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# ARMENIA PRIMARY HEALTH CARE REFORM PROJECT

## FINAL REPORT



**November 2010**

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# ARMENIA PRIMARY HEALTH CARE REFORM PROJECT

## FINAL REPORT

**Submitted by:**

Cardno Emerging Markets USA, Ltd.

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## ACRONYMS

BBP	Basic Benefits Package
BCC	Behavior Change Communication
CHC	Community Health Committees
CM	Community Mobilization
CME	Continuous Medical Education
DFID	Department for International Development
FAP	Feldscher-Accoucher Punkt
FM	Family Medicine
FMPG	Family Medicine Practice Group
FN/CN	Family nurse/Community nurse
GDP	Gross domestic product
GIS	Geographic Information System
GoA	Government of the Republic of Armenia
HMIS	Health management information system
HP	Health post
HSSD	Health and Social Services Department
KAP	Knowledge, Attitude and Practice survey
M&E	Monitoring and Evaluation
MIDAS-3	Medical Information-Data Analytical System
MOF	Ministry of Finance
MOH	Ministry of Health
MTEF	Medium Term Expenditure Framework
NHA	National Health Account
NIH	National Institute of Health
NOVA	Innovations in Support of Reproductive Health Project
OE	Open Enrollment
P4P	Pay for Performance
PHC	Primary Healthcare
PHCR	Primary Healthcare Reform Project
PHE	Public Health Education
PSA	Public Service Announcement
QA	Quality Assurance
QC	Quality coordinator
QIB	Quality Improvement Board
QoC	Quality of Care

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SHA	State Health Agency
TOT	Training of Trainers
UFMC	Unified Family Medicine Curriculum
USAID	United States Agency for International Development
WB	World Bank
YSMU	Yerevan State Medical University

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## EXECUTIVE SUMMARY

### 1. Background and Purpose

The Primary Healthcare Reform (PHCR) project was a nationwide five-year (2005-2010) program funded by the United States Agency for International Development (USAID) under a contract awarded to Cardno Emerging Markets USA, Ltd. (Cardno), formerly Emerging Markets Group, Ltd. in September 2005. The project's primary goal was increased utilization of sustainable, high-quality primary healthcare services leading to the improved health of Armenian families. The Project's overall approach was designed to meet this goal through implementation of six systemic interventions to support the Government of Armenia (GoA) and its Ministry of Health:

- Reforming health care systems, policies, and procedures and extending reforms nationwide;
- Building a more customer-service oriented system of clinic and provider choice through open enrollment (OE);
- Increasing the equitable and efficient distribution of health resources through healthcare financing strategies and the use of National Health Accounts;
- Improving the quality of care;
- Building clinical service capabilities through a Family Medicine (FM) approach;
- Fostering improved health-seeking behavior through public health education and health promotion activities.

These broad areas were further translated into a package of five components that linked policy reform with service delivery so that each informs the other, generating synergistic effects. These five components, around which the report is organized, are expansion of healthcare reforms (including renovation and equipping of facilities) and open enrollment; healthcare finance; quality of care; family medicine; and public education, health promotion and disease prevention. The project used a regional/marz-based scale up model for target oriented initiatives in which most project interventions were simultaneously implemented in two to three marzes at a time, moving from north to south on an annual basis, thus covering all of Armenia by the end of the project. The nationwide reform initiatives, such as open enrollment, were implemented in all sites as a one-time action.

### 2. Key Results

A review of Performance Management Plan (PMP) indicators presented in Appendix A shows that, with very few exceptions, all targets were met or exceeded, with the largest share of these being achieved through collaboration with the MOH and other stakeholders as well as across the five PHCR components. Similar positive results were experienced with respect to achieving the contractually identified “expected outcomes” as shown in Appendix B.

Three indicators where targets were met partially relate to the institutionalization scales of open enrollment policies, family nursing training and quality assurance. Institutionalization depends on a variety of factors, some of which are outside the control of the project. In the context of the model of institutionalization used by PHCR, three of the four elements of institutionalization are in place now (systems and guidelines, a dedicated office in the GoA, and skilled staff). The fourth element, absorbing of the costs of the intervention into the GOA budget, fell short of expectation. PHCR's results for this element are consistent with experiences elsewhere, that is, that the financing element of institutionalization is typically the most challenging element to institutionalize.

To facilitate improved understanding of the key results below, both Appendix A and B should be reviewed simultaneously.

#### 2.1 Expansion of Primary Healthcare Reforms and Open Enrollment (OE)

- PMP targets, such as PHC and OE policies and procedures introduced, percentage of population enrolled with a physician, met or exceeded (see Appendix A for details)

- 
- The new PHC development strategy was prepared and approved by the GoA
  - Two GoA decrees regulating open enrollment were drafted and approved by the GoA; MOH order approved the enrollment and transfer forms and completion instructions
  - Close collaboration achieved with Marz Health and Social Security departments (HSSD), resulting in critical support for all community based and national reform initiatives
  - The OE system, where the population of Armenia enrolls with a PHC physician of their choice, was developed and implemented in all 346 PHC facilities of Armenia plus 20 other administrative sites through providing trainings and manuals, hardware and software resources, ongoing technical assistance to facility, marz and national level implementing staff
  - Approximately 91 percent of the resident population of Armenia is enrolled with a physician of their choice, with the OE system being used for enrollment-based financing of PHC facilities
  - The patient encounter system (built on a form that captures basic PHC information such as diagnosis, follow-up, services and drugs provided) was developed and implemented in all PHC facilities
  - MIDAS-3, the computerized management information system that integrates the enrollment, patient encounter and hospital systems, was developed and installed in all PHC facilities, and more than 500 staff trained in its use. The enrollment and encounter systems are functional in all PHC facilities, with the hospital module to be implemented by the State Health Agency (SHA), separate from PHCR activities.
  - 174 rural facilities were renovated, furnished and basic medical equipment provided

## 2.2 Health Finance (HF)

- PMP targets, such as National Health Accounts, contracting mechanisms between SHA and PHC facilities, facilities using new accounting systems and doing strategic planning, met or exceeded (see Appendix A for details)
- Enhanced financial management, accountability and transparency at PHC facilities;
- Created an Excel-based model and calculated the actual cost of 117 laboratory and instrumental services; the model is used by the State Health Agency (SHA) in setting prices for services;
- Introduced nationwide incentive payment systems (enrollment-based financing and Pay for Performance - P4P);
- Designed and implemented nationwide Patient Encounter System and Chronic Disease Registries through collaboration with regional HSSDs, SHA regional branches and 49 Quality Coordinators trained by PHCR, and integrated this into the MIDAS-3 system that was implemented in all PHC facilities;
- Developed NHA accounting system, a model for NHA trends analysis and assisted NHA Working Group in preparation of the 2004-2008 NHA reports.

## 2.3 Quality Assurance (QA)

- PMP targets, such as job aides developed, practitioners trained in QA tools and QA institutionalization, met with the exception of building cost of Quality Coordinators into GoA budget (see Appendix A for details).
- National QA policies, strategies, tools and roll-out plan developed and endorsed by the MOH
- QA implementation initiated at central, regional and facility levels, including 139 PHC facilities, through support by 45 national quality experts (Quality Coordinators) trained by PHCR
- Selected quality monitoring tools are functioning in 139 major primary care facilities
- Institutionalization of QA strategy, content, and processes into the GoA/MOH supported

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## 2.4 Family Medicine (FM)

- PMP targets, such as number of FM nurses graduated, FM training sites upgraded, number of training packages developed, FM faculty trained, met or exceeded (see Appendix A for details).
- Capacity strengthened (equipment, furnishings, literature) of two Family Medicine training institutions and 6 Family Nursing institutions, along with upgrading of 129 clinical preceptors in 61 sites; FM curriculum updated through development of 5 training packages
- Technical support provided to establishment of independent family medicine group practices (FMGP); four Guidelines developed on how to establish independent FMGPs, including a computer model for assessing financial feasibility
- Ten Job Aids developed and endorsed by MOH; 2000 sets published and distributed to all PHC providers across Armenia; 547 PHC providers received training on use of job aids in 139 PHC facilities
- 500 nurses, providing health services in rural communities, completed 6.5 month FN/CN training; this included 465 health post nurses, covering approximately 80% of health posts, and 35 polyclinic nurses.

## 2.5 Public Health Education

- PMP targets, such as number of communities with Community Health Committees established, number of NGOs and journalist trained, educational materials developed, client satisfaction, met or exceeded (see Appendix A for details)
- Led by an intensive nationwide public education campaign, approximately 91% of the resident population has enrolled with their primary care physician
- Capacity of 24 NGOs across Armenia was built in health issues, advocacy and project design to train Community Health Committees (CHC) in selected communities; some NGOs successfully sourced other grant funding to continue working in their communities
- 161 CHCs were formed and trained in prevention of common non-communicable and communicable diseases and promotion of healthy behaviors resulting in more than 1600 CHC members actively sharing knowledge with their community members

## Monitoring and Evaluation

- A comprehensive M&E strategy was developed and implemented to assess the project's performance from the perspectives of both the project team and project beneficiaries, including PHC providers and the wider population. With this, the program's success, at both statistically and practically significant levels, was largely documented.
- The framework used to monitor and evaluate PHCR can be adapted and used for monitoring and evaluating other complex, multi-year healthcare projects.

## 3. **Project-wide Learnings and Implications**

- **Health System Reforms:** System wide reforms are among the most challenging of interventions, but also have the greatest potential for improving health outcomes. We must look to the long term – typically ten years or more – for institutionalizing such reforms. Further, introducing one reform initiative by itself may have limited value since its fuller benefit is dependent on other parts of the system also changing. Linkages between policy reform and service delivery (such as public health education) in the same project brings added value.
- **Institutionalization and sustainability:** To promote institutionalization and sustainability of project interventions: ensure country ownership of activities; build institutionalization and sustainability into projects from the design stage onward; ensure costs of high value interventions are absorbed by the GoA by end of project;

- 
- **Health Sector Resources:** In light of key sector-wide health system challenges noted in the report (such as high out-of-pocket spending, high catastrophic spending, informal payments, low public share of GDP spent on health, non-communicable diseases that account for the largest share of the burden of disease – and some 83 percent of all deaths in Armenia - with tobacco being the primary risk factor, etc.) it will be difficult for significant improvements to be made in these areas without more resources being put into the health sector.

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## 1 BACKGROUND AND PROJECT METHODOLOGY

### 1.1 Primary Healthcare Reforms in Armenia: Past and Present<sup>1</sup>

The reform work that PHCR has been supporting during the five year life of the project is rooted in reform initiatives that began soon after independence in 1991. These early initiatives focused on reforming the *Semashko* model inherited from the Soviet era. The *Semashko* model was centralized, publicly funded, publicly owned, and vertically managed, centered on hospital-based in-patient and specialist services with free universal access. Units for management and financing were the number of hospital beds and the number of outpatient visits. Reforms came as a response to a significant deterioration of the Armenian health system and health status indicators following the collapse of the Soviet Union, along with the 1988 earthquake and the Nagorno-Karabakh conflict. These factors together contributed to a decline in life expectancy, according to the World Health Organization assessments (although life expectancy estimates by WHO are not congruent with those of Armenian National Statistical Services).

The mid to late 1990s saw a series of laws, decrees and other regulations introduced which laid the legal framework for a reform process that was designed to lead to a more effective, efficient and equitable health system. In addition to an increased focus on strengthening primary health care, these reforms have concentrated on three major areas: (a) decentralization, involving devolution and privatization, (b) implementation of new approaches to health care financing, and (c) optimization and increasing health system effectiveness.

The decentralization process devolved responsibility for providing and managing services from the central level to regional and local authorities so that it was not only the Ministry of Health (MOH) that was charged with responsibilities, but also the Ministry of Territorial Administration and community mayors/councils. Many hospitals were privatized as well as dental and pharmaceutical services. Some observers (see footnote 1(a)) note that decentralization and privatization led to a functional disintegration of the system in that these reforms were not accompanied by the necessary regulation and financing to ensure that access, quality, efficiency, and safety were protected.

The MOH kept responsibility for setting prices and defining state guaranteed services as specified in the Basic Benefit Package (BBP)<sup>2</sup>, and determining who was eligible for these services. In 1998 the GoA separated the provider function and the financing function by creating the State Health Agency (SHA) to contract with both public and private providers to deliver the BBP within the annual budget limitations set by the Ministry of Finance (MOF). Otherwise, facilities were responsible for management of their own resources, including setting of prices not included in the BBP. Limited budget and under-financing of the BBP (especially the budget for medications) is a problem in Armenia that can lead to significant levels of informal payments as well as the “non-availability of free care”. This applies particularly to free medications under the BBP, where stockouts are experienced frequently.

The concept of optimization, the third key reform area, was introduced by the Government of Armenia (GoA) in response to inefficiencies and excess capacity throughout the health system: too many physical facilities, hospital beds, and medical personnel, rural-urban imbalances of medical staff

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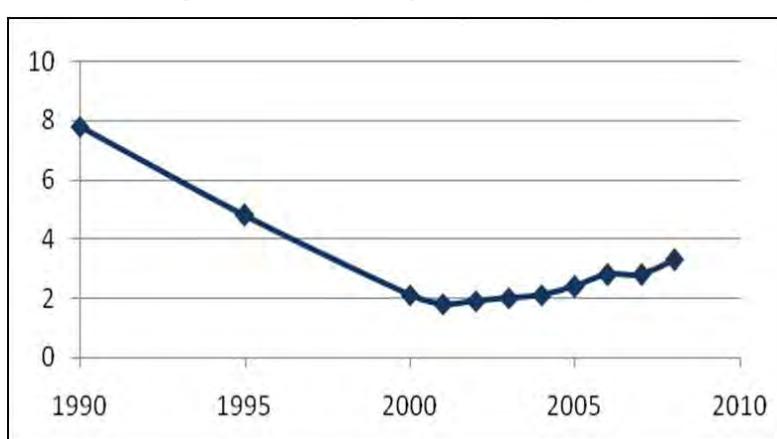
<sup>1</sup> Sources for this section include the following: (a) Hakobyan T, Nazaretyan M, Makarova T, Aristakesyan M, Margaryants H, Nolte E. Armenia: Health system review. *Health Systems in Transition*, 2006; 8(6), (b) World Bank, *Health financing and primary health care development project: Implementation completion report*. Washington, D.C.: World Bank, 2004, (c) World Bank, *Project appraisal document on a proposed credit in the amount of SDR 13.0 million to the Republic of Armenia for a health system modernization project*. Washington/Yerevan, 2004, (d) Government of the Republic of Armenia, Protocol Decree N 24, *On approving the populations' primary healthcare strategy of the Republic of Armenia for 2008-2013 and its activity implementation plan*, June 19, 2008 (e) Government of the Republic of Armenia, Attachment 1 to GoA Decree N 1533 dated November 13, 2003, *Primary healthcare strategy of the of the population of the Republic of Armenia for the years 2003-2008*, (f) ASTP, *New model of primary health care, policy note*, Yerevan, Armenia Social Transition Program, 2005, (g) World Health Organization, *Armenia: health system performance assessment, 2009*.

<sup>2</sup> The BBP is a detailed specification of free-of-charge health care services that are provided by the state.

and facilities, lack of adequately integrated PHC services, etc. The merger of facilities providing PHC services along with the development of the Family Medicine (FM) specialty for physicians and nurses was key to the optimization process. Family doctors provide a wide range of primary care services and are gatekeepers to specialist services. These initiatives were designed to generate cost savings and help deal with the problem of oversupply of “narrow specialists”, common under the *Semashko* model. While there were reductions in the number of hospitals, hospital beds, ambulatories and polyclinics, reductions in the number of medical personnel (generally the largest share of a budget) were not so successful.

Along with relatively poor health status indicators, reforms at the PHC level typically were in response to factors contributing to low and declining utilization rates. Figure 1 shows that in the decade preceding implementation of PHCR there was a general decline in the average number of ambulatory care visits per person per year, and this indicator stagnated around the time when PHCR started in 2005.

**Figure 1: Ambulatory visits per capita<sup>3</sup>**



Some of the more significant factors included poor quality of services, PHC facilities that were in poor physical condition and were poorly equipped, and had inappropriately trained staff – many of whom had no refresher or retraining for many years. In addition, the system lacked proper incentive structures, emphasized diagnosis and treatment over prevention; facilities also were not well managed and there was a lack of data for planning and management.

Out of this context the MOH prepared three PHC strategy documents, each of which have been supported by various donors. The first strategy was approved in 1997 and introduced the concept of Family Medicine in Armenia (chairs were established, first cohorts started training in FM). The 2003–2008 strategy placed considerable emphasis on development and strengthening of FM as the organizing principle for providing PHC services (legislative framework, unified curricula and training or retraining of family physicians and nurses, clarification of family physicians’ role relative to that of narrow specialists, FM group practices), as well as introducing financial incentives and increasing funding for PHC budget, open enrollment contracting principle, and optimization of PHC facilities and staff. PHCR began midway the implementation period for this strategy, and therefore its focus areas have reflected the objectives of the strategy.

The 2008-2013 strategy built on the successes and limitations of the 2003–2008 strategy. It emphasized quality of care, prevention of non-infectious diseases, creating more favorable conditions for family physicians to practice their skills, performance based financing and incentives, strengthening the open enrollment system and shifting to enrollment based financing, promoting independent family medicine practices, promoting healthy lifestyles and disease prevention through public health education, and ensuring sustainability of priority activities of donor funded projects.

<sup>3</sup> Source: World Health Organization, *Armenia: health system performance assessment, 2009*

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## 1.2 Purpose and Scope

USAID support to Armenia's health sector began in the 1990s with a focus on improving the quality of overall care and women's health services; USAID reform work began in 2001 with a series of pilot activities. In later years, USAID financed efforts to improve primary care at community centers that served the elderly and the handicapped, and mobile medical teams that provided health services to hard-to-reach populations. In support of those efforts, U.S. partners leveraged considerable matching funds, instilled new health provider values, and improved the quality and administration of services.

In 2005, the USAID Mission in Armenia launched a program in support of the on-going reform process in the Armenian health sector – the Armenia Primary Health Care Reform Project (PHCR). PHCR was implemented by Cardno Emerging Markets USA (formerly Emerging Markets Group, Ltd.), together with partners, American University of Armenia, Boston University, IntraHealth International, and Overseas Strategic Consulting, as well as a number of local counterparts who brought a wide range of technical expertise. Key local counterparts included the MOH, MOF, marz health departments, the SHA, Basic and Erebuni Medical Colleges, Yerevan State Medical University, National Institute of Health, regional nursing colleges, local NGOs and professional medical associations such as Armenian Association of Family Physicians (AAFP), Family Medicine Academic Society (FMAS) and Armenian Association of Telemedicine (AATM). The Project was designed to build on achievements and to utilize momentum gained through implementation of the previous five-year Armenia Social Transition Program (ASTP) which assisted the Government of Armenia to develop, test and implement a series of social protection initiatives, including PHC reform.

PHCR was one of the key instruments in the achievement of USAID/Armenia's Strategic Plan for 2004–2008 Strategic Objective 3.2 – "Increased Utilization of Sustainable, High-Quality Primary Healthcare Services". It was envisioned that achieving this strategic objective would contribute to the improved health of all Armenian families and to a more productive workforce that will be better able to meet the challenges of and contribute to the growing Armenian economy.

## 1.3 Implementation Methodology

### 1.3.1 TECHNICAL APPROACH

PHCR's goals were ambitious: to increase access to quality services; increase demand for needed services; build sound health policies, systems, and structures; and improve the utilization of financial resources in the health sector. The Project's overall approach was designed to meet these challenges through implementation of six systemic interventions to support the GoA and its MOH:

- Reforming health care systems, policies, and procedures and extending reforms nationwide;
- Building a more customer-service oriented system of clinic and provider choice through open enrollment;
- Increasing the equitable and efficient distribution of health resources through healthcare financing strategies and the use of National Health Accounts;
- Improving the quality of care;
- Building clinical service capabilities through a Family Medicine (FM) approach;
- Fostering improved health-seeking behavior through public health education and health promotion activities.

These broad areas of key technical interventions were further translated into specific activities which focused on strengthening public and private sector institutions and systems, improving financial management, reforming budgetary procedures, implementing innovative payment systems and performance-based rewards, creating self-sustaining private family group practices, and ensuring transparency and accountability. Activities under these key project components were implemented in

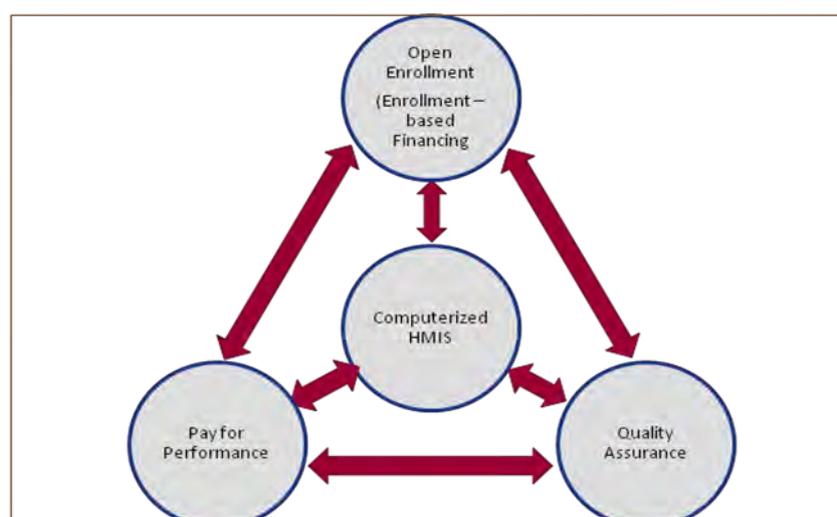
an integrated manner and delivered as ‘packages’. These packages included *inter alia* training modules (in financial and management issues; open enrollment; quality of care; family medicine); renovation of health facilities and provision of furniture and equipment to them; provision of IT software and hardware, and training in IT skills; public education and community mobilization actions. Each technical component of PHCR had both national-level, and local-level (marz or facility) activities. To facilitate and guide project implementation in the marzes, a Health Reform Advisory Board consisting of key stakeholders was first established in Lori and Shirak marzes and Yerevan. In subsequent marzes, PHCR activities were introduced to the marz governor, head of the HSSD and other officials with letters and meetings. These introductory communications were followed up with frequent meetings between PHCR team members and marz officials throughout the implementation period and were instrumental in establishing a positive foundation from the beginning that ultimately led to successful achievement of project objectives. Numerous letters were sent to PHCR from various marz authorities expressing their thanks for the cooperation and assistance.

### 1.3.2 PRIMARY HEALTHCARE REFORM MODEL

Although there were a large number of complementary and mutually reinforcing activities carried out during the life of the project, a model emerged in the last year or so of the project that helped tie together four of the various reform initiatives. As can be seen in Figure 2, these included:

1. A dedicated and systematic Quality Assurance (QA) program built on international best practices that includes five “dimensions” and five “tools”;
2. A “Pay for Performance (P4P)” program where salary bonuses are paid to health facility staff for meeting ten predefined quality of care output targets;
3. An open enrollment (OE) system, which registers resident Armenians enrolled with a PHC physician of their choice and which, among other things, is being used for contracting with and financing of all PHC facilities according to the number of people enrolled with each PHC physician; and
4. A computerized health management information system (HMIS) that ties together the enrollment database and the patient encounter database and chronic disease registries through the MIDAS-3 system, thus facilitating ‘enrollment-based financing’ and P4P processing. The MIDAS-3 software also integrates an updated module of hospital patient data records that includes advanced analytic tools leading to a vertically integrated information system.

**Figure 2: Primary Healthcare Reform Model**



A major goal of these initiatives, along with other PHCR activities, is improved quality of care leading to improved health outcomes. The other three initiatives in the model above are primarily means to support the end of improved quality, but also have significant impact on efficiency,

effectiveness, equity and transparency. While any single one of these reform initiatives would provide significant added value to Armenia’s health system, it is the combination and simultaneous implementation of the four reforms which is distinctive and which generates substantial synergistic effects and benefits. For example, the P4P program aligns the incentive structure with burden of disease priorities and rewards achievement of quality outputs – not inputs. Open enrollment not only empowers patients to choose their own physician but when combined with enrollment-based financing also drives quality through competition among providers for patients according to the quality of care provided, along with increasing transparency and accountability. MIDAS-3, the computerized health information system, ties together the three reforms through accumulating and generating timely and accurate data allowing information analyses, leading to increased efficiency and accuracy.

### 1.3.3 CROSS-CUTTING METHODOLOGIES

In addition to having an elaborate work plan for the six technical areas, the Project employed a number of cross-cutting methodologies to advance and further support programmatic activities. These included phased approach based on geography; an emphasis on sustainability and institutionalization; leveraging resources through partnerships and collaboration with other donor-funded programs.

**Phased approach:** A special approach to implementation of PHCR which spanned all components was the zonal rollout of technical interventions. While the PHCR’s agenda necessitated work all around Armenia, it was decided to divide the country into four zones:

Zone 1 marzes (North)	Lori
	Shirak
Zone 2 marzes (Central-East)	Tavush
	Kotayk
	Gegharkunik
Zone 3-1 marzes (Central-West)	Aragatson
	Armavir
	Ararat
Zone 3-2 marzes (South)	Vayots Dzor
	Syunik

Based on this division, during the first year of implementation the Project worked out a step-wise zonal strategy whereby intensive implementation efforts took place in two to three marzes per year. In year 2006, the Project’s year-long interventions included all key interventions (nurse training, health post renovations, community mobilization, management training, etc.) beginning in northern Armenia in Lori and Shirak marzes (provinces). This was followed by Tavush, Gegharkunik and Kotayk marzes in 2007. In 2008 the Project completed its interventions in the North and East-Central and also launched an expanded scope of work in the three West-Central marzes including Aragatsotn, Armavir and Ararat. In 2009 all Project activities were initiated in the two Southern marzes of Vayots Dzor and Syunik. Such a zonal roll-out approach allowed PHCR to learn by doing and make adjustments accordingly in subsequent zones. Detailed maps for each target marz are shown in Appendix I.

**Sustainability:** PHCR recognized that sustainability of its results required special attention. By securing the participation of local organizations in the overall process of the program development, planning and implementation, PHCR increased local ownership and commitment to PHC reform efforts, helping to promote the sustainability of quality services and expanded access. An important result of this Project is detailed recommendations to the national counterparts (the MOH in particular) on additional steps to be taken for institutionalization of key reforms and interventions into the health system of Armenia beyond the life of the project. These recommendations are presented below in respective sections on each technical component.

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Increased community participation and local institutional involvement also reinforced the GoA's and USAID/Armenia's civil participation goals as local governments became more engaged in healthcare service delivery. At the same time, the Project's continuous focus on improving various management skills of the local counterparts resulted in building capacity of these institutions.

**Leveraging Resources and Collaboration:** To maximize the use of available human and financial resources, PHCR collaborated with other donor-funded programs and established partnerships with communities where the technical assistance was provided.

For example, early in the project, discussions were held with the World Bank (WB) to identify areas of overlap and collaboration. As a result of these discussions it was agreed that the WB would do training of 150 Family Physicians that was originally part of PHCR's mandate and PHCR would train health post nurses. PHCR built on the WB created MIDAS-2 information system (which included both a hospital module and PHC module but only the hospital module was implemented) by developing the MIDAS-3 system that included an updated patient encounter system and population enrollment system. By request of SHA, PHCR also updated the hospital module so it could be seamlessly integrated with the PHC system. Other examples of collaboration with the WB include development of guidelines for establishing Independent Family Medicine practices (group and solo) along with Excel-based financial models assessing feasibility of operating such practices as well as National Health Accounts.

DFID and PHCR collaborated in strengthening the Mid-Term Expenditure Framework (MTEF) and budgetary process. PHCR also collaborated with the the World Health Organization and Jinishyan Memorial Foundation in developing the United Family Nursing Curriculum, with Jinishyan also supporting the training of health post nurses. PHCR collaborated with other USAID projects such as NOVA (renovation work, community mobilization training, health education leaflets, etc), the Eyecare project (who implemented the Eyecare training module for the Community Health Committee trainings), World Vision (health education materials production and distribution).

Over the life of the project, communities contributed some 40 percent of the total cost of health post renovations. For example, the mayor of Artashavan village in Aragatsotn, after initially refusing to allocate public building space for renovation for a health post, subsequently not only allocated space, but also allocated approximately AMD 7 million from a land sale auction for renovation. PHCR provided furniture. In collaboration with Zovashen community and other stakeholders in Kotayk marz, PHCR leveraged approximately USD 2,500 from Canada for the roof renovation of a community administrative building. Many of these initiatives resulted from processes established with the Health Reform Advisory Boards referred to in Section 1.3.1 above.

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## 2 PROJECT ACHIEVEMENTS BY COMPONENT

Each of the five thematic components of the Project – *Expansion of Primary Healthcare Reform and Open Enrollment; Health Finance; Quality of Care; Family Medicine; and Public Health Education* – had its specific objectives and targets. This section of the Report presents the objectives (aka ‘expected outcomes’), achievements, lessons learned and recommendations for each of the project’s five components. It also describes in more detail the reform initiatives summarized above in the *PHC Reform Model* under their respective project components. Appendix B shows the expected outcomes and achievements, while the narrative below describes in more detail key achievements along with limitations, lessons learned and recommendations. As per agreement with USAID, the authors of this report have not described each expected outcome or PMP indicator in the narrative below (which can be seen in Appendices A and B); rather, in describing the extent to which the expected outcomes have been achieved, we have focused on key or major issues in each of the components. To make the report more understandable, it is suggested that readers first review the tabular summary of outcomes and achievements for each component shown in Appendix B, and then read the respective narratives below.

The 80 expected outcomes shown in Appendix B are a merger and refinement of the original 122 expected outcomes when combining those in the original contract with those of the two contract modifications. A review of expected outcomes in these three documents revealed that many of the expected outcomes were overlapping or repeating, using the same or similar language. Consequently, and in order to avoid this overlap and duplication in the Final Report, and in discussions with USAID, it was agreed that the overlapping and duplicating expected outcomes be merged, combined, or summarized and that these be reported on and used for contract purposes. It was further agreed that for each component, these outcomes be grouped into 3-5 sub-sections that have common themes or ideas (ref. —Expected Outcomes to use in PHCR Final Report”, approved by the COTR on April 27, 2010). This process resulted in the 80 expected outcomes shown in Appendix B, which provides a summary account of the extent to which contracted outcomes were achieved.

Note should be made of one of the sub-sections, *Institutionalization*, that is found in each component, and how this is not the same as the term *sustainability*. In the development literature, sustainability exists when the rate of reproduction is greater than the rate of depletion. So at the project level, a project intervention or activity is sustainable when, among the numerous other requirements for sustainability, there are revenues to cover costs of the intervention over time, regardless of the source of revenues – domestic or external. A primary difference with institutionalization, and continuing with the financing example, is that for an intervention to be institutionalized, the source of funds for the intervention must be internal and becomes part of the MOH budget. An intervention can be sustainable, but it may not be institutionalized. Thus while recognizing that institutionalization depends on a variety of factors (such as a proper enabling environment, committed and effective leadership, etc.), PHCR has taken an approach in which an (oversimplified) institutionalization framework includes at least four major elements:

1. **Systems/guidelines/procedures/etc.** that describes the content and process of the activity. Examples include the set of four manuals for the MOH’s Quality Assurance program or the MIDAS-3 software and manuals
2. **An office** in the GoA/MOH where the activity is located, and where responsibility lies. Depending on the size and significance of the activity, this could be an existing office or a new office, or it could be part of an existing position or a new position. Ultimately, there needs to be one person responsible for the operation of the activity; otherwise accountability is weak.
3. **Skilled staff** who have the knowledge and skills required to carry out the work of the activity, or oversee the activity if it is out-sourced. This generally involves capacity building and training of staff to independently use the systems and procedures.

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4. **Financing**, to ensure that the cost of the activity is built into the MOH budget, using domestic funds, so the activity continues from year to year and donor funds are no longer needed. Experience shows that this is typically the most challenging element to institutionalize.

As with many projects, the PHCR contract and PMP used the term sustainability and institutionalization in a rather generic sense. Thus, building on the existing literature and the framework outlined above, PHCR placed special emphasis on promoting sustainability of its initiatives through institutionalization of high value or strategic interventions into the MOH so they continue when the project ends, including absorption of the costs into the MOH budget. The strength of such an institutionalization framework is that it sharpens understandings of commonly used but not always well understood terms, shows institutionalization as a continuum broken down into its component parts, each with measurable indicators which can be built into various project documents. This gives the GoA, MOH, USAID, the project team (who found it particularly helpful) and other stakeholders a clearer picture of different elements of institutionalization and what is required to achieve the desired development outcome.

## **2.1 Expansion of Primary Healthcare Reforms and Open Enrollment**

This section describes activities related to expansion of selected PHC reforms, with a focus on open enrollment, and strengthening PHC services through improvement of physical conditions of service delivery sites through renovating, furnishing and providing medical equipment to PHC sites.

### **2.1.1 HEALTHCARE FACILITY IMPROVEMENTS**

#### **Achievements and Limitations**

There are 885 primary health care rural facilities in Armenia, 267 physician-based ambulatories (or PHC centers) and 618 nurse-run health posts (HP). During the course of the Project, 165 primary health care facilities were renovated, furnished and equipped, of which 149 are rural HPs, 12 ambulatories and health centers, 4 urban polyclinics (partial renovation) An additional nine did not require renovations but were furnished and equipped. PHCR selected renovation target sites were based on established criteria (size of population, community active involvement, remoteness, etc.) and in close cooperation with Marzpetarans (regional governing bodies). Renovations supported the surrounding community by transforming outdated and unwelcoming facilities into more attractive and comfortable venues where people were more likely to want to go to seek healthcare. The renovation process also built trust with and encouraged involvement of community members.

The Project's renovation budget was approximately \$1 million USD. The budget allocation and renovation standards were based both on the Armenian and USAID formal standards defining the design, layouts, used materials, environmental issues, and other components. Because of devaluation of the dram during the first two years of the project (by 30% from 450AMD to 300AMD) and significant local inflation, particularly large (up to 25%) increases in cost of construction materials, the midterm USAID funded external assessment team recommended that some programmatic adjustments be made. These included a reduction in the number of PHC settings targeted for renovation from 230 to 165 sites and a reduction in the targeted quantity of physical space (square meters) renovated in each facility.

Despite the challenging economic environment, the project was successful in leveraging community resources for renovations through active communications between PHCR, community administrators and facility directors (Table 1). A benefit of this is that having made the investment, communities are more likely to maintain their investment and advocate for further resources and quality services.

**Table 1: Community contributions to renovation costs**

Total renovation cost	458,990,597 AMD
PHCR cost	269,804,797 AMD (58.9 %)
Community direct & indirect contribution, of which:	189,185,800 AMD (41.2%)
Community direct contribution	31,147,600 AMD (6.8 %)
Community indirect contribution	158,038,200 AMD (34.4%)

In addition, harsh winter weather, mountainous geography and scale of the work needed were limiting factors to renovations. In each season the project managed the renovation of sites in about 40 communities across 2-3 marzes. Each renovation involved community administrators, referral facility managers and construction and supply contractors. Further, with a USAID decision not to fund infrastructure activities, including facility renovations, in FY 2010, health post renovations scheduled for FY 2010 (project year 5) were brought forward to FY 2009 (project year 4) and successfully completed. Despite these limitations, the renovation target was met and was carried out on schedule to the satisfaction of the communities (see for example a success story ‘PHCR Interventions Hit the Target’ in Appendix G.)

An ongoing concern has been the extent to which there is budget to maintain the renovated health posts – particularly funds for electricity, running water and heat. As a means of accessing this, a post-renovation study was conducted in 2010 that included sites renovated prior to 2008. The study identified the need and availability of public funds (including community budget and/or a dedicated portion of the health posts’ referral facility budget) to maintain the HPs. The study found 97% of HPs have electricity coverage from community or referral facility budgets and 63% have the supplies needed to complete their work. Although most don’t have publicly supplied running water, and hence no affiliated expense, facilities have made arrangements for clean water through installing small water tanks above the sinks in their facility.<sup>4</sup>

### **Lessons Learned and Recommendations**

Establishing more effective and responsive operation of HPs will require:

- Legal arrangements are needed to clearly state the owners of HP property (space, furniture, etc.). In most cases the premises are in the public buildings of the communities, but communities do not always feel responsible to cover utility expenses.
- Allocation of subsidy funds for HPs of communities with population less than 350 people, as per-capita budgets in these areas is often not sufficient to meet basic needs.
- Simplify the subscription for obtaining electricity and gas (a separate meter would specify gas or electric usage) and subsidize the subscription fee for small entities such as HPs so that utilities are more affordable.
- Many communities were left out of renovation activities because of the lack of structurally safe public buildings to use for health posts. Future interventions should consider the option and cost of constructing new, even if modest, facilities in such communities.

<sup>4</sup> A particular problem worth highlighting is that while gas heating is more efficient than electricity, the basic problem is the high fee for becoming a formal gas consumer/subscriber. The problem is similar for becoming a formal subscriber of electricity. This demonstrates the importance of having formal arrangements between the HPs and electricity or gas providers in order for the HPs to functionally satisfactorily - particularly since HP nurse services (on a daily basis) and referral physician services (2-3 times a month) are the only health services available for most people in 618 communities.

**Achievements and Limitations**

All interventions developed and implemented by PHCR at the national and local levels support in various ways the improvement of PHC services through establishing more attractive conditions, better trained staff, more client oriented approaches and rules for service delivery and access. The pre- and post-intervention evaluations conducted by the PHCR M&E team (see Section 3 for details) with specially designed survey instruments and a range of questions that supplement the PMP indicators, all reviewed and approved by USAID, in five Northern marzes including Shirak, Lori (Zone 1), Tavush, Kotayk, and Gegharkunik (Zone 2) provided strong evidence for this. These facility assessment surveys demonstrated statistically significant increases in proportions of clients satisfied with the received services at PHC facilities and considerable improvements in all key indicators reflecting material and human resources and performance of targeted facilities. The data in Table 2 shows values for selected facility assessment indicators at baseline and follow-up by zone. The PMP indicators in Appendix A provide additional evidence.

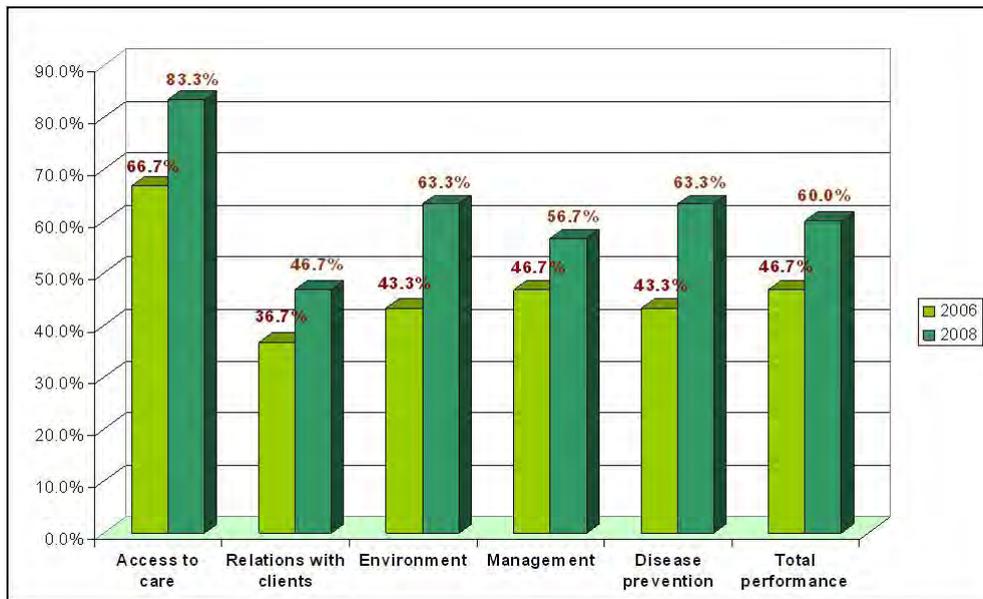
**Table 2: Selected findings, Zone 1 and Zone 2 pre-post facility assessments\***

	Zone 1		Zone 2	
	2006	2008	2007	2009
<b><i>Patient satisfaction survey</i></b>				
Proportion of clients satisfied with PHC services	77.1%	84.8%	71.5%	83.6%
<b><i>Facility resource assessment findings</i></b>				
Facilities' physical condition score (of 1.0 maximum)	0.24	0.86	0.28	0.89
Facilities' furnishing score	35.9%	64.8%	39.4%	65.7%
Facilities' equipment score	37.0%	45.3%	34.0%	46.2%
Percent of Family Doctors in target facilities	31.3%	83.9%	41.8%	70.4%
Percent of Family Nurses in target facilities	34.2%	64.1%	23.3%	42.0%
Supervisory visits to FAPs in the last three months	2.6	3.4	2.7	4.6
<b><i>Facility performance assessment scores (of 3.0 maximum)</i></b>				
Access to/provision of care score	2.0	2.5	1.9	2.3
Provider relations with community/clients score	1.1	1.4	1.3	1.5
Environment score	1.3	1.9	1.2	1.7
Facility management score	1.4	1.7	1.2	1.5
Primary & secondary prevention score	1.3	1.9	1.5	2.0
Overall facility performance score (of max. 3)	1.4	1.8	1.4	1.8

\* All the pre-post changes demonstrated in this table are statistically significant at  $p < 0.05$  level

Figure 3 presents pre- and post- data on accessibility and overall performance of targeted PHC facilities in Shirak and Lori for the years 2006 and 2008.

**Figure 3: Targeted Facilities' Performance Scores in Shirak and Lori Marzes, 2008 vs. 2006**

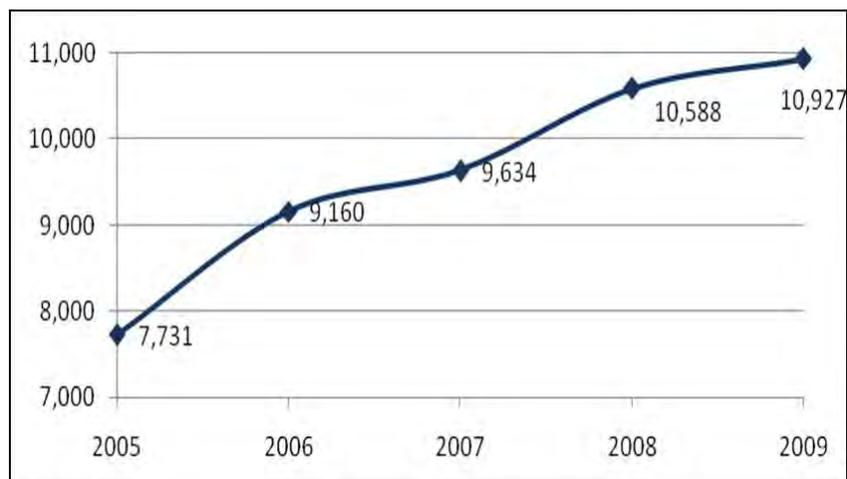


According to the data, there are significant improvements in each of the 5 variables: access to care, facility staff relations with clients, the physical environment of the facility, management of the facility and coverage of population with selected disease prevention measures such as checking blood pressure and blood cholesterol, clinical breast exam, pap smears, etc.

MOH data on annual client visits to PHC facilities (including visits to private and dental services and home visits) show a consistent increase in the number of visits during the last five years (Figure 4). Compared to Figure 1, this chart shows absolute numbers (instead of per-capita rates) of ambulatory visits within the period specified in the SOW. Otherwise, the figures reflect the same data.

The reported number in 2009 is higher from 2005 data by 41.3%, which is much higher than the expected outcome of at least 25% increase.

**Figure 4: Annual clients' visits to PHC facilities ('000)**



### 2.1.3 DISSEMINATION OF INFORMATION

Keeping the public informed is an important element of any health reform initiative. In addition to the educational work of the Public Education component, PHCR used a number of channels and tools for promoting the reform agenda; building stakeholder buy-in; publicizing objectives, activities and achievements; as well as documenting lessons learned in this process.

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## **Achievements and Limitations**

Key communication channels used by PHCR included:

- Major events, such as zonal launch and exit events, major intervention launch and completion events, opening events, etc, with media coverage, a press release and Project fact-sheet distribution;
- Specific workshops and press events for journalists from regions who cover healthcare related topics (please see under the Public Education section);
- Project web site ([www.phcr.am](http://www.phcr.am)) that provides access to PHCR materials and publications, and allows for subscribing to PHCR e-newsletter (around 90 news releases sent to a list of more than 120 subscribers). PHCR website had a link on the MOH web site ([www.moh.am](http://www.moh.am)), as well as sources such as "Spyur" information directory and healthcare information portal [www.drugs.am](http://www.drugs.am);
- Project Bulletins (over 6000 hard copies of 14 issues distributed to stakeholders, counterparts, and implementing partners; over 2000 e-copies sent to PHCR e-newsletter subscribers and other stakeholders);
- Project Success Stories. Nine success stories distributed to around 150 recipients including stakeholders, other donors and e-newsletter subscribers (see Appendix G);
- MOH funded TV series "Your Right to Health" that covered, inter alia, PHCR activities;
- Participation in events such as the 12th World Health Congress, International Health Expo 2009, 9th National Youth Forum, etc, which increased the visibility of the Project activities beyond the national boundaries.

To improve accessibility and quality of services rendered by primary healthcare providers and to generate informed demand for these services, as well as to support major MOH reform initiatives, PHCR has developed, printed and distributed a large quantity of materials such as training curricula and materials, job aids, brochures, manuals, guides, and health education booklets, posters, calendars, and leaflets. In addition, PHCR has produced a number of policy documents and reports on studies conducted during the course of the project such as M&E and healthcare financing related reports. Distribution of materials has ranged from limited higher level policy decision-maker audience (as in case of reports on healthcare finance) to nationwide distribution to all PHC facilities (as in case of open enrollment materials, job aids, BBP posters, Encounter package, etc) with intermediate distribution schemes, e.g. 139 larger PHC facilities – Quality Assurance, 157 rural Community Health Committees – public education materials, FM practitioners through medical education institutions, and clinical preceptors – Unified Family Medicine Curriculum (UFMC) packages, etc. A list of many of these materials and documents is shown in Appendix D.

All key PHCR materials were available on PHCR web site during life of the project. Before termination of the project, all relevant PHCR documents had been transferred to the MOH for placing on the MOH website, as well as the USAID's Development Clearing House (DEC) website.

## **Lessons Learned and Recommendations**

In addition to the abovementioned standard channels and tools, there are at least two factors that played a crucial role in building awareness of the Project's objectives, activities and achievements. The first is the actual work done by the Project, that is, the Project's accomplishments can be its best messengers. The second factor is the positive relationships with counterparts and stakeholders built by project staff.

Overall, a well-balanced mix of moderately used information dissemination channels and tools is needed for a project. Although effective, TV remains the least affordable channel of information dissemination, which makes it a less desirable choice in terms of obtaining air time. Notwithstanding the fact that there is a legal requirement for the Public TV of Armenia to provide limited free-of-charge air time for PSAs, it is virtually impossible to access air time through this requirement. To a

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certain extent, the same refers to radio. However, seminars/training for journalists may help to indirectly fill the gap.

Internet penetration rate in Armenia is still low – 6.4 percent (world average being 23.8 percent<sup>5</sup>), and the majority of internet users are located in the capital city of Yerevan. However, the internet market is constantly changing which may lead to changes in the picture over time. Print information materials, overall, are better accepted in rural areas rather than in bigger cities, which maybe attributable to overall lack of information in rural areas.

PHCR developed the geographic information system (GIS) to present, in a user friendly way, PHCR activities by locations of beneficiary communities and facilities. Besides being a visualization system, the GIS is a database that can accumulate and store data related to healthcare infrastructure and services. The software package was built using the GIS supporting ArcGIS 9.1 version and includes database files with the data needed for mapping, GIS map files representing visualized data, and other help files needed to complete the GIS software. The current PHCR GIS package includes two maps showing target and nationwide activities of the project as well as two corresponding maps per each marzes including the same activities mapped by marzes. GIS software package allows end users to customize maps by filtering data on various activities of the PHCR project and easily generate pictures, maps, pdf files for various purposes. It can serve not only as a static storage of data but can also be expanded, have new data added, and the already entered data updated.

The Geographic Information System developed by PHCR can be a useful instrument for the MOH, marzpetrans, municipalities and HSSDs for policy and planning purposes. CDs containing records/files for relevant marz data demonstration and nationwide data presentation were distributed to the health departments of all marzpetarans and Yerevan Municipality as well as to NIH and other relevant stakeholders. What is needed, however, is for some office in the MOH to take ownership of a GIS, be provided with an on-going budget and adequately trained staff, and build a GIS that includes relevant data from all facilities rather than being limited to specific projects as is now the case. NIH claims to be the home for GIS work, but has no budget or adequately trained staff.

#### **2.1.4 POLICY AND LEGAL ENVIRONMENT**

##### **Achievements and Limitations**

PHCR core activities were designed to support national PHC reforms. This required development or adjustment of the policy and legal environment for assuring the most effective and sustainable approaches and techniques were implemented to support both short and long term reforms that will improve PHC services and increase utilization.

Substantial technical support was provided to the MOH for the development of a new PHC strategy for the years 2008-2013, approved by the GoA Decree in June 2008. Chapters of the Strategy reflect PHCR supported initiatives. Content-wise the decree reflects basic strategic and practical steps needed for the ongoing support for reforming PHC service in Armenia. Following approval of the Decree approving the PHC strategy, a consequent MOH by-law/order was issued that specifically focused on practical activities and assigning responsible agencies and individuals for its implementation.

Legislation enforcing the principle of population enrollment with a physician of choice was approved in 1996. A Decree and consequent amendments were drafted with substantial technical support from PHCR and approved by the GoA to endorse a) the legal right of patients for choosing a physician; b) policy around the enrollment-based principle, and c) regulations for its implementation. The Decree was approved on March 30, 2006, with amendments approved on February 13, 2008.

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<sup>5</sup> Source: [www.internetworldstats.com](http://www.internetworldstats.com)

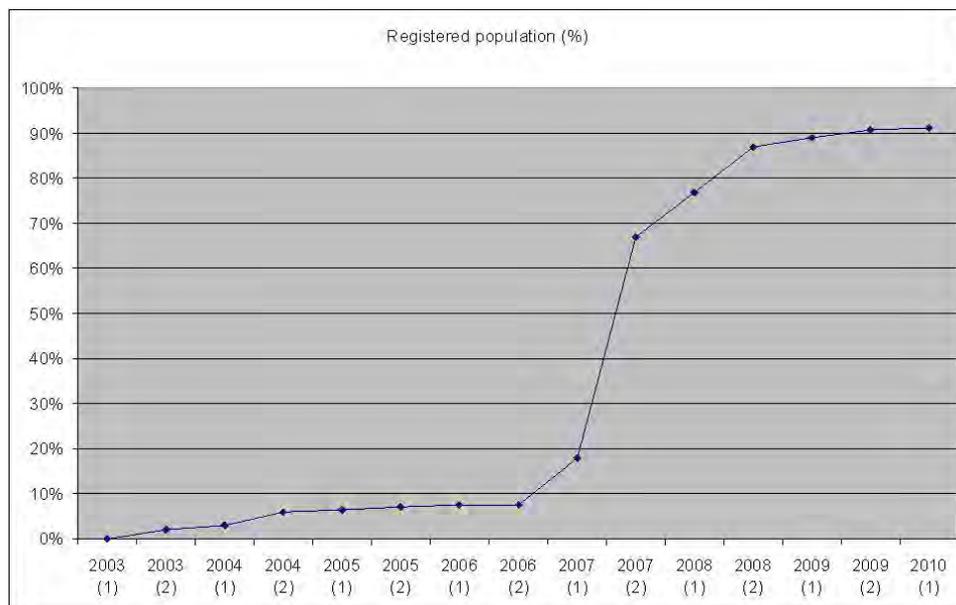
In August 2006, the MOH has established an Open Enrollment Coordinating Group (OE CG) to make recommendations to the MOH on policy decisions and support and oversee the preparation and implementation of the OE system. PHCR staff were formally involved in the OE CG activities and facilitated review of the enrollment policies and supported preparation and nationwide introduction of the system's policy and procedures, information technology platform, financing and Public Education for OE. During PHCR life time and with support from the project, several important amendments were made to the OE Decree, as illustrated in the text box to the right.

At the same time, PHCR worked closely with marz health authorities to adjust enrollment policy principles and implementation based on their suggestions, which also prepared them for system implementation. In a few marzes the OE preparation and implementation activities were under close monitoring of Marzpets and Deputy Marzpets (governors). This fact added value to the preparation and implementation process and acceptance of the initiative by PHC managers and staff and the general public.

The nationwide enrollment process was launched on 1<sup>st</sup> of April 2007 and progressed with the dynamics shown in Figure 5 below.

- Selected amendments to the OE Decree:**
- In addition to Armenian citizens, an opportunity has been given to migrants, asylum seekers, foreign citizens to choose and register with PHC physician;
  - Cases when the PHC physician could reject registering the patient choice were clearly stated;
  - Those living in a nursing home, in orphanages are entitled to choose their PHC physician in addition to the doctor serving the given institution clients;
  - 1<sup>st</sup> of December and 1<sup>st</sup> of May are fixed as a date for PHC providers to submit the enrollment database to the MOH/SHA for payment and other purposes to consolidate the national database, etc.

**Figure 5: Enrollment Process**



Open enrollment was introduced nationwide and one year ahead of the established schedule. In order to best prepare PHC providers and the population, PHCR conducted outreach seminars, printed and disseminated enrollment forms and instructions for their completion, drafted guidelines for population registration, and provided training on use of the OE automated system.

PHCR supported the MOH in developing another decree to regulate OE database processing and data transfer between PHC provider, regional and national database levels. GoA approval of the decree is still pending. To approve this Decree, recommendations from the GoA IT specialists focused on a) exclusive use of electronic communication means for OE data transfer between levels of the OE system and b) required use of social security card (SSC) numbers for patient's identification and tracking. PHCR was supportive of this idea. However, due to a number of factors, such as (a) the

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existing electronic communication infrastructure is not yet sufficiently developed countrywide, and (b) the mandate for every Armenia citizen to obtain the SSC number was canceled by the GoA, it was beyond the scope of PHCR to ensure all enrolled individuals have SSCs. The GoA has an initiative to introduce biometrical passports and its use would replace the SSC requirement.

Per MOH/SHA request, in addition to patient enrollment and electronic registration, another component of automated system for patients' outpatient visits recording was introduced, with an MOH order issued on April 1, 2009. The responsibility was handed over to SHA as of December 1, 2009.

### **Lessons Learned and Recommendations**

The development and approval of GoA Decrees and bylaws is a long process that requires technical depth, preparation, and advocacy with stakeholder Ministries and RoA government specialists. Substantial work is required by coordinating Ministries (e.g., Ministry of Economy, Ministry of Justice, and Ministry of Communications), IT specialists and others. However, the impact of these changes is significant, as it increases PHC service utilization, improves quality and performance of services, and increases accessibility for the most vulnerable. In time, an impact assessment should be completed for the OE system.

#### **2.1.5 INFORMATION SYSTEM**

### **Achievements and Limitations**

The OE information system was established by the Project to provide support to all elements of the open enrollment. The OE information system consists of patient registration forms, software, and hardware including 233 computers and printers and 26 servers that were purchased by PHCR (the rest was provided earlier by the World Bank project). In order to facilitate its utilization, trainings were provided to the medical and IT staff, maintenance services was arranged, and relevant legal provisions were developed with the support of PHCR. Implementation of the computerized OE system began in the fall of 2007. By mid 2009 it was fully functional in all 366 PHC provider facilities and managing agencies, including data entry, reporting to regional and national health authorities. The enrollment form provides essential data on enrollees/patients, including tabulated reports with patient and PHC provider data, and can be used to analyze patient information for management and administration purposes. PHCR supported a help desk and maintenance service through 2008. In 2009, some PHC facilities contracted a help desk service directly. To ensure that maintenance service has a certain standard of quality, PHCR provided a series of trainings to the SHA staff. A new independent organization called COMAIN, qualified for the IT maintenance and training, was established for the provision of sustainable help desk service throughout marzes.

To support other aspects of the PHC reform, namely the PHC service quality and performance improvement, as detailed in the Health Finance section, it was necessary to have the data on patients' health and on performance of physicians. Therefore, a new patient encounter form was developed for accumulation of these data in a format suitable for electronic application. Use of the encounter form is a critical part of the PHC automated performance-based financing system because it allows tracking of PHC provider's performance and linking it with the P4P system. The MOH/SHA made a request to PHCR to build one integrated electronic software system for both population enrollment (previously operating as a separate database called AGAT) and patient encounters.

Through the PHCR support, the integrated MIDAS-3 system (the previous system was called MIDAS-2 and was supporting primarily hospital-based patient data recording) was developed using preexisting OE software and database features based on SQL application. Considering that many polyclinics were combined with hospitals and operate as 'medical centers' which were using the MIDAS-2 Microsoft Access database system, the SHA requested that the MIDAS-3 system also include upgrading/transferring the hospital patient database system to the same SQL application. Such a vertically integrated information system has a number of important benefits which can be further

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developed over time: fewer maintenance and use complications, lower cost, less provider time, ability to track patients across the continuum of services, more complete patient records, etc.

In order to accommodate facilities covered by the MIDAS-2 system, the existing facility patient database system was transferred to MIDAS-3. By the end of 2009, MIDAS-3 had been installed in all 366 PHC provider sites and healthcare managing agencies. All operators (approximately 500 staff working at PHC settings) trained for OE data entry received a follow-on training for MIDAS-3.

In July-August 2010, all PHC facilities submitted their patient encounter databases to the SHA for analysis of data entry accuracy and formation of encounter database by facility, and also in order to analyze the PHC performance. The analysis is needed for preparation for the 2011 PHC budget. PHCR provided assistance to the SHA in processing and cleaning the data and in retrieval of necessary data from the OE and encounter database for analyses.

### **Lessons Learned and Recommendations**

There are no technically trained health information systems (HIS) specialists at the MOH, although there are officials who carry out these functions. There are IT specialists at the MOH, but they are not involved in the programmatic activities and because of this they are not knowledgeable about OE-related processes and issues such as double registrations of the same enrollee or age-related affiliation of enrollee to a certain PHC physician (pediatrician, therapist, family doctors), etc. Consequently, they are not able to clean and process the database from the existing errors, provide feedback with the list of double registrations, etc. Along with a dedicated information systems office, the MOH would greatly benefit from technical assistance in information management for its programmatic staff. The IT support and functionality of the health database also remains critical and requires further support for building this capacity.

The SHA is planning for diagnostic and lab services to be based on enrollment numbers and to increase the per-capita budget for enrolled population, eventually shifting to paying only for enrolled patients. Shifting to funding which is completely based on enrollment remains on the reform agenda and may require additional efforts for allocation of necessary funds by the GoA for that purpose. The other very important condition for this change is that the OE electronic system and database are fully and properly functional.

#### **2.1.6 INSTITUTIONALIZATION**

##### **Achievements and Limitations**

Although achievements with respect to both the enrollment system and the MIDAS-3 system have been significant, it is important to recognize that these are on-going processes that will need continuous strengthening and upgrades.

**Institutionalization of Enrollment System:** The enrollment system as part of an automated management information system was a new element for PHC providers in Armenia. During life of PHCR it was institutionalized in the following ways:

1. **Procedures and guidelines:** Guidelines have been developed and are being used. The OE system will require periodic updates on conditions for enrollment, based on assessed needs of the medical staff and of the population. The MOH PHC department with the MCH and Legal departments will have to coordinate these processes and share with SHA new policies or regulations so the software can be updated as needed. MOH will review existing regulations including the GoA Decree provisions, MOH orders on OE.
2. **Skilled staff:** Heads of marzpetaran (marz governing body) health and social security departments in the marzes are responsible for overseeing the system at the marz level; the Head of SHA is responsible for the enrollment-based financing; the policy aspects are shared between the head of Healthcare Organization Department and the head of Legal Department at the MOH.

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3. **Office:** The responsibilities for each OE component lie with a different agency. MOH is responsible for policy, SHA is responsible for tying financing to enrollees, and the marzpetaran health and social security departments are responsible for monitoring.
  4. **Funds:** The first three elements do not require a special additional budget, but as the staff take on new responsibilities, additional payments may be required. If the MOH were to increase the capitation payment for the enrolled population relative to the non-enrolled, or reduce the number of free services for the non-enrolled, this would increase the number of enrolled population. After this transitional phase, payment should be made only to the enrolled population.

**Institutionalization of Automated Information System with MIDAS-3 Application:** The MOH/SHA has not yet finalized a strategy on how to meet the needs for MIDAS-3 periodic upgrades based on new policy and practical requirements of systems supported by MIDAS-3 software, and the need for user-level system maintenance.

1. **Procedures and guidelines:** User and administrator manuals, along with technical specifications have been developed and distributed for use in the various user sites. A server-based web site has been developed and is being used to manage the MIDAS-3 functioning and assist facility database upgrades with upgraded MIDAS-3 versions
2. **Skilled staff:** SHA identified staff from the central and regional SHA offices to operationalize and maintain the MIDAS-3 system. PHCR conducted a series of trainings for the SHA dedicated staff and for the COMAIN staff who are assigned to maintain MIDAS-3 in all user sites. PHCR organized MS SQL standard training for 5 staff from SHA and COMAIN.
3. **Office:** SHA is the primary office for MIDAS-3 operation with allocated staff. MOH IT staff also are involved in the accumulation of OE database from all marzes, for data verification for the SHA.
4. **Funds:** The SHA calculated monthly fee of AMD 6,000 per facility for maintaining MIDAS-3 is reflected in the 2010 contracts with PHC facilities. The contracts were concluded with COMAIN to provide maintenance and help desk services, with SHA regional staff providing close monitoring.

A dedicated information systems center/unit is needed at the MOH to help assure availability of timely, accurate and relevant data through use of the most effective and efficient technologies. Such a unit would also manage processes for health information collection and flow, and provide support to the MOH for informed decision making and planning.

## **2.2 Health Finance**

Since 1995, Government health reforms have focused on the primary health care sector, modernizing payment systems to ensure access to essential health services, particularly for vulnerable populations. In 1997, the Government granted increased financial autonomy to health institutions, creating a need for improved accounting and management skills. The PHCR has supported these continuing efforts with targeted facility training, as well as national level efforts to develop information systems and incentive payments, and to improve collection and analysis of health expenditure data.

## 2.2.1 ENHANCING FINANCIAL MANAGEMENT, ACCOUNTABILITY AND TRANSPARENCY AT THE FACILITIES LEVEL

### Achievements and Limitations

PHCR started by surveying skills, deficits and requirements at the facility level<sup>6,7</sup>, and then worked with the Ministry of Health, SHA and Ministry of Finance to give facilities skills and tools to manage better in this challenging environment. The Project developed needs-driven training programs, which received approval from the MOH, and delivered it to 262 PHC managers and Heads of Health and Social Services Departments (HSSDs). To minimize the gap between policy makers and health care providers, as well as to harmonize the different components of health sector reform, efforts were made to generate integration and participation of the main players of the sector (HSSDs, SHA, NIH, MOH) into the training program. Feedback from trainees on reform activities was considered in refining the state guaranteed services provision document.

As one of the important outcomes of the training, 213 PHC facilities developed three-year Strategic Plans. These plans had been reviewed and PHCR provided feedback at separate workshops. In addition, the Project assisted HSSDs in consolidating the individual facility health development plans into a Marz-based PHC development plan (see a success story ‘Improving Critical Skills, Improving Healthcare’ in Annex G), and proposed a framework for linking these plans into the Marz Socio-Economic Development Plan and the MTEF to strengthen bottom up planning and budgeting process.

In addition, the project provided technical support to PHC facilities to implement sound accounting practices, analyze costs associated with the services provided and, ultimately, more effectively manage the available resources and achieves greater transparency. On the basis of identified needs, PHCR elaborated and implemented a large scale training program for accountants. More specifically, PHCR:

- Developed and had approved by the MOF a PHC Chart of Accounts, accompanying accounting policies for primary care facilities and a “guide on typical accounting transactions”. The accounting package was adopted by PHC facilities nationwide;
- Adapted and installed a new accounting software package customized to fit PHC needs at selected facilities;
- Trained 245 accountants of PHC facilities and HSSDs in “Financial Accounting and Cost Accounting” (resulting in a 44% increase in participant skills and knowledge)
- Trained 262 PHC facility managers in “PHC management”

#### Topics Covered in a 40-hour “Financial Accounting and Cost Accounting” Training

- Accounting Standards of the RA
- Tax Legislation
- Labor Code
- Accountability/Reporting
- PHC Chart of Accounts
- Cost Accounting

#### Topics Covered in a 30-hour “PHC Management” Course

- Health Care System Structure, Policy Reforms and Legal Framework
- Quality Management
- Rational Drug Use
- Financial Management/Service Costing
- Financial Accounting and Statements
- Labor Legislation
- Resource Management
- Strategic Planning

### Lessons Learned and Recommendations

PHC facilities assessment conducted by PHCR found that the costing, and thus realistic pricing, of health services was at a very nascent stage. PHCR-sponsored interventions created the underpinning for improved management decisions at the facility level, including the tools for doing unit cost analysis. However, the central management must both encourage and reward those managers who use the new tools and knowledge to manage more effectively. In the future, more emphasis should be

<sup>6</sup> “Financial Accounting, financial reporting and costing needs assessment”, a survey of accountants from PHC facilities of Yerevan, Zone 1&2.

<sup>7</sup> “PHC managers’ training needs assessment”, an in-depth interviews and focus group discussions, review of existing curricula.

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placed on cost analysis, so that facilities can identify ways to operate more efficiently. In addition to continued management training, a successor project should provide workshops, where facility managers can share their management innovations, thus encouraging the spread of best practices. As more and better data become available from the MIDAS-3 system, managers and accountants should receive additional training in ways to analyze and use this data for planning and internal management purpose.

### **2.2.2 COSTING PHC SERVICES**

#### **Achievements and Limitations**

Armenian health officials recognize that many of the fees paid for publicly supported services under the “state order” are below the actual cost of producing these services. However, revision of payments to more accurately reflect the actual cost of production is constrained by two factors: the lack of objective and usable information on actual costs, and a shortage of Government health funds to provide payments to facilities that cover the actual cost of services. The political decision on announcing the PHC free of charge was in 2006. However, the prices for PHC services defined by the SHA were not based on an understanding of actual costs due to the absence of methodology/model for cost calculation so they were underpriced.

Working with SHA and senior specialists at the NIH, PHCR addressed this problem for laboratory and diagnostic tests. PHCR analysts obtained information on the inputs required for 117 such tests or services, including labor requirements and rates, reagents and supplies, and equipment cost (and proposed depreciation periods). PHCR created an Excel model to calculate the actual cost of each service, and trained 15 members of SHA staff in its use. Because the unit cost of various factors of production (reagents, salaries) is variable, assumptions and parameters within the model can be adjusted and used for annual fee updates. The SHA was pleased with the development of this tool and used it to revise the price to be paid for each service. Unfortunately, constrained budgets still prevent SHA from paying in full for all required tests for the population, but the “price” for each individual test is now set in a more objective manner that is accepted by MOF, SHA and facility managers.

#### **Lessons Learned and Recommendations**

As stated above, unit costing of PHC services has been at a nascent stage. But experience with the laboratory model suggests that it is possible, with sufficient effort and analytic rigor, to create tools that calculate the real costs of all relevant primary care services. The most pressing need is to develop a similar model for essential drugs which should be provided to patients by primary care facilities. It is recognized in Armenia that the current “drug allowances” are often insufficient, but there is no agreed method to determine the actual amounts required. This could be followed by unit costing of all PHC services. SHA/MOH has expressed interest in such work, using the same openness and collaboration that made the laboratory model a success. With estimates of unit costs, an Excel-based model could be developed and used for setting prices and revision of the basic capitation formula. This would also facilitate interest among providers to establish independent family practices since it would help overcome one of the constraints to establishing independent practices expressed by physicians: a payment and thus revenue structure that does not cover costs.

### **2.2.3 NATIONAL HEALTH ACCOUNTS**

#### **Achievements and Limitations**

One of objectives of the project was to support the Government in laying the groundwork for effective sector policy development and monitoring through provision of technical assistance in development of National Health Accounts (NHA) and linking it into decision making processes. PHCR activities related to NHA were built on USAID/ASTP health financing activities, and also on activities being implemented by other donors and counterparts including the MOH, National Statistical service, WB and WHO. Areas of technical input of the Project were in development of methodological approaches

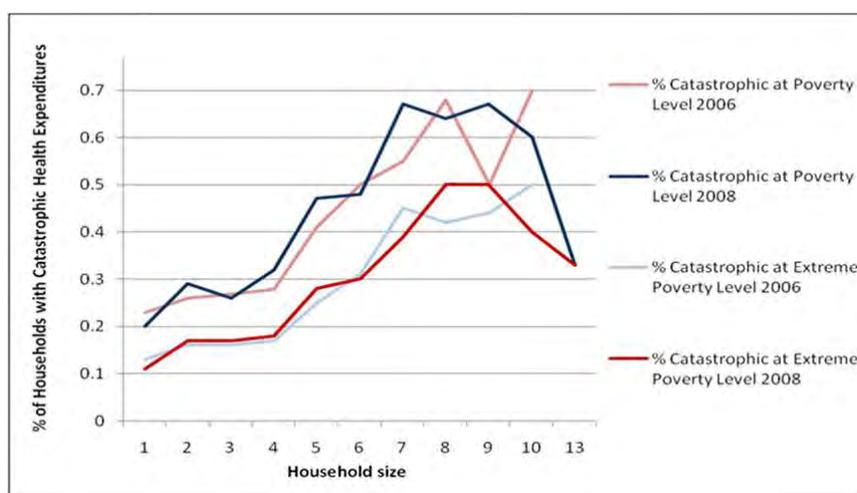
and tools for assessing the health expenditures made by international donors, households and healthcare facilities. PHCR assistance was also provided to the NHA Working Group in NHA data compilation, main matrices and reports development for years 2004-2008 as well as in dissemination of findings.

In addition, PHCR built an MS Excel based Model for NHA trends analysis, prepared a multi-year database and conducted a rapid analysis of trends of various health finance indicators. PHCR developed NHA the accounting system that was applied by the NHA Working Group in 2007 and 2008 NHA development process. At the same time, PHCR has supported efforts by the WHO and WB Health Projects Implementation Unit to find a “home” within the Armenian Government for maintenance of the national health accounts<sup>8</sup>. Supplementary analysis of the NHA and other data sources by PHCR highlighted the shortage of public funding for health in Armenia, and the continuing inequitable impact of high levels of out of pocket health spending on access to health care services, as well as the positive impacts of increased funding for primary care and the maternity voucher scheme that have resulted in a notable decline in out-of-pocket payments for women’s health services. While a substantial increase in the level of support for public or risk-pooled funding has yet to occur, PHCR studies<sup>9, 10</sup> contributed to the important dialogue between donors, health officials and those who make fundamental public resource allocation decisions.

Technical support for the NHA has formalized systems for development of the annual accounts and analysis of multi-year trends. PHCR suggested adding to the household health expenditure survey a question on services recommended but not obtained, thus better assessing the barriers to care created by patient payments. Most recently, PHCR has recommended adding additional questions on health expenditure to the annual households’ Living Standards Measurement Survey (LSMS) in order to provide more timely measures of private health expenditure, and thus a more timely measure of the split in health costs between the Government, donors and patients.

Using the household health expenditure surveys, PHCR created estimates of catastrophic health expenditures<sup>11</sup> (see Figure 6).

**Figure 6: Households with catastrophic health expenditure (2006, 2008)**



The high observed rates of catastrophic health expenditure remain essentially unchanged between 2006 and 2008, and the shape of the curve with respect to household size is remarkably similar. When

<sup>8</sup> The World Bank will continue to support the NHA effort through 2012.

<sup>9</sup> “How Great is the Burden of Household Health Expenditures in Armenia”, 2008

<sup>10</sup> “Affordability and Equity in Access to Health Services in Armenia: Is Progress Being Made” 2010

<sup>11</sup> A household is defined as having catastrophic health expenditures if it spends more than 40% of the difference between actual income and the poverty line on health services. Households below the poverty line who must pay anything for health care have catastrophic expenses.

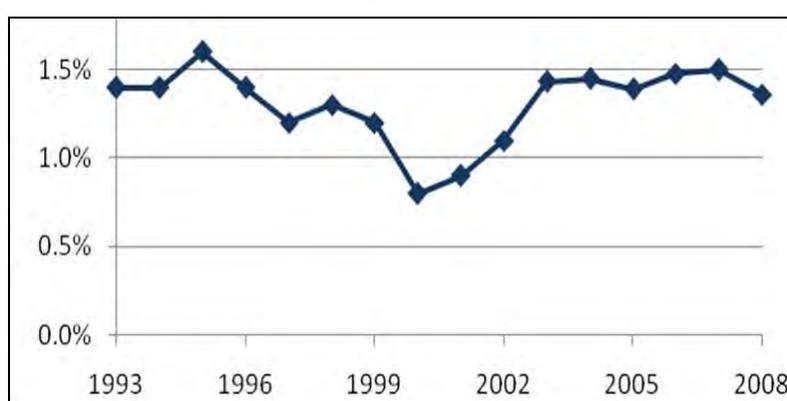
combined with an analysis of health expenditures by income quintile and service (Table 3), we see that drugs and hospital services continue to be the major source of the burden, particularly for the poor. Financial barriers to primary care are relatively low.

**Table 3: Reported Household Expenditure on Health Service as a % of Reported Household Income**

Type of service	Survey Year	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Average
		(poorest)				(richest)	
Ambulatory-polyclinic services	2009	0.7% (0.7%)	0.40%	2.20%	0.30%	0.20%	0.80%
	2006	0.7% (0.7%)	0.50%	0.30%	0.20%	0.40%	0.40%
Ambulance care	2009	0.03%	0.02%	0.50%	0.10%	0.10%	0.20%
	2006	0.20%	0.10%	0.07%	0.06%	0.03%	0.10%
Dentistry	2009	2.20%	1.30%	1.50%	1.20%	1.10%	1.50%
	2006	0.90%	0.50%	0.50%	0.60%	0.20%	0.50%
Hospital care	2009	4.40%	2.20%	2.40%	1.50%	1.40%	2.40%
	2006	14.70%	3.70%	5.00%	5.60%	3%	6.20%
Women's consultation, child delivery assistance	2009	0.20%	0.50%	0.20%	0.10%	0.20%	0.20%
	2006	1.30%	0.50%	0.80%	0.40%	0.20%	0.60%
Rehabilitation and sanatorium care	2009	0.20%	0.00%	0.02%	0.04%	0.20%	0.10%
	2006	0.40%	0.00%	0.08%	0.20%	0.20%	0.10%
Traditional and other healthcare	2009	0.02%	0.01%	0.01%	0.04%	0.10%	0.04%
	2006	0.20%	0.02%	0.10%	0.20%	0.03%	0.10%
Laboratory and instrumental diagnosis	2009	0.90%	0.70%	0.30%	0.50%	0.50%	0.60%
	2006	1.50%	0.60%	0.70%	0.60%	0.50%	0.80%
Drugs, food supplements and medical supplies	2009	4.60%	3.00%	2.50%	1.70%	1.20%	2.60%
	2006	6.20%	2.90%	3.20%	2.60%	1.60%	3.30%
<b>Total</b>	<b>2009</b>	<b>13.40%</b>	<b>8.10%</b>	<b>10.00%</b>	<b>5.60%</b>	<b>5.00%</b>	<b>8.40%</b>
	<b>2006</b>	<b>26.20%</b>	<b>8.80%</b>	<b>10.80%</b>	<b>5.20%</b>	<b>5.20%</b>	<b>12.30%</b>

Though public funding for health has increased, particularly for primary care, Figure 7 shows that public spending on health has moved little as a portion of the economy, remaining below 1.6% of the GDP through 2008, a very low level by international standards.

**Figure 7: Government Health Spending in Armenia as Percent of GDP (1995-2008)**

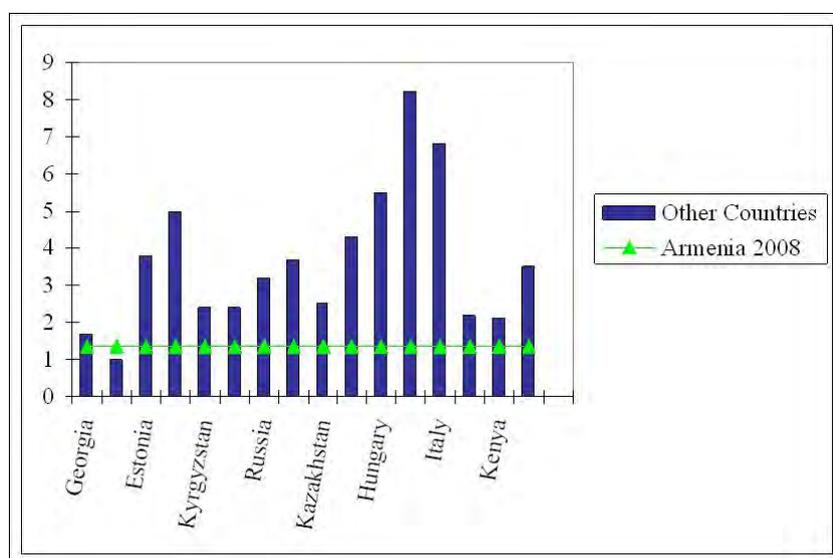


By comparison, other countries with similarly developed health systems and aging populations spend a minimum of 4% to 6% of GDP on health from taxes or risk pooling mechanisms. Estonia, for example, spent 3.8% of GDP on health care through taxes and social insurance, with only 1.3% (25% of total health expenditure) coming from patients, mostly for copayments and uncovered services.<sup>12</sup> In Western Europe, the percentage of public and risk pooled funding for health rises to 8% or more of GDP. It will not be possible to reduce out of pocket health expenditures to the levels seen in other developed countries (25% or less of total health expenditure), unless Armenia decides to commit a greater portion of the economy to health care through taxes or insurance mechanisms.

### **Lessons Learned and Recommendations**

Post-Soviet economies have found it difficult to increase public health expenditures; the lower priority which Government places on health expenditures explains why the proportion of GDP spent on health is below 2% (see Figure 8) for countries like Armenia, Georgia, Azerbaijan. It is clear, however, that in the absence of increased public sector spending on health it will be difficult for significant improvements to be made in health system outcomes.

**Figure 8: Government Health Spending as Percent of GDP, by countries (2008)**



Although efficiencies in health delivery are possible and desirable, public or risk pooled health funding must also increase to improve equity and accessibility. National Health Accounts and the subsidiary analyses undertaken by PHCR must be continued to build the case for such a fundamental resource shift. USAID should continue to work with other donors to embed a properly funded NHA function within the Armenian government, and to support the supplementary analysis which will track health spending, assess the impact of policy shifts and inform decision making.

#### **2.2.4 INCENTIVE PAYMENT AND INFORMATION SYSTEM**

##### **Achievements and Limitations**

There are numerous factors contributing to the poor quality of health services, including the present health care payment system. Under the capitation payment scheme, which until recently was predominant in Armenia, providers are paid a fixed amount of money on the basis of number of served population regardless of the quality of the health care they provide. Therefore, this payment system cannot induce physicians to provide high quality of service and to ensure equitable access to these services for the whole population they have served and provide treatment to patients with mixed diseases. This produces a weak

<sup>12</sup> WHO European Observatory on Health Systems, Profile of Estonian Health System, 2008

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incentive structure and, in some cases, produces disincentives for quality. The experience of different countries, including UK, shows that embedding financial incentives to the “passive” capitation that is tied to improved quality performance measures resulted in improved performance.

As part of the efforts to improve the quality of provided services, and to make primary care physicians more responsible for patient management and more responsive to patient needs, PHCR supported a transition from funding based on the catchment area population to funding based on the number of patients who choose to enroll with a specified provider. With this type of system in place, facilities can be paid according to the number of patients actually enrolled with, and managed by, polyclinic physicians. In addition to supporting the necessary software development, PHCR provided computers, operating procedures and training for primary care facilities to implement OE.

PHCR prepared a “policy options brief” outlining options for shifting from the catchment area-based financing model to an enrollment-based financing model; this brief served as the basis for extensive discussions at the MOH/SHA for formulating policy. In 2010, for the first time, facility payments were based largely on the number of patients actually enrolled, and not just on the assumed catchment area population. The contracts between SHA and the PHC facilities state that capitation payments are based on the number of enrolled population and the number of non-enrolled population with higher payments for the enrolled than the non-enrolled. The size of the non-enrolled population is the size of the catchment area minus the number enrolled. Over time, the proportion of payment based on enrollment is expected to increase, giving facilities a strong incentive to enroll, in order not to lose patients, and more actively manage their care. In addition to improving quality, transparency and accuracy of data will increase and, along with rigorous use of the audit system, corruption decrease because a physical person is tied to each payment and can be verified. Furthermore, an enrolled population provides a foundation for other reforms such as establishment of independent family medicine practices.

PHCR has worked with SHA/MOH to define and implement performance incentives within the payment system. PHCR reviewed incentive payments in use for primary care elsewhere, including Russia, and supported a study tour in Great Britain, where general practitioners are rewarded financially using over 100 quality measures. After much discussion and revision, a set of ten performance indicators was developed and agreed upon for Armenia. These include three preventive indicators related to quality in pediatric and obstetric care, four indicators related to management of chronic non-communicable diseases (which are 83 percent of the burden of disease), and three electronic disease registries.

To provide for a more objective calculation of the performance of facilities and individual physicians, PHCR supported the development, piloting and nationwide implementation of the MIDAS-3 system (that included both enrollment and patient encounter forms). Furthermore, to minimize the administrative burden of paperwork through duplication of forms and reporting requirements, a PHC Reporting Streamlining Working Group (which included representatives from MOH, SHA, HSSD, SanEpid and PHC facilities) was created to review current forms and practices. PHCR reviewed facilities reporting/recording system and balanced the information to be collected through Encounter form to evaluate provider’s performance as well as produce the needed statistical reports. Based on the results of the review, PHCR supported the Working Group in development of the PHC Patient Encounter form with instructions on how to complete the form as well as adopted International Classification of Diseases (10<sup>th</sup> revision) for use in PHC facilities. In addition PHCR developed the analytical system of the MIDAS-3 that produces needed statistical reports and maintains the disease registries. The system was tested and piloted in a sample of PHC facilities before nationwide implementation.

Using the newly designed patient encounter form, the system captures basic information on primary care, including diagnosis, follow-up, and services and drugs prescribed. In addition, the encounter form contributes to improving quality by inducing physicians to follow regulations on medical chart flow/storage, improve the content of the medical chart, provide effective treatment in accordance to adopted protocols, strengthen the relationship with and feedback from the narrow specialists/referral facilities, properly organize continuity of care, seek patients for preventive and prophylactic visits,

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and develop and maintain through MIDAS-3 system electronic disease registries. Information collected through the encounter form can also be used for better resource management at the national level and facility levels as well as for standards development.

Through an extensive effort in late 2009, PHCR trained primary care physicians in completion of the new encounter forms, and instructed administrative staff on data entry. National roll out of Encounter system was done with the support of Quality Coordinators (QCs), representatives from HSSDs and regional SHA branches, who underwent a three-day TOT course on —PB and Encounter system implementation at the PHC facilities” who, in turn, successfully conducted and oversaw large scale trainings on the same topic for more than 600 representatives (managers, statisticians, senior specialists) of all PHC facilities of the country. This training was followed by QCs and PHCR post-training supportive visits to PHC facilities nationwide, to support actual implementation of the systems and provide additional need-based trainings and consultations on site at PHC facilities. PHCR developed and delivered to every PHC physician in the country a package of materials on encounter system operation (Guide, ICD-quick reference and pamphlet on —Questions and Answers”). Computerized recording of encounter data began on January 1, 2010 in all PHC facilities.

The SHA plans to make initial payments based on performance achievements (for 2010) in early 2011. PHCR continued to assist SHA with implementation of this innovation, suggesting procedures for verification of performance results, and for calculation and distribution of the performance bonus to facilities and individual physicians. PHCR staff have also been working with SHA, MOH and the National Institute of Health to identify those reports which can be generated from the MIDAS-3 data base, thus reducing paperwork within the facilities.

### **Lessons Learned and Recommendations**

PHCR has been instrumental in extensive computerization of the PHC information. However, these systems are still fragile and will need further support. Annual performance data will only become available after the end of the project. While SHA has some capacity to process and analyze the new encounter data, MOH has not fully created this capacity yet. The staff that maintains the OE database within the MOH needs to be strengthened and ensure that use is made of the MIDAS-3 data for active quality monitoring. Continued effort will be necessary to program MIDAS-3 reports that replace existing manual reports, and to convince report users that their information needs are met. Over time, some upgrading of the data captured on the encounter form is likely to be needed, and this will require both programming and user training.

There is considerable room to use the new database to support the Quality Improvement system, enabling facilities or marzes to generate current performance or health outcome data. However, this requires programming as well as user support that the Government of Armenia has not yet sufficiently budgeted. A follow-up program to PHCR should support these functions until computerized data is fully integrated into MOH management and quality improvement initiatives, and to ensure that the MOH creates annual budgets for maintenance, data analysis and needed up-grading of MIDAS-3. In the longer run, MIDAS-3 may be seen as the first step towards electronic medical records for primary care in Armenia. Therefore, continued support for this system is key to the long term modernization of PHC.

In general, the open enrollment, health finance and quality improvement initiatives supported by PHCR have created a major increase in the information available to Armenian health managers. The MIDAS-3 system contains data that could be used to leverage quality and efficiency improvements at the national and facility level. It is important that, over time, systems, people and budgets are in place to make fuller use of this information.

With these systems in place and well supported, Armenia should expand the use of this data to reward better quality and more efficient management. Additional incentive payments should be considered for achieving additional quality upgrades. It is recommended that funding for PHC should increasingly be determined by the enrolled population and facility/provider performance, not by historic formulas. Evidence of efficiency and improved outcomes should be rewarded. The success of the normative laboratory costing model should be followed by other efforts to use newly available

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data to refine budgets and remove financial barriers to necessary care. The first priority is a model to project drug budgets based on patient volume and disease burden, followed by a refined capitation model that recognizes the greater medical needs of the very young and the very old, and then by unit costing of all PHC services.

#### **2.2.5. WORKFORCE PLANNING**

##### **Achievements and Limitations**

Health work force planning is an important issue which requires high level Government involvement and a strong legal and regulatory framework. One of the key issues is how to produce, deploy and retain an appropriately trained health workforce with enhanced skills that can deliver the appropriate, affordable and equitable packages of health services. Complementing WB efforts, PHCR activities focused on strengthening the human resource management capacities at the PHC facility and regional levels and introducing incentive mechanisms at the national level for deployment and retention of medical specialists in rural healthcare facilities. More specifically, the Project helped the MOH/SHA in calculating the capitation adjustments necessary to cover approved compensation increases for physicians and nurses working in bordering, mountainous and highly mountainous regions, which were introduced in 2007. As part of the process of preparing the regulatory document on “assignment of medical specialists to health care facilities in remote, bordering, mountainous and highly mountainous settlements of the RA”, PHCR assisted in reviewing the experience accumulated on incentives programs for attracting health care providers to rural areas in different countries, assessing results of the survey conducted among family physicians and family nurses, and reviewing the legal/regulatory framework. The Project also developed the model and calculated expenses related to assignment of PHC specialists to fill vacancies in healthcare facilities countrywide for the first and consequent years.

##### **Lessons Learned and Recommendations**

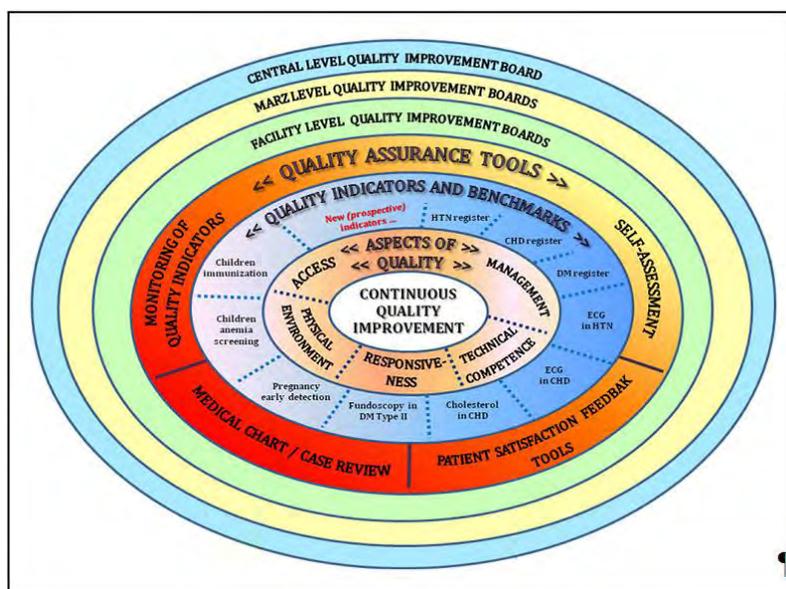
Any serious manpower planning study needs buy in from the Ministry of Health, the Ministry of Education and Science, and probably the hospital industry. In the future, hospital directors will be making decisions about hiring doctors and nurses based upon demand and accreditation criteria. The planning function will be further complicated because restructuring of the health system is likely to lead to redundancies in some fields at the same time that new graduates, with enhanced skills (in family medicine, for example), are coming onto the market. Many medical schools are private and medical training is a major source of income despite the oversupply of physicians.

However, continued efforts will be needed to address the imbalance between the size and distribution of the physician/nurse workforce and the country’s health needs and ability to pay through developing of workforce planning strategy and supportive regulatory framework. If health workforce planning study is not supported by the WHO, the World Bank or other donors, and if the Government of Armenia acknowledges the need to rethink health system staffing and medical education, USAID support for this study could be a sound investment.

### **2.3 Quality Assurance**

An ultimate goal of the GoA’s PHC Quality Assurance (QA) program is to assure the appropriate level and continuous improvement of the quality of care (QoC) provided in PHC facilities throughout the country. However, while repeatedly declared a priority, QoC only attracted attention when problems could no longer be ignored, and mostly situational/episodic measures were undertaken to solve quality problems.

**Figure 9: Armenia's National PHC Quality Assurance Model**



To improve this situation PHCR set out to support MOH in establishing a sustainable system-wide approach to regularly monitor, assess, analyze and improve/ensure the quality of PHC nationwide with soundly regulated procedures and tools. This section summarizes PHCR's accomplishments at the national, regional and PHC facility levels, as well as recommendations drawn from lessons learned and achievements.

The National PHC QA program is represented in Figure 9, which shows the aspects (or dimensions) of quality, the indicators and benchmarks used to quantify the dimensions, and the tools and procedures employed by the responsible PHC facility staff to assess and improve the specific quality dimensions of PHC services. Capitalizing on international experience as well as USAID/Armenia ASTP and Project NOVA experiences, PHCR followed the multifaceted QoC framework defining quality in terms of five key dimensions: *technical competence, access, responsiveness, physical environment and management*.

In implementing activities to establish a sustainable PHC QA system, PHCR worked in the following areas, which are described in more details below:

- Policy and legal environment
- QoC strategy: design and implementation
- Performance monitoring
- Institutionalization.

### 2.3.1 POLICY AND LEGAL ENVIRONMENT

#### Achievements and Limitations

Under this sub-component, PHCR was committed to support establishment of 1) a Family Medical (FM) Council, 2) provider licensure procedures, and 3) facility accreditation procedures. In spite of prevailing political conditions that made it difficult to fully achieve these expected outcomes, some progress was made. Although the MOH declined the establishment of a FM Council, considering it politically compromised, the two FM professional associations and the Quality Improvement Boards serve similar purposes and are analogous to the FM Council. Establishment of provider licensure procedures depended on GoA political decisions; however, support was provided by revising draft regulations to prove the qualification of providers which was submitted to the MOH. In addition, per MOH request, PHCR contributed to developing licensing registry software which was introduced in the Licensing Department of the MOH. It is anticipated that the new Law on Health Care may es-

establish something more than just facility licensing procedures and also include providers' competence (e.g. periodic re-certification, registration).

### **Lessons Learned and Recommendations**

Improving quality has many dimensions, both technical and political, and an appropriate policy and legal environment is fundamental to advancing quality. Over time and with continued strengthening, the "dimensions" and "tools", can serve as part of the foundation for establishment and use of accreditation procedures. One of the goals of the QA program should be adoption and implementation of accreditation standards at all PHC facilities.

## **2.3.2 QUALITY OF CARE STRATEGY: DESIGN AND IMPLEMENTATION**

### **Achievements and Limitations**

As an essential first step to introducing the National Quality Policies and Strategies, PHCR fostered development of a common understanding of the major determinants of "Quality of Care" among stakeholders. They agreed upon the five dimensions of quality (clinical competence, access, responsiveness, physical environment and management) and identified the benchmarks (selected quality indicators and clinical standards).

The QA team then developed the PHC QA Strategy, Toolkit, Implementation Plan and corresponding Training Guides. The GoA/MOH's approval established it as the legal-regulatory framework for QA.

After receiving MOH approval of the QA package and the list of selected Quality Coordinators (QCs), PHCR conducted a TOT for a "critical mass" of the leading QA implementers in all Marzes and Yerevan. Fifty regional QCs (one QC per two to four PHC facilities) attended the training and then supported the introduction of the QA package in their assigned PHC facilities. As a result, over 547 facility representatives of larger PHC facilities were prepared for QA implementation. The Project also made the QA Package, including the following Tools and Procedures, available to all stakeholders:

- Quality Improvement Board (QIB) charter and Template Action Plan for QA
- Ten initial Quality Indicators' Monitoring Guide
- Self-assessment Guide and Checklists both for PHC facility and providers
- Medical Chart/Case Review (MCR) Procedure, Checklist, Reporting Forms and 10 Job Aids
- Patient Satisfaction Feedback tools (Complaints Log book, Suggestion Box, Survey Checklist).

Following PHC facility trainings, the QCs provided ongoing technical support at the facility level through regular supportive supervision visits. The QC's supported facility QIBs in implementation of QA and fulfilling the following functions:

- Provide information, counseling, and training in the facility as related to implementation of the new national standards, directives and instructions about quality of care;
- Supervise, monitor and assess the quality of PHC services provided in the facility,
- Develop internal instructions, procedures and protocols aimed at improving the quality of PHC services;

### **Current PHC Quality Indicators**

#### **Prevention:**

1. Full immunization coverage of children at age 24 months.
2. Screening for Anemia in children at age 1 year.
3. Pregnant women registered in first trimester for antenatal care

#### **Disease management:**

4. Regular funduscopy exam in patients with Diabetes Mellitus (DM)
5. Regular ECG monitoring in patients with diagnosed Hypertension (HTN).
6. Regular ECG monitoring in patients with diagnosed Coronary Heart Disease (CHD).
7. Blood cholesterol control in patients with Coronary Heart Disease.
- 8-10. Existence of registers of patients with diagnosed DM, HTN and CHD.

- Based on the identified quality improvement needs, plan and initiate measures for professional development of the medical staff;
- Coordinate the activities of analysis, prevention and elimination of medical errors observed at the facility;
- Coordinate and support the PHC facility in the monitoring of pre-defined quality indicators, the self-assessment process, MCR, and direct observations of providers and patient satisfaction interviews;
- Regularly summarize results of the above-mentioned quality monitoring activities and accordingly develop or update the action plan to respond to the identified performance gaps to support quality improvement; and
- Assure follow-up evaluation of effectiveness of the quality interventions.

By the end of PHCR, QCs conducted a total of 1,112 visits, or eight visits per facility. Once facilities gained adequate experience with routine use of QA tools and techniques, QCs provided technical assistance in the monitoring and evaluation of QA progress in the facilities.

PHCR proposed, and the MOH-approved, a phased approach for nationwide coverage of the QA initiative. Phase 1 was completed with the support of PHCR, and focused on 139 larger PHC facilities, those which had more than three PHC physicians and served more than 78% of population. The MOH will take ownership of Phase 2, which will involve smaller facilities with less than three PHC physicians and will begin after PHCR ends.

Integration and promotion of evidence-based medicine (EBM) standards was a cornerstone of PHCR QA activities. As part of the QA strategic plan, the FM/QoC team developed EBM-based *Clinical Job Aids* for management of three adult and seven childhood diseases or conditions. The Job Aids were approved by the MOH and distributed to all PHC providers nationwide (see FM component for additional information). The PHCR FM/QoC team conducted on-the-job clinical training on the use of clinical job aids to PHC providers.

Over the life of the Project, the QoC team provided continuous technical support to all stakeholders on the implementation of the QA strategy in the use of QA tools and processes. Technical support included supportive supervision provided to PHC facilities and QCs, guidance to Marz health authorities in holding Marz QIB meetings and addressing regional level QA issues, guidance to MOH staff in holding Central QIB meetings, and recommending solutions to national level QA issues.

The QoC team initiated a culture of continuous improvement of QoC in PHC facilities. In this challenging process, PHCR observed the following positive changes in perception and behavior of PHC staff, particularly:

- More proactive and problem-solving behavior, facilities solved problems using their own resources
- 2,168 QA-related issues identified due to employing QA tools and procedures, out of which 1,281 (59 percent) were solved at the facility level.
- Improved acceptance and use of supportive supervision approaches.
- Increased professional accuracy and responsibility of physicians.
- More coordinated and regulated work aligned with clinical standards.

#### PHCR-developed Clinical Job Aids for management of diseases/conditions in PHC

##### In Adults:

- Hypertension
- Stable Angina
- Type II Diabetes Mellitus

##### In children:

- Fever
- Acute Upper Respiratory Tract Infections
- Acute Otitis media
- Tonsillitis
- Pneumonia
- Acute childhood diarrhea
- Anemia

- 
- Activated “inter-sectoral” cooperation: greater community involvement and collaboration with other facilities. Seven facility-level QIBs were created jointly by two separate legal entities — polyclinic and maternity hospitals.

According to stakeholder feedback, identification of quality indicators and benchmarks, introduction of the unified patients’ registers (dispensary registration journals), introduction of clinical job aids, and application of MCR were considered the most successful.

There are limitations, too. For example, no mechanism exists for regular QA reporting from marz to MOH. MOH should oversee and assure regular reporting on QA throughout all the PHC levels, in particular to set an order of compulsory annual provision of —Summary report on quality performance indicators” right up to MOH Informational-analytical Republican Center. The MOH should also periodically update the selected Quality Indicators and benchmarks to keep them in line with the development of PHC services and advancement of QA processes.

No mechanism exists for regular update of Clinical Job Aids, and additional job aids are needed on other common diseases. MOH should define responsibility centers and establish sustainable mechanisms for development of new clinical standards/job aids and regular update of the existing ones.

### **Lessons Learned and Recommendations**

In the course of Phase 1 implementation, 16 “larger” facilities became “smaller” ones according to the criteria used by PHCR, by starting off with more than three physicians and losing but not replacing physicians at some point in the process. However, these facilities were kept in the program and thus PHCR did gain a small amount of experience with smaller PHC facilities. The MOH should consider recommendations and lessons learned by PHCR about the Phase 1 QA process.

In late May 2010 PHCR invited international short-term TA to conduct an interim progress review of the structure, content/functions and processes of the Armenia PHC QA program and provide recommendations for strengthening the program. The report identifies the following recommendations for strengthening the program.

- While strong support was provided for the set of QA tools, it was also recommended that the tools be reviewed and updated, especially the self-assessment and patient satisfaction tools - preferably through designated focus groups;
- Importance of the QA program not losing its momentum during transition of projects;
- Expand the QA program to the remaining smaller PHC facilities (those with less than three physicians) with the help of the QCs;
- Assure MOH commitment towards institutionalization of QA program through establishing a Quality unit at the central MOH level, with authority through formal appointment and mandate.
- MOH to recognize the QCs as a permanent post on the MOH hierarchy with an appropriate job description, authority and monetary incentives
- Improve communications towards continuous improvement at all levels (vertically and horizontally) by establishing a Marz QIB Chairpersons’ Council that would meet periodically. Also, include all QCs at each Marz QIB on a rotational basis.
- The issue of incentives should be kept as a top priority. In particular, non-monetary incentives of all kinds should be considered to recognize QCs and heads of PHCs. Monetary incentives should still be available but should be used in combination with non-monetary incentives.
- Organize exchange visits between PHC and between Marzes for the purpose of peer review and benchmarking.
- Facilitate the delivery of periodic and focused training to PHC providers on both clinical and quality topics.

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- Gradually move the QA process towards the adoption and implementation of accreditation standards at each PHC and develop the system for communicating and verification of compliance to these standards at the central level.

### 2.3.3 PERFORMANCE MONITORING

#### Achievements and Limitations

Introduction of a Performance Monitoring system was a key element in the overall QA initiative. The QoC team designed a QA monitoring program with a database, tools and schedule for monitoring and evaluation reporting and entering results into the database. Support was provided to QCs, Marz Health and Social Security Departments HSSDs and MOH for QA monitoring, data analysis and evaluations. QCs conducted 278 monitoring and evaluation visits to larger facilities, two visits per facility. The PHCR QA staff participated in over 60 of these monitoring and evaluation visits.

The Performance Monitoring system revealed the outcomes shown below. Although these outcomes are reason for substantial encouragement, the real challenge will be to maintain these outcomes over time:

- 24.5% of facility QIBs hold regular meetings on a monthly basis. And 64% of marz QIBs have their regular meetings on a quarterly basis.
- Sustainable cooperation between different level QIBs enhanced. Thirty six quality-related issues/suggestions were officially (in written form) presented by facilities to Marz QIB/HSSDs. Six of those issues were solved. In addition, 19 quality-related issues/suggestions were presented by Marz QIB/HSSDs to the Central QIB. Five of those issues/suggestions were addressed through a minister's order.
- All 139 PHC facilities implemented: 1) the cleared and unified patient registers; 2) the self-assessment; 3) the MCR along with Job Aids; 4) the patient satisfaction feedback tools; and 5) the QA action plans.
- 97% of PHC facilities established accurate registers of patients with diagnosed DM, HTN and CHD (unified dispensary journals)
- 97.8% of PHC facilities conducted regular monitoring of the 10 quality indicators.
- Quarterly self-assessments were conducted in all major PHC facilities. Facility self-assessment was regularly conducted in 93.5% of facilities, and providers' self-assessment by 87% of providers.
- All 139 major PHC facilities implemented the medical chart/case review (MCR) tool and Job Aids. The tool was appropriately and regularly used by 79% of providers.
- All major PHC facilities implemented patient satisfaction feedback tools. Among them, the self-directed survey tool was fully used in 16.6% of facilities. The complaints log book was implemented in 84% of facilities, and the suggestion box in 92% of facilities.
- QIBs developed action plans to address the identified quality gaps. QA action plans were available and used (checked – reviewed - updated) on a regular basis in 91% of PHC facilities.
- In late July 2010 PHCR conducted a PHC facility and QCs' recognition event for best practices and gains in QoC. Based on monitoring and evaluation results and PHCR QoC team observations, 32 PHC facilities were selected and awarded recognition signs. All 44 QCs were awarded certificates of appreciation. The recognition signs and certificates were signed and handed over by the Deputy Minister of Health during the recognition ceremony.

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## Lessons Learned and Recommendations

The Project established functional “responsibility centers” for QA and QIBs and built capacity at the national, regional and facility levels. Additionally, responsible QA staff members were assigned in all marz HSSDs, as well as in the PHC and MCH departments at the MOH.

Those marzes where the HSSDs were more committed and involved in QA processes showed better progress. To encourage marz HSSDs to take ownership, the MOH should lay down a rule of convening them to participate in all regular meetings of Central QIB.

According to monitoring and evaluation results on QA, QIBs did not always function regularly and independently. In the periods of less intensive external support (such as QC’s visits) some facilities paid less attention to QA processes. Most stakeholders consider the role of QCs important for assuring sustainable development of QA process, but the QC status remains undecided. While it was originally envisioned as a natural function of selected QCs regular job, PHCR paid QCs a small stipend in order to ensure they would incorporate the QA activities into their routine work. Therefore, the MOH needs to define the future status of QCs that includes rationale and incentive for completing the work in order to ensure it carries on.

Another concern is the accuracy of the information being captured through all of these QA templates and documents. There needs to be another mechanism in place to ensure the accuracy of the information provided. A related issue is how to better capture all of this information on a regular basis more efficiently and on a timely basis. Automating the process at some point needs to be added for data capturing of the different QA tools. This is best done through development of databases/spreadsheets for each tool plus providing each PHC with a computer. As the database is established, certain capabilities could be added as ad hoc reporting and the generating of trends, averages, frequencies and related statistical reports are used to inform improvements and management

In order to ensure a sustainable Performance Monitoring system, PHCR also recommends to strengthen capacity for using MIDAS-3 (encounter form) for monitoring, benchmarking, and improving quality of services, ensure that P4P quality indicator data are accessible to central to marz and facility levels and has an appropriate feedback loop.

### 2.3.4 INSTITUTIONALIZATION

#### Achievements and Limitations

PHCR has made progress in the following areas of institutionalization:

- **Guidelines and procedures:** QA Strategy approved by GoA decree, QA Package approved by MOH order, and adopted and assigned for implementation by resolutions of Marzpets (the marz governor). Incentive package for recognizing and rewarding best QA practices developed. QA data processing integrated into the national HMIS.
- **Office:** Central (MOH) and Marz QIBs established and functioning. Working relationships between them established. No central level QA office established leaving a significant gap in institutionalization but the central level QIB currently fills this need.
- **Staff/structure:** A “critical mass” of leading QA implementers (QCs) prepared at all three PHC levels. QA curricula integrated into the NIH FM postgraduate/ Continuous Medical Education (CME) programs. Most QCs also trained and involved in MIDAS-3 implementation.
- **Financing:** The costs of sustaining the QA program were provided to the MOH for budgeting purposes. The primary gaps are (a) creation of a QA unit/office at the central level and (b) clarifying the status of QCs and financing of the QCs. Although the MOH has expressed clear interest in maintaining the QC’s, legal and economic constraints exist to official recognition of their status/position and consequently of their financing.

The central level of the MOH expressed a notable increase in their interest in QA in April 2010, more than halfway through the last year of the Project. This was, in part, stimulated by a government decree

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to develop the Armenian Health System QA concept to include not only PHC activities, but also secondary and tertiary care. Considering PHCR's experience in introducing and establishing the PHC QA program, the MOH requested PHCR assistance in developing a QA concept paper. The concept leverages the existing systems and results achieved by USAID/Armenia projects and cover all levels of the health system. The PHCR QoC team supported the MOH in drafting the concept paper which was submitted to GoA for approval in late June 2010.

### **Lessons Learned and Recommendations**

Although the predictors of government's interest and commitment to taking ownership of a new intervention are not always clear, it is important to capitalize on them when the interest does arise. And although this interest came later in the Project than desired, it does expand and strengthen the foundation which subsequent projects can build on.

PHCR improved the overall regulatory environment for PHC service delivery by emphasizing the establishment of a culture of data-driven decision making, supportive supervision, participatory management, and enhanced bottom-up initiatives. At the same time, the functional "responsibility centers" established with Project support at all three levels (facility, regional and national) requires further strengthening to assure sustainability of PHCR-introduced QA regulatory mechanisms. For assuring a MOH stewardship role in this initiative, PHCR recommends the following:

- Establish a QA unit at the central MOH level with responsibility for policy and oversight of the QA program. Put into practice incentives for recognizing and rewarding best practices in QA, particularly the non-monetary incentives since the P4P program is planned to provide the monetary incentives. Examples of non-monetary incentives include: flexible work hours, training/continuing education, plaques, thank you letters, recognition certificates, nomination of department/unit employee of the month, encouraging participation in facility decision-making, and sending an employee to a conference, etc.
- Define/formalize the QCs' status
- Allocate funding for QCs' reimbursement, including stipend, transportation cost and supply cost, and budget for maintenance of QA unit at MOH
- Use the QA program to support development of a facility accreditation program
- Develop/review and adopt the regulations and standards of dispensary care management of PHC patients
- Soundly regulate, delineate and designate the functional scope of PHC physicians and narrow specialists for the clinical management, registering and reporting of cross-cutting PHC conditions. Develop and adopt centrally (by MOH) the sample Job Descriptions for the key PHC positions that will serve as a base for facilities for developing their own Job Descriptions
- Take functional measures to eliminate the lack of effective communication in providing feedback through the referral chain of PHC physician ↔ narrow specialist and/or PHC facility ↔ secondary level health facilities
- Periodically update the list of essential drugs for PHC practices, taking into consideration the content of adopted clinical standards, job aids and guidelines
- Review the FM training programs and strengthen the professional requirements (especially in respect to skills) for receiving the qualification of "family physician" and "family nurse"
- Review the order on provision of drugs that are free of charge or under preferential conditions, study and apply the experience of other countries (e.g., apply compensation of drug expenses for individuals included in selected groups).

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## 2.4 Family Medicine

PHCR's FM component built clinical service capabilities by updating curricula, developing clinical standards and job aids, strengthening the capacity of training institutions and professional associations, training doctors and nurses in FM, family nursing (FN) and community nursing (CN); and furthering the FM policy and legal environment.

In implementing activities to promote the FM model, the PHCR FM team support focused on the following areas:

1. **Policy and legal environment:** Strengthening the capacity of professional associations, and supporting the establishment of independent family medicine group practices (FMGPs)
2. **Strengthening the capacity of FM/FN training institutions:** update of UFMC, and the development of guidelines, job aids and training packages
3. **PHC provider training** on updated UFMC training packages and job aids.

### 2.4.1 POLICY AND LEGAL ENVIRONMENT: STRENGTHENING THE CAPACITY OF PROFESSIONAL ASSOCIATIONS AND SUPPORTING THE ESTABLISHMENT OF INDEPENDENT FMGPs

#### Achievements and Limitations

In working to improve the policy and legal environment for promoting FM, PHCR examined political systems and strategies supporting institutionalization of FM. The GoA has adopted a central strategy for health reform of strengthening PHC/FM through the creation of independent FMGPs (legally autonomous entities). The widespread establishment of FMGPs as a discipline and practice was expected to have a significant impact on the way the country conducts its PHC business in the future. Working in collaboration with the World Bank, PHCR's role was primarily a supportive one in which the World Bank led the process for creating the demand for independent FMGPs, PHCR then provided support in terms of guidelines for establishing and registering practices, financial assessments, and furnishings once providers expressed interest (for policy support also see other Project components).

The independent model successfully functions in rural areas due to lower operating costs, patients having fewer doctors to choose from, and rural doctors already working independently. However, family physicians working in urban settings did not see the corresponding financial and legislative foundation for moving to this model. The Project initiated activities to improve the legislative framework necessary to make independent FM practice a reality in urban areas as well, and realize distinct Independent FMGP models.

Per MOH request the PHCR team contributed to the development of a new 2008-2013 PHC strategy, provided suggestions and comments aimed at improving the GoA Decree on —Establishment of Independent Family Medicine Individual/Group Practices”, developed relevant forms as an amendment to normative-legal framework for independent FMGPs, which were approved by the MOH (order #13, 04.08.08), and registered at the Ministry of Justice (registration # - 100082442007). The Project team also developed Excel-based templates and performed financial analysis for 12 different models of independent FMGPs. The team also developed the following guidelines on how to establish and register an independent practice:

- Independent FM Group Practice with status of LLC
- Independent FM Individual Practice with status of LLC
- Independent FM Individual Practice with status of Sole Proprietor.

The guidelines were handed over to MOH, NIH and Yerevan State Medical University (YSMU). NIH and YSMU incorporated the guidelines into the UFMC training. Also, per NIH and YSMU FM faculty request, PHCR conducted orientation seminars on the content, including options, regulations, and procedures for starting an independent FMGPs for over 50 physicians undergoing World Bank training. Feedback received in these trainings and seminars indicated that start ups among urban

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family physicians is constrained by limited entrepreneurial skills, not enough evidence that revenues would cover costs, and lack of supportive legal/regulatory framework.

More recently, the MOH, with primary support from the Health Project Implementation Unit, formed a task force to review constraints and prepare recommendations regarding independent FM practices and urban-based FM/PHC models. PHCR was a member of that task force.

Another way to promote FM practice is through FM professional associations who provide a rich array of expertise and resources to assist in the development of the specialty. Two FM professional organizations function in Armenia: the Armenian Association of Family Physicians (AAFP) and the FM Academic Society. AAFP advocates for the rights of family physicians by addressing financial and practice issues. The FM society's primary role is in the academic arena of research and education. Capitalizing on international experience, the Project initiated capacity building of FM associations to strengthen their leadership role in FM policy-making and analysis. The Project facilitated a series of capacity building trainings and helped shape the content and process of the associations' policy events, such as FPs annual conferences. The associations' also received ongoing technical assistance and training to strengthen their role in the CME system.

Also, as discussed in Section 2.2.4, a well-functioning enrollment based financing system provides a necessary but not sufficient condition for establishing independent family medicine practices.

To increase professional associations' role in articulating the rationale and benefits of expanded scopes of practice for primary providers, the Project gave a grant to the Armenian Association of Telemedicine (AATM). The grant was intended for:

- (1) AATM capacity building and expansion of its influence as a key player in the health system,
- (2) PHC Capacity building for physicians through medical teleconsultations, and
- (3) Significant value added to PHC by bringing access and immediate, advanced healthcare services to patients in remote rural areas.

Despite achievements towards institutionalization of FM, several limitations remain. It will be critical to confront some of these challenges/limitations to further acceptance of FM as the priority model for PHC in the country:

- In urban settings, difficulties to expanding scope of practice of trained family physicians still exist: polyclinic management seems unwilling to change established procedures to provide mixed patient population to family physicians (previous pediatrician continues serving pediatric population, previous therapist/adult population, etc.).
- There are various reasons/challenges why FM doctors refrain from establishing Independent FMGPs in urban areas. Although informal feedback from FM doctors suggests that the primary reason for lack of demand are capitation rates that are not high enough to cover costs, a formal investigation would be useful in identifying the main reasons, and thus options for increasing demand. Particular attention should be paid to those polyclinics that are successful.
- Many young FM residents cannot find employment and remain either unemployed or go into other careers.
- The role and involvement of medical Professional Associations is still weak in promoting FM due to the lack of capacity.
- Lack of sustainable CME system (no unified certification system).

### **Lessons Learned and Recommendations**

The MOH supported the establishment of a working group for conducting a study and identifying the reasons why FM practice does not properly work in urban settings and why urban physicians refrain from establishing independent practice. PHCR believes that this is an important step that could lead to interventions necessary for creating incentives for physicians working in urban polyclinics for expanded scope of work and establish independent practice. Incentives to providers to become Family

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Physicians, retaining mechanisms and sound workforce planning should be developed and introduced. External input is required for review and strengthening workforce planning. As an incentive mechanism PHCR also suggests P4P (see the section on Health Finance above). In order to mature as a specialty, FM needs experienced researchers; unfortunately leaders of this new discipline lack formal research training and skills. FM associations lack skills in promoting primary care research, raising awareness among governmental and donor agencies of the importance of funding primary care research. External input is required for continued strengthening of the capacity of professional associations. This could include, for example, study tours, trainings on advocacy, leadership, fund raising, proposal writing, and research methods.

#### **2.4.2 STRENGTHENING THE CAPACITY OF FM/FN TRAINING INSTITUTIONS: UFMC UPDATE, DEVELOPMENT OF GUIDELINES, JOB AIDS AND TRAINING PACKAGES**

##### **Achievements and Limitations**

Capitalizing on Armenia Social Transition Program (ASTP) success, PHCR focused on improving the capacity of educational institutions to offer practical, quality training and to strengthen and expand in-service training opportunities for all PHC providers. The Project upgraded the infrastructure of training institutions (Yerevan based: two FM, three FN and four regional nurse training institutions and 91 clinical preceptor sites). The upgrade included furnishing, equipping and providing up-to-date medical literature and TOT courses for core faculty staff. Over life of the Project FM/FN faculty participated in a series of ongoing TOTs and workshops on FM/FN relevant topics (see Table on PHCR trainings in Appendix H).

A needs assessment-conducted in the beginning of the Project revealed that despite substantial progress in FM education, it still lacked standardized *training* packages and no quality control existed for the clinical content of the teaching materials at neither the YSMU nor the NIH. Throughout 2005-2009, PHCR developed five clinical training packages as CME modules and two non-clinical packages/guidelines all of which were incorporated into the UFMC training (see text box). PHCR assured the clinical content and applicability of its training packages to the FM tasks through use of “Learning for Performance” (LFP) methodology. LFP is a systematic instructional design process that connects learning to specific job responsibilities and competencies.

##### **PHCR developed training packages:**

1. Cardiovascular Diseases Course for FP
2. Management of Common Childhood Illnesses
3. Tuberculosis Management in PHC
4. Urinary Tract Infections Course for FP
5. Skin Diseases Course for FP
6. QoC curriculum
7. Guidelines on how to establish FM Independent Practice

Under contract from PHCR, YSMU developed the training packages through working groups consisting of experts with knowledge in the selected topics, clinical teaching, and research and curriculum development experience. PHCR facilitated the entire training package development process to ensure that the final package meets PHCR structure and content requirements<sup>13</sup>. After finalizing the training package, PHCR, jointly with the working group, conducted five- to eight-day TOT courses for NIH and YSMU FM faculty staff, as well as for FM clinical preceptors, to provide them with the skills necessary to use the training package effectively in the UFMC training process.

The packages on Most Common Childhood Illnesses (MCCI) and cardiovascular disease (CVD) also included 10 Job-Aids (Clinical Algorithm/Quick Reference Guides) on 10 most common (three adult, seven pediatric) PHC diseases (see the list of Job Aids in QA section).

The Job Aid, if followed, will ensure application of valid treatment to every patient and will protect the providers by presenting approved schemes of action for a specific disease. PHCR also supported the MOH in publishing the Job Aids and distributing them to PHC physicians of all marzes (in total 1,644 copies of Adult Job Aids, and 1,280 copies of MCCI Job Aids). Job Aids implementation in PHC facilities within the PHCR QA activities is currently stipulated by the ministerial decree 1661 A,

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<sup>13</sup> For training package quality requirements see PHCR report on “Strengthening FM/FN CME in Armenia” December 2009

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12.18.08 and the pediatric job-aids were approved for the nationwide use by decree 1841A from 12.12.08.

### Lessons Learned and Recommendations<sup>14</sup>

A system of quality CME is a cornerstone of continuing professional development and is key to the delivery of quality medical care. First and foremost, in order to ensure a sustainable CME system, all of the major stakeholders must come together to discuss and come to a consensus on the following:

- New regulations need to establish a Unified Credit System as well as sound control mechanisms over the process of CME.
- Development and implementation of a providers' licensing system
- Training quality control: agreement on a unified process for developing guidelines, clinical protocols and training packages
- Increase the role of professional medical associations in CME crediting and training course approval. The organization responsible for awarding credits should be independent, highly professional and have no commercial interests.
- Create mechanisms to add new professional development activities, particularly for counting performance improvement information and online course completion credits. Online trainings are becoming more and more common as they contain up-to-date information and save time for the user.
- Funding: allocate national funding to assure a quality CME system, which is essential for proper patient care. The contribution of external funding will be important in this area until sound CME regulations are established.

#### 2.4.3 PHC PROVIDER TRAINING

##### Achievements and Limitations

The PHCR FM team conducted various trainings for PHC providers to update their knowledge and skills. These trainings included:

- **TOTs:** In addition to the TOTs for FM/FN faculties and clinical preceptors, the Project team also organized short trainings for over 500 physicians on various FM relevant topics, including clinical EBM seminars on maternal and child health, Chronic Diseases Management and QA for over 500 PHC physicians.
- **Training on Job Aids:** PHCR also supported PHC physician training in the use of Job Aids at 139 larger PHC facilities within the QoC component (see QoC section); and for staff at 53 major polyclinics'.
- **FAP nurse training:** As in other former Soviet Union countries the health post nurses in Armenia were increasingly neglected over time. None of the PHC nurses being trained in FN under the World Bank-supported efforts are based in health posts. One of the reasons World Bank was unable to include FAP (rural health post) nurses in their trainings was that these nurses, who often worked far in the countryside, were unwilling to go to Yerevan for training. Therefore, PHCR FAP nurse training was carried out in the marzes with a schedule tailored to allow the nurses to maintain their work in the community.

Through collaboration with the WHO and the Jinishyan Memorial Foundation, the Project developed the UFN curriculum. After MOH approval and MOE endorsement, it became the official curriculum to train PHC nurses nationwide. The curriculum covers all areas of a PHC nurses' competencies in

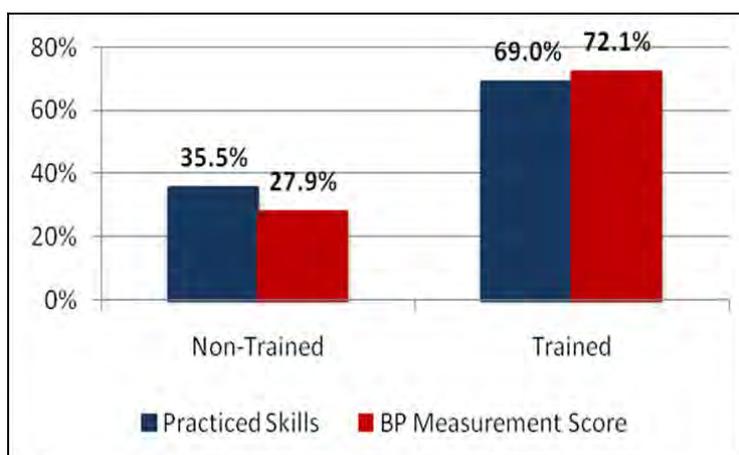
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<sup>14</sup> See detailed recommendation on CME in PHCR reports on "Strengthening FM/FN CME in Armenia" December 2009 and "Recommendations for Institutionalization of Selected PHCR Activities Into GoA/MOH", January 2009

dealing with acute and chronic disorders, including reproductive health, family planning, tuberculosis and emergency care.

Throughout the trainings PHCR monitored changes in nurses' knowledge using pre-and-post knowledge evaluation questionnaires. The overall performance of nurses was also measured through direct observations conducted during baseline and end-line evaluations. Overall, the results of knowledge and skills assessment showed a dramatic increase. Figure 10 compares performance of trained nurses in Zone 1 versus non-trained nurses in Zones 1-3.

**Figure 10: Performance of nurses in target facilities**



Upon successful completion of the training, trainees received the official qualification as a Family Nurse/Community Nurse, signed by the NIH and recognized nationwide. As a result of trainings:

- FAP nurses demonstrate their functional and financial value to PHC
- Expanded and improved scope of practice and increased credibility of the nursing profession.

From 2006 - 2010 PHCR supported the trainings for 500 PHC nurses from all 10 marzes. A telling example of the positive impact of the physician and nurse training can be found in the Success Stories in Appendix G —“Improving Rural Healthcare Services” and —“PHCR Training Saves a Newborn’s Life”.

The PHCR FM/FN training resources were transferred to the MOH website. For most of the training courses the trainees were awarded with certificates, signed/co-signed by the MOH, NIH and YSMU (see Appendix H).

Project FM/FN training achievements were also presented at three international conferences where results and benefits of trained providers' expanded scope of practice and increased functional and financial value to PHC were articulated:

- —“Community Nurses in Armenia: A New Cadre of Providers”, 30<sup>th</sup> Annual International Association for Human Caring (IAHC) Conference, Chapel Hill, NC, USA. April 6-9, 2008
- —“Community Nurses in Armenia: Task Shifting for a New Cadre of Nurses”, 136<sup>th</sup> -Annual Meeting of the American Public Health Association, San Diego, California, October 25-27, 2008<sup>15</sup>.
- —“Retaining of Family Physicians in Armenia Addresses the PHC Practice Needs”, 12<sup>th</sup> World Congress on Public Health, Istanbul, Turkey: April 27-May 01, 2009<sup>15</sup>.

Despite the success of the nationwide nurse training the Project found the following limitations to be considered later both by MOH and other donors for assuring the sustainability of FAP nurse training as well as for sustainability of their expanded SOW:

<sup>15</sup> Conference fees and travel costs were paid by IntraHealth International from non-project funds

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After completing the CN training, some of the nurses cannot apply newly obtained skills (such as hemoglobinometry, peakflowmetry etc.) in their health posts due to either lack of relevant equipment or lack of regulations for FAPs/CN – although all trained nurses in PHCR target facilities received the standard set of equipment. PHCR believes that GIS data (including information on FAP infrastructure status) handed over to the MOH will assist MOH and other donors to identify the target FAPs for infrastructure upgrade.

The current job description, adopted by MOH in 2005, refers to the new Armenian Law on Health, which is still pending. Therefore the formal registration of the CN job description is also pending.

### **Lessons Learned and Recommendations**

The CN Job Description needs to be registered at the Ministry of Justice to become a normative document. The MOH should also address FAPs' needs for equipment and supply. Unless these actions are taken, the CNs will not be able to fully perform newly obtained skills.

A system of quality CME for both physicians and nurses needs to be strengthened, including development of a database on CME courses that health professionals' have completed; this can also be linked to licensing and accreditation procedures. As an option, free Open Source software is available, like the USAID-funded Capacity Project's iHRIS Qualify. iHRIS Qualify captures and aggregates data on a complete cadre of health workers. The database collects information about health professionals from the time they enter pre-service training through registration, licensure and CME. It was designed in modules so it can be customized to local needs and infrastructure using only the needed module or modules.

PHCR believes that external support is needed for supporting the development of CME system, including an information database. In the meantime the MOH and the training institutions can capitalize on PHCR developed training resources for assuring sustainability of quality CME training for PHC providers.

## **2.5 Public Health Education**

The Public Education (PE) team of PHCR designed and implemented mutually reinforcing public health education (PHE) activities that increased utilization of PHC services and promoted healthy lifestyles among the Armenian population in coordination with the Ministry of Health and with input from local health sector stakeholders. PHE included a nationwide public education campaign to increase PHC reform awareness, as well as community health education to reduce morbidity and mortality related to selected non-communicable and communicable diseases. The PE team worked closely with and trained MOH counterparts to increase their capacity to implement PHE campaigns after the conclusion of PHCR.

### **2.5.1 NATIONWIDE PUBLIC HEALTH EDUCATION CAMPAIGN**

#### **Achievements and Limitations**

Intensive open enrollment promotional activities conducted by PHCR contributed to the increased demand from the Armenian residents for information on PHC services. The MOH consumer information hotline had to increase its working hours from 8 hour per day to 24 hours in order to meet caller demand. The actual use of PHC services, including private and dental, increased by 41% from 2005 – 2009, which can also be attributed to the effect of public health education campaign of PHCR.

Nationwide public health education activities included: research, design, production and dissemination of printed collateral, media outreach, earned (free) media, design and production of video and audio materials, a mobile phone text messaging campaign, and paid media.

- **Research:** Quantitative and qualitative research was employed to design and execute PHE activities. The PE team conducted focus groups and in-depth interviews to ensure key messages were effective and informational materials (printed and video/audio) were understood and

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resonated with target audiences. KAP surveys comparing communities where PHCR had worked to communities where PHCR had not worked were conducted in Lori, Shirak, Gegharkunik, Tavush, and Kotayk marzes in order to gauge the effectiveness of PHCR Community Mobilization program (see Section 2.5.2 below).

- **Printed Collateral Material Dissemination:** High literacy and education rates permitted a significant print dissemination effort. The PE Team worked closely with the MOH to design posters, leaflets and booklets on OE and the BBP and free of charge pharmaceuticals available to the general and vulnerable populations. Materials were distributed via the MOH and directly by PHCR staff to every polyclinic, ambulatory, health center, and health post in Armenia. BBP and OE posters were also hung on public transportation (buses, metro) and other public locations, such as post offices.
- **Media Outreach:** Media outreach was multi-faceted, employing journalist training, press events, and briefings with media outlet staff and leadership. Over 122 journalists from all 10 of Armenia's marzes were trained on the specifics of PHC reform as well as the concepts of behavior change and selected public health topics (see textbox below). Trainings improved journalist understanding of PHC reform and public health topics, and increased the accuracy and quantity of health sector related television, radio, and print reporting. Press events highlighted the impact of MOH-led PHC reforms, such as in-service training for community nurses, where journalists were given access to community nurse training sessions and interviewed nurse trainers and trainees. Media outlet leadership and editorial staff were briefed directly on health sector reform and PHE topics to keep PHC reform at the forefront of newsroom dialogue. Consistently engaging journalists in PHE activities resulted in more news coverage and feature stories related to the PHE campaign, contributing to the "free media" described below.
- **Earned (Free) Media:** The PE Team relied on media outreach described above as a means of achieving earned, or free, media. In addition to news, feature stories, and appearances by PHC experts on talk shows (resulting from media outreach), PHCR aired PSAs and other programming for free on public television by using broadcast time purchased by the MOH as part of its annual budget. Occasionally, private television and radio stations aired PSAs for free. Examples of free media used by PHCR include: H1TV (PSA broadcasted nationwide every day during two week period); H2TV (OE covered in two different feature/topic programs, each program repeated at least twice); AR TV (OE covered in one program, repeated at least two times); TV5 and Armenia TV broadcasted PSAs, OE video tutorial and interview on OE with OE expert Gayane Gharagebakyan (TV5 repeated program 4 times and Armenia TV twice); Yerkir Media TV (OE covered in one program repeated twice and broadcasted OE video tutorial twice); Armenakop TV (PSA broadcasted 31 times and video tutorial 31 times); National Radio (OE announcement broadcasted seven times per day during two week period and OE covered in popular radio program); Yerevan Radio (OE covered in program); Sur Ankyun Radio (OE covered in program). Some PHCR budget was allocated to purchase broadcasting time during the launch and ramp up of OE.

The PE Team also facilitated a MOH - Yerevan Municipality partnership resulting in OE posters placed on buses as well as free airing of the OE instructional video and PSAs on electronic advertising boards in Metro stations across Yerevan.

- **Video and Audio Materials Production:** The PE Team produced dramatic and animated public service announcements about OE. Key messages focused on patient's rights to choose primary care physicians (a new concept in Armenia) and personal responsibility and empowerment through enrollment. An animated tutorial on OE was produced to provide more information on the specifics of enrollment. Audio versions of the PSAs were produced for radio broadcast.
- **Text Messaging Campaign:** The PE Team spearheaded a private-public partnership with mobile phone provider VivaCell to distribute messages on OE to its over one million subscribers multiple times during the launch and ramp-up period of OE in August and October 2007.

- **Paid Media:** A limited amount of broadcast time (1,350 minutes) was purchased from radio stations to increase information dissemination about OE during the launch and rollout periods.

### Lessons Learned and Recommendations

Building long-term working relationships with journalists through the design and delivery of trainings, press events, and workshops proved to be a low-cost, effective way for journalists to increase their understanding and interest in PHC reform and public health issues and to report more accurately about them. More frequent and consistent PHE topic-specific seminars for marz based journalists would extend the reach and penetration of regional media outreach activities. Marz-based journalists are more likely to attend a journalist seminar or press event, like community nurse training, rather than a Yerevan-based journalist. Regional media outlets also proved more likely to air PSAs and informational programming free of charge. A more significant media monitoring effort would enable future PHC reform programs to systematically track the impact of media outreach activities, how key messages are being reported in the press, and how health promotion activities are covered, particularly in the regions.

Yerevan media should be given more access to MOH senior staff for in-depth conversations and Q&A, as a means of developing a cadre of journalists who cover health and PHC reform.

The text messaging campaign was perceived as both innovative and effective for reaching both urban and rural target audiences by the MOH. Future PHE programming should incorporate partnerships like MOH-VivaCell to leverage private sector resources for disseminating public health information.

## 2.5.2 COMMUNITY MOBILIZATION FOR HEALTH PROMOTION AND DISEASE PREVENTION

### Achievements and Limitations

Community mobilization for health promotion and disease prevention (CM) was successfully tested in 21 communities in Lori and Shirak marzes and then applied in 136 rural communities in the remaining marzes. 161 Community Health Committees (CHC) were formed and more than 75 representatives of 24 Armenian NGOs successfully completed the two-phase Training of Trainers (TOT) program described below. This led to more than 1,570 CHC members actively sharing knowledge gained through the trainings with their respective community members. As evidenced in the Knowledge, Attitude and Practices survey, the TOT community health education approach resulted in comparatively higher knowledge levels about specific public health topics in PHCR communities when compared to non-PHCR communities.

The CM program mobilized rural residents to identify and address priority health issues affecting their communities. Public meetings were held to solicit interest and election of volunteers to CHCs, comprised of residents such as teachers, representatives from village councils and other local opinion leaders. Many Community Nurses who served on CHCs utilized the community outreach training they received as part of the 6.5 month Family/Community Nurse training course.

Behavior Change Communication (BCC) training approaches such as interactive games and role plays were used to increase motivation and knowledge utilization. —Take ownership of your health” was the key campaign message and served to mobilize rural residents to espouse preventive health and healthy lifestyles through these BCC approaches. BCC was buttressed by informational materials dissemination and media outreach described above.

#### Capacity Building (Stage One):

- The Role of CHC in Community Development Process
- Adult Learning Strategies
- Participatory Methods
- Interactive Teaching
- Cooperative Teaching, Team Building
- Conflict management
- Behavior Change Communication
- Project Design and Management
- Advocacy

CM was implemented through an NGO TOT program funded by PHCR’s small grants facility, which was co-managed by the PE Team and the PHCR grants manager. Over the 5-year period, 71 small grants totaling 101,004,146 AMD were distributed to 24 NGOs across Armenia. PHCR selected NGOs through competitive bidding, who then received two stages of training: Capacity Building and Preventive Health (see text boxes on this and previous page). Subject matter for these trainings was taken from existing educational materials and adapted for the Armenian context by the PE Team together with the MOH and health sector stakeholders. All training materials were tested before being utilized. NGOs then trained CHCs in each of these modules and worked with CHCs to identify the most effective way to increase awareness of preventive health topics in their communities. CHCs used interpersonal communications, such as individual health talks in the home or workplace, at schools, and at the local health post, to disseminate information.

**Preventive Health Topics (Stage Two):**

- PHC Services (OE, BBP)
- Child Nutrition and Hygiene
- Childhood injury prevention
- Child Immunization
- Breastfeeding
- Safe Sex behavior
- Hypertension prevention and management
- Diabetes prevention
- Calcium and Healthy Bones
- Tuberculosis
- Anti-tobacco

Follow up observation visits by NGOs to the target communities in Lori, Shirak, Gegharkunik, Kotayk, Tavush, Ararat, Armavir and Aragatsotn marzes six month after completion of the two-phase trainings showed that the CHCs effectively share public health information obtained through trainings. Additionally, a Knowledge, Attitude and Practice (KAP) survey was fielded to gauge the impact of the TOT approach to community health education.

The KAP survey provided useful information such as:

- Residents in PHCR communities had higher knowledge levels than residents in non-PHCR communities about diabetes prevention and management, reproductive health, and child care
- Residents in PHCR communities had comparatively higher knowledge about osteoporosis, hypertension, and TB, although total knowledge levels about these chronic diseases were low (indicating the need for health education activities to focus on these topics, in particular)
- Younger respondents demonstrated more favorable knowledge and attitude scores compared to older ones, suggesting the need to target older population

More specifically, the overall KAP score and the total knowledge score were higher in PHCR communities when compared to non-PHCR communities in Lori and Shirak marzes. A significant difference was also revealed in the total attitude score in PHCR versus non-PHCR communities in of Gegharkunik, Kotayk and Tavush marzes. Intervention respondents in all surveys demonstrated higher knowledge in the following topics addressed by the projects’ PE activities: child care, reproductive health, and prevention of STDs. The lowest scores were observed for chronic diseases, such as osteoporosis, diabetes, and hypertension (Note: post intervention evaluations were conducted only in Lori, Shirak, Gegharkunik, Kotayk, and Tavush).

The data in Table 4 shows the knowledge, attitude, and practice scores in target and non-target communities of Zone 1 (Lori and Shirak) and Zone 2 (Gagharkunik, Kotayk, and Tavush) marzes.

**Table 4: KAP Scores (%) of Health Education in Lori and Shirak marzes**

Marzes	Lori and Shirak		Gegharkunik, Kotayk, Tavush	
	PHCR Community	Non-PHCR Community	PHCR Community	Non-PHCR Community
Knowledge	51.8*	46.8*	47.9	45.3
Attitude	63.9	60.4	62.9*	58.2*
Practice	64.4	65.4	67.1	70.2
<b>Overall</b>	<b>57.0*</b>	<b>53.8*</b>	<b>54.5</b>	<b>52.6</b>

\* The differences are statistically significant,  $p \leq 0.05$ [1]

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## **Lessons Learned and Recommendations**

PHCR's experience confirmed that resource constraints present the biggest challenge to NGOs. Once PHCR exited a marz, lack of access to grant funding was limiting an NGO's ability to further work with CHCs. This may decrease the levels of participation and interest in PHE that is currently present in villages. However, since PHCR trained all participating NGOs in advocacy and project design, this allowed some of them, such as Ajakits NGO, to successfully source other grant funding to continue working in their communities. Thus, this capacity building approach can be recommended for future uses.

Another lesson of PHCR is that follow-on surveys are necessary to capture attitudinal and behavior change, since PHCR had been working in the communities for only one year when the survey was completed.

Future community-level PHE programming should incorporate use of BCC approaches to increase motivation and knowledge utilization—especially by rural populations. Youth participation should be a distinct component of community health education efforts. Youth should have the opportunity to form their own decision making bodies and work with adult counterparts to design and execute small scale projects that raise the profile of healthy lifestyle and empower them as members of the community.

Both the KAP survey and direct feedback from residents in PHCR communities indicates strong demand from rural audiences for more —health-related” information (in addition to what was provided by PHCR and other donors). A more extensive rural households (perhaps administered by community nurses) survey should be conducted to identify what specific health information is being sought and how it can be provided.

### **2.5.3 ENHANCED MOH CAPACITY TO CARRY OUT PHE ACTIVITIES BEYOND LIFE OF PROJECT**

#### **Achievements and Limitations**

PHCR's nationwide and community level public health education approaches were cited in the 2008 - 2013 MOH PHC strategy document as approaches that should be continued by the MOH. However, 2009 budget cuts severely curtailed PHE institutionalization activities. Currently the GoA health budget has no dedicated budget for PHE, with the exception of MOH-financed TV programs to increase awareness of MOH policy issues. However, the MOH included PHE topics in this programming - a direct result of PHCR-MOH capacity building efforts, which included: training on developing PE materials such as the BBP and free-of-charge pharmaceutical posters and booklets, as well as health leaflets on topics such as tuberculosis, diabetes, and hypertension. MOH staff and TV presenters received 'on-camera' training, and the PE Team worked closely with MOH counterparts to produce PSAs and MOH PHE TV programming.

Currently, there are two units in the MOH that address certain aspects of PHE: the PR division, and Communicable and Non-Communicable Diseases Department of Sanitary and Epidemiological Inspection (Sanepid). Neither department is currently charged with, or capable of handling, the range of technical, logistic, and administrative challenges associated with a comprehensive PHE program.

A PHE institutionalization study was completed and two options presented to the Minister:

- a) Adding new functions to the existing MOH structure (short-term option)
- b) Establishing a new unit within MOH structure (long-term option).

Under option “a”, the MOH could assign new functions to existing staff to provide policy, regulatory, and technical oversight for health education programs, along with administrative support. Both technical work (development of training manuals, providing TOT trainings, etc.) and delivery of trainings for CHC's would be outsourced to NGOs. In option “b”, a new unit, such as a —Center for Health Promotion,” would be established as a small separate entity, and training delivery would still be outsourced to local NGO's. Estimated staffing needs are: four technical (professional) staff members and three administrative/logistical staff, including Director/Team leader, health education

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specialist, community mobilization specialist, logistical support specialist, administrative assistant, accountant, and driver. Certain positions from existing structures (Sanepid, etc.) might be transferred to the newly created Center.

### **Lessons Learned and Recommendations**

As seen in retrospect, initiating the dialogue about institutionalization of PHE activities within the MOH should have been part of PHCR's Year 1 objectives, followed by a strategy to achieve a specific stage of institutionalization by project's end. While building capacity of MOH was a priority from the project launch, the concept and plan for institutionalizing PHE at the MOH was not formerly added until the project's Year 3.

As a modified short-term option it is recommended to utilize Sanepid and their existing nationwide structure for extension of the two-stage training programs for CHCs to other communities, not covered by PHCR.

Since the MOH was not able to take steps for PHE institutionalization proposed by PHCR, the PE team continued to explore options for extension of the two-stage training programs for CHCs in communities not covered by PHCR. As a result of meetings with representatives of Sanepid and two roundtables with PHE and CM counterparts, it became clear that another transition period with donor support will be needed, to capture the momentum of CM activities. As a result of the second roundtable discussions with CM and PE counterparts, recommendations were identified for further institutionalization of PHE activities.

Four options were shortlisted:

1. Institutionalization of PHE within the Sanepid structure,
2. Creating new division at the MOH,
3. Establishing a new state non-commercial organization,<sup>16</sup>
4. Establishing a foundation.<sup>17</sup>

The Sanepid option was not recommended by the participants considering the inspectorate function of this organization. Participants expressed concern about conflict of interests between inspectional and educational activities. The option of opening a new division at the MOH was also not recommended by participants. The reason behind it was that the main purpose of the MOH is health policy development rather than implementation. The participants recommended consideration of either a new state non-commercial organization or a new Foundation as an effective way of institutionalizing a PHE program in Armenia.

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<sup>16</sup> A "state non-commercial organization" is a non-commercial not-for-profit organization with the status of a legal entity which is formed solely for the purpose of operating in cultural, healthcare, social, sports, educational, scientific, nature protection and other non-commercial spheres.

<sup>17</sup> A "foundation" is a non-commercial organization established on the basis of voluntary material contributions of residents and/or legal entities and without membership, with the goal of implementing activities in social, charitable, cultural, educational, scientific, healthcare, nature protection and other non-commercial areas.

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## 3 PROJECT MONITORING AND EVALUATION

### 3.1 Project level M&E

#### Achievements and Limitations

The primary objective of the Monitoring and Evaluation (M&E) component of the project was to provide ongoing monitoring of PHCR activities and evaluate the project's impact. This objective was reached through two coordinated approaches: internal monitoring and impact evaluation.

*Internal monitoring* included the following:

- Developing Performance Management Plan (PMP) indicators that addressed all the major expected outcomes of the Project;
- Monitoring PMP indicators on a quarterly basis through internal data gathering;
- Tracking and reporting project-related data specific to USAID priorities, Operational Plan, and SOW deliverables, as needed.

Appendix A presents the project's PMP, demonstrating the progress made in each indicator against the predetermined targets. Almost all the targets were met and many results well exceeded the set targets. For example, achieved results for the following indicators exceeded the targets almost by factor or more: number of different training courses conducted by PHCR and number of participants of these courses, number of Family Medicine training sites upgraded by PHCR, and number of facilities using PHCR-implemented financial accounting system.

Progress on several indicators was measured on adoption/institutionalization/implementation scales (description of scale levels are given in References and Assumptions Codes in Appendix A). The highest level was not completely achieved for a few scale indicators addressing institutionalization issues. However, these levels were usually related to budget allocation by the Ministry of Health for institutionalizing the given area, which was out of PHCR's direct control. For example, under Result 3.2.1.1 Improved Capacity of Educational Institutions to Prepare PHC Providers, indicator 8 - Unified family nursing curriculum development – PHCR strived to achieve score 5 on the adoption scale (as described in References and Assumptions table in Appendix A): ‘The work on the development of the training packages is housed in BMC and NIH and continues to be financed by the government’. While the first part of the target became a reality through PHCR support, the government commitment to financing remained a challenge. Thus, the project-end score for this indicator is 4.5.

*Impact evaluations* were built on a set of assessments/surveys that measured the project's impact at its target sites and among its beneficiaries. The Table in Appendix C summarizes the main characteristics and objectives for each assessment included in PHCR's impact evaluation plan. The M&E surveys followed the project's regional scale-up approach that expanded the reforms zonally throughout the country and sought to:

- Gather baseline data from the project's target sites/communities, as well as nationally, to build datasets against which the project's impact could be measured;
- Comprehensively measure the impact of the project through comparisons of baseline and follow-up data specific to project activities and level of intervention;
- Provide targeted data and analysis that supported planning and decision-making regarding changes and enhancement to the project's activities;
- Contribute to better general understanding of the PHCR's overall impact and to better planning/designing of such projects in future.

Baseline and follow-up assessments (a pre/post design) were conducted in target facilities and among the target communities for each phase. The PHCR conducted the following zonal assessments:

- *Facility resource assessment* (PHC facility structural indicators)

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- *Facility and provider performance assessments* (PHC facility and provider process indicators)
  - *Client satisfaction survey* (PHC service community outcome indicators).

A countrywide *Household Health Survey* was also planned as a pre/post assessment of the overall impact of PHCR (that is beyond the specifically targeted facilities and their communities), but only the baseline was completed. The pre-assessment captured countrywide data on population-based health outcome measures that included perceived health status, health dynamics, use of early diagnostic and preventive services, accessibility and perceived quality of care, and exposure to/attitude towards reforms implemented in the PHC system with support of PHCR. According to USAID, the decision not to conduct the post assessment was made primarily because of the lack of attribution of the assessment findings to the specific project interventions, and taking into account already available results from the project post-assessment from other marzes that are broadly applicable to all project sites.

Following the mid-term PHCR project evaluation conducted by a USAID-sponsored external evaluation team (fall of 2007), two new assessments, also following the zonal expansion approach, were added to the project's evaluation plan:

- *Performance assessment of nurses* in rural health posts, also known as FAPs (feldsher-accoucher punkt) from their Russian abbreviation (PHC provider process indicators)
- Health knowledge, attitude, and practice (KAP) survey (Community Health Committee outcome indicators)

These new assessments provided more direct measures of the impact of program specific interventions, the former measuring the quality of primary healthcare being delivered in rural areas and the latter the impact of the Community Health Committees organized as part of the PHCR PE activities.

The M&E activities provided the project team and its stakeholders with timely performance feedback that shaped necessary changes to program activities and contributed to the project's documented improvements in almost all indicators. For instance, the facility assessment identified the absence of quality assurance mechanisms in PHC facilities countrywide. This finding led stakeholders to establish such a requirement. Baseline assessments identified training deficits among PHC doctors and nurses, managers and accountants. These findings guided the project team in its training activities. Similarly, the facility assessment identified needed medical equipment that was ultimately provided as part of the project's facility renovation activities. Feedback received from providers and community members contributed to the decision to establish Community Health Committees in all target sites rather than only in select target communities as initially planned.

The Zone 1 and 2 facility-level assessments were comparable to each other and demonstrated considerable and statistically significant improvements in both structure and performance indicators. Findings of the health knowledge, attitude, and practice (KAP) surveys also were comparable across all zones. Although no baseline – follow-up assessments were conducted, the KAP survey design targeting both intervention and comparison communities still allowed assessment of the impact of the project's PE activities. Patient satisfaction surveys documented improvements in the proportion of clients who rated the services received at their PHC facilities as good or excellent. However, the observed high levels of client satisfaction reported at baseline were in conflict with objective assessments of the actual state of primary health care services in Armenia. The likely reason for this finding is that provider-client interactions dominate clients' overall assessments of care in Armenia, particularly in rural areas. Therefore, patient satisfaction assessments may not provide a valid proxy for the broader concept of quality, of which patient satisfaction is thought to be an important component.

The regional scale-up approach allowed for M&E assessment tools and methodology itself to be refined based on experience in prior zones. For example, the facility/provider performance assessment survey was implemented in Zone 1 as a self-administered survey and yielded unrealistically positive data as a result of providers' tendency to exaggerate their colleagues' and their own performance. A

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change to an interviewer-administered format combined with instructing interviewers to verify responses by direct observation, record reviews, and probing questions wherever possible contributed to higher quality (validity and reliability) data being gathered in subsequent surveys. In addition, several changes were made to the instruments: uninformative items were removed and/or replaced with better ones and new items were introduced that reflected changes in project's priority areas.

The main limitation of the M&E activities was cancellation of several assessments in the project's final year. Because of this situation, baseline–follow-up comparisons for household health survey findings that represented the project's main health outcome measures were not possible. The same limitation applies to the surveys introduced after the mid-term evaluation (KAP survey measuring the impact of Community Health Committees and FAP Nursing Performance Assessment survey evaluating the results of trainings on family and community nursing).

### **Lessons Learned and Recommendations**

The PHCR M&E plan was designed to fully assess the project's indicators, as consistent with the project's goals and intervention strategies. The plan envisioned a comprehensive approach of monitoring of these objectives from the perspectives of both the project team (internal monitoring) and project beneficiaries (impact evaluations) including PHC providers (facility-based assessments) and population (community-based assessments and household health survey). Despite the inherent limitations of this plan and subsequent limitations introduced by alterations to the plan and evaluation scheme necessitated by budget reductions and shifting program goals, the program's success, at both statistically and practically significant levels, was largely documented.

Through this adaptation process several important lessons were reinforced or learned anew:

- Changes in instrumentation and methods in a longitudinal project such as this zonal roll-out project must balance the needs of consistency across measures over time with improving and refining approaches to ensure that program and M&E objectives are being met.
- Client perceptions differ from objective measures of quality. Care should be taken when using one as a proxy for the other<sup>18</sup>.
- Evaluations need to be comprehensive, measuring success from the perspective of all beneficiaries and stakeholders, including PHC facility providers and managers, clients, and community members.
- Robust monitoring and evaluation efforts are integral and crucial to assessing project progress for reporting to stakeholders and for reporting lessons learned to practitioners that can ensure that future efforts are more efficient, more effective, and more sustainable.

The M&E team's dynamic and comprehensive assessment approach matched design and sampling rigor to program goals, objectives, and resources. This approach resulted in a valid and effective framework for monitoring and evaluating such complex, multi-year project as PHCR and documenting its success in meeting its objectives.

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<sup>18</sup> See Harutyunyan T, Demirchyan A, Thompson M E, Petrosyan V. "Patient satisfaction with primary care in Armenia: good rating of bad services?" *Health Services Management Research* 2010; 23: 12-17, for a more in-depth exploration of this idea.

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## 4 PROJECT-WIDE LEARNINGS AND IMPLICATIONS

In the previous sections, component-specific learnings and recommendations were identified. This section takes a big picture view, articulates key project-wide learnings and offers some recommendations for consideration.

### 4.1 Health System Reforms

Shifting to an enrollment-based health system and financing model, implementing a nationwide quality assurance program, introducing a pay for performance (P4P) incentive system, and developing and implementing the computerized MIDAS-3 information system in all 366 PHC sites nationwide are each by themselves major systemic reforms, not to mention the wide range of other activities carried out during the life of the project. Six observations are noted from this experience:

- System wide reforms are among the most challenging of interventions, but also have the greatest potential for improving health status indicators along with reducing unit costs due to increased efficiencies.
- We must look to the long term – typically 10 years or more. Reforming systems is not just a technical or logistical issue, such as delivering condoms to a clinic; rather, it is also a political and human personality issue in which power structures change, complex/competing policy decisions need to be made, and associated regulatory mechanisms introduced. In addition, many system wide reforms go beyond just the Ministry of Health. When other branches of government need to be involved, the process is slowed further.
- Time frames of donors are different from time frames of Ministry officials. Typically this is an area where challenges can be particularly significant. Donor projects have annual work plans and quarterly reports and want to see results accordingly. Ministry officials have been in office for years, and will continue to be in such offices. Armenian officials have stated that, for example, open enrollment, quality assurance, and performance based payment will occur even if donors' funds are stopped.
- A delicate balance needs to be found between projects leading the reform effort on the one hand, and, on the other hand, projects supporting Ministry officials as they lead it. It is often easier for a project –just to do it themselves", but this is generally short sighted as the reform content and processes are not institutionalized into the government and ownership is weak.
- Linkages between policy reform and service delivery in the same project brings added value. Most projects tend to focus on one or the other. Having both in the same project generates synergies, with both levels informing each other, leading to better outcomes.
- Introducing one reform initiative by itself may have limited value since its fuller benefit is dependent on other parts of the system also changing. Alternatively stated, introducing one reform creates opportunities to simultaneously introduce related reforms so that synergies are generated. Thus, shifting to an enrollment-based health system model created opportunities to also introduce performance based payment incentives that are linked to improved quality and health outcome indicators, and for tying all these together electronically with MIDAS-3 – the combination which can lead to a more effective and efficient primary health care system.

### 4.2 Institutionalization and Sustainability

Although institutionalization and sustainability were not an part of the original project design, nor included in PMPs and workplans during the first two years of the project, PHCR began placing special emphasis on sustainability and institutionalization of its initiatives in Year 3 of the project, and has had mixed results. Several considerations are offered below for improving the potential for institutionalization and sustainability of activities when the projects end.

- 
1. Be clear on what parts of a project are “development” (activities that can be absorbed and sustained by GoA/MOH) and what parts are “relief” (doing for GoA/MOH what they could/should be doing themselves); institutionalize the development parts.
  2. Build institutionalization into project design/RFPs/RFAs by, for example:
    - Ensuring that the key elements of institutionalization are built into the project’s SOW, work plan and PMP;
    - Assuming GoA/MOH has ownership in the project’s task and process, or to promote MOH ownership/commitment, make the key elements of institutionalization some type of “precondition” for implementing the project;
    - Building into projects, various measures to help ensure systems/guidelines/procedures are developed together with local officials, thus building capacity and generating ownership in the task and process - measures such as embedding relevant project staff into relevant offices in the MOH, and having “hospots” for technical staff in a separate project office that also houses project administrative staff.
  3. Ensure that costs of institutionalized interventions are absorbed by the GoA by, for example, having some type of arrangement whereby increasing shares of the costs are built into GoA budget each year – so that by end of the project, the MOH has absorbed full costs.
  4. Using “appreciative inquiry” approaches, capitalize and build on MOH units that take ownership of a project activity (such as SHA taking ownership of MIDAS-3, OE, enrollment-based financing and P4P) and, through demonstration effects, expand to other GoA/MOH units.
  5. Well designed and timed study tours can be instrumental in persuading government officials to take ownership and institutionalize an activity. Study tours to Estonia and the UK appear to have been instrumental in the MOH institutionalizing OE and P4P respectively. On the other hand, a planned QA study tour to Jordan to observe their QA program was not implemented. One can only speculate whether or not going on this tour would have made a difference in MOH decisions on fully institutionalizing QA.
  6. USG/USAID officials need to be available at strategic times to intervene and advocate with senior GoA/MOH officials on strategic issues.
  7. Ensure that programs/projects are country driven/country led, based on empirically determined needs (such as Burden of Disease indicators), and that there is good coordination with other donors (consider use of SWAPs).
  8. Ensure that GoA/MOH has ownership in both task and process activities of the project from the very beginning.

### 4.3 Health Sector Resources

A final consideration, and perhaps among the more important, is the need for more money in the health sector. Throughout its various chapters, this report noted several key sector-wide health system issues, such as high out-of-pocket spending, high catastrophic spending, corruption and informal payments, low public share of GDP spent on health, non-communicable diseases that account for the largest share of the burden of disease – and some 83 percent of all deaths in Armenia - with tobacco being the primary risk factor, etc. It will be difficult for significant improvements to be made in these areas without more resources being put into the health sector.

Options to increase the size of resources into the health sector include:

- Increasing the share of the GOA budget going into health
- Increasing taxes or tax collections (preferably from the highest income groups)
- Targeted taxes, such as ‘sin’ taxes on tobacco.

- 
- Rationalizing out-of-pocket payments into a transparent copayment system with a cap on out-of-pocket spending
  - Selective private insurance initiatives
  - Creation of a social insurance program for formal sector workers, and integration of social insurance and public funds in a strong state purchasing agency.

Ultimately, the strategy which raises the amount of public funds available for health care in Armenia may have a number of these elements. If the political will exists to increase the proportion of the GDP going to health through public or risk pooled funds, further analysis of the particular options at interest needs to be conducted. Such options can be explored in parallel to reforms designed to improve the productivity and quality of the existing health system. The path to reform taken by other former Soviet republics, for example, Kyrgyzstan may be a useful case to examine.

## APPENDIX A: PERFORMANCE MANAGEMENT PLAN, FIVE-YEAR TARGETS AND RESULTS

USAID Intermediate Results	USAID Sub-Intermediate Results	PHCR Project Objectives	Indicators	Target	Result
<b>Strategic Objective 3.2: Increased utilization of sustainable, high quality primary health care services</b>					
<b>Key indicator: Number of client visits to identified primary health care facilities in program areas (the data on this indicator are reported in a different format - see Facility Assessment Survey data on last page of this Appendix) [1]*</b>					
<b>IR 3.2.1: Strengthened Institutional Capacity to Implement PHC Reform</b>	<b>3.2.1.1 Improved Capacity of Educational Institutions to Prepare PHC Providers</b>	Family Medicine strengthened and expanded	1. # of pre/in-service study resources [2] <sup>19</sup> developed and institutionalized at educational institutions with PHCR assistance [3]	13	17
			2. # of participants who have completed [4] PHCR supported primary health care training activities* [5]	2080	4445
			3. # of nurses graduated from PHCR-supported Family Nursing specialization program*	380	500
			4. # of faculty trained in FM or other PHC fields with PHCR assistance**	64	177
			5. # of FM training sites [6] upgraded with PHCR support	47	91
			6. # of FN departments/branches in regional colleges established with PHCR support (A1)	4	4
			7. # of educational courses provided with PHCR support [7]	170	335
			8. Unified family nursing curriculum development/ adoption scale [8]	5	4.5
	<b>3.2.1.2 Improved PHC Financing Mechanisms and Practice</b>	National health accounts successfully institutionalized	1. National health accounts implementation scale [9]	4	4.5
			Provider payment systems improved	5,6	5,6
<b>3.2.1.3 Improved regulatory environment for PHC service delivery</b>	Improved regulatory mechanisms at the facility level	1. # of PHC policies and procedures introduced with PHCR support [11]	30	30	
		Policies and regulations to	5,6	5	

<sup>19</sup> Codes after an indicator description indicates explanatory reference [ ] or assumption (A). A complete list of references and assumptions is given on p.63.

USAID Intermediate Results	USAID Sub-Intermediate Results	PHCR Project Objectives	Indicators	Target	Result
		support open enrollment implemented			
			3. OE IT system sustainability scale [13] (A4)	4,5	4,5
<b>IR 3.2.2: Improved Service Delivery in Priority Primary Healthcare Disciplines</b>	<b>3.2.2.1 Expanded and Enhanced Services at the PHC Level</b>	Increased practice of FM providers in PHC priority areas	1. # of PHCR-trained healthcare practitioners providing RH/MCH services*	1170	1800
		FMGPs implemented nationwide	2. IFMPs implementation scale [14] [A7]	4,5	5
		Improved capacity of PHC facilities to provide quality services	3. # of PHC facilities renovated by PHCR	164	165
			4. Number of PHC facilities equipped by PHCR	289	300
		The quality of PHC practice improved	5. # of job aids on PHC-sensitive conditions developed	8	10
			6. QA institutionalization scale [15], A5	6,7	6
			7. Infant mortality rate, by target facilities (the data on this indicator are reported in a different format - see Facility Assessment Survey data on last page of this Appendix)	NA	
	<b>3.2.2.2 Improved Management and Administration of Services</b>	Financial management and accountability of PHC facilities enhanced	1. # of facilities using PHCR-implemented financial accounting systems	20	42
		Improved management, supervision, and financial oversight mechanisms at the facility level in place	2. # of facilities using PHCR-developed management systems and/or practices [16]	345	346
			3. # of facilities provided with the resources necessary to conduct OE [17]	345	346
	<b>3.2.2.4 Increased Consumer-Driven Demand for PHC Services in Program Areas</b>	Public acceptance of PHC increased	1. Average number of client visits per month in program areas [1] (the data on this indicator are reported in a different format - see Facility Assessment Survey data last page of this Appendix)		
			2. # of journalists trained in health promotion issues	81	122

USAID Intermediate Results	USAID Sub-Intermediate Results	PHCR Project Objectives	Indicators	Target	Result
			3. # of PE information materials [18] developed	46	50
			4. # of PE programs implemented through PHCR small grants by PHCR	71	71
		Public acceptance of Open Enrollment increased	5. # of patients registered in open enrollment in program areas** (A3)	90.0%	91%
		Increased community involvement in PHC	6. Number of rural communities with PHCR - facilitated community input [19] into primary health care delivery in target areas	130	161
			7. Percent of clients satisfied by services at the facilities in program areas (the data on this indicator are reported in a different format - see Facility Assessment Survey data on last page of this Appendix) [20]		
			8. PE activities' sustainability scale [21], A6	3,4	4

\*Starting from 2008, the count is based on the total number of person-trainings

\*\*Percent of population registered in cleaned electronic database (calculated using 2001 census data on actual population: 3,002,594).

### Facility Assessment Survey Data

Indicator	Zone 1 (Lori, Shirak)	Zone 2 (Tavush, Kotayk, Gegharkunik)	Zone 3 - 1 (Armavir, Ararat, Aragatsotn)
<b>Key Indicator: Number of client visits to identified primary health care facilities in program areas</b>			
Baseline	282,959 (adults - 187,885; children - 95,074) (2005)	210,007 (adults - 114,068; children - 95,939) (2006)	155,141 (adults - 90,801; children - 64,340) (2007)
Follow-up	286,898 (adults - 191,282; children - 95,616) (2007)	228,807 (adults - 133,180; children - 95,627) (2008)	203,871 (adults - 128,469; children - 75,402) (2009)
<b>Indicator 3.2.2.4.1 Average number of client visits per month in program areas</b>			
Baseline	23,580 (adults - 15,657; children - 7,923) (2005)	17,501 (adults - 9,506; children - 7,995) (2006)	12,928 (adults - 7,567; children - 5,361) (2007)
Follow-up	23,908 (adults - 15,940; children - 7,968) (2007)	19,067 (adults - 11,098; children - 7,969) (2008)	16,989 (adults - 10,706; children - 6,283) (2009)
<b>Indicator 3.2.2.4.7 Percent of clients satisfied by services at the facilities in program areas</b>			
Baseline	77.1% (2006)	71.5% (2007)	71.5% (2008)
Follow-up	84.8% (2008)	83.6% (2009)	89.2% (2010)
<b>Indicator 3.2.2.1.9 Infant mortality rate, by target facilities*</b>			
Baseline	17.7 per 1000 live births (2005)	13.3 per 1000 live births (2006)	5.5 per 1000 live births (2007)
Follow-up	7.3 per 1000 live births (2007)	10.8 per 1000 live births (2008)	6.3 per 1000 live births (2009)

\* Data for this indicator are official statistics of MOH. This indicator was included in the surveys with acknowledgement that the quality of PHC services is one of many factors affecting infant mortality rates.

## References and Assumptions Codes

References	
1	Any visit to a healthcare facility that results in documentation of the visit, disaggregated by facility type.
2	Study resources - any curriculum, course, or course content developed and used by educational institutions. Training courses may include: training of trainers (TOT) courses for faculties and clinical preceptors organized on "Clinical teaching skills", "Advanced teaching skills as the second stage", etc.
3	PHCR-assistance - includes direct funding/development and use of curricula or training materials developed with PHCR expertise/consulting.
4	Completed – attendance of lectures, workshops, trainings, etc for a particular topic resulting in acquisition of readily applicable new skill, a certificate, diploma/degree and/or certification; must be verifiable via signup sheets, instructor evaluations or other reliable means.
5	Primary healthcare training – any training, lecture, workshop, etc. that is designed to improve the provision of primary healthcare clinical and/or managerial services.
6	A training site is a PHC or educational facility, used as a base for practical training of PHC providers in FM retraining, CME training, or managerial training. Usually one preceptor working at a clinical training site and clinical preceptors form the main staff of a clinical training center.
7	Total number of courses/workshops provided in PHC areas, including trainings in clinical care, management, financing, and QoC
8	<ol style="list-style-type: none"> <li>1. UFNC module(s) finalized</li> <li>2. Curriculum approved by MOH and MOE</li> <li>3. TOT on UFNC for FN faculty conducted</li> <li>4. UFNC modules/training packages developed and incorporated into FN program</li> <li>5. The work on the development of the training packages is housed in BMC and NIH and continues to be financed by the government)</li> </ol>
9	<ol style="list-style-type: none"> <li>1. Active working group established under the leadership of SHA</li> <li>2. 1st NHA ('04) completed</li> <li>3. 2nd NHA completed</li> <li>4. Capacity built for the subsequent NHAs development and use for policy making</li> <li>5. Permanent staff for NHA development identified and corresponding office and resources allocated for their work</li> </ol>
10	<ol style="list-style-type: none"> <li>1. Study of the current contracting mechanisms between SHA and PHC facilities, including performance based financing at ASTP sites</li> <li>2. Analysis of the study results and development of recommendations jointly with SHA</li> <li>3. Development of the package of elements of performance-based payment improvement mechanisms (including targets, reporting forms, and indicators' evaluation guideline, and the financial resources needed)</li> <li>4. Decree on the Performance-based system introduction is issued (including responsible office/persons identified)</li> <li>5. Capacity building at MOH/SHA and facility levels for the operation of Performance-based reimbursement system</li> <li>6. Monitoring and Evaluation of the results of the implementation of the package and making adjustments as appropriate</li> </ol>
11	Policies and procedures can range from clinical practice (i.e. Infection Prevention Protocols, Clinical Guidelines, etc.) to management/operation (i.e. supervision, financial management, etc.).
12	<ol style="list-style-type: none"> <li>1. OE policy updated, GoA decree draft refined, submitted to GoA and approved; Ministerial by-laws and marzpet resolutions on OE approved and OE coordination group is established at MOH</li> <li>2. Trainings and information campaign on OE regulations and requirements conducted for health care providers and population</li> <li>3. Regulations are adopted and applied in the OE introduction</li> <li>4. OE system operational (including budgeting mechanisms, OE IT, human resources, and population awareness) and managed by relevant national and regional governing agencies and PHC facilities</li> <li>5. OE policies and procedures refined on an ongoing basis</li> <li>6. Guidelines are developed for continuous improvement of provider selection mechanisms of OE</li> </ol>

13	1. The maintenance/further refinement strategy for OE IT system developed. The strategy approved by MOH and regional governors 3. IT positions in NIH, MOH and marz health departments established 4. Capacity building of IT personnel at marz health departments and OE national level database home carried out (training, delivery of manuals, monitoring their work) to maintain/further develop IT system. 5. Resources for OE IT system operations identified
14	1. Legislative basis for IFMP developed 2. Models of autonomous IFMPs developed 3. IFMP demand survey conducted among family doctors 4. Necessary amendments to normative-legal framework of IFMPs made 5. Potential IFMPs identified and capacity built 6. Autonomous IFMPs established and operating.
15	1. PHC QA strategy package developed 2. The strategy approved by GoA (decree on QA strategy issued) 3. The establishment of quality improvement board advocated and supported, or counterparts are identified in MOH who will be responsible for QA system operation 4. QA tools and procedures approved by MOH 5. Capacity built at MOH, Marz health departments, and facility level to maintain QA system 6. QA system implementation started in larger PHC facilities throughout all marzes. 7. As part of the implementation of the QA strategy, financing will be provided to QA efforts from MOH budget
16	Implementation of such tools as a strategic planning management guide, quality improvement systems, personnel policies, etc.
17	Resources include: 1) computer hardware/software, 2) trained personnel, 3) managerial procedures
18	Materials include leaflets, brochures, posters, TV and radio spots, etc.
19	# of communities with CHCs (community health committees) working with PHCR input
20	Measured via surveys, interviews or other reliable means
21	1. Public Health Education (PHE) strategy package developed and advocated 2. The strategy package (including PHE tools, guidelines, procedures, and implementation mechanisms) approved by MOH 3. The establishment of the public health education office advocated and supported, or persons are identified in MOH who will be responsible for PHE 4. Capacity built at the corresponding office/people at MOH to conduct PHE activities 5. Financing is allocated for PHE strategy implementation
22	For 2007, the activities are planned to support establishment of PHC performance monitoring system as a preparatory stage for performance based financing system
<b>Assumptions</b>	
A1	MOH adopts the strategy of establishing FN chairs at regional nursing colleges.
A2	If MOH approves the implementation of the performance-based package in 2009 based on the statistics of the previous year
A3	Depends on OE introduction date: set by the GoA.
A4	OE IT maintenance strategy approved by the MOH and OE IT regulation including the establishment of IT positions in marz health departments is issued by the GoA
A5	GoA approves the QA strategy without essential revisions that would change the implementation plan
A6	GoA approves the strategy and allocates finances and staff for PE activities
A7	If reasonable demand among GPs is identified

## APPENDIX B: OUTCOMES AND ACHIEVEMENTS BY PROJECT AREA

### Appendix B1: Expansion of PHC and Open Enrollment

Expected outcomes	Achievements
<b>Healthcare Facility Improvements</b>	
1. 150 – 165 facilities renovated and/or equipped for medical purposes giving priority to rural settings	174 PHC sites were renovated and/or equipped
2. Community contributions fostered to increase sense of ownership and sustain interventions.	Total cost of renovations was 458,990,597 AMD (or 783,244 estimated USD). Communities contributed in the renovation works: - direct contributions - 31,147,600AMD( 6.8% of total renovation costs), - indirect contribution including new space allocation or other in kind contribution was 158,038,200 (34.4% of total cost).
3. Budget for rural clinics' maintenance secured for at least 40% of FAPs renovated.	- 97% from 59 sampled facilities from Zone 1 and Zone 2 have allocated budget for electricity, and 63% have medical and other supplies needed for their work; most HPs don't have running water,
<b>Healthcare Services</b>	
1. PHC service utilization increased by at least 25% in comparison to 2005 historical data along with increased client satisfaction.	- Per MOH 2005 data the number of outpatient polyclinic-ambulatory visits was 7,731,000; in 2009, 10,926,800 visits are recorded – an increase of 41.3% - Client satisfaction increased from 77.1% - 84.8% in Lori and Shirak marzes (Zone 1) and from 71.5% - 83.6% in Tavush, Kotayk and Gegharkunik marzes (Zone 2).
2. Increased access to services that have a more client-oriented approach with improved quality of care.	- All populations are equally eligible for free of charge PHC services - Introduction of enrollment system making the PHC services more client-oriented, ensuring the clients' right to make a choice of their PHC providers - All the activities directed to improve the quality of PHC services - All the activities directed to improve physical conditions of PHC facilities including renovation, provision of furniture and medical equipment - Public health education activities in target communities and countrywide that contributed to increased access to critical information on health and access to PCH services.
<b>Dissemination of Information</b>	
1. Knowledge resource hubs utilized for dissemination of key PHCR documents.	- all relevant PHCR documents placed on USAID DEC website and transferred to MOH for placing on MOH website
2. PHCR GIS developed.	- GIS on community/facility level activities developed and shared with MOH, marzpetarans and other partners.
3. Printed materials available to PHC facilities and stakeholders.	- large quantities of printed materials prepared and distributed; for details, see titles under each component and M&E section of this Annex
<b>Policy and legal environment</b>	
1. Assistance provided for supportive policy and regulatory environment for implementation of reforms.	- GoA Decree "On approval of a strategy of 2008-2013 years of PHC service to the Armenia population and program of interventions for implementation" approved by GoA on 19 June, 2008 by the Protocol Decision. - (other, component specific, assistance identified under each component)
2. Amendments to the OE GoA Decree developed and adopted by the GoA, OE policies in place and OE concept adopted.	GoA Decree was developed and issued on 30 <sup>th</sup> March 2006. Consequent amendments to the Decree were approved on 13 <sup>th</sup> February 2008. OE

Expected outcomes	Achievements
3. Other OE linked GoA Decrees, by-laws and orders regulating OE developed, revised, and approved.	<p>The MOH and MoJ approved as Normative documents:</p> <ul style="list-style-type: none"> <li>- "Enrollment form and filling instruction",</li> <li>- "Patient's Transfer form and filling instructions".</li> </ul> <p>By the MOH, instructions were approved on:</p> <ul style="list-style-type: none"> <li>- "Electronic filling of patient transfer form",</li> <li>- "Revealing and cleaning of double registration cases",</li> </ul> <p>Copies were disseminated during explanatory seminars.</p> <p>3 Guidelines to support the OE implementation were developed and approved by the MOH, order N365-A 06.03.07:</p> <ul style="list-style-type: none"> <li>- Through PHCR support OE database processing and data transfer GoA decree was drafted and submitted to the GoA. The approval is pending.</li> </ul>
4. Legal framework in place for new integrated Enrollment and Encounter system.	MOH order N 446-A 01 April 2009 "On approval of regulations of issues related to PHC providers' performance assessment indicators, to accumulation, processing and analyzing the data for this assessment, as well as issues related to the reimbursement based on these data".
5. Patients' and PHC physicians' empowerment contributes to PHC reform agenda.	Introduction of Enrollment system created a necessary base for other reform activities targeting and improving the quality and performance.
<b>Information System</b>	
1. OE information system in place to track patient's registration and improved management mechanisms, with improved planning capacity developed at three levels.	The OE automated system has been implemented and operates trained in all 366 PHC facilities. All facilities have created their OE databases. Using the database they can retrieve data on the age and gender structure of registered population and other patient related data accumulated through enrollment form. The OE data is used for the facility level management, for planning of the budget and interventions at the regional and national level managerial bodies.
2. OE information system fully functional, is monitored and maintained by the MOH and marz health departments, and enrollment remuneration in place in at least 90% of PHC facilities.	OE electronic system was commenced in fall of 2007 and was functional in all facilities from mid 2008. In December of 2008 all PHC providers submitted their OE databases to marzpetarans and the latter to the MOH for national database consolidation and data verification by the MOH Committee established for this purpose. OE based remuneration transitional model was introduced in 2010 in all PHC facilities.
3. MOH/SHA supported in the implementation of MIDAS-3 system and functioning in at least 80% of PHC facilities.	Integrated Encounter and Enrollment system (MIDAS-3) is functioning in all PHC facilities of Armenia (100%). To operationalize the integrated enrollment and encounter systems MIDAS-3 software (SQL platform base) system has been developed, installed in all 366 PHC sites, training to 401 operators conducted, the system use guidelines developed and distributed, system use materials and tools are placed on the MOH dedicated website.
4. Performance indicator systematic review capacity developed at MOH level to address changing policy/program needs.	In June 2010 SHA accumulated Enrollment and Encounter databases and analyzed relevant data for the next year budget, for exercising the performance assessment. PHCR supported with retrieval of necessary data and with generation of reports. More advanced skills necessary to address changing policy needs will be necessary to review the performance indicators or the calculation methodologies.
5. IT systems upgraded at targeted sites, including 15 servers, 233 computers and related equipment, and OE software.	<p>PHCR procured, distributed and installed 26 servers and 233 computer equipment to the PHC facilities. PHCR supported the new developed integrated MIDAS-3 installation in all PHC sites, placed at the MOH and SHA.</p> <p>For effective performance of database consolidation at the SHA marz branches PHCR provided servers to all SHA branches.</p> <p>SHA and facility staff received MIDAS-3 Training and SHA staff also received SQL training.</p>
<b>Institutionalization</b>	

Expected outcomes	Achievements
1. Institutionalization of relevant OE interventions into the GoAM/MOH supported.	User and Administrator guidelines were developed and distributed to the targeted staff, and placed on the MOH website. The MIDAS-3 database is placed at the MOH and SHA. Relevant staff has been trained by PHCR to use and to maintain it. PHCR organized SQL training for the SHA staff. Four IT utilities were developed and also placed on the MIDAS-3 supporting website for the nominated users to independently upgrade their systems.
2. MOH officials appointed to lead relevant PHCR OE and HF initiatives at the national level.	MOH appointed the First Deputy Minister of Health to be the responsible position for coordinating the OE progress afterwards.

## Appendix B2: Healthcare Finance

Expected outcomes	Achievements
<b>National Budgetary Process</b>	
1. Improved national budgetary and MTEF process supported, including bottom-up planning	<ul style="list-style-type: none"> <li>- In collaboration with DFID project, assistance provided to MOH in development of MTEF and annual Budget, calling for sector strategic overview, policy actions and performance measures (documented);</li> <li>- Developed facility/Marz 3 year strategic planning tool/guide;</li> <li>- Developed framework for linking healthcare facilities Strategic Plans into Marz Health Development Plans, Marz Socio-Economic Plans and MTEF;</li> <li>- Conducted 12 training workshops for stakeholders.</li> </ul>
2. NHA Working Group instituted new standards for data collection and analysis	<ul style="list-style-type: none"> <li>- Developed 2 tools for households, healthcare facilities and donors' health expenditures data collection;</li> <li>- Developed Model for NHA trends analysis;</li> <li>- Developed NHA accounting system;</li> <li>- Strengthen NHA WG capacity through provision of 3 trainings on use of NHA accounting system and software package;</li> <li>- Assisted in development of 2004, 2005, 2006, 2007, 2008 NHA reports.</li> </ul>
<b>Incentive payment and Information systems</b>	
1. Providers compensated for improved utilization and quality of care, through OE	<ul style="list-style-type: none"> <li>- Developed "Policy Options Brief" showing options for shifting from catchment based to enrolment-based financing;</li> <li>- Different per capita rates for enrolled and non-enrolled population were introduced in 2010 and PHC facilities are paying accordingly to their contracts with SHA</li> </ul>
2. SHA performance based contracting mechanisms strengthened, and 100% of MIDAS-3 user's performance indicators monitored	<ul style="list-style-type: none"> <li>- 100% of facilities are monitored for performance indicators;</li> <li>- Revised 2010 contracts with all PHC facilities allowing tracking performance of providers, including performance on approved 10 quality indicators through MIDAS-3, and demonstrating efficiency and effectiveness of contracting and procurement activities;</li> <li>- Developed reporting form on performance indicators that becomes a part of performance based contracts between SHA and PHC facilities; the performance report was embedded into the MIDAS-3;</li> <li>- Strengthened SHA auditing mechanisms and feedback to PHC facilities;</li> <li>- Improved transparency of performance assessment and resource allocation through implementation of Encounter system;</li> <li>- Developed regulatory framework for nationwide implementation of performance based payment and Encounter systems (five MOH orders)</li> </ul>
3. SHA's capacity to assess provider performance and linkage with reimbursement formulas supported	<ul style="list-style-type: none"> <li>- Developed provider's performance based payment and PHC staff remuneration approaches;</li> <li>- Developed performance indicators and the indicators calculation/evaluation approaches as well as link with performance fund and it was embedded into the MIDAS-3;</li> <li>- Proposed performance measures auditing approaches.</li> </ul>
4. Effective processing for national workforce planning; incentive structure in place to attract providers to rural areas	<ul style="list-style-type: none"> <li>- Made geographic adjustment of capitation formulae;</li> <li>- Developed report on incentive approaches;</li> <li>- Developed Excel based model and estimated cost for assignment of specialists to rural areas;</li> <li>- Regulation on incentive reimbursement of temporarily deployed physicians in rural areas introduced with PHCR support</li> </ul>
5. Improved health information systems for patients tracking and case management	<ul style="list-style-type: none"> <li>- Based on review of PHC reporting system, developed PHC Encounter form with filling instructions; adopted ICD-10 for use in PHC facilities;</li> </ul>

Expected outcomes	Achievements
	<ul style="list-style-type: none"> <li>- Developed reporting forms embedded into the MIDAS-3 on performance indicators linking them with incentive fund;</li> <li>- Streamlined PHC reporting system: encounter system automatically generates at the PHC facility level (i) financial reports, (ii) statistical reports on health services utilization patterns, disease prevalence/incidence, referral statistics; (iii) patient's disease registries; and reports for facility administrative purpose.</li> </ul>
6. MOH/SHA supported in the implementation of the integrated open enrollment and encounter system	<ul style="list-style-type: none"> <li>- Developed and tested Encounter subsystem of the MIDAS-3 for nationwide installation;</li> <li>- Assessed feasibility of new system at the PHC level;</li> <li>- All PHC staff trained on PBP and Encounter systems;</li> <li>- Provided extensive support to PHC facilities nationwide through site visits, workshops, phone consultations.</li> </ul>
<b>PHC management capacity building</b>	
1. Trainings, customized to PHC needs, delivered to PHC administrative staff	<ul style="list-style-type: none"> <li>- "PHC management" training conducted for 262 PHC facility managers and heads of HSSDs;</li> <li>- 213 PHC facilities developed their 3-year Strategic Plans;</li> <li>- 245 accountants of PHC facilities and HSSDs were trained on Financial Accounting and Cost Accounting.</li> <li>- Report, assessing feasibility of using DCA mechanisms to support financing of start up of IFMPs developed;</li> <li>- Developed Excel based simulation models and made financial analysis of start up and operation costs for potential founders, complementing to WB/HPIU activities-----during the project live only potential founders were identified;</li> <li>- Provided technical assistance/consultations to potential founders.</li> </ul>
2. Accounting and audit procedure manuals developed, along with a standard Chart of Accounts	<ul style="list-style-type: none"> <li>- A uniform PHC Chart of Accounts, Guide on Typical Accounting Transactions and Accounting Policy was developed, distributed to and adopted by PHC facilities nationwide.</li> </ul>
3. Automated financial accounting system implemented in target PHC facilities	<ul style="list-style-type: none"> <li>- Customized accounting software installed and used in 41 PHC facilities - <i>--the selection of facilities was based on provider's commitment to use and maintain the software;</i></li> <li>- 42 accountant trained on use of accounting software;</li> <li>- 38 PHC facilities provided with computers and peripheral equipment.</li> </ul>
<b>Health Insurance</b>	
1. Assessment completed of selected aspects of health insurance program	<ul style="list-style-type: none"> <li>- Prepared and advocated options to increase health spending</li> <li>- Reviewed and presented to MOH international experience on insurance reforms</li> </ul>
<b>Costing of PHC Services</b>	
1. Standards for service costing established, approved and disseminated	<ul style="list-style-type: none"> <li>- Cost accounting concepts/principles introduced through trainings of PHC administrative staff;</li> <li>- Elements of cost accounting are introduced in target PHC facilities.</li> </ul>
2. Normative costing model on laboratory and instrumental services used in facility reimbursement	<ul style="list-style-type: none"> <li>- Developed model and calculated normative costs for 117 laboratory/instrumental services;</li> <li>- Strengthened SHA capacity on use of the Model; SHA staff was trained on use of the Model;</li> <li>- SHA uses the model for setting the prices of laboratory services.</li> </ul>
<b>Institutionalization and capacity building</b>	
1. SHA's ability to adjust capitation rates supported	<ul style="list-style-type: none"> <li>- Made geographic adjustments of capitation,</li> <li>- Through review of International experience, PHCR proposed, developed and provided approaches and simulation Excel based Model</li> </ul>

Expected outcomes	Achievements
	to SHA for making capitation adjustments based on age and gender as well as calculate the budget for each facility; relevant SHA staff was trained on use of the Model <sup>20</sup>
2. Institutionalization of selected HF interventions into the GoAM/MOH supported	<p>Systems/guidelines/procedures</p> <ul style="list-style-type: none"> <li>- developed NHA data collection tools and NHA accounting system;</li> <li>- Tools developed and Strategic plans are linked with MTEF development process;</li> <li>- Model on normative costs calculation developed and used at the SHA in setting prices for LIS;</li> <li>- Developed PBP regulatory framework; developed and implemented MIDAS-3 at the PHC, SHA regional and central levels;</li> <li>- The package of necessary materials on Encounter system operation (Guide, ICD-quick reference and pamphlet on “Questions and Answers”) was delivered to every PHC physician in the country.</li> <li>- Currently, all PHC facilities are use the MIDAS system and developed electronic registries on main diseases.</li> </ul> <p>An office/skilled staff</p> <ul style="list-style-type: none"> <li>- SHA is the “home” for NHA; NHA staff trained on used of PHCR developed tools and NHA accounting system; provided with accounting software;</li> <li>- HSSDs, PHC facility managers are trained on development of regional health strategic plans;</li> <li>- SHA staff trained on use of the Costing Model;</li> <li>- 22 representatives of HSSDs and Regional SHAs and 49 QCs underwent 3-day TOT course on “PBP and Encounter systems implementation at the PHC facilities”; PHC staff nationwide completed one-day training on “PBP and Encounter systems implementation at the PHC facilities”; SHA staff was actively engaged in all stages of PBP and MIDAS system implementation; SHA skilled to finalized performance indicators’ targets, evaluate and calculate incentive fund for each PHC facility through MIDAS-3; Strengthened SHA audit mechanisms, according to which SHA conducts monitoring visits; SHA staff equipped with computers and peripheral equipment;</li> </ul> <p>Financing</p> <ul style="list-style-type: none"> <li>- Proposal on further steps towards NHA institutionalization and estimated budget presented to MOH;</li> <li>- Marz development plans will be considered in MTEF/donors projects;</li> <li>- Revised prices for laboratory services on the basis of Costing Model</li> <li>- Based on 2010 data SHA plans to make first performance based payments in 2011.</li> </ul>

<sup>20</sup> Since 1-year Armenia data on health services volume consumption by different age/gender groups will be available only in 2011 (through MIDAS-3), SHA will make appropriate adjustments to capitation later, by using PHC developed Model.

## Appendix B3: Quality Assurance

Expected outcomes	Achievements
<b>Policy and Legal Environment</b>	
1. Family Medical Council established	MOH declined this new Council, considering it politically compromised; two FM associations and QIBs serve analogous purposes.
2. Provider licensure procedures established	<ul style="list-style-type: none"> <li>• Draft Regulation to prove the qualification of healthcare providers revised and submitted to MOH.</li> <li>• Licensing registry software developed and introduced in Licensing Department, MOH.</li> </ul>
3. Facility accreditation procedures established & in use	Foundation of prospective accreditation established through implementation and operation of a functional QA program.
<b>Quality of Care Strategy</b>	
1. National quality policies and strategies developed	<ul style="list-style-type: none"> <li>• Package of MOH-approved key QA documents available to all stakeholders: 1) PHC Quality Assurance Strategy for 2008-2013. 2) QA Toolkit, 3) QA Implementation Plan, and two Training Guides for preparing: 4) regional Quality Coordinators, and 5) PHC Facility Representatives.</li> <li>• MOH-approved EBM-based Clinical Job Aids on management of ten diseases and conditions (3 for adults and 7 for children) available to all PHC providers nationwide.</li> </ul>
2. National roll-out plan for QA package developed and endorsed by the MOH. Implementation initiated at all levels, including 110 PHC facilities.	<ul style="list-style-type: none"> <li>• QA package implemented in 139 larger PHC facilities serving approximately 78% of population throughout all 10 Marzes and Yerevan.</li> <li>• QA Implementation Plan approved by MOH on the base of nationwide coverage and phased implementation.</li> <li>• Quality Coordinators (QCs) prepared for all regions, and key staff representatives of all involved PHC facilities trained by QCs.</li> <li>• QCs provided continuous technical support to all involved PHC facilities.</li> </ul>
<b>Performance Monitoring</b>	
1. At least 90% of the new QIBs function at central, Marz and targeted facility level	<ul style="list-style-type: none"> <li>• QIB Template Regulation approved and key stakeholders trained.</li> <li>• Facility-level QIBs established and functioning in all 139 major PHC facilities.</li> <li>• Marz level QIBs established and functioning in all 10 marzes and Yerevan.</li> <li>• Central level QIB established and functioning at MOH.</li> </ul>
2. Selected quality monitoring tools are fully functioning in at least 80% of all major primary care facilities.	<ul style="list-style-type: none"> <li>• 97.8% of facilities conducted regular monitoring of 10 quality indicators and submitted 2009 annual QA reports to Marzes.</li> <li>• Facility self-assessment was regularly (quarterly) conducted 93.5 % of facilities, and providers' self-assessment - 87% of providers.</li> <li>• Medical chart/case review (MCR) tool was properly used for 79% of providers.</li> <li>• On the job clinical trainings provided to PHC providers for the use of job aids.</li> <li>• The self-directed patient satisfaction survey tool fully used in 16.6% of facilities. The complaints log book available in 84 % of facilities, and the suggestion box – in 92 % of facilities.</li> <li>• QA action plans developed and properly used in 91% of PHC facilities.</li> </ul>
3. At least 20% of participating facilities receive recognition for their gains in quality.	<ul style="list-style-type: none"> <li>• 32 PHC facilities awarded with recognition plaque for best achievements in QA implementation.</li> <li>• 44 QCs awarded with recognition certificates.</li> </ul>

Expected outcomes	Achievements
<b>Institutionalization</b>	
<p>1. Institutionalization of QA strategy, content, and processes into the GoAM/MOH supported</p>	<p><u>Guidelines and procedures:</u></p> <ul style="list-style-type: none"> <li>• QA Strategy and Package approved at the governmental level. QA Package adopted and assigned for implementation at the Marz level.</li> <li>• Recommendations for QA sustainability at the national and regional levels produced and advocated.</li> <li>• Incentive package for recognizing /rewarding best QA practices developed.</li> <li>• QA data processing integrated into the MIDAS-3 system.</li> </ul> <p><u>Office</u></p> <ul style="list-style-type: none"> <li>• Formal Central level QA unit/office at MOH not established, although Central QIB fills some needed functions.</li> <li>• Central QIB at MOH and Marz QIBs established and functioning.</li> <li>• Working relationships between the Central and Marz level QIBs established.</li> </ul> <p><u>Staff/structure:</u></p> <ul style="list-style-type: none"> <li>• Core cadre of the leading QA implementers prepared in MOH and all Marzes.</li> <li>• QA training curricula integrated in the postgraduate/CME programs of NIH.</li> <li>• Sample Job Descriptions for key PHC positions drafted and provided to PHCs.</li> </ul> <p><u>Financing:</u></p> <ul style="list-style-type: none"> <li>• Budgeting for QA advocated, additional costs of QA determined and provided to MOH.</li> <li>• Quality Coordinator costs not absorbed into GoA/MOH budget.</li> </ul>

## Appendix B4: Family Medicine

Expected Outcomes	Achievements
<b>Policy and legal environment: Strengthening the Capacity of Professional associations, Supporting the establishment of Independent FMGPs</b>	
1. Targeted technical support to establish Independent FMGP provided	<ul style="list-style-type: none"> <li>Developed Excel Based Models and performed financial analysis of 12 different models of Independent FMGP, and models presented to key stakeholders and potential providers</li> <li>Developed 3 Guidelines on how to establish Independent FMGPs</li> <li>Conducted orientation seminars on 3 Guidelines, including options, regulations, and procedures for starting an independent FMGPs, for over 50 physicians</li> </ul>
2. Support provided in enhancing the normative-legal framework for strengthening Independent FMGPs	Suggestions on GoA decree drafted and submitted to MOH and WB along with relevant 3 forms as an amendment to normative-legal framework: the forms approved by MOH and registered at MOJ
3. Health authorities have the capacity to regularly update appropriate primary care standards	<ul style="list-style-type: none"> <li>Conducted 4 national level workshops on FM/FN and QA for key stakeholders including health authorities</li> <li>Supported establishment of official working relationships between marz and central level QIBs: facilitated 12 marz and central QIB meetings</li> </ul>
4. Professional associations better positioned to articulate the rationale and benefits of expanded scopes of practice for primary providers	<ul style="list-style-type: none"> <li>Facilitated 2 capacity building workshops for FM associations</li> <li>Supported content and process of FM association's annual conferences</li> </ul>
5. Three to five professional associations/ NGOs contracted to articulate the rationale/ benefits of expanded scopes of practice for primary providers	Per USAID suggestion, full grant amount awarded to Armenian Association of Telemedicine (AATM) for strengthening it as a professional medical association and to pilot test telemedicine.
6. Institutionalization of relevant FM interventions into the GoA/MOH supported	<p><u>Guidelines/procedures</u></p> <p>Developed 5 clinical, 2 non-clinical training packages/guidelines, 10 job aids</p> <p><u>Office</u></p> <ul style="list-style-type: none"> <li>FM relevant materials adopted and utilized by 8 training institutions (NIH, YSMU, BMC, Erebouni Nursing college, regional nursing colleges)</li> <li>Materials are available on/or linked to MOH website</li> </ul> <p><u>Skilled staff</u></p> <p>Over 700 PHC providers, FM/FN trainers, clinical preceptors participated in capacity building trainings, seminars, workshops on 15 FM relevant topics</p> <p><u>Financing</u></p> <p>Budgeting for CME advocated, additional costs determined and provided to MOH</p>
<b>Strengthening Capacity of FM/FN training institutions: UFMC update, development of guidelines/ job aids and training packages</b>	
1. Capacity of FM/FN training institutions strengthened	<ul style="list-style-type: none"> <li>2 FM, 6 FN faculty staff participated in over 15 training courses and workshops on FM relevant topics: faculties also include 79 FN and 49 FM clinical preceptors who also participated in training courses and workshops, many of them in more than 5 courses</li> <li>Yerevan based 2 FM, 3 FN and 4 regional nurse training institutions upgraded</li> </ul>
2. FM /FN clinical training sites upgraded and/or established where none exist.	91 FM/FN clinical training sites improved/upgraded and/or established where none exist: upgrade includes furnishing, equipping and providing up to date literature

Expected Outcomes	Achievements
3. FM curriculum up-to-date and 7 training packages developed	<ul style="list-style-type: none"> <li>• Introduced Learning for Performance (LFP) approach</li> <li>• Developed 5 clinical training packages as CME modules.</li> <li>• 2 non-clinical packages incorporated into the UFMC: (QoC package and Guidelines on how to establish Independent FMGP)</li> <li>• Published the clinical packages (per 500 copies), distributed to 2 training institutions (NIH, YSMU), PHC physicians, 60 clinical preceptors, and 50 quality coordinators</li> </ul>
4. Up-to-date clinical standards/guidelines <sup>21</sup> /job aids developed, endorsed by MOH, and used by PHC providers	<ul style="list-style-type: none"> <li>• Ten Job Aids developed, endorsed by MOH</li> <li>• 2000 sets of Job Aids published and distributed to all PHC providers across Armenia</li> </ul>
<b>PHC provider training</b>	
1. 150 doctors trained in Family Medicine <sup>22</sup>	<ul style="list-style-type: none"> <li>• Over 500 PHC physicians received short training courses on 15 FM relevant clinical and none clinical topics and workshops</li> </ul>
2. 465 PHC nurses trained in Family/Community nursing	<ul style="list-style-type: none"> <li>• 500 nurses completed 6.5 month FN/CN training</li> <li>• Trained nurses cover health services in 50% of rural areas.</li> </ul>
3. Scope of practice of trained community nurses expanded by at least 30%.	<ul style="list-style-type: none"> <li>• Trained nurses' SOW was expanded from 35.5% to 69%</li> </ul>
4. Providers trained in use of Job Aids in 110 larger PHC facilities	<ul style="list-style-type: none"> <li>• 547 PHC providers received training in 139 PHC facilities provided by quality coordinators</li> </ul>

<sup>21</sup> Consensus was reached with WB PIU about shifting PHCR activities to Job Aid development, since WB covers guideline development

<sup>22</sup> Consensus was reached between WB PIU, MOH and PHCR about shifting PHCR FM one year training for 150 doctors to short training courses for clinical preceptors and PHC physicians

## Appendix B5: Public Education

Expected outcome	Achievements
<b>Campaigns</b>	
1. Media campaigns promoting health seeking behaviors, increased demand, and appropriate use of PHC services	<ul style="list-style-type: none"> <li>• Two TV PSAs on OE developed and broadcasted by 6 TV channels including channels with Nation-wide coverage</li> <li>• OE promotional message developed and announced by 5 popular Radio stations including National Radio (nation-wide coverage)</li> <li>• OE SMS campaign developed with VivaCell, resulting in OE promotional message delivered to approximately 1 million VivaCell subscribers</li> <li>• 700 copies of OE tutorial for physicians (DVD) developed and distributed to PHC facilities</li> <li>• 500 copies of OE tutorials for public developed and distributed to journalists and TV stations</li> <li>• 22,200 posters on OE developed and distributed and posted in secondary schools, culture centers, public transport and subways, and all PHC facilities. Yerevan municipality, NGOs and marz health and social security departments provides assistance in distribution.</li> <li>• 7,000 copies of BBP posters developed and distributed to all PHC facilities through the life of the Project</li> <li>• 14,000 BBP booklets developed and distributed to all PHC facilities through the life of the Project</li> <li>• Technical assistance provided to MOH for participation in 18 TV/Radio shows devoted to OE promotion – 270 minutes of TV/Radio broadcast time</li> <li>• Technical assistance provided to MOH for development of 5 TV shows devoted to prevention of non-communicable diseases and promotion of healthy behaviors</li> <li>• 300,000 Health leaflets on MCH, RH/FP developed and distributed to NGOs, households of all PHCR target communities and FAPs, PHC preceptors</li> <li>• Training on OE and PHC services delivered to 75 trainers of local NGOs and more than 1600 members of CHCs</li> <li>• <i>Frequently Asked Questions about OE and PHC services</i> PE Booklet (50,000 copies) developed and distributed to PHCR target NGOs and CHCs</li> <li>• <i>How to Organize and Implement Public Awareness Campaigns</i>, Guidebook for PHC facility managers (500 copies) updated, presented and distributed to all polyclinics and ambulatories of Armenia</li> <li>• Technical support provided to AUA for development of anti-tobacco brochure. PHCR printed 40,000 with distribution to PHC facilities, maternity centers via NOVA-2, NGOs and PHCR target communities</li> <li>• 122 journalists trained during the life of the Project on how to communicate health messages to public</li> <li>• 70 journalists from all marzes of Armenia introduced to PHCR activities and PHC reforms</li> <li>• 10 Press Events organized to cover Family Nurse trainings in each marz</li> </ul>
<b>Civil society strengthening/ community mobilization/small grants</b>	
1. Improved capacity of at least 8 NGOs to contribute to healthy lifestyles	<ul style="list-style-type: none"> <li>• 65 Small grants provided to 24 local NGOs for implementation of health promotion trainings in rural communities</li> </ul>
2. Local communities engaged in health mobilization efforts	<ul style="list-style-type: none"> <li>• CHCs formed in 161 rural communities of Armenia</li> <li>• More than 1600 CHC members (direct beneficiaries) received a two-phase training based on PHCR/MOH developed training modules</li> <li>• More than 150,000 inhabitants were targeted by the PHCR CM Program as indirect beneficiaries</li> </ul>
3. A minimum of 40 CHCs lead health promotion efforts	<ul style="list-style-type: none"> <li>• 157 CHCs trained by local NGOs lead health promotion efforts (group works, health talks, individual meetings, teachers with parents, peers, word of mouth, etc.) in their communities</li> </ul>
<b>Institutionalization</b>	

Expected outcome	Achievements
<p>1. Institutionalization into GoA/MOH of relevant public health education activities supported</p>	<p><b>Guidelines/procedures</b></p> <ul style="list-style-type: none"> <li>• Strategy for community mobilization for health promotion in rural areas developed, presented to and included in PHC strategy of 2008-2013</li> <li>• PHE Handbook developed in cooperation with MOH</li> <li>• NGO and CHC Capacity Building Manual developed by PHCR, reviewed and approved by MOH</li> <li>• Health Promotion Manual for NGOs and CHCs developed by PHCR, reviewed and approved by MOH</li> <li>• Recommendations for institutionalization of PHE activities into GoA/MOH developed and presented to the Minister</li> </ul> <p><b>Office</b></p> <ul style="list-style-type: none"> <li>• Public and health education activities disbursed through MOH; is no unified office dedicated to public health education</li> </ul> <p><b>Skilled staff</b></p> <ul style="list-style-type: none"> <li>• PHE training, based on PHE Handbook, provided to selected staff from MOH, NGOs, donor projects</li> <li>• On Camera training provided to MOH staff and MOH TV presenters</li> <li>• Capacity of MOH staff built for development of PE materials such as BBP posters and BBP booklets; health leaflets; Drug Poster and booklet as well as PSAs</li> <li>• Capacity of MOH staff built for development of PHE TV programs</li> <li>• Two roundtables with PHE stakeholders held to discuss challenges and solutions for institutionalization of PHE activities</li> <li>• Working group for institutionalization of PHE activities established by the Minister of Health</li> </ul> <p><b>Financing</b></p> <ul style="list-style-type: none"> <li>• No budget in MOH dedicated to PHE, although are some funds for development and broadcasting of PHE TV programs</li> </ul>
<p>2. Capacity building and health education TOT to selected partner organizations delivered</p>	<ul style="list-style-type: none"> <li>• CB training (2008) and PHE training (2009) delivered to World Vision, Save the Children, Nova/USAID;</li> <li>• Behavior Change Communications training delivered to USAID representatives in 2006</li> </ul>
<p>3. Electronic versions of PE materials are available for MOH</p>	<ul style="list-style-type: none"> <li>• CD 1. BBP poster and booklet 2010; Health Calendar 2010; 6 Health leaflets; OE poster; Drug poster; Drug booklet</li> <li>• CD 2. How to Organize and Implement Public Awareness Campaigns, Guidebook</li> <li>• CD 3. FAQ on PHC and OE Booklet</li> <li>• CD 4. <i>PHE Campaign Handbook</i>;</li> <li>• CD 5. NGO and CHC Capacity Building Manual;</li> <li>• CD 6. <i>Public Health Education Manual for NGOs and CHCs</i></li> <li>• DVD. OE tutorial; OE PSA1; OE PSA2; PSA 3</li> </ul>

## APPENDIX C: PHCR'S IMPACT EVALUATION PLAN: MAIN FEATURES AND OBJECTIVES

M&E assessment	Objectives	Comments
<p>1. Facility resource assessment</p> <p>Design: Pre-post non equivalent comparison group (panel) design; assessment of all target facilities and their referral centers and comparison sites</p> <p>Sample: 61 facilities in Zone 1; 55 in Zone 2; 80 in Zone 3-1; and 53 in Zone 3-2</p> <p>Timeline: Baseline (BL) and follow-up (FU) in each zone*:  <i>Zone 1: 2006 (BL), 2008 (FU)</i>  <i>Zone 2: 2007 (BL), 2009 (FU)</i>  <i>Zone 3-1: 2008 (BL)</i></p>	<ul style="list-style-type: none"> <li>▪ Identify facility structure, resources, and personnel (staff, infrastructure, facility ownership, rooms, electricity, heating, water/toilet, furniture, equipment)</li> <li>▪ Assess Family Medicine situation (short and long-term trainings of PHC providers, availability of clinical guidelines, evidence-based sources, quality monitoring system, coverage/completeness of medical records, availability of hard/software for clinical data entry/analysis)</li> <li>▪ Assess Open Enrollment situation (availability of hard/software and operators for OE and number of enrolled)</li> <li>▪ Assess Financial Management situation (availability of hard/software and trained staff for accounting, trainings of accountants and managers)</li> <li>▪ Assess Public Education situation (availability of PE materials on different topics, community involvement in health issues)</li> <li>▪ Measure health services utilization (numbers and age structure of the served population, visits to clinic and home visits)</li> <li>▪ Assess population dynamics and health status indicators (deaths, hospitalizations, pregnancies/deliveries and their outcomes, number of disabled)</li> <li>▪ Identify the crucial needs in the facility</li> </ul>	<p>Due to budget reductions, only Baseline assessment was conducted in Zone 3-1 and no assessments were conducted in Zone 3-2.</p>
<p>2. Assessment of facility and provider performance</p> <p>Design: Pre-post non equivalent comparison group (panel) design included; interviewer-Administered surveys among managers and providers at all target facilities and their referral centers and comparison sites</p> <p>Sample: As above</p> <p>Timeline: As above</p>	<ul style="list-style-type: none"> <li>▪ Evaluate accessibility of PHC services</li> <li>▪ Assess adequacy of supportive supervision for FAPs</li> <li>▪ Identify provider relations with communities and clients</li> <li>▪ Assess safety and adequacy of the medical environment</li> <li>▪ Evaluate adequacy of facility management</li> <li>▪ Identify coverage of population with a number of primary and secondary prevention measures</li> <li>▪ Identify providers' technical competencies and skills</li> </ul>	<p>The same as above.</p>
<p>3. Performance assessment of FAP nurses</p> <p>Design: Interviewer-administered cross-sectional survey and observations of nurses</p> <p>Sample: 42 nurses in Zone 1, 44 in Zone 2, 56 in Zone 3-1</p> <p>Timeline:  <i>Zone 1: 2008 (FU)</i>  <i>Zone 2: 2009 (FU)</i>  <i>Zone 3-1 2008 (BL)</i></p>	<ul style="list-style-type: none"> <li>▪ Identify scope of work of FAP nurses</li> <li>▪ Assess clinical performance of FAP nurses through direct observations of blood pressure measurement and glucometry.</li> </ul>	<p>This assessment was introduced in 2008 and conducted in Zones 1 and 2 at FU and 3-1 at BL. Subsequent assessments were cancelled.</p>

M&E assessment	Objectives	Comments
<p>4. Client Satisfaction Survey</p> <p>Design: Pre-post non equivalent comparison group design; multi-stage stratified random sample, cross-sectional self-administered survey</p> <p>Sample: 336 most recent clients of selected facilities in each area (with 196 served by intervention facilities and 140 by controls)</p> <p>Timeline: Baseline and follow-up in each zone  <i>Zone 1: 2006 (BL), 2008 (FU)</i>  <i>Zone 2: 2007 (BL), 2009 (FU)</i>  <i>Zone 3-1: 2008 (BL)</i></p>	<ul style="list-style-type: none"> <li>▪ Measure the level of clients' satisfaction with:</li> <li>▪ Provider attitude during the last visit</li> <li>▪ Provider treatment/explanations</li> <li>▪ Privacy during the visit</li> <li>▪ Waiting time and easiness to make the appointment</li> <li>▪ Printed materials received</li> <li>▪ Availability/affordability of prescribed drugs</li> <li>▪ Conditions and cleanliness of the facility</li> <li>▪ Identify overall satisfaction with the received service/care</li> <li>▪ Identify the areas in particular need for improvement according to clients</li> </ul>	<p>Due to budget reductions, only Baseline assessment was conducted in Zone 3-1 and no assessments were conducted in Zone 3-2.</p>
<p>5. PE exposure &amp; KAP survey</p> <p>Design: multi-stage stratified random sample, cross-sectional self-administered survey</p> <p>Sample: 336 most recent clients of selected facilities in each area (with 196 served by intervention facilities and 140 by controls)</p> <p>Timeline:  <i>Zone 1: 2008 (FU)</i>  <i>Zone 2: 2009 (FU)</i>  <i>Zone 3-1: 2008 (BL)</i></p>	<ul style="list-style-type: none"> <li>▪ Measure the level of exposure of target population to Community Health Committee activities.</li> <li>▪ Estimate the knowledge of population on the issues targeted by the PE team (including breastfeeding, immunization, child care, child safety, healthy nutrition, healthy lifestyle, diabetes, reproductive health, hypertension, STDs, osteoporosis, TB)</li> <li>▪ Identify their attitude towards healthy lifestyle/disease prevention</li> <li>▪ Measure their practice in terms of smoking, healthy nutrition, preventive check-ups</li> </ul>	<p>This assessment was introduced in 2008 and conducted in Zones 1 and 2 at FU and 3-1 at BL. Subsequent assessments were cancelled.</p>
<p>6. Household Health Survey</p> <p>Design: Pre-post test one group design; multi-stage cluster sample, probability proportional to size, stratified by marz, cross-sectional, combination of interviewer-administered and self-administered components</p> <p>Sample: 2310 households countrywide</p> <p>Timeline:  2006 (BL)</p>	<ul style="list-style-type: none"> <li>▪ Assess attitude, practice, and knowledge of population with regard to open enrollment, family medicine, basic benefits package in PHC</li> <li>▪ Estimate the level of their exposure to health education activities at community level</li> <li>▪ Assess accessibility of PHC services</li> <li>▪ Assess utilization of early diagnostic and preventive services</li> <li>▪ Measure the main health outcomes of the population (including self-assessed health status and health dynamics, quality of life with its physical and mental constituents, health behaviors and attitudes)</li> </ul>	<p>Only the BL phase of this country-wide survey was conducted.</p>
<p><i>*Zone 1: Lori and Shirak marzes</i>  <i>Zone 2: Kotayk, Tavush, and Gegharkunik marzes</i>  <i>Zone 3-1: Aragatsotn, Armavir and Ararat (part) and marzes</i>  <i>Zone 3-2: Ararat (part), Syunik and Vayots Dzor marzes</i></p>		

## APPENDIX D: LIST OF PHCR MATERIALS

<b>Expansion of PHC Reforms and Open Enrollment</b>	
1.	Institutionalization Report and Costing Tables
2.	Institutionalization Presentation
3.	Open Enrollment Implementation Manual for PHC Service Providers
4.	Open Enrollment System User Manual
5.	Open Enrollment System User Manual and Administrator Manual
6.	MIDAS-3 user manual
7.	MIDAS-3 administrator manual
8.	MIDAS-3 functional specifications
9.	"Using general practitioner selection as a social technology tool to catalyze primary healthcare reform: The Armenian case" poster presented at the 135th Annual Meeting & Exposition of the American Public Health Association (Washington DC, November 3-7, 2007)
<b>Health Finance</b>	
10.	Adjusting the Primary Care Capitation Formula in Armenia
11.	Improving Health Financing in Armenia
12.	Performance Measures Use and Verification
13.	Guide/Annexes on use of Encounter system
14.	Report on Equity and Access Analysis
15.	Guide on staff performance remuneration
16.	Guide on use of NHA accounting system
17.	PHC management package
18.	Methodology for normative costing of diagnostic and Lab services
19.	"How Great is the Burden of Household Health Expenditure in Armenia" report (November 2008)
20.	Policy Options for shifting from a "catchment area based" system of financing PHC services to an "enrollment based" system (July 21, 2008)
<b>Family Medicine</b>	
21.	Unified Family Nursing Curriculum (approved by the MOH Decree No. 1254-A of November 7, 2006)
22.	Unified Family Medicine Curriculum (approved by the MOH Decree No. 420-N of July 21, 2003)
23.	Chronic Disease Management in Armenia
24.	Hypertension Diagnosis, Management and Prevention
25.	Diagnosis, Classification and Prevention of Diabetes
26.	Medical Treatment of the Type II Diabetes
27.	Smoking Cessation Counseling (Part I)
28.	Smoking Cessation Counseling (Part II)
29.	TB prevention, diagnosis and management in PHC
30.	CVD management in PHC
31.	Management of Common Childhood Illness in PHC
32.	Learning for Performance/Armenian translation
33.	Management of Urinary Tract infections
34.	Introduction to Diagnosis and Management of Skin disorders in PHC
35.	Guidelines on establishment and state registration of independent FM individual/group practice with status of LLC, and individual practice with Sole Proprietor status

36.	Nursing manuals (2 volumes)
	<b>Quality Assurance</b>
37.	QA Toolkit Package
38.	QA Implementation Plan
39.	QA Training Curriculum
40.	Facility Training Guide
41.	Clinical Job Aids for 10 most common PHC diseases/conditions
42.	QA templates (questionnaires, checklists, recording and reporting forms, action plan, QIB protocol, etc.) for printing/copying/publishing and use at facilities.
43.	Summary/Wrap-up Report of the PHC QA Phase-1 implementation
	<b>Public Education</b>
44.	Basic Benefit Package (BBP) Booklet (2009)
45.	Basic Benefit Package (BBP) Poster (2009)
46.	Basic Benefit Package (BBP) Booklet (2008)
47.	Basic Benefit Package (BBP) Poster (2008)
48.	Poster on Medicines Provided on a Free or Reduced Price Basis (2007)
49.	Basic Benefit Package (BBP) Booklet (2007)
50.	Basic Benefit Package (BBP) Poster (2007)
51.	Booklet on Medicines Provided on a Free or Reduced Price Basis (2006)
52.	Poster on Medicines Provided on a Free or Reduced Price Basis (2006)
53.	Basic Benefit Package (BBP) Poster (2006)
54.	Basic Benefit Package (BBP) Booklet (2006)
55.	Capacity Building manual
56.	Health Education manual
57.	Public Health Education Communications Handbook
58.	Effects of smoking on infant/child health leaflets
59.	Seven health education leaflets
60.	BBP poster (2010)
61.	BBP booklet (2010)
62.	FAQ on PHC services and OE reform
63.	Calendars
	<b>Monitoring and Evaluation</b>
64.	Household Health Survey: Baseline evaluation 2006
65.	Facility Resource Assessment: Baseline assessment of targeted primary health care facilities in Lori and Shirak marzes 2006
66.	Facility Resource Assessment: Follow-up assessment of targeted primary health care facilities in Lori and Shirak marzes 2008
67.	Facility Resource Assessment: Baseline assessment of targeted primary health care facilities in Kotayk, Tavush and Gegharkunik marzes 2007
68.	Facility Resource Assessment. Follow-up Assessment of Targeted PHC Facilities in Kotayk, Gegharkunik, and Tavush Marzes, 2009.
69.	Facility Resource Assessment. Baseline Assessment of Targeted PHC Facilities in Aragatsotn, Armavir, and Ararat Marzes, 2008.
70.	Facility Performance Assessment: Baseline assessment of targeted primary health care facilities in Kotayk, Tavush, and Gegharkunik marzes 2007

71.	Facility and Provider Performance Assessment. Follow-up Assessment of Targeted PHC Facilities in Kotayk, Gegharkunik, and Tavush Marzes, 2009.
72.	Facility Performance Assessment: Follow-up assessment of targeted primary health care facilities in Lori and Shirak marzes 2008
73.	Facility and Provider Performance Assessment. Baseline Assessment of Targeted PHC Facilities in Aragatsotn, Armavir, and Ararat Marzes, 2008.
74.	Patient Satisfaction Survey: Baseline evaluation in Lori and Shirak marzes 2006
75.	Patient Satisfaction Survey. Follow-up Evaluation in Lori and Shirak Marzes, 2008.
76.	Patient Satisfaction Survey: Baseline evaluation in Kotayk, Tavush and Gegharkunik marzes 2007
77.	Patient Satisfaction Survey. Follow-up Assessment of Targeted PHC Facilities in Kotayk, Gegharkunik, and Tavush Marzes, 2009.
78.	Patient Satisfaction Survey: Baseline evaluation in Aragatsotn, Armavir, and Ararat marzes 2008
79.	Knowledge, Attitudes And Practices Survey: Baseline evaluation in Aragatsotn, Armavir, and Ararat marzes 2008
80.	Knowledge, Attitudes, and Practices Survey in Lori and Shirak Marzes, 2008.
81.	Knowledge, Attitudes, and Practices Survey in Kotayk, Gegharkunik, and Tavush Marzes, 2009.

## APPENDIX E: DECREES AND ORDERS ISSUED WITH PHCR PROVIDED SUPPORT

No	Title	Issuing agency	Document's registration number	Date of issue	Summary
1.	GoA Decree on approval of the order of PHC physician selection and enrollment with them	GoA	420-N	30.03.06	States the order and conditions to be followed by the PHC medical staff and population for PHC physician selection and enrollment
2.	GoA Decree on approval of amendments to the GoA Decree N420 from 30.03.06	GoA	140-N	12.02.08	Makes changes and amendments to the Decree N 420, providing new conditions for the PHC physician selections and enrollment
3.	MOH order approving manuals for the implementation of enrollment, for the enrollment electronic system user, for the PHC physician selection	MOH	365-A	06.03.07	3 manuals were developed to support the enrollment implementation activities and were distributed to all PHC facilities.
4.	Order on approval of "Transfer form and filling instructions" and "Enrollment form and filling instructions" validating the PHC physician selection and transfer	MOH; MoJ	57-N; 10007027	18.01.07; 31.01.07	The order approved by the MOH and registered at the MoJ as a normative document enforced the Enrollment and Transfer forms and filling instructions
5.	GoA Decree on approval of RA PHC strategy of 2008-2013 and program of measures for its implementation	GoA	24 protocol decision	19.06.08	Updates the PHC development strategy for the years 2008-2013, specifies areas and measures to be implemented during next 5 years.
6.	MOH order approving the time table and the list of responsible departments for the implementation of program of measures of the RA PHC 2008-2013 Strategy	MOH	1015-A	24.07.08	Activities reflected in the Strategy were approved by the MOH, time schedule with responsible agencies and people
7.	MOH order on establishment of Coordinating Group to support the implementation of PHC physician selection and population enrollment	MOH	849-A	31.07.06	MOH Coordinating Group was established containing members from MOH departments, PHCR, PIU, Municipality, Marz Health departments to provide the MOH policy options for enrollment regulations and to oversee the implementation
8.	MOH order on establishment of population enrollment national integrated database	MOH	1244-A	31.07.07	The order stated that 1) enrollment national database should be established at the NIH and duplicate database at the SHA; 2) in 2-months period draft enrollment

No	Title	Issuing agency	Document's registration number	Date of issue	Summary
					database processing order and submit for approval
9.	On approval of amendments to the MOH order 1244-A, 31.07.07	MOH	1551-A	29.10.08	Through making amendment the national enrollment database home is re-established at the MOH, and the duplicate database at the SHA. The serving server transferred to the MOH.
10.	MOH order on validation and approval of enrollment data	MOH	1789-A	08.12.08	Through this order MOH committee was established to validate and approve the enrollment data accumulated and consolidated in December 2008, to be used for per-capita funding.
11.	MOH order on approval of performance indicators and reporting form	MOH	695- A	03.05.10	Approved the list of 10 annual performance indicators, reporting form evaluating the performance indicators for payment purpose as well as requesting proposal on streamlining PHC reporting system as result of introduction of the Encounter form.
12.	MOH order on approval of the Encounter form and its filling guide	MOH	1845-A	30.11.09	Approved Encounter (#002) Form and its filling guide for use by all PHC facilities. Through this order all PHC facility enters the filled Encounters into the MIDAS-3 system to produce the SHA reports.
13.	MOH order on establishment of the working group on development of performance indicators N 26 May, 2006	MOH	581-A	26.05.06	Created working group with representatives from MOH, SHA, Yerevan Municipality HSSD, NIH IAC, HPIU, PHC facilities
14.	MOH order on streamlining of PHC reporting system	MOH	287-A	28.02.08	Created working group with representatives from MOH, SHA, Yerevan Municipality, PHC facilities, SanEpi for review PHC recording/reporting system, and development of the Encounter form that will reduce the reporting burden at the PHC facilities.

No	Title	Issuing agency	Document's registration number	Date of issue	Summary
15.	MOH order on collection, processing, summarizing performance review indicators of Primary Healthcare Physicians providing services to the population under the State Order, collection of information or their evaluation, as well as regulating reimbursement and remuneration issues on their bases	MOH	446-A	01.04.09	Through this order it was defined the steps for implementation of Encounter and P4P systems as well as identified responsible agency/departments.
16.	MOH order on organization and conduction of management training for the heads of PHC facilities from Syunik, Vayots Dzor and Armavir Marzes	MOH	445- A	01.04.2009	The order approved the training program, list of participants and provision of certificates signed by the Minister.
17.	MOH order on organization and conduction of management training for the heads of PHC facilities from Yerevan and Lori and Shirak Marzes	MOH	1410- A	06.12.06	The order approved the training program, list of participants and provision of certificates signed by the Minister.
18.	MOH order on organization and conduction of management training for the heads of PHC facilities from Kotayq, Gegharqunik and Tavush Marzes	MOH	1134- A	06.07.07	The order approved the training program, list of participants and provision of certificates signed by the Minister.
19.	MOH order on organization and conduction of management training for the heads of PHC facilities from Armavir, Ararat and Aragatsotn Marzes	MOH	665- A	13.05.08	The order approved the training program, list of participants and provision of certificates signed by the Minister.
20.	MOH Order on UFNC approval	MOH	1254-A	07.11.06	The Unified Family Nursing Curriculum was approved
21.	MOE Decree on UFNC	MOE	21-08-08/77	31.01.07	The Unified Family Nursing Curriculum was insured
22.	MOH order on PHC QA	MOH	1661-A	18.11.08	Through this order PHC QoC package was approved including the QA Toolkit, Implementation Plan
23.	MOH order on PHC QA training Guide	MOH	1570-A	3.11.08	Through this order PHC QA Training Curriculum to prepare the Quality Coordinators and PHC facility representatives as well as list of Quality

No	Title	Issuing agency	Document's registration number	Date of issue	Summary
					Coordinators were approved
24.	Ministry of Health Order on Central Level QIB Establishment	MOH	777-A	01.06.2009	Through this order Central Level QIB was established.
25.	Shirak Marzpet Order	Shirak Marzpetaran	204-A	31.08.2009	Through this order Shirak Marzpetaran QIB was established.
26.	Syunik Marzpet Order	Syunik Marzpetaran	N/A	05.05.2009	Through this order Syunik Marzpetaran was QIB established.
27.	Lori Marzpet Order	Lori Marzpetaran	74-A	17.03.2009	Through this order Lori Marzpetaran QIB was established.
28.	Yerevan Mayor Order	Yerevan Municipality	1341-A	10.03.2009	Through this order Yerevan Municipality QIB was established.
29.	Vayots Dzor Marzpet Order	Vayots Dzor Marzpetaran	Order 37	19.05.2009	Through this order Vayots Dzor Marzpetaran QIB was established.
30.	Ararat Marzpet Assignment	Ararat Marzpetaran	96	09.07.2009	Through this order Ararat Marzpetaran QIB was established.
31.	Tavush Marzpet Order	Tavush Marzpetaran	53-A	15.06.2009	Through this order Tavush Marzpetaran QIB was established.
32.	Armavir Marzpet Order	Armavir Marzpetaran	154	11.05.2009	Through this order Armavir Marzpetaran QIB was established.
33.	Kotayk Marzpet Order	Kotayk Marzpetaran	58	10.04.2009	Through this order Kotayk Marzpetaran QIB was established.
34.	Gegharkunik Marzpet Order	Gegharkunik Marzpetaran	80-A	22.04.2009	Through this order Gegharkunik Marzpetaran QIB was established.
35.	Ministry of Health Order on the Promotion of Quality Assurance Process	MOH	555-A	13.04.2010	Through this order Minister assigned different tasks to MOH different departments and NIH Information-Analytical Center.
36.	MOH order	MOH MOJ	Order #13 MOJ registration # - 100082442007	04.08.08	Through this order MOH approved amendment to normative-legal framework (relevant forms) for independent practice

## APPENDIX F: CONSTRUCTION AND DESIGN COMPANIES CONTRACTED BY THE PHCR FOR RENOVATION WORKS

	Organization name	Name of Head of company	Phones numbers
<b>Construction companies</b>			
1	Alfa LTD	Mkhitaryan Hovik	093-230-059
2	A. Hakobyan LTD	Hakobyan Arthur	094-000-850,0322-40-850
3	Akhtamar LTD	Soghomonyan Hamlet	094-201-425
4	Axuryan Koopshin LTD	Tonoyan Samvel	091-408-350, 091-728-671
5	Bablus LTD	Hovsepyan Valeri	099-882-788, 094-060-130, 091-560-481, 094-954-466
6	BMS LTD	Gyokchyan Arayik	091-203-762,094-131-513
7	Eritsvank LTD	Sahakyan Hamlet	093-111-004,0285-52-185
8	Ergus LTD	Margaryan Armen	091-324-797; 091-002-001
9	KSV Shin LTD	Kasemyan Sargis	077-196-551, 0312-41-417
10	Hayk & Vordi LTD	Ghazumyan Azat	094-211-041, 0263-33-635
11	Harsnadzor LTD	Mirzoyan Vardan	091-210-706,010-255-727
12	Mar & Gar LTD	Margaryan Garnik	091-208-957, 093-880-671
13	Megru CSSDZ LTD	Gasparyan Azat	091-421-459, 0286-43-590,
14	Milaqs group	Arayik Ter-Grigorya	094-433-987,094-417-575
15	Sisian(Nor bak) Norogshin LTD	Matevosyan Samson	093-808-004,02830-49-49
16	Shinin Service LTD	Kocharyan Arayik	093-422-831, 010-562-980
17	Vahagn 94 LTD	Hakobyan Edik	093-818-548, 0234-23-135
18	Verl LTD	Harutyunyan Vardan	093-777-720
19	Viktoria & Kuyrer LTD	Stepanyan Seryozha Gyozalyan Hakob	091-676-180,010-531-951 093-628-781,077-843-750
20	Ustian LTD	Simonyan Anushavan	091-435-576, 0312-22-202
21	Rbis LTD	Zargaryan Aram	094-447-711, 094-666-600
22	Firma Ar Shin LTD	Gevorgyan karen	91-772-131,93-674-222,
<b>Design companies</b>			
1	Hazarashin LTD	Hakobyan Gurgen	091-438-042, 56-71-45
2	Norashen LTD	Baghdasaryan Gurgen	091-426-339, 010-729-805
3	Vanadzori Naxagshogh	Veqilyan Vigen Armen Xachik	094-008-887,091-344-634, 091-881-399 0322-20-825 099-928-681



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## SUCCESS STORY

# PHCR Leverages Outside Funds

**Mobilizing other sources of funding helps achieve better results and sustainability**



Photo: PHCR

*Through collaboration between PHCR and JMF, a greater number of nurses from rural Armenia receive up-to-date training in a number of critical nursing topics.*

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It is very gratifying to realize that one's support for improving peoples' lives is, in fact, doing that. It is even more gratifying to witness how one's support serves as a catalyst for further improvements.

With funds provided by the American People through the United States Agency for International Development (USAID), the Primary Healthcare Reform Project (PHCR) helps improve quality and accessibility of primary care in Armenia. To increase effectiveness and efficiency in the use of funds, the Project not only coordinates activities with other donor organizations, but, where possible, also endeavors to leverage and mobilize outside resources.

In the fall of 2007, PHCR teamed up with Jinishian Memorial Foundation (JMF) to strengthen primary healthcare in rural Armenia. The JMF was established by the bequest of Vartan H. Jinishian, an American Armenian, and registered as a local charity organization in 1999 with the purpose of supporting durable solutions to Armenia's social and economic problems. As part of its activities, JMF supports improvements in primary care in rural Armenia and recognized that by collaborating with PHCR could produce synergistic results. Learning that PHCR trains rural nurses countrywide, JMF agreed to support this process by training nurse clinical preceptors, contributing to the nurse training budget, publishing some of the training materials, and providing glucometers with strips for medical kits distributed to rural primary care providers. In 2007 and 2008, JMF contributed US\$ 62,000, and will continue the support until PHCR completes rural nurse training in all regions of Armenia.

PHCR also raised other Diaspora funds to further enhance rural health infrastructure upgrades. As the Project announced that it would renovate the interior of the health post in Zovashen community (Kotayk region), Ms. Sonya Artinyan, an Armenian living in Toronto, Canada, volunteered to donate US\$ 2,250 for the reconstruction of the health post's roof. Thanks to Ms. Artinyan's contribution, the renovated interior of the health post is now safe from roof leaks and will last much longer.

No less importantly, communities themselves, too, became motivated by PHCR work. While renovating primary healthcare facilities in Lori, Shirak, Tavush, Gegharkunik, and Kotayk regions, the Project succeeded in obtaining input from all 78 target communities. Even despite the severely limited funds and personnel, in particular, in rural areas, community contributions, direct and indirect, totaled nearly AMD 85 Million (approximately US\$ 280,000). Interestingly enough, health post related improvements often serve as an incentive for the communities to initiate renovations of other community infrastructure. The involvement of communities not only helped boost the effect of PHCR-supported improvements, but it also helped place the ownership of the upgrades in the hands of the community, thus enhancing greater sustainability.

As the Project moves to other regions, it will keep seeking yet other sources of funding, for even greater results and lasting impact.



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## SUCCESS STORY

# PHCR Training Saves A Newborn's Life

**Training on cardiovascular disorders helped a family physician to save an infant's life through early diagnosis**



Photo: PHCR

*Doctor Varditer Iskandaryan with her now safe and healthy little patient Tatoul.*

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Varditer Iskandaryan, 35, is a family physician and a clinical preceptor at the medical ambulatory of Gandzak community of Tavush region. Earlier in May 2007, Varditer participated in a series of trainings organized by the Primary Healthcare Reform Project (PHCR) for family physicians and clinical preceptors. Training on cardiovascular diseases was the latest one in the series.

This lifesaving story began on October 5, when Varditer went on a routine afterbirth home visit to Anna Yaribekyan who had just returned from the maternity hospital with her newly born baby, Tatoul. The routine examination of the young mother showed that she was recovering successfully. However, the infant's breathing pattern and tachycardia made Varditer grow fearfully anxious. "I immediately recalled everything I learned as part of the "When and why to suspect cardiovascular problems in neonates and infants" module of the recent PHCR training," she said later. Even despite the 130-kilometer distance to Yerevan, the doctor strongly advised that the parents should as soon as possible take the baby to cardiologists at the Children's Department of the Yerevan Nork Marash Medical Center. Fortunately, they did not hesitate a moment and followed Varditer's advice immediately.

After examining little Tatoul, doctors at Nork Marash Medical Center diagnosed a combined heart defect with patent ductus arteriosus and critical coarctation of aorta. The latter would lead to the baby's death within the first two months of life. The doctors stated that this was an insidious disorder, hard to detect, and for this reason rarely identified in Armenia. In the meantime, though one of the leading causes of infant mortality from heart problems, this defect can be fully eliminated if addressed timely. The doctors at the Center admired Varditer's professional attitude and knowledge. Tatoul was hospitalized and on November 6, underwent a heart surgery.

Soon enough, the baby recovered - to the utter joy of his happy parents and all the physicians. The final examination showed Tatoul's heart and circulatory system had no more abnormalities, and he can live a healthy life.

Varditer will always remember this case as a truly unbelievable lifesaving experience. "I am so incredibly glad that the knowledge I obtained during PHCR trainings helped save a baby's life," said Varditer when the story came to its happy end. "You know, this is when it really pays to be a doctor."



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## SUCCESS STORY

# Improving Rural Healthcare Services

### Health Post nurse training leads to higher quality care in rural communities



Photo: PHCR

Neghots health post nurse Karine Bekjanyan (right) is happy for her young patient's quick recovery.

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Community nurses are the first point of medical care for a large percentage of Armenia's population, working from Health Posts that dot the country's rural landscape. Health Posts service communities with limited access to the larger health centers and polyclinics that are staffed by primary care physicians and specialists.

Despite the crucial role that community nurses play in Armenia's health care system, there has been little investment to ensure these healthcare providers are trained in up-to-date skills and techniques. The Primary Healthcare Reform project (PHCR) is implementing a community nurse training program in order to fill this quality of care gap for rural residents.

Karine Bekjanyan has been a community nurse in Neghots since 1992. With the nearest health center six kilometers away, and over 15 kilometers to the closest polyclinic, Neghots needs a health care provider who can act quickly and effectively. Karine participated in PHCR's six-month training course, covering 35 healthcare topics from the Unified Family Nursing Curriculum, the official nationwide nursing education curriculum.

The training came in handy for her one recent evening when Rita Dallakyan, aged 13, was brought to the health post with a severely fractured arm. When examining her patient, Karine relied on the skills learned in the emergency care module of the PHCR training and was sure what to do: she immediately immobilized the girl's arm and two adjacent joints so the fracture didn't worsen or harm surrounding tissues. Thanks to her actions and the pain reliever she administered, the young patient slept comfortably that evening.

The next morning at the health center, Rita's doctor put the arm in a cast, acknowledging the quality of Karine's work. The X-ray showed that the fracture was properly set without complications.

Karine says the new skills she mastered in the PHCR training will spare Neghots residents the delays and expense of traveling to get quality medical care. "In our workaday routine it is not always possible to keep track of the latest developments in nursing practice. Personally I and, I'm sure, most of my peer trainees, learn something entirely new every training session. I feel so much more confident dealing with various health problems now."

Training of 130 nurses from Lori and Shirak, the Northern regions of Armenia, will be completed in mid-November 2007. By the end of 2010, PHCR will have delivered training to more than 550 rural nurses across Armenia.



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## SUCCESS STORY

### Supporting NGOs To Improve Community Health

**Trainings of trainers that PHCR provides to local NGOs help improve health of rural communities**



Photo: PHCR

*With her newly gained knowledge and skills Arpine Porsughyan, Community Mobilizer and Trainer of Gyumri-based "Ajakits" NGO (left), can now train communities, as well as trainers and volunteers from partner organizations.*

***The Primary Healthcare Reform Project is a USAID-funded five-year project that aims to increase utilization of sustainable, high-quality primary healthcare services in Armenia.***

Improving people's health requires a range of efforts to upgrade healthcare facilities, build capacity of medical personnel and assure affordability of quality care. However, without creating awareness about health issues and helping people take ownership of their own health, little sustainable progress can be accomplished.

As its first step in empowering communities to identify and address their health issues effectively, PHCR supported the establishment of Health Committees (HC) in 21 rural communities of Lori and Shirak regions. For increased sustainability and impact, the Project decided to involve local non-governmental organizations (NGO) in building the capacity of the newly established HCs. During the first stage of PHCR's small grants program, which was announced in November 2006 and ran for four weeks, four qualifying NGOs from both regions were engaged in the Project's community mobilization strategy. Prior to starting field work, they all completed PHCR-delivered training of trainers on topics such as participatory approaches in identifying and resolving community health issues; behavior change communication; interactive teaching methods; adults learning strategies; project design and management; and conflict and stress management. By the end of 2006, the NGOs had successfully trained 210 HC members in the two regions.

Making NGOs a part of PHCR community mobilization activities not only gave them a unique chance to master up-to-date training delivery skills, but also helps greatly enhance the impact of health promotion efforts. As NGO trainers continue using the newly acquired skills in their day-to-day work, more people, even from communities not directly covered by PHCR activities, will eventually receive training in health issues. Arpine Porsughyan is a Community Mobilizer and Trainer at "Ajakits", one of the NGOs involved in the first stage of the small grants program. After completing her assignment under the program, she was invited to deliver trainings to trainers from partner organizations. "It's been only two months since we attended trainings at PHCR, but I have already had a chance to share what I learned with 28 colleagues from other NGOs," says Arpine. "I am so excited to realize that my skills will really help change people's attitude to their and their children's health."

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## SUCCESS STORY

### Bringing Care Closer to People

**Rehabilitating rural healthcare facilities improves people's access to health services**



Photo: PHCR

*Novoseltsovo Community Mayor Ruben Davoyan and nurse Yelena Suzdaltseva in the newly renovated and furnished by PHCR community health post.*

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The 1988 earthquake devastated the village of Novoseltsovo in Lori Marz leaving the residents with little access to quality healthcare. To remedy this situation, the USAID-funded Primary Healthcare Reform Project (PHCR) in Lori region renovated and provided with furniture 19 ambulatories and health posts covering a population of nearly 33,000, - that's how many people now can get care in refurbished, clean and greatly improved healthcare facilities.

For example, Novoseltsovo's completely destroyed health post coupled with the remote location of the community long made it an unattractive place to live and work for healthcare providers. Even in case of extreme emergencies, summer or winter, people had to travel more than four kilometers to the nearest health post. But, things changed for Novoseltsovo when the USAID's PHCR project launched primary healthcare facility renovation works in Lori region.

Through discussions with the regional Health and Social Security Department, PHCR identified communities with healthcare facilities in greater need of improvement. A community's willingness to cooperate was one of the crucial criteria, and this is where Novoseltsovo excelled. Not only was the local population eager to support the Project in its initiative, but the community council undertook to have a vacant nurse relocate from a neighboring community and provided her with all accommodations including a house.

"We realized this was a unique opportunity for us to change our community's life for the better," says Ruben Davoyan, Community Mayor. "The renovated health post is not only healthcare brought closer to our people's homes, but also a step to a more secure future."

Community leaders have kept their promises. For example, the newly invited nurse, Yelena Suzdaltseva, has been serving Novoseltsovo for two months now. Later this year, along with 64 other nurses from Lori region, she is scheduled to attend the PHCR-organized six-month training course for community nurses, which will enhance their professional skills and help better address their communities' health issues.

Novoseltsovo a village in the Lori region is located towards the very North of Armenia, about 20 kilometers from the Armenian-Georgian border.



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## SUCCESS STORY

### Improving Critical Skills, Improving Healthcare

**Equipping polyclinic managers with key planning skills will yield benefits to healthcare service delivery in Armenia**



Photo: PHCR

*For Svetlana Karyan this PHCR-organized training is not only a learning event, but also an invaluable opportunity to discuss common operational challenges with her colleagues from other PHC facilities.*

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Reforming Armenia's primary healthcare system requires a dynamic, collaborative approach to training a diverse pool of healthcare sector personnel. Often, the most significant challenges are addressing specific skill gaps within the healthcare sector infrastructure.

The Health and Social Security Departments (HSSD) of Lori, Shirak, and Yerevan municipalities tasked polyclinic heads with creating their own three-year strategic operational and financial plans. Involving facilities in the municipal strategic planning and budgeting processes was a major step in fostering a much needed "bottom-up" approach to healthcare planning across Armenia. After HSSD reviewed the draft plans submitted by facility managers, considerable deficiencies in the strategic management and planning skill set became evident.

In collaboration with HSSD, PHCR's healthcare finance team conducted an in-depth management training needs assessment, then created a customized training package tailored to address the specific skill gaps common among these facility managers. Fifty-six polyclinic managers attended workshops where a planning template was developed together with PHCR trainers, and technical sessions were held on strategic planning, service quality management, SWOT analysis, risk assessment, financial management, and resource management.

"These strategic plans are far more structured and better designed," says Dr. Robert Sukiasyan, Deputy Head of the Yerevan HSSD. "The whole process was so well executed that we have requested that specialist care providers also submit their plans according to the PHCR-developed template."

For Alaverdy polyclinics manager, Svetlana Karyan, new skills in short and medium-term planning enable better decision making on resource allocation and performance monitoring. "I have participated in other trainings before, but financial management and strategic planning are completely new topics for me. They will definitely improve our resource management and quality of care."

The training was so important and well-designed that the Minister of Health signed the completion certificates qualifying these trainings as continuing medical education—a great bonus for workshop participants.



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## SUCCESS STORY

### Community Mobilization and Community Nurse Training Improve Quality of Services and Citizens' Knowledge and Practice of Healthy Behavior

**Study showed that Community Nurses of Lori and Shirak marzes, who had undergone Community Nurse Training provided by PHCR Project, use their obtained set of 32 nursing skills nearly twice as much as the non-trained nurses.**



Photo: PHCR

*Shirak marz nurses at the training.*

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One cannot speak of health, particularly health of a nation, when the healthcare providers of that particular nation lack needed clinical skills, or when people lack needed health education. In Armenia, the primary health care (PHC) system is still in its early stages of becoming an effective, efficient, and equitable system. Two of the weaker links in the chain are the quality of PHC services provided to the rural communities of Armenia, including the extent of knowledge and skills of PHC providers, and the level of public education and community mobilization in PHC.

Since 1996, USAID Primary Health Care Reform (PHCR) Project, together with the Ministry of Health, local government authorities, and community members has made continuous efforts aimed at closing this gap. PHCR initiated its major interventions in that direction in Lori and Shirak marzes by launching a 6 ½ month wide-scale Family Nurse/Community Nurse training for 129 nurses, and starting the process of mobilizing communities through forming and training Community Health Committees (CHCs) - groups of community members trained and actively involved in community health education - in 42 target communities of Lori and Shirak.

What difference have these two initiatives made? A recent study showed that Community Nurses of Lori and Shirak marzes, who had undergone Community Nurse Training provided by PHCR Project, use their obtained set of 32 nursing skills nearly twice as much as the non-trained nurses (69.0 percent vs. 35.5 percent). Moreover, the observations of blood pressure measurement, taken by the Community Nurses of Lori and Shirak, showed that on average, the PHCR trained nurses performed 72.1 percent of the steps required for proper blood measurement as compared to 27.9 percent among non-trained nurses. Blood pressure measurement is a very important procedure for Armenia, taking into account that high blood pressure is one of the major risk factors for cardiovascular diseases – the number one cause of death in Armenia.

A second study was conducted to measure changes in Knowledge, Attitude and Practice (KAP) in Lori and Shirak marz communities following the creation and training of CHCs. The KAP scores (expressed in percents of the maximum possible score) in communities with CHCs vs. communities without CHCs were significantly higher in a number of critical areas: reproductive health (70.7 percent vs. 62.3 percent), diabetes (45.9 percent vs. 33.8 percent), child care (66.6 percent vs. 61.4 percent), and Sexually Transmitted Diseases (60.4 percent vs. 53.1 percent)

The nurse training and community mobilization initiatives are two components of PHCR's comprehensive and sequential package of reform interventions that also includes: renovation of PHC facilities; provision of essential equipment and supplies; training of nurses and upgrade of Family Physician curriculum; training of facility management staff in good management practices – all with the goal of improving the quality of and access to PHC services in Armenia.



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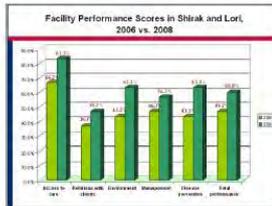
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## SUCCESS STORY

### PHCR Target Facilities Significantly Improve their Performance

Facility performance scores improved significantly, the chart illustrates



The results showed a significant increase in overall facility performance from 46.7 percent in 2006 to 60.0 percent in 2008.

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It is an internationally accepted view that one of the criteria of the “health” of a health care system is the ability of its first level - primary health care (PHC) – to address the 80 percent of what are the most common health problems found in a population. These include areas such as access to care, treatment and prevention, provider-patient relations, etc, that constitute the core elements of well-performing PHC facilities forming a critical part of the overall PHC system. Since the breakup of Soviet Union, the PHC system in Armenia has experienced a serious decline in virtually all areas of PHC resulting in poor quality of healthcare services, extremely low utilization rates, and significantly damaged trust towards PHC providers.

As one of the steps to address this challenge, USAID, through the Primary Health Care Reform (PHCR) Project, together with the Ministry of Health of Armenia, local governments and PHC facilities, developed and implemented a comprehensive and sequential package of interventions in 61 PHC facilities of Lori and Shirak marzes, since 2006. Examples of this package included renovation of PHC facilities, provision of essential equipment and supplies, training of nurses and upgrading of the Family Physician curriculum, and training of facility management staff in good management practices.

To measure the impact of its interventions, PHCR conducted a before and after study to see how the targeted facilities were doing in six areas of interest, comparing their performance for the years of 2006 – before the interventions, and 2008 – after the interventions. The results showed a significant increase in overall facility performance from 46.7 percent in 2006 to 60.0 percent in 2008. Specific examples of improvements included: access to/provision of care increased from 66.7 percent in 2006 to 83.3 percent in 2008; provider relations with community and clients increased from 36.7 percent to 46.7 percent; work environment ranging from appropriate working conditions for providers to disaster preparedness, and medical waste management procedures, increased from 43.3 percent to 63.3 percent; facility management including directions such as sufficient number of staff; availability of guidelines, criteria, protocols; availability of an official procedure for responding to the client complaints; etc, increased from 46.7 percent to 56.7 percent; and performance in primary and secondary preventions increased from 43.3 percent to 63.3 percent.

These results demonstrate what can be done with a more comprehensive package approach to improving the quality of and access to PHC services in Armenia and, consequently, improved health of the Armenian population.



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## SUCCESS STORY

### PHCR Interventions Hit the Target: Physical Conditions and Human Resources of Target Facilities Record a Significant Boost

**Such indicators as the size, lighting, and renovation status of examination /procedure's room(s) increased significantly from 24 percent in 2006 to 86 percent in 2008.**



Photo: PHCR.



Lemantsk Health Post before and after renovation.

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If two years ago, in 2006, someone would have visited the Health Post in Lernantsk community of Lori Marz, Armenia, he/she would have witnessed a strange scene: a small, patched up metal booth somehow balancing on a couple of stones serving as points of rest, and with a sign tagged to the side saying "Haypost postal services" (sic!); no patients and no healthcare providers nearby, which is reasonable, because in such conditions it is a safer option to provide care at the patients' home, at least. Sadly, this situation was more or less typical of primary health care (PHC) facilities throughout Armenia's rural communities. The picture was worsened by the fact that PHC providers in rural communities, as well as managers of such facilities had not received training in years, resulting in significant losses in their knowledge and skills. The problem was clear: if there is no place to provide PHC services, and the providers don't have the needed knowledge and skills to provide those services, one cannot expect high quality of services or a high level of utilization of PHC services; hence, the health of the population is seriously endangered.

The problem was identified and acknowledged by Government of Armenia, which declared PHC as a priority direction in its healthcare strategy. As a way of supporting the Armenian Government in achieving its strategic objective of improving the quality and utilization of PHC services in Armenia in rural areas USAID through its Primary Health Care Reform (PHCR) Project developed a comprehensive and sequential package of interventions. . Examples of interventions in this package included: renovation of PHC facilities provision of essential equipment and supplies; training of nurses and upgrade of Family Physician curriculum, forming Community Health Committees for health education, and training of facility management staff in good management practices. In 2006, the package was launched in 61 communities of Lori and Shirak marzes of Armenia.

To assess the differences associated with the package of interventions, a follow-up study was conducted two years later in 2008 of changes in physical conditions and the quality of human resources of the 61 PHC target facilities of Lori and Shirak marzes. The analysis revealed a significant increase in both the physical conditions – rooms, furniture, equipment - and the human resources – education and training of PHC staff and facility managers - of the target facilities two years later.

In particular, such indicators as the size, lighting, and renovation status of examination/procedure's room(s) increased significantly from 24 percent in 2006 to 86 percent in 2008. This increase was particularly evident for FAPs (Health Posts) - from 13 percent to 96 percent. Availability of appropriate furniture (based on 12 types of furniture) increased from 35.9 percent to 64.8 percent, and the availability of equipment (based on 70 types of equipment and supplies) - from 37.0 percent in 2006 to 45.3 percent in 2008.

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As to changes in quality of human resources, the study showed that in 2006, 31.3 percent of all PHC physicians employed in the assessed 61 facilities were educated at the National Institute of Health (NIH) and/or Yerevan State Medical University during the last 5 years, while in 2008, this proportion increased to 83.9 percent. This means that the number of PHC physicians of the mentioned communities, with recent medical training, i.e. comparatively up-to-date knowledge and skills, has increased by more than 2.6 times. The same indicator for PHC nurses is also impressive – an increase of almost two times: in 2006, 34.2 percent (54) of all PHC nurses employed in the assessed 61 facilities were educated at the NIH and/or the Basic Medical College during the last 5 years, while in 2008, this proportion increased to 64.1 percent. A 2.5 times increase was recorded also for facility managers: the proportion of the managers of the assessed facilities, who had received managerial training increased from 19.4 percent at the baseline to 49.3 percent at the follow-up assessment.

This comprehensive and sequential package of interventions has demonstrated a successful model and is being replicated in other marzes of Armenia, thus facilitating improvements in the quality of and access to PHC services in Armenia.

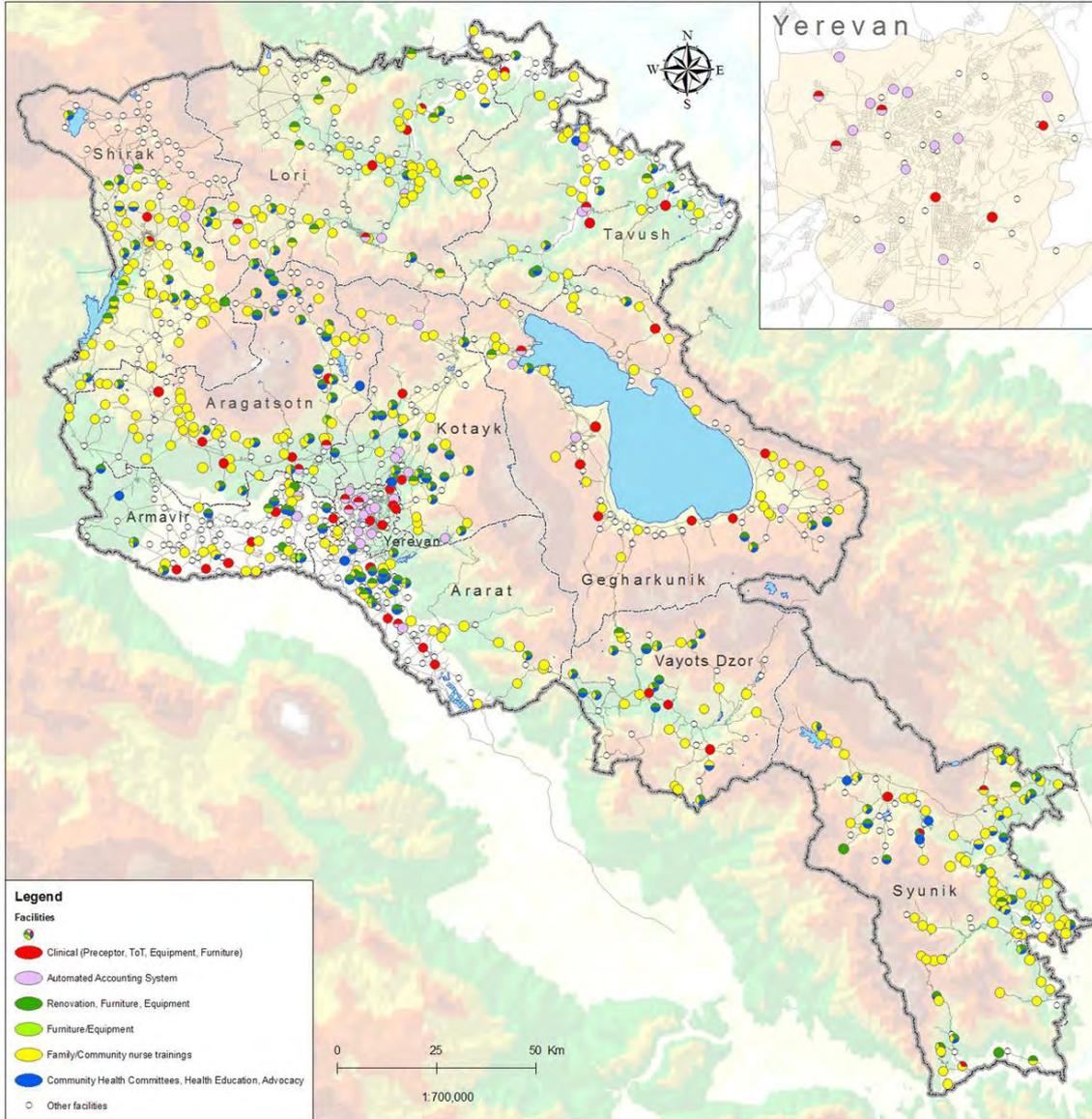
## APPENDIX H: PHCR FAMILY MEDICINE AND FAMILY NURSE TRAININGS

#	Training Title	Audience and Number Trained	Recognition
1.	TOT on MCCI	FM faculty, CPs: 47	YSMU
2.	TOT on CVD	FM faculty, CPs: 65	YSMU
3.	TOT on TB	FM faculty, CPs: 27	YSMU
4.	TOT on Dermatology	FM faculty, CPs: 11	PHCR
5.	TOT on UTI	FM faculty, CPs: 36	PHCR
6.	TOT on Family Nursing	FN preceptors:14	NIH
7.	TOT on QoC	QCs: 53	MOH
8.	Training on QoC	PHC facility staff: 547	MOH
9.	Training on establishment of FMGP	Family physicians: 50	PHCR
10.	Workshop on LFP	FM faculty, CPs: 14	PHCR
11.	EBM MCH seminar	PHC physicians: 60	PHCR
12.	Hands on Training on Chronic Diseases	PHC physicians: 73	PHCR
13.	Training on behavior change counseling	FM/FN faculty, CPs: 72	PHCR
14.	Training on use of Job Aids	FM faculty, CPs, PHC physicians: 547	MOH
15.	Community Nurse training	FAP nurses: 500	MOH/NIH

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## APPENDIX I: MAPS OF TARGET SPECIFIC AND NATIONWIDE PHCR ACTIVITIES

# PHCR Target Specific Activities (FAPs, Ambulatories)



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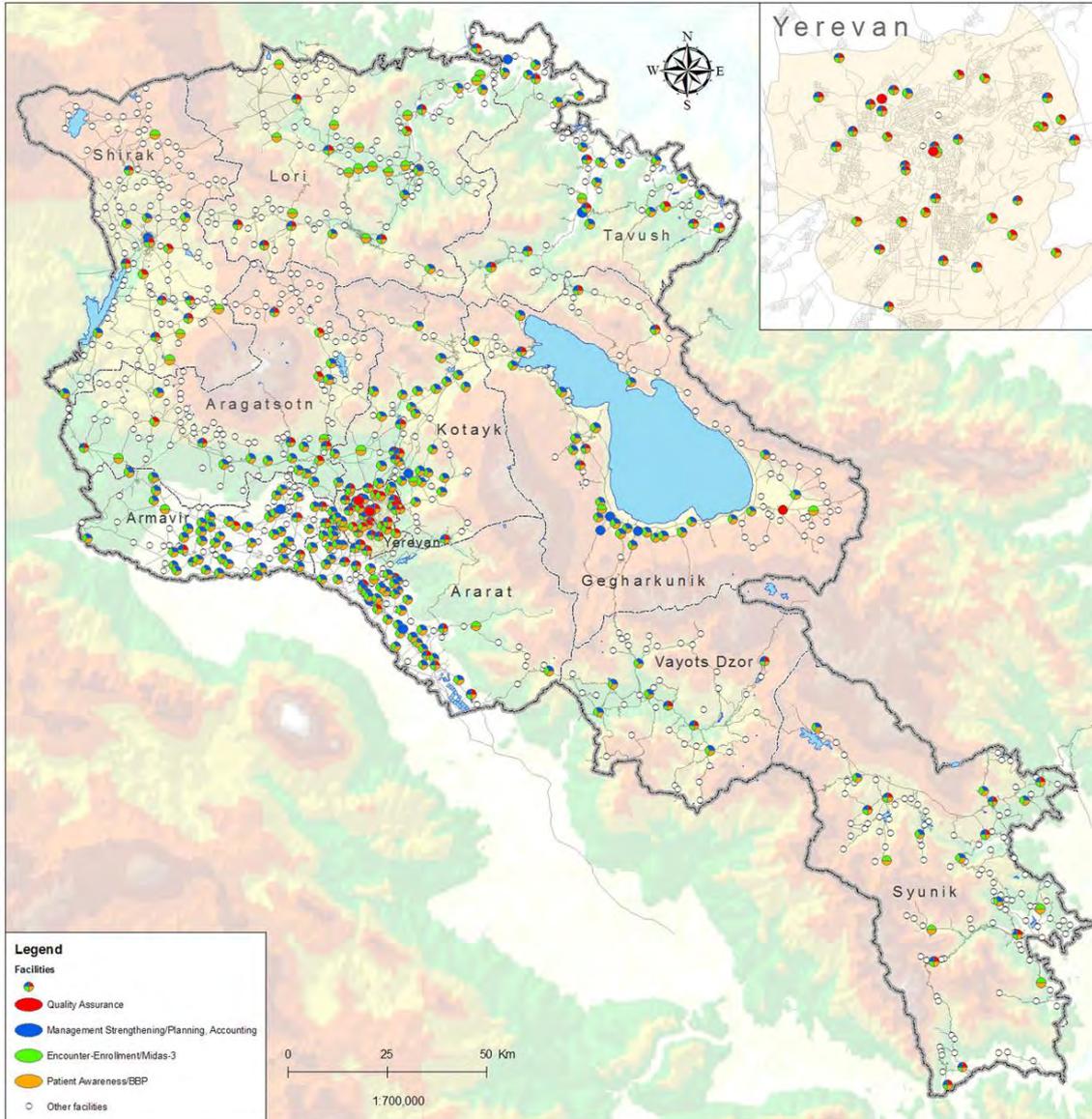
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# PHCR Activities Nationwide



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