

Decentralized drug distribution of antiretroviral therapy in Eswatini: cost-saving or cost-shifting?

Rick Homan,¹ Nicholas Kisyeri,² Lirica Nishimoto,³ Hally Mahler,³ Moses Bateganya,¹ Laura Muzart²

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BACKGROUND

Decentralized drug distribution (DDD) is an approach to supporting people living with HIV and other chronic conditions who need periodic drug refills in low-and middle-income countries. Establishing a network of distribution points can improve access, preserve facility-based resources (especially labor), and reduce crowding in facilities (particularly important during the COVID-19 pandemic).

In Eswatini, partly in response to COVID-19, the Ministry of Health (MoH) and partners funded by the United States Agency for International Development (USAID) and the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) accelerated the establishment of a network of community-based distribution points linked to government health facilities. Within five months, over 300 distribution points were operational, providing antiretroviral (ARV) drug refills for HIV, services to those with other chronic conditions, and health screening services.

This analysis documents how the DDD approach in Eswatini changed the flow of resources required to provide ARV resupply and who bore the costs/savings. The analysis was conducted by the Meeting Targets and Maintaining Epidemic Control (EpiC) project, which is funded by PEPFAR and USAID and led by FHI 360.

METHODS

Activity-based costing (ABC) was conducted to document the resources required to implement and support service delivery through DDD. Using the ABC approach, we reported each resource required for an introduction or support activity in its natural units (e.g., time for labor, pieces for supplies, # of trips, and distance for transportation) and assigned it an appropriate unit cost. Resources were valued from a financial perspective for monetary transactions or as opportunity costs if no transaction took place, but the use of an existing resource changed. The latter included the value of time for facility-based staff who were redeployed or changes in the time clients spent seeking refills (valued at the hourly equivalent of gross domestic product per capita). ARV costs were excluded because overall use did not change.

Where possible, we isolated the costs related to the ARV service, but the start-up costs are higher than expected due to the multifaceted services being offered and the speed at which the service points were established.

CONCLUSIONS

DDD of antiretroviral therapy is feasible (even during a pandemic) and can reduce pressure on facility-based resources. The savings to clients largely offset the additional costs to the donor community and the MoH associated with DDD for ARV refills. An understanding of how DDD introduction impacts the flow and sources of the required resources can inform scale-up and ongoing support of these programs.

RESULTS

The resources used to establish the network of community-based distribution points largely came from the donor-funded implementing partners (83%) (Table 1). For every dollar spent by those partners, another US\$2.48 of repurposed resources (opportunity costs) were provided by the implementing partners or the MoH. This heavy reliance on donor-funded implementing partners is likely a reflection of the speed at which the network was set up and the competing demands faced by the MoH to respond to the COVID-19 pandemic.

The total financial cost required for the DDD network per month was US\$24,717; the bulk of this expense (52%) was related to the transport of ARVs to the distribution points. An additional 30 percent was used for packaging and labeling of the ARVs (Figure 1). These financial costs were borne entirely by the donor-funded implementing partners. During service provision, for every US\$1.00 of financial costs incurred, an additional ~US\$0.54 in opportunity costs were incurred for resources redeployed to support the distribution points. These opportunity costs were divided between the Ministry of Health (37%) and the implementing partners (63%). Clients realized a modest financial cost savings (~US\$0.24/refill) when using the DDD points but substantial opportunity cost savings (~US\$4.79/refill) due to easier access and shorter wait times. The ongoing financial and opportunity costs of DDD are shown in Table 2.

TABLE 1. Start-up costs to establish a network of community-based distribution points

Activity	Financial Cost		Opportunity Cost*	
	Donor	MoH	Donor	MoH
Planning / Coordination Meetings	\$82,209	\$ -	\$89,284	\$71,628
Trainings	\$5,364	\$ -	\$22,538	\$6,444
Equipment Sourcing	\$41,660	\$ -	\$130,561	\$78,072
Total	\$129,233	\$ -	\$242,383	\$78,072
% of Total	29%	0%	54%	17%

* Opportunity costs represent the monetary value of existing resources that were redeployed to support the setting up of the community-based distribution network.

Figure 2 shows the incremental cost (or savings) per refill by who bears the cost (or savings) and the type of cost or savings. Clearly the donor-funded implementing partners are incurring the bulk of the costs, both financial and opportunity. The MoH is incurring modest opportunity costs per refill (due to redeployment of personnel to support services at the distribution points), and the main beneficiaries of the change are the clients. The savings to the clients are more than enough to offset the costs to the implementing partners and the MoH; essentially, costs are transferred from the clients to these organizations.

FIGURE 1. Incremental cost (savings) by type, source, and use per month

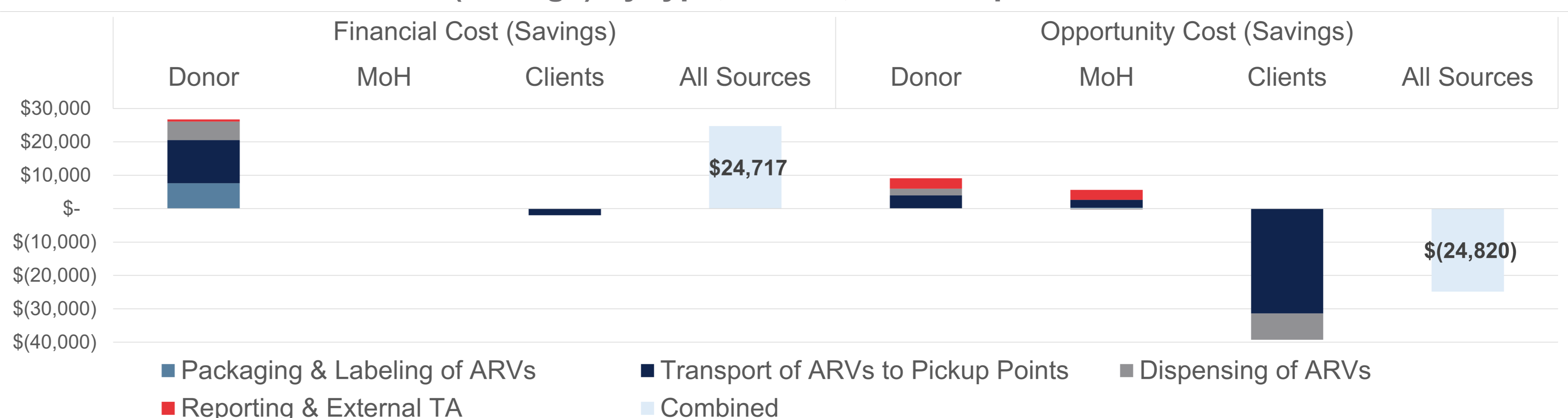


FIGURE 2. Incremental cost (savings) per refill by source and type

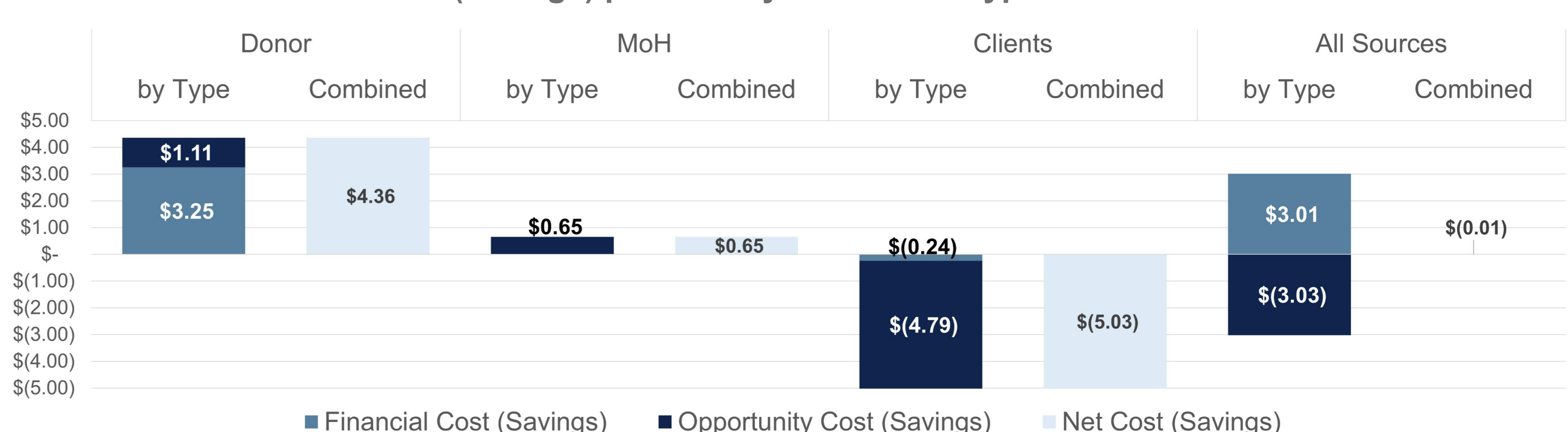


TABLE 2. ARV service provision costs (or savings) per month and per refill by type of cost and source of resources

Cost Type	Donor Resources		Ministry of Health Resources		Client Resources		All Resources	
	Per Month	Per Refill*	Per Month	Per Refill*	Per Month	Per Refill*	Per Month	Per Refill*
Financial	\$26,689	\$3.25	nil	-	(\$1,972)	(\$0.24)	\$24,717	\$3.01
Opportunity	\$9,085	\$1.11	\$5,345	\$0.65	(\$39,250)	(\$4.79)	(\$24,820)	\$(3.02)
Total	\$35,774	\$4.36	\$5,345	\$0.65	(\$41,222)	(\$5.03)	(\$103)	\$(0.01)

* Based upon ~8,200 refills dispensed per month (17.7% of all ART refills)

AUTHOR AFFILIATIONS

- FHI 360, Durham, NC, United States
- FHI 360, Mbabane, Eswatini
- FHI 360, Washington, DC, United States

CONTACT INFORMATION

Rick Homan, *Scientist*,
rhoman@fhi360.org

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