

Final Report

A360 Intervention Cost Report Intervention: Tanzania, Kuwa Mjanja

Date: March 30, 2022

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Submitted by Itad
In association with Avenir Health



Acknowledgements

We are very grateful for the cooperation of all the A360 Consortium organizations for providing us with the information used to generate this report, and for their valuable contributions to the data collection and analysis process. We are particularly indebted to PSI Tanzania headquarters and field staff for their unstinting help. We would also like to thank all the interviewees, particularly the Tanzanian government officials and health workers and the community volunteers who gave generously of their time and insights. We thank our evaluation team colleagues for their support and feedback at all stages of the work.

Disclaimer

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List of acronyms

A360	Adolescents 360
BMGF	Bill & Melinda Gates Foundation
CIFF	Children’s Investment Fund Foundation
CEA	Cost-Effectiveness Analysis
CYP	Couple-Year of Protection
HCD	Human-Centered Design
M&E	Monitoring and Evaluation
MOH	Ministry of Health
NDA	Non-Disclosure Agreement

Executive Summary

Background

This document reports results from the costing of A360, a girl-centred approach to contraceptive programming that operated in 20 regions and 100 districts in Tanzania. The program, known as Kuwa Mjanja, served unmarried and married adolescent girls. This costing focused on intervention costs attributable to Ilmela District incurred during the implementation period, from January 2018 – September 2020.

Objectives

The main objective of this costing is to produce a total intervention cost as input to a cost-effectiveness analysis. Results will help expand the evidence base on adolescent family planning programs.

Methods

The study included costs of PSI and its partners and of government and volunteer inputs, combining top-down costing drawing on PSI and partner financial systems with bottom-up costing from surveys, interviews, and site visits. Analysts collected data in three rounds, corresponding to 2018, 2019, and 2020. Analysts developed rules to allocate joint costs to the study district. Sensitivity analyses tested how the results might change with changes in key parameters such as the method for allocating joint international and national costs to the study geographies, the impact of COVID-19 on costs, and what proportion of international support costs were dedicated to adoption or replication of the intervention in other settings.

Results and discussion

Costs attributable to the study district were \$233,234 over two years and ten months of implementation (excluding design costs), with a plausible range of between \$163,966 and 285,684. Program costs were about the same in 2018 in 2019, then rose substantially in 2020, as the program spread higher fixed national management and technical costs over fewer districts. The bulk of costs were incurred above the district level and for management and supervision, a reflection of strong technical and managerial support from national and international staff. Even after accounting for in kind government funding of staff, commodities, and space, and funding from other donors, A360 funds still constituted three-fourths of funding. Personnel made up 60% of total costs. This reflects the hands-on nature of the program's mobilization and service components and the strong management and technical support functions. These findings are consistent with the program structure and in line with other, similar programs.

Analysts addressed important methodological limitations through sensitivity analysis. Readers should take caution in comparing these results to the results from the three other A360 interventions in Ethiopia, Northern Nigeria, and Southern Nigeria because of inherent differences in program structure and target population, as well as differences in price levels across countries. Caution is similarly warranted in the comparison of A360 results to other studies that may use different methods to calculate costs or of programs that operate at different scale. The cost-effectiveness analysis will gauge the total cost reported in the context of program outputs and impact.

1 Background and objectives

Adolescents 360 (A360), a girl-centred approach to contraceptive programming, operated four interventions in three countries (Ethiopia, Nigeria, and Tanzania). This document reports results from the costing of the A360 program in Tanzania, known as Kuwa Mjanja, which focused on serving married and unmarried adolescent girls (PSI 2020). It draws on earlier unpublished reports of three rounds of costing.

The costing forms part of a package of evaluation activities, including an outcome evaluation, process evaluation, and cost-effectiveness analysis. Itad led the A360 evaluation in collaboration with the London School of Hygiene & Tropical Medicine and Avenir Health. Avenir Health led on the costing and cost-effectiveness analysis.

This costing focused on intervention costs incurred during the implementation period.

The main objective of this costing is to produce a total intervention cost from January 2018 - September 2020 as input to a cost-effectiveness analysis. Results will help expand the global evidence base on adolescent family planning programs.

1.1 Description of the A360 intervention

1.1.1 Overall background on A360

Although many programs in developing countries have tried to reach adolescents with contraceptive services, their effectiveness has mostly been limited.¹ A360 was a five-year, US\$30 million investment to increase modern contraceptive use among girls aged between 15 and 19 in Ethiopia, Nigeria, and Tanzania. Proponents of A360 believed it would be more effective than previous adolescent programs by better taking into account the unique needs of adolescents, and the social, cultural, religious and economic forces that underlie access to and choices about contraception.

A360 used a multidisciplinary approach to design and implement programs developed with and for young people. The A360 approach combined human-centered design (HCD) with social marketing, developmental neuroscience, sociocultural anthropology, public health, and youth engagement. The Bill & Melinda Gates Foundation (BMGF) and the Children's Investment Fund Foundation (CIFF) funded A360 via a consortium led by Population Services International (PSI). The project began in January 2016 and ended in September 2020.

1.1.2 Description of Kuwa Mjanja

The PSI affiliate in Tanzania implemented Kuwa Mjanja. The intervention costing reported here covers two years and nine months beginning in January 2018 and ending in September 2020. Kuwa Mjanja focused on married and unmarried girls with life and entrepreneurial skills training alongside youth-friendly contraceptive counseling and services. Out-of-clinic pop up events aimed to provide a safe, non-medicalized space for girls to access contraceptive services. Events were framed as wellbeing rather than contraceptive events, incorporating targeted messaging on body changes or 'achieving dreams' depending on girls' life stage and priorities, and entrepreneurial skills training designed to empower girls and enlist the support of communities. In-clinic events provide dedicated times and spaces for girls to access counseling at local facilities, with contraception linked to their goals and dreams. Outreach teams delivered Kuwa Mjanja, rotating districts each month and working with local government service providers who delivered contraceptive counseling and services.

¹ Chandra-Mouli V, Lane C, Wong S. What does not work in adolescent sexual and reproductive health: a review of evidence on interventions commonly accepted as best practices. *Glob Health Sci Pract.* 2015;3(3):333-340. <http://dx.doi.org/10.9745/GHSP-D-15-00126>.

2 Methods

2.1 Study perspective

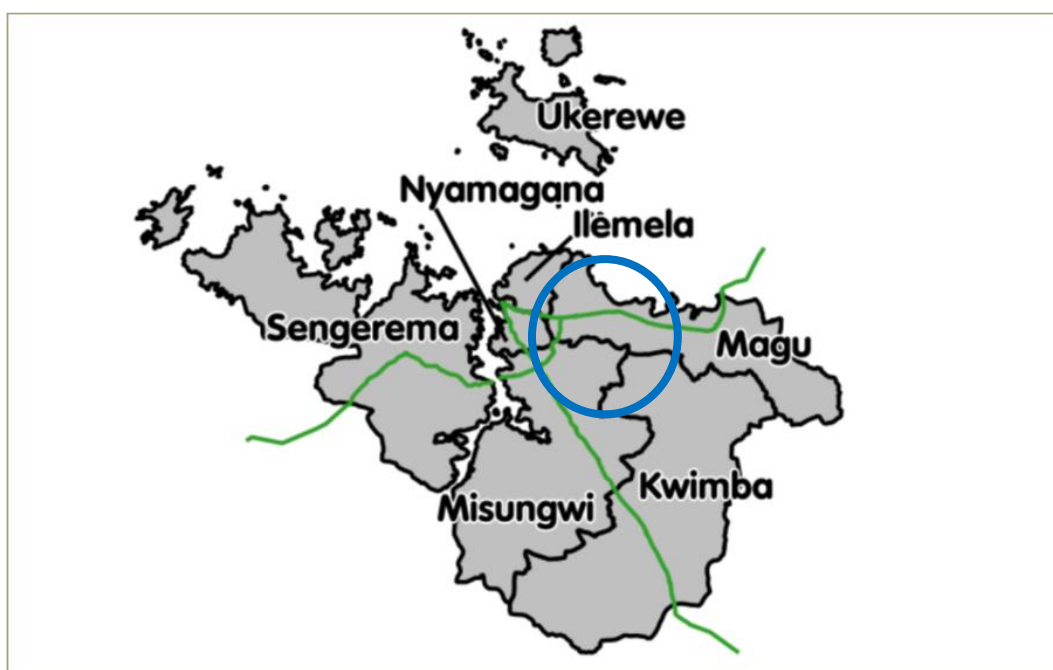
The choice of perspective or viewpoint determines whose costs to include. Ideally, any costing should adopt the perspective of society, and include all related costs, regardless of who pays for them. This costing took something less than a full societal perspective, by including costs incurred by PSI and its partners, the government, and volunteers, while excluding client costs. The analysis strives to measure economic (opportunity) costs, valuing inputs based on their alternative uses. The economic cost may diverge from the financial cost (what someone pays for a resource) for inputs such as volunteers' time and donated or subsidized goods.

The chosen perspective, as agreed to by the donors, came from the objective of the cost-effectiveness analysis and its primary audiences. These audiences include Tanzanian and global program managers who decide on design and intervention approaches, as well as the donors, governments or other agencies that fund such programs. These audiences care primarily about what they need to budget from their own resources. To acknowledge that an off-budget input can often become on-budget, the study included relevant non-budgeted costs such as volunteers' time and donated goods.

2.2 Geographic scope and outcome evaluation focus

The scope of Kuwa Mjanja was national, operating in 20 of Tanzania's 30 regions and 100 of the country's 169 districts. The outcome evaluation, a cross-sectional before and after study, took place in Ilemela district in Mwanza region, where this costing focused.²

Figure 1: Map of Mwanza region showing intervention district of Ilemela



Note: Intervention district in blue.

Source: Outcome evaluation protocol.

² For more information on the A360 and study geographies and how they were chosen, see the outcome evaluation protocol.

2.3 Time frame and analytic horizon

The costing timeframe (the period over which the program was carried out) and analytic horizon (the period over which the costs that occur as result of the program were considered) were the same, two years and 9 months, or the period from January 1, 2018, when implementation began in Ilemela, through September 30, 2020.

2.4 Included and excluded costs

Within the chosen perspective, the costing tried to measure the full costs of the inputs required for the functioning of the intervention. Those included:

- On-budget global and country funding provided through the A360 project
- Nonbillable costs borne by PSI and not reimbursed by its A360 funders³
- Funding from other donors
- Off-budget, leveraged counterpart costs, including the market value of in-kind provision of goods and services from PSI-affiliated, public sector or private sector providers, such as
 - Government personnel who helped to manage the program or provide counseling and services
 - Government-funded contraceptives and other health supplies
 - Volunteer time

The scope of included costs for the purposes of this study is important to keep in mind when comparing to other cost estimates that may have used a narrower perspective that included fewer costs. This is to minimize drawing mistaken conclusions about the relative cost of different programs.

The study excluded the opportunity cost of client time and any client out-of-pocket fees. In addition, it excluded the following costs which were not required for the functioning of the intervention:

- Donor management costs (e.g. time and travel costs incurred by donors)
- External evaluation costs
- A360 costs that do not support the interventions, including costs associated with:
 - Creating the A360 approach and replicating or adopting of the A360 approach in other settings⁴
 - Developing and carrying out the A360 learning strategy
 - A360 evaluation efforts that track project progress beyond routine monitoring
 - International and national dissemination activities (conferences, brochures, briefs, etc.)
 - Advocacy activities unrelated to the functioning of the interventions

As noted, the cost to design the Kuwa Mjanja program are reported separately and excluded from the total costs presented in this report.

³ After renegotiating with its donors on what constituted billable expenses, PSI stopped using nonbillable as a category in early 2019 and no longer counted nonbillable expenses.

⁴ A separate report examines these costs

2.5 Cost categorization

The study tagged costs according to seven categories to allow appropriate analysis and consistency with data collected during the design phase. The categories included:

1. *Country*, to distinguish among the three A360 countries (Ethiopia, Nigeria, and Tanzania)
2. Timing of cost. We identified cost by data collection round, corresponding as follows:
 - a. *Round 1*: January 1, 2018 – December 31, 2018
 - b. *Round 2*: January 1, 2019 – December 31, 2019
 - c. *Round 3*: January 1, 2020 – September 30, 2020
3. *Intervention* model. In Tanzania, the model was the same countrywide.
4. Input type. We classified each of the 159 individual cost categories (or line items) by the following input categories:
 - a. *Commodities*, including contraceptives and their associated supplies (gloves, syringes for injection, etc.)
 - b. *Communication*, including phone, internet, and postage
 - c. *Equipment*, computer hardware and software, furniture, office equipment, and hire and transport of tents for pop-up events
 - d. *Indirect*, including bank charges, non-billable G&A, indirect cost fee, office supplies, audits, and utilities
 - e. *Materials*, including communication, information and education, printed media, IEC events, program related meetings, materials for entrepreneurship training
 - f. *Personnel*, including salary and benefits, per diems
 - g. *Space*, including clinical and educational rooms, office space, renovation costs, and meeting spaces
 - h. *Training*, including hotel costs, professional development/ staff training, field retreats, program-related training, conferences and meetings, and special events
 - i. *Transport*, including airfare, taxi, travel, vehicle fuel, insurance and repairs, supportive supervision travel costs
5. *Program element*. We classified each of the line items according to the following main program elements:
 - a. *Management and Supervision*, including all above-district management, supervisory, and administrative costs, government district-level management personnel, district-level program related meetings, per diem, and transport
 - b. *Mobilization*, including IEC materials and events and mobile devices, volunteer mobilizers (queens, community health workers)
 - c. *Research, M&E*, including any cost labeled as Research and M&E. These PSI costs were all assumed to be part of routine monitoring, and thus included in the cost calculation. External evaluation costs were excluded.
 - d. *Services*, including service and entrepreneurship personnel, outreach and quality assurance supervisors attending services, contraceptives and associated supplies, entrepreneurship supplies, clinical and education space, program-related training, renovation expenses
 - e. *Training*, Professional Development/ staff training, program-related training, hotel, program-related conferences
6. *Level*. We classified each line item at the level at which the cost is incurred

- a. *District*, including all PSI, government, and volunteer costs associated with services and management within the study district
 - b. *Region*, including PSI regional management and supervisory staff working in Mwanza region
 - c. *Zonal*, including PSI zonal management and supervisory staff working in Lake zone (PSI's administrative designation for the area that includes Mwanza region and Ilemela district)
 - d. *National*, including all other PSI in-country costs not already assigned to the district, regional, or zonal levels.
 - e. *International*, including managerial and technical support activities from outside Tanzania, including by PSI or its partners.
7. *Funding source*. We classified each line item according to who paid for it
- a. *A360 global and country program costs*, including all costs chargeable to the A360 budget
 - b. *Government*, including contraceptives, unreimbursed time of government service and managerial personnel, and government owned space for services, education, and meetings
 - c. *Nonbillable costs*, including costs incurred by PSI but not chargeable to the A360 budget
 - d. *PSI donor funding outside of A360*, including from KfW and DfID
 - e. *Volunteers*, including unreimbursed time of Kuwa Mjanja queens and community health workers

2.6 Data collection and processing

Data collection blended top-down costing drawing on routine cost accounting systems with targeted, bottom-up studies of key inputs external to PSI, and surveys of PSI staff and other actors involved in implementation. Analysts collected data in three rounds, corresponding to the periods January – December 2018, January – December 2019, and January – September 2020 (9 months). A locally contracted consultant led cost data collection, with support from U.S.-based Avenir Health staff. Data were processed in Excel. During each round of data collection, the local consultant visited sites to observe activities and to interview project implementers.

The study used a variety of sources for cost information, summarized in Table 1 and described in more detail below. PSI routine accounting systems did not allow visibility into spending below the national level. Because the study's unit of analysis was the district, we relied on special cost studies or application of various rules to allocate an appropriate amount of joint costs to the study district.

Table 1: Type of cost, data source, and allocation rule

Cost type	Source	Rule to allocate joint costs to study district
On-budget A360 funding		
Direct event costs	PSI monthly cost tracker spreadsheet	All costs allocated to study district
PSI Mwanza-based regional staff costs	PSI personnel cost files	Ilemela events as % of all events in Mwanza
PSI zonal staff costs	PSI personnel cost files	Ilemela events as % of all events in Mwanza
National	PSI Tanzania accounting system	By region, and then by district within Mwanza
International management and technical support	PSI and partner headquarters accounting system	By region, and then by district within Mwanza

Cost type	Source	Rule to allocate joint costs to study district
PSI donor funding outside of A360		
National and subnational costs	PSI Tanzania accounting system; PSI calculations; PSI event tracking databases	By region, and then by district within Mwanza
Leveraged government funding		
Contraceptives	Cost to Government	Directly allocated to study district
Facility Space	Measurement, commercial rental cost equivalent	Directly allocated to study district
Government supervision and management	Interviews, Government salary data	Directly allocated to study district
Government providers	Interviews, Government salary data	Directly allocated to study district
Volunteers		
Volunteer time	Interviews	Directly allocated to study district

Table 2: provides details on the number of site visits and interviews were conducted for each round of data collection by the local consultant.

Table 2: Site visits and interviews conducted

	# Site Visits	# Interviews with PSI staff	# Interviews with Government staff	# Interviews with volunteers	Total # interviews
Round 1	3	26	7	3	36
Round 2	2	21	5	4	30
Round 3*	0	12	5	0	17

*Due to COVID-19 data collection was done remotely with a smaller set of respondents

2.6.1 Direct Event Costs

We gleaned direct costs of the in-clinic and out-of-clinic events carried out in Ilemela from financial records that PSI kept in a monthly cost tracker spreadsheet filled out by outreach team leaders. These records catalogued about 20 cost categories, including transport, supplies, hiring of providers, per diem payments, rental of tents and equipment, etc. We analyzed the cost tracker information from the relevant months when events occurred in Ilemela.

2.6.2 PSI Mwanza-based regional staff costs

PSI maintained records on time charged to A360 by all staff. We analyzed that data and paired it with salary information to calculate the cost for Mwanza-based regional staff. We then allocated a portion of that cost to Ilemela based on the number of events held in Ilemela as a proportion of the total number of events in Mwanza.

2.6.3 PSI zonal staff costs

We did a similar calculation for PSI Lake Zone staff, which includes Mwanza Region. We allocated a portion of zonal staff cost to Ilemela based on the number of events held in Ilemela as a proportion of the total number of events in Lake Zone

2.6.4 PSI National Costs funded by A360

The PSI Tanzania office accounting system tracked individual transactions by project but did not identify costs by subnational geography. To assign a portion of the national costs to Ilemela, we first subtracted an estimated national total of direct event costs, and of costs of PSI regional and zonal staff as these costs were allocated elsewhere (see sections 102.6.1 - 2.6.3). We based these national cost estimates on the average cost per event in Ilemela district.

With the remainder, we allocated a cost to Ilemela for each cost category (line item) based on either Ilemela's share of the total number of events, the number of districts, or the number of regions (and districts per region). These allocation rules reflect our understanding of how regional, zonal, and national management, administration, and supervisory costs are incurred in relation to the work in the districts (for detail, see Appendix 1).

Before allocation to Ilemela District, we reduced PSI national personnel costs commensurate to the portion of staff time that was dedicated to activities supporting the adoption and replication of Kuwa Mjanja in other settings including presenting at conferences, writing blogs for Kuwa Mjanja, providing assistance to other projects and organization seeking to replicate the Kuwa Mjanja approach, and other efforts to communicate about Kuwa Mjanja to various audiences. To gauge the amount of time spent on adoption and replication, we collected information directly from staff interviews, or estimated based on average reported time spent on replication.

2.6.5 PSI National Costs funded by other donors

Kuwa Mjanja also drew partly on funding from KfW (in 2018) and DfID (in 2018 and 2019). Of the total spending from KfW, we assigned spending to Kuwa Mjanja based on PSI staff estimates of the proportion contributing to Kuwa Mjanja. For DfID, we calculated the proportion of Kuwa Mjanja events of the total number of DfID-funded events, and multiplied that proportion by total DfID spending. We then used the same allocation rules described in section 2.6.4 to assign a cost to Ilemela district.

2.6.6 International support costs

International support included costs associated with managerial and technical support activities from outside Tanzania, including by PSI or its partners. From these partners' routine accounting systems, we first identified international support costs specifically tagged to Tanzania. To these we added a proportion of the remaining international support costs not associated with any specific A360 country, after removing costs associated with adoption and replication activities. To calculate the proportion attributable to Tanzania, we carried out periodic surveys of A360 global staff to understand how they split their time between countries and where they travelled. These calculations yielded a total spent on Tanzania. We then allocated a portion of those international support costs to the study district based on the number of Kuwa Mjanja regions (and number of districts within each region).

2.6.7 Government resources

We estimated cost for three types of government resources: personnel, space, and commodities.

Personnel. The government funded a range of managerial and service staff critical to the operation of A360. We estimated personnel time via direct interviews of government administrative, supervisory, and service staff supporting A360 activities at the region and district level. To value their time, we multiplied level of effort devoted to A360 times prorated salary.

Space. For service delivery and events, the government provided A360 with space free of charge. To determine a market value for these spaces, in rounds 1 and 2 we measured the overall square footage and applied a monthly rental cost at commercially equivalent rates, based on the amount of time the space

was used for A360 purposes. Because COVID-19 related restrictions precluded such measurement, in round 3 we estimated cost using an average of the space measurements in previous rounds.

Contraceptive Commodities. To calculate the cost of providing contraceptive commodities, we combined information on the number of client visits, unit cost of government-provided contraceptives, cost of associated medical supplies, and norms for number of contraceptives provided per visit. We considered any client that PSI defined in its client database as “adopter” or “continuing user” to constitute a “visit” in which they received a contraceptive method whose cost should be allocated to the A360 program. For unit cost of contraceptives and associated medical supplies for each visit we drew on international defaults from AGI’s Adding it Up (AGI 2019). For number of contraceptives dispensed at a visit we used information from program staff. Unless captured as a “continuing user” in A360’s client database, the subsequent commodity cost associated with continuation beyond an adopter’s first visit are not included.

2.6.8 Impact of COVID-19 on costs

Much of round 3 coincided with the onset of the COVID-19 pandemic. PSI responded to Ministry of Health guidelines by pausing all outreach activities (pop-up events) for three months (March – May 2020), although government services continued. While the pause reduced some costs (travel, materials associated with pop-up events), PSI retained all staff at full salary and used resources to adapt and restart the program to operate under COVID-related restrictions. The overall impact of COVID-19 on costs is difficult to ascertain because of accounting systems limitations. Drawing on interviews with program managers, the base case cost assumed no change in cost due to COVID. We carried out a sensitivity analysis to test this assumption (see section 2.8).

2.7 Valuing inputs

We valued inputs to reflect their economic (opportunity) cost. In most cases, the economic cost will be the same as the financial cost (the amount somebody paid for it). For the Kuwa Mjanja costing, we valued volunteer costs and government-provided space at market rates. The study valued inputs in local currency or in US dollars as appropriate, and shows results in constant 2020 US dollars, using average exchange rates for the relevant periods.

2.8 Sensitivity analysis

Limitations in data collection, missing or incomplete data, assumptions required to differentiate design and intervention costs from costs to create the A360 approach and to replicate/adopt the approach in other settings, and decisions on methods to allocate joint costs to the study geography all generated potentially significant uncertainty around the cost results. We used one-way and multi-way sensitivity analysis to help determine the extent to which changes in these parameters might substantially alter the findings. Section 3.6 below reports the results of these sensitivity analyses.

2.9 Ethical and other research considerations

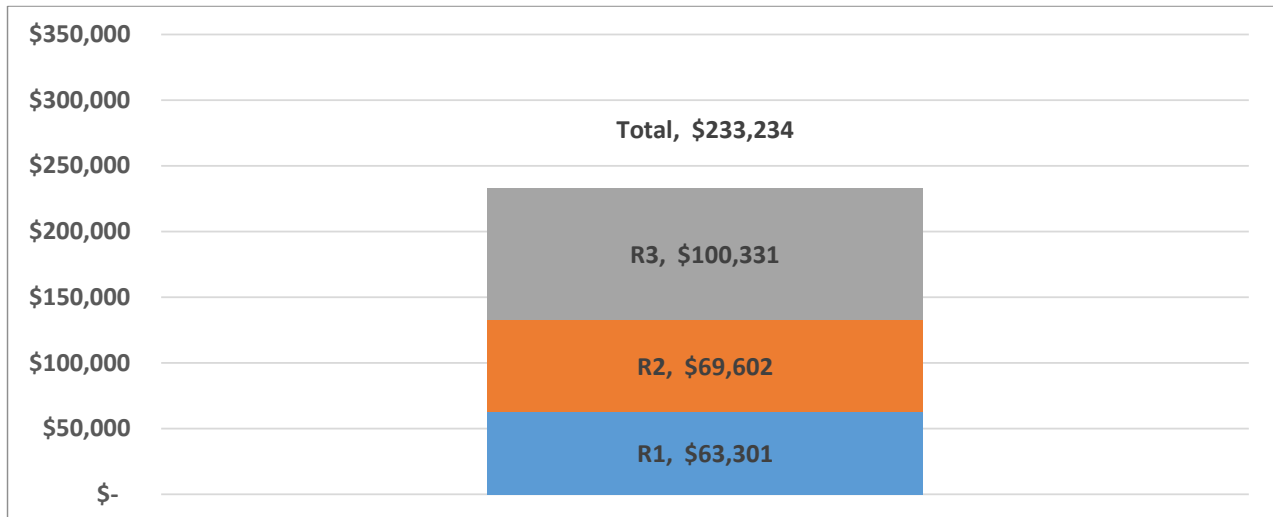
No clients were interviewed for the costing. Where the costing involved interviews of health personnel working on Kuwa Mjanja, it operated under the ethical considerations of the process evaluation IRB approval. Recognizing understandable concerns about making sensitive cost information public, the evaluators signed a non-disclosure agreement (NDA) with the PSI consortium that permitted Itad and its subcontractors to view and analyze cost data needed to carry out the study analyses while protecting confidentiality. The NDA allows the publication of cost data at an appropriate level of aggregation. To protect the identity of individual personnel or health facilities, we do not identify them by name in this or any other public document. In addition, no results were publicly released until all institutions whose data has been used had a chance to review.

3 Results

3.1 Total cost

The total cost of the Kuwa Mjanja program attributable to Ilemela for January 2018 – September 2020 was \$233,234 (Figure 2). Costs were similar in rounds 1 and round 2, then rose substantially in round 3.

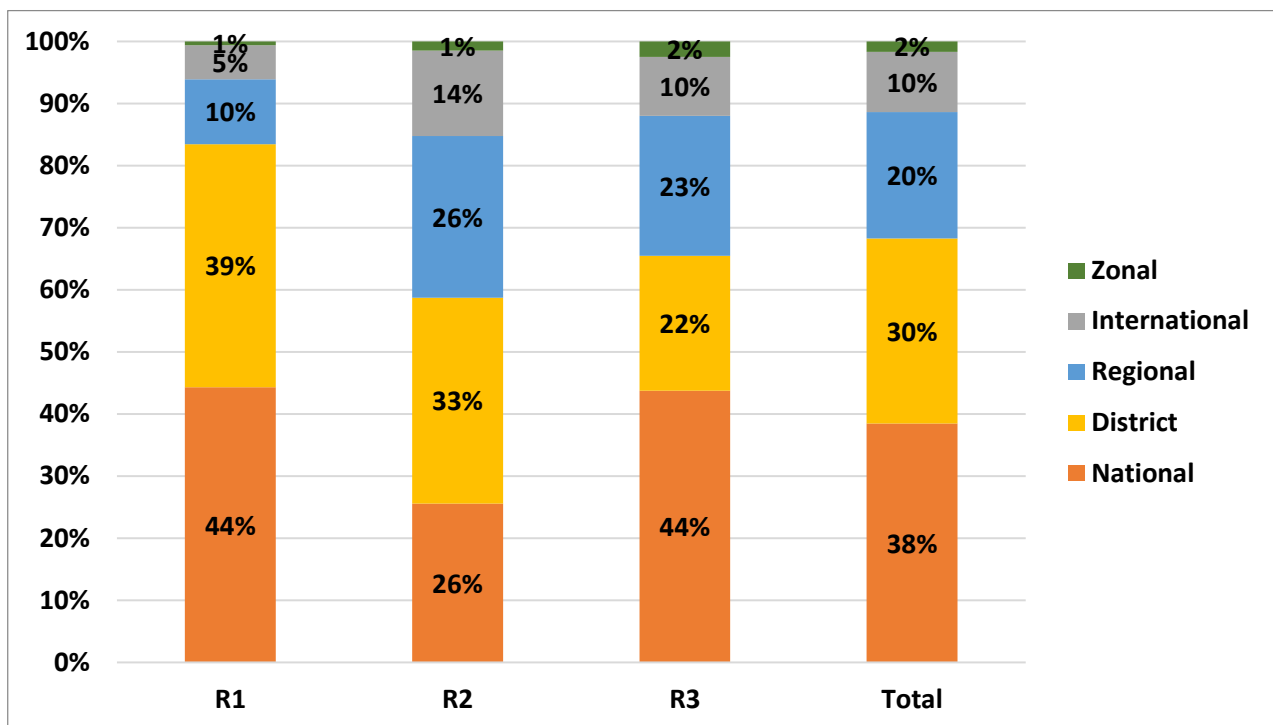
Figure 2: Cost of Kuwa Mjanja Program in Ilemela District, January 2018 – September 2020, by round and total



3.2 Cost by level

The level where the largest proportion of costs were incurred was national (38%), followed by district (30%), region (20%), international (10%), and zone (2%). These proportions remained relatively stable over the three rounds of data collection and analysis (Figure 3).

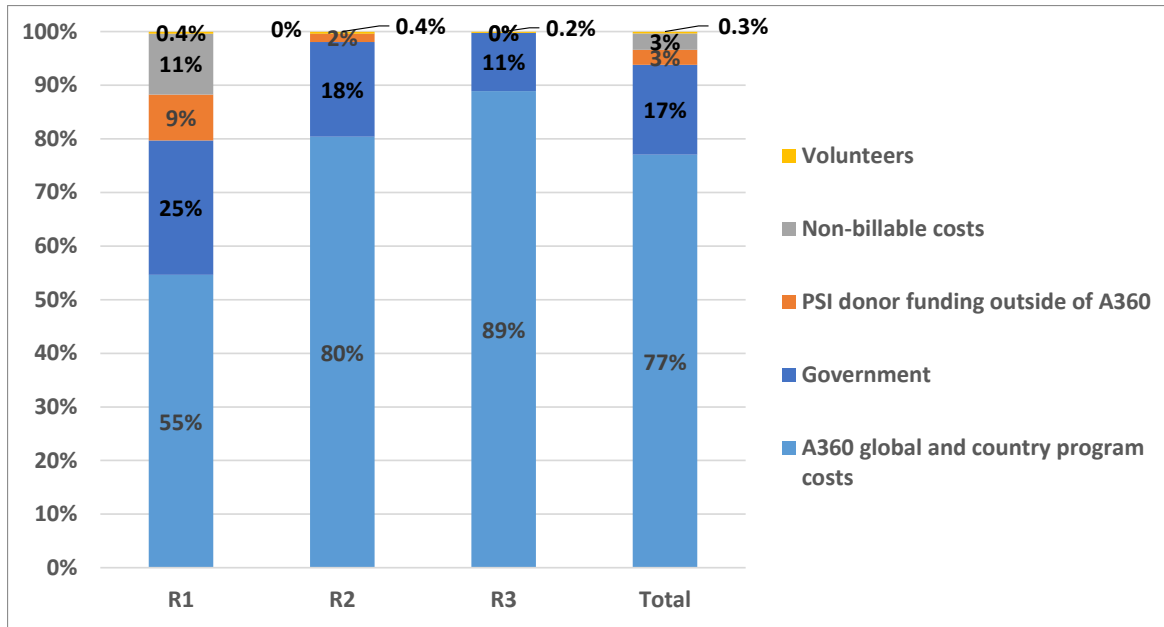
Figure 3: Distribution of cost of Kuwa Mjanja program in Ilemela, by level, round and total



3.3 Cost by funding source

The A360 global and country program accounted for about three-fourths of funding (77%) relative to the government (17%), other PSI donors (3%), non-billable costs (3%), and volunteers (0.3%). Over the three rounds, funding gradually shifted away from government, other PSI donors, and non-billable costs towards A360 global and country program costs (Figure 4).

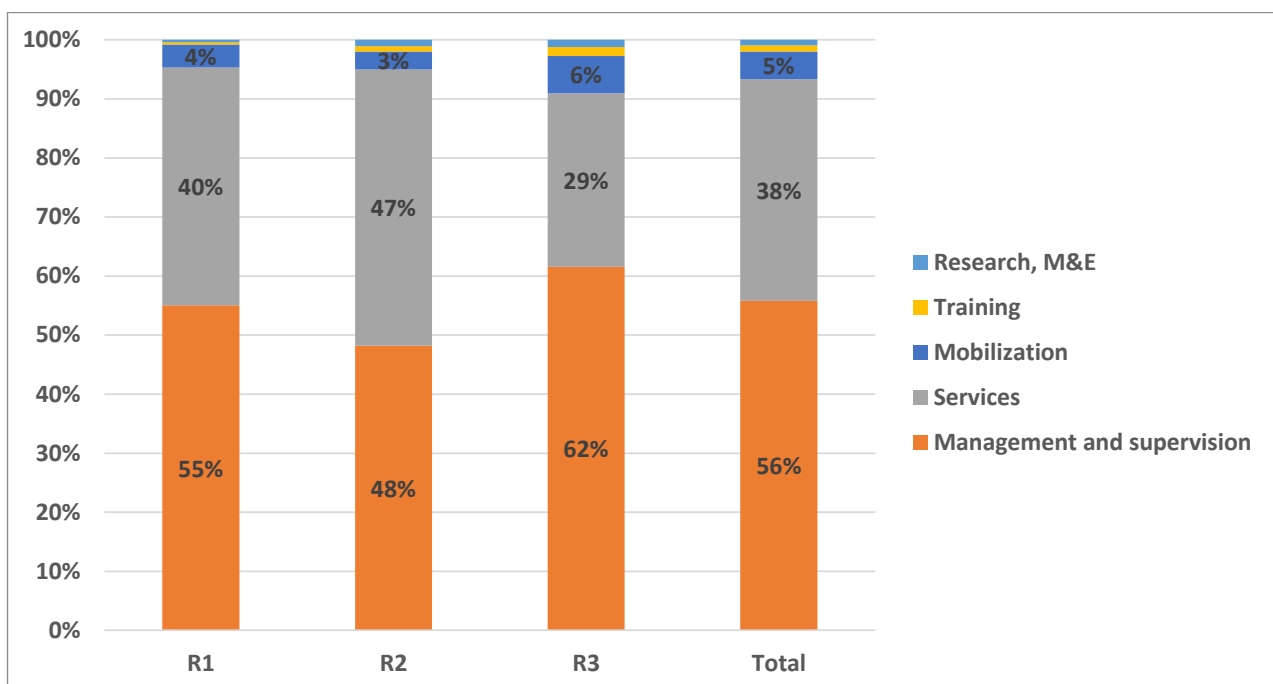
Figure 4: Distribution of cost of Kuwa Mjanja program in Ilemela, by funder, round and total



3.4 Cost by main program element

Management and supervision accounted for the bulk of costs (56%), followed by services (38%), mobilization (5%), training (1%), and research and M&E (1%). These proportions remained relatively stable over the three analysis rounds (Figure 5).

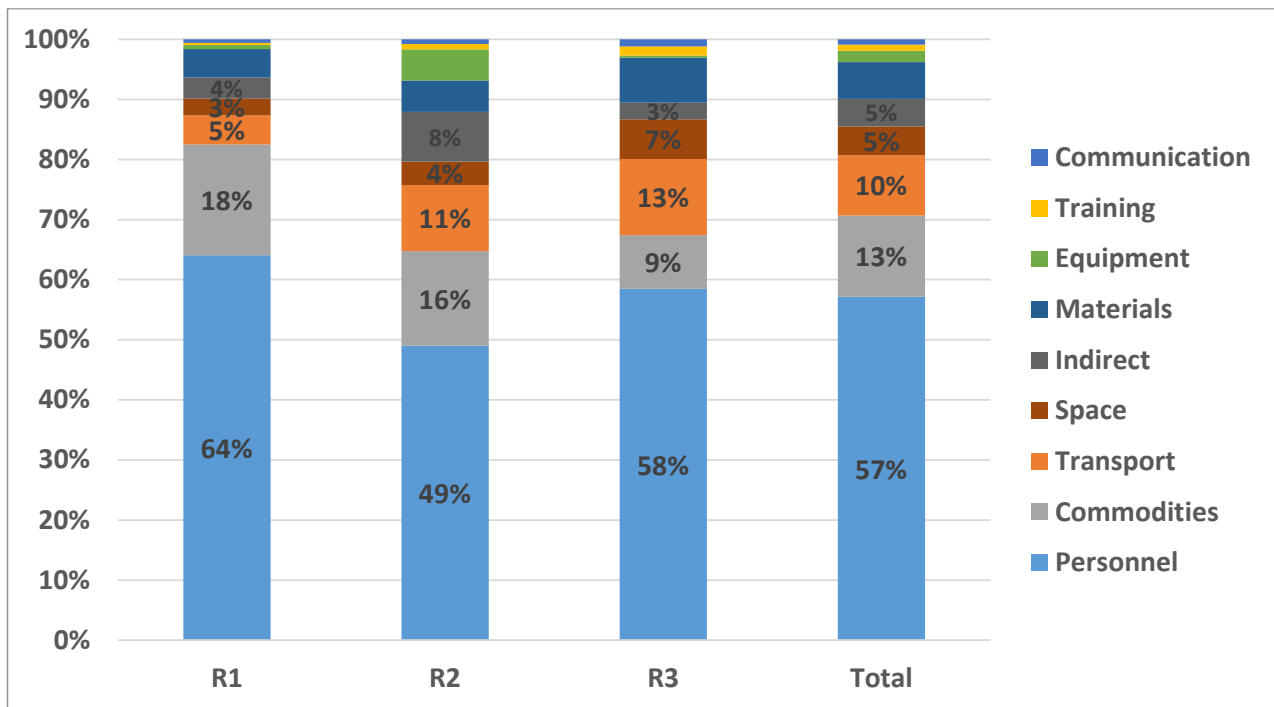
Figure 5: Cost of Kuwa Mjanja Program in Ilemela, by main program element, round and total



3.5 Cost by main input type

Personnel costs accounted for most of the total (57%), followed by commodities (13%), and transport (10%). The remaining input types accounted for 5% or less of the total. This distribution was similar across the three data analysis rounds (Figure 6).

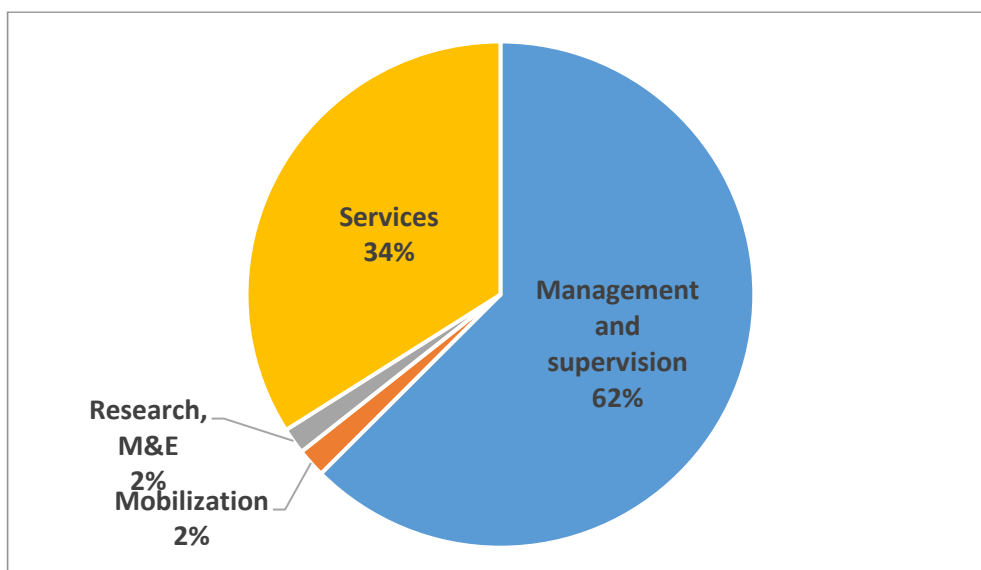
Figure 6: Cost of Kuwa Mjanja Program in Ilemela, by main input type, round and total



3.6 Personnel cost by main program element

Given their large share of the total, it is of interest to see how personnel costs split across different program elements. As Figure 7: shows, the large majority of personnel costs went to management and supervision (62%) and services (34%).

Figure 7: Distribution of cost of Kuwa Mjanja program in Ilemela, by program element, round and total



3.7 Sensitivity analysis

Sensitivity analyses assessed how changes in key assumptions and parameters might alter the findings. We first conducted one-way sensitivity analyses, in which we independently measured the impact of changing individual parameters. We then combined the individual parameters to conduct multi-way sensitivity in which all parameters are varied simultaneously.

3.7.1 One-way sensitivity analysis

COVID-19 cost impact. In our base case, we assumed no additional cost to the intervention because of Covid-19 related expenses. In the sensitivity analysis, we assumed that COVID-19 had inflated spending by 25% in 2020. This reduced the total intervention cost estimate by \$25,083.

Joint national cost allocation method. In the base case, we allocated joint costs incurred at the national level on a per event, per district, or per region basis for each of 93 cost line items. The sensitivity analysis recalculated total costs allocating all of these line items on either a per adopter, per event, per district, or per region basis. This produced a range of \$25,795 downward and \$22,189 upward in total costs.

Joint international cost allocation method. In the base case, we allocated all joint costs incurred at the international level on a per region basis. The sensitivity analysis recalculated total costs allocating international costs on either a per adopter, per event, or per district. This produced a range of \$3,191 downward and \$15,069 upward in total costs.

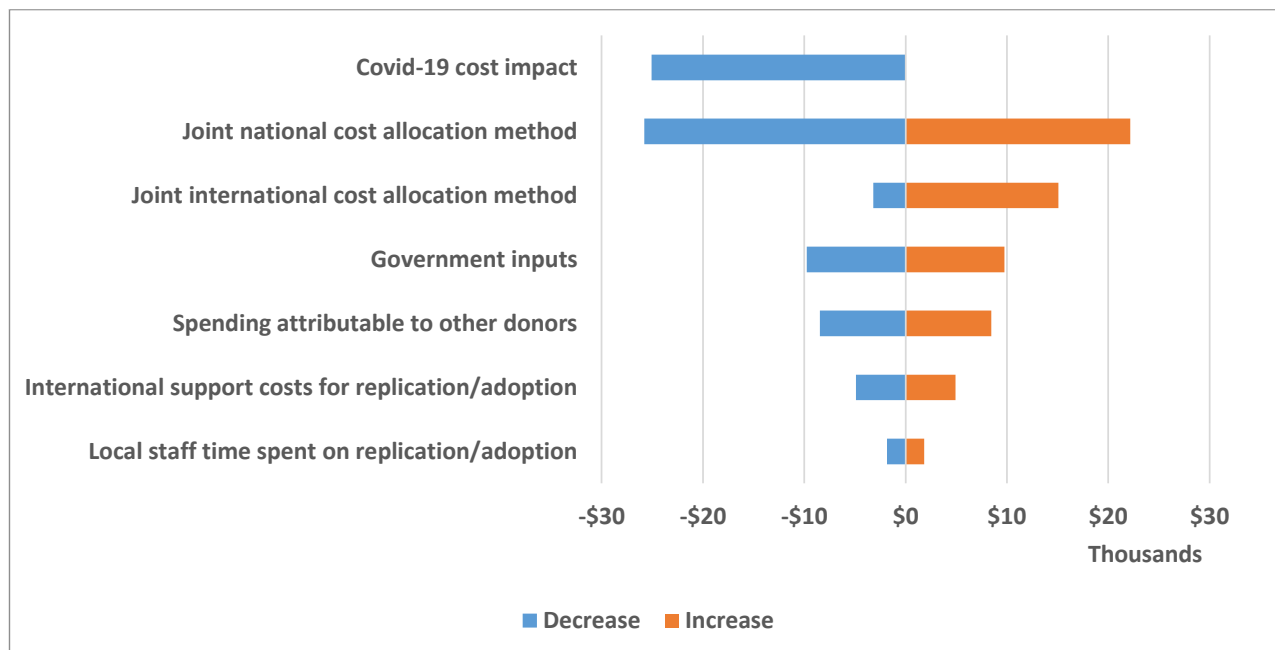
International support cost going to replication/adoption. International support costs included costs not initially assigned to a specific country and then reassigned to the interventions in the A360 countries. These costs excluded activities dedicated to replication/adoption of A360 in other settings. We estimated the amount dedicated to replication/adoption based on staff surveys. Recognizing the significant uncertainty in these estimates, we carried out sensitivity analyses lowering and raising these international support costs by 50% in either direction. This produced a shift of \$8,453 in either direction.

Local staff time spent on replication/adoption. As for international staff, local staff costs assigned to the intervention were reduced by estimates of time spent on replication/adoption activities. To address uncertainty in responses to surveys and incompleteness of surveys, we carried out a sensitivity analysis lowering and raising staff time spent on replication/adoption activities by 50% in either direction. This produced a shift of \$1,837 in either direction.

Cost of government inputs. The cost of government personnel, space, and utilities drew on a sample that was not necessarily representative or complete. Similarly, commodity cost calculations incorporate uncertainty around visit norms and, for some inputs, drew on default standard international costs and not local costs. Given the uncertainty in our base case estimate, we conducted a sensitivity analysis that lowered or raised government-funded costs by 25%. This produced a shift of \$9,762 in either direction.

Spending attributable to other donors. In the base case, we allocated funding from other donors (KfW, DfID) based on Kuwa Mjanja events as a proportion of the total events funded by those donors. The sensitivity analysis raised or lowered that proportion by 50%. This produced a shift of \$8,453 in either direction.

Figure 8: Results of sensitivity analysis around Kuwa Mjanja interventions costs, Tanzania



3.7.2 Multiway sensitivity analyses

We combined the one-way sensitivity analyses to produce plausible lower and upper bounds for total costs of \$163,966 and \$285,684, translating to a decrease of 30% and an increase of 22% relative to the base case estimate.

4 Discussion

The costing of the Kuwa Mjanja program in Tanzania aimed to provide input to a cost-effectiveness analysis serving to expand the evidence base on adolescent family planning programs. The forthcoming cost-effectiveness analysis will gauge the total cost in the context of program outputs and impact.

The overarching findings of costing analysis are:

- Costs attributable to the study district, Ilemela, were \$233,234 over two years and nine months of implementation, with a plausible range of between \$163,966 (-30%) and \$285,684 (+22%).
- Program costs were about the same in rounds 1 and round 2, then rose substantially in round 3. The round 3 increase was concentrated in PSI's above-district costs, which grew as overall project spending increased, the project's required indirect cost contribution rose, and the project shrank its geographic scope. At the same time, national and technical staffing levels were held constant. This combination of factors meant that PSI had to spread a higher fixed costs over fewer geographies compared to previous years.
- The bulk of costs were incurred above the district level and for management and supervision, a reflection of strong technical and managerial support from national and international staff.
- Even after accounting for in-kind government funding of staff, commodities, and space, and funding from other donors, A360 funds still constituted three-fourths of funding.
- That personnel, including a small amount of personnel costs associated with time mobilizers and government providers, made up 60% of total costs reflects the hands-on nature of the program's mobilization and service components and the strong management and technical support functions.
- These findings are consistent with the program structure and in line with other, similar programs.

The following important methodological limitations should be kept in mind when interpreting these results:

- The mostly top-down costing approach relied on PSI and subawardee financial systems, which did not provide full detail on costs specific to the study geography. We tried to address this limitation by developing appropriate rules to allocate costs to the study geography. Nonetheless, recognizing that such rules may still have produced errors in estimation, we conducted sensitivity analysis to address this uncertainty.
- For leveraged costs of the government, we used a bottom-up approach that relied on interviews and site-specific data collection. Although for some inputs we were able to use a census approach, for others we relied on nonrepresentative sampling. Moreover, for some inputs we had incomplete data collection due to inability to contact some personnel, and COVID-19 pandemic related restrictions. To address potential errors in the resulting leveraged cost estimates, we also applied sensitivity analysis.
- Using retrospective surveys and interviews may also have generated potential recall error, both in estimates of leveraged costs and of how A360 split their time between working on the intervention itself versus activities to replicate/adopt A360 in other settings. We addressed this through sensitivity analysis.
- Sensitivity analysis could not address all methodological limitations. Employing a full, bottom-up ingredients costing approach—for example using time and motion studies to estimate level of effort—might have yielded more accurate estimates, but also would have required more evaluation resources.

The reader should take caution in comparing these results to the results from the three other A360 interventions in Ethiopia, Northern Nigeria, and Southern Nigeria because of inherent differences in program structure and target population, as well as differences in price levels across countries. Caution is similarly warranted in the comparison of A360 results to other studies that may use different methods to calculate costs or of programs that operate at different scale.

5 References

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Appendix 1. Allocation method for national costs

Major Accounting Category	Allocation Method
60 · SALARIES & FRINGE	event
61 · EXPAT BENEFITS	event
62 · TRAVEL	region
63 · PROFESSIONAL SERVICES	region
64 · FURNITURE & EQUIPMENT	region
67 · SHIPPING & HANDLING	region
69 · SUB-RECIPIENTS	region
70 · PROMOTION & ADVERTISING	event
71 · RESEARCH AND EVALUATIONS	district
72 · TRAINING & CONFERENCES (Training)	district
72 · TRAINING & CONFERENCES (Meetings)	region
73 · OFFICE EXPENSES	region
74 · OTHER EXPENSES	region
90 · UNALLOWABLE	region



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