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Primary Healthcare Reform Project

FACILITY PERFORMANCE ASSESSMENT SURVEY

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

2008



December, 2008

DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

FACILITY AND PROVIDER PERFORMANCE ASSESSMENT

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This publication is made possible by the support of the United States Agency for International Development (USAID). It was prepared by the Primary Health Care Reform (PHCR) Project, Armenia. The author's views expressed in this publication do not necessarily reflect the views of the USAID or the United States Government.

Preface

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

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

This report summarizes the follow-up facility/provider performance assessment of targeted primary healthcare facilities in Lori and Shirak marzes (Zone 1). This follow-up assessment evaluates the project impact on Zone 1 from 2006 to 2008 by comparison of selected facility and provider performance indicators.

The Center for Health Services Research and Development of the American University of Armenia, one of the sub-contractors to EMG, has primary responsibility for PHCR monitoring and evaluation. Dr. Anahit Demirchyan, Ms. Tsovinar Harutyunyan, Dr. Varduhi Petrosyan, and Dr. Michael Thompson are the primary authors of this study. We would also like to thank Dr. Hripsime Martirosyan and Ms. Nune Truzyan for their valuable contribution to all stages of the study. We would also like to thank our interviewers (primary healthcare physicians in the target marzes) for their data collection efforts.

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

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List of Acronyms

AUA	American University of Armenia
AIDS	Acquired Immune Deficiency Syndrome
ASTP	Armenian Social Transition Program
CHC	Community Health Committee
CHD	Coronary Heart Disease
CHSR	AUA Center for Health Services Research and Development
EMG	Emerging Markets Group
FAP	Rural Health Post (from Russian abbreviation)
FN	Family Nursing
HC	Health Center
HIV	Human Immunodeficiency Virus
IMCI	Integrated Management of Childhood Illnesses
MA	Medical Ambulatory
M&E	Monitoring and Evaluation
MOH	Ministry of Health
MSF	Medicines sans Frontiers
NOVA	Strengthening Reproductive and Child Health Care Services in Rural Areas (from Armenian abbreviation)
PC	Polyclinic
PHC	Primary Health Care
PHCR	Primary Health Care Reform
RA	Republic of Armenia
STDs	Sexually Transmitted Diseases
SVA	Rural Medical Ambulatory (from Russian abbreviation)
USAID	United States Agency for International Development

1. Introduction

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

- **Expansion of Reforms:** assisting the Government in establishing a supportive regulatory environment for the advancement of reforms; renovating and equipping PHC facilities nationwide; designing and delivering training to facility management
- **Family Medicine:** developing up-to-date curricula and training materials for continuous medical education; creating free-standing family medicine group practices; providing training to family physicians and nurses
- **Open Enrollment:** introducing the open enrollment principle in the Armenian healthcare sector to promote customer-oriented services by fostering competition among providers
- **Quality of Care:** improving the quality of care by introducing state-of-the-art quality standards and quality assurance procedures
- **Healthcare Finance:** increasing the transparency and efficiency of the distribution of healthcare funds through improved service costing and performance-based contracting practices; enhancing accountability at the facility level; determining the use of National Health Accounts
- **Public Education:** enhancing awareness about PHC services offered; improving understanding of open enrollment and acceptance of family medicine providers; promoting healthy lifestyle and health-seeking behavior.

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

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

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

1) Baseline assessments, including:

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

2) Intermediate and final assessments, including:

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

This report summarizes the data on follow-up facility/provider performance assessments conducted in facilities targeted by the PHCR project in Lori and Shirak marzes. These assessments evaluated the project's impact on targeted PHC facilities in the first zone.

2. Methods

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

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

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

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

Facility performance assessment instrument. The M&E team adapted the facility performance assessment questionnaire from one used by Project NOVA as part of its facility-level quality improvement strategy and the facility organization/ management tools used by the Armenia Social Transition Program at its pilot sites.

After the baseline implementation in Zone 1, the M&E team changed the format of the questionnaire to address concerns raised about possible misreporting/over reporting problems by respondents. The facility administrator remained the targeted respondent, but the administration mode was switched from self-administered to interviewer administered. The M&E team further modified the instruments based on guidance received from an external review by USAID/PHCR consultants in 2008 and in light of changes in PHCR project objectives and USAID funding channels.

These substantive changes in content and delivery mode, however, limited ability to directly compare baseline and follow-up data. To compensate for this limitation, the M&E team included in the follow-up questionnaire (Appendix 1) several retrospective questions (e.g., about the status of the variables of interest in 2006 based on the respondent's opinion/recall in 2008). This modification was intended to create, post-hoc, measures comparable to prospectively collected baseline data. To ensure this change did not introduce a recall bias, the M&E team compared the retrospective recall of the baseline state for Lori and Shirak (Zone 1) with the initial (prospective) baseline for the second wave marzes of Kotayk, Tavush, and Gegharkunik (Zone 2) obtained during its baseline assessment in 2007. Comparisons showed that the main baseline indicators/measures were comparable for both sites. For example, the overall performance score was 1.4 for the retrospective baseline items in Zone 1 and 1.3 for the concurrent zone 2 baseline. These findings suggest that the responses obtained in 2008 were not biased, strengthening confidence in the Zone 1 pre-post comparisons reported here.

Provider assessment instrument. Together with the PHCR Project's Family Medicine team, the M&E team developed an instrument to measure providers' clinical skills/performance. This supplemental questionnaire was administered concurrently with the facility assessment interview, but with providers serving as respondents. The provider assessment also included two observation checklists that evaluated nurses' compliance with protocols in performing blood pressure and blood glucose level measurements.

The facility/provider performance assessment instrument covered the following main domains:

- Access to/Provision of care
- Provider relations with community and clients

- Environment
- Management
- Primary and secondary prevention
- Provider skills/performance.

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

Table 1. PHCR project target facilities in Shirak and Lori

	FAPs selected for renovation in Shirak marz	Network centers for renovation sites in Shirak marz		FAPs selected for renovation in Lori marz	Network centers for renovation sites in Lori marz	
1.	Anushavan	22. Panik HC	1.	Shamut	22. Dsegh HC	
2.	Meghrashen [†]		2.	Lorut		
3.	Kamo	23. Jajur amb.	3.	Dzoragyugh [†]	23. Vahagni HC	
4.	Kaps [†]	24. Marmashen amb.	4.	Fioletovo	24. Margahovit HC	
5.	Vardaqaar [†]	25. Horom amb.	5.	Lermontovo [†]		
6.	Lusakert [†]		6.	Ghursal	Spitak polyclinic*	
7.	Hovit [†]	26. Akhuryan polyclin.	7.	Lernantsk		
8.	Aygabats [†]		8.	Haghpat [†]	25. Alaverdi polyclinic	
9.	Karnut [†]		9.	Jiliza		
10.	Hovuni [†]	27. Mayisyan amb.	10.	Khnkoyan [†]	26. Mets Parni HC	
11.	Arapi [†]	28. Akhurik amb.	11.	Lusaghbyur [†]		
12.	Bayandur		12.	Sarahart [†]		
13.	Voskehask [†]	29. Anipemza HC	13.	Lernahovit	27. Tashir policlinic	
14.	Bagravan [†]		14.	Medovka		
15.	Isahakyan	30. Aghin HC	15.	Novoseltsevo		
16.	Shirakavan		16.	Sarmedj [†]	28. Jrashen amb.	
17.	Lusaghbyur	31. Amasia HC	17.	Teghut [†]	29. Shnogh amb.	
18.	Garnaritch [†]		18.	Urasar	30. Katnaghbyur amb.	
19.	Aregnadem [†]			PCs/MAs selected for renovation in Lori marz		
20.	Gtashen			19.	Spitak Polyclinic	
21.	Bandivan		20.	Tumanyan amb.		
			21.	Lernapat amb.		

[†] Community Health Committee was established

* Selected also as a renovation site

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

Analysis. The data entry team of AUA Center for Health Services Research and Development (CHSR) coded responses into computer databases using SPSS 11.0 software. The M&E team performed descriptive and inferential analyses and constructed per-facility spreadsheets to support decision-making.

For each of the domains in the facility/provider performance assessment survey questionnaire, the M&E team computed a summative score, which included all variables/questions in a particular section. The maximum score of “3” was given to positive (“yes”) replies and “0” to “no” replies. In case of a Likert-type scale, the responses were scored from 0 to 3 as well, with intermediate scores of 1, 1.5, and 2 assigned. A mean score was calculated and compared using a paired sample t-test (pre-post comparisons) and an independent sample t-test (across facility comparisons).

3. Results: Facility/Provider Performance Assessment

Of the 61 facilities included in the assessment, 42 were renovation sites and 19 were referral sites: 39 FAPs (63.9%), 8 medical ambulatories (13.1%), 11 health centers (18.0%), and 3 polyclinics (4.9%). Respondents (both administrations and providers) from each facility answered a set of questions investigating access to and provision of care.

3.1. Access to/provision of care

As summarized in Table 2, access to care significantly improved across its all measured dimensions. Approximately 64.0% of all facilities were always open and available to clients in 2008 compared to 49.2% in 2006. Most of the improvement occurred in FAPs (9 versus 18). Communities were more aware of the free (BBP) services offered at PHC level in 2008 than in 2006 (100% of the respondents mentioned that all or the majority of the population knew about free services in 2008 versus 77% in 2006). More facilities (FAPs and Health Centers only) had working hours posted in the facility compared to two years ago (35.3% increase for FAPs, 28.6% increase for health centers). Working hours were more convenient in 2008 than in 2006 for the clients of eight FAPs and one Health Center. In 2008, educational materials were available in 90.2% of the facilities compared to 53.3 two years ago. MOH BBP posters were visible to clients of 53 facilities (only 35 in 2006). Providers routinely conducted significantly more pre/postnatal home visits (96.7% in 2008; 88.5% in 2006). Only four additional facilities had posted emergency instructions since the baseline, totaling to 15 facilities out of 61 in 2008.

FAP specific access/care. A supervising physician visited 94.9% of FAPs at least once per month (59.0% in 2006). In 2008, visiting physicians made home visits at least once per month at 66.7% of the FAPs (52.9% increase since 2006), once in two months at 17.9%, once in three months at 7.7%, and less frequently than once in three months at 7.7 % of the FAPs. Visiting physicians always saw patients in the clinic at 82.1% of the facilities, and usually at 17.9% in 2008. Supervising physicians notified FAPs in advance about their visits to 35 facilities in 2006 and 39 facilities in 2008. Emergency transport (the responsibility of village mayors) was still rare in most facilities in 2008 (Table 3).

Table 4 depicts the distribution of the scores measuring access to care by the type of facility and geographic region. Polyclinics scored higher than other facility types in 2006 and 2008. FAPs consistently had the lowest scores. Facilities in Lori scored lower than facilities in Shirak in both 2006 and 2008. The mean score for all facilities was 2.0 (out of 3) in 2006 and

2.5 in 2008, a statistically significant difference. These improvements were consistent across facility types and marzes.

Table 2. Access to/provision of care by facility type

% (n)	FAP		Referral								TOTAL	
	2006	2008	Ambulatory		Health Center		Polyclinic		Total Referral		2006	2008
			2006	2008	2006	2008	2006	2008	2006	2008		
Facility open and available during official hours												
Always	23.1 (9)	46.2 (18)	87.5 (7)	87.5 (7)	100.0 (11)	100.0 (11)	100.0 (3)	100.0 (3)	95.5 (21)	95.5 (21)	49.2 (30)	63.9 (39)
Usually	33.3 (13)	53.8 (21)	-	12.5 (1)	-	-	-	-	-	4.5 (1)	21.3 (13)	36.1 (22)
Occasionally	41.0 (16)	-	12.5 (1)	-	-	-	-	-	4.5 (1)	-	27.9 (17)	-
Never	2.6 (1)	-	-	-	-	-	-	-	-	-	1.6 (1)	-
Community aware of the free services offered												
Yes, all of them	30.8 (12)	56.4 (22)	25.0 (2)	75.0 (6)	9.1 (1)	81.8 (9)	33.3 (1)	66.7 (2)	18.2 (4)	77.3 (17)	26.2 (16)	63.9 (39)
Yes, the majority	38.5 (15)	43.6 (17)	62.5 (5)	25.0 (2)	90.9 (10)	18.2 (2)	33.3 (1)	33.3 (1)	72.7 (16)	22.7 (5)	50.8 (31)	36.1 (22)
Some of them	28.2 (11)	-	12.5 (1)	-	-	-	33.3 (1)	-	9.1 (2)	-	21.3 (13)	-
No	2.6 (1)	-	-	-	-	-	-	-	-	-	1.6 (1)	-
Working hours posted in the facilities												
Yes	43.6 (17)	59.0 (23)	87.5 (7)	87.5 (7)	63.6 (7)	81.8 (9)	100.0 (3)	100.0 (3)	77.3 (17)	86.4 (19)	55.7 (34)	68.9 (42)
No	56.4 (22)	41.0 (16)	12.5 (1)	12.5 (1)	36.4 (4)	18.2 (2)	-	-	22.7 (5)	13.6 (3)	44.3 (27)	31.1 (19)
Working hours convenient for clients												
Yes	74.4 (29)	94.9 (37)	75.0 (6)	75.0 (6)	90.9 (10)	100.0 (11)	100.0 (3)	100.0 (3)	86.4 (19)	90.9 (20)	78.7 (48)	93.4 (57)
No	25.6 (10)	5.1 (2)	25.0 (2)	25.0 (2)	9.1 (1)	-	-	-	13.6 (3)	9.1 (2)	21.3 (13)	6.6 (4)
Educational materials available describing free services												
Yes	42.1 (16)	84.6 (33)	75.0 (6)	100.0 (8)	72.7 (8)	100.0 (11)	66.7 (2)	100.0 (3)	72.7 (16)	100.0 (22)	53.3 (32)	90.2 (55)
No	57.9 (22)	15.4 (6)	25.0 (2)	-	7.3 (3)	-	33.3 (1)	-	27.3 (6)	-	46.7 (28)	9.8 (6)
MOH state order (BBP) posters visible to clients												
Yes	44.7 (17)	81.6 (31)	75.0 (6)	100.0 (8)	81.8 (9)	100.0 (11)	100.0 (3)	100.0 (3)	81.8 (18)	100.0 (22)	58.3 (35)	88.3 (53)
No	55.3 (21)	18.4 (7)	25.0 (2)	-	18.2 (2)	-	-	-	18.2 (4)	-	41.7 (25)	11.7 (7)
Providers routinely conduct pre/postnatal home visits												
Yes	89.7 (35)	97.4 (38)	87.5 (7)	100.0 (8)	90.9 (10)	100.0 (11)	66.7 (2)	66.7 (2)	86.4 (19)	95.5 (21)	88.5 (54)	96.7 (59)
No	10.3 (4)	2.6 (1)	12.5 (1)	-	9.1 (1)	-	33.3 (1)	33.3 (1)	13.6 (3)	4.5 (1)	11.5 (7)	3.3 (2)
Emergency instructions posted for non-working hours												
Yes	7.7 (3)	20.5 (8)	25.0 (2)	25.0 (2)	36.4 (4)	27.3 (3)	66.7 (2)	66.7 (2)	36.4 (8)	31.8 (7)	18.0 (11)	24.6 (15)
No	92.3 (36)	79.5 (31)	75.0 (6)	75.0 (6)	63.6 (7)	72.7 (8)	33.3 (1)	33.3 (1)	63.6 (14)	68.2 (15)	82.0 (50)	75.4 (46)

Table 3. FAP access to care and details on services

	2006 % (n)	2008 % (n)	2006 % (n)	2008 % (n)	2006 % (n)	2008 % (n)	2006 % (n)	2008 % (n)
	At least once per month		Once per two months		Once per three months		Less frequently than once per three months	
Frequency of supervising physician visit	59.0 (23)	94.9 (37)	23.1 (9)	2.6 (1)	15.4 (6)	2.6 (1)	2.6 (1)	-
Frequency of supervising physician home visits	43.6 (17)	66.7 (26)	28.2 (11)	17.9 (7)	15.4 (6)	7.7 (3)	12.8 (5)	7.7 (3)
	Always		Usually		Occasionally		Never	
Frequency of supervising physician seeing patients in the clinic	56.4 (22)	82.1 (32)	28.2 (11)	17.9 (7)	15.4 (6)	-	-	-
Frequency of supervising physician notify facility of visit in advance	64.9 (24)	92.3 (36)	29.7 (11)	7.7 (3)	5.4 (2)	-	-	-
Frequency of mayors providing emergency transport	25.6 (10)	38.5 (15)	20.5 (8)	15.4 (6)	38.5 (15)	33.3 (13)	15.4 (6)	12.8 (5)

Table 4. Access to/provision of care: mean scores by facility type and by geographic region

Facility type	2006		2008	
	mean	(n)	mean	(n)
FAP*	1.9	(36)	2.4	(38)
Referral* (Ambulatory/ Health Center/ Polyclinic)	2.3	(22)	2.6	(22)
<i>Ambulatory</i>	2.2	(8)	2.5	(8)
<i>Health Center</i>	2.3	(11)	2.6	(11)
<i>Polyclinic</i>	2.5	(3)	2.7	(3)
Marz				
Lori*	1.8	(28)	2.4	(30)
Shirak*	2.2	(30)	2.6	(30)
Total*	2.0	(58)	2.5	(60)

* 2006/2008 difference is statistically significant, $p < .05$

3.2. Provider relations with community and clients

The assessment revealed that 33.3% of FAPs, 37.5% of ambulatories, 54.5% of health centers, and one polyclinic always or usually provided clients with health education materials. Overall, the number of facilities where health education materials were always or usually provided to clients increased since 2006 (51 facilities in 2008 versus 31 in 2006). Providers conducted health talks with patients during their visits and organized health education sessions with the communities more often in 2008 than in 2006; also more facilities prepared for health education sessions adequately (providers of 23 facilities always or usually prepared for health education sessions in 2008 versus eight facilities in 2006). Mayors were involved in solving community health problems more frequently in 2008 than in 2006 (Table 5). Patients were more involved in selecting treatment options at follow-up, 47 facilities in 2008 versus 36 in 2006. Most surveyed facilities lacked suggestion boxes in both 2008 and 2006 (52 and 50 facilities, respectively). Among those with boxes, patient suggestions rarely led to changes (at four facilities in 2008 versus one in 2006).

While the number of facilities with private space where counseling sessions, physical exams and procedures could not be observed or overheard increased noticeably since 2006 (70.5% in 2008 versus 45.9% in 2006), confidentiality of patient records remained a concern.

In 2008, providers kept records of the community's composition (e.g., age, gender) in 67.2% of the facilities (versus 52.5% in 2006) and kept lists of community members who were vulnerable and eligible for free services in 42.6% of the facilities (versus 32.8% in 2006). Only 3.3% of facilities (2 ambulatories) had conducted patient satisfaction surveys in 2008 (versus 5.0%, two ambulatories and one health center in 2006).

Table 5. PHC provider relationships with community and clients

	FAP		Referral								TOTAL	
	% (n)		Ambulatory		Health Center		Polyclinic		Total Referral		% (n)	
	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008
Frequency that providers distribute health education materials												
Always	17.9 (7)	33.3 (13)	37.5 (3)	37.5 (3)	18.2 (2)	54.5 (6)	-	50.0 (1)	23.8 (5)	47.6 (10)	20.0 (12)	38.3 (23)
Usually	30.8 (12)	53.8 (21)	25.0 (2)	25.0 (2)	36.4 (4)	45.5 (5)	50.0 (1)	-	33.3 (7)	33.3 (7)	31.7 (19)	46.7 (28)
Occasionally	33.3 (13)	7.7 (3)	12.5 (1)	37.5 (3)	45.5 (5)	-	-	-	28.6 (6)	14.3 (3)	31.7 (19)	10.0 (6)
Never	17.9 (7)	5.1 (2)	25.0 (2)	-	-	-	50.0 (1)	50.0 (1)	14.3 (3)	4.8 (1)	16.7 (10)	5.0 (3)
Frequency that providers conduct health talks with patients												
Always	46.2 (18)	76.9 (30)	50.0 (4)	75.0 (6)	72.7 (8)	100.0 (11)	33.3 (1)	100.0 (3)	59.1 (13)	90.9 (20)	50.8 (31)	82.0 (50)
Usually	35.9 (14)	17.9 (7)	12.5 (1)	25.0 (2)	9.1 (1)	-	66.7 (2)	-	18.2 (4)	9.1 (2)	29.5 (18)	14.8 (9)
Occasionally	12.8 (5)	5.1 (2)	37.5 (3)	-	18.2 (2)	-	-	-	22.7 (5)	-	16.4 (10)	3.3 (2)
Never	5.1 (2)	-	-	-	-	-	-	-	-	-	3.3 (2)	-
Frequency that providers conduct health education sessions with the community												
At least once per month	15.4 (6)	48.7 (19)	25.0 (2)	50.0 (4)	18.2 (2)	45.5 (5)	-	-	18.2 (4)	40.9 (9)	16.4 (10)	45.9 (28)
Once per 2-3 months	33.3 (13)	38.5 (15)	37.5 (3)	25.0 (2)	54.5 (6)	45.5 (5)	-	33.3 (1)	40.9 (9)	36.4 (8)	36.1 (22)	37.7 (23)
Once or twice a year	33.3 (13)	7.7 (3)	12.5 (1)	12.5 (1)	18.2 (2)	9.1 (1)	33.3 (1)	33.3 (1)	18.2 (4)	13.6 (3)	27.9 (17)	9.8 (6)
Less frequently/never	17.9 (7)	5.1 (2)	25.0 (2)	12.5 (1)	9.1 (1)	-	66.7 (2)	33.3 (1)	22.7 (5)	9.1 (2)	19.7 (12)	6.6 (4)
Frequency that providers adequately prepare for health education sessions												
Always	2.6 (1)	7.7 (3)	-	12.5 (1)	9.1 (1)	18.2 (2)	-	-	4.5 (1)	13.6 (3)	3.3 (2)	9.8 (6)
Usually	7.7 (3)	28.2 (11)	12.5 (1)	12.5 (1)	18.2 (2)	36.4 (4)	-	33.3 (1)	13.6 (3)	27.3 (6)	9.8 (6)	27.9 (17)
Occasionally	28.2 (11)	23.1 (9)	25.0 (2)	12.5 (1)	27.3 (3)	27.3 (3)	66.7 (2)	33.3 (1)	31.8 (7)	22.7 (5)	29.5 (18)	23.0 (14)
Never	61.5 (24)	41.0 (16)	62.5 (5)	62.5 (5)	45.5 (5)	18.2 (2)	33.3 (1)	33.3 (1)	50.0 (11)	36.4 (8)	57.4 (35)	39.3 (24)
Frequency that the Mayor is involved in solving community health problems												
Always	10.5 (4)	15.8 (6)	-	12.5 (1)	36.4 (4)	45.5 (5)	-	33.3 (1)	18.2 (4)	31.8 (7)	13.3 (8)	21.7 (13)
Usually	23.7 (9)	36.8 (14)	12.5 (1)	-	9.1 (1)	-	33.3 (1)	33.3 (1)	13.6 (3)	4.5 (1)	20.0 (12)	25.0 (15)
Occasionally	39.5 (15)	31.6 (12)	25.0 (2)	25.0 (2)	45.5 (5)	45.5 (5)	33.3 (1)	-	36.4 (8)	31.8 (7)	38.3 (23)	31.7 (19)
Never	26.3 (10)	15.8 (6)	62.5 (5)	62.5 (5)	9.1 (1)	9.1 (1)	33.3 (1)	33.3 (1)	31.8 (7)	31.8 (7)	28.3 (17)	21.7 (13)
Frequency that patients are involved in selecting among treatment options												
Always	26.3 (10)	36.8 (14)	25.0 (2)	62.5 (5)	20.0 (2)	30.0 (3)	-	66.7 (2)	20.0 (4)	47.6 (10)	23.7 (14)	40.7 (24)
Usually	26.3 (10)	31.6 (12)	50.0 (4)	37.5 (3)	60.0 (6)	70.0 (7)	66.7 (2)	33.3 (1)	60.0 (12)	52.4 (11)	37.3 (22)	39.0 (23)
Occasionally	26.3 (10)	23.7 (9)	25.0 (2)	-	10.0 (1)	-	33.3 (1)	-	20.0 (4)	-	23.7 (14)	15.3 (9)
Never	21.1 (8)	7.9 (3)	-	-	-	-	-	-	-	-	15.3 (9)	5.1 (3)

Follow-up Performance Assessment of Targeted Primary Health Care Facilities in Lori and Shirak Marzes

	FAP		Referral								TOTAL	
	% (n)		Ambulatory		Health Center		Polyclinic		Total Referral		% (n)	
	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008
Presence of a suggestion box												
Yes	10.3 (4)	5.1 (2)	25.0 (2)	25.0 (2)	54.5 (6)	45.5 (5)	-	-	36.4 (8)	31.8 (7)	18.0 (11)	14.8 (9)
No	89.7 (35)	94.9 (37)	75.0 (6)	75.0 (6)	45.5 (5)	54.5 (6)	100.0 (3)	100.0 (3)	63.6 (14)	68.2 (15)	82.0 (50)	85.2 (52)
Changes due to patient suggestions in the last three months												
Yes	-	5.1 (2)	-	-	9.1 (1)	90.9 (10)	-	33.3 (1)	4.5 (1)	50.0 (11)	1.6 (1)	6.6 (4)
No	100.0 (39)	94.9 (37)	100.0 (8)	100.0 (8)	90.9 (10)	9.1 (1)	100.0 (3)	66.7 (2)	95.5 (21)	50.0 (11)	98.4 (60)	93.4 (57)
Security of medical records												
Yes	15.4 (6)	15.4 (6)	-	-	9.1 (1)	9.1 (1)	-	-	4.5 (1)	4.5 (1)	11.5 (7)	11.5 (7)
No	84.6 (33)	84.6 (33)	100.0 (8)	100.0 (8)	90.0 (10)	90.9 (10)	100.0 (3)	100.0 (3)	95.5 (21)	95.5 (21)	88.5 (54)	88.5 (54)
Presence of private space for counseling sessions, physical exams, and procedures												
Yes	23.1 (9)	56.4 (22)	62.5 (5)	87.5 (7)	100.0 (11)	100.0 (11)	100.0 (3)	100.0 (3)	86.4 (19)	95.5 (21)	45.9 (28)	70.5 (43)
No	76.9 (30)	43.6 (17)	37.5 (3)	12.5 (1)	-	-	-	-	13.6 (3)	4.5 (1)	54.1 (33)	29.5 (18)
Provider records of community composition (e.g., age, gender)												
Yes	35.9 (14)	56.4 (22)	100.0 (8)	100.0 (8)	63.6 (7)	72.7 (8)	100.0 (3)	100.0 (3)	81.8 (18)	86.4 (19)	52.5 (32)	67.2 (41)
No	64.1 (25)	43.6 (17)	-	-	36.4 (4)	27.3 (3)	-	-	18.2 (4)	13.6 (3)	47.5 (29)	32.8 (20)
Provider records of vulnerable community members eligible for free services												
Yes	15.4 (6)	25.6 (10)	62.5 (5)	75.0 (6)	54.5 (6)	63.6 (7)	100.0 (3)	100.0 (3)	63.6 (14)	72.7 (16)	32.8 (20)	42.6 (26)
No	84.6 (33)	74.4 (29)	37.5 (3)	25.0 (2)	45.5 (5)	36.4 (4)	-	-	36.4 (8)	27.3 (6)	67.2 (41)	57.4 (35)
Patient satisfaction surveys regularly conducted at the facility												
Yes	-	-	25.0 (2)	25.0 (2)	9.1 (1)	-	-	-	13.6 (3)	9.1 (2)	5.0 (3)	3.3 (2)
No	100.0 (38)	100.0 (38)	75.0 (6)	75.0 (6)	90.9 (10)	100.0 (11)	100.0 (3)	100.0 (3)	86.4 (19)	90.9 (20)	95.0 (57)	96.7 (58)

Table 6 shows the distribution of scores measuring provider relations with community and clients by the type of facility and geographic region in 2006 and 2008. Overall, the scores significantly increased from the baseline (1.4 in 2008 versus 1.1 in 2006). Health centers and polyclinics received higher scores both in 2006 (1.6 and 1.2, respectively) and in 2008 (1.7 and 1.7, respectively) than FAPs and ambulatories. Facilities in Lori scored lower than those in Shirak in 2006, but were tied at 1.4 in 2008.

Table 6. Provider relations with community & clients scores by facility type & geographic region

	2006:		2008:	
	mean (n)		mean (n)	
Facility type				
FAP*	0.9	(36)	1.3	(36)
Referral* (Ambulatory/ Health Center/Polyclinic)	1.4	(20)	1.7	(20)
<i>Ambulatory</i>	1.3	(8)	1.6	(8)
<i>Health Center</i>	1.6	(10)	1.7	(10)
<i>Polyclinic</i>	1.2	(2)	1.7	(2)
Marz				
Lori*	0.9	(28)	1.4	(28)
Shirak*	1.2	(28)	1.4	(28)
Total*	1.1	(56)	1.4	(56)

* the difference is statistically significant, $p < .05$

3.3. Environment

As shown in Table 7, providers at most of the ambulatories, all health centers, and all polyclinics maintained complete records of cold chain conditions for vaccines in both 2006 and 2008, while providers at only ten out of 38 FAPs completed such records in 2008. However, these data should be interpreted with caution, as – according to several nurses – FAP nurses were not required or allowed to keep such records as the records are the responsibility of the supervising ambulatory and nurses only “borrowed” the vaccine bag for vaccinations to return it back to the ambulatory/polyclinic within a brief specified period.

The number of facilities with appropriate working conditions increased significantly from 23.0% in 2006 to 75.4% in 2008. This increase was most prominent (almost tenfold increase since 2006) in FAPs where the PHCR project was active during 2006-2008. All facilities but one FAP were regularly ventilated during working hours in 2008 (while 11 FAPs and one ambulatory were not ventilated in 2006). All facilities were cleaned regularly in 2008 versus 86.9% of the facilities in 2006.

Official security checks were conducted regularly at only 22 surveyed facilities in 2008 (slight decrease from 25 facilities at baseline). Regular trainings on emergency situations/disaster preparedness for the facility staff were also infrequent: reported by only 33.3% of the facilities in 2008. Only two polyclinics and two ambulatories had equipment maintenance staff in 2008, similar to 2006 where two polyclinics and one ambulatory had such staff.

Consumable medical supplies were replenished regularly at 78.7% of the facilities in 2008 versus 18.0% in 2006. Used needles always were disposed in sharp containers at 93.4% of the facilities (versus 67.2% in 2006). The increase was consistent across facility types (all polyclinics used this in both 2006 and 2008).

Providers at only 19 facilities washed their hands with soap and water before and after each patient in 2008. Although this represents a significant increase since the baseline assessment, the number was still low. Providers at 52.5% of facilities usually washed their hands and 14.8% occasionally. One FAP nurse reported never washing hands before and after each patient. San Epid regulations on infection control and medical waste management were available at 42.6% of facilities in 2008 versus 27.9% in 2006.

Table 7. Facility environment

	FAP		Referral								TOTAL	
	% (n)		Ambulatory		Health Center		Polyclinic		Total Referral		% (n)	
	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008
Vaccine cold chain records maintained												
Yes	8.1 (3)	26.3 (10)	87.5 (7)	87.5 (7)	90.9 (10)	100.0 (11)	100.0 (3)	100.0 (3)	90.9 (20)	95.5 (21)	39.0 (23)	51.7 (31)
No	91.9 (34)	73.7 (28)	12.5 (1)	12.5 (1)	9.1 (1)	-	-	-	9.1 (2)	4.5 (1)	61.0 (36)	48.3 (29)
Appropriate working conditions for providers												
Yes	7.7 (3)	74.4 (29)	50.0 (4)	87.5 (7)	54.5 (6)	72.7 (8)	33.3 (1)	66.7 (2)	50.0 (11)	77.3 (17)	23.0 (14)	75.4 (46)
No	92.3 (36)	25.6 (10)	50.0 (4)	12.5 (1)	45.5 (5)	27.3 (3)	66.7 (2)	33.3 (1)	50.0 (11)	22.7 (5)	77.0 (47)	24.6 (15)
Facility regularly ventilated during working hours												
Yes	71.8 (28)	97.4 (38)	87.5 (7)	100.0 (8)	100.0 (11)	100.0 (11)	100.0 (3)	100.0 (3)	95.5 (21)	100.0 (22)	80.3 (49)	98.4 (60)
No	28.2 (11)	2.6 (1)	12.5 (1)	-	-	-	-	-	4.5 (1)	-	19.7 (12)	1.6 (1)
Facility regularly cleaned												
Yes	82.1 (32)	100.0 (39)	100.0 (8)	100.0 (8)	90.9 (10)	100.0 (11)	100.0 (3)	100.0 (3)	95.5 (21)	100.0 (22)	86.9 (53)	100.0 (61)
No	17.9 (7)	-	-	-	9.1 (1)	-	-	-	4.5 (1)	-	13.1 (8)	-
Official security checks regularly conducted												
Yes	23.7 (9)	34.2 (13)	62.5 (5)	62.5 (5)	72.7 (8)	100.0 (11)	100.0 (3)	100.0 (3)	72.7 (16)	86.4 (19)	41.7 (25)	53.3 (22)
No	76.3 (29)	65.8 (25)	37.5 (3)	37.5 (3)	27.3 (3)	-	-	-	27.3 (6)	13.6 (3)	58.3 (35)	46.7 (28)
Regular staff training on emergency situations/disaster preparedness												
Yes	7.7 (3)	23.1 (9)	12.5 (1)	37.5 (3)	50.0 (5)	60.0 (6)	66.7 (2)	66.7 (2)	38.1 (8)	52.4 (11)	18.3 (11)	33.3 (20)
No	92.3 (36)	76.9 (30)	87.5 (7)	62.5 (5)	50.0 (5)	40.0 (4)	33.3 (1)	33.3 (1)	61.9 (13)	47.6 (10)	81.7 (49)	66.7 (40)
Equipment maintenance staff												
Yes	-	-	12.5 (1)	25.0 (2)	-	-	100.0 (2)	100.0 (2)	14.3 (3)	19.0 (4)	5.0 (3)	6.7 (4)
No	100.0 (39)	100.0 (39)	87.5 (7)	75.0 (6)	100.0 (11)	100.0 (11)	-	-	85.7 (18)	81.0 (17)	95.0 (57)	93.3 (56)
Consumable supplies/equipment regularly replenished												
Yes	7.7 (3)	76.9 (30)	25.0 (2)	75.0 (6)	45.5 (5)	81.8 (9)	33.3 (1)	100.0 (3)	36.4 (8)	81.8 (18)	18.0 (11)	78.7 (48)
No	92.3 (36)	23.1 (9)	75.0 (6)	25.0 (2)	54.5 (6)	18.2 (2)	66.7 (2)	-	63.6 (14)	18.2 (4)	82.0 (50)	21.3 (13)

Follow-up Performance Assessment of Targeted Primary Health Care Facilities in Lori and Shirak Marzes

	FAP		Referral								TOTAL	
	% (n)		Ambulatory		Health Center		Polyclinic		Total Referral		% (n)	
	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008
Frequency that used needles disposed in sharp containers												
Always	61.5 (24)	92.3 (36)	75.0 (6)	87.5 (7)	72.7 (8)	100.0 (11)	100.0 (3)	100.0 (3)	77.3 (17)	95.5 (21)	67.2 (41)	93.4 (57)
Usually	12.8 (5)	5.1 (2)	12.5 (1)	-	18.2 (2)	-	-	-	13.6 (3)	-	13.1 (8)	3.3 (2)
Occasionally	15.4 (6)	2.6 (1)	12.5 (1)	12.5 (1)	9.1 (1)	-	-	-	9.1 (2)	4.5 (1)	13.1 (8)	3.3 (2)
Never	10.3 (4)	-	-	-	-	-	-	-	-	-	6.6 (4)	-
Frequency that providers wash hands with soap and water before and after each patient												
Always	7.7 (3)	30.8 (12)	37.5 (3)	37.5 (3)	9.1 (1)	27.3 (3)	-	33.3 (1)	18.2 (4)	31.8 (7)	11.5 (7)	31.1 (19)
Usually	43.6 (17)	48.7 (19)	37.5 (3)	50.0 (4)	81.8 (9)	72.7 (8)	33.3 (1)	33.3 (1)	59.1 (13)	59.1 (13)	49.2 (30)	52.5 (32)
Occasionally	41.0 (16)	17.9 (7)	25.0 (2)	12.5 (1)	9.1 (1)	-	66.7 (2)	33.3 (1)	22.7 (5)	9.1 (2)	34.4 (21)	14.8 (9)
Never	7.7 (3)	2.6 (1)	-	-	-	-	-	-	-	-	4.9 (3)	1.6 (1)
Presence of MOH/San Epid regulations on infection control and medical waste management												
Yes	10.3 (4)	25.6 (10)	50.0 (4)	62.5 (5)	63.6 (7)	81.8 (9)	66.7 (2)	66.7 (2)	59.1 (13)	72.7 (16)	27.9 (17)	42.6 (26)
No	89.7 (35)	74.4 (29)	50.0 (4)	37.5 (3)	36.4 (4)	18.2 (2)	33.3 (1)	33.3 (1)	40.9 (9)	27.3 (6)	72.1 (44)	57.4 (35)

As shown in Table 8, polyclinics received the highest cumulative facility environment score in both 2006 and 2008 (2.0 and 2.5, respectively). Referral level facilities scored 2.3 in 2008 while FAPs scored 1.7. Facilities in Shirak were in relatively better condition in terms of the environment than the facilities in Lori in 2006, however at follow-up, they received the same score (1.9). The total mean score was low in 2006 (1.3); it increased significantly to 1.9 at follow-up.

Table 8. Environment: mean score by facility type and by geographic region

	2006:		2008:	
	mean (n)		mean (n)	
Facility type				
FAP*	1.0	(36)	1.7	(37)
Referral* (Ambulatory/ Health Center/Polyclinic)	1.9	(20)	2.3	(20)
<i>Ambulatory</i>	1.8	(8)	2.2	(8)
<i>Health Center</i>	1.9	(10)	2.4	(10)
<i>Polyclinic</i>	2.0	(2)	2.5	(2)
Marz				
Lori*	1.1	(26)	1.9	(27)
Shirak*	1.4	(30)	1.9	(30)
Total*	1.3	(56)	1.9	(57)

* the difference is statistically significant, $p < .05$

3.4. Facility management

The respondents from each facility answered a set of questions investigating facets of facility management (Table 9). Written documents describing providers' job responsibilities existed in 36.1% of the facilities in 2008, compared to 29.5% of the facilities in 2006. All polyclinics, health centers, and ambulatories and 30.8% of the FAPs maintained chronic disease registers (17.2% increase from baseline). Most facilities (85.0% in 2008, 86.7% in 2006) lacked an established procedure to respond to client complaints.

Most respondents (81.7% in 2008, 83.3% in 2006) thought that their current staff was sufficient to provide high quality and cost-effective services to the population. The number of facilities where primary health care standards were available to providers as a reference increased significantly: 43 in 2008 versus 23 in 2006. The providers at 56.8% of FAPs, 87.5% of ambulatories, 90.9% of health centers, and 100.0% of polyclinics used these standards during their daily work.

In 33 of 61 facilities (54.1%), all providers were satisfied with their job (an increase from 32.2% at baseline). The majority of facilities held regular staff meetings; however, records were rarely maintained in both 2006 and 2008 (only one FAP, four ambulatories, one health center, and one polyclinic in 2008). Most (90.2% at baseline versus 78.7% at follow-up) of facilities lacked any type of financial reward system for good provider performance.

Respondents working in FAPs were asked a more focused set of questions (Table 10). Most aspects of management had significantly improved since 2006. According to 82.1% of the respondents, supervisors always or usually engaged providers in problem solving during their visits to FAPs in 2008, an increase from 59.0% at baseline. In 2008, supervisors always provided clinical and administrative support to providers at 74.4% and 53.8% of facilities, respectively, while in 2006 such support was provided only at 51.3% and 41.0% of facilities. When problems could not be solved locally, the supervisor made all reasonable efforts to solve it by raising the issue with the authorities at 61.5% of FAPs (46.2% in 2006). At 32 of 39 facilities, the supervisor reported back to the provider on the status of the issue in 2008.

Table 9. Facility management attributes

	FAP		Referral								TOTAL	
	% (n)		Ambulatory		Health Center		Polyclinic		Total Referral		% (n)	
	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008
Written documents describing provider job responsibilities												
Yes	12.8 (5)	20.5 (8)	62.5 (5)	50.0 (4)	54.5 (6)	63.6 (7)	66.7 (2)	100.0 (3)	59.1 (13)	63.6 (14)	29.5 (18)	36.1 (22)
No	87.2 (34)	79.5 (31)	37.5 (3)	50.0 (4)	45.5 (5)	36.4 (4)	33.1 (1)	-	40.9 (9)	36.4 (8)	70.5 (43)	63.9 (39)
Chronic diseases register maintained												
Yes	23.1 (9)	30.8 (12)	100.0 (8)	100.0 (8)	81.8 (9)	100.0 (11)	100.0 (3)	100.0 (3)	90.9 (20)	100.0 (22)	47.5 (29)	55.7 (34)
No	76.9 (30)	69.2 (27)	-	-	18.2 (2)	-	-	-	9.1 (2)	-	52.5 (32)	44.3 (27)
Current staff sufficient to provide high quality and cost-effective services												
Yes	76.9 (30)	82.1 (32)	87.5 (7)	75.0 (6)	100.0 (10)	80.0 (8)	100.0 (3)	100.0 (3)	95.2 (20)	80.9 (17)	83.3 (50)	81.7 (49)
No	23.1 (9)	17.9 (7)	12.5 (1)	25.0 (2)	-	20.0 (2)	-	-	4.8 (1)	19.0 (4)	16.7 (10)	18.3 (11)
Established official procedure for responding to client complaints												
Yes	5.1 (2)	5.1 (2)	28.6 (2)	28.6 (2)	27.3 (3)	27.3 (3)	33.3 (1)	66.7 (2)	28.6 (6)	33.3 (7)	13.3 (8)	15.0 (9)
No	94.9 (37)	94.9 (37)	71.4 (5)	71.4 (5)	72.7 (8)	72.7 (8)	66.7 (2)	33.3 (1)	71.4 (15)	66.6 (14)	86.7 (52)	85.0 (51)
Availability of primary health care standards (clinical guidelines, criteria, protocols)												
Yes	23.1 (9)	61.5 (24)	50.0 (4)	87.5 (7)	72.7 (8)	81.8 (9)	66.7 (2)	100.0 (3)	63.6 (14)	86.4 (19)	37.7 (23)	70.5 (43)
No	76.9 (30)	38.5 (15)	50.0 (4)	12.5 (1)	27.3 (3)	18.2 (2)	33.3 (1)	-	36.4 (8)	13.6 (3)	62.3 (38)	29.5 (18)
Health care standards used in daily work												
Yes	27.0 (10)	56.8 (21)	62.5 (5)	87.5 (7)	81.8 (9)	90.9 (10)	66.7 (2)	100.0 (3)	72.7 (16)	90.9 (20)	44.1 (26)	69.5 (41)
No	73.0 (27)	43.2 (16)	37.5 (3)	12.5 (1)	18.2 (2)	9.1 (1)	33.3 (1)	-	27.3 (6)	9.1 (2)	55.9 (33)	30.5 (18)
Provider satisfaction with job												
Yes, all of them	32.4 (12)	53.8 (21)	25.0 (2)	62.5 (5)	45.5 (5)	63.6 (7)	-	-	33.3 (7)	54.5 (12)	32.2 (19)	54.1 (33)
Yes, some of them	13.5 (5)	17.9 (7)	37.5 (3)	25.0 (2)	45.5 (5)	36.4 (4)	100.0 (3)	100.0 (3)	52.4 (11)	40.9 (9)	27.1 (16)	26.2 (16)
No	54.1 (20)	28.2 (11)	37.5 (3)	12.5 (1)	-	-	-	-	14.3 (3)	4.5 (1)	40.7 (24)	19.7 (12)
Regular staff meetings												
Yes	20.5 (8)	28.2 (11)	87.5 (7)	87.5 (7)	90.9 (10)	81.8 (9)	66.7 (2)	100.0 (3)	86.4 (19)	86.4 (19)	44.3 (27)	49.2 (30)
No	79.5 (31)	71.8 (28)	12.5 (1)	12.5 (1)	9.1 (1)	18.2 (2)	33.3 (1)	-	13.6 (3)	13.6 (3)	55.7 (34)	50.8 (31)
Records of staff meetings kept												
Yes	-	2.6 (1)	37.5 (3)	50.0 (4)	27.3 (3)	9.1 (1)	66.7 (2)	33.3 (1)	36.4 (8)	27.3 (6)	13.1 (8)	11.5 (7)
No	100.0 (39)	97.4 (38)	62.5 (5)	50.0 (4)	72.7 (8)	90.9 (10)	33.3 (1)	66.7 (2)	63.6 (14)	72.7 (16)	86.9 (53)	88.5 (54)
Presence of a financial reward system for good provider performance												
Yes	-	7.7 (3)	12.5 (1)	37.5 (3)	36.4 (4)	54.5 (6)	33.3 (1)	33.3 (1)	27.3 (6)	45.5 (10)	9.8 (6)	21.3 (13)
No	100.0 (39)	92.3 (36)	87.5 (7)	62.5 (5)	63.6 (7)	45.5 (5)	66.7 (2)	66.7 (2)	72.7 (16)	54.5 (12)	90.2 (55)	78.7 (48)

Table 10. Facility management in FAPs

	Always % (n)		Occasionally % (n)		Usually % (n)		Never % (n)	
	2006	2008	2006	2008	2006	2008	2006	2008
Supervisor engages providers in problem solving during their visits	30.8 (12)	46.2 (18)	28.2 (11)	35.9 (14)	28.2 (11)	12.8 (5)	12.8 (5)	5.1 (2)
Supervisor provides clinical support to providers	51.3 (20)	74.4 (29)	17.9 (7)	15.4 (6)	25.6 (10)	10.3 (4)	5.1 (2)	-
Supervisors provides administrative support to providers	41.0 (16)	53.8 (21)	20.5 (8)	30.8 (12)	25.6 (10)	7.7 (3)	12.8 (5)	7.7 (3)
Supervisor makes all the reasonable efforts to solve problems	23.1 (9)	35.9 (14)	23.1 (9)	25.6 (10)	35.9 (14)	33.3 (13)	17.9 (7)	5.1 (2)
Supervisor reports back to the provider on the status of the issue	35.9 (14)	48.7 (19)	30.8 (12)	33.3 (13)	25.6 (10)	12.8 (5)	7.7 (3)	5.1 (2)

Table 11 shows the distribution of facility management scores by facility type and geographic region in 2006 and 2008. A statistically significant difference was recorded between facility management scores in 2006 (1.4) and 2008 (1.7). The change was more prominent in FAPs where the score increased from 1.1 in 2006 to 1.5 in 2008. The change in facility management score at the referral level facilities was not statistically significant (from 1.9 at baseline to 2.0 at follow-up). Polyclinics scored higher than the rest of facilities (2.0 in 2006 and 2.4 in 2008), while FAPs received the lowest score. Facilities in Shirak seemed to have better facility management mechanisms than facilities in Lori in both 2006 and 2008.

Table 11. Facility management: mean scores by facility type and by geographic region

	2006	2008
	mean (n)	mean (n)
Facility type		
FAP*	1.1 (36)	1.5 (37)
Referral (Ambulatory/ Health Center/Polyclinic)	1.9 (20)	2.0 (20)
<i>Ambulatory</i>	1.7 (7)	2.0 (7)
<i>Health Center</i>	1.9 (10)	2.0 (10)
<i>Polyclinic</i>	2.0 (3)	2.4 (3)
Marz		
Lori*	1.1 (26)	1.4 (27)
Shirak*	1.6 (30)	1.9 (30)
Total*	1.4 (56)	1.7 (57)

* 2006 to 2008 difference is statistically significant, $p < 0.05$

3.5. Primary and secondary prevention

Table 12 describes the primary and secondary prevention efforts in the assessment sites. Prevention activities have increased significantly since 2006. In 2008, 93.2% of the facilities reported about complete immunization of children at 24-months of age (defined as coverage of more than 75% of the population). Other relatively common preventive efforts included consultations on healthy pregnancy, breastfeeding, child care, and personal and sexual hygiene for pregnant women (reportedly more than 75% of pregnant women in 84.7% of facilities), and examination and consultation on reproductive health for 15-17 years old female adolescents (reportedly more than 75% of female adolescent population in approximately 73% of facilities). In 60.0% of facilities, more than 75% of the patients with type 2 diabetes reportedly had received at least one blood glucose test per month. In 57.6% of facilities, more than 75% of first antenatal visits were within the first trimester of pregnancy. Clinical urine and blood tests for children at 12 months and preventive blood pressure measurement at least once per year (with a corresponding record in medical chart) were the least commonly practiced preventive measures (25.4% and 11.7% of facilities (respectively) reported covering more than 75% of the corresponding population in 2008).

Table 12. Facilities reporting of primary and secondary prevention activities by the proportion of the specific population served

	More than 75%		50-75%		25- 50%		Less than 25%	
	2006 % (n)*	2008 % (n)	2006 % (n)	2008 % (n)	2006 % (n)	2008 % (n)	2006 % (n)	2008 % (n)
Children fully immunized at 24 months	81.4 (38)	93.2 (55)	11.9 (7)	5.1 (3)	3.4 (2)	-	3.4 (2)	1.7 (1)
Pregnant women receiving consultation on healthy pregnancy, breastfeeding, child care, personal and sexual hygiene	55.9 (33)	84.7 (50)	22.0 (13)	6.8 (4)	10.2 (6)	6.8 (4)	11.9 (7)	1.7 (1)
Female adolescents 15-17 years old examined and advised on reproductive health	32.2 (19)	72.9 (43)	20.3 (12)	6.8 (4)	22.0 (13)	13.6 (8)	25.4 (15)	6.8 (4)
Patients with type 2 diabetes receiving regular blood glucose control (at least one blood glucose test per month)	16.7 (10)	60.0 (36)	23.3 (14)	6.7 (4)	18.3 (11)	13.3 (8)	41.7 (25)	20.0 (12)
First antenatal visits within the first trimester of pregnancy	30.5 (18)	57.6 (34)	20.3 (12)	23.7 (14)	25.4 (15)	13.6 (18)	23.7 (14)	5.1 (3)
Children receiving clinical urine and blood tests at 12 months	5.1 (3)	25.4 (15)	20.3 (12)	10.2 (6)	6.8 (40)	13.6 (8)	67.8 (40)	50.8 (30)
Those at least 20 years old receiving preventive blood pressure measurement at least once per year and having a corresponding record in the medical chart	1.7 (1)	11.7 (7)	6.7 (4)	20.0 (12)	21.7 (13)	33.3 (20)	70.0 (42)	35.0 (21)

* - % (n) of PHC facilities

The survey also included a set of questions investigating primary and secondary prevention specific to ambulatories, polyclinics, and health centers. As Table 13 shows, more than 75% of patients with hypertension and coronary heart disease (CHD) reportedly received regular electrocardiogram (ECG) (at least one ECG per year) in 71.4% of surveyed facilities (versus 23.8% of facilities in 2006). More than 75% of children had their hemoglobin level measured at 9-months of age in 66.7% of the facilities (versus 33.3% of facilities in 2006). Reportedly, in 60.0% of facilities (versus 45.0% in 2006) more than 75% of pregnant women were examined at least four times during their pregnancy. In less than half of the studied facilities (45.5% at follow-up, 23.8% in 2006), more than 75% of patients with type 2 diabetes received regular eye fundoscopy. Providers of 38.1% facilities reported that more than 75% of their patients with CHD received regular blood cholesterol tests (at least once per year), compared to 9.5% of facilities in 2006.

The proportion of patients over 40 years old undergoing blood cholesterol screening at least once a year was insufficient: only four facilities reported that 75% of the population was covered with this test in 2008 (compared to one facility in 2006). Clinical breast examination and Pap-smear tests were infrequently performed. Providers at two facilities mentioned that in 2008 more than 75% of the female population over 40 years of age received clinical breast examination at least once a year (versus no facility at baseline), while providers of four facilities reported that 50-75% of women undergo such examination. Pap smear tests were even rarer: providers at only 3 facilities reported that more than 50% of the female population 30-60 years old underwent this screening in 2008.

Table 14 shows the distribution of summative primary and secondary prevention measure scores by the facility type and geographic region in 2006 and 2008. The 2008 mean score for facilities in Lori was 2.1 versus 1.8 for Shirak facilities. Primary and secondary prevention mean scores noticeably increased since 2006 (from 1.3 to 1.9, statistically significant difference). The FAPs consistently scored higher than the referral level facilities.

Table 13. Primary and secondary prevention efforts at referral level facilities (ambulatories, health centers, and polyclinics)

	More than 75%		50-75%		25- 50%		Less than 25%	
	2006 % (n)*	2008 % (n)	2006 % (n)	2008 % (n)	2006 % (n)	2008 % (n)	2006 % (n)	2008 % (n)
Children having their hemoglobin level measured at 9-months of age	33.3 (7)	66.7 (14)	19.0 (4)	4.8 (1)	23.8 (5)	9.5 (2)	23.8 (5)	19.0 (4)
Preschool age children undergoing preventive examinations by neurologist and ophthalmologist	38.1 (8)	61.9 (13)	14.3 (3)	4.8 (1)	9.5 (2)	4.8 (1)	38.1 (8)	28.6 (6)
Those over 40 years old having their blood cholesterol level measured at least once a year	4.5 (1)	18.2 (4)	9.1 (2)	13.6 (3)	9.1 (2)	13.6 (3)	77.3 (17)	54.5 (12)
Females over 40 years old undergoing clinical breast examination at least once per year	-	9.1 (2)	9.1 (2)	18.2 (4)	27.3 (6)	22.7 (5)	63.6 (14)	50.0 (11)
Females 30-60 years old undergoing Pap-smear at least once per 3 years	-	4.5 (1)	4.8 (1)	9.1 (2)	9.5 (2)	13.6 (3)	85.7 (18)	72.7 (16)
Pregnant women examined at least four times during their pregnancy	45.0 (9)	60.0 (12)	40.0 (8)	5.0 (1)	10.0 (2)	10.0 (2)	5.0 (1)	25.0 (5)
Patients with type 2 diabetes receiving regular eye funduscopy (at least 1 exam per year)	23.8 (5)	45.5 (10)	19.0 (4)	27.3 (6)	28.6 (6)	9.1 (2)	28.6 (6)	18.2 (4)
Patients with Hypertension and Coronary Heart Disease (CHD) receiving at least 1 ECG per year	23.8 (5)	71.4 (15)	33.3 (7)	14.3 (3)	33.3 (7)	9.5 (2)	9.5 (2)	4.8 (1)
Patients with Coronary Heart Disease testing their blood cholesterol at least 1 per year	9.5 (2)	38.1 (8)	9.5 (2)	14.3 (3)	9.5 (2)	9.5 (2)	71.4 (15)	38.1 (8)

* - % (n) of PHC facilities

Table 14. Primary and secondary prevention: mean scores by facility type and by geographic region

Facility type	2006		2008	
	mean score (n)		mean score (n)	
FAP*	1.4	(36)	2.0	(36)
Referral* (Ambulatory/ Health Center/Polyclinic)	1.3	(17)	1.9	(18)
<i>Ambulatory</i>	1.1	(7)	1.7	(8)
<i>Health Center</i>	1.2	(8)	1.9	(8)
<i>Polyclinic</i>	2.1	(2)	2.8	(2)
Marz				
Lori*	1.2	(24)	2.1	(25)
Shirak*	1.4	(29)	1.8	(29)
Total*	1.3	(53)	1.9	(54)

* 2006 to 2008 difference was statistically significant, $p < 0.05$

3.6. Overall performance score

The total performance scores were also calculated by adding the mean scores for each section and dividing the sum by the number of sections. The total mean scores ranged from 0.6 to 2.3 in 2006, and from 1.0 to 2.5 in 2008. As Table 15 shows, referral level facilities performed significantly better than FAPs. Performance of Shirak and Lori facilities was quite comparable (1.9 and 1.8, respectively), however the positive change since 2006 was more pronounced among Lori facilities. Appendix 2 presents the total mean performance scores for each facility.

Table 15. Total mean scores (all sections) by facility type and marz

Facility type	2006		2008	
	mean score (n)		mean score (n)	
FAP*	1.3	(28)	1.7	(30)
Referral* (Ambulatory/ Health Center/Polyclinic)	1.7	(14)	2.0	(14)
<i>Ambulatory</i>	1.6	(7)	1.9	(7)
<i>Health Center</i>	1.7	(7)	2.1	(7)
<i>Polyclinic</i>	<i>No data¹</i>		<i>No data¹</i>	
Marz				
Lori*	1.2	(17)	1.8	(19)
Shirak*	1.6	(25)	1.9	(25)
Total*	1.4	(42)	1.8	(42)

* 2006 to 2008 difference was statistically significant, $p < 0.05$

¹Only 3 polyclinics in the sample; all had missing data that precluded calculating this score

3.7. Technical competence of primary health care providers

3.7.1. Community nurses

The M&E team investigated technical competence of primary health care nurses. The M&E team revised this section of the facility assessment tool in 2008, upon suggestion of the Family Medicine team, and included questions measuring the use of equipment, application of family nursing skills in practice, and actual observation of their performance of blood pressure measurement and blood glucose level measurement.

Equipment use. Table 16 shows the use of common medical equipment by the Community Nurses (those who completed the 6.5- month Unified Family Nursing Curriculum course

developed by the PHCR project and who received the Community Nurse certificate). All 39 nurses regularly used stethophonendoscope and adult sphygmomanometer in their daily practice. These were the only instruments regularly used by 100% of the respondents. The next most commonly used equipment included adult scales (89.7%), followed by child scales (79.5%), and glucometers (59.0%). Approximately 8.0% of respondents reported regular use of urine tests, and 5.1% reported regular use of child sphygmomanometers. The rest of the equipment listed in Table 17 was not regularly used by any of the nurses.

None of the nurses had ever used tests for occult fecal blood or gynecologic speculums in their daily practice, although they had been trained on their use. Other infrequently used equipment included peak flow meters, ear syringes, and small surgical kits (ever used by 2.6%, 5.1%, and 17.9%, respectively).

Table 16. Reported frequency of use of common medical equipment in daily practice (selected FAPs)

	Yes, regularly % (n)	Yes, occasionally % (n)	Never % (n)
Stethophonendoscope	100.0 (39)	-	-
Adult sphygmomanometer	100.0 (39)	-	-
Scale – adult	89.7 (35)	2.6 (1)	7.7 (3)
Scale – child	79.5 (31)	2.6 (1)	17.9 (7)
Glucometer	59.0 (23)	30.8 (12)	10.3 (4)
Urine tests	7.7 (3)	48.7 (19)	43.6 (17)
Child sphygmomanometer	5.1 (2)	15.4 (6)	79.5 (31)
Small surgical kit	-	17.9 (7)	82.1 (32)
Syringe for ear irrigation	-	5.1 (2)	94.9 (37)
Peak flow meter	-	2.6 (1)	97.4 (38)
Test for occult blood in feces	-	-	100.0 (39)
Gynecologic speculum	-	-	100.0 (39)

Family Nursing skills. Community nurses answered a set of questions about the skills routinely performed during their practice. Table 17 shows the distribution of responses by skills (in descending frequency). The twelve most frequently performed skills included measuring blood pressure (100.0%), preventing dehydration (100.0%), measuring head circumference of children (97.4%), first aid for allergic reactions (97.4%), care of burns (97.4%), counseling on family planning (94.9%), positioning of baby at the breast (94.9%), checking serum glucose level (92.3%), weighing children (92.3%), administering childhood vaccines (92.3%), weighing pregnant women (92.3%), and teaching breast self-examination technique (92.3%). Nurses do not take vaginal, cervical, or urethral cultures. Only one respondent took sputum samples for TB diagnosis, three performed throat cultures, and six oversaw TB patient treatment.

Table 17. Reported application of nursing skills in practice

Skill	Ever used % (n)	Frequency used, past 2 weeks mean (min - max)
1. Measuring blood pressure	100.0 (39)	21.9 (6 - 70)
2. Preventing dehydration	100.0 (39)	1.0 (0 - 5)
3. Measuring head circumference of children	97.4 (38)	7.5 (0 - 20)
4. Providing first aid for allergic reactions	97.4 (38)	1.0 (0 - 5)
5. Caring for burns	97.4 (38)	0.5 (0 - 4)

Skill	Ever used % (n)	Frequency used, past 2 weeks mean (min - max)
6. Counseling on Family Planning	94.9 (37)	2.1 (0 - 11)
7. Positioning baby at the breast	94.9 (37)	1.4 (0 - 7)
8. Checking serum glucose level	92.3 (36)	4.1 (0 - 21)
9. Weighing children	92.3 (36)	8.4 (0 - 20)
10. Administering childhood vaccines	92.3 (36)	7.5 (0 - 28)
11. Weighing pregnant women	92.3 (36)	1.8 (0 - 12)
12. Teaching breast self-examination technique	92.3 (36)	1.6 (0 - 4)
13. Administering intravenous (IV) infusions	87.2 (34)	2.4 (0 - 15)
14. Directing the care of terminally ill patients	87.2 (34)	0.6 (0 - 4)
15. Preventing and caring for bed sores	87.2 (34)	0.6 (0 - 4)
16. Immobilizing fractures	87.2 (34)	0.2 (0 - 1)
17. Measuring respiration rate	87.2 (34)	1.2 (0 - 9)
18. Measuring height of children	79.5 (31)	8.6 (0 - 20)
19. Providing TB counseling	69.2 (27)	1.3 (0 - 7)
20. Performing adult CPR	59.0 (23)	0
21. Using urine test strips	56.4 (22)	2.4 (0 - 12)
22. Performing child CPR	56.4 (22)	0
23. Measuring Fundal height in pregnant women	56.4 (22)	1.5 (0 - 6)
24. Counseling patients with STI and HIV/AIDS	56.4 (22)	1.4 (0 - 7)
25. Administering insulin injection	51.3 (20)	0.7 (0 - 10)
26. Palpating thyroid gland	48.7 (19)	0.3 (0 - 2)
27. Counseling on PAP test screening	38.5 (15)	1.7 (0 - 5)
28. Catheterizing urinary bladder	30.8 (12)	0.3 (0 - 1)
29. Overseeing TB patients' treatment	15.4 (6)	0.3 (0 - 2)
30. Taking throat culture/smear	7.7 (3)	0
31. Taking sputum sample for TB diagnosis	2.6 (1)	0
32. Taking vaginal, cervical and urethral culture/smear	-	-

A summative nursing practice score is the percent of these 32 skills practiced by a nurse. The mean practice score was 69.0 (Table 18) with Shirak nurses scoring significantly higher than Lori nurses (72.5% versus 64.9%).

Table 18. Mean scores, application of FN skills

	Lori (n = 18) % (min-max)	Shirak (n=20) % (min-max)	Total (n=39) % (min-max)
Nursing Practice score*	64.9 (50-87.5)	72.5 (53.1-84.4)	69.0 (50.0–87.5)

* the marz difference is statistically significant, p<.05

Reasons for not practicing certain skills were also investigated. As Table 19 shows, a lack of patients requiring a specific skill was mentioned as the main reason (41.8%) for nurses not to practice a certain skill. In many cases (34.3%) community nurses, by protocol, referred clients to a higher level facility. Smaller proportion of nurses mentioned as reasons for not practicing certain skills lack of knowledge (12.4%) or lack of appropriate equipment and supplies (11.6%).

Structured Observation. The evaluation of technical competence of community nurses included the assessment of their blood pressure measurement and glucometry skills. The interviewers asked nurses to perform these procedures and observed them thoroughly, completing a structured observation checklist consisting of 14 items for each task. The

checklist captured interpersonal skills, technical performance, and adherence to sanitary/safety regulations throughout the process (see Appendix 1).

Blood Pressure. Table 20 depicts nurses' performance by each of these skills for blood pressure measurement. All but one nurse greeted the patient respectfully and explained the procedure before starting. Seventy-seven percent of the nurses received the patient's consent before starting and 84.6% asked the patient to sit quietly for 3-5 minutes before beginning. More than half of nurses washed and dried their hands before the procedure (61.5%). Seventy-two percent repeated the measurement on another arm; however, 39.5% failed to correctly record the measurements obtained from two arms. Approximately 70.0% did not clean the stethoscope bell, and 51.3% did not wash their hands after the procedure.

Of 38 nurses, only four scored the maximum of 14 for the blood pressure measurement procedure. Three nurses scored 13, six scored 12, and six scored 11. Fifteen scored between seven and ten and four nurses received scores in the range of 2-5 (Table 21). Mean scores for the whole sample and for each marz were also calculated (Table 22). The overall mean score for blood pressure measurement was 71.8%.

Glucometry. As Table 23 shows, all nurses greeted the patient respectfully and explained the procedure. Ninety-one percent received the patient's consent; a similar percentage prepared the necessary medical supplies and tools before starting glucometry. Approximately 74.0% asked the patient to wash his/her hands and dry them while 80.0% washed and dried their own hands. Seventy-nine percent of nurses had the patient comfortably seated. Seventy-seven percent inserted a new needle onto the device. Seventy-four percent of nurses checked the validity period of the strip, while 85.7% checked the conformity of the strip and glucometer codes and dropped the blood on the strip correctly. Seventy-seven percent recorded the data of the display. While 80.0% removed the needle safely and threw it into a medical waste box, only 65.7% took the strip out with a napkin before throwing it into a medical waste box, and washed their hands after the procedure. Five scored the maximum of 14; 8 nurses scored 13, five scored 12, and six scored 11. Nine of them scored between 7 – 10 (Table 21). Table 22 presents the mean scores by marzes. The overall mean score for glucometry was 81.4% (Table 22). The overall nurse performance during glucometry was better than during blood pressure measurement; Lori nurses scored significantly higher than Shirak nurses in both procedures.

Table 19. Reason for not practicing specific family nursing skills

	Referred client to another facility % (n)	Lack of knowledge % (n)	Lack of equipment/supplies % (n)	No clients with such problems % (n)	N
1. Measuring head circumference of children	-	-	-	100.0 (1)	1
2. Providing first aid for allergic reactions	-	-	-	100.0 (1)	1
3. Caring for burns	100.0 (1)	-	-	-	1
4. Counseling on Family Planning	50.0 (1)	-	-	50.0 (1)	2
5. Positioning baby at the breast	100.0 (1)	-	-	-	1
6. Checking serum glucose level	-	33.3 (1)	66.7 (2)	-	3
7. Weighing children	-	-	66.7 (2)	33.3 (1)	3
8. Administering childhood vaccines	-	-	66.7 (2)	33.3 (1)	3
9. Weighing pregnant women	-	-	33.3 (1)	66.7 (2)	3
10. Teaching breast self-examination technique	66.7 (2)	33.3 (1)	-	-	3
11. Administering intravenous (IV) infusions	20.0 (1)	-	-	80.0 (4)	5
12. Directing the care of terminally ill patients	20.0 (1)	-	-	80.0 (4)	5
13. Preventing and caring for bed sores	-	-	-	100.0 (5)	5
14. Immobilizing fractures	-	-	20.0 (1)	80.0 (4)	5
15. Measuring respiration rate	20.0 (1)	60.0 (3)	-	20.0 (1)	5
16. Measuring height of children	-	-	87.5 (7)	12.5 (1)	8
17. Providing TB counseling	-	8.3 (1)	-	91.7 (11)	12
18. Administering adult CPR	17.6 (3)	-	-	82.4 (14)	17
19. Using urine testing strips	52.9 (9)	23.5 (6)	11.8 (2)	11.8 (2)	19
20. Administering child CPR	17.6 (3)	-	-	82.4 (14)	17
21. Measuring Fundal height in pregnant women	41.2 (7)	17.6 (3)	-	41.2 (7)	17
22. Counseling patients with STI and HIV/AIDS	-	5.9 (1)	94.1 (16)	-	17
23. Administering insulin injection	5.3 (1)	5.3 (1)	-	89.5 (17)	19
24. Palpating thyroid gland	20.0 (4)	60.0 (12)	-	20.0 (4)	20
25. Counseling on PAP test screening	45.8 (11)	41.7 (10)	4.2 (1)	8.3 (2)	24
26. Catheterizing urinary bladder	17.9 (5)	10.7 (3)	14.3 (4)	57.1 (16)	28
27. Overseeing TB patients' treatment	28.1 (9)	-	-	71.9 (23)	32
28. Taking throat culture/smear	77.8 (28)	5.6 (2)	8.3 (3)	8.3 (3)	36
29. Taking sputum sample for TB diagnosis	43.2 (16)	-	-	56.8 (21)	37
30. Taking vaginal, cervical and urethral culture/smear	74.4 (29)	10.3 (4)	10.3 (4)	5.1 (2)	39
TOTAL	34.3 (133)	12.4 (48)	11.6 (45)	41.8 (162)	388

Table 20. Community nurses, blood pressure measurement compliance checklist

Step	% (n)
1. Greeted the patient respectfully and kindly explained the procedure	97.4 (38)
2. Received the patient's consent	76.9 (30)
3. Asked the patient to sit quietly for 3-5 minutes	84.6 (33)
4. Washed and dried his/her hands?	61.5 (24)
5. Correct patient body position	69.2 (27)
6. Proper cuff placement	87.2 (34)
7. Palpated the brachial artery to properly place the stethoscope?	84.6 (33)
8. Inflated the cuff properly	69.2 (27)
9. Placed the stethoscope bell over the brachial artery.	66.7 (26)
10. Released the cuff slowly enough	94.9 (37)
11. Repeated the measurement on another arm	71.8 (28)
12. Recorded the highest result	60.5 (23)
13. Cleaned the stethoscope bell	30.8 (12)
14. Washed his/her hands?	48.7 (19)

Table 21. Distribution of total procedure score, blood pressure and glucometer

Total score (max=14)	Blood Pressure % (n)	Glucometer % (n)
2	2.6 (1)	-
4	5.3 (2)	-
5	2.6 (1)	-
7	5.3 (2)	3.0 (1)
8	2.6 (1)	12.1 (4)
9	21.1 (8)	9.1 (3)
10	10.5 (4)	3.0 (1)
11	15.8 (6)	18.2 (6)
12	15.8 (6)	15.2 (5)
13	7.9 (3)	24.2 (8)
14	10.5 (4)	15.2 (5)
Total	100.0 (38)	100.0 (33)

Table 22. Mean procedure score, blood pressure and glucometer by marz

	Lori mean (range)	Shirak mean (range)	Total mean (range)
Mean Blood Pressure Score*	79.8 (28.1-100)	65.3 (14.3-100)	71.8 (14.3-100)
Mean Glucometer Score*	85.7 (57.0-100)	76.8 (50.0-100)	81.4 (50.0-100)

* the between marz difference is statistically significant, p<0.05

Table 23. Community nurses, glucose measurement compliance checklist

Step	% (n)
1. Greeted the patient respectfully and kindly and explained the procedure	100.0 (35)
2. Received the patient's consent	91.4 (32)
3. Prepared the necessary medical supplies and tools	91.2 (31)
4. Asked the patient to wash his/her hands and dry them?	74.3 (26)
5. Washed and dried his/her hands?	80.0 (28)
6. Had the patient comfortably seated?	79.4 (27)
7. Inserted a new needle into the device	77.1 (27)
8. Checked the validity period of the test strip	74.3 (26)
9. Checked the conformity of the strip and glucometer codes	85.7 (30)
10. Dropped the blood on the strip correctly?	85.7 (30)
11. Recorded the data of the display	77.1 (27)

12. Took the strip out with a napkin and threw it into a medical waste box	65.7 (23)
13. Removed the needle safely and disposed it into a medical waste box	80.0 (28)
14. Washed his/her hands	65.7 (23)

3.7.2. Physicians of ambulatories, health centers and polyclinics

Physicians were also asked about their skills and equipment usage. Table 24 shows the frequency of ambulatory, health centers, and polyclinics physicians using common medical equipment. All 42 doctors regularly used a stethophonendoscope in their daily practice. About 92.9% of physicians regularly used the adult sphygmomanometer and 90.2% used adult scales. Other regularly used instruments included child scales (62.5%) and an ECG device (40.5%). The remaining items were used regularly by less than 40% of the respondent physicians. The most rarely used equipment included gynecologic speculum and tests for fecal occult blood (not regularly used by any doctor), followed by camertone (regularly used by two respondents), and microscope (four respondents). Table 25 depicts the distribution of these responses by physician specialty (Family Physicians, Theraputists, and Pediatricians).

Family medicine skills

Providers at ambulatories, health centers and polyclinics answered a set of questions about the skills routinely performed during their practice. Table 26 shows the distribution of responses by physician specialty (in descending overall frequency of use). All providers counseled on healthy lifestyle (100.0%). Ninety-five percent prescribed chest X-rays for patients at-risk for TB. Approximately 86.0% treat patients with low back pain; a similar percentage prescribed aspirin to patients with coronary artery disease. Most physicians (78.6%) calculated a patient’s risk for cardiovascular disease, and treated patients with fungal skin infections. Seventy percent felt confident in managing anaphylactic shock. Sixty-nine percent reported that they prescribed exercises to prevent cardiovascular disease; 64.3% prescribed exercises for prevention of musculoskeletal disorders; 66.7% of providers assessed vision acuity. Fifty-four percent of doctors felt confident in their ability to perform cardiopulmonary resuscitation, 52.4% treated patients with acne. Less than 50% of the providers performed other procedures listed in Table 26.

A summative practice score is the percentage of these 20 skills physicians routinely practiced. Table 27 shows the distribution of mean summative scores and percent scores per each physician, by marz, and the distribution of scores by physician specialty. The overall mean score was 59.6%. Shirak physicians utilized essentially the same number of skills as their Lori counterparts (59.1% versus 60.0%). Family physicians used significantly more skills on average than the other specialties did (theraputists and pediatricians).

Table 24. Reported physician use of common medical equipment (ambulatories, health centers, and polyclinics)

Item	Yes, regularly	Yes, occasionally	Never
Stethophonendoscope	100.0 (42)	-	-
Adult sphygmomanometer	92.9 (39)	7.1 (3)	-
Scale – adult	90.2 (37)	4.9 (2)	4.9 (2)
Scale – child	62.5 (25)	12.5 (5)	25.0 (10)
EKG device	40.5 (17)	14.3 (6)	45.2 (19)
Otoscope	38.1 (16)	26.2 (11)	35.7 (15)
Glucometer	35.7 (15)	19.0 (8)	45.2 (19)
Syringe for ear irrigation	31.0 (13)	16.7 (7)	52.4 (22)
Urine tests	31.0 (13)	2.4 (1)	66.7 (28)

Item	Yes, regularly	Yes, occasionally	Never
Child sphygmomanometer	28.6 (12)	26.2 (11)	45.2 (19)
Reflex hammer	26.2 (11)	28.6 (12)	45.2 (19)
Ophthalmoscope	22.0 (9)	34.1 (14)	43.9 (18)
Small surgical kit	22.0 (9)	17.1 (7)	61.0 (25)
Peak flow meter	11.9 (5)	11.9 (5)	76.2 (32)
Microscope	9.5 (4)	4.8 (2)	85.7 (36)
Camertone	4.8 (2)	11.9 (5)	83.3 (35)
Test for occult fecal blood	-	9.5 (4)	90.5 (38)
Gynecologic speculum	-	21.4 (9)	78.6 (33)

Table 25. Reported use of common medical equipment (ambulatories, health centers, and polyclinics) by physician specialty

Item	Family Physician (n=24)	Therapist (n=12)	Pediatrician (n=6)
Stethophonendoscope	100.0 (24)	100.0 (12)	100.0 (6)
Adult sphygmomanometer	100.0 (24)	100.0 (12)	100.0 (6)
Scale – adult	100.0 (24)	83.3 (10)	100.0 (5)
Scale – child	87.5 (21)	36.4 (4)	100.0 (5)
Otoscope	83.3 (20)	41.7 (5)	33.3 (2)
Glucometer	79.2 (19)	25.0 (3)	16.7 (1)
Ophthalmoscope	78.3 (18)	33.3 (4)	16.7 (1)
EKG device	75.0 (18)	33.3 (4)	16.7 (1)
Reflex hammer	75.0 (18)	41.7 (5)	-
Syringe for ear irrigation	70.8 (17)	25.0 (3)	-
Child sphygmomanometer	62.5 (15)	25.0 (3)	83.3 (5)
Small surgical kit	62.5 (15)	8.3 (1)	-
Urine tests	50.0 (12)	16.7 (2)	-
Peak flow meter	37.5 (9)	8.3 (1)	-
Gynecologic speculum	37.5 (9)	-	-
Microscope	25.0 (6)	-	-
Camertone	25.0 (6)	-	16.7 (1)
Test for occult fecal blood	16.7 (4)	-	-

Table 26. Reported routinely used skills and procedures by doctors of ambulatories, health centers and polyclinics, by physician specialty

	Total	Family Physician (n=24)	Therapists (n=12)	Pediatricians (n=6)
Counsel on healthy lifestyle	100.0 (41)	100.0 (24)	100.0 (11)	100.0 (6)
Prescribe chest X-ray for those at risk of TB	95.1 (39)	91.7 (22)	100.0 (11)	100.0 (6)
Treat patients with low back pain	85.7 (36)	100.0 (24)	75.0 (9)	50.0 (3)
Prescribe aspirin to patients with coronary artery disease	85.4 (35)	95.8 (23)	90.9 (10)	33.3 (2)
Calculate patient risk for cardiovascular disease	78.6 (33)	87.5 (21)	91.7 (11)	16.7 (1)
Treat patients with fungal skin infections	73.8 (31)	79.2 (19)	75.0 (9)	50.0 (3)
Feel confident to manage anaphylactic shock	70.7 (29)	70.8 (17)	72.7 (8)	66.7 (4)
Prescribe exercises to prevent cardiovascular disease?	69.0 (29)	79.2 (19)	58.3 (7)	50.0 (3)

	Total	Family Physician (n=24)	Theraputists (n=12)	Pediatricians (n=6)
Assess visual acuity	66.7 (28)	79.2 (19)	33.3 (4)	83.3 (5)
Prescribe exercises to prevent musculoskeletal disorders	64.3 (27)	75.0 (18)	50.0 (6)	50.0 (3)
Manage patients with otitis media?	57.1 (24)	75.0 (18)	16.7 (2)	66.7 (4)
Feel confident in cardiopulmonary resuscitation skills	53.7 (22)	54.2 (13)	63.6 (7)	33.3 (2)
Treat patients with acne	52.4 (22)	62.5 (15)	50.0 (6)	16.7 (1)
Feel confident in the early management of severe trauma	48.8 (20)	62.5 (15)	27.3 (3)	33.3 (2)
Prescribe contraceptives/counsel on family planning methods	42.9 (18)	58.3 (14)	25.0 (3)	16.7 (1)
Remove earwax	52.4 (22)	75.0 (18)	33.3 (4)	-
Perform suturing/wound care	47.6 (20)	66.7 (16)	33.3 (4)	-
Perform dipstick urine test	39.0 (16)	58.3 (14)	18.2 (2)	-
Remove an in-grown nail	14.3 (6)	25.0 (6)	-	-
Perform pap-smear culture	-	-	-	-

Table 27. Mean practice skills score by region and specialty,

	mean score (%)
Specialty*	
Family Physician	69.8
Therapuetist	49.1
Pediatrician	38.3
Marz	
Lori	60.0
Shirak	59.1
Total	59.6

* a statistically significant difference, p<0.05

3.8. Main findings

The following main findings of the facility/provider performance assessment are highlighted.

- **The retrospective baseline assessment [necessitated by the change in the survey instrument] introduced no discernable bias.** Data from a concurrent baseline in Zone 2 triangulated with the retrospective Zone 1 baseline results. This comparison suggested little to no bias was introduced by the unplanned adaptation.
- **Facilities were improving their accessibility of care and their community engagement.** Access to/provision of care scores increased from 2.0 in 2006 to 2.5 in 2008; provider relations with community and clients improved from 1.1 to 1.4; environment scores improved from 1.3 to 1.9; facility management scores improved from 1.4 to 1.7; and primary and secondary prevention efforts increased from 1.3 to 1.9. The overall mean score increased significantly from 1.4 to 1.8.
- *Shirak facilities were rated higher than Lori facilities.* Shirak facilities received higher mean overall facility scores than Lori did; however, the improvement since the baseline assessment was more prominent for Lori facilities (1.2 in 2006 and 1.8 in 2008 in Lori versus 1.6 in 2006 and 1.9 in 2008 in Shirak).

- *FAPs were lagging/scored lower than other facility types.* FAPs scored lower both at baseline and at follow-up. The improvement curve for FAPs (percent change), however, was similar to the improvement curve for other facility types.
- **Shirak nurses practiced a broader array of skills than Lori nurses did. Physicians practiced similar skills in Lori and Shirak marzes.** Community nurses practiced 69.0% of the select PHC skills; Shirak nurses scored significantly higher than Lori nurses. Physicians at ambulatories, health centers, and polyclinics practiced 59.6% of the select family physician skills.
- **Nurses in Lori adhered more rigorously to protocols than their Shirak counterparts did.** On average, community nurses correctly completed 72.1% of the 14 tasks when measuring a blood pressure and 81.4% of the 14 tasks for glucometry. Nurses from Lori performed significantly better on both procedures.
- **Family physicians regularly practiced a broader array of skills than other specialists (theraputists, pediatricians) did:** family physicians practiced 69.8% of the selected skills versus 49.1% for theraputists and 38.3% for pediatricians.

Appendix 1. Facility & provider performance assessment tool

PHCR- Follow-up

Dear colleagues,

Primary Health Care Reform Project conducts this survey together with the Ministry of Health with the aim to assess the services in your facility. This is not an official assessment, but we hope that this tool will help you and us to get more clear and structured picture of the problems at your facility and the ways for improvement. That is why it is very important that you respond honestly to our questions. Your participation in this study is voluntary. However, we think that the effort you will put into this task is worthwhile and very important for your facility.

Please note that we would like to learn about the practices/performance at your facility both now and two years ago, before the PHCR project has started its activities. So please try to recall the state of your facility back in 2008 as well.

Thank you!

1. Date ____/____/____

1.1 Facility code _____

2. Marz _____

Type of health facility: FAP (Feldsher/obstetrical point) Health Center
 SVA (Village ambulatory) Polyclinic

3. Name of the facility: _____

4. Name of the facility responsible/director: _____ 4.1 Phone: _____

A. ACCESS TO/PROVISION OF CARE

		Always	Usually	Occasionally	Never
5. Is the facility open and available during official hours?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
		Yes, all of them	Yes, the majority	Some of them	No
6. Is the community aware of the free services offered?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
7. Are the working hours posted in the facilities?	2006			<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2008			<input type="checkbox"/> 3	<input type="checkbox"/> 0
8. Are the working hours convenient for clients?	2006			<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2008			<input type="checkbox"/> 3	<input type="checkbox"/> 0
9. Are educational materials available describing free services?	2006			<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2008			<input type="checkbox"/> 3	<input type="checkbox"/> 0

10. Are MOH state order (BBP) posters visible to clients?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
11. Do providers routinely conduct postnatal home visits?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
12. Are there emergency instructions posted for non-working hours?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0

FOR FAPs ONLY!

		<i>Once per month or more frequently</i>	<i>Once in two months</i>	<i>Once in three months</i>	<i>Less frequently than once in three months</i>
13. How frequently does a supervising physician visit the facility?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
14. How frequently does a supervising physician carry out home visits?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
		<i>Always</i>	<i>Usually</i>	<i>Occasionally</i>	<i>Never</i>
15. Does a supervising physician take time to see patients in the clinic?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
16. Does a supervising physician notify the facility of the time and date of the visit?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
17. Do village mayors provide transportation in case of an emergency with a community member?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0

B. PROVIDER RELATIONS WITH COMMUNITY AND CLIENTS

		<i>Once per month or more frequently</i>	<i>Once in 2-3 months</i>	<i>Once or twice a year</i>	<i>Less frequently than once a year or never</i>
18. How frequently do providers conduct health education sessions with the community?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
		<i>Always</i>	<i>Usually</i>	<i>Occasionally</i>	<i>Never</i>
19. How frequently do providers prepare for health education sessions adequately (inform community, prepare agenda, organize location)?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0

20. How frequently do providers provide clients with educational materials?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
21. How frequently do providers conduct health talks with the patients during their visits?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
22. How frequently the Mayor is involved in solving health problems in the community?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
23. How frequently patients have the opportunity to choose between different treatment options?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
				Yes	No
24. Does facility have a suggestion box?	2006	<input type="checkbox"/> 3		<input type="checkbox"/> 0	
	2008	<input type="checkbox"/> 3		<input type="checkbox"/> 0	
25. In the last three months has anything changed in your facility based on the suggestions of clients?	2006	<input type="checkbox"/> 3		<input type="checkbox"/> 0	
	2008	<input type="checkbox"/> 3		<input type="checkbox"/> 0	
26. Could an outsider get information from patient records at your facility?	2006	<input type="checkbox"/> 3		<input type="checkbox"/> 0	
	2008	<input type="checkbox"/> 3		<input type="checkbox"/> 0	
27. Does your facility have private space so that counseling sessions, physical exams, and procedures cannot be observed or overheard?	2006	<input type="checkbox"/> 3		<input type="checkbox"/> 0	
	2008	<input type="checkbox"/> 3		<input type="checkbox"/> 0	
28. Do providers keep records of the community's composition (age, gender)?	2006	<input type="checkbox"/> 3		<input type="checkbox"/> 0	
	2008	<input type="checkbox"/> 3		<input type="checkbox"/> 0	
29. Do providers keep lists of people in the community who are vulnerable and eligible to get free services?	2006	<input type="checkbox"/> 3		<input type="checkbox"/> 0	
	2008	<input type="checkbox"/> 3		<input type="checkbox"/> 0	
30. Are patient satisfaction surveys regularly conducted at the facility? (the survey of clients about the quality of and satisfaction with the care received; conducted using the standardized questionnaire)	2006	<input type="checkbox"/> 3		<input type="checkbox"/> 0	
	2008	<input type="checkbox"/> 3		<input type="checkbox"/> 0	

C. ENVIRONMENT

		Yes	No
31. Do providers maintain complete records of cold chain conditions for vaccines?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
32. Does the facility offer appropriate working conditions for providers?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
33. Does the facility have staff who checks the problems with facility equipment and makes repairs if necessary?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
34. Is the facility being regularly ventilated during working hours?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0

35. Is the facility being regularly cleaned?	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
36. Are official security checks regularly conducted at the facility?	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
37. Are trainings on emergency situations/disaster preparedness regularly conducted for the facility staff?	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
38. Is medical equipment being refilled regularly?	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
39. Are there any MOH /San Epid regulations on infection control and medical waste management available at the facility?	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0

		Always	Usually	Occasionally	Never
40. How frequently do providers wash hands before and after each patient with soap and water?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
41. How frequently are the used needles removed into the sharp containers?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0

D. MANAGEMENT

		Yes	No
42. Are there written documents describing job responsibilities of providers?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
43. Are the registers of patients with chronic diseases maintained at the facility?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
44. Is the current number of staff sufficient to provide high quality services to the population?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
45. Is there an established official procedure of responding to the client complaints?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
46. Do providers have primary health care clinical practice standards available at the facility for reference (clinical guidelines, Job Aids, criteria, protocols)?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
47. Do providers use the standards during their daily work?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
48. Are internal meetings regularly conducted to evaluate the facility activities?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
49. Are records of these meetings maintained?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
F1. Is there some type of financial rewarding system for good provider performance at your facility?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0

		2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
		Yes, all	Yes, some	No
50. Are providers satisfied with their job?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0

FOR AMBULATORIES, HEALTH CENTERS, AND POLYCLINICS ONLY!

F2. Are the following quality assurance techniques/tools employed in your facility?

1. Self-assessment of performance.

	Yes	No
2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0
2006	<input type="checkbox"/> 3	<input type="checkbox"/> 0
2008	<input type="checkbox"/> 3	<input type="checkbox"/> 0

2. Medical chart/case review.

3. Patient satisfaction surveillance.

4. Other (please describe) _____

FOR FAPs ONLY!

		Always	Usually	Occasionally	Never
51. Does a supervisor engage providers in problem solving during their visits?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
52. Do supervisors provide clinical support to providers?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
53. Do supervisors provide administrative support to providers?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
54. When problems cannot be solved locally, does the supervisor make all reasonable efforts to solve it by raising it with the authorities?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
55. Does the supervisor report back to the provider on the status of the issue?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0

E. PRIMARY AND SECONDARY PREVENTION

		More than 75%	50-75%	25- 50%	Less than 25%
56. What proportion of the served population over 20 years old receives preventive blood pressure measurement at least once per year and have a corresponding record in medical chart?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
57. For what proportion of the served children clinical urine and blood tests are performed at 12 months?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
58. What proportion of female adolescents 15-17 years are examined and consulted on reproductive health	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
59. What proportion of first antenatal visits is within the first trimester of pregnancy?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
60. What proportion of pregnant women receive consultation on healthy pregnancy, breastfeeding, child care, personal and sexual hygiene?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
61. What proportion of the children at age 24 months fully complete immunizations in accordance with the National Plan?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
62. What proportion of patients with Type 2 Diabetes receives regular blood glucose control - at least 1 blood glucose test per month?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0

FOR AMBULATORIES, HEALTH CENTERS, AND POLYCLINICS ONLY!

		More than 75%	50-75%	25- 50%	Less than 25%
63. What proportion of the served population over 40 years old undergoes blood cholesterol level measurement at least once a year?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
64. What proportion of the served children receives hemoglobin measurement at 9 months of age?	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0

		<i>More than 75%</i>	<i>50-75%</i>	<i>25- 50%</i>	<i>Less than 25%</i>
65. <i>What proportion of the served preschool age children receive preventive examination by neurologist and ophthalmologist?</i>	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
66. <i>What proportion of the served female population over 40 receive clinical breast examination at least once per year?</i>	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
67. <i>What proportion of served female population 30-60 years old undergoes Pap-smear test at least once in 3 years</i>	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
68. <i>What proportion of pregnant women are examined at your facility at least four times for the period of pregnancy?</i>	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
69. <i>What proportion of patients with Type 2 Diabetes receives regular eye funduscopy control - at least 1 eye funduscopy exam per year?</i>	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
70. <i>What proportion of patients with Hypertension and Coronary Heart Disease (CHD) received regular ECG-control - at least 1 ECG-exam per year?</i>	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
F3. <i>What proportion of patients with Coronary Heart Disease (CHD) received regular blood cholesterol control - at least 1 test per year?</i>	2006	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
	2008	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0

Facility code _____

Specialty of the doctor _____

Form F1 (FOR DOCTORS OF AMBULATORIES, HEALTH CENTERS, AND POLYCLINICS)

71. Do you use the following instruments in your daily practice:	Yes, regularly	Yes, occasionally	Never
1. Stethophonendoscope	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
2. Adult sphygnomanometer	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
3. Child sphygnomanometer	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
4. Reflex hammer	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
5. Otoscope	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
6. Glucometer	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
7. Peekfluometer	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
8. Ophthalmoscope	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
9. Camertone	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
10. Urine tests	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
11. Test for occult blood in feces.	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
12. Gynecologic speculum	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
13. Small surgical kit	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
14. Scale – child	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
15. Scale – adult	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
16. Microscope	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
17. Syringe for ear irrigation	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
18. EKG device	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0

FOR DOCTORS OF AMBULATORIES, HEALTH CENTERS, AND POLYCLINICS ONLY!

72. Do you routinely	Yes	No
19. ...perform pap-smear test?	<input type="checkbox"/> 3	<input type="checkbox"/> 0
20. ...treat patients with acne?	<input type="checkbox"/> 3	<input type="checkbox"/> 0
21. ...treat patients with skin fungal infections?	<input type="checkbox"/> 3	<input type="checkbox"/> 0
22. ... calculate patients' risk for cardiovascular disease?	<input type="checkbox"/> 3	<input type="checkbox"/> 0
23. ...manage patients with otitis media?	<input type="checkbox"/> 3	<input type="checkbox"/> 0
24. ...prescribe exercises for prevention of musculoskeletal disorders?	<input type="checkbox"/> 3	<input type="checkbox"/> 0
25. ...prescribe exercises for prevention of cardiovascular disease?	<input type="checkbox"/> 3	<input type="checkbox"/> 0
26. ... remove earwax?	<input type="checkbox"/> 3	<input type="checkbox"/> 0
27. ... assess the vision acuity?	<input type="checkbox"/> 3	<input type="checkbox"/> 0
28. ... prescribe contraceptives/ counsel on family planning methods?	<input type="checkbox"/> 3	<input type="checkbox"/> 0
29. ... treat patients with low back pain?	<input type="checkbox"/> 3	<input type="checkbox"/> 0
30. ...perform suturing/caring of wounds?	<input type="checkbox"/> 3	<input type="checkbox"/> 0
31. ... perform removing in-grown nail?	<input type="checkbox"/> 3	<input type="checkbox"/> 0
32. ...prescribe chest X-ray exam to TB risk group patients?	<input type="checkbox"/> 3	<input type="checkbox"/> 0
33. ...perform dipstick urine tests?	<input type="checkbox"/> 3	<input type="checkbox"/> 0
34. ...provide consultation on healthy lifestyle?	<input type="checkbox"/> 3	<input type="checkbox"/> 0
35. ...prescribe aspirin to patients with coronary artery disease?	<input type="checkbox"/> 3	<input type="checkbox"/> 0
36. ...feel confident in early management of severe trauma?	<input type="checkbox"/> 3	<input type="checkbox"/> 0
37. ...feel confident in cardiopulmonary resuscitation?	<input type="checkbox"/> 3	<input type="checkbox"/> 0
38. ...feel confident in management of anaphylactic shock?	<input type="checkbox"/> 3	<input type="checkbox"/> 0

73. Do you use in your daily work the following PHC job aids?	Yes	No	
		Available	Not available
39. Management of Type-2 Diabetes Mellitus in PHC Practices.	<input type="checkbox"/>	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
40. Management of patients with Ischemic Heart Disease	<input type="checkbox"/>	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
41. Management of Hypertension in Adults in primary care.	<input type="checkbox"/>	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
42. Management of Fever in Children	<input type="checkbox"/>	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
43. Management of Convulsive syndrome in Children	<input type="checkbox"/>	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
44. Management of Acute Upper Respiratory Tract Infections in Children	<input type="checkbox"/>	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
45. Management of Acute Otitis Media in Children	<input type="checkbox"/>	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
46. Management of Tonsillitis in Children	<input type="checkbox"/>	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
47. Management of Pneumonia in Children	<input type="checkbox"/>	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
48. Management of Acute diarrhea in Children	<input type="checkbox"/>	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
49. Management of Anemia in Children	<input type="checkbox"/>	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0

Facility Code _____

Community nurse (Yes / No)

Form F2 (FOR FAP NURSES)

74. Do you use the following instruments in your daily practice:	Yes, regularly	Yes, occasionally	Never
50. Stethophonendoscope	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
51. Child sphygnomanometer	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
52. Reflex hammer	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
53. Otoscope	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
54. Adult sphygnomanometer	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
55. Glucometer	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
56. Peekfluometer	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
57. Ophthalmoscope	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
58. Camertone	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
59. Urine tests	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
60. Test for occult blood in feces.	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
61. Gynecologic speculum	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
62. Small surgical kit	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
63. Scale – child	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
64. Scale – adult	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
65. Microscope	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
66. Syringe for ear irrigation	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0
67. EKG device	<input type="checkbox"/> 3	<input type="checkbox"/> 1.5	<input type="checkbox"/> 0

2. Do you routinely apply the following skills in your practice?			
	a. 1= Yes, 0= No	b. If Yes, how many times in the last 2 weeks?	c. If No, please indicate the main reason for not applying this skill: 1. Referred client to another facility 2. Lack of knowledge 3. Lack of equipment and supplies 4. There was no need, because there were no clients with such problems 5. Other
68. Measuring blood pressure			
69. Checking glucose level in blood			
70. Urine strip testing			
71. Weighting children			
72. Measuring head circumference of children			
73. Measuring height of children			
74. Administering childhood vaccines			
75. Administering intravenous (IV)			

infusions			
76. Administering insulin injection			
77. Vaginal, cervical and urethral smear taking			
78. Taking smear from throat			
79. Taking sputum sample for TB diagnosis			
80. Overseeing TB patients' treatment			
81. Providing TB counseling			
82. Directing the care of terminally ill patients			
83. Bed sore prevention and care			
84. Performing immobilization of fractures			
85. First aid in allergic reactions			
86. Preventing dehydration with Rehidron			
87. Care of burns			
88. Administering Cardiopulmonary Resuscitation (CRP) to children			
89. Administering Cardiopulmonary Resuscitation (CRP) to adults			
90. Measuring Respiration Rate			
91. Providing counseling on Family Planning			
92. Counseling on PAP test screening			
93. Weighting pregnant women			
94. Fundal height measurement in pregnant women			
95. Positioning of baby at the breast			
96. Counseling patients with STI and HIV/AIDS			
97. Thyroid gland palpation			
98. Teaching breast self-examination technique			
99. Urinary bladder catheterization			

3. Observation checklist: Measuring blood pressure

Procedure		Yes=1 No=0	Notes
	<i>Had the nurse</i>		
1	Greeted the patient respectfully and kindly, explained what should be done?		
2	Received the patient's consent?		
3	Asked the patient to sit quietly for 3-5 minutes?		
4	Washed and dried his/her hands?		
5	Had the patient comfortably seated with the back up straight, both feet flat on the floor (feet and knees not crossed), the arm on the table and at the level of the heart?		
6	Placed the blood pressure cuff on the patient's unclothed upper arm, 2-3 centimeters above the elbow area, so that the middle part of the rubber bag is on the inner side of the arm, and so that there is a room for one finger between the cuff and the arm (the clothes should not press on the arm above the cuff area)?		
7	Palpated the brachial artery in the area of cubital fossa to properly place the stethoscope?		
8	Inflated the cuff rapidly, simultaneously palpating the pulse on the brachial or radial artery (so that she continues to inflate the cuff up to 30 mm HG above the level at which the pulse disappears)?		
9	Placed the stethoscope bell over the brachial artery. The bell should not touch the cuff or tubing		
10	Released the cuff slowly enough (2-3 mm HG/second) to be able to capture the moment of the appearance and obliteration of the brachial pulse tones?		
11	Repeated the measurement on another arm?		
12	Recorded the highest results of the measurements obtained from two arms (if the difference between the two arms' measurements is more than 10 mm HG, she should record both, indicating which arm they are taken from)?		
13	Cleaned the stethoscope bell with the spirit saturated cotton ball?		
14	Washed his/her hands?		
	Total		

4. Observation checklist: Glucometry

Procedure		Yes=1 No=0	Notes
	<i>Had the nurse</i>		
1	Greeted the patient respectfully and kindly, explained what should be done?		
2	Received the patient's consent?		
3	Prepared the necessary medical supplies and tools: glucometer, scarifier with needle, strip, cotton ball, and napkin?		
4	Asked the patient to wash his/her hands and dry them?		
5	Washed and dried his/her hands?		
6	Had the patient comfortably seated?		
7	Inserted a new needle onto the scarifier (device)?		
8	Checked the validity period of the strip?		
9	Checked the conformity of the strip and glucometer codes?		
10	Dropped the blood on the strip correctly?		
11	Recorded the data of the display?		
12	Took the strip out with a napkin and threw it into a special box?		
13	Removed the needle safely (the tip covered with a ball) and threw it into a special box?		
14	Washed his/her hands?		
	Total		

Thank you for participation!

Appendix 2. Mean performance scores by facility

Facility	Mean score: Access to care		Mean score: Provider relations with community and clients		Mean score: Environment		Mean score: Facility management		Mean score: Primary prevention		Mean score: Total	
	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008
Spitak polyclinic	2.75	2.88	1.38	2.23	.	.	2.85	2.55	2.44	2.94	.	.
Tashir polyclinic	2.50	3.00	.	.	2.27	2.64	0.75	1.95	1.75	2.63	.	.
Akhuryan polyclinic	2.25	2.25	1.00	1.08	1.73	2.27	2.25	2.55	.	.	.	.
Alaverdi HC	2.13	2.63	1.38	1.69	0.91	2.36	1.20	1.95	1.13	2.63	1.35	2.25
Tumanyan HC	2.13	2.63	1.62	1.85	1.73	2.36	1.95	2.10	1.13	2.19	1.71	2.23
Dsegh HC	1.75	2.63	.	.	.	.	1.80	2.40	1.19	1.88	.	.
Lernapat HC	1.38	2.25	1.62	1.62	1.82	2.45	1.50	1.20	1.56	2.56	1.58	2.02
Margahovit HC	2.50	2.88	1.31	1.85	1.36	2.36	.	.	.	.	.	.
Mets Parni HC	2.88	3.00	2.00	2.31	2.64	2.36	2.40	2.10	.	.	.	.
Vahagni HC	2.88	2.50	2.15	1.92	2.64	2.64	2.40	1.20	1.50	1.50	2.31	1.95
Aghin HC	2.13	2.25	1.00	1.23	1.73	2.09	1.95	2.25	0.94	0.94	1.55	1.75
Amasia HC	1.75	2.63	1.00	1.15	1.82	1.82	1.35	1.65	1.13	1.50	1.41	1.75
Anipemza HC	2.63	2.63	1.85	1.85	2.36	2.45	1.95	2.25	.	.	.	.
Panik HC	2.88	3.00	1.77	1.85	2.09	2.64	2.70	2.70	1.00	1.94	2.09	2.43
Katnaghbyur SVA	0.63	1.63	1.00	1.38	0.55	1.00	0.60	0.30	0.75	0.88	0.71	1.04
Shnogh SVA	2.88	3.00	1.69	2.00	1.55	2.64	.	.	.	2.50	.	.
Djrashen SVA	1.75	2.50	0.46	1.08	1.36	1.91	1.05	2.10	0.81	1.81	1.09	1.88
Akhurik SVA	2.50	2.63	1.46	1.69	2.73	2.73	3.00	2.40	1.38	1.94	2.21	2.28
Horom SVA	2.13	2.63	0.62	1.15	1.18	1.73	0.90	1.65	0.50	1.13	1.07	1.66
Mayisyan SVA	2.63	3.00	1.85	1.77	2.45	2.45	2.10	2.40	1.38	1.81	2.08	2.29
Marmarashen SVA	2.50	2.63	1.54	1.62	2.18	2.73	2.40	3.00	1.88	2.31	2.10	2.46
Djadjuri SVA	2.63	2.25	1.69	1.77	2.09	2.36	1.95	1.95	1.31	1.19	1.93	1.90
Teghut FAP	1.92	2.62	0.77	1.08	1.09	1.36	1.27	1.27	2.14	2.57	1.44	1.78
Lernahovit FAP	2.31	2.62	0.77	1.23	0.91	1.45	0.67	0.67	1.57	2.57	1.25	1.71
Lernantsq FAP	1.85	2.15	0.54	1.08	0.64	1.18	0.67	0.93	.	.	.	.
Lermontovo FAP	1.92	2.31	1.15	1.38	.	.	1.40	1.80	1.71	2.86	.	.
Lorut FAP	0.92	2.15	0.31	1.08	0.18	1.18	.	0.90	.	.	.	.

Facility	Mean score: Access to care		Mean score: Provider relations with community and clients		Mean score: Environment		Mean score: Facility management		Mean score: Primary prevention		Mean score: Total	
	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008
Lusaghbyur FAP	1.77	2.69	1.15	1.62	1.27	1.64	1.47	1.27	1.86	2.00	1.50	1.84
Khnkoyan FAP	1.23	2.38	0.62	1.54	.	1.91	0.50	2.03	1.29	2.43	.	2.06
Haghpat FAP	1.85	2.62	0.69	1.08	1.27	2.18	0.20	0.87	1.00	2.43	1.00	1.84
Dzoragyugh FAP	0.92	2.08	0.62	0.92	1.09	2.36	0.47	0.67	0.29	1.86	0.68	1.58
Ghursal FAP	1.62	2.46	0.85	1.62	0.91	1.64	1.03	1.60	2.00	2.86	1.28	2.04
Medovka FAP	.	2.62	0.38	1.54	0.73	1.91	.	.	0.29	1.86	.	.
Novoselcovo FAP	.	1.38	0.00	1.23	0.00	1.45	0.53	1.03	0.43	1.00	.	1.22
Shamut FAP	1.77	1.85	0.54	1.08	1.09	1.55	0.87	1.00	.	.	.	.
Urasar FAP	1.00	1.77	0.85	1.46	0.36	1.82	0.77	1.20	1.86	2.71	0.97	1.79
Djiliza FAP	1.62	1.85	0.69	1.08	0.73	1.64	0.53	1.20	0.00	1.29	0.71	1.41
Sarahart FAP	1.38	2.31	0.46	1.00	1.36	1.64	0.67	1.27	1.29	2.14	1.03	1.67
Saramedj FAP	1.23	2.31	0.23	0.92	0.64	1.27	0.53	1.03	0.43	1.29	0.61	1.36
Fioletovo FAP	1.54	2.00	0.69	1.69	0.27	2.36	0.47	1.87	1.29	2.29	0.85	2.04
Aygabats FAP	2.15	2.38	1.08	1.08	1.27	1.91	2.00	2.10	1.71	1.71	1.64	1.84
Anushavan FAP	1.69	2.00	1.08	1.31	1.00	2.09	0.87	1.43	0.86	1.29	1.10	1.62
Arapi FAP	2.69	2.77	1.46	1.62	1.73	2.36	1.93	2.13	1.29	1.71	1.82	2.12
Aregnademi FAP	2.46	2.92	1.15	1.38	1.00	1.27	1.33	1.73	2.14	2.14	1.62	1.89
Bayandur FAP	2.38	2.46	1.54	1.54	0.82	1.36	1.80	1.80	2.14	2.14	1.74	1.86
Bandivan FAP	1.77	2.46	1.23	1.31	1.82	2.09	1.93	1.93	1.29	2.00	1.61	1.96
Garnaritch FAP	1.00	2.46	.	.	1.27	1.91	0.87	1.67	2.29	2.43	.	.
Isahakyan FAP	2.31	2.62	0.62	0.92	0.64	1.27	1.47	1.53	1.14	1.71	1.24	1.61
Lusakert FAP	2.15	2.62	1.00	1.00	0.64	1.18	0.60	0.60	1.29	1.71	1.14	1.42
Lusaghbyur FAP	2.08	2.62	1.23	1.54	0.91	1.82	1.00	1.40	1.43	1.43	1.33	1.76
Kamo FAP	2.46	2.46	1.00	1.23	1.73	2.00	1.67	1.67	1.57	2.00	1.69	1.87
Kaps FAP	2.46	2.46	1.23	1.31	2.00	2.00	2.40	2.40	2.29	2.29	2.08	2.09
Karnut FAP	2.69	2.77	1.15	1.15	1.36	2.18	1.40	1.80	2.14	1.71	1.75	1.92
Hovit FAP	2.46	2.85	1.31	1.46	1.00	1.27	0.80	1.47	1.57	1.57	1.43	1.72
Hovuni FAP	1.54	2.46	.	.	0.73	2.36	.	.	1.57	2.14	.	.
Megrashen FAP	2.54	2.54	0.77	0.85	1.55	1.55	1.27	1.27	0.86	1.00	1.40	1.44
Shirakavan FAP	1.85	2.31	1.38	1.54	1.00	1.55	0.80	0.93	1.14	1.43	1.23	1.55

Facility	Mean score: Access to care		Mean score: Provider relations with community and clients		Mean score: Environment		Mean score: Facility management		Mean score: Primary prevention		Mean score: Total	
	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008
Voskehask FAP	2.00	2.62	1.08	1.62	.	.	1.50	2.27	1.43	2.29	.	.
Vardakar FAP	.	.	.	.	0.55	0.91	1.00	1.93	0.71	2.00	.	.
Bagravan FAP	2.15	2.46	0.54	0.77	0.09	1.00	0.77	1.40	1.71	1.71	1.05	1.47
Gtashen FAP	2.31	2.46	1.46	1.46	1.27	1.55	1.73	1.80	1.71	1.71	1.70	1.80