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PATIENT SATISFACTION WITH HEALTH SERVICES

BASELINE EVALUATION IN ARAGATSOTN, ARMAVIR,
AND ARARAT MARZES

2008



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Preface

The Primary Healthcare Reform (PHCR) project is a nationwide five-year (2005-2010) program funded by the United States Agency for International Development (USAID) under a contract awarded to Emerging Markets Group, Ltd. (EMG) in September 2005. The project's primary objective is the increased utilization of sustainable, high-quality primary healthcare services leading to the improved health of Armenian families. This objective is operationalized by supporting the Ministry of Health (MoH) to implement a package of six interventions that links policy reform with service delivery so that each informs the other generating synergistic effects. These six interventions address healthcare reforms and policy support (including renovation and equipping of facilities); open enrollment; family medicine; quality of care; healthcare finance; and public education, health promotion and disease prevention.

“What impact are these interventions having?” is a question frequently asked but less frequently funded. Fortunately, provision was made in the PHCR project to address the “impact” question. PHCR developed a set of six tools to monitor progress and evaluate results. Three of these tools are facility-based and are designed to assess changes through a pre-test and post-test methodology at 164 primary healthcare facilities and their referral facilities. Three other tools are population-based and are designed to assess changes for the whole of Armenia's population, using the same pre-test and post-test methodology.

This report summarizes the baseline assessment of client satisfaction with health care services at target and comparison primary healthcare facilities in Aragatsotn, Armavir, and Ararat marzes (Zone 3-1), creating a referent for future evaluation of project impact on perceived quality of care in Zone 3-1.

The Center for Health Services Research and Development of the American University of Armenia, one of the sub-contractors to EMG, has primary responsibility for PHCR monitoring and evaluation. Dr. Anahit Demirchyan, Ms. Tsovinar Harutyunyan, Dr. Varduhi Petrosyan, and Dr. Michael Thompson are the primary authors of this study. Dr. Hripsime Martirosyan and Ms. Nune Truzyan are acknowledged for their valuable contribution in all stages of the study. We would also like to thank our interviewers (primary healthcare physicians in the target marzes) for their data collection efforts, as well as the patients who participated in the interviews. We are also grateful for the excellent support received from the Ministry of Health and marz officials and the opportunity to collaborate in strengthening health services in Armenia

We trust that the findings of this study will be of value in improving health outcomes through more informed decision-making. The report can be found on the PHCR website at www.phcr.am. Comments or questions on this study are welcome and should be sent to info@phcr.am.

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Acronyms

AUA	American University of Armenia
CHSR	(AUA) Center for Health Services Research and Development
FAP	Rural Health Post (from Russian abbreviation)
HIV	Human Immunodeficiency Virus
KAP	Knowledge, Attitudes, and Practices
MA	Medical Ambulatory
M&E	Monitoring and Evaluation
PE	Public Education
PHC	Primary Health Care
PHCR	Primary Health Care Reform
PMP	Performance Monitoring Plan
RH	Reproductive Health
SD	Standard Deviation
STD	Sexually Transmitted Diseases
TB	Tuberculosis
USAID	United States Agency for International Development
UTI	Urinary Tract Infection

Executive Summary

The Primary Healthcare Reform Project is a five-year program funded by the United States Agency for International Development under a contract awarded in September 2005 to Emerging Markets Group, Ltd. The project is designed to strengthen the Ministry of Health's capacity to introduce key reforms, which will increase access to high-quality primary health care services. Main activities of the project include renovating and equipping health facilities; training primary health care (PHC) providers; introducing open enrollment, a system whereby clients choose their PHC provider; supporting quality improvement; rationalizing healthcare financing; and providing public health education.

The project utilizes a regional scale-up approach, which allows for zonal expansion of reforms throughout the country over the life of the project. Aragatsotn, Armavir, and Ararat marzes were targets for the third year of implementation. The current assessment establishes baseline value for patient satisfaction with the PHC services they receive (a key indicator in the Project's Performance Management Plan).

This assessment will be repeated at the completion of project activities in these marzes to assess changes in the quality of care introduced by the project. Besides assessing the general level of client satisfaction with care, this study also investigated client perspectives on specific aspects of health care service delivery, including patient-provider interactions, availability and confidentiality of care, and facility conditions; thus, lending insight into the areas where the project should direct efforts so as to increase the quality of care.

The baseline assessment utilized stratified random sampling design. The self-administered questionnaires were administered to 336 clients of select primary health care facilities in Aragatsotn, Armavir, and Ararat marzes in June 2008. This sampling methodology and the client satisfaction instrument match, with slight modifications, those used for the baseline assessments in Zones 1 (Lori and Shirak marzes) and 2 (Tavush, Kotayk, and Gegharkunik marzes) (see Baseline Patient Satisfaction Reports for Zone 1 and Zone 2).

The following key findings emerged from the analysis of the client survey data:

The general baseline level of satisfaction with health care received at the last visit to PHC facility is high and comparable at the target and comparison facilities.

- Over 71.5% of clients at the target facilities and 77.8% of clients at the comparison facilities thought the care they received was good or excellent.
- Approximately 89.3% of respondents from the target and 85.0% from the comparison facilities were satisfied with the provider's attitude and care.
- The proportion of those satisfied with aspects of their care other than the provider qualities (e.g., waiting time, accessibility of services, confidentiality, facility conditions, and provision of drugs) was somewhat higher in the intervention group than in the comparison (65.1% versus 57.1%), but the difference was not statistically significant.

Education, standard of living, and geographic location are predictors of satisfaction.

- Higher education level was associated with significantly higher levels of satisfaction with the health care experience.

- Better standard of living was significantly associated with higher levels of satisfaction with the health care experience.
- Ararat respondents were significantly less satisfied with their health care experience than those from Armavir and Aragatsotn.

Increased access to technology and supplies is desired.

- Increasing free drug formulary, increasing salaries of providers, and providing necessary equipment were the most frequent suggestions made by clients to improve the quality of care at PHC facilities.

1. Introduction

The United States Agency for International Development (USAID) awarded Emerging Markets Group (EMG), an international consulting firm, a five-year contract (2005-2010) to implement the Primary Health Care Reform (PHCR) Project in Armenia (see <http://www.phcr.am/> for a detailed project description). The primary goal of the Project is to improve population access to and use of high quality primary healthcare services through strengthening PHC (Primary Health Care) facilities and family medicine providers, on one hand, and improving public health awareness, health-seeking behavior and demand for PHC services, on the other.

The six main components of the PHCR Project are run in the partnership with IntraHealth International Inc., American University of Armenia, and Overseas Strategic Consulting, Ltd., and include the following activities:

Expansion of Reforms: assisting the Government in establishing a supportive regulatory environment for the advancement of reforms; renovating and equipping PHC facilities nationwide; designing and delivering training to facility management

Family Medicine: developing up-to-date curricula and training materials for continuous medical education; creating free-standing family medicine group practices; providing training to family physicians and nurses

Open Enrollment: introducing the open enrollment principle in the Armenian healthcare sector to promote customer-oriented services by fostering competition among providers

Quality of Care: improving the quality of care by introducing state-of-the-art quality standards and quality assurance procedures; introducing provider licensing and accreditation regulations

Healthcare Finance: increasing the transparency and efficiency of the distribution of healthcare funds through improved service costing and performance-based contracting practices; enhancing accountability at the facility level; determining the use of National Health Accounts

Public Education: enhancing awareness about PHC services offered; improving understanding of open enrollment and acceptance of family medicine providers; promoting health knowledge, healthy lifestyle, and health-seeking behavior.

The project utilizes a regional scale-up approach, which allows for the zonal expansion of reforms throughout the country over the life of the project. Aragatsotn, Armavir, and Ararat marzes (Zone 3-1) were targeted by the Project for the third year of implementation.

The current assessment establishes the baseline value for patient¹ satisfaction with the PHC services (a key indicator in the Project's Performance Management Plan) in Zone 3-1.

2. Study methodology

The study utilized a quasi-experimental non-equivalent control group design. The sample included clients served by PHC facilities from both intervention and comparison facilities. The facilities in the intervention sample were randomly selected from the list of facilities targeted by the Project in Aragatsotn, Armavir, and Ararat marzes. The facilities in the comparison sample were randomly selected from the frame of PHC facilities located in the same area and not targeted by the Project or by any other similar PHC project.

Sampling

The Monitoring and Evaluation (M&E) team calculated the sample size by the STATA statistical software using a formula for two sample comparison of proportions to detect a 10% pre-post difference in satisfaction level within the intervention group, with type one (alpha) error¹ of 0.05, and power² of 0.75. The resulting sample size was 196. The sample size for the comparison group was limited by feasibility and budgetary constraints, but was sufficient to detect practically significant differences between the intervention and comparison groups at baseline and at follow-up. The same formula for two sample comparison of proportions was used, but with power set to 0.65 and the size of the intervention group as reported above. The calculated sample size for the comparison group was 140.

This sampling strategy is slightly different from that used for the baseline assessments in Zones 1 and 2 (see the Baseline Patient Satisfaction Reports for Zone 1 and Zone 2). In the Zone 3-1 assessment, only the facilities directly targeted by the PHCR Project, rather than their referral facilities, were included in the sampling frame. The M&E team made this modification because, unlike the previous two assessments, this study had the added purpose of identifying the baseline level of health knowledge, attitudes, and practices (KAP) to later assess the effectiveness of the Project's public education [PE] interventions. The Project's PE interventions were conducted only in the communities directly targeted for renovation/upgrading activities and not in those communities served by the referral facilities; thus 30 referral facilities were excluded from the sampling frame and only 51 facilities directly targeted by the Project for renovation/upgrading activities were included. Of these 51 PHC facilities, 13 rural health posts (FAP) and one Medical Ambulatory (MA) were selected through stratified random sampling to meet the desired sample size of 196. The number of facilities selected from each marz was proportional to the number of facilities from that marz in the general pool of targeted facilities, and the number of comparison facilities from each marz was proportional to their representation in the intervention group. Nine FAPs and one MA were selected for the comparison group by stratified random sampling to meet the desired sample size of 140 (Table 1).

Survey administration

At each facility included in the sample, the interviewers selected the last clients seen as respondents, proceeding through the list in reverse order until 14 respondents had completed interviews. This cluster size ensured a satisfactory level of diversity within the sample while maximizing the efficiency of the data collection process. Interviewers visited the client at

¹*Alpha error*- the statistical error made in testing a hypothesis when it is concluded that a result is positive when it really is not.

² *Power* - number or percentage that indicates the probability a study will detect a statistically significant effect when there is a true effect. For example, a power of 80 percent (or 0.8) means that a survey or study (when conducted repeatedly over time) is likely to produce a statistically significant result 8 times out of 10.

home and, after ensuring eligibility and willingness to participate, provided a self-administered questionnaire consisting of both client satisfaction and KAP components (Appendix 1). The completed questionnaires were collected in envelopes sealed by the respondent to ensure confidentiality of the data. To assess the participation rate, a journal form was completed for each facility, logging the results of each visit/attempt made by the interviewer (Appendix 2).

Table 1. PHC facilities in intervention and comparison groups, Zone 3-1 baseline

Marz region	Facility	
	Intervention	Comparison
Aragatsotn	1. Tsaghkashen FAP	1. Yeghipatrush FAP
	2. Hartavan FAP	2. Ara FAP
	3. Meliqgyugh FAP*	3. Mirak FAP
	4. Norashen FAP	4. Aghdzq FAP
	5. Nor Amanos FAP	5. Gyalto FAP
	6. Tsamaqasar FAP	
Ararat	7. Aygepat FAP	6. Vardashat FAP
	8. Masis FAP	7. Arevshat MA
	9. Mrganush FAP	8. Jrahovit FAP
	10. Verin Dvin MA	
Armavir	11. Berqashat FAP	9. Bagaran FAP
	12. Shenik FAP	10. Lernamerdz FAP
	13. Tsaghkalanj FAP	
	14. Tsaghkunq FAP	

* Excluded as a target sites after data collection and analysis.

Survey instrument

The client satisfaction component of the instrument was similar to the one used in the Zone 1 and 2 assessments (see the Baseline Patient Satisfaction Report for Zone 1 and Zone 2). Besides assessing the general level of client satisfaction with their care, this survey also investigated client perspectives on specific aspects of health care services, including patient-provider interactions, availability and confidentiality of care, and facility conditions; thus, lending insight into the areas where the project should direct efforts to increase the quality of care. The instrument contained questions to collect socio-demographic information.

Training/pre-testing/data collection & entry

Interviewer training and pre-testing lasted one day. The PHCR M&E Team developed and delivered to interviewers a training guide containing important information regarding the research objectives, methods, sampling/interview administration, and timeline. Four interviewers (two from Aragatsotn, one from Armavir, and one from Ararat) participated in this training. The interviewers received all the items necessary to conduct the fieldwork, including facility code lists, journal forms, maps, instruments in Armenian and Russian, envelopes, folders, and pencils. Data collection started on June 10, 2008 and ended on June 28, 2008. The staff of the Center for Health Services Research and Development (CHSR) of the American University of Armenia (AUA), trained by the Project's M&E Team, entered the data into SPSS 11 statistical package. Double entry and subsequent cleaning ensured the precision of the entered information.

3. Results

Administrative/General

A total of 336 respondents participated in the client satisfaction survey. Interviewers visited 523 households in order to obtain the 336 required interviews (64.2% of the households visited). The primary reason for an unsuccessful visit was the absence of all household members (16.6%), followed by the absence of the selected respondent (10.0%). Explicit refusal was recorded only in 28 (5.4%) cases (in 11 cases the selected respondent refused to participate and in 17 cases someone else refused on behalf of the entire household). In three cases, respondents who had initially agreed did not complete the survey. These respondents were replaced in the sample. After opening the sealed envelopes, however, the M&E team found three other incomplete interviews, resulting in a total of 333 complete interviews. Of 333 respondents, 194 were from the target facilities (Aragatsotn-84, Ararat-56, and Armavir-54) and 139 from the comparison facilities (Aragatsotn-70, Ararat-42, and Armavir-27). Table 2 summarizes the socio-demographic profile of the respondents.

Client perceptions of primary health care provider quality

Respondents answered a set of questions investigating their opinion on how the PHC provider (physician or nurse) interacted with them during their last visit to a PHC facility. Table 3 summarizes the results. The overwhelming majority of respondents in both the intervention and comparison groups were satisfied with the way the provider interacted with them at their last visit. Only one of the provider interaction dimensions was significantly different between the target and comparison groups: significantly more respondents from the comparison group mentioned that the provider “talked down” to them.

The M&E team computed a summative score, which included all 15 variables presented in Table 3. A score of 2 was given to a positive response, 1 to a “to some extent” response, and 0 to a negative response (negatively phrased questions were reverse recoded). The per-item average was then calculated. The mean scores for target and comparison groups were effectively identical (1.77 and 1.73, respectively). This summative score was then dichotomized with respondents scoring ≥ 1.5 classified as “satisfied” and respondents scoring < 1.5 as “not satisfied.” About 89.3% of respondents from the target and 85.0% from the comparison facilities were satisfied with the provider’s attitude and care; this difference was not statistically significant.

Table 2. Socio-demographic characteristics of respondents (intervention & comparison facilities), by marz

		<i>By status</i>		<i>By marz</i>			Total (n=333)
		Intervention (n=194)	Comparison (n=139)	Aragatsotn (n=154)	Ararat (n=98)	Armavir (n=81)	
Age (years)	Mean (SD) ³	43.6 (16.7)	43.1 (16.8)	41.8 (15.6)*	46.6 (18.0)*	43.2 (16.7)	43.4 (16.7)
Gender (%)							
	Female	75.5	72.3	76.0	70.2	75.3	74.1
	Male	24.5	27.7	24.0	29.8	24.7	25.9
Level of education (%)							
	School (< 10 years)	11.0*	21.9*	18.4	12.9	14.5	15.7
	School (10 years)	44.5	41.6	39.3	48.4	44.7	43.3
	Professional/technical (10-13y.)	22.5	23.4	17.3	24.7	31.6	22.9
	Institute/University/Postgrad	22.0	13.1	25.3	14.0	9.2	18.2
Family living standard (%)							
	Substantially below average	10.3	16.7	9.9*	12.8*	19.5	13.0
	A little below average	12.4	15.9	9.2	24.5	10.4	13.9
	Average	54.6	48.6	55.3	51.1	46.8	52.0
	A little above average	18.9	14.5	19.7	10.6	19.5	17.0
	Substantially above average	3.8	4.3	5.9	1.1	3.9	4.0
Average monthly income (%)							
	Less than 25,000 drams	27.1	29.6	27.5	27.8	29.9	28.2
	25,000-50,000 drams	25.0	29.6	22.8	40.2	18.2	26.9
	51,000-100,000 drams	22.3	19.3	24.8	12.4	24.7	21.1
	101,000-250,000 drams	7.4	6.7	8.7	6.2	5.2	7.1
	More than 250,000 drams	4.3	0.7	4.0	2.1	1.3	2.8
	Don't know	13.8	14.1	12.1	11.3	20.8	13.9
Household size (n)	Mean (SD)	5.2 (1.9)	5.5 (2.2)	5.4 (2.0)	5.2 (2.1)	5.3 (2.0)	5.3 (2.0)

* Statistically significant difference, $p^4 < 0.05$

³ *Standard deviation* - a statistic that describes the average distance (of the observations) from the center of the data. When the observed data are tightly bunched together and the bell-shaped curve is narrow, the standard deviation is small. When the observations are spread apart and the bell-shaped curve is relatively flat, that means there is a relatively large standard deviation.

⁴ *P-value* - a measure of statistical significance. The p-value represents the probability that a difference between groups happened by chance. An example would be a difference in the average birth weight of newborns in two different income groups. A lower p-value for any difference in outcomes indicates a lower probability that the difference was a result of chance. Results with a low p-value are considered statistically significant. For example, a p-value of 0.01 ($p = 0.01$) means there is a 1 in 100 chance that the result occurred by chance. For most social science research, a p-value of 0.05 or less is considered acceptable.

Table 3. Client perception of provider interactions

Provider interaction	Intervention (n=194), (%)			Comparison (n=139), (%)		
	Yes	To some extent	No	Yes	To some extent	No
Attentive to patient	92.8	6.7	0.5	92.1	5.8	2.2
Appeared to enjoy caring for patient	94.8	4.2	1.0	92.8	5.0	2.2
Seemed impatient	29.2	14.0	56.7	31.5	15.4	53.1
Gave complete explanations	65.4	15.4	19.2	67.2	13.0	19.8
Talked down to patient*	2.7	7.5	89.8	12.5	5.1	82.4
Was not thorough	15.1	8.1	76.7	11.4	14.4	74.2
Considered patient preferences regarding care	75.4	16.9	7.7	77.8	11.1	11.1
Understood patient complaint/ problem	93.0	4.3	2.7	86.3	7.2	6.5
Seemed disorganized and flustered	2.2	3.9	93.8	3.7	5.9	90.4
Appeared to be skillful	85.9	12.4	1.6	91.6	4.6	3.8
Treated patient with respect	95.8	3.7	0.5	97.1	2.2	0.7
Explained things in an understandable manner	93.7	4.8	1.6	94.2	2.2	3.6
Made patient feel comfortable to ask questions	74.6	11.4	14.1	72.4	8.2	19.4
Helped patient to understand his/her illness	85.6	8.5	5.9	82.7	8.6	8.6
Discussed treatment options	84.6	8.5	6.9	77.4	11.7	10.9

* Statistically significant difference between intervention and comparison groups, $p < 0.05$

Client perception of non-provider aspects of care

A set of questions assessed specific aspects of the care received at the clients' last visit to a PHC facility. The questions addressed waiting time, privacy issues, accessibility of care, availability of health education materials and prescribed medications, clinic conditions (cleanliness, physical conditions, and supplies), as well as general perceptions of the care received (Table 4). In both groups, the majority of respondents (60.2% in the intervention and 58.9% in the comparison groups) waited less than 10 minutes. The pattern of responses suggests that waiting over 15 minutes was perceived as "waiting too long." More clients in the intervention group reported being able to get the medicines prescribed to them at their last visit (76.2% versus 64.7%, $p < .05$). Those in the intervention group were more likely to receive free or discounted medications, than those in the comparison group (52.7% versus 41.3%, $p < .05$). The intervention group was more likely to rate the facility as clean (85.3% versus 74.5%, $p < .05$), and less respondents rated the clinic conditions (renovation, new equipment, and technology) as satisfactory (55.1% versus 63.0%, $p = .12$).

Based on the set of variables included in Table 4, the M&E team calculated a summative perception of care score similar to that calculated for the perception of provider qualities. The mean score for the target group was 1.57 (sd: 0.36), and 1.51 (sd: 0.34) for the comparison group (of maximum 2.0). Again, the summative score was recoded into an ordinal variable, which grouped respondents scoring ≥ 1.5 into the "satisfied" category, and

respondents scoring less than 1.5 into “not satisfied”. Analysis showed that 65.1% of respondents from the target and 57.1% from the comparison facilities were satisfied with the aspects of care they received; however, this difference was not statistically significant.

Approximately 91.0% of clients in the target group and 90.0% in the comparison group stated that they would visit the same provider again in case of having a similar problem. The proportions of those who would recommend the same provider to their friends and relatives were again impressively high in both groups (86.8% and 91.2%, respectively). Inexplicably, 24.3% of the respondents (43 people) in the intervention group and 21.5% (26 people) in the comparison group stated that they had visited or planned to visit another facility for the same problem due to dissatisfaction with the services received during the last visit.

The respondents were asked about the reason for their last visit. Seventeen percent left this question unanswered. Among those answering this item, illness was most often cited (over 50%), followed by need for an examination (almost 15%), immunization (almost 10%) closely followed by need for a test/measurement, mainly, blood pressure. Several people mentioned consultation, injection, pregnancy care, drug prescription, dental care, and referral.

Table 4. Clients' perception of the care received at the last visit

Non-provider aspects of care at PHC facilities	Intervention (n=194), (%)			Comparison (n=139), (%)		
	Yes	Don't know	No	Yes	Don't know	No
Client had to wait too long before receiving care	13.3		86.7	15.9		84.1
It was difficult for client to make an appointment with the provider	8.0		92.0	12.4		87.6
People unrelated to client were present during your visit	21.1		78.9	23.4		76.6
Client received health education materials	61.1		38.9	54.1		45.9
Client paid provider out of pocket for care	8.1		91.9	10.2		89.8
Client thinks information s/he shared her/himself will be kept confidential	76.1	18.5	5.4	69.6	18.8	11.6
	Yes	None prescribed	No	Yes	None prescribed	No
Client could get all medicines prescribed during the last visit*	76.2	13.0	10.8	64.7	19.1	16.2
Client received free of charge or discounted medicine during last visit*	52.7	21.0	26.3	41.3	33.3	25.4
	Satisfactory	Don't know	Unsatisfactory	Satisfactory	Don't know	Unsatisfactory
Client assessment of clinic cleanliness at time of last visit*	85.3	4.7	9.9	74.5	15.3	10.2
Client assessment of clinic conditions (renovation, equipment, supplies) at time of last visit	55.1	11.4	33.5	63.0	14.1	23.0

* Statistically significant difference between intervention and comparison groups, $p < 0.05$

Client satisfaction in target and comparison facilities

Using the summative measures, the target and comparison respondents were generally similar in their satisfaction with their provider and aspects of the care at their last visit, but when assessing satisfaction with the overall care received the observed difference was statistically significant: 71.5% of respondents from the intervention group and 77.8% from the comparison group rated it as excellent or good; the intervention group was more likely to rate it as excellent, while the comparison group was more likely to rate it as good (Table 5).

Table 5. Satisfaction with care by target and comparison facilities

	Intervention	Comparison
<i>Satisfaction with provider</i>		
Satisfied (%)	89.3	85.0
Score: mean	1.8	1.7
Standard deviation	0.3	0.3
<i>Satisfaction with aspects of care</i>		
Satisfied (%)	65.1	57.1
Score: mean	1.6	1.5
Standard deviation	0.4	0.3
<i>Overall assessment of care received (%)*</i>		
Excellent	45.8	32.6
Good	25.7	45.2
Fair	26.8	22.2
Poor	1.7	0.0

* Statistically significant difference, $p < 0.05$

Client satisfaction in relation to demographic characteristics

The M&E team tabulated client satisfaction with specific aspects of their care by respondent demographic characteristics. As Table 6 shows, no significant associations were found between the levels of satisfaction and age or gender of respondents. Respondent education, however, was significantly positively associated with satisfaction with aspects of their care. This association did not persist with respect to satisfaction with provider attitude or the overall assessment of the care received.

The association between satisfaction and living standards was highly significant, with better-off respondents being happier with the received care (Table 7). This relationship did not persist when using average monthly household income, despite a positive, but weak, correlation between living standards and household income. The income item had a low response rate (13.9% responding “don’t know”). This intentional omission by respondents might have contributed to the lack of observed relationship. This finding suggests that measures of living standards in Armenia are far more complex than summarized in simple measures of household income.

Differences were significant between satisfaction indicators by marz. Respondents from Ararat were less satisfied with care they received at their last visit to the PHC facility, including provider qualities, specific aspects of care, and overall assessment of the care received than those from Aragatsotn and Armavir (Table 8).

Table 6. Satisfaction with care, by respondent age, gender, and education

	Age		Gender		Education			
	Younger (<44)	Older (≥ 44)	Female	Male	School (<10 years)	School (10 years)	Professional technical (10-13 years)	Institute/ University or Postgraduate
Satisfaction with provider								
Satisfied (%)	87.4	87.6	87.8	86.6	90.7	84.9	84.7	93.5
Summative score, mean (SD)	1.8 (0.3)	1.8 (0.3)	1.8 (0.3)	1.7 (0.3)	1.8 (0.3)	1.8 (0.3)	1.7 (0.3)	1.8 (0.2)
Satisfaction with aspects of care								
Satisfied (%)	62.4	60.3	60.6	63.0	*48.9	*56.8	*64.1	*76.9
Summative score, mean (SD)	1.5 (0.4)	1.5 (0.3)	1.6 (0.4)	1.5 (0.4)	*1.5 (0.4)	*1.5 (0.4)	*1.6 (0.4)	*1.7 (0.3)
Overall assessment of care (%)								
Excellent	42.3	38.3	38.9	43.0	37.5	37.5	42.3	42.9
Good	34.6	33.1	35.8	29.1	43.8	29.7	35.2	37.5
Fair	22.4	27.3	24.9	25.3	18.8	31.3	22.5	17.9
Poor	0.6	1.3	0.4	2.5	0.0	1.6	0.0	1.8

* Statistically significant difference, $p < 0.05$

Table 7. Satisfaction with care by living standards and household income

	Standard of living*			Average household income			
	Below average	Average	Above average	< 25,000 drams	25,000-50,000 drams	51,000-100,000 drams	≥ 101,000 drams
Satisfaction with provider							
Satisfied (%)	77.4	90.4	91.2	92.3	82.6	82.1	96.6
Summative score, mean (SD)	1.7 (0.3)	1.8 (0.3)	1.8 (0.2)	1.8 (0.2)	1.7 (0.3)	1.7 (0.4)	1.8 (0.2)
Satisfaction with aspects of care							
Satisfied (%)	46.7	65.1	71.0	61.0	57.5	65.6	65.5
Summative score, mean (SD)	1.4 (0.4)	1.6 (0.3)	1.6 (0.4)	1.5 (0.4)	1.5 (.3)	1.6 (0.4)	1.6 (0.4)
Overall assessment of the care received (%)							
Excellent	30.4	43.6	45.3	46.0	37.6	41.5	35.7
Good	32.9	34.5	34.4	31.0	34.1	35.4	32.1
Fair	34.2	21.8	18.8	21.8	28.2	23.1	28.6
Poor	2.5	0.0	1.6	1.1	0.0	0.0	3.6

* Statistically significant differences across all measures, $p < 0.05$

Table 8. Satisfaction with care by marz

	Aragatsotn	Ararat	Armavir
Satisfaction with provider (n)*			
Satisfied (%)	95.0	71.4	92.3
Summative score, mean (SD)	1.8 (0.2)	1.6 (0.4)	1.8 (0.3)
Satisfaction with aspects of care (n)*			
Satisfied (%)	65.7	44.7	74.0
Summative score, mean (SD)	1.6 (0.3)	1.4 (0.4)	1.6 (0.3)
Overall assessment of the care received (%)*			
Excellent	47.6	25.8	43.4
Good	35.2	35.5	30.3
Fair	17.2	38.7	22.4
Poor	0.0	0.0	3.9

* Statistically significant difference, $p < 0.01$ (one way ANOVA)

Client suggestions to improve care

Respondents indicated their top 3 suggestions for improving clinic services (from a pre-set list of options). Table 9 shows the distribution of responses. Increasing free drug supplies was the most frequently mentioned suggestion in both groups (about 61%), followed by increasing the salaries of providers (43.5% in the intervention and 37.7% in the comparison groups), and buying necessary equipment (37.6% and 39.1%, respectively). The only statistically significant difference among the two groups was the frequency of suggesting increasing the facility's space (41.4% - intervention group, 24.6% - comparison group), perhaps indirectly validating the selection of the intervention facilities for the project.

Table 9. Client suggestions to improve care

Most important measures to improve PHC services	Intervention (%) (n=194)	Comparison (%) (n=139)
1. Increase free of charge drug supplies	60.8	60.9
2. Increase salary of providers	43.5	37.7
3. Buy necessary equipment	37.6	39.1
4. Increase facility space*	41.4	24.6
5. Improve hygiene/cleanness	24.7	23.9
6. Increase professional level of providers	24.2	21.0
7. Make doctor regularly available	21.5	23.2
8. Provide a telephone to the facility	20.4	24.6
9. Increase the frequency of home visits	15.6	19.7
10. Eliminate informal payments	6.5	13.0
11. Involve community in supervision	7.5	6.6
12. Increase working hours of the clinic	5.9	5.1
13. Supervise providers	4.8	3.6
14. Other: build a FAP in Miraq village ¹	0.0	5.8

* Statistically significant difference, $p < 0.05$

¹ Miraq village does not have a FAP; the village nurse works from home.

4. Conclusions and Recommendations

Several significant findings with implications for guiding further development of the PHCR Project and its evaluation emerged from this assessment:

Clients are satisfied with their health care. Nearly 71.5% of clients of target facilities and 77.8% of clients of comparison facilities felt that the care they received was good or excellent. The distribution of “excellent” and “good” ratings, however, was different with significantly more “excellent” ratings in the intervention group (45.8% vs. 32.6%).

Clients are satisfied with provider interactions. Approximately 89.3% of respondents from the target and 85.0% from the comparison facilities were satisfied with the provider’s attitude and care during their last visit to a PHC facility.

At baseline, the intervention and comparison groups are comparable across most measures. No statistically significant differences were found between intervention and comparison groups in terms of satisfaction with aspects of care (other than provider qualities), although the proportion of those satisfied with this was somewhat higher in the intervention group (65.1% versus 57.1%).

Education and satisfaction with care are positively associated. A significant positive association was observed between respondents’ educational level and their satisfaction with aspects of care (other than provider qualities).

Standard of living and satisfaction with care are positively associated. A significant positive association was found between respondents’ perceived standard of living and all aspects of satisfaction with care.

Differences exist across marzes. Ararat respondents were generally less satisfied with care than those from Armavir and Aragatsotn.

Access issues remain important. Increasing free drug supplies, increasing salaries of providers, and buying necessary equipment were the most frequent suggestions made by respondents for improving care in PHC facilities.

Appendix 1. Survey Instrument

Facility Code _____

Date: ____/____/____
Day Month Year

Dear client,

Primary Health Care Reform Project conducts this survey together with the Ministry of Health with the aim to assess the quality of primary health care (PHC) services in your residency area. We need your help to understand how to improve the primary health care for your community. Your address was selected randomly from the list of people who visited your primary health care facility recently. The healthcare providers of that facility know about this survey and support it. However, your participation in this study is voluntary and the information you give us will be confidential, which means that your name will not be mentioned anywhere and the information provided by you will be presented only in a summarized form. It is very important that you respond honestly. Please, carefully read each question and the possible responses. Choose and mark () the response option that best represents your opinion about the last visit to the polyclinic (ambulatory, FAP) made during the last month by you, your child or a household member whom you accompanied. Please, note, if you accompanied a household member, the questions concerning care refer to the care provided to that person.

Please, respond to the questions starting from the next page.

Client Satisfaction Survey

1. Do you think that during your last visit to the clinic, the provider (doctor or nurse):

- | | | | |
|---|-------|------------------|------|
| 1. Was really attentive to you? | 1.Yes | 2.To some extent | 3.No |
| 2. Appeared to enjoy caring for you? | 1.Yes | 2.To some extent | 3.No |
| 3. Seemed impatient? | 1.Yes | 2.To some extent | 3.No |
| 4. Gave complete explanations? | 1.Yes | 2.To some extent | 3.No |
| 5. Talked down to you? | 1.Yes | 2.To some extent | 3.No |
| 6. Was not enough thorough? | 1.Yes | 2.To some extent | 3.No |
| 7. Considered your preferences regarding your care? | 1.Yes | 2.To some extent | 3.No |
| 8. Understood you when you shared your problems? | 1.Yes | 2.To some extent | 3.No |
| 9. Seemed disorganized and flustered? | 1.Yes | 2.To some extent | 3.No |
| 10. Appeared to be skillful? | 1.Yes | 2.To some extent | 3.No |
| 11. Treated you with respect? | 1.Yes | 2.To some extent | 3.No |
| 12. Explained things in an understandable manner? | 1.Yes | 2.To some extent | 3.No |
| 13. Made you to feel free to ask questions? | 1.Yes | 2.To some extent | 3.No |
| 14. Helped you to understand your illness? | 1.Yes | 2.To some extent | 3.No |
| 15. Discussed with you the treatment options? | 1.Yes | 2.To some extent | 3.No |

2. Was the following true for your last visit to the clinic?

- | | | |
|---|--------|-------|
| 1. You had to wait too long before receiving care. | 1. Yes | 2. No |
| 2. It was difficult for you to make an appointment with the provider. | 1. Yes | 2. No |
| 3. People unrelated to you were present during your visit. | 1. Yes | 2. No |
| 4. You received health educational materials for reading. | 1. Yes | 2. No |
| 5. You paid the doctor (or nurse) for the care you received. | 1. Yes | 2. No |

3. Do you think the information you shared about yourself with the provider will be kept confidential? 1. Yes 2. No 99. Don't know

4. Could you get all the medicines prescribed during your last visit?
 1. Yes 2. No 3.No medicine was prescribed

5. Did you receive free of charge or discounted medicine during your last visit?
 1. Yes 2. No 3. There was no need

6. How would you assess the cleanness of the clinic at the time of your last visit?
 1. Satisfactory 2. Unsatisfactory 99. Don't know

7. How would you assess the clinic conditions (renovation, equipment, supplies) at the time of your last visit? 1. Satisfactory 2. Unsatisfactory 99. Don't know

8. Would you again refer to the same provider if you had a similar problem?
 1. Yes 2. No 99. Don't know

9. Would you recommend the same provider to your friends and relatives?
 1. Yes 2. No 99. Don't know

10. Overall, how would you assess the care you received in the clinic during your last visit?

1. Excellent 2. Good 3. Fair 4. Poor

11. Out of the following, what three measures would you consider the most important to make the services at the clinic better? (*please, mention no more than three options*)

- | | |
|---|---|
| 1. Increase facility space | 8. Supervise providers |
| 2. Improve hygiene/cleanliness | 9. Increase working hours of the clinic |
| 3. Increase free of charge drug supplies | 10. Involve community in supervision |
| 4. Buy necessary equipment | 11. Increase the frequency of home visits |
| 5. Make doctor regularly available | 12. Provide a telephone to the facility |
| 6. Increase salary of providers | 13. Eliminate informal payments |
| 7. Increase professional level of providers | 14. Other (<i>specify</i>)_____ |

12. How long did you wait at your PHC facility to see the provider at your last visit?
_____minutes

13. What was the reason for your last visit to the primary healthcare facility?
(*Please describe*) _____

14. Have you visited or do you plan to visit another facility for the same problem, because you were unsatisfied with the services you received during your last visit?
1. Yes 2. No

15. Please, indicate your: a. Age: _____

b. Gender: 1. Female 2. Male

c. The highest level of education you completed:

1. School (less than 10 years)
2. School (10 years)
3. Professional technical education (10-13 years)
4. Institute/University or Postgraduate

d. Your family's general standard of living:

1. Substantially below average
2. Little below average
3. Average
4. Little above average
5. Substantially above average

e. Average monthly income of your household:

1. Less than 25,000 drams
2. 25,000 – 50,000 drams
3. 51,000-100,000 drams
4. 101,000-250,000 drams
5. More than 250,000 drams
99. Don't know

f. How many people live in your household (including children)? _____ people

Health Knowledge, Attitude, & Practice Survey

The following questions assess your attitudes about several health-related issues. Your answers will help us to better organize and evaluate health education activities in your community. Thanks in advance.

For each statement given, please indicate whether you think it is true or false.

1. For the first six months of life, a baby does not need any food or drink except breast milk.	1. True	2. False	3. Don't know
2. It is in child's best interest to be breastfed into the second year of his life.	1. True	2. False	3. Don't know
3. Heavily dressing a child is a better way to prevent him from getting whooping cough than vaccination.	1. True	2. False	3. Don't know
4. A child less than 4 years old should not be allowed to play with items smaller than his fist or toys with components that can easily come loose.	1. True	2. False	3. Don't know
5. When a child has diarrhea, he/she should be given liquids more than he/she normally drinks.	1. True	2. False	3. Don't know
6. Home-canned food can be threatening for health.	1. True	2. False	3. Don't know
7. Fried food is healthier than baked food.	1. True	2. False	3. Don't know
8. Excessive use of coffee cannot increase the risk of bone fractures.	1. True	2. False	3. Don't know
9. Obesity does not contribute to the onset of adults' (type II) diabetes.	1. True	2. False	3. Don't know
10. Frequent urination or excessive urine volume is not a sign of diabetes.	1. True	2. False	3. Don't know
11. At its early stages, high blood pressure (hypertension) does not cause any noticeable symptoms.	1. True	2. False	3. Don't know
12. Profuse night sweating could be a sign of tuberculosis.	1. True	2. False	3. Don't know
13. Urinary tract infections are more frequent in boys than in girls.	1. True	2. False	3. Don't know
14. Contraceptive pills protect from sexually transmitted diseases.	1. True	2. False	3. Don't know
15. Condoms can be re-used.	1. True	2. False	3. Don't know
16. A person is at risk of contracting Human Immunodeficiency Virus if he is given an injection with an unsterilized needle.	1. True	2. False	3. Don't know

