USAID
FROM THE AMERICAN PEOPLE

PHCR
Primary Healthcare Reform Project

FACILITY RESOURCE ASSESSMENT

FOLLOW-UP ASSESSMENT OF TARGETED PRIMARY HEALTH CARE FACILITIES IN LORI AND SHIRAK MARZES 2008

December, 2008

FACILITY RESOURCE ASSESSMENT SURVEY

FOLLOW-UP ASSESSMENT OF TARGETED PRIMARY HEALTH CARE FACILITIES IN LORI AND SHIRAK MARZES

2008

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 PHCR'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 follow-up facility resource assessment of targeted primary healthcare facilities in Lori and Shirak marzes (Zone 1). This follow-up assessment evaluates the project impact in Zone 1 through comparisons of selected facility-level physical and human resource indicators against the baseline dataset from 2006.

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. We would also like to thank Dr. Hripsime Martirosyan and Ms. Nune Truzyan for their valuable contribution to 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.

We trust that the findings of this study will be of value, both in improving health outcomes through more informed decision-making and in designing new projects. 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.

Richard A. Yoder, PhD, MPH
Chief of Party
Primary Healthcare Reform Project

Table of contents

Preface ..... **ii**
List of Acronyms ..... **iv**
1. Introduction **1**
2. Methods **2**
3. Results **4**
3.1 Structure, resources, personnel 4
3.2 Family medicine 6
3.3 Open enrollment, financing, and management 10
3.4 Public education 15
3.5 Main findings 18
Appendix 1. PHCR, Resource assessment tool for PHC facilities **21**
Appendix 2. Lists of furniture & equipment provided to targeted facilities **35**
Appendix 3. Per-facility summary scores for physical conditions, equipment & furniture **36**

List of Acronyms

AUA	American University of Armenia
AIDS	Acquired Immune Deficiency Syndrome
AIHA	American International Health Alliance
ARCS	Armenian Red Cross Society
ARI	Acute Respiratory Illnesses
ASTP	Armenian Social Transition Program
BBP	Basic Benefits Package
BMC	Basic Medical College
CHC	Community Health Committee
CHD	Coronary Heart Disease
CHSR	AUA Center for Health Services Research and Development
DMTA	Drug and Medical Technology Agency
DOTs	Directly Observed Treatment Short Course
EBM	Evidence-Based Medicine
EMG	Emerging Markets Group
FAP	Rural Health Post (from Russian abbreviation)
FM	Family Medicine
FN	Family Nursing
GP	General Practice
HC	Health Center
HIV	Human Immunodeficiency Virus
ICCO	International Child's Care Organization
IIZDW	The Institute of International Cooperation of the Consortium of German Peoples
IMCI	Integrated Management of Childhood Illnesses
IRD	International Relief and Development
JMF	Jinishian Memorial Foundation
MA	Medical Ambulatory
M&E	Monitoring and Evaluation
MOH	Ministry of Health
MSF	Medicines sans Frontiers
NIH	National Institute of Health
NOVA	Strengthening Reproductive and Child Health Care Services in Rural Areas (from Armenian abbreviation)
OSI	Open Society Institute
PC	Polyclinic
PHC	Primary Health Care
PHCR	Primary Health Care Reform
PMP	Performance Monitoring Plan
RA	Republic of Armenia
SHA	State Health Administration
STDs	Sexually Transmitted Diseases
SVA	Rural Medical Ambulatory (from Russian abbreviation)
UMCOR	United Methodist Committee of Relief
UN	United Nations
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WB	World Bank
WHO	World Health Organization
WV	World Vision
YSMU	Yerevan State Medical University

1. Introduction

1.1 PHCR Project Overview: The United States Agency for International Development (USAID) awarded Emerging Markets Group (EMG), an international consulting firm, a five-year contract to run the Primary Health Care Reform (PHCR) Project in Armenia. The primary goal of the Project is to improve population access to quality primary healthcare services through strengthening Primary Health Care (PHC) facilities and family medicine providers, on one hand, and improving public health awareness, health-seeking behavior, and competent demand for PHC services, on the other. The six main components of PHCR project are run in partnership with IntraHealth International Inc., American University of Armenia, Overseas Strategic Consulting, Ltd., and Social Sectors Development Strategies, 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
- **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 healthy lifestyle and health-seeking behavior.

The project utilizes a regional scale-up approach, which allows for the zonal expansion of the reforms throughout the country over the life of the project. While applying this approach, the project primarily focuses on upgrading physical conditions and enhancing delivery of care in selected facilities in each zone, overall targeting approximately three hundred facilities throughout Armenia. The project targeted Shirak and Lori marzes for the first two years (2006-2008) of its implementation.

The project conducted several activities in its target facilities, including renovation, furnishing, and provision of equipment, as well as training of medical and administrative staff in family medicine, quality of care, management, financing/accounting, implementation of software for accounting and open enrollment. Selected communities served by the targeted facilities also became targets, particularly, for the public education component of the PHCR project in terms of getting involved in establishing and running Community Health Committees, utilizing small grant projects. However, not all selected facilities were targeted for all types of activities: different sets of activities were implemented in different facilities, based on local needs and priorities.

1.2 PHCR Project Monitoring & Evaluation Plan: The following assessments are being conducted throughout the project to monitor its implementation and evaluate its impact:

1) Baseline assessments, including:

- Facility level assessments in target facilities at the start of the project activities in each marz. These include: 1) Facility resource assessment covering structural indicators for all project components, with some of them being Performance Management Plan (PMP) indicators; 2) Facility performance assessment covering performance of facility and providers which could serve as a basis for measuring improvement in quality of care;
- Population-based assessments. These include: 1) Client satisfaction survey; 2) KAP survey covering the health information topics provided to selected communities by the PHCR project through Community Health Committees (CHC); 3) Countrywide household health survey covering main health outcome measures of the population including perceived health status, health dynamics, use of early diagnostics and preventive services, accessibility and perceived quality of care, and exposure to/attitude towards activities implemented by the PHCR project.

2) Intermediate and final assessments, including:
   - Repeating the facility level assessments mentioned above upon completion of the project activities in target facilities of each marz.
   - Repeating the population-based assessments upon completion of the project activities in target marzes (for client satisfaction and KAP surveys) and countrywide (for the household health survey) covering all the areas mentioned in the baseline surveys.

This report summarizes the data on follow-up facility resource assessment conducted in facilities targeted by the PHCR project in Lori and Shirak marzes. This assessment evaluates the project's impact on targeted PHC facilities in the first zone.

2. Methods

The PHCR Project staff and corresponding marz health department staff jointly selected target facilities in Zone 1 (Lori and Shirak marzes), where the project activities were implemented from 2006 through 2008. PHCR implemented the following activities in the targeted facilities and their communities:

1) Renovation of PHC facilities
2) Provision of basic furniture, medical equipment and supplies
3) Training of rural nurses in family and community nursing
4) Establishment of Community Health Committees (CHCs) in rural communities to provide preventive and promotional health education to the members of communities
5) Distribution of health education materials (including TV and radio announcements, posters, and leaflets, to boost awareness of PHC reforms and services and selected health issues
6) Training of facility managers (referral facilities) in PHC reforms, strategic planning, financial management, human resource management, labor legislation, and quality of care basics
7) Training of facility chief accountants and accountants in accounting standards, cost accounting, tax legislation, as well as in use of computerized accounting software.

During 2006-2008, the PHCR Project also implemented several nationwide activities. These activities addressed efforts to shift to an open enrollment-based PHC model and to strengthen the financing of the facilities through performance-based payment and enrollment-based financing. Activities included providing requisite hardware and software to all higher-level PHC facilities (medical ambulatories (MAs), health centers (HCs), and polyclinics (PCs)) and trainings of the relevant staff (e.g., operators, and accountants).

The PHCR Monitoring and Evaluation (M&E) team conducted two types of assessments in the selected facilities: facility resource assessment and facility/provider performance assessment.

Facility resource assessment instrument. Unlike the baseline assessment in Zone 1, a single instrument was used to conduct the resource assessment of all types of facilities (FAPs, ambulatories, health centers, and polyclinics) at follow-up. This instrument combined all specific features of the initial two instruments (for FAPs/ambulatories and for health centers/polyclinics) used in Zone 1 (Appendix 1).

The facility resource assessment instrument addressed the following domains:

- Facility status & resources, including staff, rooms, renovation status, water supply & sewage system, electricity & heating, equipment & furniture
- Status in PHCR project focal areas, including resources and potential for family medicine, quality of care, open enrollment, financing/management, and public education; and
- Select health indicators of the population served.

Sample. A total of 61 PHC facilities were-assessed during May 2008 (30 facilities in Lori marz and 31 facilities in Shirak marz). Three sites were dropped following the baseline: two (Shirak FAP and Jrapi FAP) had been excluded from the project target sites and one (Stepanavan PC) was excluded, as it was no longer considered the referral site for the targeted FAP (Urasar). Table 1 presents the list of target and referral facilities in Lori and Shirak marzes included in this assessment.

Table 1. PHCR project target facilities in Shirak and Lori

	FAPs selected for renovation in Shirak marz	**Network centers for renovation sites in Shirak marz**
1.	Anushavan	22. Panik HC
2.	Meghrashen†	
3.	Kamo	23. Jajur amb.
4.	Kaps†	24. Marmashen amb.
5.	Vardaqar†	25. Horom amb.
6.	Lusakert†	
7.	Hovit†	26. Akhuryan polyclin.
8.	Aygabats†	
9.	Karnut†	
10.	Hovuni†	27. Mayisyan amb.
11.	Arapi†	28. Akhurik amb.
12.	Bayandur	
13.	Voskehask†	
14.	Baghravan†	29. Anipemza HC
15.	Isahakyan	30. Aghin HC
16.	Shirakavan	
17.	Lusaghbyur	
18.	Garnaritch†	31. Amasia HC
19.	Aregnadem†	
20.	Gtashen	
21.	Bandivan	

† *Community Health Committee was established*

	FAPs selected for renovation in Lori marz	**Network centers for renovation sites in Lori marz**
1.	Shamut	22. Dsegh HC
2.	Lorut	
3.	Dzoragyugh†	23. Vahagni HC
4.	Fioletovo	24. Maragahovit HC
5.	Lermontovo†	
6.	Ghursal	Spitak polyclinic*
7.	Lernantsk	
8.	Haghpat†	25. Alaverdi polyclinic
9.	Jiliza	
10.	Khnkoyan†	26. Mets Parni HC
11.	Lusaghbyur†	
12.	Sarahart†	
13.	Lernahovit	27. Tashir polyclinic
14.	Medovka	
15.	Novoseltsevo	
16.	Saramedj†	28. Jrashen amb.
17.	Teghut†	29. Shnogh amb.
18.	Urasar	30. Katnaghbyur amb.
PCs/MAs selected for renovation in Lori marz		
19.	Spitak Polyclinic	
20.	Tumanyan amb.	
21.	Lernapat amb.	

** Selected also as a renovation site*

Logistics. During a two-day workshop, the M&E team trained interviewers to consistently and effectively implement the facility resource assessment and facility/provider performance assessment survey protocols. Three interviewers in Lori marz and three interviewers in Shirak (all local physicians, five of whom had also implemented the baseline assessment) were (re)trained. Locally hired drivers took the interviewers to the selected facilities. The fieldwork lasted approximately five weeks (started on April 29 and finished in the last week of May 2008). The M&E team conducted periodic spot-checks of the interview process to assure compliance with the survey protocol.

Analysis. The data entry team of AUA Center for Health Services Research and Development (CHSR) coded responses into computer databases using SPSS 11.0 software. The M&E team used the paired sample t-test (continuous data) and the Wilcoxon Signed Ranks Test (proportions) to evaluate pre-post comparisons.

3. Results

The PHCR Project had renovated 18 FAPs, 2 ambulatories and one polyclinic in Lori marz and 21 FAPs in Shirak marz. Renovated FAPs were also provided furniture and medical equipment (see Appendix 2) and public educational materials (covering the topics on family medicine, open enrollment, and BBP, healthy bones, diabetes, hypertension, child care and nutrition, urinary tract infections, tuberculosis, prevention of sexually transmitted diseases, and reproductive health). In addition, one nurse per FAP was trained in Family and Community Nursing (a 6.5-month certification course). In select communities, Community Health Committees were established (see Table 1).

PHCR Project interventions in referral-level PHC facilities included staff training on financing, management, and clinical topics, introduction of computerized accounting and open enrollment systems, and provision of medical equipment.

This chapter presents the results of the 2008 follow-up facility resources assessment (including both material and human resources) as compared to the 2006 baseline assessment that was conducted prior to the PHCR Project launch.

3.1 Structure, resources, personnel

Staff: At follow-up, the mean number of employees was 1.2 for FAPs, 10.0 for MAs, 17.4 for HCs, and 77.3 for PCs. While the staffing levels were not significantly different from that at baseline, MAs showed an increase in total mean number of employees (from 8.5 to 10.0) while HCs - a decline (from 20.9 to 17.4). The mean number of nurses and doctors providing PHC services in the assessed facilities also remained unchanged. Significant changes occurred in the number of family nurses employed in FAPs (absolute numbers: from 0 to 40, mean number: from 0 to 1.0, p=0.000) and in the number of family physicians employed in the referral level PHC facilities (absolute numbers: from 19 to 38, mean number: from 0.9 to 1.7, p=0.000) (Table 2).

Table 2. Total number of PHC providers in the assessed facilities by training/specialization

	Family physicians*	GPs and internists	Pediatri-cians	Midwives & feldshers	Internist & pediatric nurses	Family nurses*	Total physicians	Total nurses
2006	19	40	27	20	117	21	86	158
2008	38	28	21	30	40	87	87	157

*p=.000

Physical Conditions. Based on the following criteria the M&E team constructed a cumulative score reflecting the physical condition of the facilities: examination/procedure room size, lighting, and renovation status. For room size, a full score of 1 was assigned if the room was at least 4*3 meters, its renovation status was subjectively assessed as satisfactory, and lighting was deemed appropriate (e.g., the room had window(s) with a glass surface not less than a tenth of the room's area) in at least one room in a FAP or at least one room per PHC doctor in a higher-level facility. If the criteria had been partially met and the renovation status was satisfactory, a half score was assigned. A zero was assigned if the facility needed renovation.

For all the assessed facilities, the mean cumulative score for physical conditions was 0.24 at baseline and 0.86 at follow-up (p=0.000). This increase was particularly evident for FAPs (from 0.13 to 0.96). For MAs, the increase in physical condition score was more modest, but still significant (from 0.35 to 0.75, p=0.022). A slight (insignificant) increase was observed for HCs (from 0.50 to 0.75) and a slight (insignificant) decrease was observed for PCs (from 0.50 to 0.38). Appendix 3 provides the per-facility summary of renovation scores.

Water supply/sewage system. At baseline, 68.9% of the assessed facilities (of which, 92.3% of FAPs and 40.0% of MAs) had no piped water supply. This proportion decreased somewhat at follow-up: no piped water supply was documented in 59.0% of the facilities (of which, 82.1% of FAPs and 20.0% of MAs). However, this difference only approached statistical significance (p=0.058). The mean daily duration of water supply was 5.3 hours in 2006 and 8.0 hours in 2008 (p=0.021) among all facilities. In facilities with piped water supply, the mean daily duration of the water supply was 17.0 hours (range: 1.0-24.0) at baseline and 19.6 hours (range: 3.0-24.0) at follow-up. Among the 39 FAPs, only 4 (10.5%) reported having a sink with running water in 2006 and 14 (35.9%) in 2008. The observed increase was significant (p=0.013). After the baseline, 4 FAPs constructed sewage systems increasing the proportion of FAPs with a sewage system from 12.8% to 23.1%. Due to this, among all facilities, the proportion of those with sewage system increased from 36.1% to 42.6%.

Of the 39 FAPs, none had a functioning toilet or shower facility at baseline and only one had a functioning pit latrine. The situation had only marginally improved at follow-up with two FAPs having functioning toilets and two functioning pit latrines.

Of the 22 higher-level facilities, three (Horom MA, Anipemza HC, and Aghin HC in Shirak marz) had no functioning toilet, pit latrine, or shower at baseline. At follow-up, one of these three (Agin HC) obtained functioning toilets, but another higher-level facility (Katnaghbyur in Lori marz) joined the first two in terms of being lacking of these commodities. The mean number of functioning toilets/pit latrines per facility was 2.8 in 2006 and 3.1 in 2008. Five facilities had functioning showers at baseline and at follow-up; however, the mean number of functioning shower stations decreased from 0.73 to 0.45.

Electricity, heating. Twenty-four hour electricity was available to 28 FAPs (73.7%) in 2006. This rate increased in 2008 to 36 FAPs (92.3%). The difference was statistically significant (p=0.035). However, three FAPs (Bandivan and Gtashen in Shirak and Lernancq in Lori) and one MA (Katnaghbyur in Lori marz) reported no electricity supply at follow-up.

At baseline, 12 facilities (11 FAPs and one MA) reported having no heating during winter. At follow-up, this number decreased to four (Bandivan and Gtashen FAPs in Shirak and Lernancq and Shamut FAPs in Lori). This difference was significant (p=0.007). The mean number of rooms heated during winter was 1.9 in 2006 and 4.4 in 2008 (p=0.002). This pattern was true for all facility types: from 0.7 to 1.1 for FAPs, from 3.4 to 4.6 for MAs, from 2.1 to 6.3 for HCs, and from 8.3 to 30.8 for PCs. Portable electric heaters were used primarily at follow-up, reflecting a decrease in usage of room heaters with flue.

Furniture & equipment. Summative furnishing and equipment scores were calculated for each facility to assist in making baseline/follow-up comparisons. The M&E team constructed variables to reflect the total number of functional units of each of 12 types of furniture and 70 types of equipment in each facility on a per-provider basis (per-nurse for FAPs and per-PHC doctor for higher-level facilities). This per-provider number, by equipment/furniture type, was then compared to an established norm (developed with PHCR Project's Family Medicine team). A score of "1" was assigned if the normative quantity for the given type was met and a "0" if unmet. These values were then summed and converted to a percentage score (out of 12 for furniture and out of 70 for equipment).

Appendix 3 provides per-facility summaries of equipment and furniture scores. The mean furniture score was 35.9% at baseline and 64.8% at follow-up (p=0.000). The mean equipment score was 37.0% at baseline and 45.3% at follow-up (p=0.000). Comparisons by facility-type showed that furnishing and equipment status had improved considerably in FAPs and MAs, while no improvement was observed in higher-level facilities (Table 3). Note that HCs and MAs had the highest scores at baseline, while FAPs and polyclinics the lowest. At follow-up, the situation at FAPs had improved significantly, while at polyclinics had declined.

Table 3. Cumulative mean furniture and equipment scores per facility type, 2006 vs. 2008

Type of facility	Furniture scores (%)		Equipment scores (%)	
	2006	2008	2006	2008
FAPs (n=39)	23.3	65.6*	26.9	40.0*
MAs (n=10)	62.5	80.0	63.9	76.6**
HCs (n=8)	62.5	64.6	62.1	62.9
PCs (n=4)	39.6	18.6	18.2	13.6
All facilities (n=61)	35.9	64.8**	37.0	45.3**

**The observed difference is significant, p<.001*

***The observed difference is significant, p<0.05*

3.2 Family medicine

Clinical trainings. In 2006, 31.3% (27) of all PHC physicians (n=86) employed in the assessed 61 facilities had been educated at the National Institute of Health (NIH) or Yerevan State Medical University (YSMU) within the last 5 years; 32.6% (28) expressed willingness to receive Family Medicine (FM) education or were in the process of receiving it. In 2008, 83.9% (73) of all PHC physicians employed in the assessed facilities had completed FM training at NIH / YSMU. At baseline, 34.2% (54) of nurses (n=158) in the assessed facilities had been educated in Family

Nursing (FN) at NIH or the Basic Medical College (BMC) within the last 5 years; 41.1% (65) were willing or were in the process of receiving it. In 2008, 64.1% (100) of these nurses (n=156) had been educated in FN at NIH / BMC.

The clinical staff members also were asked if they had received short-term clinical trainings on any of the following topics: first aid, immunization, breastfeeding, sexually transmitted diseases (STDs), reproductive health, integrated management of childhood diseases (IMCI), tuberculosis, healthy lifestyle, and child growth and development within the last 5 years. These topics were selected because they addressed prevalent conditions in PHC and had been the subject of numerous training programs. Information also was gathered about training on topics specifically addressed by the PHCR Project: treatment of chronic conditions (e.g., CHD, diabetes, chronic pain) and prevention of infections. Table 4 shows the distribution of trainings attended by provider type and topic.

Table 4. PHC nurses and doctors recent short-term trainings by topic, 2006 and 2008

Topics	Nurses				Physicians			
	2006 (n=158)		2008 (n=156)		2006 (n=86)		2008 (n=87)	
	n	%	n	%	n	%	n	%
1.First aid	51	32.3	37	23.7	16	18.6	16	18.4
2.Immunization	57	36.1	64	41.0	32	37.2	38	43.7
3.Breastfeeding	68	43.0	69	44.2	28	32.6	27	31.0
4.Sexually Transmitted Diseases	35	22.2	36	23.1	16	18.6	18	20.7
5.Reproductive Health	47	29.7	34	21.8	9	10.5	16	18.4
6.IMCI	29	18.4	58	37.2	15	17.4	33	37.9
7.Tuberculosis	6	3.8	11	7.1	4	4.7	4	4.6
8.Healthy lifestyle	30	19.0	36	23.1	9	10.5	15	17.2
9.Healthy child growth & development	46	29.1	50	32.1	18	20.9	36	41.4
10.Treatment of chronic conditions (CHD, diabetes)	4	2.5	22	14.1	0	0.0	33	37.9
11.Prevention of infections	9	5.7	22	14.1	5	5.8	19	21.8
Total number of trainings	**382**		**439**		**152**		**255**	
Mean % having completed any training		**22.0**		**25.6**		**16.0**		**26.8**

Table 4a. FAP nurses short-term trainings by topic, 2006 and 2008

Topics	FAP Nurses			
	2006 (n=47)		2008 (n=46)	
	n	%	n	%
1.First aid	14	29.8	21	45.7
2.Immunization	32	68.1	31	67.4
3.Breastfeeding	30	63.8	35	76.1
4.Sexually Transmitted Diseases	24	51.1	25	54.3
5.Reproductive Health	28	59.6	23	50.0
6.IMCI	20	42.6	31	67.4
7.Tuberculosis	2	4.3	8	17.4
8.Healthy lifestyle	16	34.0	17	37.0
9.Healthy child growth & development	29	61.7	22	47.8
10.Treatment of chronic conditions (CHD, diabetes)	0	0.0	10	21.7

Topics	FAP Nurses			
	2006 (n=47)		2008 (n=46)	
	n	%	n	%
11.Prevention of infections	1	2.1	8	17.4
Total number of trainings	**196**		**231**	
Mean % having completed any training		**37.9**		**45.7**

As shown in Table 4, the proportion having received training on IMCI, treatment of chronic conditions, healthy child's growth and development, and prevention of infections had increased considerably. The mean proportion of PHC nurses having completed training on any of these topics in the past 5 years was 22.0% at baseline and 25.6% at follow-up. FAP nurses, as a group, had higher coverage: 37.9% at baseline and 45.7% at follow-up (Table 4a). PHC doctors showed more improvement, increasing from 16.0% at baseline to 26.8% at follow-up.

At follow-up, the participants mentioned the following organizations as providers of trainings: Armenian Red Cross Society, USAID, and NIH for first aid; UNICEF for immunization; UNICEF, Prime, and NOVA/USAID for breastfeeding; NOVA/USAID and Prime for reproductive health; MSF, NOVA/USAID, and Prime for STDs; UNICEF and NOVA/USAID for IMCI; USAID and UNICEF for tuberculosis; PHCR/USAID for healthy lifestyle; UNICEF and NOVA/USAID for healthy child growth and development; and PHCR/USAID and NIH for treatment of chronic conditions and prevention of infections.

Clinical Practice Guidelines. In 2006, World Bank (WB)-developed clinical practice guidelines for family doctors were present in all higher-level facilities except Katnakhbyur MA. Of these facilities, all but Shnogh MA had the full set of these guidelines (at that time 15 volumes). At follow-up, all but Katnaghbyur MA had the 15-volume set of guidelines and most (66.7%) also had the additional 4 volumes (19 volumes in total). On average, 71.8% of the doctors employed in these facilities possessed a personal set of these guidelines in 2006. This proportion was not significantly different in 2008 (74.7%).

In 2006, the full set (at that time, 5 volumes) of the World Bank-developed clinical guidelines for family nurses was available in 16 higher-level facilities and in one FAP. In 2008, the full set (5-7 volumes) of these guidelines was present in 15 higher-level facilities and 5 FAPs. Another five FAPs possessed partial sets of these guidelines (1 to 4 volumes). Approximately half of the nurses employed in these facilities had personal sets of these guidelines (54.1% in 2006 and 59.1% in 2008).

Other clinical practice guidelines were typically found at the facilities. Many had been distributed in conjunction with short-term trainings (e.g., immunization, IMCI), including those distributed by Project NOVA (Clinical skills of mother and child care, Guideline for child and mother health care) and AECP (Eye diseases). The MOH had provided some facilities guidelines on PHC: Guideline for nurses providing primary health care; Guideline for doctors providing primary health care; Practical guideline for family nurses; and Principles of nursing. UNICEF had provided guidelines on antenatal care, child's primary health care, teenagers' health, and AIDs.

Table 5 summarizes facilities' access to evidence-based medicine (EBM) sources and to selected drug information sources in 2006 and 2008. The only significant change at follow-up was the increase in access to "Mashkovsky, Pharmaceuticals" drug information source at MAs, HCs, and PCs.

Table 5. Facility access to EBM & selected drug information sources, 2006 vs. 2008

	FAPs n=39 (%)		MAs, HCs, PCs n=22 (%)		All Facilities n=61 (%)	
	2006	**2008**	**2006**	**2008**	**2006**	**2008**
Internet	2.6	0.0	9.1	9.1	5.0	3.3
Medical Periodicals	21.1	35.9	72.7	77.3	40.0	50.8
Recent training materials	86.8	71.8	90.9	86.4	88.3	77.0
Newsletters	18.4	20.5	63.6	72.7	35.0	39.3
EBM publications	2.6	0.0	22.7	31.8	10.0	11.5
Medical books (published since 2000)	21.1	15.4	72.7	59.1	40.0	31.1
Mashkovski, Pharmaceuticals	0.0	0.0	31.8	63.6*	11.7	23.0*
Vidal, Drug Guide	0.0	0.0	36.4	40.9	13.3	14.8
Vidal, Drug Guide for Transcaucasus	0.0	0.0	68.2	72.7	25.0	26.2
Optimal Drug Treatment Guidelines, DMTA, RA	2.6	2.6	45.5	54.5	18.3	21.3
Armenian National Formulary	-	0.0	-	40.9	-	14.8

**Significant difference at p<.05 level*

Medical Recording. Table 6 demonstrates the data on medical recording for the whole sample and separately for FAPs, as they are the primary targets of the project.

Table 6. Existence, coverage, completeness, and types of record forms, 2006 vs. 2008

		Facilities using the form (%)		Mean coverage of population with the form (%)		Facilities where the form assessed as complete (%)		Facilities mainly using standard forms (%)	
		2006	**2008**	**2006**	**2008**	**2006**	**2008**	**2006**	**2008**
Medical chart, children	***All facilities***	100.0	98.4	99.4	94.4	91.4	63.9**	77.6	77.0
	FAPs	100.0	100.0	99.3	95.6	94.6	59.0**	73.0	79.5
Medical chart, adults	***All facilities***	83.6	62.3*	66.4	71.7	75.6	63.2	73.3	65.8
	FAPs	72.7	41.0*	55.2	65.4	65.2	43.8	69.6	62.5
Immunization forms	***All facilities***	93.1	98.4	95.4	99.2	98.1	95.0	90.0	96.7
	FAPs	92.1	100.0	96.3	99.5	97.1	94.9	90.3	97.4
Chart, pregnancy	***All facilities***	-	39.3	-	100.0	-	75.0	-	75.0
	FAPs	-	25.6	-	100.0	-	72.7	-	63.6
Journal, out-patient visits	***All facilities***	95.0	95.1			80.4	74.1		
	FAPs	94.7	94.9			80.0	73.0		
Journal, home visits	***All facilities***	81.0	65.6			78.7	62.5		
	FAPs	72.2	51.3			76.9	60.0		
Journal, am-bulance calls	***All facilities***	10.3	13.1			100.0	100.0		
	FAPs	2.7	0.0			100.0	-		

**Significant difference, p<.05 level*
***Significant difference, p<.001 level*

As shown in the table, availability and usage of standard medical chart forms for pediatric patients (<18 years old) was high at baseline and at follow-up. Completeness of these charts, however, decreased significantly from 2006 to 2008 (91.4% vs. 63.9%, p= 0.000). For adults (≥18 years old) medical charts were present at fewer facilities in 2008 compared to 2006 (62.3% vs. 83.6%, p=0.020). The same tendencies were found in FAPs (less complete charts for children and fewer facilities that use charts for adults). Immunization charts were widely used in all facilities and had high coverage and satisfactory completeness both in 2006 and 2008. Pregnancy charts were not assessed at baseline, but follow-up data show that few facilities use these forms. This likely reflects that pregnant women are still being referred to Ob/Gyns rather than managed at the family

practice level. No significant changes were detected in the usage or completeness of journals for outpatient visits. These journals existed in almost all facilities. The situation was worse with journals for home visits. Over one-third of the FAPs in 2006 and approximately half of them in 2008 did not use these journals. Wherever present, these journals were rated as incomplete more frequently at follow-up (although this increase was insignificant). Few facilities (and no FAPs) were using a journal for ambulance calls (Table 6).

Quality Assurance. In 2006, seven facilities (two FAPs and five higher-level facilities) reported having a quality assurance mechanism, although the description of these mechanisms ("checking the records regularly" or "reporting about the work done") often did not coincide with the conventional concept of a quality assurance system. In 2008, fewer facilities (four, all higher-level) reported the existence of a quality assurance mechanism, perhaps reflecting better understanding of this concept.

During the three months prior to the assessment, the mean number of supervisory visits made to FAPs was 2.6 in 2006 and 3.4 in 2008. The increase was statistically significant (p=0.015).

Technical capacity. At baseline, 14 facilities (4 MAs, 3 PCs, & 7 HCs) reported having functional computer(s). At follow-up, 21 facilities (all higher-level facilities except Katnakhbyur MA) reported having at least one functional computer. This increase was statistically significant (p=0.014). The mean number of functional computers per higher-level facility (MA, HC or PC) also increased significantly: from 0.7 to 2.3 (p=0.000). No FAPs reported having a computer either in 2006 or in 2008.

In 2006, eight facilities (2 MAs, 3 PCs & 3 HCs) reported having computer software for clinical data collection and analysis. The Armenian Social Transition Project (ASTP) had provided the software to four of them. The rest received it from the MOH or the Mergelyan Scientific Research Institute. In 2008, seven facilities (3 MAs and 4 HCs) reported having such software. The study participants listed the ASTP, MOH, Mergelyan Scientific Research Institute, USAID, and WB as providers of this software.

The number of clinical preceptors in the referral centers increased from 1 in 2006 to 8 in 2008. Clinical preceptor sites included Jrashen MA, Mayisyan MA (2 preceptors), Shnogh MA, Alaverdi PC, Tashir PC, Amasia HC, and Mets Parni HC.

3.3 Open enrollment, financing, and management

In 2006, only the ASTP pilot sites of Dsegh and Vahagni HCs and Tumanyan MA had software and trained operators to support open enrollment. Only these three facilities and the three FAPs included in the networks of these facilities (Dzoragyugh FAP in the network of Vahagni health center and Shamut and Lorut FAPs in the network of Dsegh health center) reported the number of people registered through open enrollment in their facilities during the past year (2005). In 2008, all the MAs, HCs, and PCs (except Katnakhbyur MA, which was under direct supervision of Stepanavan PC) reported having computer software and trained operators, with a mean number of 1.5 computers (ranging from 1 to 3) per facility supporting open enrollment. Since baseline, the number of trained operators in these facilities increased from 6 to 24. The number of people registered through open enrollment during the last year in these facilities increased from 9,046 at baseline to 110,794 at follow-up. The latter figure constitutes 84.0% of the population these facilities serve.

Of 22 higher-level facilities (MAs, HCs, PCs), seven reported regularly calculating the cost of services provided at their facility in 2006 and 11 reported doing so in 2008[1]. The main reason for not calculating these costs was that the State Health Agency (SHA) provides these calculations.

In 2006, only Tumanyan medical center and Vahagni health center (the pilot sites of the ASTP project) used accounting software. In 2008, 10 facilities (2 MAs, 1 PC[2], and 7 HCs) reported using accounting software. Five facilities received it from PHCR/USAID, 2 from ASTP, and 3 bought it themselves. Eight of these facilities used an Armenian software, one Softmaster, and one - other program (not specified).

At baseline, all the PCs, HCs, and MAs (except Katnaghbyur MA) considered it reasonable to introduce computer software for accounting in their facilities. At follow-up two facilities (Akhuryan PC and Anipemza HC) considered this unreasonable. All the higher-level facilities (except Katnakhbyur MA) reported having an accountant. In 17 facilities, the accountants were reported as qualified at baseline, although the study on "Financial accounting, financial reporting and costing needs assessment in target facilities of Zone 1" (see footnote 1) showed that only six of them had the professional qualification of accountant. At follow-up, the accountants of 15 of 19 facilities (except Mets Parni, Dsegh, Aghin HCs, and Marmashen MA) were reported by facility heads as qualified.

Table 7 summarizes the data on specific categories of trainings received by the accountants within the last 5 years and their training needs at both baseline and follow-up. At follow-up, only independent legal entities were asked these questions. Hence, 19 higher-level PHC facilities were surveyed (Katnaghbyur MA was excluded and Spitak and Tashir policlinics as they had merged with their regional hospitals). While still relatively low, the cumulative number of accountant trainings had increased from 41 to 59, and the mean percentage of those having received any training increased from 34.2% to 51.8%, with a corresponding decrease in the mean proportion needing training (81.7% to 65.8%). The ASTP, marz governments, and MOH were listed as providers of the trainings at baseline while the PHCR/USAID was reported as the main provider at follow-up.

Table 7. Trainings and training needs of accountants at PHC facilities, 2006 vs. 2008

Topics	Trainings received n (%)		Needed Trainings n (%)	
	2006 (n = 20)	2008 (n = 19)	2006 (n = 20)	2008 (n = 19)
1. Financial management	7 (35.0)	11 (57.9)	17 (85.0)	12 (63.2)
2. Cost accounting	4 (20.0)	16 (84.2)	16 (80.0)	15 (78.9)
3. Financial accounting	10 (50.0)	16 (84.2)	15 (75.0)	14 (73.7)
4. Computer training	5 (25.0)	8 (42.1)	16 (80.0)	12 (63.2)
5. Tax legislation	10 (50.0)	4 (21.1)	18 (90.0)	11 (57.9)
6. Labor legislation	5 (25.0)	4 (21.1)	16 (80.0)	11 (57.9)

[1] However, the findings for 2006 should be approached with caution, because of not being confirmed by an in-dept investigations carried out by the Financial Component of the PHCR Project ("Financial accounting, financial reporting and costing needs assessment in the target facilities of Zone 1"), according to which costs classification by function and by the nature (direct and indirect) was performed only in those facilities where Excel-based costing system has been implemented within the frame of the ASTP Project.

[2] Two of the assessed four PCs (Spitak and Tashir) were merged with the regional hospitals at the time of the follow-up assessment and thus could not reply to some of the questions intended for independent legal entities.

Table 8 demonstrates the data on trainings received by the facility managers within the last 5 years and their subsequent training needs both at baseline and follow-up assessments. Again, the sample of facilities for this section was restricted to higher-level facilities. The cumulative number of inquired trainings received by the facility managers increased from 31 to 75, and the mean percentage of those who received these trainings increased from 19.4% to 49.3%. The mean need in subsequent trainings on the inquired topics decreased from 86.9% to 62.5% (still, rather high, especially for the topics of health services management and tax legislation). At the follow-up assessment, the PHCR/USAID was mentioned as the main provider of these trainings.

Table 8. Trainings and training needs of PHC Facility Directors, 2006 vs. 2008

Topics	Trainings received n (%)		Need trainings n (%)	
	2006 (n = 20)	2008 (n = 19)	2006 (n = 21)	2008 (n= 19)
1. Health services management	12 (60.0)	14 (73.7)	19 (90.5)	14 (73.7)
2. Health economics	3 (15.0)	9 (47.4)	18 (85.7)	11 (57.9)
3. Financial management	3 (15.0)	12 (63.2)	19 (90.5)	13 (68.4)
4. Cost accounting	2 (10.0)	10 (52.6)	18 (85.7)	12 (63.2)
5. Fundamentals of accounting	2 (10.0)	8 (42.1)	16 (76.2)	10 (52.6)
6. Tax legislation	2 (10.0)	7 (36.8)	18 (85.7)	14 (73.7)
7. Labor legislation	4 (20.0)	10 (52.6)	19 (90.5)	12 (63.2)
8. Computer training	3 (15.0)	5 (26.3)	19 (90.5)	9 (47.4)

The number of higher-level facilities that track revenues by medical departments was almost the same in 2006 and 2008: 12 (54.5%) and 13 (59.1%). The number of those tracking their expenditures by medical departments increased from 10 (45.5%) in 2006 to 15 (68.2%) in 2008.

Client visits and home visits. The absolute number of client visits in the assessed facilities increased mildly from 282,959 in 2005 to 305,898 in 2008 (Table 9), but the rate per person served remained constant as the total number of served population also increased from 120,132 to 131,708 (based on the reports by facility administrators). Table 9 indicates that annual visits per person served were higher in MAs, HCs, and PCs than in FAPs and that annual visits per person served were higher in Lori facilities than in Shirak.

Table 9. Annual clinic visits (absolute number and rate per person), 2005-2008

	2005	2006*	2007	2008*
Absolute number				
Visits to PHC facilities	282,959	286,104	286,898**	305,898
Annual rate per person served				
FAPs	1.20	1.46	1.06**	1.09
MAs, HCs, and PCs	2.87	2.79	2.67	2.83
Whole sample	2.36	2.38	2.23	2.32
Facilities in Shirak marz	1.62	2.09	2.10	1.99
Facilities in Lori marz	2.75	2.54	2.30	2.49

**Estimated based on actual visits during February and March.*
***Excludes visits made to Haghpat, Medovka, and Sarahart FAPs (data was not available).*

The absolute number of home visits remained stable during 2005-2008 (Table 10). Annual per person rates of home visits were consistently lower than clinic visits. FAP nurses were more likely

to conduct home visits than providers at MAs, HCs, and polyclinics. Providers in Shirak marz were more likely to make home visits than those in Lori marz.

Table 10. Annual Home visits (absolute number and rate per person), 2005-2008

	2005	2006*	2007	2008*
Absolute numbers				
Home visits**	53,887	88,872	53,567	61,314
Annual rate per person served **				
FAPs	0.85	1.51	0.85	0.90
MAs, HCs, and PCs	0.42	0.54	0.33	0.33
Whole sample	0.53	0.81	0.44	0.48
Facilities in Shirak marz	0.84	1.71	0.55	0.70
Facilities in Lori marz	0.41	0.43	0.39	0.37

** Estimated based on actual visits during February and March.*
***Excludes home visits from facilities where data was not available*

Population served: The M&E team gathered information on the number of children and adults served by the target facilities and on several important health and service indicators such as annual number of deaths (including infant and maternal deaths), hospitalizations, pregnancies, term life-births, preterm life-births, neonatal deaths, delivery settings (home, PHC facility, maternity), and the numbers of disabled. Based on these data, crude mortality rates per 1,000 and infant mortality rates per 1,000 live births were computed. Table 11 provides the data for 2004-2007. Both rates decreased considerably during this period. About one-third of infant deaths occurred in neonatal period. No maternal deaths were reported during the 2004-2007.

Table 11. Deaths and crude mortality rates*, 2004-2007

	2004	2005	2006	2007
Absolute number				
Deaths	1,319	1,240	832	983
Infant deaths	22	24	6	11
…of which neonatal deaths	9	7	4	3
Rate				
Crude death (per 1000 served)	11.4	10.5	6.8	7.5
Infant mortality (per 1000 live births)	16.5	17.7	4.0	7.3
Proportion				
Neonatal/infant deaths (%)	40.9%	29.2%	66.7%	27.3%

**Adjusted to exclude served population of facilities not providing data.*

Per-facility crude mortality rates and infant mortality rates were computed and the means compared between years, marzes and facility types (FAPs vs. higher-level facilities). Mean infant mortality rate was significantly higher in 2005 as compared to 2006. Mean crude mortality rate was significantly higher among the population served by higher-level facilities than those served by FAPs. No other significant differences were found.

Although the reported absolute number of hospitalizations increased modestly from 2004 to 2007, no increase in the crude hospitalization rate per 1,000 served population was observed (Table 12).

Table 12. Number of hospitalizations and crude hospitalization rate, 2004-2007

	2004	2005	2006	2007
Absolute number of hospitalizations*	2,697	2,935	2,833	3,068
Crude hospitalization rate (per 1,000 served)**	25.5	26.6	23.9	25.6

**In a number of facilities, these data was missing.*
***Adjusted to exclude served population of facilities not providing data*

Between years, the only significant difference was a decrease of the mean per-facility hospitalization rate from 26.4 per 1,000 in 2005 to 18.3 per 1,000 in 2007 (p=0.043). No significant differences were detected between Lori and Shirak marzes. Between FAPs and higher-level facilities, a significant difference was observed in 2007: the mean hospitalization rate in FAPs was 15.2 while in higher-level facilities 26.9 (p=0.047).

The number of reported live births and crude birthrates (number of births per 1,000 served population) for 2004-2007 are provided in Table 13. While the reported number of infants increased in this area (from 1358 in 2006 to 1508 in 2008), both the absolute number of life births and the crude birth rate decreased. This indicates a possible inconsistency between the reported numbers and the real population dynamics. The proportion of reported pre-term births among all births was small and varied from 3.1% in 2004 to 1.0% in 2006.

Table 13. Number of live births and crude birth rate, 2004-2007

	2004	2005	2006	2007
Absolute number of life births	1,525	1,587	1,251	1,316
Crude birth rate (per 1000 served)*	15.1	15.7	9.8	10.0
Number (%) of pre-term births among all births	48 (3.1%)	43 (2.7%)	12 (1.0%)	20 (1.5%)

** When calculating each rate, denominator was adjusted not to include the served populations of those facilities that could not provide the numerator (total numbers of term and preterm births).*

Mean per-facility birth rate significantly declined during the period between the two assessments (12.6 in 2005 vs. 9.5 in 2007, p=0.005), without differences by facility type or between marzes.

Most deliveries took place in maternity hospitals (Table 14). In 2004 and 2005, no deliveries took place in a PHC facility. In 2006 and 2007, however, some HCs started to provide care during delivery. Namely, Panic, Aghin, and Amasia HCs in Shirak marz and Mets Parni HC in Lori marz undertook responsibility for some portion of deliveries (ranged from 18.1% for Panik HC to as high as 89.3% for Mets Parni HC). Home deliveries constituted a tiny proportion of all deliveries. In 2007, no home deliveries were reported (Table 14).

Table 14. Deliveries by site, Zone 1 target areas, 2004-2007

Year	PHC facilities		Maternity hospitals		Home	
	N	%	N	%	N	%
2004	0	0.0	1536	99.7	5	0.3
2005	0	0.0	1614	99.8	4	0.2
2006	45	3.6	1202	96.2	2	0.2
2007	36	2.9	1242	97.1	0	0.0

The total number of disabled reported among the population served by the target facilities was 3,709 in 2006 and 4,617 in 2008. Eight facilities in 2006 and one in 2008 did not provide these data. The disability rate per 1,000 population served (adjusted do not include population served by

the facilities with missing data) was 33.4 in 2006 and 35.5 in 2008. No significant differences in the mean per-facility rate of disability were detected between 2006 and 2008 or between marzes. Both for 2006 and 2008, the disability rates were significantly lower among the population served by FAPs compared to those served by higher-level facilities (MAs, HCs, and PCs) (see Table 15).

Table 15. Facility rates of disabled (per 1,000 served) by year, facility type, and marz

	2006	2008
	Mean (SD)	Mean (SD)
Whole sample	24.4 (18.9)	24.4 (18.2)
FAPs	17.2 (10.6)*	19.3 (12.7)*
Higher-level facilities	37.2 (23.2)*	30.3 (22.0)*
Lori marz	23.9 (16.2)	23.5 (20.7)
Shirak marz	24.7 (21.0)	23.2 (13.9)

**Statistically significant difference between FAPs and higher- level facilities (p=0.000 for 2006 and p=0.016 for 2008)*

The population-based analyses should be approached with caution, however, as the sites were not randomly selected, potentially introducing reporting bias. Furthermore, the study was powered to assess program-level effects. The lack of significant findings when comparing by facility type or marz does not necessarily indicate a lack of difference.

3.4 Public education

The facility resource assessment looked at the availability of patient/public education materials (brochures/leaflets and posters) on 24 health topics. Table 16 presents the results. At baseline, the most frequently mentioned topics covered by brochures/leaflets were HIV/AIDS (available in 63.3% of facilities), breastfeeding (56.7%), STDs (52.5%), and smoking (52.5%). Many facilities displayed posters on immunization (71.7%), some on Basic Benefits Package (BBP) (36.7%), HIV/AIDS (30.0%), iodine deficiency (28.3%), and bird flu (25.0%). Organizations mentioned more frequently as the providers of the education materials included: UNICEF, UMCOR, ASTP, JMF, WV, USAID, NOVA, MSF. At follow-up, the topics most frequently covered with brochures/leaflets were vaccination (available in 75.4% of facilities), BBP (72.1%), HIV/AIDS (70.5%), eye/vision problems (63.9%), breastfeeding (55.7%), child care (50.8%), and iodine deficiency (50.8%). Posters frequently addressed vaccination (in 95.1%), BBP (86.9%), influenza (63.9%), HIV/AIDS (42.6%), and reproductive health (39.3%). The main providers of these materials were UNICEF, USAID, PHCR[3], NOVA, MSF, UMCOR, WV, and MOH. In general, the diversity of public educational materials available in the target facilities had increased since 2006.

Table 16. Availability of patient/public education materials, 2006 & 2008

Topics	Facilities with brochures/leaflets available				Facilities with posters available			
	2006		2008		2006		2008	
	n	(%)	n	(%)	n	(%)	n	(%)
1. Basic Benefits Package (new)	0	0.0	44	72.1	22	36.7	53	86.9
2. Bird flue	6	10.0	17	27.9	15	25.0	15	24.6
3. Breastfeeding	34	56.7	34	55.7	4	6.7	25	21.0
4. Breast self-examination	16	26.7	13	21.3	1	1.6	2	3.3
5. Child care	28	46.7	31	50.8	2	3.3	11	18.0

[3] PHCR project was mentioned as the provider of PE materials on BBP and OE. However, shortly after the follow-up assessment, PHCR project provided leaflets on diabetes, hypertension, child care, reproductive health, urinary tract infections (UTI), and healthy bones to all the targeted facilities in Zone 1.

Topics	Facilities with brochures/leaflets available				Facilities with posters available			
	2006		2008		2006		2008	
	n	(%)	n	(%)	n	(%)	n	(%)
6. CHD	5	8.3	5	8.2	2	3.3	3	4.9
7. Diabetes	14	23.3	9	14.8	2	3.3	3	4.9
8. First Aid	4	6.7	2	3.3	1	1.7	1	1.6
9. Healthy lifestyle	18	30.0	25	41.0	9	15.0	12	19.7
10. Healthy nutrition	17	28.8	16	26.2	13	21.7	6	9.8
11. HIV/AIDS	38	63.3	43	70.5	18	30.0	26	42.6
12. Hypertension	10	16.7	6	9.8	0	0.0	4	6.6
13. Influenza	1	1.7	14	23.0	16	26.7	39	63.9
14. Iodine insufficiency	12	20.0	31	50.8	17	28.3	27	44.3
15. Oral hygiene	6	10.0	1	1.6	0	0.0	0	0.0
16. Reproductive health	24	40.0	27	44.3	4	6.7	24	39.3
17. Smoking	31	52.5	18	29.5	12	20.0	10	16.4
18. STDs	31	52.5	26	42.6	0	0.0	4	6.6
19. Tuberculosis	20	33.3	9	14.8	11	18.3	7	11.5
20. Vaccination	29	48.3	46	75.4	43	71.7	58	95.1
21. Vision problems	13	21.7	39	63.9	0	0.0	4	6.6
22. Urinary tract infections	0	0.0	1	1.6	0	0.0	0	0.0
23. Healthy bones	0	0.0	0	0.0	0	0.0	0	0.0
24. Open Enrollment	0	0.0	0	0.0	0	0.0	37	60.7

To address breadth of patient/public education material coverage at a facility, two summative scores were computed: brochure/booklet score and poster score. The former reflects the number of health topics (out of the 24) covered by brochures/leaflets at each facility, the latter the number of health topics (again, out of the 24) covered by posters at each facility. At baseline, the mean brochure score was 6.1. This score increased to 8.2 at follow-up (p=0.000). The mean poster score increased from 3.3 to 6.1 (p=0.002); Table 17 summarizes these results by marz and facility type. The breadth of available patient/public education materials increased significantly across all dimensions.

Table 17. Patient/public education materials brochure/booklet and poster scores by facility type and marz, 2006 vs. 2008

	Brochure/booklet scores			Poster scores		
	2006	2008	P-value*	2006	2008	P-value*
FAPs	5.8	7.6	0.001	2.1	4.8	0.000
Higher-level facilities	6.6	9.4	0.011	5.4	8.4	0.004
Shirak marz	7.3	10.1	0.000	3.0	7.3	0.000
Lori marz	4.7	6.2	0.038	3.5	4.9	0.017
Whole sample	6.1	8.2	0.000	3.3	6.1	0.000

**Paired sample t-test*

The proportion of communities receiving community-based health interventions increased from 52.6% (20) at baseline to 59.0% (23) at follow-up for communities served by FAPs, but decreased from 68.2% (15) to 36.4% (8) for those served by higher-level facilities. Much of this increase is

attributed to the formation of Community Health Committees (CHC)[4] within the framework of the PHCR Project (Table 18). CHCs in 25 communities (41.0% of all communities) held regular health education meetings at follow-up compared to two at baseline (p=0.001). CHC members made home visits in 16 communities in 2008 compared to 2 at baseline (p=0.007). A significant increase was observed in the number of communities where health facilities were renovated with community involvement (from 5 at baseline to 15 at follow-up, p=0.020).

The most common health-related activities reported at baseline were health education sessions with teachers or school children (32 sites, 52.5%), followed by health education sessions organized by healthcare providers (25 sites, 41.0%) and environmental activities such as tree planting and trash removal (20 sites, 32.8%). At follow-up, health education sessions organized by CHCs were most common (25 sites, 41.0%), followed by health education sessions for teachers/school children (21 sites, 34.4%), home visits by CHC members (16 sites, 26.2%), health education sessions organized by healthcare providers (16 sites, 26.2%), and health facility renovation activities with community involvement (15 sites, 25.0%). At baseline, the health facility was the primary initiator of these activities, with the village mayor, the community, school director/head of class, and marz health department also named. At follow-up, CHC and PHCR/USAID also were frequently noted as the initiators of these activities (Table 18).

Table 18. Number of sites where the following community health-related activities where conducted in the last three years, 2006 vs. 2008

	FAPs (n=39)		MAs, HCs, & PCs (n=22)		All facilities (n=61)	
	2006	**2008**	**2006**	**2008**	**2006**	**2008**
Regular community health education meetings with CHC	0	19*	2	6	2	25*
Home visits by CHC	1	12*	1	4	2	16*
Regular community health education meetings with nurse	14	11	11	5	25	16
Health education sessions with teachers/school children	18	13	14	8	32	21
Children role play on health issues	8	8	2	3	10	11
Community involvement in health facility renovation	0	13*	5	2	5	15*
Water supply/sewage system building/reconstruction	1	3	2	0	3	3
Environmental activities (tree planting, trash removal, etc.)	9	8	11	3	20	11
Community sustained revolving fund	0	0	1	0	1	0
Any of one of the above activity(ies)	20	23	15	8	35	31

**The difference between 2006 and 2008 is statistically significant, p <.05.*

[4] CHCs were established by PHCR project in 8 target Communities of Lori marz (Dzoragyugh, Haghpat, Khnkoyan, Lermontovo, Lusaghbyur, Sarahart, Saramedj, Teghut) and 13 target communities in Shirak marz (Arapi, Aregnadem, Aygebats, Bagravan, Garnarich, Hovit, Hovuni, Kaps, Karnut, Lusakert, Meghrashen, Vardakar, Voskehask). Six out of these eight communities in Lori (except Dzoragyugh and Lermontovo) and 11 out of the 13 communities in Shirak (wxcept Arapi and Bagravan) reported organizing CHC-related events at the follow-up assessment.

At follow-up, many facilities reported having ever been involved in a PHC project other than the current PHCR project. Of the 22 referral centers, 16 mentioned WB, 15 NOVA, and 7 ASTP. Of the 39 FAPs, 17 mentioned participating with project NOVA, 5 with ASTP, and 2 with WB.

Licensing. Since the baseline assessment, significant changes occurred in the proportion of facilities licensed to provide family medicine (FM) and/or family nursing (FN) services: the number of FAPs licensed to provide FN services increased from 11 (28.9%) to 31 (81.6%) (p=0.000), and the number of higher-level facilities licensed to provide FM services increased from 8 (21.1%) to 21 (95.5%) (p=0.001).

Staffing. Provider vacancies did not change significantly between baseline and follow-up. The number of vacancies for doctors in higher-level facilities was six in 2006 and seven in 2008. There were four nursing vacancies in both 2006 and 2008.

Crucial needs. At baseline, renovation was cited most frequently as a crucial need, followed by utilities (e.g., water supply and sewage system), basic medical equipment (e.g., surgical and gynecological kits, scales, sphygmomanometers, splints, and emergency care kits), laboratory equipment, furniture, consumable medical supplies and pharmaceuticals, professional and public education literature, and computers and internet connection.

At follow-up, the need in water supply and sewage system moved to the top priority (mentioned by over half of the FAPs), followed by the need for refrigerator (11 FAPs), child/adult height measuring devices (8 FAPs), and consumable supplies and pharmaceuticals, including first aid medication (5 FAPs). Several FAPs emphasized their need for public education materials, glucometer strips, child scales, microlancets, electricity, and gasification. Few FAPs also mentioned the need for a phone connection. Two FAPs (Teghut, Hovuni) reported still needing some renovation (ceiling and/or flooring repairs).

Renovation was the most frequent need in the higher-level facilities (in 8 of those). Laboratory equipment (biochemical analyzer in particular) and ambulance care were next (7 each). Six facilities needed refrigerators. Water supply, gasification, sonography device, and internet connection were also frequently mentioned (5 each). Four facilities reported needing furniture and three an X-ray machine.

3.5 Main findings

The following main findings of the follow-up facility resource assessment survey in Zone 1 (Shirak and Lori marzes) are highlighted:

- **Physical conditions are improving**. The mean cumulative score for physical condition (examination/procedure's room(s) size, lighting, renovation status) of the 61 facilities (39 FAPs and 22 higher-level facilities: MAs, HCs, and PCs) increased significantly (from 0.24 in 2006 to 0.86 in 2008). This increase was particularly evident for FAPs (from 0.13 to 0.96).

- **Water and sewage systems are increasingly available but remain a critical need**. The number of FAPs that reported having a sink with running water increased significantly: from four (10.5%) to 14 (35.9%). However, the need in water supply and sewage system remained as the most crucial for more than half of the targeted FAPs.

- **A reliable electric supply is increasing**. Significant increase was detected in the number of FAPs with 24-hour electricity supply: 28 FAPs (73.7%) in 2006 vs. 36 FAPs (92.3%) in 2008.

- **Heating is expanding and is predominantly electric rather than combustion with flue.** The number of facilities not heated during winter decreased significantly: from 12 in 2006 to 4 in 2008. The mean number of rooms heated during winter increased from 1.9 at baseline to 4.4 at follow-up.

- **Furnishings are improving.** The mean summative furniture score increased significantly from 35.9% at baseline to 64.8% at follow-up.

- **Equipment availability is improving but remains an important nee**d. The mean summative equipment score increased significantly from 37.0% in 2006 to 45.3% in 2008.

- **Family medicine/family nursing training is expanding its coverage**.
  - In 2006, 31.3% (27) of all PHC physicians employed in the 61 facilities had been educated at NIH/YSMU. In 2008, this proportion increased to 83.9% (73). The mean number of family doctors employed in MAs, HCs and PCs increased significantly from 0.9 at baseline to 1.7 at follow-up.
  - In 2006, 34.2% (54) of all PHC nurses employed in 61 facilities had been educated at NIH/BMC. In 2008, this proportion increased to 64.1% (100). The mean number of family nurses employed in FAPs increased significantly from 0.0 at baseline to 1.0 at follow-up.
  - The mean proportion of FAP nurses receiving short-term clinical trainings on any of 11 select topics increased from 37.9% in 2006 to 45.7% in 2008. The corresponding indicator for PHC doctors increased from 16.0% to 26.8%.
  - The number of FAPs licensed to provide FN services increased significantly from 11 (28.9%) to 31 (81.6%). The number of higher-level PHC facilities licensed to provide FM services also increased significantly, from 8 (21.1%) in 2006 to 21 (95.5%) in 2008.

- **Medical charts are increasingly available, but underutilized.**
  - For children (<18 years old), usage of medical charts remained high and did not change between 2006 and 2008. The completeness of these charts, however decreased significantly (91.4% vs. 63.9%) for the whole sample, as well as for the FAPs only.
  - For adults (>18), medical charting forms were present in fewer facilities in 2008 compared to 2006 (62.3% and 83.6%, respectively). This difference was significant for the whole sample, as well as for the FAPs only.

- **Quality assurance activities, computing capacity, and professional staff development are increasing**.
  - The mean number of supervisory visits made to FAPs during the last three months increased significantly, from 2.6 in 2006 to 3.4 in 2008.
  - The number of higher-level facilities possessing functional computers increased significantly from 14 in 2006 to 21 in 2008. The mean number of functional computers per higher-level facility has also increased significantly from 0.7 to 2.3.
  - Since the baseline assessment, the number of trained operators in higher-level facilities for open enrollment increased from 6 to 24. The number of people registered through open enrollment during the last year in these facilities increased from 9,046 in 2006 to 110,794 (84.0% of the served population) in 2008.
  - The number of higher-level facilities using accounting software increased from two in 2006 to 10 in 2008. The mean proportion of the accountants at the higher-level facilities having received trainings on any of the six select topics increased from 34.2% at baseline to 51.8% at follow-up.

  - The mean proportion of higher-level facility managers receiving training on any of the eight select topics increased from 19.4% at baseline to 49.3% at follow-up.

- **Utilization rates are stable as coverage expands**. The absolute number of visits increased mildly (from 282,959 in 2005 to 305,898 in 2008), but the rate per person served remained unchanged.

- **Mortality rates are declining**. The crude mortality rate decreased considerably since 2004 (from 11.4‰ in 2004 to 7.5‰ in 2007). The infant mortality rate also decreased from 16.5‰ in 2004 to 7.3‰ in 2007.

- **Birth rates are decreasing**. Mean per-facility birth rate decreased from 15.1‰ in 2004 to 10.0‰ in 2007.

- **Public education materials are increasing in breadth and availability**. The breadth of topics addressed by public education materials increased significantly from the baseline. The mean brochure/booklet score was 6.1 (out of 24) in 2006 and 8.2 in 2008. The mean poster score was 3.3 (out of 24) in 2006 and 6.1 in 2008.

- **Communities and Community Health Committees are increasingly active.**
  - Community Health Committees significantly increased activities: regular health education meetings with CHC increased from two communities in 2006 to 25 in 2008 and CHC-made home visits increased from two communities to 16.
  - The number of communities actively involved in health facility renovation activities increased from five in 2006 to 15 in 2008.

Appendix 1. PHCR, Resource assessment tool for PHC facilities

1. Assessor _____ 1.1 Date ____/_____/_____

2. Marz _____ 2.1 Town/village _____

3. Type of health facility: a. □ FAP (Rural health post) c. □ Health Center
b. □ SVA (Medical ambulatory) d. □ Polyclinic

4. Facility name _____ 4.1 Facility code _____

5. Town/village mayor's: a. Name: _____ b. Phone: _____

6. Facility responsible/director's a. Name: _____ b. Phone: _____

7. Principal respondent's: a. Name _____ b. Position: _____

8. Is your facility an independent legal entity (not a part of a larger unity)?

1. Yes 2. No ***(Go to Q.10)***

9. Are there any intends to merge your facility in a larger unity in the scope of optimization plan?

1. Yes 2. No 99. Don't know

10. Staff of outpatient services of the facility:

	1.Doctors	2.Nurses	3.Midwifes & feldshers	4.Sanitars	5.Non-medical staff
Actual #					

11. Ownership of the facility space:

1. Owns a building
2. Owns space in a building
3. Rents a space (*a. whose?* _____)
4. No space at all ***(Go to Q. 22)***

12. Piped water supply in the facility. _____ hours/day ***(Put 0 if no supply)***

13. Existence of a swage system:

a. in the residency area _____ ***(1=yes, 2=no)***

b. in the facility _____ ***(1=yes, 2=no)***

Water/toilet

	1. Total number	2. Out of which, in the building	3. Out of which, functioning	4. Out of which, with running water
14. Toilet				
15. Pit latrine				
16. Shower facility				

17. Electricity availability in the health facility: _____ hours/day

18. Heating *(primary)*:
    1. Hot water system
    2. Portable electric heaters
    3. Room heaters with flue
    4. Room heaters without flue
    5. Built-in electric units
    6. Other _____

19. Number of rooms heated during winter: _____

20. Number of vehicles in the polyclinic: _____, 20.1 Out of which non-functional: _____

21. List of functional vehicles and purpose they serve:

Brand	*a. Purpose it serves (primary):*
1.	
2.	
3.	
4.	

22. **Current** sources of drug supply (or the funds to purchase drugs):

	1 = yes, 0 = no	a. Terms of the project *(start and end dates)*	b. Periodicity of supplies	c. Percent of needs covered
1. MOH				
2. Hypocrate's foundation				
3. UMCOR				
4. IRD				
5. UNICEF				
6. NOVA				
7. World Vision				
8.Other_____				

23. Existence of a functioning pharmacy in the community: _____ ***(1=yes, 0=no)***

Family Medicine

Numbers of PHC providers at the facility:

24. Family physicians _____
25. General Practitioners and Internists _____
26. Pediatricians _____
27. Midwifes and Feldshers _____
28. Internist nurses and Pediatric nurses _____
29. Family nurses _____
30. Total number of district doctors *(sum of #s in Q.-s 24, 25, 26)* _____
31. Total number of district nurses *(sum of #s in Q.-s 27, 28, 29)* _____

32. Out of the physicians listed above ***(see Q. 30)***:
    1. How many received educational courses at NIH or YSMU during the last 5 years? _____
    2. How many are involved in continuous FM education? _____
    3. How many are willing to get involved in continuous FM education? _____

33. Out of the mid-level healthcare providers listed above ***(see Q. 31)***:

1. How many received educational courses at NIH or BNC during the last 5 years? _____
2. How many are involved in continuous FN education? _____
3. How many are willing to get involved in continuous FN education? _____

34. Short-term trainings of the above-listed medical staff ***(see Q. 30 and Q. 31)*** since 2000:

Training on:	# of those exposed		c. Provided by *(the name of organization)*
	a. Nurses	b. Doctors	
1. First aid			
2. Immunization			
3. Breastfeeding			
4. Sexually Transmitted Diseases			
5. Reproductive Health			
6. IMCI			
7. Tuberculosis			
8. Healthy lifestyle			
9. Healthy child growth & developement			
10. Treatment of chronic conditions (IHD, diabetes, chronic pain, etc.)			
11. Prevention of infections			
12. Other: _____			
13. Other: _____			
14. Other: _____			

35. Do you have the set of World Bank, Health Programs Implementation Unit (HPIU)-developed clinical practice guidelines for family doctors and family nurses in your facility?

1. Yes 2. No

If yes,

35.1 How many volumes for doctors *(out of 19)*? _____ *(Please, show)*

35.2 How many volumes for nurses *(out of 7)*? _____ *(Please, show)*

35.3 Of above listed doctors, how many have the guideline for FDs? _____

35.4 Of above listed mid-level providers, how many have the guideline for FNs? _____

What other clinical practice guidelines do you have in your facility?

36. Guideline title:	**37. Guideline source:**
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.
9.	9.

38. Do you have access to the following evidence-based medicine sources?

Source	***(1=yes, 0=no)***
1. Internet	
2. Medical periodicals	
3. Recent training materials	
4. Newsletters	
5. EBM publications	
6. Medical books (published after 2000)	

39. What drug information sources published since 2000 are available in your facility?

Source	***(1=yes, 0=no)***
1. Mashkovsky, Pharmaceuticals	
2. Vidal, Drug Guide	
3. Vidal, Drug Guide for Transcaucasus	
4. Optimal Drug Treatment Guidelines, DMTA, MoH, RA	
5. Armenian National Formular	
6. Other *(specify)* _____	

40. Record forms

Type:	*1=yes, 0=no*	a. Coverage *(% of eligibles covered)*	b. Completeness of records *(1=yes, 0=no)*	c. Type of forms *(1=standard forms, 0=non-standard forms)*
1.Medical charts (under 18)				
2.Medical charts (18 & over)				
3.Journal for outpatients				
4.Journal for home visits				
5.Immunization forms				
6.Journal for ambulance calls				
7.Charts for pregnant women				

41. Do you have any functioning quality assurance mechanism in your facility? 1. Yes 2. No

41.1 If yes, please, describe _____
_____

42. Do you have computer(s) in this facility?

1. Yes, functional (*specify #* _____), 2. Yes, non-functional, 3. No

(If the facility is a FAP, go to Q. 47)

43. Do you have computer program for clinical data collection and analysis? 1. Yes 2. No

43.1 If yes, provided by whom? _____

44. Do you have clinical preceptors among your staff?

1. Yes *(a. Specify #* _____ *)* 2. No

Open Enrollment

45. Do you have computer program for open enrollment in your facility? 1. Yes 2. No

If yes, provided by whom? _____

46. Do you have personnel trained as operator for open enrollment?
1. Yes (a.#_____) 2. No

47. Number of people registered through open enrollment in your facility during last year? _____

Financing and Management

(If the facility is not an independent legal entity [see Q. 8], go to Q. 57)

48. Do you calculate the cost of the services provided in your facility?
1. Yes, regularly, 2. Yes, sometimes, 3. No *(a. Specify, why?* _____ *)*

49. Do you have computer program for accounting in your facility?
1. Yes, 2. No ***(Go to Q. 50)***

49.1 If yes, provided by whom? _____

49.2 Specify the name of the program: 1. Softmaster
2. LANs
3. Armenian program
4. Own (self-developed) program
5. Other (*a. Specify* _____)

50. Do you think the introduction of a computer program for accounting, which includes data entry, accountant training, and technical maintenance of the system, is reasonable in your facility?
1. Yes, 2. No 3. Don't know

51. Does your accountant qualified as accountant? 1. Yes 2. No

52. What trainings did the accountant receive out of the following within the last 5 years?

Training on:	Yes/no *(1=yes, 0=no)*	a. Duration *(weeks)*	b. Provided by: *(the name of organization)*	c. Need for subsequent training *(1=yes, 0=no)*
1. Financial management				
2. Cost accounting				
3. Financial accounting				
4. Computer training				
5. Tax Legislation				
6. Labor Legislation				
7. Other _____				

53. What trainings did the director of your facility receive out of the following within the last 5 years?

Training on:	Yes/no *(1=yes, 0=no)*	a. Duration *(weeks)*	b. Provided by: *(the name of organization)*	c. Need for subsequent training *(1=yes, 0=no)*
1. Health services management				
2. Health economics				
3. Financial management				
4. Cost accounting				

Training on:	Yes/no *(1=yes, 0=no)*	a. Duration *(weeks)*	b. Provided by: *(the name of organization)*	c. Need for subsequent training *(1=yes, 0=no)*
5. Fundamentals of accounting				
6. Tax Legislation				
7. Labor Legislation				
8. Computer training				
9. Other _____				

54. Please, list any trainings out of above-mentioned received by other administrative staff of your facility within the last 5 years: _____

_____

55. Does your facility track revenues by medical departments? 1. Yes 2. No

56. Does your facility track expenditures by medical departments? 1. Yes 2. No

Workforce planning

57. Number of visits to PHC providers

Made by:	a. 2007	b. 2008, February	c. 2008, March
1.Infants (0-12m)			
2.Children (1-17y.old)			
3.Adults (18 & over)			
4.Total			

58. Number of staff members' home visits per year:

Made to:	a. 2007	b. 2008, February	c. 2008, March
1.Infants (0-12m)			
2.Children (1-17y.old)			
3.Adults (18 & over)			
4. Total			

Population

59. Number of attached residency areas *(only those areas, where there are no FAPs: fully served by the given facility)*: _____

(If 1, put only the name of the primary area in the items 60 and 61)

60. Names of the served areas and their distance from the facility:

1. Primary area: a) name: _____
2. Attached area: a) name: _____ b) distance from the facility _____ km
3. Attached area: a) name: _____ b) distance from the facility _____ km

61. Number of population served in each village:

Name of the residency area *(see from Q. 60)*	a. Infants (0-12m.)	b. Children (1-17y.)	c. Adults (≥18y.)	**d. Total**
1.				
2.				
3.				
4. Total				

Population dynamics:

	a. 2006	b. 2007
62. Number of deaths (total)		
63. Number of infant deaths		
64. Number of maternal deaths		

65. Number of hospitalizations:

	a. 2006	b. 2007
1. Infants (0-12m)		
2. Children (1-17)		
3. Adults (18 and over)		
4. Total		

Pregnancies/deliveries per year:

	66. # of pregnancies	67. # of term life births	68. # of preterm life births	69. # of neonatal deaths	70. # of deliveries in:		
					a. SVA or FAP	b. Maternity Hospital	c. Home
1. 2006							
2. 2007							

71. Number of disabled in the served population: _____

Public Education

72. The availability of public educational materials published after 2000 at the facility:

Topics	a. Brochures, leaflets *(1=yes, 0=no)*	b. Provider *(name of organization)*	c. Posters *(1=yes, 0=no)*	d. Provider *(name of organization)*
25. BBP* (new)				
26. Bird flue				
27. Breastfeeding				
28. Breast self-exam.				
29. Child care				
30. CHD				
31. Diabetes				
32. First Aid				
33. Healthy lifestyle				
34. Healthy nutrition				
35. HIV/AIDS				
36. Hypertension				
37. Influenza				
38. Iodine insufficiency				
39. Oral hygiene				
40. Reproductive health				
41. Smoking				
42. STDs				
43. Tuberculosis				
44. Vaccination				
45. Vision problems				
46. Urinary tract infections				
47. Healthy bones				
48. Open Enrollment				

* *BBP = Basic Benefits Package*

73. Were there any health-related activities conducted in your community <u>with the community involvement</u> in the last 3 years?

1. Yes 2. No (*skip to Q.75*) 99. Don't know

74. If yes, please, describe what kind of activities were conducted:

Type of activity	1= yes, 0= no	a. Who organized the activity
1. Health education session organized by CHC*		
2. Home visits done by CHC* members		
3. Health education session organized by healthcare providers		
4. Health education sessions for teachers/school children		
5. Role play on health issues performed by children		
6. Health facility renovation activities		
7. Water supply/sewage system building/reconstruction		
8. Environmental activities (tree planting, trash removal, etc.)		
9. Revolving Fund maintained by community donations		
10. Other_____		

**CHC = Community Health Committee*

75. Do you think your community would be committed to get involved in primary health care improvement activities?

1. Yes 2. No *(reasons)* _____

76. Do you think the staff of your facility is willing to participate in a primary healthcare reform project?

1. Yes 2. No 3. Not sure

77. Have your facility ever participated in a primary healthcare reform project with:

1. WB _____ *(1=yes, 2=no)*
2. NOVA _____ *(1=yes, 2=no)*
3. ASTP _____ *(1=yes, 2=no)*
4. Other *(specify* _____ *)*

78. Is your facility licensed to provide family medicine/family nursing services?

1. Yes 2. No 3. Don't know

79. How many primary health care provider vacancies do you have in your facility:

79.1 For doctors? _____ *(put 0 if none)* 88. Don't know

79.2 For nurses? _____ *(put 0 if none)* 88. Don't know

80. List of the crucial needs: _____

_____

(If the assessed facility is not a FAP or ambulatory, go to Q. 90)

For FAPs and ambulatories only!

81. Number of rooms in the facility: a. Total # of rooms _____
b. # of rooms in use _____

82. Rooms in use:

	1. Size *(m^2)*	2. Natural light *(0/1)*[*]	3. Renovation *(0/1)*[*]	4. Purpose it serves	5. Notes *(walls, floor, ceiling, etc.)*
a.Room 1					
b.Room 2					
c.Room 3					
d.Room 4					
e.Room 5					
f.Room 6					
g.Room 7					
h.Room 8					
i.Room 9					
j.Room 10					

[*] *0 is unsatisfactory, 1 is satisfactory*

83. Furniture: *(R=room)*

# of:	*a. R. 1*	*b. R. 2*	*c. R. 3*	*d. R. 4*	*e. R. 5*	*f. R. 6*	*g. R. 7*	*h. R. 8*	i. *R. 9*	j. *R. 10*	k. **Total**	l.**# of in-appropr**
1.Sink with running water												
2.Desks												
3.Chairs												
4.Med. cabinets (glass)												
5.Cabinets for instruments												
6.Exam. Beds												
7.Bed tables												
8.Cabinets (for cloths)												
9.Screen												
10.Swaddle table												
11.Procedural table (glass)												
12.Telephone												

84. Equipment/supplies:

	a) # total	*b) # of broken*		*a) # total*	*b) # of broken*
1.Stethophonendoscope			36. Surgical thread *(packs)*		
2.Sphygnomanometer			37. Tube (nasogastric)		
3.Thermometer			38. Scalpel		
4.Refrigerator			39. Scalpel holder		
5.Cold Chain Igloo			40. Tray for instruments		
6.Tongue holder and gag			41. Needle holder		
7.Height measurer–child			42. Surgical needles		
8.Height measurer– adult			43. Used instruments' tray		
9.Scale – child			44. Instrument cleaning jar		
10.Scale – adult			45. Gynecological chair		
11.Measure tape			46. Gynecologic. mirrors		

	a) # total	*b) # of broken*		*a) # total*	*b) # of broken*
12.Timer			47. Packer curved		
13.Infusion set & IV cannula			48. Kocher		
14.Medical tourniquet			49. Folkman spoon		
15.Sterilization cylinders (bixes)			50. Obstetrical stethoscope		
16.Dry sterilization (for dressing mater.)			51. Subject glasses		
17. Disposable syringes/needles			52. Sterile bandages		
18. Sharp disposal			53. Elastic bandages		
19. Spatula (metal)			54. Medical cotton wool		
20. Spatula, wooden *(boxes)*			55. Tape, adhesive		
21. Tweesers (pincers)			56. Gloves, surgical, sterile		
22. Scissor			57. Examination gloves		
23. Forceps			58. Medical splints		
24. Electrocardiograph			59. Stretchers		
25. Otoscope			60. Syringe for ear irrigation		
26. Ophthalmoscope			61. Neurological hammer		
27. Tool set for ear exam-adult			62. Disposable cups		
28. Tool set for ear exam-child			63. Uretric catheter-hard		
29. Tool set for eye exam-adult			64. Uretric catheter-soft		
30. Tool set for eye exam-child			65. Glucometer		
31. Tool set for nose exam-adult			66. Tests for glucometer		
32. Tool set for nose exam-child			67.Steriliz.boxes (for instr-s)		
33. Bactericide lamp			68. Autoclave		
34. Holder for IV infusions			69. Microscope		
35. Gauze masks			70. Emergency care kit		

Distances/Transportation:

To:	85. Distance *(km)*	86. Available transportation *(0-no, 1-bus, 2-facility ambulance, 3-regional facility ambulance)**	87. Road access *(1-asphalt, 2-smooth dirt, 3-bumpy dirt, 4-large holes dirty, 0-only foot access)*
a. Marz center			
b. Regional clinic/hospital			
c. Nearest ambulatory			
d. Nearest FAP			

** Mention all that apply*

88. How many times has your supervisor made supervisory visits to this facility during the last 3 months?

1. _____ times
2. The facility has no direct outside supervision

89. Do you have clinical laboratory at your facility?

1. Yes ***(fill the questionnaire for laboratory's assessment: items 95-101)***
2. No ***(end this tool and start "Facility performance assessment" interview)***

For polyclinics and health centers only!

90. General impression from the facility *(0 = unsatisfactory, 1= satisfactory)*

	0=no, 1=yes	a. Size (m^2)	b. Light (0/1)	c. Renovation (0/1)	d. Notes (walls, ceiling, floor, etc.)
1. Entrance lobby					
2. Patent registration					
3. Waiting area 1					
4. Waiting area 2					
5. Waiting area 3					

91. Type of outpatient services and # of offices in each:

	0=no, 1=yes	a. # of offices		0-no, 1-yes	a. # of of-fices
1. Family Medicine			20. Adolescents		
2. Therapy			21. X-ray/flurography		
3. Pediatrics			22. ECG		
4. Women consultation			23. Sonography		
5. Cardio-Rheumatology			24. Lab-clinical		
6. Infectious diseases			25. Lab-serological		
7. Dermatology			26. Lab-biochemical		
8. Ophthalmology			27. Lab-bacteriological		
9. ENT			28. Lab-cytological		
10. Neurology			29. Procedures room		
11. Psychiatry			30. Statistics room		
12. Surgery			31. Med record maintenance room		
13. Physiotherapy			32. Disinfecting room		
14. Endocrinology			33. Drug store		
15. Allergology			34. Other 1._____		
16. Urology			35. Other 2._____		
17. Immunization			36. Other 3._____		
18. Dentistry			37. Other 4._____		
19. Pulmonology			38. Other 5._____		

Notes: _____

92. Listing of general practice offices (of FDs, pediatricians, and internists: see 1, 2, and 3 items in Q. 91) in the outpatient service and # of rooms in each:

	1. Type (1/2/3)*	2. # of rooms in the office		1. Type (1/2/3)*	2. # of rooms in the office
a. Office 1			n. Office 14		
b. Office 2			o. Office 15		
c. Office 3			p. Office 16		
d. Office 4			q. Office 17		
e. Office 5			r. Office 18		
f. Office 6			s. Office 19		
g. Office 7			t. Office 20		
h. Office 8			u. Office 21		
i. Office 9			v. Office 22		
j. Office 10			w. Office 23		
k. Office 11			x. Office 24		
l. Office 12			y. Office 25		
m. Office 13			z. Office 26		

** 1= Family Doctor's office, 2= Pediatrician's office, 3=Internist's office*

93. Equipment for disinfecting room: _____ *(1=yes, 0=no)*

	a. #	b. # of inappropriateriate
1. Water distillation equipment		
2. Sterilizer with hot air		
3. Autoclave		
4. Bactericide lamp		
5. Other* _____		

** mention only other major/important equipment*

94. Equipment for Procedural room(s): _____ *(1=yes, 0=no)*

	Procedural room 1		Procedural room 2	
	a. #	b. # of inapprop.	a. #	e. # of inapprop.
1. Cabinet for instruments				
2. Table for instruments				
3. Cabinet for urgent care items				
4. Refrigerator				
5. Desk for nurse				
6. Chairs				
7. Med. examination bed				
8. Table for IV infusions				
9. Disposable syringes				
10. Tongue holder				
11. Medical tourniquet				
12. IV systems				
13. IV stand				
14. Sterilization cylinders				
15. Thermometers				
16. Gauze masks				
17. Sterile gloves (pairs)				
18. Sharp disposal				
19. Tweesers (pincers)				
20. Scissors				
21. Forceps				
22. Bactericide lamp				
23. Surgical thread (*packs*)				
24. Tube (nazogastric)				
25. Scalpel				
26. Scalpel holder				
27.Tray for instruments				
28.Surgical needles				
29.Needle holder				
30.Sterile bandages				
31.Elastic bandages				
32.Tape, adhesive				
33.Medical cotton wool				
34.Medical splints				
35.Uretric catheter-hard				
36.Uretric catheter-soft				
37.Stretchers				
38. Other*_____				

* *Mention only other major/important equipment*

Laboratories

95. How many laboratory doctors are employed in this facility? _____

96. How many laboratory technicians are employed in this facility? _____

96.1 Out of them, how many are qualified through special training? _____

97. Do you conduct quality control tests in the laboratory periodically?
1. Yes 2. No *(go to Q.100)*

98. Do you document the results of the quality control tests? 1. Yes 2. No *(go to Q.100)*

99. Please, show the date of the last quality control test conducted in clinical laboratory: ___/____/___

99. 1 The recorded test result *(the degree of deviation from the expected result in %-s)*: _____

100. Are the specimens in your laboratory appropriately labeled? *(please, check)*
1. Yes 2. No

101. Equipment for labs: (clinical or biochemical)

	a) # total	*b) # of broken*		*a) # total*	*b) # of broken*
1. Photoelectrocolorimeter			21. Laboratory watch		
2. Thermostat			22. Supports		
3. Centrifuge			23. Hemometer Saly		
4. Refrigerator			24. Laboratory timer		
5. Biochemical analyzer			25. Acid-base balance analyzer		
6. Drying chamber			26. Torsion scales		
7. Microscope			27. Analytical scales		
8. Active enzymes analyzer			28. Urinometer		
9. Panchkov's apparatus			29. Washing table		
10. Water-bath			30. Distiller		
11. Refractometer			31. Laboratory cabinets		
12. Test-tubes			32. Fuming board		
13. Flasks			33. Laboratory tables		
14. Measuring-glasses			34. Sink with running water		
15. Thermometer			35. Spectrophotometer		
16. Glucometer			36. Desks		
17. Glucometer strips			37. Chairs		
18. Pipettes			38. Other* _____		
19. Scarificators			39. Other* _____		
20. Gorjaev's chamber			40. Other* _____		

* *Mention only other major/important equipment*

- ✓ ***If the facility is <u>FAP or ambulatory</u>, start "Facility Performance Assessment" interview.***
- ✓ ***If the facility is <u>polyclinic or health center</u>, go to Part B, and conduct "Facility performance assessment" interview, section "F" with PHC providers.***
  In parallel, complete "Facility performance assessment" interview, parts A through E, with the principal respondent.

Part B: Facility Code _____ GP Office Number: ____ *(from the item 92)*

	a. Size ($m^{2)}$	*b. Light (0/1)**	*c. Renovation (0/1)**	*d. Notes (walls, root, floor, etc.)*
1. Room 1				
2. Room 2				

** 0 = unsatisfactory, 1= satisfactory*

B1. Furniture *(for the whole office):*

# of:	a.Total # (0 if none)	b. # of inappr.	# of:	a.Total # (0 if none)	b. # of inappr.
1. Sink with running water			7. Bed tables		
2. Desks			8. Cabinets (for cloths)		
3. Chairs			9. Screen		
4. Med. cabinets (glass)			10. Swaddle table		
5. Cabinets for instruments			11. Procedural table (glass)		
6. Exam. Beds			12. Telephone		

B2. Equipment/supplies *(for the whole office):*

	a) # total	*b) # of broken*		*a) # total*	*b) # of broken*
1.Stethophonendoscope			34. Holder for IV infusions		
2.Sphygnomanometer			35. Gauze masks		
3.Thermometer			36. Surgical thread *(packs)*		
4.Refrigerator			37. Tube (naso-gastric)		
5.Cold Chain Igloo			38. Scalpel		
6.Tongue holder and gag			39. Scalpel holder		
7.Height measurer–child			40. Tray for instruments		
8.Height measurer– adult			41. Needle holder		
9.Scale – child			42. Surgical needles		
10.Scale – adult			43. Used instruments' tray		
11.Measure tape			44. Instrument cleaning jar		
12.Timer			45. Gynecological chair		
13.Infusion set & IV cannula			46. Gynecologic. mirrors		
14.Medical tourniquet			47. Packer curved		
15.Sterilization cylinders (bixes)			48. Kocher		
16.Dry sterilization (for dressing mater.)			49. Folkman spoon		
17. Disposable syringes/needles			50. Obstetrical stethoscope		
18. Sharp disposal			51. Subject glasses		
19. Spatula (metal)			52. Sterile bandages		
20. Spatula, wooden *(boxes)*			53. Elastic bandages		
21. Tweesers (pincers)			54. Medical cotton wool		
22. Scissor			55. Tape, adhesive		
23. Forceps			56. Gloves, surgical, sterile		
24. Electrocardiograph			57. Examination gloves		
25. Otoscope			58. Medical splints		
26. Ophthalmoscope			59. Stretchers		
27. Tool set for ear exam-adult			60. Syringe for ear irrigation		
28. Tool set for ear exam-child			61. Neurological hammer		
29. Tool set for eye exam-adult			62. Disposable cups		
30. Tool set for eye exam-child			63. Uretric catheter-hard		
31. Tool set for nose exam-adult			64. Uretric catheter-soft		
32. Tool set for nose exam-child			65. Glucometer		
33. Bactericide lamp			66. Tests for glucometer		

Appendix 2. Lists of furniture & equipment provided to targeted facilities

List of furniture provided to selected PHC facilities

1. Desk (750x700x1400)
2. Desk (500x700x1000)
3. Drawer Box (570x450x450)
4. Laboratory Desk (750x700x1600)
5. Combined Shelf (1980x1350x400)
6. Shelf with Glass Doors (1980x800x400)
7. Coach (450x700x1900)
8. Visitors Chair
9. Wheel table with drawers (900x600x550)
10. Sink with cabinet
11. Partitions
12. Conference Desk
13. Oil Heaters

List of Equipment provided to selected PHC facilities

1. Urinary strips
2. Test strips for pregnancy
3. Surgical gloves
4. Sphygmomanometer & Phonendoscope
5. Otoscope
6. Hexiloc
7. Capillary blood tests
8. Ophthalmoscope
9. Forceps Kocher
10. Scissors Mayo
11. Tweezers
12. Umbilical Cord forceps
13. Thermometer
14. Mouth widener
15. Tongue holder
16. Waste container
17. Kidney dish
18. Medical bag
19. Scale for adults
20. Glucometer & strips for glucometer

Appendix 3. Per-facility summary scores for physical conditions, equipment & furniture

#	Marz	Facility	Physical conditions score		Equipment score (%)		Furniture score (%)	
			2006	2008	2006	2008	2006	2008
1	Shirak	Anushavan FAP	0.0	1.0	17.1	32.9	0.0	58.3
2	Shirak	Arapi FAP	0.0	1.0	40.0	42.9	0.0	58.3
3	Shirak	Aregnadem FAP	0.0	0.5	14.3	31.4	25.0	66.7
4	Shirak	Aygabac FAP	0.0	1.0	37.1	44.3	25.0	75.0
5	Shirak	Bagravan FAP	1.0	1.0	21.4	24.3	8.3	50.0
6	Shirak	Bandivan FAP	0.0	1.0	40.0	42.9	33.3	83.3
7	Shirak	Bayandur FAP	0.0	1.0	54.3	51.4	41.7	75.0
8	Lori	Dzoragyugh FAP	0.0	1.0	28.6	40.0	0.0	58.3
9	Lori	Fioletova FAP	0.0	1.0	22.9	35.7	16.7	66.7
10	Shirak	Garnaritch FAP	0.0	1.0	21.4	24.3	16.7	83.3
11	Lori	Ghursal FAP	0.0	1.0	30.0	35.7	16.7	83.3
12	Shirak	Gtashen FAP	0.0	1.0	42.9	45.7	50.0	75.0
13	Lori	Haghpat FAP	0.0	1.0	28.6	41.4	50.0	66.7
14	Shirak	Hovit FAP	0.0	1.0	41.4	45.7	25.0	91.7
15	Shirak	Hovuni FAP	0.0	0.5	68.6	60.0	50.0	58.3
16	Shirak	Isahakyan FAP	0.0	1.0	22.9	28.6	0.0	50.0
17	Lori	Jiliza FAP	0.0	1.0	18.6	32.9	25.0	58.3
18	Shirak	Kamo MA	1.0	1.0	24.3	37.1	8.3	66.7
19	Shirak	Kaps FAP	0.0	1.0	27.1	41.4	25.0	58.3
20	Shirak	Karnut FAP	0.0	1.0	38.6	44.3	33.3	75.0
21	Lori	Khnkoyan FAP	0.0	1.0	22.9	35.7	25.0	91.7
22	Lori	Lermontovo FAP	0.0	1.0	22.9	34.3	16.7	75.0
23	Lori	Lernahovit FAP	1.0	1.0	12.9	34.3	41.7	58.3
24	Lori	Lernancq FAP	0.0	1.0	37.1	41.4	16.7	66.7
25	Lori	Lorut FAP	0.0	1.0	18.6	34.3	50.0	58.3
26	Lori	Lusakhpyur FAP_L	0.5	1.0	32.9	40.0	58.3	58.3
27	Shirak	Lusaghbyur FAP_S	0.5	1.0	25.7	38.6	25.0	66.7
28	Shirak	Lusakert FAP	0.0	1.0	34.3	40.0	25.0	50.0
29	Lori	Medovka FAP	0.5	1.0	12.9	44.3	25.0	66.7
30	Shirak	Meghrashen FAP	0.0	1.0	20.0	34.3	8.3	58.3
31	Lori	Novoselcovo FAP	.	1.0	0.0	21.4	0.0	75.0
32	Lori	Sarahart FAP	0.0	1.0	27.1	34.3	25.0	58.3
33	Lori	Saramej FAP	0.0	0.5	20.0	31.4	33.3	66.7
34	Lori	Shamut FAP	0.0	1.0	10.0	34.3	8.3	50.0
35	Shirak	Shirakavan FAP	0.5	1.0	30.0	31.4	33.3	58.3
36	Lori	Theghut FAP	0.0	1.0	25.7	37.1	33.3	58.3
37	Lori	Urasar FAP	0.0	1.0	4.3	37.1	0.0	91.7
38	Shirak	Vardaqar FAP	0.0	1.0	30.0	28.6	25.0	58.3
39	Shirak	Voskehask FAP	0.0	1.0	22.9	27.1	8.3	33.3
40	Shirak	Akhurik MA	0.0	1.0	52.9	88.6	41.7	100.0
41	Shirak	Horom MA	1.0	1.0	74.3	71.4	75.0	41.7
42	Shirak	Jajur MA	0.5	1.0	80.0	85.7	83.3	100.0
43	Lori	Jrashen MA	1.0	1.0	50.0	72.9	66.7	66.7
44	Lori	Katnakhbyur MA	0.0	0.0	21.4	25.7	0.0	33.3
45	Lori	Lernapat MA	0.0	1.0	38.6	78.6	41.7	91.7

#	Marz	Facility	Physical conditions score		Equipment score (%)		Furniture score (%)	
			2006	2008	2006	2008	2006	2008
46	Shirak	Marmashen MA	0.0	0.5	97.1	100.0	66.7	83.3
47	Shirak	Mayisyan MA	0.0	0.0	81.4	78.6	91.7	91.7
48	Lori	Shnogh MA	1.0	1.0	82.9	90.0	83.3	100.0
49	Lori	Tumanyan MA	0.0	1.0	60.0	74.3	75.0	91.7
50	Shirak	Akhuryan PC	0.0	0.5	17.1	18.6	25.0	41.7
51	Lori	Alaverdi PC	0.5	0.0	11.4	11.4	25.0	16.7
52	Lori	Spitak PC	1.0	1.0	14.3	15.7	50.0	16.7
53	Lori	Tashir PC	0.5	0.0	30.0	8.6	58.3	0.0
54	Shirak	Aghin HC	0.5	0.0	91.4	41.4	75.0	75.0
55	Shirak	Amasia HC	0.0	0.0	30.0	50.0	50.0	66.7
56	Shirak	Anipemza HC	0.0	1.0	24.3	88.6	25.0	66.7
57	Lori	Dsegh HC	0.5	1.0	68.6	77.1	66.7	66.7
58	Lori	Margahovit HC	1.0	1.0	85.7	68.6	83.3	83.3
59	Lori	Mets Parni HC	0.5	1.0	25.7	30.0	33.3	16.7
60	Shirak	Panik HC	0.5	1.0	82.9	60.0	66.7	58.3
61	Lori	Vahagni HC	1.0	1.0	88.6	87.1	100.0	83.3