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PHCR
Primary Healthcare Reform Project

FACILITY RESOURCE ASSESSMENT

FOLLOW-UP ASSESSMENT OF TARGETED PRIMARY HEALTH CARE FACILITIES IN KOTAYK, TAVUSH, AND GEGHARKUNIK MARZES

2009

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Preface

The Primary Healthcare Reform (PHCR) project is a nationwide five-year (2005-2010) program funded by the United States Agency for International Development (USAID) under a contract awarded to Cardno Emerging Markets USA, Ltd. (Cardno), formerly Emerging Markets Group, Ltd. in September 2005. The PHCR's primary objective is 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 Kotayk, Tavush, and Gegharkunik marzes (Zone 2). This follow-up assessment evaluates the project impact in Zone 2 through comparisons of selected facility-level physical and human resource indicators against the baseline dataset from 2007.

The Center for Health Services Research and Development of the American University of Armenia, one of the sub-contractors to Cardno, has primary responsibility for PHCR monitoring and evaluation. Dr. Anahit Demirchyan, Dr. Yelena Amirkhanyan, Dr. Varduhi Petrosyan, Dr. Michael Thompson, and Ms. Tsovinar Harutyunyan are the primary authors of this study. We would 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 and the facility heads who participated in the assessment. We are also grateful for the support received from the Ministry of Health and marz officials and the opportunity to collaborate in strengthening health services in Armenia.

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

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Chief of Party
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List of Acronyms

AUA	American University of Armenia
AIDS	Acquired Immune Deficiency Syndrome
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
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	Institute of International Cooperation of the Consortium of German People
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 Management Plan
RA	Republic of Armenia
SHA	State Health Agency
STDs	Sexually Transmitted Diseases
SVA	Rural Medical Ambulatory (from Russian abbreviation)
TB	Tuberculosis
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 Cardno Emerging Markets USA, Ltd. (Cardno), formerly Emerging Markets Group, Ltd., 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, and Overseas Strategic Consulting, Ltd., and include the following activities:

- **Expansion of Reforms:** assisting the Government in establishing a supportive regulatory environment for the advancement of reforms; renovating and equipping PHC facilities nationwide; designing and delivering training to facility management
- **Family Medicine:** developing up-to-date curricula and training materials for continuous medical education; creating free-standing family medicine group practices; providing training to family physicians and nurses
- **Open Enrollment:** introducing the open enrollment principle in the Armenian healthcare sector to promote customer-oriented services by fostering competition among providers
- **Quality of Care:** improving the quality of care by introducing state-of-the-art quality standards and quality assurance procedures
- **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; facilitating 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 Kotayk, Tavush, and Gegharkunik marzes from 2007 to 2008.

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: the PHCR project implemented different sets of activities 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.[1]

This report summarizes the data on follow-up facility resource assessment conducted in facilities targeted by the PHCR project in Kotayk, Tavush, and Gegharkunik marzes. This assessment evaluates the project's impact on targeted PHC facilities in the second zone.

2. Methods

The PHCR Project staff and corresponding marz health department staff jointly selected target facilities in Kotayk, Tavush, and Gegharkunik marzes (Zone 2), where the project activities were implemented from 2007 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 referral facility managers in PHC reforms, strategic planning, financial management, human resource management, labor legislation, and quality of care basics
7) Training of referral facility chief accountants and accountants in accounting standards, cost accounting, tax legislation, and in use of computerized accounting software.

[1] Because of financial constraints, the final assessments planned for the fifth year of PHCR project were not conducted.

During 2007-2009, 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 referral-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. The same instrument used to conduct the baseline resource assessment of the targeted and referral facilities in Zone 2 was utilized at the follow-up assessment (with slight modifications, Appendix 1).

The Facility resource assessment instrument addressed the following domains:

Facility status and resources, including staff, rooms, renovation status, water supply and sewage system, electricity and heating, equipment and furniture

Status in PHCR Project focal areas, including resources and potential for family medicine, quality of care, open enrollment, financing/management, and public education

Selected health indicators of the population served.

Sample. A total of 56 PHC facilities were assessed at the baseline assessment in 2007. Two sites (Aghberk FAP and its referral site: Shorja MA) were dropped following the baseline assessment because of being excluded from the project target sites and a new site was added as a target site (Nor Yerznka MA in Kotayk marz). Thus, 55 facilities were assessed in April-June 2009 (30 facilities in Kotayk marz, 13 in Tavush, and 12 in Gegharkunik) but only 54 facilities were included in a paired pre-post analysis. Table 1 presents the list of target and referral facilities in Kotayk, Tavush, and Gegharkunik marzes included in this assessment.

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. Two interviewers in Kotayk marz, two in Gegharkunik, and one in Tavush (all local physicians who had also implemented the baseline assessment) were (re)trained to conduct the assessments. Locally hired drivers took the interviewers to the selected facilities. The fieldwork lasted approximately five weeks (April-June 2009). 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 the Center for Health Services Research and Development (CHSR), American University of Armenia (AUA) 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.

Table 1. PHCR Project target facilities in Kotayk, Tavush, and Gegharkunik marzes

Renovated facilities	Referral facilities for renovated FAPs
Kotayk marz	
1. Getamej FAP	17. Nor Hachn PC
2. Goght FAP	18. Garni HC
3. Jraber FAP	19. Mayakovski MA
4. Kamaris FAP	20. Geghashen MA
5. Katnaghbyur FAP	21. Aramus MA
6. Ptghni FAP	22. Verin Ptghni MA
7. Nor Gyugh FAP	23. Kotayk MA
8. Nurnus FAP	24. Byureghavan PC
9. Radiostation FAP	25. Balahovit MA
10. Saralanj FAP	26. Aragyugh MA*
11. Sevaberd FAP	27. Zar MA*
12. Teghenik FAP	28. Argel HC
13. Zoravan FAP	
14. Zovashen FAP	29. Kaputan MA*
15. Zovk FAP	30. Dzoraghbyur MA
16. Nor Yerznka MA[2]	
Tavush marz	
1. Gosh FAP	10. Haghartsin MA
2. Nerkin Gosh FAP	
3. Hovk FAP	11. Idjevan Mother & Child PC
4. Lusahovit FAP	12. Khashtarak MA
5. Tovuz FAP	
6. V. Karmir Aghbyur FAP	
7. V. Tsaghkavan FAP	13. Paravaqar MA
8. Varagavan FAP	
9. Zorakan MA	
Gegharkunik marz	
1. Getik FAP	
2. Akhpradzor FAP	9. Tsovak MA
3. Makenis FAP	
4. Chkalovka FAP	10. Sevan PC
5. Gagarin FAP	
6. Djaghatsadzor FAP	11. Vardenis PC
7. Norabak FAP	
8. Zovaber FAP	12. Ddmashen MA

** Referral facility that was also renovated by PHCR Project*

[2] Nor Yerznka MA was included in the list of target facilities (and renovated) after the baseline data collection in Zone 2 was completed and the data analyzed.

3. Results

The PHCR Project renovated 15 FAPs and four ambulatories in Kotayk marz, eight FAPs and one ambulatory in Tavush marz, and eight FAPs in Gegharkunik marz. Renovated facilities also received furniture, 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 each FAP received training in Family and Community Nursing (a 6.5-month certification course) and the PHCR Project established Community Health Committees in all target communities (see Table 1).

PHCR Project interventions in referral-level PHC facilities (MAs, HCs, and PCs) included staff training on financing, management, quality assurance[3], and clinical topics, introduction of computerized accounting and open enrollment systems, and provision of medical equipment.

This chapter presents the results of the 2009 follow-up facility resources assessment (including both material and human resources) in Zone 2 marzes compared to the 2007 baseline assessment conducted prior to the PHCR Project launch.

Structure, resources, personnel

Staff: At follow-up, the mean number of employees was 1.5 for FAPs, 8.9 for MAs, 38.5 for HCs, and 75.6 for PCs. While the staffing levels were not significantly different from that at baseline, MAs showed a slight increase in total mean number of employees (from 7.8 to 8.9). 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 2 to 26, mean number: from 0.06 to 0.84, p^4=0.000) and in the number of family physicians employed in the referral level PHC facilities (absolute numbers: from 30 to 58, mean number: from 1.30 to 2.52, p=0.009). The number of family nurses employed in all facilities also increased significantly (absolute numbers: from 33 to 88, mean number: from 0.61 to 1.63, p=0.000) (Table 2).

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

	Family physicians*	GPs and therapeutists	Pediatri-cians	Midwives & feldshers	Therapeutic & pediatric nurses	Family nurses*	Total physicians	Total nurses
2007	30	26	23	43	127	33	79	202
2009	58	12	11	38	89	88	81	212

*p<0.05

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,

[3] PHCR Project conducted trainings on quality assurance (first phase, which includes Quality Improvement Board establishment, facility self-assessment and tracking of 10 quality indicators) in Zone 2 larger referral facilities (Geghashen and Haghartsin MAs; Garni HC; Sevan, Vardenis, Byureghavan, Nor Hachn, and Ijevan Mother & Child PCs) during April 2009.

[4] P-value is a measure of statistical significance. It represents the probability that a difference between groups happened by chance. A lower P-value for any difference in outcomes indicates a lower probability that the difference was a result of chance. Results with a low P value are considered statistically significant. For example, a p-value of 0.01 (p = 0.01) means there is a 1 in 100 chance the result occurred by chance. For most social science research, a p-value of 0.05 or less is considered acceptable.

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 referral-level facility. If the criteria had been partially met and the renovation status was satisfactory, a half score was assigned. Zero was assigned if the facility needed renovation.

For all the assessed facilities, the mean cumulative score for physical conditions was 0.28 at baseline and 0.89 at follow-up (p=0.000). This increase was particularly evident for FAPs (from 0.16 to 0.97). For MAs, the observed increase in physical condition score was also significant (from 0.50 to 0.94, p=0.004). A slight (insignificant) increase was observed for HCs and PCs (from 0.29 to 0.43). Appendix 3 provides the per-facility summary of renovation scores.

Water supply/sewage system. At baseline, 75.9% of the assessed facilities (of which, 90.3% of FAPs and 68.8% of MAs) had no piped water supply. This proportion significantly (p=0.035) decreased at follow-up: no piped water supply was documented in 63.0% of the facilities (of which, 87.1% of FAPs and 43.8% of MAs). The mean daily duration of water supply was 4.9 hours in 2007 and 6.9 hours in 2009 among all facilities. This difference, however, was not statistically significant (p=0.131). In facilities with piped water supply (n=13 at baseline and n=20 at follow-up), the mean daily duration of the water supply was 20.5 hours (range: 1.0-24.0) at baseline and 18.7 hours (range: 2.0-24.0) at follow-up. Among the 31 FAPs, only 3 (9.7%) reported having running water in 2007 and 4 (12.9%) in 2009. The number of facilities with swage system increased slightly after the baseline: from 17 (31.5%) to 19 (35.2%). The proportion of FAPs with sewage system was 9.7% (3) at baseline and 12.9% (4) at follow-up.

Of the 31 FAPs, only two had a functioning toilet, one – a functioning pit latrine and none – a shower facility at baseline. The situation was almost the same at follow-up with two FAPs having functioning toilets and two functioning pit latrines.

Of the 23 referral-level facilities (MAs, HCs, and PCs), nine had no functioning toilet, pit latrine, or shower at baseline. At follow-up, the number of such facilities decreased to 6 (Mayakovski, Verin Ptghni, Aragyugh, Zar, and Kaputan MAs in Kotayk marz and Pravaqar MA in Tavush marz). The mean per facility number of functioning toilets/pit latrines in referral-level facilities was 1.6 in 2007 and 1.7 in 2009 (the difference is statistically insignificant). No facility had a functioning shower at baseline and only one (Khashtarak MA in Tavush marz) had it at follow-up.

Electricity and heating. Twenty-four hour electricity was available at 17 FAPs (54.8%) in 2007. This number increased in 2009 to 28 FAPs (90.3%). The difference was statistically significant (p=0.005). However, three FAPs (Gosh and Nerqin Gosh in Tavush and Tegheniq in Kotayk marz) reported no electricity supply at follow-up.

At baseline, 12 facilities (all FAPs) reported having no heating during winter. At follow-up, this number decreased to two (Tegheniq FAP in Kotayk and Gosh FAP in Tavush). The decrease was statistically significant (p=0.008). The mean number of rooms heated during winter was 4.3 in 2007 and 5.5 in 2009. This pattern was true for all facility types: from 0.7 to 1.1 for FAPs (p=0.019), from 2.3 to 5.1 for MAs (p=0.023), from 25.0 to 26.0 for PCs and HCs. FAPs primarily used portable electric heaters at follow-up, reflecting a decrease in usage of room heaters with flue. In referral-level facilities, hot water systems were widely used (in 43.8% of MAs and 71.4% of HCs/PCs) replacing portable electric heaters.

Furniture and equipment. Summative furnishing and equipment scores were calculated for each facility to assist in making baseline vs. 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 referral-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 "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 39.4% at baseline and 65.7% at follow-up (p=0.000). The mean equipment score was 34.0% at baseline and 46.2% at follow-up (p=0.000). Comparisons by facility-type showed that furnishing and equipment status improved considerably in all types of PHC facilities (Table 3). MAs had the highest scores at baseline, while FAPs the lowest. Thus, the detected improvement in FAPs was more impressive.

Table 3. Cumulative mean furniture and equipment scores per facility type, 2007 vs. 2009

Type of facility	Furniture scores (%)		Equipment scores (%)	
	2007	2009	2007	2009
FAPs (n=31)	23.1	61.6*	23.1	32.4*
MAs (n=16)	68.2	79.2*	60.5	75.4*
HCs & PCs (n=7)	45.2	53.6*	22.0	40.2*
All facilities (n=61)	39.4	65.7*	34.0	46.2*

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

Family medicine

Clinical trainings. In 2007, 41.8% (33) of all PHC physicians (n=79) employed in the assessed 54 facilities had been educated at the National Institute of Health (NIH) or Yerevan State Medical University (YSMU) within the last 5 years; 39.2% (31) expressed willingness to receive Family Medicine (FM) education or were in the process of receiving it. In 2009, 70.4% (57) of all PHC physicians (n=81) employed in the assessed facilities had completed FM training at NIH / YSMU. At baseline, 23.3% (47) of nurses (n=202) in the assessed facilities had been educated in Family Nursing (FN) at NIH or the Basic Medical College (BMC) within the last 5 years; 43.1% (87) were willing or were in the process of receiving it. In 2009, 42.0% (89) of these nurses (n=212) had been educated in FN at NIH / BMC.

The providers answered 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. They also provided information 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, while Table 5 shows the distribution of trainings for FAP nurses, the main target for PHCR training activities, by topic.

Table 4. PHC nurses and doctors recent short-term trainings by topic, 2007 and 2009

Topics	Nurses				Physicians			
	2007 (n=202)		2009 (n=212)		2007 (n=79)		2009 (n=81)	
	n	%	n	%	n	%	n	%
1.First aid	22	10.9	40	18.9	8	10.1	16	19.8
2.Immunization	61	30.2	69	32.5	20	25.3	37	45.7
3.Breastfeeding	51	25.2	53	25.0	9	11.4	23	28.4
4.Sexually transmitted diseases	32	15.8	50	23.6	14	17.7	25	30.9
5.Reproductive health	29	14.4	56	26.4	11	13.9	25	30.9
6.IMCI	50	24.8	66	31.1	33	41.8	36	44.4
7.Tuberculosis	6	3.0	56	26.4	5	6.3	18	22.2
8.Healthy lifestyle	10	5.0	33	15.6	2	2.5	11	13.6
9.Healthy child growth & development	22	10.9	38	17.9	9	11.4	14	17.3
10.Treatment of chronic conditions (CHD, diabetes)	12	5.9	0	0.0	6	7.6	2	2.5
11.Prevention of infections	9	4.5	17	8.0	4	5.1	6	7.4
Total number of trainings	**304**		**478**		**121**		**213**	
Mean % having completed any training		**13.7**		**20.5**		**13.9**		**23.9**

Table 5. FAP nurses short-term trainings by topic, 2007 and 2009

Topics	FAP Nurses			
	2007 (n=41)		2009 (n=42)	
	n	%	n	%
1.First aid	13	31.7	6	14.3
2.Immunization	21	51.2	24	57.1
3.Breastfeeding	12	29.3	16	38.1
4.Sexually transmitted diseases	8	19.5	13	31.0
5.Reproductive health	17	41.5	23	54.8
6.IMCI	20	48.8	23	54.8
7.Tuberculosis	3	7.3	21	50.0
8.Healthy lifestyle	10	24.4	8	19.0
9.Healthy child growth & development	10	24.4	13	31.0
10.Treatment of chronic conditions (CHD, diabetes)	2	4.9	0	0.0
11.Prevention of infections	8	19.5	6	14.3
Total number of trainings	**124.0**		**153**	
Mean % having completed any training		**27.5**		**33.1**

Tables 4 and 5 show that the proportions of those having received training on tuberculosis, reproductive health, and sexually transmitted diseases had increased considerably. Among doctors, considerable increase was also observed in proportions of those having received training on immunization and breastfeeding. The mean proportion of PHC nurses having completed training on any of these topics in the past 5 years was 13.7% at baseline and 20.5% at follow-up. FAP nurses, as a group, had higher coverage: 27.5% at baseline and 33.1% at follow-up (Table 5). PHC doctors showed more improvement, increasing from 13.9% at baseline to 23.9% at follow-up.

At follow-up, the participants most frequently mentioned the following organizations as providers of trainings: Armenian Red Cross Society (ARCS), MOH, and PHCR Project for first aid; United Nations Children's Fund (UNICEF) and MOH for immunization; Project NOVA and UNICEF for breastfeeding; Project NOVA and United Methodist Committee of Relief (UMCOR) for reproductive health; Project NOVA and Medicines sans Frontiers (MSF) for STDs; UNICEF and UMCOR for IMCI; National TB Program for tuberculosis; Project NOVA and World Vision (WV) for healthy lifestyle; Project NOVA, WV, and UNICEF for healthy child growth and development; and Project NOVA and PHCR Project for prevention of infections.

Clinical Practice Guidelines. In 2007, World Bank (WB)-developed clinical practice guidelines for family doctors were present in all referral-level facilities except Khashtarak and Zorakan MAs (Tavush marz). Of these facilities, 10 (43.5%) had the full set of these guidelines (17 volumes). At follow-up, all but Zorakan MA had these guidelines including 18 (78.2%) facilities having the full set and three (13.0%) having also the additional two volumes. On average, 46.8% of the doctors employed in these facilities possessed a personal set of these guidelines in 2007. This proportion was significantly higher in 2009 (93.8%, p=0.000).

In 2007, the full set (5-7 volumes) of the WB-developed clinical guidelines for family nurses was available in 11 referral-level facilities and in 2 FAPs. In 2009, the full set of these guidelines was present in 13 referral-level facilities and in 8 FAPs. Another 6 FAPs and 4 referral-level facilities possessed partial sets of these guidelines (2-4 volumes). The proportion of nurses employed in the assessed facilities who had personal sets of these guidelines was 16.3% in 2007 and 25.9% in 2009 (significant increase: p=0.017). For nurses employed in FAPs, this proportion increased from 7.3% in 2007 to 33.3% in 2009 (p=0.003).

PHC facilities had other clinical practice guidelines that were mainly distributed by UNICEF and MOH in conjunction with short-term trainings (e.g., Immunization, IMCI). Armenian Eye Care Project (AECP) had distributed guidelines on Eye diseases and Project NOVA on Reproductive Health for Family Nurses. In a few sites, guidelines were found on STDs (provided by MSF), childcare (provided by Jinishian Memorial Foundation (JMF)), Cardio-vascular Diseases (USAID), Rational Use of Drugs (UNICEF), and Early Detection of Cervical Cancer (USAID).

Table 6 summarizes facilities' access to evidence-based medicine (EBM) sources in 2007 and 2009. At MAs, HCs, and PCs, significant changes were detected in access to EBM publications and medical books (published since 2000); marginally significant increase was observed in access to Internet (p=0.059). There were no significant changes at FAPs.

Table 6. Facility access to EBM sources, 2007 vs. 2009

	FAPs n=31 (%)		**MAs, HCs, PCs n=23 (%)**		**All Facilities n=54 (%)**	
	2007	**2009**	**2007**	**2009**	**2007**	**2009**
Internet	3.2	0.0	13.0	34.8	7.4	14.8
Medical Periodicals	6.5	0.0	43.5	47.8	22.2	20.4
Recent training materials	48.4	58.1	65.2	73.9	55.6	64.8
Newsletters	9.7	0.0	30.4	21.7	18.5	9.3
EBM publications	3.2	0.0	8.7	30.4*	5.6	13.0
Medical books (published since 2000)	29.0	29.0	43.5	87.4*	35.2	53.7*

**Statistically significant difference, p<0.05*

Table 7 summarizes facilities' access to selected drug information sources in 2007 and 2009. Significant changes occurred at referral-level facilities in terms of wider availability of two sources: Mashkovski, Pharmaceuticals and Vidal, Drug Guide for Transcaucasus. The situation at FAPs again remained unchanged.

Table 7. Facility access to selected drug information sources, 2007 vs. 2009

	FAPs n=31 (%)		MAs, HCs, PCs n=23 (%)		All Facilities n=54 (%)	
	2007	**2009**	**2007**	**2009**	**2007**	**2009**
Mashkovski, Pharmaceuticals	3.2	6.5	30.4	60.9*	14.8	29.6*
Vidal, Drug Guide	0.0	3.2	34.8	39.1	14.8	18.5
Vidal, Drug Guide for Transcaucasus	0.0	0.0	30.4	52.2*	13.0	22.2*
Optimal Drug Treatment Guidelines, DMTA, RA	0.0	0.0	17.4	13.0	7.4	5.6
Armenian National Formulary	0.0	0.0	8.7	13.0	3.7	5.6

**Statistically significant difference, p<0.05*

Medical Recording. Table 8 demonstrates the data on medical recording for the whole sample and separately for FAPs, as they are the primary targets of the project.

Table 8. Existence, coverage, completeness, and types of record forms, 2007 vs. 2009

		Facilities using the form (%)		Mean coverage of population with the form (%)[§]		Facilities where the form assessed as complete (%)[§]		Facilities mainly using standard forms (%)[§]	
		2007	**2009**	**2007**	**2009**	**2007**	**2009**	**2007**	**2009**
Medical chart, children	***All facilities***	100.0	100.0	96.2	95.0	55.8	63.0	68.5	94.4*
	FAPs	100.0	100.0	94.5	93.7	40.0	51.6	61.3	93.5*
Medical chart, adults	***All facilities***	86.3	94.4*	65.5	71.5	28.9	58.8*	76.1	96.0*
	FAPs	78.6	90.3	56.6	63.1	16.7	46.4*	64.0	100.0*
Immunization forms	***All facilities***	100.0	98.1	94.7	99.7	98.1	96.2	96.3	98.1
	FAPs	100.0	96.8	92.1	100.0	96.8	93.3	93.5	100.0
Chart, pregnancy	***All facilities***	32.0	25.9	68.8	99.9	52.2	85.7	71.4	85.7
	FAPs	10.3	6.5	25.0	100.0	12.5	50.0	42.9	50.0
Journal, out-patient visits	***All facilities***	86.8	90.7			55.6	83.3*		
	FAPs	86.7	87.1			42.3	74.1		
Journal, home visits	***All facilities***	56.6	70.4			52.9	74.4		
	FAPs	40.0	58.1			53.3	55.6		
Journal, ambulance calls	***All facilities***	16.7	14.8			41.7	100.0		
	FAPs	-	-			-	-		

**Statistically significant difference, p<0.05*

[§] *In those facilities using the form*

In general, the situation with medical recording improved in the assessed facilities since the baseline assessment. Usage of medical charts for pediatric patients (<18 years old) and coverage of this population with the charts was high both at baseline and at follow-up. Completeness of these charts increased slightly since 2007 (from 55.8% to 63.0%), while the observed increase in usage of standard chart forms was significant (68.5% vs. 94.4%, p=0.002). This was the case for FAPs as well (61.3% vs. 93.5%, p=0.008). For adults (≥18 years old), medical charts were present at fewer facilities in 2007 compared to 2009 (86.3% vs. 94.4%, p=0.034). Completeness of these charts also improved (28.9% vs. 58.8%, p=0.003). The same tendency was found in FAPs (significantly higher

proportion of complete charts for adults: 16.7% vs. 46.4%, p=0.021). The usage of standard forms of these charts also increased (from 76.1% to 96.0% for all facilities, p=0.011; and from 64.0% to 100.0% for FAPs, p=0.005). Immunization charts were widely used in all facilities and had high coverage and completeness both in 2007 and 2009. Pregnancy charts were in use mainly in referral facilities, especially in polyclinics (100% of the PCs used these charts both in 2007 and 2009). Only a few FAPs (3 of 31 at baseline and 2 at follow-up) used these charts. This probably reflects that pregnant women are still being referred to Ob/Gyns rather than managed at the family practice level. The follow-up assessment did not detect any significant changes in the use of journals for outpatient visits. These journals existed in almost all facilities. However, completeness of these journals improved significantly since 2007 (55.6% vs. 83.3%, p=0.021). The situation with availability of journals for home visits was worse and improved slightly since 2007. Sixty percent of the FAPs in 2007 and over 40% in 2009 did not use these journals. Wherever present, these journals were often incomplete both at baseline and at follow-up (46.7% of incomplete ratings at FAPs in 2007 and 44.4% in 2009). Few facilities (and no FAPs) were using a journal for ambulance calls (Table 8).

Quality Assurance. In 2007, none of the assessed facilities reported having a quality assurance mechanism introduced. In 2009, ten facilities (3 MAs, all 5 PCs and 2 HCs) reported having such a mechanism and described it mainly as implementation of PHCR Project's Quality Assurance Package. Of these facilities, nine were "larger" facilities (with three or more physicians employed) and thus were included in the first stage of the Quality Assurance Package implementation by the PHCR Project. One MA (Ddmashen in Gegharkunik marz) was not included in this initiative because of having only one physician. Nevertheless, this facility reported having a quality assurance mechanism and described it as "Performance assessment, accessibility, graphical representation of the physical environment".

During the three months prior to the assessment, the mean number of supervisory visits made to FAPs was 2.7 (sd: 2.9) in 2007 and 4.6 (sd: 6.3) in 2009. The observed increase, however, did not reach statistical significance (p=0.170, paired samples t-test).

Technical Capacity. At baseline, 14 facilities (8 MAs, 4 PCs, and 2 HCs) reported having functional computer(s). At follow-up, 21 facilities (13 MAs, all 7 PCs and HCs, and even one FAP: Lusahovit in Tavush marz) reported having at least one functional computer. This increase was statistically significant (p=0.035, Wilcoxon Signed Ranks Test). The mean number of functional computers per referral-level facility (MA, HC or PC) also increased significantly: from 0.9 in 2007 to 1.5 in 2009 (p=0.008).

In 2007, three facilities (1 MA, 1 HC, and 1 PC) reported having a computer software for clinical data collection and analysis. Mergelyan Scientific-Research Institute had provided the software to two of them. The third received it from the State Health Agency. In 2009, none of the facilities reported having such a software.

The number of clinical preceptors in the referral centers increased from 3 in 2007 to 6 in 2009. Clinical preceptor sites included Ijevan Mother and Child PC (3 preceptors), Balahovit MA, Nor Hachn and Sevan PCs.

Open enrollment, financing, and management

In 2007, none of the assessed facilities reported having a software for open enrollment or a staff member trained in open enrollment registration. No person was registered through open enrollment

in these facilities during the year preceding baseline assessment. In 2009, all the assessed PCs, HCs, and 14 of the 16 MAs (except Zorakan and Khashtarak MAs in Tavush marz) reported having computer software for open enrollment provided by PHCR project and almost all these facilities (except Paravaqar MA in Tavush marz) had at least one trained operator to register open enrollment data. Since baseline, the number of trained operators in these facilities increased from 0 to 22. The number of people registered through open enrollment during the last year in these facilities increased from 0 at baseline to 120,909 at follow-up. The latter figure constitutes 87.8% of the population these facilities serve.

Only independent legal entities answered the questions on financing and management. All the assessed PCs and HCs (n=7) were independent legal entities both at baseline and at follow-up, while the number of independent MAs increased from three (18.8%) at baseline to 14 (87.5%) at follow-up. Of these facilities, three reported calculating regularly the cost of services provided at their facility in 2007 and only two reported doing this in 2009. The main reason for not calculating these costs was that the State Health Agency (SHA) provided these calculations.

In 2007, none of these facilities had accounting software. In 2009, 13 facilities (all 7 PCs and HCs, and 6 MAs) reported using accounting software. All these facilities used Armenian program provided by PHCR/USAID.

At baseline, all the PCs, HCs, and MAs (except Paravakar MA in Tavush marz) considered it reasonable to introduce computer software for accounting in their facilities. At follow-up, however, four facilities considered this unreasonable, including two polyclinics (Vardenis PC in Gegharkunik and Byureghavan PC in Kotayk) and a HC (Garni HC in Kotayk). The respondents reported about having a qualified accountant in all independent legal entities at baseline and in 19 of 21 independent legal entities at follow-up (except one PC and one MA, both in Kotayk marz).

Table 9 summarizes the data on specific categories of trainings received by accountants within the last 5 years and their training needs at both baseline and follow-up. While still relatively low, the cumulative number of accountant trainings had increased from 8 to 55, and the mean percentage of those having received any training increased from 13.3% to 43.7%. Interestingly, the proportion of those needing trainings also increased from 26.7% to 60.3%, perhaps, showing better understanding of the importance of these trainings among accountants in 2009. The participants listed Armaudit and IAB Center as providers of the trainings at baseline while they reported about the PHCR/USAID as the main provider at follow-up.

Table 9. Trainings and training needs of accountants at PHC facilities, 2007 vs. 2009

Topics	Trainings received n (%)		Needed Trainings n (%)	
	2007 (n = 10)	2009 (n = 21)	2007 (n = 10)	2009 (n = 21)
1. Financial management	0 (0.0)	5 (23.8)	2 (20.0)	14 (66.7)
2. Cost accounting	2 (20.0)	14 (66.7)	2 (20.0)	11 (52.4)
3. Financial accounting	2 (20.0)	18 (85.7)	3 (30.0)	10 (47.6)
4. Computer training	1 (10.0)	10 (47.6)	3 (30.0)	12 (57.1)
5. Tax legislation	2 (20.0)	7 (33.3)	3 (30.0)	16 (76.2)
6. Labor legislation	1 (10.0)	1 (4.8)	3 (30.0)	13 (61.9)

Table 10 demonstrates the data on trainings received by the facility managers within the last 5 years and their subsequent training needs. The sample of facilities for this section was also restricted to independent legal entities at the time of both baseline and follow-up assessments. The cumulative

number of inquired trainings received by the facility managers increased from 22 to 42, while the mean percentage of those who received these trainings remained almost unchanged (27.5% in 2007 and 25.0% in 2009) because of more than doubled number of independent legal entities in the sample. As with accountants, the mean need of managers in subsequent trainings on the inquired topics increased from 41.3% to 62.5% (possibly again reflecting a better understanding of the importance of these trainings). At the follow-up assessment, the PHCR/USAID was the main provider of the trainings for managers.

Table 10. Trainings and training needs of PHC facility directors, 2007 vs. 2009

Topics	Trainings received n (%)		Need trainings n (%)	
	2007 (n = 10)	2009 (n = 21)	2007 (n = 10)	2009 (n= 21)
1. Health services management	9 (90.0)	14 (66.7)	8 (40.0)	14 (66.7)
2. Health economics	3 (30.0)	6 (28.6)	3 (30.0)	13 (61.9)
3. Financial management	4 (40.0)	6 (28.6)	6 (60.0)	14 (66.7)
4. Cost accounting	0 (0.0)	1 (4.8)	3 (30.0)	12 (57.1)
5. Fundamentals of accounting	1 (10.0)	3 (14.3)	3 (30.0)	14 (66.7)
6. Tax legislation	2 (20.0)	2 (9.5)	6 (60.0)	14 (66.7)
7. Labor legislation	3 (30.0)	7 (33.3)	4 (40.0)	13 (61.9)
8. Computer training	0 (0.0)	3 (14.3)	4 (40.0)	11 (52.4)

Among independent legal entities, the proportion of referral-level facilities that track revenues by medical departments increased significantly from 30.0% (3 facilities) in 2007 to 52.4% (11 facilities) in 2009 (p=0.046). The number of those tracking their expenditures by medical departments was eight (80.0%) in 2007 and 12 (57.1%) in 2009 (the difference is not statistically significant).

Client Visits and Home Visits. The absolute number of client visits in the assessed facilities increased mildly from 208,247 in 2006 to 242,736 in 2009 (Table 11), but the rate per person served remained constant as the total number of served population also increased from 131,960 to 154,580 (based on the reports by facility administrators). Table 11 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 relatively higher in Gegharkunik facilities and lower in Tavush. All these tendencies were observed also during the follow-up assessment in Lori and Shirak marzes (see the report "Follow-up Facility Resource Assessment of Targeted PHC Facilities in Lori and Shirak marzes, 2008").

Table 11. Annual clinic visits (absolute number and rate per person), 2006-2009

	2006	2007*	2008	2009*
Absolute number				
Visits to PHC facilities	208,247	161,790	226,702	242,736
Annual rate per person served				
FAPs	0.84	0.92	1.02	0.96
MAs, HCs, and PCs	1.79	1.31	1.56	1.70
Whole sample	1.58	1.23	1.47	1.57
Facilities in Gegharkunik marz	1.86	1.35	1.92	1.63
Facilities in Kotayk marz	1.47	1.13	1.33	1.62
Facilities in Tavush marz	1.33	1.27	1.10	1.39

**Estimated based on actual visits during February and March.*

The absolute number of home visits decreased slightly during 2006-2009 (Table 12). 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. At baseline, providers in Tavush marz were more likely to conduct home visits than those in Kotayk and Gegharkunik marzes. This difference, however, disappeared at follow-up. Again, all the revealed tendencies were observed also in Zone 1 facilities, although the PHC services' utilization rates (both for clinic visits and home visits) were generally lower in Zone 2 facilities than in Zone 1 facilities (see the report "Follow-up Facility Resource Assessment of Targeted PHC Facilities in Lori and Shirak Marzes, 2008").

Table 12. Annual home visits (absolute number and rate per person), 2006-2009

	2006	2007*	2008	2009*
Absolute numbers				
Home visits**	41,743	38,592	31,295	38,046
Annual rate per person served **				
FAPs	0.49	0.51	0.40	0.48
MAs, HCs, and PCs	0.27	0.23	0.16	0.20
Whole sample	0.32	0.29	0.20	0.25
Facilities in Gegharkunik marz	0.36	0.30	0.19	0.25
Facilities in Kotayk marz	0.24	0.24	0.20	0.25
Facilities in Tavush marz	0.46	0.45	0.23	0.24

** Estimated based on actual visits during February and March.*

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 number of disabled. Based on these data, crude mortality rates per 1,000 and infant mortality rates per 1,000 live births were computed. Table 13 provides the data for 2005-2008. Both rates remained relatively stable during this period. Over half of infant deaths happened in neonatal period. No maternal deaths occurred during 2005-2007, while in 2008 one maternal death was reported in Kotayk marz.

Table 13. Deaths and crude mortality rates, 2005-2008

	2005	2006	2007	2008
Absolute number				
Deaths	893	839	962	968
Infant deaths	18	21	11	22
…of which neonatal deaths	11	9	8	11
Rate				
Crude death (per 1,000 served)*	7.0	6.4	6.2	6.3
Infant mortality (per 1,000 live births)	10.8	12.8	4.9	10.9
Proportion				
Neonatal/infant deaths (%)	61.1%	42.9%	72.7%	50.0%

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

The M&E team computed per-facility crude mortality rates and infant mortality rates and compared the means between years, marzes and facility types (FAPs vs. referral-level facilities). Mean infant mortality rate was significantly lower in 2007 compared to both 2006 and 2008. In 2007 and 2008, the mean per-facility crude mortality rate was significantly higher in Tavush marz compared to both Kotayk and Gegharkunik marzes. The mean per-facility infant mortality rate was also significantly higher in Tavush marz compared to Kotayk in 2008. No other significant differences were found.

The reported absolute number of hospitalizations increased from 2005 to 2008. However, no clear increase in the crude hospitalization rate per 1,000 served population was observed (Table 14).

Table 14. Number of hospitalizations and crude hospitalization rate, 2005-2008

	2005	2006	2007	2008
Absolute number of hospitalizations*	2,129	3,119	3,048	3,825
Crude hospitalization rate (per 1,000 served)**	21.4	30.8	21.4	24.9

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

The mean per-facility hospitalization rate increased significantly: from 11.9 per 1,000 served population in 2005 to 17.4 per 1,000 in 2008 (p=0.005). The mean hospitalization rate in FAPs was statistically significantly lower than in referral-level facilities in 2005 (8.5 vs. 16.0, p=0.033). This difference was statistically significant in 2006 as well (10.2 in FAPs vs. 20.6 in referral-level facilities, p=0.024). In 2007 and 2008, however, no significant differences between these facility types were observed. Between-marz differences were not statistically significant.

Table 15 presents the number of reported live births and crude birthrates (number of births per 1,000 served population) for 2005-2008. The absolute number of life births increased during this period. However, the observed change in the crude birth rate was not significant, since the reported number of population served by the assessed facilities also increased (from 131,960 in 2006 to 154,580 in 2008). The proportion of reported pre-term births among all births was small and varied from 1.5% in 2006 to 5.0% in 2008.

Table 15. Number of live births and crude birth rate, 2005-2008

	2005	2006	2007	2008
Absolute number of life births	1,671	1,646	2,245	2,020
Crude birth rate (per 1,000 served)*	14.1	13.7	14.5	13.1
Number (%) of pre-term births among all births	33 (2.0%)	24 (1.5%)	76 (3.4%)	102 (5.0%)

** 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).*

In the period of 2005-2008, the only significant change in the mean per-facility birth rate was between the years 2007 and 2008: it declined from 12.8 in 2007 to 10.9 in 2008 (p=0.003). The mean per-facility birth rate was persistently significantly lower in FAPs compared to referral-level facilities (e.g., in 2008 this rate was 8.8 in FAPs and 13.9 in referral-level facilities, p=0.000). Marz differences were not statistically significant.

Most deliveries took place in maternity hospitals (Table 16). In 2005 and 2006, 2.7% and 2.6% of all deliveries, respectively, took place at the same PHC facility (Garny HC in Kotayk marz). No deliveries took place in PHC facilities in 2007 and 2008. Home deliveries constituted 2.3% in 2005 and 2.0% in 2006. Almost all these deliveries occurred in Gegharkunik marz (the vast majority – in Vardenis sub-region). In 2006 and 2007, home deliveries constituted a tiny proportion of all deliveries. Of the nine home deliveries reported in 2008, five took place in Gegharkunik marz (of which four – in Maqenis village of Vardenis sub-region).

Table 16. Deliveries by site, Zone 2 target areas, 2005-2008

Year	PHC facilities		Maternity hospitals		Home	
	N	%	N	%	N	%
2005	76	2.7	2656	95.0	65	2.3
2006	77	2.6	2825	95.4	60	2.0
2007	0	0.0	2245	99.8	5	0.2
2008	0	0.0	2007	99.6	9	0.4

The reported total number of disabled among the population served by the target facilities was 4,764 in 2007 and 6,267 in 2009. Four facilities in 2007 did not provide these data. The disability rate per 1,000 population served was 35.0 in 2007 and 40.5 in 2009 (adjusted - do not include population served by the facilities with missing data). The differences in the mean per-facility rate of disability between 2007 and 2009 or between FAPs and referral-level facilities were not significant. Generally, disability rates were lower in Kotayk marz compared to Gegharkunik and Tavush marzes. These differences reached the level of statistical significance between Kotayk and Gegharkunik marzes in 2007 and between Kotayk and Tavush marzes in 2009 (see Table 17).

Table 17. Mean per-facility rates of disabled (per 1,000 served) by year, facility type, and marz

	2007 Mean (SD)[5]	2009 Mean (SD)
Whole sample	27.2 (28.4)	29.6 (21.7)
FAPs	21.1 (11.6)	27.8 (21.3)
Referral-level facilities	34.9 (39.9)	32.1 (22.5)
Gegarkunik marz	37.0 (18.9)*	28.1 (24.2)
Kotayk marz	19.1 (9.2)*	22.8 (12.0)*
Tavush marz	36.2 (52.1)	46.3 (28.0)*

**Statistically significant difference between marzes (p=0.011 for both cases)*

The population-based indicators should be approached with caution, however, because the selection of the sites was purposeful and the study was powered to assess only program-level effects. Thus, the lack of significant findings when comparing by facility type or marz does not necessarily indicate a lack of difference.

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

Public education

The facility resource assessment looked at the availability of patient/public education materials (brochures/leaflets and posters) on 24 health topics. Table 18 presents the results. At baseline, the most frequently mentioned topics covered by brochures/leaflets were bird flu (available in 68.5% of facilities), eye/vision pathology (52.8%), reproductive health, immunization (both – 48.1%), iodine deficiency (47.2%), childcare (46.3%), HIV/AIDS (44.4%), and breastfeeding, healthy nutrition and lifestyle (all – 38.9%). Many facilities displayed posters on immunization (77.8%), some on Basic Benefits Package (BBP) (42.6%), iodine deficiency (36.5%), and HIV/AIDS (28.3%). Organizations mentioned more frequently as the providers of the education materials included: UNICEF, USAID, WV, UMCOR, and MOH. At follow-up, the topics most frequently covered with brochures/leaflets were reproductive health (available in 92.6% of facilities), child care (85.2%), vaccination, diabetes (both – 77.8%), tuberculosis (75.9%), eye/vision pathology (72.2%), open enrollment (70.4%), HIV/AIDS, hypertension, urinary tract infections, healthy bones (all – 64.8%), STDs (55.6%), breastfeeding and BBP (both – 46.3%). Posters frequently addressed vaccination (in 88.9%), BBP (87.0%), childcare (57.4%), influenza, open enrollment (both – 48.1%), and reproductive health (38.9%). The main providers of these materials were PHCR, USAID, UNICEF, WV, NOVA, UMCOR, and MOH. In general, the diversity of public educational materials available in the target facilities increased since 2007.

Table 18. Availability of patient/public education materials, 2007 & 2009

Topics	Facilities with brochures/leaflets available				Facilities with posters available			
	2007		2009		2007		2009	
	n	(%)	n	(%)	n	(%)	n	(%)
1. Basic Benefits Package (new)	18	33.3	25	46.3	23	42.6	47	87.0
2. Bird flu	37	68.5	9	16.7	9	16.7	8	14.8
3. Breastfeeding	21	38.9	25	46.3	5	9.3	9	16.7
4. Breast self-examination	7	13.0	8	14.8	2	3.2	1	1.9
5. Child care	25	46.3	46	85.2	3	5.6	31	57.4
6. CHD	2	3.7	2	3.7	1	1.9	0	0.0
7. Diabetes	8	14.8	42	77.8	0	0.0	1	1.9
8. First Aid	1	1.9	3	5.6	1	1.9	2	3.7
9. Healthy lifestyle	21	38.9	22	40.7	7	13.2	6	11.1
10. Healthy nutrition	21	38.9	21	38.9	2	3.8	6	11.1
11. HIV/AIDS	24	44.4	35	64.8	15	28.3	16	29.6
12. Hypertension	5	9.3	35	64.8	1	1.9	5	9.3
13. Influenza	13	25.0	5	9.3	1	1.9	26	48.1
14. Iodine insufficiency	25	47.2	21	38.9	19	36.5	16	29.6
15. Oral hygiene	1	1.9	1	1.9	0	0.0	1	1.9
16. Reproductive health	26	48.1	50	92.6	8	15.1	21	38.9
17. Smoking	11	20.4	8	14.8	8	15.1	8	14.8
18. STDs	19	35.2	30	55.6	2	3.8	1	1.9
19. Tuberculosis	5	9.3	41	75.9	6	11.3	10	18.5
20. Vaccination	26	48.1	42	77.8	42	77.8	48	88.9
21. Vision problems	28	52.8	39	72.2	1	1.9	0	0.0
22. Urinary tract infections	1	2.0	35	64.8	1	2.1	0	0.0
23. Healthy bones	0	0.0	35	64.8	0	0.0	2	3.7
24. Open Enrollment	-	-	38	70.4	-	-	26	48.1

To address breadth of patient/public education material coverage at a facility, the M&E team computed two summative scores: 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 6.4. This score increased to 11.4 at follow-up (p=0.000). The mean poster score increased from 2.9 to 5.4 (p=0.000). Table 19 summarizes these results by marz and facility type. The breadth of available patient/public education materials increased significantly across almost all dimensions (the only exception was the lack of increase of topics covered by posters in Tavush marz).

Table 19. Patient/public education materials brochure/booklet and poster scores by facility type and marz, 2007 vs. 2009

	Brochure/booklet scores			Poster scores		
	2007	2009	p-value	2007	2009	p-value
FAPs	5.2	11.8	0.000	2.2	4.2	0.000
Referral-level facilities	8.0	11.0	0.020	3.9	7.0	0.000
Gegharkunik marz	5.0	10.7	0.006	3.2	5.5	0.001
Kotayk marz	6.0	11.0	0.000	2.3	6.0	0.000
Tavush marz	8.5	13.1	0.007	4.1	4.0	0.912
Whole sample	6.4	11.4	0.000	2.9	5.4	0.000

The proportion of communities receiving community-based health interventions increased significantly from 22.6% (12) at baseline to 64.8% (35) at follow-up (p=0.000). This increase was particularly evident for those communities served by FAPs: from 6.5% (2) to 77.4% (24).

At baseline, FAPs reported almost no health-related activities with community involvement and referral-level facilities reported very few such activities (mainly, environmental). At follow-up, the number of sites reporting any health-related activity increased sharply: from 17 to 94 (Table 20). The most common health-related activities at follow-up were health education sessions with teachers or schoolchildren (28 sites [51.9%] compared to three sites [5.9%] at baseline, p=0.000), followed by regular community health education meetings with nurse (22 sites [43.1%] compared to three sites [5.9%] at baseline, p=0.000). Considerable proportion of the observed increase in health-related activities with community involvement was related to the formation of Community Health Committees (CHC) within the framework of the PHCR Project (in all those communities served by PHC facilities targeted for renovation). In 15 communities (29.4% of all communities), CHCs held regular health education meetings at follow-up compared to zero at baseline (p=0.000). CHC members made home visits in 6 communities in 2009 compared to 0 at baseline (p=0.014). As nurses and teachers were usually CHC members, their PE activities could also be viewed as CHC-related. A significant increase was observed also in the number of communities served by FAPs, where environmental activities were conducted with community involvement (from one [3.2%] at baseline to seven [22.6%] at follow-up, p=0.014).

At baseline, the participants mentioned about family doctors, village mayor office, municipality, MOH, and teachers as the organizers of those activities. At follow-up, they frequently reported about CHC and nurses as the initiators of these activities.

Table 20. Number of sites where the following community health-related activities where conducted in the last three years, 2007 vs. 2009

	FAPs (n=31)		MAs, HCs, & PCs (n=23)		All facilities (n=54)	
	2007	**2009**	**2007**	**2009**	**2007**	**2009**
Regular community health education meetings with CHC	0	14**	0	1	0	15*
Home visits by CHC	0	5*	0	1	0	6*
Regular community health education meetings with nurse	0	16*	3	6	3	22*
Health education sessions with teachers/school children	0	17*	3	11*	3	28*
Children role play on health issues	0	1	0	1	0	2
Community involvement in health facility renovation	1	3	3	1	4	4
Water supply/sewage system building/reconstruction	0	3	0	1	0	4*
Environmental activities (tree planting, trash removal, and other)	1	7*	6	6	7	13
Community sustained revolving fund	0	0	0	0	0	0
Any one of the above activity(ies)	**2**	**66**	**15**	**28**	**17**	**94**

** Statistically significant difference between 2007 and 2009, p <0.05*

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 2 (6.5%) to 27 (87.1%) (p=0.000), and the number of referral-level facilities licensed to provide FM services increased from 8 (34.8%) to 20 (87.0%) (p=0.001).

Staffing. The number of vacancies for doctors did not change between baseline and follow-up assessments: there were seven such vacancies in both 2007 and 2009. The number of vacancies for nurses decreased from three in 2007 to zero in 2009.

Crucial needs. As in the first zone, renovation was cited most frequently as a crucial need at baseline, closely followed by utilities (e.g. water supply, heating, swage system), basic medical equipment (e.g., ECG, ultrasound, glucometer, x-ray machine, scales), laboratory equipment (e.g. microscope, clinical analyzer), furniture, and pharmaceuticals. Among crucial needs, some facilities also mentioned electricity, transportation/ ambulance car, refrigerator, computer, and professional literature.

At follow-up, the need in water supply and sewage system moved to the top priority mentioned by 34 facilities, of which 28 were FAPs. For FAPs, the next crucial necessities were refrigerator and child/adult scales and height measurers (each mentioned by 8 facilities), followed by local drug store (7 facilities), latrine (6), heating (5), and electricity supply (3). For referral-level facilities, the need for renovation was the most common (10 facilities), followed by laboratory equipment (biochemical analyzer in particular). Seven facilities mentioned heating/gasification/hot water system as a crucial need, six – furniture, four – ultrasound and x-ray/fluorography machines. Several facilities needed surgical instruments (3), scales and height measurers (3), ambulance car (2), and ECG (2).

Main findings

The following main findings of the follow-up Facility Resource Assessment survey in Zone 2 (Kotayk, Gegharkunik, and Tavush marzes) are highlighted:

- **Physical conditions are improving**. The mean cumulative score for physical condition (examination/procedure's room(s) size, lighting, renovation status) of 54 facilities (31 FAPs and 23 referral-level facilities: MAs, HCs, and PCs) increased significantly (from 0.28 in 2007 to 0.89 in 2009). This increase was particularly evident for FAPs (from 0.16 to 0.97).

- **Water and sewage systems are increasingly available but remain a critical need**. The number of facilities having piped water supply increased significantly: from 24.1% in 2007 to 37.0% in 2009. However, the need in water supply and sewage system remained as the most crucial for the vast majority (87.1%) of the targeted FAPs.

- **A reliable electric supply is increasing**. Significant increase was detected in the number of FAPs with 24-hour electricity supply: 17 FAPs (54.8%) in 2007 vs. 28 FAPs (90.3%) in 2009.

- **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 2007 to 2 in 2009. The mean number of rooms heated during winter increased from 4.3 at baseline to 5.5 at follow-up.

- **Furnishings are improving.** The mean summative furniture score increased significantly from 39.4% at baseline to 65.7% at follow-up.

- **Equipment availability is improving but remains an important nee**d. The mean summative equipment score increased significantly from 34.0% in 2007 to 46.2% in 2009.

- **Family medicine/family nursing training is expanding its coverage**.
  - In 2007, 41.8% of all PHC physicians employed in the 54 facilities had been trained at NIH/YSMU. In 2009, this proportion increased to 70.4%. The mean number of family doctors employed in MAs, HCs and PCs increased significantly from 1.3 at baseline to 2.5 at follow-up.
  - In 2007, 23.3% of all PHC nurses employed in the 54 facilities had been trained at NIH/BMC. In 2009, this proportion increased to 42.0%. The mean number of family nurses employed in FAPs increased significantly from 0.1 at baseline to 0.8 at follow-up.
  - The mean proportion of FAP nurses receiving short-term clinical trainings on any of 11 select topics increased from 27.5% in 2007 to 33.1% in 2009. The corresponding indicator for PHC physicians increased from 13.9% to 23.9%; this indicator remains rather low for both nurses and physicians.
  - The number of FAPs licensed to provide FN services increased significantly from 2 (6.5%) to 27 (87.1%). The number of referral-level PHC facilities licensed to provide FM services also increased significantly, from 8 (34.8%) in 2007 to 20 (87.0%) in 2009.

- **Medical charts are increasingly available and complete.**
  - For children (<18 years old), usage of medical charts was universal and did not change between 2007 and 2009. The completeness of these charts increased slightly (55.8% vs. 63.0%) and the usage of standard forms – significantly (68.5% vs. 94.4%). This was the case for the whole sample, as well as for the FAPs only.

- For adults (>18), medical charting forms were present in more facilities in 2009 compared to 2007 (94.4% and 86.3%, respectively). Completeness of these forms and usage of standard forms also increased significantly (28.9% vs. 58.8% and 76.1% vs. 96.0%, respectively) both for the whole sample and 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 from 2.7 in 2007 to 4.6 in 2009.
  - The number of referral-level facilities possessing functional computers increased significantly from 14 in 2007 to 20 in 2009. The mean number of functional computers per referral-level facility has also increased significantly from 0.9 to 1.5.
  - Since the baseline assessment, the number of trained operators in referral-level facilities for open enrollment increased from zero to 22. The number of people registered through open enrollment during the last year in these facilities increased from zero in 2007 to 120,909 (87.8% of the served population) in 2009.
  - The number of referral-level facilities using accounting software increased from zero in 2007 to 13 in 2009. The cumulative number of trainings on select topics received by accountants within the last five years increased from eight at baseline to 55 at follow-up.
  - The cumulative number of trainings on select topics received by facility managers within the last five years increased from 22 at baseline to 42 at follow-up.

- **Utilization rates are stable as coverage expands**. The absolute number of visits increased mildly (from 208,247 in 2006 to 242,736 in 2009), but the rate per person served remained unchanged.

- **Crude mortality rate is declining**. Since 2005, the crude mortality rate decreased from 7.0‰ in 2005 to 6.3‰ in 2008.

- **Public education materials are increasing in breadth and availability**. The breadth of topics addressed by public education materials increased significantly from baseline. The mean brochure/booklet score was 6.4 (out of 24) in 2007 and 11.4 in 2009. The mean poster score was 2.9 (out of 24) in 2007 and 5.4 in 2009.

- **Communities and Community Health Committees are increasingly active.**
  - The proportion of communities receiving community-based health interventions increased significantly from 22.6% in 2007 to 64.8% in 2009.
  - Community Health Committees significantly increased activities: the number of communities having regular health education meetings with CHC increased from zero in 2007 to 15 in 2009.

Appendix 1. PHCR, Assessment Tool for Primary Healthcare 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)***

<u>Water/toilet</u>

	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 _____
7. No heating

19. Number of rooms heated during winter: _____

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			
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

45.1 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				
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. 2008	b. 2009, February	c. 2009, 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. 2008	b. 2009, February	c. 2009, 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. 2007	b. 2008
62. Number of deaths (total)		
63. Number of infant deaths		
64. Number of maternal deaths		

65. Number of hospitalizations:

	a. 2007	b. 2008
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)*
1. BBP* (new)				
2. Bird flue				
3. Breastfeeding				
4. Breast self-exam.				
5. Child care				
6. CHD				
7. Diabetes				
8. First Aid				
9. Healthy lifestyle				
10. Healthy nutrition				
11. HIV/AIDS				
12. Hypertension				
13. Influenza				
14. Iodine insufficiency				
15. Oral hygiene				
16. Reproductive health				
17. Smoking				
18. STDs				
19. Tuberculosis				
20. Vaccination				
21. Vision problems				
22. Urinary tract infections				
23. Healthy bones				
24. 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*

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 (functional):

	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		
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		

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

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					

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:

	Type (1/2/3)*	1. # of rooms in the office		Type (1/2/3)*	1. # 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*

102. Listing of other important rooms/facilities:

	a. 1= Yes, 0=No	b. Number
1. Laboratory		
2. Procedural room		
3. Disinfecting room		
4. Other 1 *(specify _____)*		
5. Other 2 *(specify _____)*		
6. Other 3 *(specify _____)*		

Go to Part B, and conduct "Facility performance assessment" interview, section "F" with PHC providers.
Along with PHC offices, assess laboratory, procedural, disinfecting and/or other important facilities using the same Part B portion of the instrument.
Complete "Facility performance assessment" interview, parts A through E, with the principal respondent

Part B: Facility Code _____ GP Office # *(from Q. 92)___ or room name*: _____

	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			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		
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. Tweezers (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		

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 (%)	
			2007	2009	2007	2009	2007	2009
1	Gegharkunik	Akhpradzor FAP	0.0	1.0	0.0	75.0	1.4	25.7
2	Gegharkunik	Chkalovka FAP	0.0	1.0	41.7	66.7	37.1	27.1
3	Gegharkunik	Gagarin FAP	1.0	1.0	33.3	66.7	17.1	27.1
4	Kotayk	Getamej FAP	0.0	1.0	50.0	41.7	27.1	37.1
5	Kotayk	Getargel FAP	0.0	1.0	16.7	75.0	24.3	32.9
6	Gegharkunik	Getik FAP	0.0	1.0	16.7	58.3	21.4	31.4
7	Kotayk	Goghtn FAP	0.0	1.0	16.7	58.3	28.6	37.1
8	Tavush	Gosh FAP	0.5	0.5	41.7	75.0	30.0	35.7
9	Tavush	Hovk FAP	0.0	1.0	58.3	75.0	34.3	32.9
10	Gegharkunik	Jaghatsadzor FAP	0.0	1.0	0.0	66.7	20.0	35.7
11	Kotayk	Jraber FAP	0.0	1.0	0.0	66.7	25.7	34.3
12	Kotayk	Kamaris FAP	0.0	1.0	33.3	66.7	27.1	35.7
13	Kotayk	Katnaghbyur FAP	0.5	1.0	33.3	58.3	25.7	38.6
14	Tavush	Lusahovit FAP	0.0	1.0	41.7	58.3	34.3	21.4
15	Gegharkunik	Maqenis FAP	0.0	1.0	0.0	75.0	18.6	25.7
16	Tavush	Nerkin Gosh FAP	0.0	1.0	25.0	75.0	14.3	28.6
17	Kotayk	Nerkin Ptghni FAP	0.0	1.0	16.7	58.3	27.1	48.6
18	Kotayk	Nor Gyugh FAP	0.0	1.0	0.0	91.7	14.3	22.9
19	Gegharkunik	Norabak FAP	0.0	1.0	0.0	58.3	0.0	11.4
20	Kotayk	Nurnus FAP	0.0	1.0	25.0	58.3	11.4	14.3
21	Kotayk	Saralanj FAP	0.0	0.5	0.0	41.7	0.0	28.6
22	Kotayk	Sevaberd FAP	0.0	1.0	33.3	33.3	20.0	17.1
23	Kotayk	Tekheniq FAP	1.0	1.0	33.3	50.0	14.3	41.4
24	Tavush	Tovuz FAP	0.0	1.0	33.3	75.0	40.0	38.6
25	Tavush	V.Karmir Aghbyur FAP	0.0	1.0	0.0	16.7	41.4	32.9
26	Tavush	V.Tsaghkavan FAP	1.0	1.0	41.7	66.7	24.3	38.6
27	Tavush	Varagavan FAP	1.0	1.0	33.3	83.3	30.0	25.7
28	Kotayk	Zoravan FAP	0.0	1.0	25.0	41.7	12.9	32.9
29	Gegharkunik	Zovaber FAP	0.0	1.0	16.7	75.0	41.4	25.7
30	Kotayk	Zovashen FAP	0.0	1.0	8.3	50.0	21.4	42.9
31	Kotayk	Zovq FAP	0.0	1.0	41.7	50.0	30.0	75.7
32	Kotayk	Aragyugh MA	0.0	1.0	50.0	66.7	37.1	85.7
33	Kotayk	Aramus MA	0.0	1.0	75.0	91.7	60.0	77.1
34	Kotayk	Balahovit MA	1.0	1.0	83.3	100.0	80.0	92.9
35	Gegharkunik	Ddmashen MA	1.0	1.0	83.3	100.0	91.4	94.3
36	Kotayk	Dzoraghbyur MA	1.0	1.0	83.3	91.7	95.7	81.4
37	Kotayk	Geghashen MA	1.0	1.0	83.3	75.0	84.3	48.6
38	Tavush	Haghartsin MA	1.0	1.0	83.3	66.7	67.1	80.0
39	Kotayk	Kaputan MA	0.0	1.0	33.3	75.0	25.7	77.1
40	Tavush	Khashtarak MA	0.0	1.0	75.0	91.7	55.7	85.7
41	Kotayk	Kotayk MA	0.0	0.0	66.7	83.3	67.1	77.1

#	Marz	Facility	Physical conditions score		Equipment score (%)		Furniture score (%)	
			2007	2009	2007	2009	2007	2009
42	Kotayk	Mayakovski MA	0.0	1.0	58.3	50.0	77.1	84.3
43	Tavush	Paravaqar MA	1.0	1.0	75.0	100.0	77.1	80.0
44	Gegharkunik	Tsovak MA	1.0	1.0	66.7	58.3	71.4	70.0
45	Kotayk	Verin Ptghni MA	0.0	1.0	50.0	58.3	27.1	75.7
46	Kotayk	Zar MA	0.0	1.0	75.0	66.7	22.9	54.3
47	Tavush	Zorakan MA	1.0	1.0	50.0	91.7	28.6	42.9
48	Kotayk	Argel HC	0.5	1.0	66.7	66.7	60.0	78.6
49	Kotayk	Garni HC	0.5	1.0	58.3	75.0	25.7	44.3
50	Kotayk	Byureghavan PC	0.5	0.5	50.0	58.3	31.4	37.1
51	Tavush	Mother & Child PC	0.5	0.5	50.0	58.3	12.9	35.7
52	Kotayk	Nor Hatchn PC	0.0	0.0	41.7	41.7	4.3	25.7
53	Gegharkunik	Sevan PC	0.0	0.0	33.3	41.7	8.6	30.0
54	Gegharkunik	Vardenis PC	0.0	0.0	16.7	33.3	11.4	30.0
55	Kotayk	Nor Yerznka MA *	-	1.0	-	91.7	-	84.3

** Excluded from the paired analysis because of no baseline data available*