



Cost-efficiency analysis

Conditional Cash for Education and Protection

CARE Jordan
October 2021



Summary

This case study summarizes an analysis conducted by CARE using the Dioptra tool to generate cost-efficiency estimates for Conditional Cash for Education and Protection in Jordan. The analysis revealed that:

- **Conditional Cash for Education and Protection cost \$1,474 per child on average, across nine projects within the program portfolio.**
- **Tweaking the transfer size and frequency can affect cost-efficiency by more than 30 percent. It can free up funds to reach at least 40 percent more children with conditional cash, or allow existing recipient households to benefit from other economic resilience interventions.**
- **Providing awareness sessions on the importance of education is a small cost component of conditional cash that could be cost-effective.**
- **Different interventions are required for different groups of children. At minimum, the children receiving conditional cash should be differentiated by age: young (6-11) and old (12-16).**
- **Providing conditional cash for the full school year of at least 10 months is believed to be more effective and protective for children in need.**
- **Despite its effectiveness, cash incentives are unlikely to be a sustainable intervention to ensure children's school attendance. It could benefit from other supporting interventions that address social barriers preventing children from attending school.**
- **Based on further assessments on different approaches and best practices, the program team intends to test a gradual reduction in transfer amounts for 10 months per year over 3 years, differentiated by age group, including livelihoods support for all recipient households, and referrals to Emergency Cash Assistance for highly vulnerable households.**

Cost-efficiency estimates are cited for learning purposes only, and should not be used as the sole basis for future budgeting or benchmarking. All cost-efficiency estimates include Direct Project Costs, Direct Shared Costs, and Indirect Costs.

Country	Jordan
Sector	Protection
Analysis Goals	Scenario Modelling

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Context and Intervention

The Syrian crisis that began in 2011 has caused mass internal and external displacement—about 1.3 million Syrians have migrated to Jordan, mostly living in urban areas outside refugee camps (estimated 81%). Many refugee children have missed the crucial years of early education: about 40% of registered school-age Syrian children are out of school and at risk of child labor and early marriage.¹²

To address children’s needs, CARE provides Conditional Cash for Education and Protection for Syrian refugee children and Jordanian host community children in Amman, Irbid, Mafraq, Zarqa, and Karak. The conditional cash is intended to engage with parents for awareness raising about the importance of child education and protection, incentivize parents to send their children to school, and alleviate education-related expenses instead of having children contribute to household income through work. Cash transfers of \$100 per child per month for 10 months (one school year) are provided to the households of children at risk of child labor and early marriage, as identified through the case management referral mechanism, conditional on the child’s regular school attendance.

Parents would receive follow-up visits or phone calls to check in on their child’s attendance and performance, and some parents would also receive awareness sessions about child labor, early marriage, and the importance of education. In addition, a child board members community initiative enabled student leaders to support their peers and advocate on issues such as school attendance, learning, bullying, resilience, etc.

Analysis Approach and Methodology

With more than 1,000 households still on the waitlist hoping to benefit from conditional cash, the program team in Jordan was interested in exploring potential ways to reduce the cost per child so that it can be scaled up to serve more children in need within limited funding resources. In July 2021, several project managers conducted cost-efficiency analyses of Conditional Cash for Education and Protection implemented during the school year of August 2019 to July 2020 across nine projects in Jordan funded by different donors, using the Dioptra tool.

Since available evidence suggested that smaller amounts of cash did not reduce the impact of school attendance and improved value for money³, the team explored adaptations that could reduce the amount of cash transferred to improve efficiency (i.e. reduce the cost spent per child) while ensuring effectiveness in school attendance and long-term sustainability of providing assistance. The options explored included reducing the amount of cash transferred to \$60 per child per month or \$20 per child per month; reducing the number of months of cash transferred to 6 months or 3 months; and providing more awareness sessions for parents and children.

The average cost-efficiency result of conditional cash across nine projects within the program portfolio was calculated and used as a basis to model several scenarios according to the options explored. The additional funds that could be freed up, total number of children that could be reached, and corresponding cost-efficiency results were calculated for each scenario.

¹ <https://www.acaps.org/country/jordan/crisis/syrian-refugees>

² <https://plan-international.org/jordan/education-jordan>

³ <https://www.povertyactionlab.org/evaluation/impact-cash-transfers-educational-attainment-sexual-behavior-and-hiv-status-adolescent>



Data

The cost-efficiency analyses were conducted using the actual costs incurred and outputs achieved in the nine projects analyzed.

The total costs incurred included resources spent on cash transfers, awareness sessions, and the child board members community initiative. Direct Project Costs, Direct Shared Costs, and Indirect Costs are always included in the analyses. The outputs achieved were the total number of children provided with conditional cash.

The cost-efficiency metric assessed was **cost per child** in a year instead of the cost-transfer ratio (i.e. cost per dollar of cash transferred) conventionally used for unconditional cash programs. This is because the conditional cash is intended to achieve school attendance outcomes, unlike unconditional cash whose primary goal is to address immediate household needs by increasing their purchasing power.

The Dioptra Tool

Dioptra is a web-based cost analysis software that allows program staff in country offices, who are most familiar with day-to-day program implementation, to rapidly estimate the cost-efficiency of their program activities, using existing financial and monitoring data. It guides users through a standardized costing methodology, ensuring that all analysis results are methodologically consistent and can be meaningfully compared across different contexts and organizations.

By using the Dioptra tool, rather than having to learn a complex costing methodology and assemble data manually in spreadsheets, staff can focus on providing crucial estimates of how different resources were used across activities within a program, which are not captured in any current data system. For more information, see www.dioptratool.org/how-does-dioptra-work.

Results

Conditional Cash for Education and Protection cost \$1,474 per child on average, across nine projects within the program portfolio.

Given that vulnerable children were mostly identified through referrals from case management, this result should be interpreted as the average cost per child that leveraged on case management referral targeting. A total of 3,243 children were served across nine projects.

The largest cost category is Materials & Activities (70%), which is primarily driven by the cash transfers themselves (Figure 1). The cost of providing awareness sessions to inform parents and children on the importance of education constituted a very small proportion of the overall intervention cost—less than one percent (0.14%).

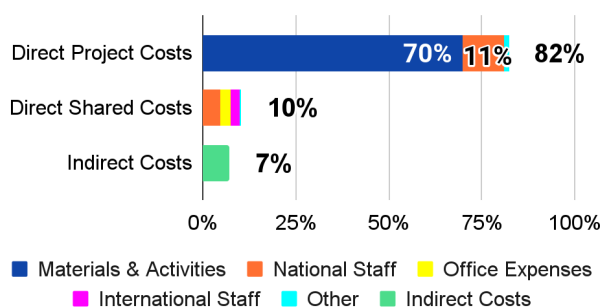


Figure 1: Cost category breakdown of Conditional Cash for Education and Protection.

The cost-efficiency result of each individual project analyzed was never more than 20 percent different than the average cost-efficiency across the program portfolio (Figure 2), suggesting that differences in project charging practices were not creating drastic differences in the costs of delivery. Since these projects were implemented by the same country team in the same year in the same locations, the differences in cost-efficiency between each project were mainly due to differences in project budget flexibility and constraint: different projects covered different types and amounts of costs allowed by the donor.

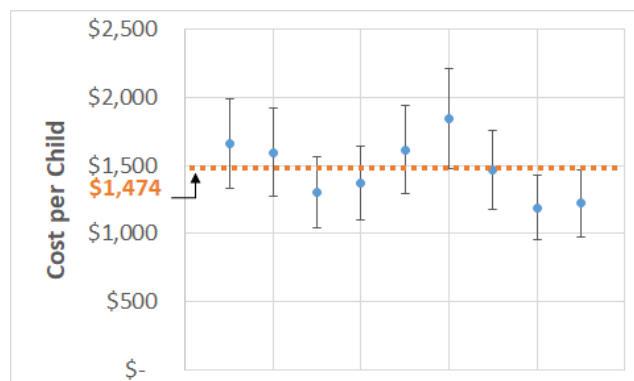


Figure 2: Individual cost-efficiency results of each project analyzed (blue data points) and average cost-efficiency across nine projects within the program portfolio (orange dotted line). Error bars of 20 percent in both directions for the individual cost-efficiency results of each project show that the average cost-efficiency of the program as a whole was always within 20 percent of the individual cost-efficiency of each project.

Tweaking the transfer size and frequency can affect cost-efficiency by more than 30 percent. It can free up funds to reach at least 40 percent more children with conditional cash, or allow existing recipient households to benefit from other economic resilience interventions.

Table 1 shows the different program adaptation scenarios in terms of transfer size and frequency, and the corresponding cost-efficiency results. For example, switching the transfer size from \$100/child/month for 10 months to \$60/child/month for 10 months can reduce cost per child by 33 percent, while generating savings that can reach 49 percent more children in need. This shows that differences in the program design (i.e. transfer size and frequency) can drive more drastic changes in cost-efficiency than differences in project charging practices. Figure 3 shows the cost-efficiency of each scenario graphed against the corresponding number of children that could be reached—scenarios that reached up to 10,000 children saw greater efficiency gains than scenarios that reached more than 10,000 children, suggesting that returns to scale begin to taper off at this point.

If the funds freed up from reducing the transfer size or frequency were not used to reach more children with conditional cash, they could be invested in other interventions to build longer-term economic resilience for the recipient households. For example, switching the transfer size from \$100/child/month for 10 months to \$60/child/month for 10 months can free up \$1,297,300 that can be used to transition some recipient parents to more sustainable interventions such as village savings and loans associations (VSLAs).

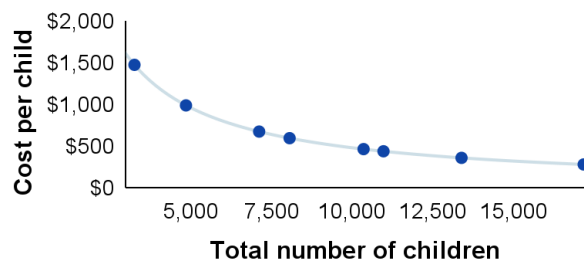


Figure 3: Cost-efficiency results and the total number of children that could be reached corresponding to changes in transfer size and frequency. Returns to scale begin to taper off beyond 10,000 children.

Transfer size and frequency	How much funds could be freed up?	Total number of children that could be reached	Cost-efficiency result
\$100/child/month for 10 months	<i>Original program design</i>	3,243	\$1,474 per child
\$60/child/month for 10 months	\$1,297,300 to reach 1,597 more children	4,840	\$986 per child
\$20/child/month for 10 months	\$2,594,500 to reach 7,102 more children	10,345	\$462 per child
\$100/child/month for 6 months	\$1,297,300 to reach 1,597 more children	4,840	\$986 per child
\$60/child/month for 6 months	\$2,075,620 to reach 3,865 more children	7,108	\$672 per child
\$20/child/month for 6 months	\$2,853,940 to reach 10,138 more children	13,381	\$357 per child
\$100/child/month for 3 months	\$2,270,200 to reach 4,809 more children	8,052	\$593 per child
\$60/child/month for 3 months	\$2,659,360 to reach 7,719 more children	10,962	\$436 per child
\$20/child/month for 3 months	\$3,048,520 to reach 13,924 more children	17,167	\$278 per child
\$52/child/month for 10 months in the first year, followed by \$20/child/month for 10 months in the second year	<i>Extend assistance by one more year for the same children</i>	3,243	\$1,474 per child

Table 1: Cost-efficiency results corresponding to changes in transfer size and frequency.

Providing awareness sessions on the benefits and importance of education is a small cost component of conditional cash that could be cost-effective.

Scaling up the awareness sessions for all recipient parents of conditional cash would be fairly low cost: for example, awareness sessions for all 4,840 parents receiving \$60/child/month for 10 months would only constitute 0.71 percent of the total cost. In all scenarios explored, this cost would not exceed 2.52 percent of the overall intervention cost.

Evidence from several countries has shown that school attendance is sensitive to the perceived costs and benefits of education: providing families with information on the higher wages earned by people who complete more years of education can reduce dropout rates at low cost.⁴ If providing awareness sessions to all parents could allow all recipient children to attend at least 5 more days of school within the year⁵, then scaling up awareness sessions alongside conditional cash would be a cost-effective approach.

Different interventions are required for different groups of children. At minimum, the children receiving conditional cash should be differentiated by age: young (6-10) and old (11-18).

From a cost-effectiveness study by UNICEF, conditional cash transfers in Lebanon were more cost-effective at keeping younger children in school than older children, because the transfer size for younger children was lower and it increased their school attendance more than older children.⁶ This is consistent with the

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<https://www.povertyactionlab.org/sites/default/files/publication/roll-call-getting-children-into-school.pdf>

⁵ Assuming each school year has 200 days, therefore 200 days x 2.52% = 5 days.

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<https://www.calpnetwork.org/publication/cost-efficiency-and-cost-effectiveness-study-of-unicef-cash-plus-interventions-in-lebanon-and-the-democratic-republic-of-congo/>

structure of other conditional cash programs, for example in Mexico where transfer size was increased for older children who could have been earning more if they were in the labor market.⁷

This suggests that a smaller cash amount could be sufficient to incentivize parents to send younger children to school. Younger children are also a critical group to focus on because they have more years of schooling ahead, and shaping their mindsets on schooling at an early age may help to sustain their schooling in future. For older children who are able to earn money working outside of school, any transfer size below \$100/child/month may not be sufficient to generate a very large impact in school attendance. Experience from the program team suggested that older children who are less interested in academic pathways may benefit more from vocational education or VSLAs.

For younger children:

- **\$60/child/month for 10 months** may be efficient and effective in ensuring school attendance for more children.
- **\$20/child/month for 10 months** may be efficient and will allow many more children to benefit. However, questions remain about whether this small transfer is sufficient to incentivize parents to send their children to school, so a small pilot would be required to test its effectiveness.
- Extending assistance over a longer period of time for the same children by providing **\$52/child/month for 10 months in the first year, followed by \$20/child/month for 10 months in the second year** may be efficient and effective if more time is required to change norms and behaviors.

<https://www.povertyactionlab.org/evaluation/role-conditional-cash-transfers-early-childhood-development-mexico/>

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<https://www.povertyactionlab.org/evaluation/role-conditional-cash-transfers-early-childhood-development-mexico/>

Providing conditional cash for the full school year of at least 10 months is believed to be more effective and protective for children in need.

Providing cash for 6 months or 3 months may not be very effective at keeping children in school, with relatively less efficiency gains than reducing transfer size and keeping transfers going for 10 months. The program team believed that reducing the transfers to less than 10 months could create unintended risks for recipient children.

For households that need emergency assistance with basic needs for a short period of time, it would be more appropriate to refer them to the Emergency Cash Assistance intervention. For households that need longer-term resilience and livelihood support, it would be more appropriate to refer them to the VSLA or vocational education interventions.

Despite its effectiveness, cash incentives are unlikely to be a sustainable intervention to ensure children’s school attendance. It could benefit from other supporting interventions that address social barriers preventing children from attending school.

Providing conditional cash may not be the most economical and sustainable solution to problems of school attendance⁸ (for comparison, \$1,474 per child is equivalent to one third of GDP per capita in Jordan), may create long-term dependency, and may adversely incentivize parents to keep children out of school in order to meet the intervention selection criteria.

To address social barriers that prevent children from attending school such as stigma, bullying, norms, beliefs, and behaviors among parents and children, CARE Jordan is piloting a social analysis action approach for community members to open up discussions with their friends and neighbors

⁸
<https://www.povertyactionlab.org/sites/default/files/publication/roll-call-getting-children-into-school.pdf>

on changing social norms related to education and protection, such as girls’ education, early marriage, and child labor.

Next Steps

Based on further assessments on different approaches and best practices, the program team intends to test a gradual reduction in transfer amounts for 10 months per year over 3 years, differentiated by age group, including livelihoods support for all recipient households, and referrals to Emergency Cash Assistance for highly vulnerable households.

The program team intends to conduct further assessments to learn from existing best practices, understand the effectiveness of new approaches (in terms of conditionality, amount, frequency, and other complementary services), and test differentiated transfer amounts for 10 months per year over 3 years (Table 2) depending on the assessment results. All recipient households will be linked to other livelihoods support from the first year onwards to decrease dependency and ensure economic resilience at the end of 3 years.

Age group	Year 1	Year 2	Year 3
Ages 6-10	\$60	\$30	\$15
Ages 11-18	\$100	\$60	\$30

Table 2: Test amounts of conditional cash per child per month for 10 months every school year, over 3 years.

Recipient households that remain highly vulnerable and food insecure even with livelihoods support could be referred to the short-term Emergency Cash Assistance intervention as an additional support. Based on the context, the program team will iterate and make further tweaks to the transfer amount and years of support to ensure that more vulnerable children can continue attending school within limited program funds.

Annex: Cost Model

Conditional Cash for Education and Protection

Transfer size and frequency: \$100/child/month for 10 months

Period analysed: August 2019–July 2020

Total Direct Project Costs, Direct Shared Costs, Indirect Costs: \$4,781,115

Total number of children: 3,243

Cost per child: \$1,474

Direct Project Costs: Costs that are only closely linked to program activities that can be related to one or some specific projects.					
Cost Category	Cost Item	Units	% Allocation	Category Total	% of Total Amount
Materials & Activities				\$3,343,569	70%
	Conditional cash assistance	3,243	100%		
	Transfer fees	3,243	100%		
	Awareness sessions for parents	934	100%		
	Child board members community initiative	Lumpsum	100%		
	Incentives for volunteers at urban centers	10	100%		
	Visibility and information materials and SMS	Lumpsum	100%		
	Program quality, monitoring, and evaluation	Lumpsum	100%		
	Child-friendly feedback and complaint mechanism	Lumpsum	100%		
	Annual urban needs assessment	Lumpsum	100%		
National Staff				\$531,007	11%
	Deputy Country Director for Programs	1	10%		
	Director of Protection and Community Engagement	1	9%		
	Education Specialist	1	100%		
	Conditional Cash Team Supervisor	1	100%		
	Conditional Cash Assistants	8	100%		
	Child Protection Officer	2	100%		
	Center Managers	5	29%		
	Case Managers	1	24%		
	Program/Project Coordinator	1	46%		
	Program/Project Manager	2	63%		
	Admin Team Supervisor	1	10%		
	Admin Officers	2	39%		
	Program Quality and Accountability Director	1	19%		

	Quality and Accountability Coordinator	2	20%		
	Monitoring & Evaluation Manager	1	17%		
	Monitoring & Evaluation Officer	2	20%		
	Information Management Specialist	1	16%		
	Refugee Center Receptionist	5	14%		
	Driver	2	28%		
Travel & Transport				\$37,082	0.78%
	Vehicle rent	4	56%		
	Vehicle fuel and operations	4	48%		
Assets & Equipment				\$16,714	0.35%
	Computers, laptops, mobiles, printers	Lumpsum	100%		
Office Expenses				\$5,819	0.12%
Direct Shared Costs: Costs that are linked to program activities that cannot be easily related to specific projects. These costs are shared among all projects in a specific office, usually (but not always) for the running and management of operations. Also known as Support Costs.					
Cost Category				Category Total	% of Total Amount
National Staff				\$220,289	5%
Office Expenses				\$135,340	3%
International Staff				\$121,406	3%
Assets & Equipment				\$17,104	0.36%
Travel & Transport				\$4,439	0.09%
Indirect Costs: Costs that support headquarters operations and overall management.					
Cost Category				Category Total	% of Total Amount
Indirect Costs				\$348,347	7%



Dioptra is a web-based cost analysis software that enables staff at humanitarian and development organizations to rapidly estimate the cost-efficiency of their programs, using existing accounting and monitoring data. Having cost-efficiency data and comparative efficiency data from similar projects can help staff identify opportunities to reach more people and have greater impact with limited resources. Dioptra is distributed and managed by the Systematic Cost Analysis Consortium, which includes Accion Contra el Hambre, CARE, the International Rescue Committee, Mercy Corps, and Save the Children.

www.dioptatool.org

