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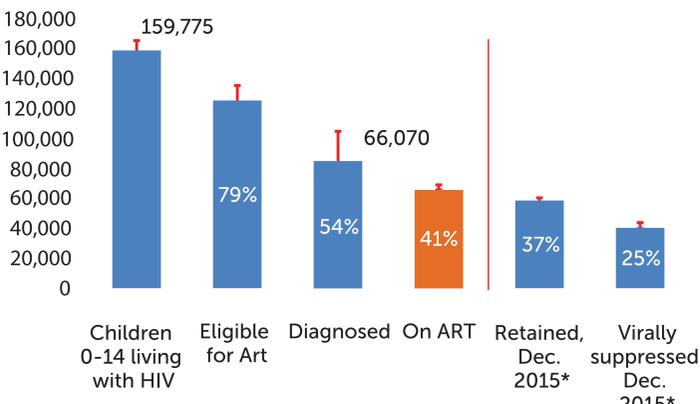
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INTRODUCTION

- The PEPFAR and Children's Investment Fund Foundation (CIFF)-supported Accelerating Children's HIV/AIDS Treatment (ACT) Initiative is a two-year effort to double the number of children and adolescents on antiretroviral treatment (ART) in nine sub-Saharan African countries, including Kenya.
- In Kenya, 12% of people living with HIV are children ages 0-14 years and 7% are adolescents, ages 15-19 years. The Government of Kenya (GOK) has set ambitious targets for children and adolescents living with HIV in the Kenya AIDS Strategic Framework. The GOK aims to increase ART coverage among children ages 0-14 and adolescents ages 15-19 from 25% and 36%, respectively, to 90% by 2019.
- There are losses along each stage of the pediatric treatment cascade in Kenya (Figure 1). To identify key barriers to ART scale-up among children and adolescents in Kenya, the USAID- and PEPFAR-funded Health Policy Project (HPP) conducted a qualitative analysis of the ART cascade from identification to retention, and estimated the financial resources needed to meet GOK and ACT targets for these age groups.

Figure 1. Children with HIV and the Pediatric (ages 0-14 years) ART Cascade, Kenya, 2014-2015



Source: Government of Kenya, Unpublished; NASCOP, 2012; PEPFAR, 2014. Note: Eligibility as per Kenya 2014 guidelines *Estimated

METHODS

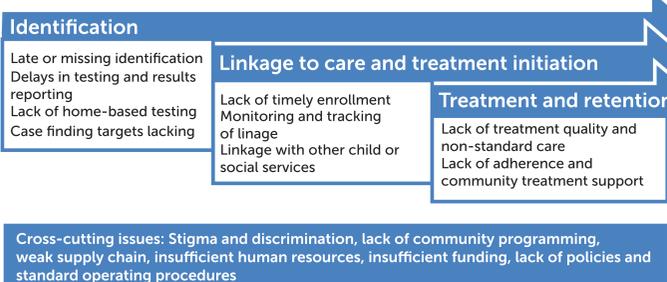
- HPP conducted group interviews with 19 of the 28 ACT implementing partners (IPs) in Kenya to better understand challenges and how to address them along the pediatric treatment cascade. Partners considered children ages 0-23 months, children ages 2-14 years, and adolescents ages 15-19 years separately.
- HPP estimated weighted average unit costs by age, stage along the cascade, and cost category. Disaggregated future targets by cascade stage and age group were projected using Spectrum and program data, and were multiplied by the unit costs per person, per year to estimate the total resource requirements.
- The unit cost analysis involved collecting outputs and financial data on ART service delivery and health systems strengthening activities from seven IPs and the prices of commodities for identification (including early infant diagnosis), laboratory monitoring, and antiretroviral drugs (ARVs) under local Global Fund grants.

RESULTS

Qualitative barrier analysis

- IPs cited case identification as the most critical challenge to ART scale-up, followed by failure of treatment initiation for newly-diagnosed, eligible pediatric patients.
- The primary cause of suboptimal identification rates is the lack of rapid test kits, along with the lack of an active case finding strategy.
- Poor connections between facilities and between departments within the same facility result in the loss of many eligible pediatric patients when they are tested in one location then referred to another for treatment.
- Stigma and discrimination also pose risks to treatment initiation, adherence, and retention among children and adolescents.
- IPs face many of the same bottlenecks, representing systemic challenges impeding progress toward ACT targets if left unaddressed.

Figure 2. Failure Points and Bottlenecks Along Pediatric Treatment Cascade Identified by IPs

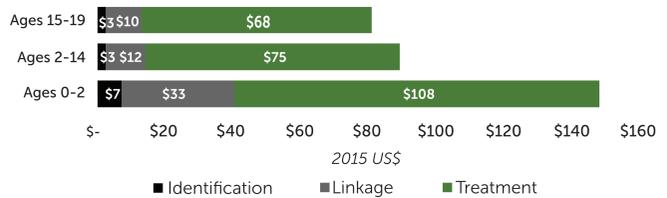


Source: Authors.

Cost analysis

- The unit costs for essential treatment cascade activities funded by development partners are US\$148, US\$90, and US\$81 per person for ages 0-23 months, 2-14 years, and 15-19 years, respectively (Figure 3). These costs include the cost of human resources, equipment, facility expenses, overhead, and other activities, such as trainings and meetings; they do not include the cost of ARVs and laboratory reagents.

Figure 3. Unit Costs of Essential Activities to Strengthen Pediatric and Adolescent ART Cascades



Source: Authors' analysis based on budget data for FYs 2014 and 2015. Data represents funding across PEPFAR and CIFF, and seven implementers. Costs include some supplies and essential laboratory consumables (if reported), but exclude ARVs and laboratory reagents.

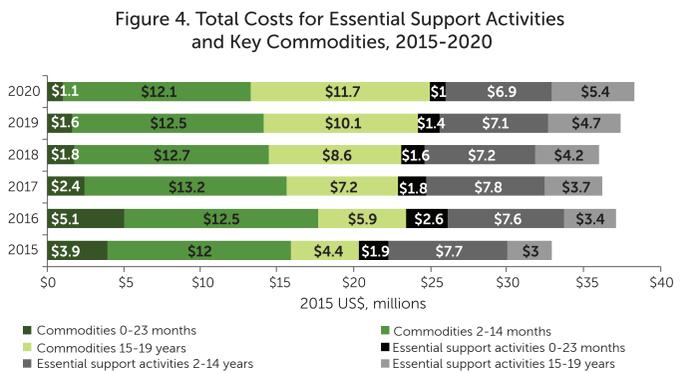
- The unit costs of ARVs and laboratory reagents vary by age group. While commodity costs for identification are highest for children ages 0-2 years, costs of antiretroviral regimens increase with age, from US\$104 per patient-year in patients ages 0-2 years to US\$140 for those 15-19 years (Table 1).

Step	Type of Commodity Cost	0-2 years	2-14 years	15-19 years
Identification				
	Cost per test (EID: DNA PCR)	\$14	-	-
	Cost per test (HIV rapid test kit)	-	\$0.81	\$0.81
	Cost per confirmed diagnosis	\$28	\$2.77	\$2.77
Treatment: ARVs				
	First line ART, per patient year	\$103.7	\$110.1	\$133.4
	Second line ART, per patient year	-	\$195.2	\$258.5
	Overall, per patient year	\$103.7	\$114.4	\$139.8
Treatment: Laboratory Monitoring				
	New patients, per patient year	\$21.1	\$21.1	\$20
	Established patients, per patient year	\$19.3	\$19.3	\$19.3

Source: Authors' analysis; CDC, 2013. Note: Data represents funding across PEPFAR and CIFF, and seven implementers.

- The total cost of commodities, 2015-2020, is US\$139 million, 65% for pediatric and 35% for adolescent ART (Figure 4). In addition, US\$79 million will be required for essential support activities, assuming there are no scale efficiencies and that unit costs for these support activities also remain stable due to consistent design and delivery approaches.

Figure 4. Total Costs for Essential Support Activities and Key Commodities, 2015-2020



Source: Authors' calculations using Spectrum and assumptions.

CONCLUSIONS

- Kenya must address implementation bottlenecks along the ART cascade. Specific recommendations for the government include:
 - Review rapid test kit quantification and consumption and increase purchasing and distribution of rapid test kits, to meet current and projected needs
 - Implement an active case finding strategy
 - Explore community-based strategies with strong links to facilities and improve clinical outcomes
 - Develop guidelines to manage inter-facility transfers
 - Conduct further research around sources of stigma and risks of disclosure, followed by an implementation plan to address related needs
 - Improve laboratory infrastructure for viral load monitoring
 - Develop guidelines for treating students in boarding school settings
- Though ACT contributes significant supplemental funding above regular PEPFAR support, the costs of increasing identification and linkage to care are significant to meet expanded ART targets in children and adolescents. These costs outstrip forecasted resources in future years after the ACT initiative ends, indicating the need for Kenya to raise significant additional resources.
- Further analysis is required of the sustainability implications of the costs projected in this study, as the costs faced by the GOK under a scenario of increased country ownership were not considered.