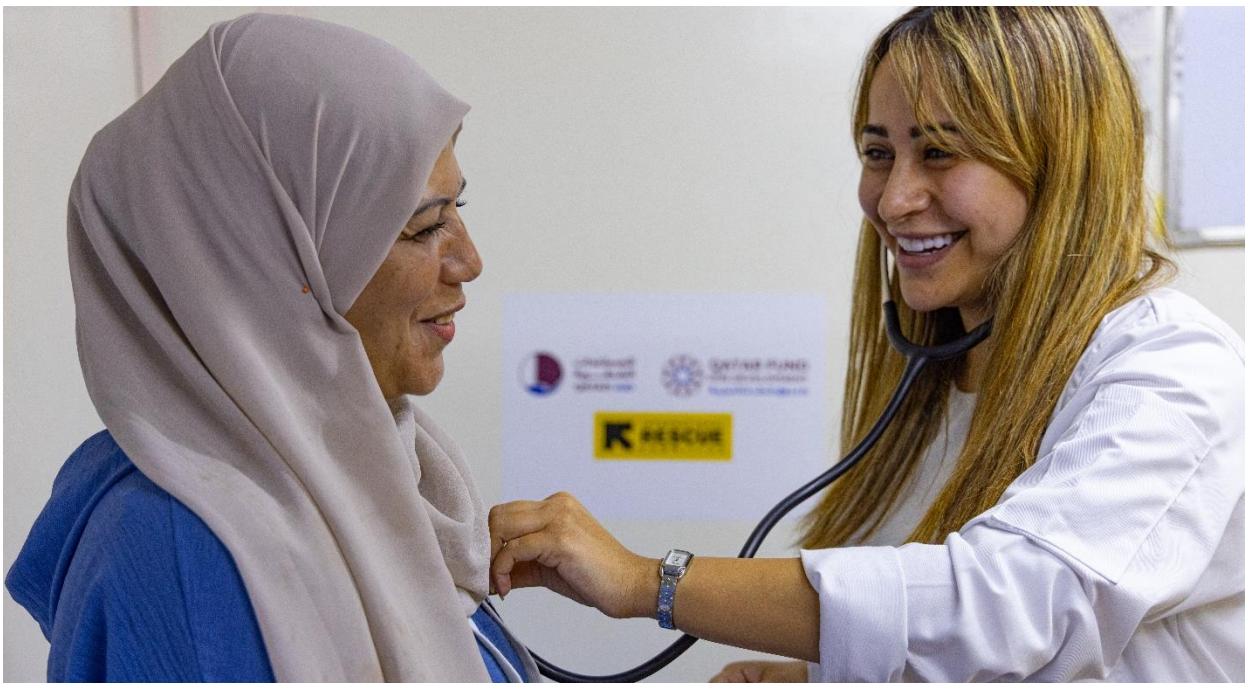

HEALTH COST-EFFICIENCY BRIEF – Direct Delivery of Health Services

Jordan, 2022–2023

Summary

In 2022 and 2023, the International Rescue Committee (IRC) provided health services at the IRC clinic in Za'atari refugee camp to meet the health needs of the refugee population. The IRC analyzed the cost-efficiency of health services for communicable diseases, non-communicable diseases, antenatal/postnatal care, immunization, and family planning.

The analysis finds that the cost-efficiency of these health services is driven by several key factors: type of health service provided, staffing, medical supplies, number of consultations, number of clients, number of couple-years of protection (CYPs), and long-acting and permanent methods (LAPMs) provided for family planning.

This means that health services can optimize cost-efficiency by serving more clients with more consultations, increasing service provider capacity, addressing contextual barriers to access health services, considering alternative delivery modalities (e.g., community health strategies), and expanding the range of family planning methods available to choose from, including LAPMs.

Introduction

Za'atari camp is the largest refugee camp in Jordan, hosting more than 80,000 refugees, about half of whom are children (55%).[1] About three quarters of refugees (76%) rely on clinics operated by non-governmental organizations (NGOs) in the camp to meet their health needs.[2]

Due to funding constraints, the availability of health facilities providing services in the camp had decreased. The remaining health facilities were extending services and stretching their capacity to meet the health needs within the camp.

In 2022 and 2023, the International Rescue Committee (IRC) provided Primary Health Care (PHC) and Reproductive Health Care (RHC) services at the IRC static clinic in District 5 of Za'atari camp.

The IRC analyzed the cost-efficiency of different PHC and RHC services (Table 1) to understand the drivers of cost-efficiency and identify lessons learned as well as potential areas for improvement.

Health Service	Description
Primary Health Care (PHC)	
Communicable Diseases (CD)	Treatment of communicable diseases such as ENT infections, upper respiratory tract infections, skin infections, and urinary tract infections, including physical assessment and diagnosis aligned with national protocols.
Non-Communicable Diseases (NCD)	Care of non-communicable diseases such as hypertension, diabetes, cardiovascular conditions, asthma, and chronic obstructive pulmonary disease, including follow-up checks, health education, and medication.
Reproductive Health Care (RHC)	
Antenatal Care and Postnatal Care (ANC/PNC)	Direct provision of antenatal and postnatal care, excluding delivery of babies.
Immunization (Vax)	Direct provision of vaccines for common childhood diseases such as measles, mumps, rubella, polio, diphtheria, pertussis, tetanus, hepatitis, tuberculosis, aligned with the Expanded Programme on Immunization (EPI) protocol by the Ministry of Health.[3]
Family Planning (FP)	Direct provision of family planning counseling and methods, including health awareness sessions at the health facility and procurement of family planning commodities.

Table 1: Health services directly delivered at the IRC static clinic in Za'atari refugee camp in 2022 and 2023.

[1] https://data.unhcr.org/en/documents/details/109661
[2] https://data.unhcr.org/en/documents/details/111744
[3] https://www.unicef.org/jordan/stories/routine-childhood-immunizations

Analysis Methodology

For all health services, we analyzed the following cost-efficiency metrics: **cost per client; cost per consultation; cost per CYP** (Couple-Years of Protection) (for FP).

We analyzed the cost-efficiency of all health services across two separate time periods of program implementation: the first period analyzed was January–December 2022; the second period analyzed was January–December 2023.

We calculated the cost-efficiency of each health service using the total financial costs incurred within each time period of implementation divided by the total number of unique clients reached, total number of consultations provided, and total number of CYPs provided respectively, within the same time period of implementation. Each unique client served for each health service may have received multiple health services within the same period.

The financial costs include actual program costs, support costs, and indirect costs incurred from the implementer's perspective. We calculated the support costs and indirect costs for each health service using the proportion of program costs incurred for that health service out of the total program costs incurred by the overall project funding within each time period, according to the Cost Analysis Methodology at the IRC.[4] We excluded the costs incurred by other NGOs for community engagement outside the health facility and costs incurred by clients to seek health services, as we chose to limit the scope of this analysis to required costs for the IRC to deliver these services.

The number of consultations provided is the actual number of client visits for each health service within each time period of implementation. There may be multiple consultations provided to the same client within that time period. Since there are other health facilities in Za'atari refugee camp, clients may have visited the IRC clinic as well as other health facilities to receive health services. For Immunization (Vax), each consultation may have provided between 0-3 vaccine doses[5], depending on the client's health status and vaccination status at the time of consultation, and clients may have received some vaccine doses within their EPI schedule from other health facilities.

For family planning (FP), the number of Couple-Years of Protection (CYP) provided is the estimated protection from unintended pregnancy over a one-year period, based on the volume of contraceptive methods provided to clients, excluding condoms.[6]

[4] https://www.rescue.org/report/cost-analysis-methodology-irc
[5] https://www.unicef.org/jordan/stories/routine-childhood-immunizations
[6] https://www.data4impactproject.org/prh/family-planning/fp/couple-years-of-protection-cyp/

Results

All figures are in 2023 USD	CD	NCD	ANC/PNC	Vax	FP
Jan-Dec 2022					
Program + support + indirect costs	$ 443,274	$ 702,290	$ 31,640	$ 51,109	$ 130,261
Number of consultations	13,299	12,636	910	2,464	5,364
Number of clients	8,348	3,854	475	1,405	2,429
Average number of consultations per client	1.6	3.3	1.9	1.8	2.2
Number of CYPs (excluding condoms)					313
Proportion of LAPMs (long-acting and permanent methods) out of all methods provided, excluding condoms					3% (45 LAPMs)
Average cost per consultation	$ 33	$ 56	$ 35	$ 21	$ 24
Average cost per client	$ 53	$ 182	$ 67	$ 36	$ 54
Average cost per CYP					$ 416
Jan-Dec 2023					
Program + support + indirect costs	$ 476,160	$ 951,663	$ 53,780	$ 53,390	$ 158,685
Number of consultations	21,064	22,079	1,318	2,779	5,400
Number of clients	11,832	6,868	624	1,702	2,543
Average number of consultations per client	1.8	3.2	2.1	1.6	2.1
Number of CYPs (excluding condoms)					661
Proportion of LAPMs (long-acting and permanent methods) out of all methods provided, excluding condoms					6% (115 LAPMs)
Average cost per consultation	$ 23	$ 43	$ 41	$ 19	$ 29
Average cost per client	$ 40	$ 139	$ 86	$ 31	$ 62
Average cost per CYP					$ 240

Table 2: Average cost per client, average cost per consultation, and average cost per CYP of health services directly delivered at the IRC static clinic in Za'atari refugee camp in 2022 and 2023.

There is significant variation in the cost per client and cost per consultation of different health services, ranging between $31–182 per client and $19–56 per consultation. Most of the costs were incurred on staffing and medical supplies.

We can put these costs into context by comparing them with the amount that households in Za'atari refugee camp paid for health services (if and when they had to pay). According to a UNHCR survey in 2024, households paid roughly US$ 71 per household visit (50 Jordanian Dinars, although there was no information on the types of health services received for this amount).[7] The costs per client of IRC's health services are in line with this amount in terms of magnitude, except for NCD, which is a more specialized service.

Due to the heterogeneity of different health services, each type of health service incurred a different cost per client and cost per consultation (Figure 1). Decision-makers should exercise sound judgment when assessing the cost-efficiency and value for money of different health programs by better understanding the types of services provided and their respective costs.

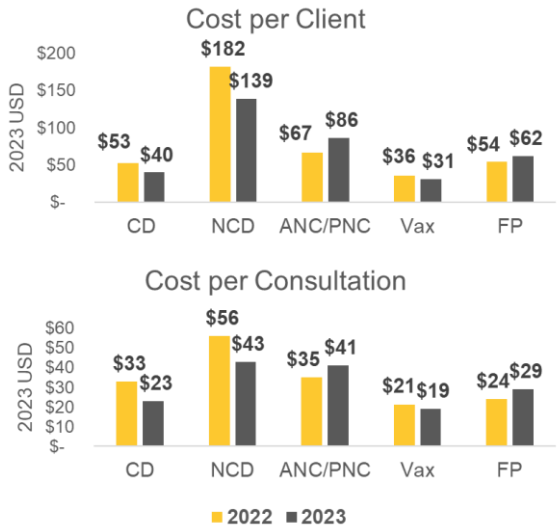

Figure 1: Average cost per client and average cost per consultation of health services directly delivered at the IRC clinic in Za'atari refugee camp in 2022 and 2023.

For each health service, around half of total costs (56–62%) were for national program staff (21–53%), non-staff personnel (3–20%, these are service providers), and medical supplies (5–27%) (Figure 2). As such, if future health programs would not require procurement of medical supplies (for example, due to in-kind donations from other actors), we would expect program staff and non-staff personnel to be the largest area of spending.

[7] https://data.unhcr.org/en/documents/details/111744

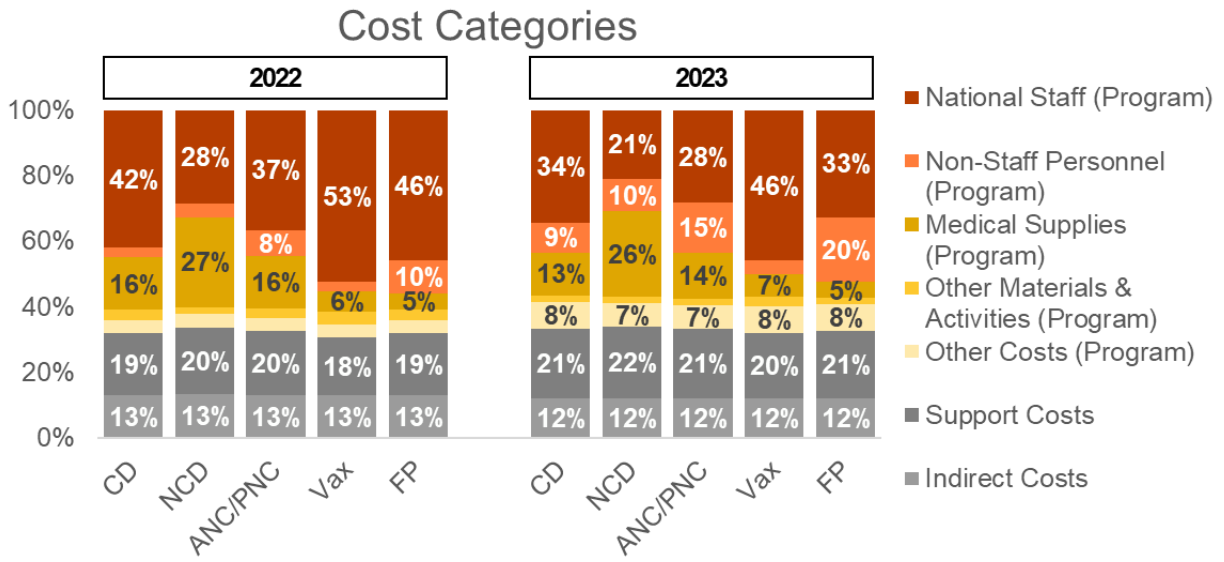

Figure 2: Cost categories of health services directly delivered at the IRC clinic in Za'atari refugee camp in 2022 and 2023.

The treatment of communicable diseases incurred lower cost per client and lower cost per consultation when more clients were treated, and more consultations were provided. Increasing service provider capacity and addressing contextual barriers to access health services can help serve more clients with more consultations and optimize cost per client and cost per consultation.

The total costs to provide treatment of communicable diseases were similar in 2022 ($443,274) and 2023 ($476,160), but the number of consultations and clients increased from 2022 (13,299 consultations, 8,348 clients) to 2023 (21,064 consultations, 11,832 clients) (Figure 3), after the investments in 2022 enhanced service provider capacity to treat more clients with more consultations in 2023. As such, the cost-efficiency improved from 2022 ($33 per consultation, $53 per client) to 2023 ($23 per consultation, $40 per client).

(Anecdotally, the program team indicated that the clinic and service providers were operating at full capacity by 2023, so more staffing would be required if more clients are to be served with quality services.)

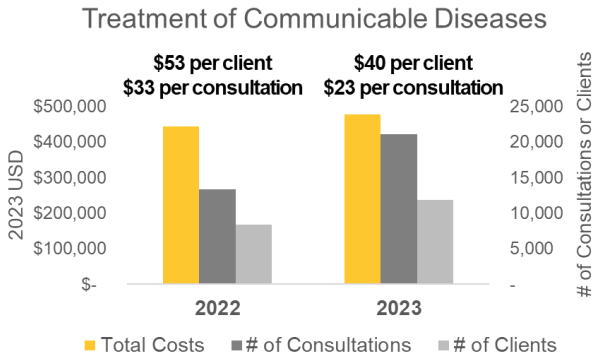

Figure 3: Total health service costs, number of consultations, and number of clients for treatment of communicable diseases (CD) at the IRC clinic in Za'atari refugee camp.

The care of non-communicable diseases incurred the highest cost per client and cost per consultation among all health services, partially due to the highest average number of consultations per client and the highest costs of medical supplies.

Since the treatment and care of both communicable diseases (CD) and non-communicable diseases (NCD) often form the overall primary health care package of services at health facilities, we can compare NCD care with CD treatment within that package. The cost per client for NCD care ($139–182 per client) was about 3 times higher than CD treatment ($40–53 per client). This is partially because each NCD client received on average 2 times more consultations (3.2–3.3 consultations per client) than each CD client (1.6–1.8 consultations per client) (Figure 4), due to the need for multiple follow-up appointments to monitor and review NCD conditions. This means the cost per client will likely be higher for health services that provide more consultations per client.

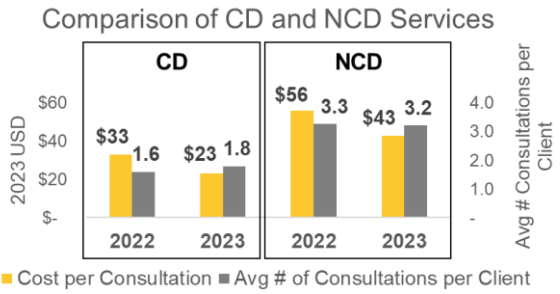

Figure 4: Cost per consultation and average number of consultations per client for treatment of communicable diseases (CD) and care of non-communicable diseases (NCD) at the IRC clinic in Za'atari refugee camp.

The cost per consultation for NCD care ($43–56 per consultation) was also higher—almost double—compared to CD treatment ($23–33 per consultation). This is primarily due to higher costs of medical supplies for NCD care compared to CD treatment (Figure 5).

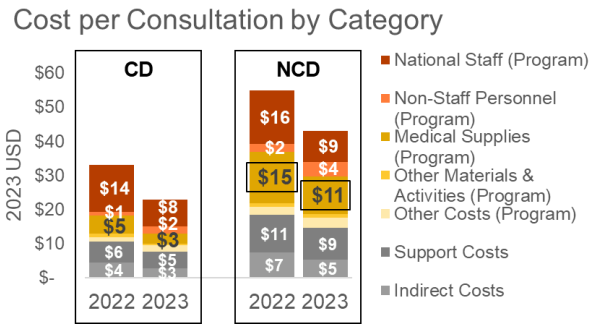

Figure 5: Cost per consultation by category for treatment of communicable diseases (CD) and care of non-communicable diseases (NCD) at the IRC clinic in Za'atari refugee camp.

Future research pilots can consider assessing the feasibility and cost-effectiveness of alternative NCD care modalities in refugee camp settings, such as community health strategies.

When more CYPs and LAPMs were provided, family planning services incurred lower cost per CYP. Improving service provider capacity and strengthening supply chain to provide LAPMs can expand the range of methods available and optimize cost per CYP.

The total costs to provide family planning services increased by 22% from 2022 ($130,261) to 2023 ($158,685), but the number of CYPs doubled from 2022 (313 CYPs) to 2023 (661 CYPs). Consequently, the cost-efficiency improved from 2022 ($416 per CYP) to 2023 ($240 per CYP).

The increase in number of CYPs from 2022 to 2023 was not due to an increase in the number of clients (which were similar between 2022 and 2023), but due to a doubling in the number and proportion of LAPMs (such as intrauterine devices) provided out of all methods provided, from 3% in 2022 to 6% in 2023 (Figure 6).

From 2024 onwards, the IRC will start providing implants at the clinic, becoming the second clinic to provide this LAPM method within Za'atari camp and expanding the range of FP options.

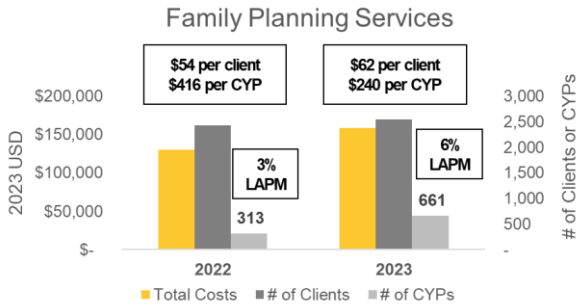

Figure 6: Total costs, number of clients, and number of couple-years of protection (CYPs) for family planning services at the IRC clinic in Za'atari refugee camp.

Thanks to Luay Abu Sammour, Kholoud Alqamsah, Batool Al Tarifi, Suhaib Ahmad, and Fadel Mustafa for contributing to the analysis. Thanks to Martin Karanja and Lucian Lee for the technical assistance in cost analysis. June 2025.
For questions or more information, please contact **CostAnalysis@rescue.org**.

Airbel Impact Lab
Research & Innovation at the IRC

Annex: Ingredients List

Jordan | 2023 USD

January–December 2022	CD	NCD	ANC/PNC	Vax	FP
PROGRAM COSTS					
National Staff	**186,581**	**198,849**	**11,832**	**27,099**	**60,450**
Health Coordinator	8,829	14,884	644	966	2,542
Senior Health Program Manager	4,594	7,745	335	503	1,323
Health Manager	3,256	3,094	223	603	1,313
Senior Health Officer	11,569	10,992	792	2,143	4,666
Midwife	-	-	3,632	9,833	21,407
Nurses	38,633	36,707	-	-	-
Doctors	24,757	23,523	-	-	-
Pharmacist	10,976	10,429	751	475	1,034
Data Entry Receptionist	14,811	14,072	1,013	2,744	5,974
Security Assistant	1,603	2,702	117	175	462
Cleaner	6,370	10,739	465	697	1,834
Driver	2,306	3,887	168	252	664
Health Staff Benefits	53,258	50,603	3,283	8,091	17,613
MEAL Team	1,549	2,611	113	169	446
Information Management Team	2,160	3,642	158	236	622
Accountability Team	286	482	21	31	82
MEAL Staff Benefits	1,625	2,739	119	178	468
Non-Staff Personnel	**14,931**	**29,280**	**2,403**	**1,307**	**12,467**
Clinic Volunteers	11,939	20,126	871	1,307	3,438
Service Providers	2,992	9,153	1,532	-	9,030
Travel & Transport	**5,641**	**9,510**	**411**	**617**	**1,624**
Health Staff Transportation	4,549	7,669	332	498	1,310
Vehicles	1,092	1,840	80	119	314
Medical Supplies	**68,983**	**192,827**	**4,918**	**3,033**	**6,603**
Medical Supplies	68,983	192,827	4,918	3,033	6,603
Materials & Activities	**12,676**	**17,234**	**899**	**1,814**	**4,299**
Medical Equipment	674	1,136	49	74	194

Medical Waste Management	206	348	15	23	59
Non-Medical Supplies	5,621	5,341	385	1,042	2,267
M&E Activities	608	1,025	44	67	175
Capacity Building	4,991	8,414	364	546	1,437
Visibility Materials	576	971	42	63	166
Office Expenses	**12,086**	**20,374**	**881**	**1,323**	**3,480**
Clinic Expenses	12,086	20,374	881	1,323	3,480
SUPPORT COSTS	**85,194**	**143,620**	**6,214**	**9,324**	**24,533**
INDIRECT COSTS	**57,182**	**90,596**	**4,082**	**6,593**	**16,804**
TOTAL COSTS	**443,274**	**702,290**	**31,640**	**51,109**	**130,261**
Number of consultations	13,299	12,636	910	2,464	5,364
Number of clients	8,348	3,854	475	1,405	2,429
Number of CYPs					313
Average cost per consultation	**33**	**56**	**35**	**21**	**24**
Average cost per client	**53**	**182**	**67**	**36**	**54**
Average cost per CYP					**416**

January–December 2023	**CD**	**NCD**	**ANC/PNC**	**Vax**	**FP**
PROGRAM COSTS					
International Staff	**12,908**	**13,529**	**808**	**1,703**	**3,309**
Health Technical Advisor	12,908	13,529	808	1,703	3,309
National Staff	**162,536**	**203,800**	**14,846**	**24,596**	**51,852**
Health Coordinator	8,364	17,560	969	893	2,804
Senior Health Program Manager	268	563	31	29	90
Health Manager	5,791	6,070	362	764	1,484
Senior Health Officer	11,285	11,829	706	1,489	2,893
Quality and Infection, Prevention & Control Manager	3,536	7,425	410	378	1,185
Midwife	-	-	5,391	11,368	22,089
Nurses	37,371	39,172	-	-	-
Doctors	15,775	16,535	-	-	-
Pharmacist	12,638	13,247	791	50	96
Data Entry Receptionist	7,747	8,121	485	1,022	1,986
Driver	127	266	15	14	42

Health Staff Benefits	40,127	42,061	3,426	6,507	12,644
MEAL Team	7,176	15,066	832	767	2,405
Information Management Team	6,338	13,306	734	677	2,124
Accountability Team	706	1,483	82	75	237
MEAL Staff Benefits	5,286	11,098	612	565	1,772
Non-Staff Personnel	**44,410**	**90,490**	**8,292**	**1,981**	**31,385**
Clinic Volunteers	18,546	38,936	2,149	1,981	6,216
Service Providers	25,864	51,555	6,143	-	25,169
Travel & Transport	**8,062**	**16,926**	**934**	**861**	**2,702**
Health Staff Transportation	6,163	12,938	714	658	2,066
Vehicles	1,899	3,988	220	203	637
Medical Supplies	**61,617**	**247,464**	**7,776**	**3,851**	**7,483**
Medical Supplies	61,617	247,464	7,776	3,851	7,483
Materials & Activities	**11,423**	**17,445**	**992**	**1,376**	**3,339**
Medical Equipment	1,607	3,374	186	172	539
Medical Waste Management	339	712	39	36	114
Non-Medical Supplies	6,218	6,517	389	820	1,594
M&E Activities	2,188	4,594	254	234	734
Visibility Materials	1,070	2,247	124	114	359
Office Expenses	**17,828**	**37,428**	**2,066**	**1,904**	**5,976**
Clinic Expenses	12,107	25,418	1,403	1,293	4,058
Clinic Rehabilitation	5,721	12,011	663	611	1,918
SUPPORT COSTS	**99,635**	**209,177**	**11,545**	**10,643**	**33,396**
INDIRECT COSTS	**57,742**	**115,404**	**6,522**	**6,474**	**19,243**
TOTAL COSTS	**476,160**	**951,663**	**53,780**	**53,390**	**158,685**
Number of consultations	21,064	22,079	1,318	2,779	5,400
Number of clients	11,832	6,868	624	1,702	2,543
Number of CYPs					661
Average cost per consultation	**23**	**43**	**41**	**19**	**29**
Average cost per client	**40**	**139**	**86**	**31**	**62**
Average cost per CYP					**240**