by phone. This accountability system helps to trace individuals who are defecting from treatment.

**Monitoring and Evaluation:** Attendance registers are used to document drug pickup at the CDDP and flag patients who do not attend. These registers are separate from Ministry of Health (MOH) ART registers, and brought from the health facility when the team visits the CDDP. The information collected on these attendance registers returns with the visiting team and the attendance information is input into the health facility’s health management information system (HMIS; typically electronic, but can also be paper registers). For the clinical visits, which occur every six months, the facility-based health cards are also brought to the CDDP for completion as the clinical team assesses each patient. Data from these visits is brought back to the health facility, where it is entered into the HMIS. The facility-level HMIS includes a field to identify who is receiving ART through CDDPs, and is able to analyze outcomes for those enrolled in CDDPs.
WHAT WAS THE IMPACT?

ART outcomes show that the CDDP is an effective alternative service delivery model. As of September 2017, approximately 80,000 patients on ART receive their medications through the CDDP model. At health facilities that have an associated CDDP, wait times for ART refills decreased from an average of 2-3 hours to an average of 30-45 minutes. (As such, this provides some improvement in the quality of care for patients not receiving drugs at a CDDP). Travel time and costs for CDDP patients are reduced as well, since patients receive their ART refills closer to their homes.

Of patients enrolled in CDDPs, approximately 65% are women, though this reflects the overlying gender distribution within all TASO-supported ART sites. Some children and adolescents are engaged in CDDPs, though typically these are the children of adult patients already enrolled in a CDDP. While CDDPs are not offered to pregnant women at antenatal care (ANC), there are women enrolled in CDDPs who become pregnant and continue to receive ARVs through the CDDP, while attending ANC. Two sites have begun KP-specific CDDPs with approximately 200 female sex workers (FSWs) enrolled.

Overall, ART retention for patients receiving drugs through a CDDP is 98%. While this is higher than among patients at TASO-supported sites overall (71%), in part this reflects a selection bias, where stable, adherent patients are selected as enrollees in CDDPs. Viral suppression testing is beginning to scale nationwide, though has not yet achieved sufficient scale for analysis. Once implemented nationally, this will be another measure with which to compare the effectiveness of CDDPs with traditional service delivery models.
HOW DOES IT WORK?

INDIVIDUAL LEVEL

Both male and female patients, who meet the eligibility criteria, including voluntary consent and treatment adherence, are enrolled into CDDP, as well as some HIV+ children who are stable and whose caregivers are also receiving ARVs through the CDDP. For clients living with HIV, CDDPs address the following challenges:

- Congestion and long waiting times at the health facilities
- Long distances of travel by patients to health facility
- Requesting permission from employers for clinic appointments (for patients in formal employment)
- Higher cost to individual patients to attend clinic (transportation, etc.)

When setting up a new CDDP, TASO identifies high-volume facilities (which would benefit from decongestion), then approaches district health leadership, usually in collaboration with community leaders or PLHIV support groups (where they exist). Together they identify an appropriate location for the CDDP. CASAs support the formation (e.g. setup) and implementation (e.g. are part of the health care team bringing ARVs) of the CDDP model.

SYSTEMS AND SERVICES LEVEL

Systems and services level: At the health system level, CDDPs have led to the decongestion of facility-based ART-distribution sites, as 80,000 people are brought back into the community for ART distribution. This allows health care workers at health facilities to focus on new and more complicated patients. Interestingly, this has improved both health worker and patient satisfaction in ART service delivery. While there are costs to running the CDDP model (e.g. petrol/gasoline and health care worker time away from the health facility), these may be more cost-effective over time, if it results in higher rates of patient retention and viral suppression.

Key linkages between CDDP and other systems and services: Each CDDP is linked to a health facility. Patients seen in CDDPs are recruited voluntarily from these health facilities based on eligibility criteria. Health care workers (HCW) from the facility support and coordinate activities in each CDDP. Patients are seen every 6 months at the health facility where they are affiliated. If a patient needs medical attention, they are referred back to the health facility through a self-referral, by a health care worker, or through peer referral.

PEPFAR OPERATING MODEL

The CDDP model evolved over time, originally beginning as home-based support for patients with advanced HIV disease. As ART became more widespread, and people living with HIV (PLHIV) began to thrive on this treatment, the community-based platform was utilized for ARV drug delivery. There has
been continued coordination of activities by the implementing partner (IP), TASO, with local and national health officials, as well as with the PEPFAR team.

LOCAL ENVIRONMENT

The designated place for drug distribution is chosen by the patients within their communities. Additionally, the District Health Management team is involved early on to assist with oversight and the necessary approvals. Typically, expert patients/CASAs come from the local community where the CDDP is established.

NATIONAL ENVIRONMENT

While a formal national policy on differentiated care models was not adopted until 2016, TASO has worked closely over the years with the MOH to scale-up this model of service delivery, even before formal policy was in place. In particular, there is heavy engagement with district health officers & district health teams, to ensure district-level buy-in. At the national level, the AIDS Control Programme (ACP) has been supportive.

SCALABILITY

The CDDPs have been scaled to all TASO-supported districts, with approximately 80,000 patients receiving drugs through CDDPs. This model is being implemented in 20 districts in 8 regions. At this stage, it has not been scaled by other implementing partners.

Important management and operational factors that have enabled the CDDP model to scale effectively include:

- Participatory planning with meaningful involvement of clients,
- Involvement and engagement of local community leaders to support the initiative. This includes their generous offers of space for clients to meet, such as churches, mosques, schools, or sub-county halls to host CDDPs,
- Engagement of the clients (CASAs) in the implementation of the model,
- Investment in client literacy and empowerment to allow greater self-management,
- Facilitation of teams with transportation access, and
- Support from TASO’s senior management and funders (PEPFAR, GFATM)

Additionally, socio-cultural factors are important. Addressing stigma towards HIV/AIDS has been critical. TASO has invested time, effort, and other resources in community sensitization through dialogues, drama groups, and mass media campaigns. This increased the acceptability of clients and the CDDPs in their respective communities.

The CDDP model seems more appropriate and efficient at high-volume sites as well as in underserved communities, where the distance to ART clinics is far. The model is more efficient for larger ART sites (>500 clients on ART), where the decongestion effect allows those sites to perform better and justifies the resource inputs required to set up a CDDP. While originally an innovation designed to offer more
service delivery points when there were fewer ART-accredited sites, CDDPs continue to be a popular choice for clients. This could be attributed to the community feel of the approach, minimal waiting times, ease of access, and reduced stigma.

Group size is preferably between 30-40 clients. Below that, it may not be cost effective to transport drugs to a CDDP, especially when the distance is significant. Above 40 patients risks overwhelming the social worker and 2 CASAs assigned to the group. Considering that the CASAs need to follow up with the clients, 15-20 clients per CASA is optimal.

MANAGEMENT & OVERSIGHT

**PEPFAR Team Involvement:** TASO received technical guidance and support from the CDC/Uganda team when it pioneered this innovation at the 11 Centers of Excellence. The support included objective critique of the model’s impact on clients’ clinical outcomes through performance reviews and IP coordination meetings, and played a key role in advocating for the adoption of the TASO CDDP model into the revised MOH 2016 treatment guidelines.

**Implementing Partner:** To ensure the fidelity of scale-up, TASO staff are involved in the initial setup and training for new CDDPs, with extra effort required for health facility staff that are based at a facility that has not yet supported a CDDP. Periodic assessments can be made to look at the effectiveness of the CDDP model by evaluating outcome data (e.g. viral load data or drug pickup data) comparing patients receiving ARVs through the CDDP versus those who receive their ARVs at the facility.

**Monitoring:** TASO’s work plans include a monitoring plan with indicators to evaluate the performance of CDDPs. These are also included in quarterly reports to the funder (CDC/Uganda). Currently, these involve collection of additional indicators outside the national HMIS tools. These measures are made available to the Ministry of Health, as requested (but not routinely). The indicators include viral suppression rates (where available), CD4 count strata, on-time drug pickup data, and 12-month retention rates for CDDP-enrolled patients.

Data from clients at CDDPs are reviewed monthly at the ART sites and quarterly at TASO headquarters to identify challenges and opportunities for improvement. Client data tracked as part of this effort includes: CD4 levels, viral load suppression, whether they have been monitored on schedule, and client satisfaction. Through the available data, TASO is able to make decisions for improvement, such as splitting high-volume CDDPs into two, modifying the CDDP visit calendar, or providing additional training to CASAs.

**IM management:** From the start, in 2007, the funder (CDC/Uganda) was highly supportive of this service delivery model and its scale up across all supported districts. Generally, there have not been any major challenges on the agency side. Implementation of CDDPs was always included in the annual plans and budgets and approved for implementation. Challenges to implementation have centered on other implementing partners in regions where TASO centers are operating. However, with consistent engagement and information sharing, these challenges have been overcome. Furthermore, with the
national adoption of differentiated service delivery models in the Consolidated Prevention and Treatment guidelines, coordination with other partners and stakeholders has become easier.

*Communications and feedback loops:* CASAs serve as leaders among clients, regularly interact with them, and report to the staff (and vice versa).

On a quarterly basis, TASO conducts client exit interviews to collect and document feedback from the clients to capture their satisfaction with the services. Client feedback is usually shared at performance reviews and usually informs the quality improvement initiatives.

Each TASO center has a Client Relations Officer, whose role among others is to link clients with management. This is an avenue for feedback that has helped in communicating issues regarding the CDDP and Community Client Led ART Delivery (CCLAD) models. He/she works with the client council, a team of 11 democratically chosen members of the client body that spearheads coordination and mobilization of clients.

**BUDGET**

*Cost of innovative solution:* As the original community-based support provided by TASO was home-based, the modification of support to create CDDPs was initially a cost-saving measure (e.g. visiting one CDDP rather than many homes). Initial start-up costs to start a CDDP include meetings and consultations with community leaders and district health officers, and identification and training of CASAs. Ongoing cost drivers include transportation costs for health care workers to visit CDDPs and the printing of materials, such as registers. A retrospective cost analysis was performed for three task-sharing models (including TASO’s CDDPs) in 2014.¹ No comparisons to a “standard of care” were part of this analysis, though the analysis showed an equal distribution of costs across different categories (i.e. personnel, drugs, etc.) and that costs decreased with greater scale. As part of the investment case to adopt universal Test & Start, modeling the effect of differentiated service delivery estimated a 15% reduction in the unit cost per person on ART from scale-up of differentiated models of service delivery (DMSD) in Uganda. While this reflects all DMSD in Uganda, it incorporated significant feedback from TASO, as they have been implementing their models longer than other IPs in Uganda. An ongoing true cost analysis of multiple differentiated service delivery models, including the CDDP, is occurring in 2018.

*Efficiency measures:* To enhance efficiency of the differentiated service delivery model for ART distribution, TASO has taken several measures:

- TASO has formed Community Client Led ART Delivery (CCLAD) groups of 10 members as a variation of the CDDP model. In this model, clients select a group leader who picks up drugs on behalf of the other members. This CCLAD model saves on the fuel and health worker travel time that would be expended when the health worker dispenses the drugs to clients in the community. It also increases the meaningful involvement of clients in their care.

TASO began implementing ART refills at 3-month intervals (originally it was monthly) to eligible clients in the CDDP and CCLAD to minimize travel costs. This also minimizes cost incurred by the clients. This began within the last two years, though it is hampered by concerns of short stock supply.

- Encouraging the utilization of motorcycles for most trips to the CDDP, since it is less costly than travel by car.
- Efficient refill schedules, which encourage refilling several CDDPs along the same route to minimize transportation and time costs.
- For the 6 monthly clinical reviews that include laboratory monitoring, there is a merger of CDDPs that are in close vicinity of each other.
- Lastly, some large groups (>50 clients) are broken into two smaller groups with nearby locations. While this does not impact the cost to the health system, it does reduce the time required by patients to obtain their ARVs.