Technical Report # 46

Reproductive Health Care at the Primary Level in Armenia: Assessment of Providers Services and the Factors Affecting Performance

Final Report

August 2003

Prepared by: Alfredo Fort, MD, PhD
Hayk Gyuzalyan, PhD
Rebecca Kohler, MPH
Lauren Voltero

Contributions from: (in alphabetical order)
Leah Levin, MPH
Marc Luoma, BA
Sona Oksuzyan, MD
Marcel Vekemans, MD

PRIME II
Armenia

This publication was produced by the PRIME II Project and was made possible through support provided by the United States Agency for International Development (USAID) under the terms of Grant No. HRN-A-00-99-00022-00. The views expressed in this document are those of the authors and do not necessarily reflect those of IntraHealth International or USAID.

PRIME II Partnership: IntraHealth International; Abt Associates, Inc.; EngenderHealth; Program for Appropriate Technology in Health (PATH); and Training Resources Group, Inc. (TRG), with supporting institutions, the American College of Nurse-Midwives (ACNM) and Save the Children.

ISBN-1-881961-93-7

Suggested Citation: Fort, A.; H. Gyuzalyan; R. Kohler; and L. Voltero. Reproductive Health Care at the Primary Level in Armenia: Assessment of Providers, Services and the Factors Affecting Performance. Chapel Hill, NC: IntraHealth, PRIME II Project, 2003. (PRIME Technical Report 46)

The PRIME II Project
IntraHealth International
CB # 8100, 1700 Airport Road, Suite 300
Chapel Hill, NC 27599-8100 • USA
Phone: 919-966-5636 • Fax: 919-966-6816
e-mail: intrahealth@intrahealth.org http://www.prime2.org

East and Southern Africa
Norfolk Towers
Kijabe Street
P.O. Box 44958
Nairobi, Kenya
Phone: 254-2-211820
Fax: 254-2-226824

West and Central Africa
B.P. 5328
Dakar-Fann, Senegal
Phone: 221-864-0548
Fax: 221-864-0816

Latin America and Caribbean
Federico Henríquez y Carvajal #11
Segundo Piso- Gazcue
Santo Domingo,
Dominican Republic
Phone: 809-221-2921
Fax: 809-221-2914

Asia
Queen Sirikit Convention Centre
Zone D, 101/4-5
60 New Ratachadapisek Rd
Klongtoey, Bangkok,
Thailand
Phone: 66-2-229-3121
Fax: 66-2-229-3120

For further information on this publication or to order additional copies, please contact the Communications Unit at the Chapel Hill office listed above.

Table of Contents

List of Tables, Figures and Appendices

Tables

Authors

Alfredo Fort, Director, Monitoring and Evaluation Unit, PRIME II/Chapel Hill, NC

Hayk Gyuzalyan, Monitoring and Evaluation Officer, PRIME II/Armenia

Rebecca Kohler, Country Director, PRIME II/Armenia

Lauren Voltero, Senior Performance Improvement Advisor, PRIME II/Chapel Hill, NC

Contributors *(in alphabetical order)*

Leah Levin, Regional Program Coordination, PRIME II/Chapel Hill

Marc Luoma, Director, Performance Systems Unit, PRIME II/Chapel Hill (Training Resource Group)

Sona Oksuzyan, Clinical Advisor, PRIME II/Armenia

Marcel Vekemans, Medical Advisor, PRIME II/Chapel Hill, NC

Acknowledgments

The authors and contributing staff of PRIME II wish to thank the many people who contributed to the performance assessment and special study and to this report. In particular, thanks goes to Sona Oksuzyan, MD, PRIME II Armenia Clinical Advisor, who reviewed the instruments, co-facilitated the data collectors' workshop and assisted in supervising field work for the study; Michael Grigoryan, PRIME II Armenia Finance Director, for logistics; and Laura Khalatyan for instrument formatting and translating. We also would like to acknowledge Edna Jonas, USAID Health Specialist for her valuable insights and input into the study design and support throughout the process. We also thank the Ministry of Health (MOH) representatives who made this research possible, especially Karine Saribekyan, Anahit Hovanissyan and Gayane Avagyan. Special thanks goes to Razmik Abrahamyan, director of the Center for Perinatalogy, Obstetrics and Gynecology and PRIME II project coordinator on behalf of the Minister of Health for his support throughout the process and use of his center for training of data collectors. Lastly, we especially would like to express our gratitude for the study supervisors and data collectors whose excellent work enabled this report to be prepared. These are the following:

Lori Marz
Goharik Zohrabyan, Supervisor
Lusine Vardanyan, Supervisor
Svetlana Abrahamyan
Seyran Alaverdyan
Ashot Avetisyan
Rita Ghanvelyan
Flora Gharibyan
Nune Hovsepyan

Shirak marz
Ruzanna Manucharyan, Supervisor
Nadia Baghdasaryan, Supervisor
Anna Abrahamyan
Karen Antonyan
Hakob Avetisyan
Karen Dzhulhakyan
Anahit Hovhannisyan
Anahit Karapetyan

Anahit Khachatryan
Anoush Mkheyan
Lusine Piloyan
Inna Qaramyan
Artak Sahakyan
Lora Sargsyan
Perch Shushanyan
Hegine Zalinyan
Hovhannes Karapetyan
Artur Khacatryan
Gnunik Petrosyan
Hasmik Qochoyan
Karen Torikyan

The authors would also like to thank Ms. Barbara Wollan, Administrative Assistant for Monitoring and Evaluation Unit, Intrah/PRIME II, Chapel Hill, for entry of final edits and formatting of this document.

Abbreviations and Acronyms

AMB	Ambulatory
ANC	Antenatal Care
DHS	Demographic and Health Survey
DK	Don't know
FA	Fertility Awareness
FAP	*Feldsher acoucher post (Armenian)*
FP	Family Planning
GOAM	Government of Armenia
HC	Health Center
IC	Infant Care
K&S	Knowledge and Skills
LAM	Lactational Amenorrhea Method
MOH	Ministry of Health
NS	Not significant
Ob/Gyn	Obstetrician/Gynecologist
PI	Performance Improvement
PP/IC	Postpartum/Infant Care
PP	Postpartum
RH	Reproductive Health
SDP	Service Delivery Point
Sig	Significant (statistically)
SPSS	Statistical Program for Social Sciences (software packet)
STI	Sexually Transmitted Infection
STP	Social Transition Program
WC	Women's Consultation
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development

Executive Summary

As part of the Government of Armenia (GOAM)'s health reform efforts supported by the United States Agency for International Development (USAID) Armenia Social Transition Program (STP), PRIME II is using the Performance Improvement (PI) framework to improve the performance of primary care providers in reproductive health (RH), with a special focus on maternal and infant health. Intervention areas include strengthening the policy environment, referral facilities and training sites and conducting combined clinical and self-study training Yerevan and in Lori marz.[1] PRIME II is also contributing to the establishment of family medicine by building RH competencies of family group practice physicians. In addition, through PRIME II global funding, the project is implementing an initiative on gender-based violence and supplementing the performance assessment with a special study to better understand the relative importance of different performance factors on maternal and infant care (IC).

The RH performance assessment included examination of providers' performance in antenatal care (ANC) and integrated postpartum/IC (PP/IC), providers' perceptions as to what supports or hinders their ability to provide quality care, average client load at selected facilities, client perception of quality of services and an inventory of equipment and supplies in primary facilities. The sample included 208 service delivery points (SDPs) and 349 providers in Yerevan, Lori marz and nearby Shirak marz. Data were collected in August-September 2002 and presented to local counterparts in December 2002.

The results of these analyses were used to identify gaps in health care service delivery and to develop strategic interventions that close those gaps. The PI framework was used to guide the analyses as well as the intervention identification. The six PI factors that need to be in place for workers to be able to perform well on their jobs:

- Clear job expectations
- Clear and immediate performance feedback
- Adequate physical environment, including proper tools, supplies and workspace
- Motivation and incentives to achieve high performance
- Skills and knowledge required for the job
- Organizational Support (overarching factor)

Results of the study revealed areas of strength as well as opportunities for improvement. As would be expected in Armenia where physicians provide most of the ANC throughout the country, physicians scored almost twice as high (67% of total score) as nurses/midwives (38% of total score). However, relatively weak areas were also identified among physicians, such as not paying attention to women's problems and not informing them about side effects of medicines and danger signs

1 A marz is a province or administrative division. There are 11 in Armenia. There are five regions in Lori marz and five in Shirak marz. Ashotsk region in Shirak marz was excluded from sample due to active participation of another international health aid organization – UMCOR.

for pregnancy complications. Nurses, midwives and *feldshers* were less likely than physicians to discuss critical health education messages with women (e.g., nutritional needs, potential pregnancy complications) and to do simple clinical procedures such as taking temperature or pulse rate. Only the nurses, midwives and *feldshers* were assessed on integrated PP/IC skills because these services are integrated only at the primary care level where one provider offers services to both mother and infant. Scores in this area were higher than in ANC (51% of total), but overall scores still reveal low performance in critical areas such as checking for anemia, informing the woman about danger signs in the PP/infant period and counseling on birth spacing.

To gain the community's insight and assess clients' perceived access to health care, exit interviews were conducted. On average, a client walks 15-minutes to the nearest health facility and on average a pregnant woman has four prenatal visits in a six month period. When asked about client-provider interaction, several gaps were revealed, such as not being comfortable asking questions and not having enough privacy during the consultation.

To complement both client and provider data, the study inventoried all health posts, also referred to as FAPs. The inventories revealed structural deficiencies such as lack of running water, electricity, toilets, examination tables and kitchens. Cleaning and examination supplies and equipment such as soap disinfection solutions, thermometers, stethoscopes and infant scales were also too few or completely absent.

Quantitative and qualitative interviews of nurses and midwives pointed to the root causes of gaps underlying provider's ability to deliver high quality antenatal and PP/infant services. Notably, job descriptions were not widely disseminated from MOH headquarters in Yerevan to marz-level administrations or health posts. When these descriptions were found, they were neither written in such a way to guide workers in their present tasks nor did they set job expectations. Monetary incentives, including salaries are inadequate and paid late. Other incentives came in the form of verbal recognition or unofficial payments, such as food or domestic labor. Feedback from supervisors was not routine nor did it address the way providers are doing their jobs or how to improve their performance. Lastly, in the area of training, providers felt they had sufficient knowledge and skills (K&S) to do the job, however up to 40% had not received any training in RH and around one-fourth of providers had not been trained in the use of clinical equipment and tools of daily use.

The multivariate analyses of performance factors found that some factors were better predictors of levels of performance of nurses, midwives and *feldshers* than others. For both ANC and PP/IC, having been trained in the use of the clinical equipment and tools of daily use was a critical factor in improved performance. Also, performers who received positive recognition from either employers or the community performed better overall. For ANC, performers working in polyclinics (PCs)/women's consultations (WC) performed better than those working in a FAP. For PP/IC, in addition to those factors mentioned, providers performed better if they had a job description and if they had received performance reviews.

Knowing how to use everyday tools, receiving appropriate incentives for their work and getting clear job expectations and support were all important factors impacting

performance. These and other findings from the study are being used to identify and select priority interventions in support of the important health and social reforms occurring in Armenia.

Introduction

In 2001, USAID/Armenia invited PRIME II to collaborate with the MOH and other in-country partners to improve RH in Armenia. PRIME II works within the framework of USAID/Armenia's STP, a broad health and social welfare reform effort. The PRIME II program goal is to improve the performance of primary care providers including obstetricians and other family group practice physicians, midwives and nurses in RH, with a special focus on maternal and infant health, through an improved policy environment and by strengthening referral facilities, training sites and refresher training. Key project results will be:

- National RH policies revised and standards and protocols developed
- An effective RH component of the national family medicine curriculum
- Family physicians from national health reform pilot sites providing quality RH services
- Nurses and midwives from approximately 60 targeted primary care facilities in Lori Marz offering RH services to quality standards
- RH clinical training sites equipped and capable of providing quality clinical practice experiences for nurses, midwives and primary care physicians

The PRIME II Armenia project design was based on MOH priorities together with the results of a performance needs assessment (PNA) conducted in August 2001. Prior to implementing any performance interventions in its 60 primary care facilities, PRIME II planned for a thorough baseline assessment to determine actual performance of RH providers and facilities, using the PRIME II Armenia performance monitoring plan (PMP) as a guide. Given the interest level of the MOH and USAID, PRIME II headquarters provided supplemental resources from USAID Washington to expand the sample size in order to be able to conduct a higher-level analysis of the data to draw conclusions about the relative importance of different performance factors for nurses, midwives and *feldshers*.

Background

Since declaring independence from the Soviet Union in 1991, Armenia has been in a state of political, economic and social transition. Despite the difficulties of changing from a centrally planned to a free market economy, Armenia has experienced economic growth for the past seven years (MOH, 2000). Changes in the social welfare sector, however, have not been as positive. Data from the Armenia Demographic and Health Survey (DHS) and the 1997 Reproductive Health Survey indicate that the health status of the population, particularly women and children, is generally poor and utilization of the health care system is declining. There are reports of more maternal deaths. More women are seeking ANC later in pregnancy and are opting to give birth at home (MOH, 2000). There is poor knowledge among the population about sexually transmitted infections (STI) and human-immunodeficiency virus (HIV) and the prevalence of these infections has increased during the past decade (MOH, 1997). The incidence of low birth weight babies is

increasing due to poor maternal nutrition. Perinatal mortality is reportedly increasing due to poorly managed pregnancies and deliveries, low birth weight, premature births, and maternal conditions such as anemia, pre-eclampsia and eclampsia (UNFPA, 2000).

Financial, structural and regulatory barriers are the crux of many of the problems that currently constrain the performance of health providers and systems in meeting the RH needs of the population. For example the GOAM cannot afford to cover the salary and operating costs of the predominantly large and over-staffed hospital and PC system. Urban referral sites do not effectively or efficiently coordinate or communicate with rural ambulatories or health posts, or FAPs.[2] FAP nurses and midwives suffer from lack of supportive supervision and sufficient clinical skills. While nurses and midwives in FAPs and rural ambulatories are legally allowed to provide ANC and PP care when no obstetrician/gynecologist (Ob/Gyn) is available[3], they are not effectively trained or empowered to and their immediate supervisor or the regional Ob/Gyn does not allow them to do so. In the current system, even routine RH care is provided by Ob/Gyns with nurses and midwives performing very limited roles.

To address these and other problems, the government has embarked on a program of reform in the health sector that will put more emphasis on primary health care and away from costly hospital-based care. Under the STP, USAID Armenia is supporting the MOH's efforts to reform the social welfare and health care systems. One component of the STP is development of family medicine and family nursing as part of a national strategy to reduce the use of specialists for routine and preventative care. This long-term strategy requires changes in legal, financial and educational systems, and also requires changing the expectations of health care consumers who are accustomed to being treated by medical specialists and changing the attitudes of health personnel who are accustomed to a hierarchical system of service provision.

Health reform in Armenia has grown out of an attempt to expand coverage, increase effectiveness and establish equity in the provision of health services while controlling health expenditures. The PRIME II project in Armenia is working within these national health reform efforts to ensure that RH programs and outcomes are improved. Deficiencies that characterize the financing and provision of RH services are intrinsic to the whole health delivery system. Making quality RH services available at the lower levels of the primary care delivery system is consistent with and supports Armenia's health reform goals. To these ends, PRIME II's expertise in

2 Women's consultations, where women go for antenatal care, postpartum care and gynecological services, can be located in maternity hospitals or polyclinics and they can be stand-alone structures. Rural HCs have both outpatient and limited in-patient services and are only located in larger rural villages. Rural ambulatories are strictly outpatient services and are generally staffed by one physician and services nurses and midwives. Health posts, also referred to as *feldsher accoucher post* (FAPs) are simple, one-room, satellite facilities administratively tied to the closest higher-level facility that could be an ambulatory, a HC or a polyclinic. Usually FAPs are staffed by one nurse or midwife.

3 Governmental order number 123 (Provision of Population with Obstetrics-Gynecological Health Care and Services Covered by the Basic Benefit Package) published yearly indicates that obstetrical and gynecological services can be provided at health posts and rural ambulatories by midwives.

introducing RH services into integrated primary health care in rural settings as well as diagnosing and addressing systemic service delivery gaps such as weak supervision, poor coordination of care and referrals, and limited focus on client needs, can inform health reform efforts nation-wide.

Just as family physicians are envisioned to be the first point of contact for families entering into the health system in cities and towns, the FAP or ambulatory nurse is often the first health provider a family will visit in the rural areas. Expanding the skills and competencies of FAP and ambulatory nurses and midwives supports their new roles in a reformed system. By providing quality RH services at the FAP, rural ambulatory and Health Center (HC) levels, there is less need for costly referral to specialists and potential complications are avoided or detected earlier.

The PI Framework

The PRIME II project uses the PI framework to ensure that interventions supporting RH primary providers are appropriate, cost-effective and meet their intended goals (see Figure 1). The PI framework is a systematic, collaborative approach whereby key stakeholders establish desired performance, observe actual performance, identify performance gaps and their root causes, and select interventions to close those gaps between desired and actual performance.

While trying to determine the causes of performance gaps, PI practitioners ask health providers about the presence or absence of certain factors that have been found to contribute to, or hinder, a provider's ability to perform well. These performance factors are:

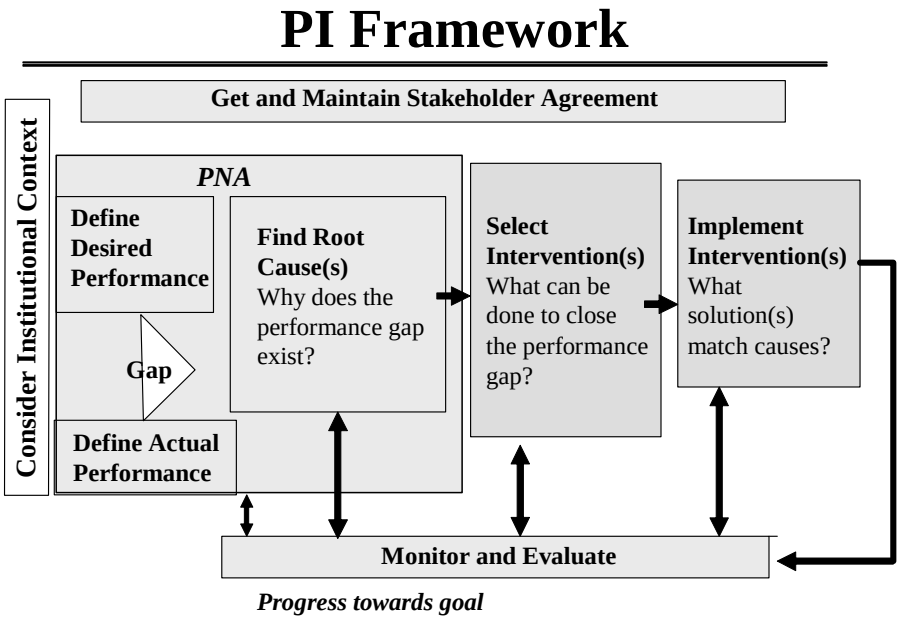
1. Clear job expectations: Performers need first to know what they are supposed to do, and how well - in other words, do the providers have a job description that outlines their duties? Do they have standards, guidelines or protocols that help them determine if they are doing the job well?
2. Timely feedback about performance: Do providers receive on-going information about whether they are meeting expectations (or standards) for their job? If so, what form does this feedback take, and how often do they receive it? From whom?
3. Motivation or incentives to perform: Providers must be motivated to perform, either by internal motivation or external incentives. External incentives can be monetary, such as salary, bonuses, or tips; or non-monetary, such as services, food, goods, and recognition. Disincentives to perform are also critical to analyze: Are providers better off if they don't perform well? Often, hidden disincentives shape behavior more effectively than can intentional incentives.
4. Appropriate environment and tools: Do providers work in an environment that allows them to do their job? Is there heat and electricity? Running water? Do they have the proper equipment? Drugs?
5. Knowledge and Skills: Do providers know how to do the job? Do they have job aids that help them? When was their last training update? Are they able to practice what they learned? Organizational support

6. Organizational support is an overarching factor to address possible inadequacies in the other five factors. A good probing question to ask is 'Does the performer have anyone one to go to if s/he needs support in any of the areas mentioned above? Is there a supervisor that can clarify expectations or provide feedback? If the provider orders supplies, do they come? If training is needed, are there funds to pay for it? Most providers are not self-sufficient and rely on organizations, systems and people for the support they need in order to perform to their best ability.

The PI model assumes that when one or more of these factors is missing or insufficient and performance will fall short of what it could be.

PRIME II is using the PI framework in Armenia as a tool to help stakeholders identify, design and implement interventions that solve specific performance problems. Through strong collaboration with stakeholders, this framework enables organizations to isolate key problems, agree on a set of solutions, and act to eliminate the problems that stand in the way of providers and the services they perform in RH.

Figure 1: Performance Improvement Framework



A full discussion of the PI approach and methodology as developed and adapted for use in the PRIME II project can be found in McCaffery**,** et al. (1999).

Design and Methodology

In accordance with the PRIME II/Armenia PMP, project evaluation starts with a baseline assessment of the capacity of institutions and providers to deliver quality RH services. Key project indicators that will be tracked throughout the life of the project include number of providers performing to standard in selected RH services (ANC, PP care, family planning (FP) use); increased use of those same RH services; improved supervision systems; and increased community outreach. The study was designed to obtain baseline values for some of the project indicators and to accommodate the higher-level analysis required for the special study.

The study is cross-sectional drawing upon a sample of providers working at their SDPs. Information obtained during the assessment will be compared with similar data during an end-of-project evaluation to identify any effects/impact the project may have had on provider performance and client attendance. As part of the special study, information on performance factors is used at one-point in time in an extended data analysis to determine the relative importance of performance factors on how providers deliver services. In order to fully understand contextual aspects about performance factors, the study consists of quantitative and qualitative components.

The main method used to measure performance was observation of providers' delivering two RH services: ANC and integrated PP/IC to real and simulated clients. Observers were trained to record the completion of tasks using a checklist based on MEASURE Evaluation's Quick Investigation of Quality (QIQ) tool (MEASURE, 2001). Observers marked whether or not standard clinical and non-clinical procedures were carried out. The checklists were designed to observe routine services at the primary level. As such, highly clinical tasks, such as pelvic examinations or use of ultrasound, were not included. The checklist measured only those very basic tasks that could be performed by either physicians or other cadres operating at the primary level.

After the observation exercise, the observers asked providers to answer questions in a structured private interview. This questionnaire probed providers' perceptions and claims for each of the six performance factors. As these data were collected, a second data collector gathered information on the types of services rendered at the clinical site, collected attendance statistics from client records and conducted an inventory (only in health posts) of essential facility equipment. In order to better understand how some of the performance factors operate within the unique socio-cultural environment at the primary level in Armenia, a subset of the observed nurses and midwives working in HC, rural ambulatories and health posts participated in an in-depth qualitative interview approximately one month after the quantitative data collection.

Conceptual Framework and Special Study Hypothesis

The PI framework assumes that provider performance is facilitated or hindered by a number of 'performance factors'. Although these 'performance factors' have been studied in both United States industry and social psychology, no research on the

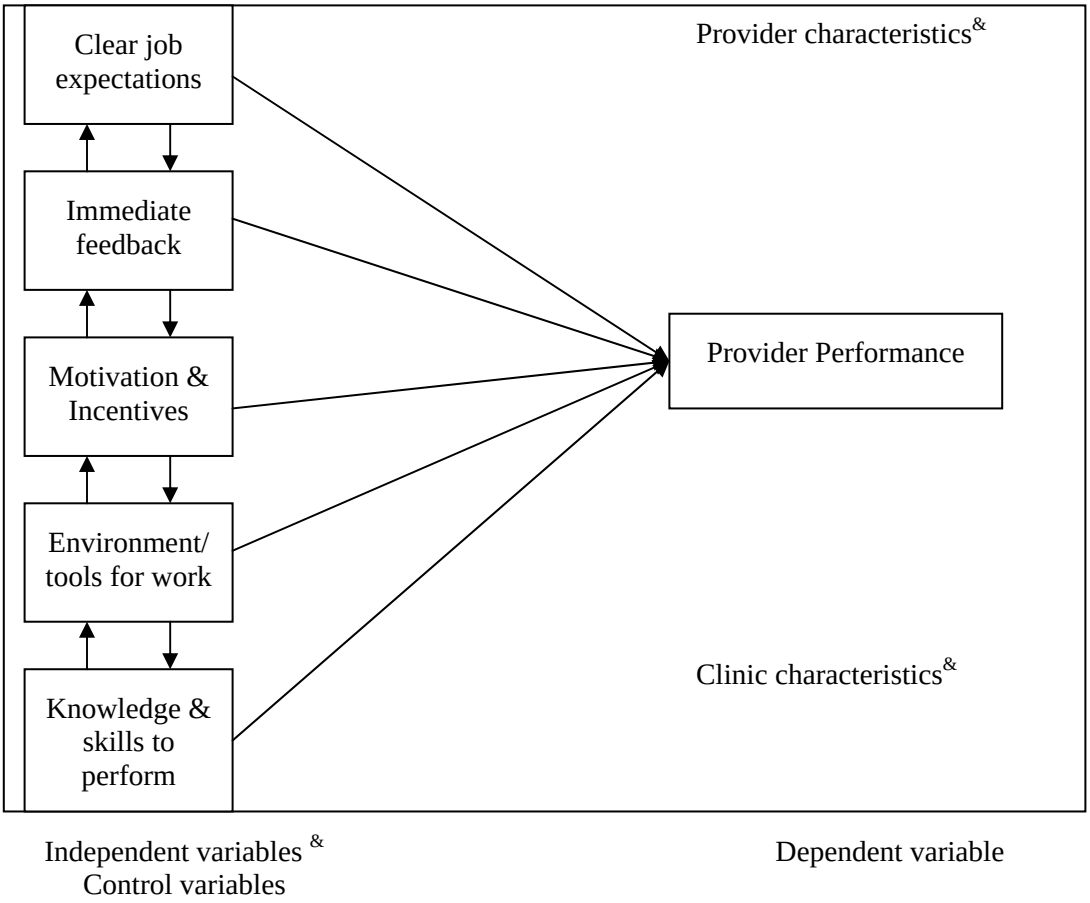
comparative value of the different performance factors has been done in predominantly rural primary care settings where RH services are delivered. This study explored the effects of the performance factors in low resource settings, and attempted to determine if any of the factors individually, or in combination, are relatively more important than others, in their effect on provider performance (See Figure 2). The hypothesis is, then, that for nurses, midwives and *feldshers* working at the primary level in Armenia "there are factors that are better predictors than others of a provider's performance delivering RH services." The qualitative component of the study sought to better describe the context in which selected performance factors operate, namely clear expectations, feedback, motivation/incentives and organizational support, as well as to gain deeper insight of providers' perceptions of those factors.

Sampling

According to the Lori marz health department, approximately 122 outpatient primary care centers in the marz offer RH services including 11 PCs/WCs, five rural HCs, 25 rural ambulatories and 86 health posts. Generally the obstetrician provides ANC and PP care, although other general physicians and even nurses and midwives can provide such service if an obstetrician is not present in a given facility. The types of providers that could potentially offer antenatal and integrated PP-IC include physicians (obstetricians, general physicians, terapefts, and the newly-created family physicians), midwives, nurses and *feldsher*s. (*Feldshers* are a Soviet-era cadre with more training than nurses who were generally stationed at health posts.) In Armenia, no new *feldshers* are being trained, and as such, only a few older providers remain in the system. The providers in the sample had to be currently working in SDPs and offering RH services to the public. In order to standardize the characteristics of providers, the sampling frame considered only providers currently working in public-sector facilities. Also, providers had to belong to similar cadre or specialty to avoid differences in proficiency during observed performance.

The study sampling methods were a combination of census-type selection of respondents, and simple and purposive sampling, depending on the case. For example, given the small number of physicians providing RH services in outpatient settings at the marz level, all physicians found at the SDPs in Lori marz who offer ANC care were observed. In addition, physicians working in two outpatient RH facilities in Yerevan that are targeted for PRIME II interventions were also included in the sample.

Figure 2: Performance factors and actual performance - How do they relate?



For the purposes of the special study, it was estimated that around 300 nurses, midwives and *feldshers* would be required in order to obtain the minimum statistical sample size for a "population" survey of providers. This sample size is based on a series of assumptions about the total population of providers, the proportion of providers that match a key study indicator (i.e., the proportion of providers "passing" a performance threshold mark, through observation), and the maximum 'acceptable' departure from the threshold for this study (i.e., the "precision" of the estimate) – see Table 1 for the alternative sampling size numbers used to arrive at the study estimate.

In order to arrive at the estimated large sample size required for the special study of nurses, midwives and *feldshers* performance, the sample included the universe of providers found in outpatient facilities in Lori at the time of data collection. In addition, since the number of providers in Lori was deemed insufficient, a second

marz, neighboring Shirak[4], was added and the providers working in outpatient facilities there were also included in the sample. Overall, 94 facilities were surveyed in Shirak. See final sample sizes in Table 2 below.

Table 1: Sample size requirements according to different assumptions
Performance and performance factors special study (areas highlighted guided final sample selection)

Scenario	Total estimated population	Expected frequency[&] (%)	Worst acceptable error range (± %)	Confidence level (%)	Sample size required	Field-adjusted sample size[#]
1	1000	30	27.0 - 33.0 (±10.0%)	95	473	520
2	**1000**	**30**	**25.5 - 34.5 (±15.0%)**	**95**	**288**	**317**
3	**1000**	**30**	**25.0 - 35.0 (±16.7%)**	**95**	**244**	**268**
4	1000	40	36.0 - 44.0 (±10.0%)	95	366	403
5	3000	30	25.0 35.0 (±16.7%)	95	291	320
6	**3000**	**40**	**34.0 - 46.0 (±15.0%)**	**95**	**236**	**260**

[&] Expected proportion of providers passing a minimum cut-off point of completed RH tasks, through observations.

[#] A 10% margin had been added to replace data loss due to absence, refusal and other factors. From: Epi Info 6 – Statcalc module.

For client exit interviews, pregnant women who participated in the observation were subsequently interviewed. In situations where the observation was simulated, clients were identified that met the geographic distribution and profile requirement of the study. Client records were reviewed at all facilities visited and equipment inventories were completed only at health posts.

For in-depth qualitative interviews, 20 nurses and midwives were interviewed, with an equal number from each marz. To reflect the distribution of health facilities in the two regions, 60% of the nurses and midwives were to come from health posts while the remaining 40% were to be selected from higher-level facilities. The subject selection strategy provided a wide representation of geographic, socioeconomic and demographic characteristics of these respondents.

Instruments

Provider performance observed for absence or presence of performance clinic data, availability and functional state of basic equipment (FAPs), and client attitudes were assessed. In total , four data collection methods were used (observation, structured

4 Shirak mraz is comparable to Lori marz in demographics and socio-economic status. Both marzes are among the five marzes considered part of the USAID Earthquake Recovery Zone, where the effects of the 1988 natural disaster still have an impact.

interview, record extraction, and in-depth interview) and seven different instruments were applied:

1. Observation of provider performance during real or simulated client-provider interactions for ANC (physicians, midwives, nurses and *feldshers*),
2. Observation of provider performance during real or simulated client-provider interactions for integrated PP and IC (midwives, nurses and *feldshers* only),
3. A structured interview of providers using both closed and open-ended questions about the presence or absence of performance factors (midwives, nurses and *feldshers* only),
4. A client exit interview to learn their perceptions of both the quality of care and their satisfaction with services received,
5. An inventory of basic equipment and supplies required for normal operation of services (health post only),
6. A form to capture clinic records to register the number of clients receiving attention over a 12-month period.
7. A in-depth qualitative interview guide to gather deeper information on four of the six performance factors (nurses and midwives only)

See Appendices 1 to 7 for copies of instruments used in the study.

Data collection and field work

A total of 11 two-person teams, an observer (physician) and an interviewer (non-clinician), collected data in the field. The clinician carried out observations, inventories and client record reviews, while the non-clinicians administered the performance factors questionnaires and client exit interviews. Data collectors participated in a weeklong training on proper methods of completing questionnaires and checklists. Study instruments had been reviewed by local clinical experts, translated into Armenian, and pre-tested twice for consistency and comprehensibility. Data collectors practiced among themselves through simulations and during a pilot test in a Yerevan clinic. Four supervisors were assigned to ensure correct application and completion of instruments before leaving sites. A locally hired study coordinator, a sociologist, co-facilitated the data collector training, supervised the adaptation of the study instruments, organized all logistics and monitored the quality of field work.

Field work took place simultaneously in Lori and Shirak marzes. An average of two providers were observed/interviewed each day per data collector team (estimating an average three hours for completion of each provider observation and interview, plus one hour transportation/contact time). In total, 13 working days (i.e., slightly more than two calendar weeks) were required to complete nearly 350 observations/ interviews during August 2002. Some providers, especially at the FAP level, were visited multiple times to complete the interviews, as they were not found at their post.

A two-person team, one physician and one sociologist (the study coordinator), conducted the 20 in-depth interview in Lori and Shirak marzes in September 2002.

Researchers took notes and used a tape recorder for nearly all interviews (except where providers would no permit it) Interview were to last approximately 90 minutes in length.

Table 2: Instruments and sample sizes

Instrument	Application	Facilities and Location	N
Observation – ANC	Physicians	SDPs in Lori and Yerevan	64
Observation – ANC	Nurses, midwives, *feldshers*	SDPs in Lori and Shirak	285
Observation – PP/IC	Nurses, midwives, *feldshers*	SDPs in Lori and Shirak	285
Performance factors questionnaire	Nurses, midwives	SDPs in Lori and Shirak	285
Client exit interviews	Clients	From SDPs in Lori and Shirak	94
Client record forms	Client records/ statistics	SDPs in Lori and Shirak	206
Inventories	Clinics	FAPs in Lori and Shirak	167**
In-depth qualitative interviews (conducted after the completion of the initial data collection)	Nurses, midwives, *feldshers*	SDPs in Lori and Shirak	20

* SDPs encompass PCs/WCs, rural HCs, rural ambulatories, and health posts
** Some inventories were also conducted in higher-level SDPs.

Data Management and Analysis

Once completed instruments were reviewed for accuracy, two data operators in Yerevan entered the information into formatted data files using SPSS 11.5. To ensure clean data entry during the data entry process, the study coordinator conducted range and consistency checks and double entry of a sample of data.

After the data were entered and checked, the study coordinator ran frequencies of all individual questions for each quantitative instrument. Where appropriate, data was disaggregated by different characteristics, usually by provider type (nurse, midwife, feldsher), type of facility (PC/WC, rural HC/rural ambulatory, and health post), or marz.

For the observation checklists, individual "average performance"[5] scores for each item in the observation checklists were studied to determine relative strengths and weaknesses with particular tasks (see Results). For the ANC observation tool, five items out of the 42-item checklist were deleted from the analysis. The items were deleted because they were deemed to be irrelevant or inappropriate tasks for providers during the data collection phase of the study. The items details included questions related to the first visit for women who were generally further along in their

5 Authors are aware that for this study only the **behavior** component of performance will be ascertained, since strictly speaking, performance is both the combination of provider behavior plus accomplishments (Fort, 2002).

pregnancy and posed questions related to assessing last menstrual period, specific orientation on baby vaccination and contraceptive counseling.

Items were summed (with equal weights) to produce a total score of all possible items, to arrive at achieved overall "performance" of providers. For ease of analysis and because the cadres are thought to be similar enough in background, level of competence and expected roles in RH care service delivery, the category or nurse, midwife and *feldsher* were combined into one category for a total average performance score and for other higher-level analysis. For some analyses, the nurses, midwives and *feldshers* were analyzed separately to assess potential differences in performance and other characteristics.

For the special study, further analysis was conducted to build a model of association between the performance of nurses/midwives/*feldshers* and the factors. First, the data sets for the observation checklists and the performance factors questionnaire were merged, based on common identifier(s). Data were analyzed to ensure that there were not significant within group differences between type of cadre and by type of observed client (real/simulated). No significant differences were found.

Second, multivariate analysis with this merged data set was used to explore the relationship between the factors (independent variables) and the observed performance (dependent variable). Performance data was of interval nature (i.e., performance score), while the factors were mostly categorical (i.e., the factor exists or not). Other interval data collected (e.g., number of supervisory visits in the last six months) were collected and used in the analyses. Researchers selected simple linear regression as an appropriate method for exploring relationships between independent variables and the dependent variable.

The qualitative interview notes and recordings were transcribed in Armenian. The researcher reviewed the transcripts to identify common themes and summarized findings based on the four performance factors examined in the in-depth interviews (organizational support, motivation and incentives, feedback and clear expectations).

Results

Results will be presented on the facilities and providers included in the study and then on each of the data collection instruments. For a subset of results pertaining only to the 60 target facilities within Lori marz selected for PRIME II interventions, see Appendix 8.

Facility and Provider Types

Table 3 details the types of providers studied. More than half of the health providers interviewed/ observed were FAP nurses (54%). Most midwives assessed were working in PCs. Sixty-four physicians were observed including Ob/Gyns (78%), terapefts (20%), and one pediatrician.

Table 3: Number of providers by type and by facility

	Facility Type				Total
Provider Type	**Yerevan**	**PC**	**Ambulatory/ Health Center**	**Health Post**	
Nurse	-	8	43	119	170
Midwife	-	56	23	29	108
Feldsher	-		2	5	7
Subtotal	20	64	68	153	285
Physician	20	21	23	-	64
Total	20	85	91	153	349

Table 4 presents the number of facilities visited by type of facility and by location. More outpatient facilities were visited in Lori than in Shirak. As can be seen, Lori marz has more HCs and rural ambulatories than Shirak. The research team tried to visit each health post that was listed in the marz health department lists, however, several posts had been shut down, the nurse had been fired, or the nurse had been unreachable after several attempts. Out of 85 possible health posts in Lori, 73 were reached. In Shirak 72 FAPs were observed out of a possible 78.[6]

Table 4: Number of facilities by location and type (N=208)

	Yerevan	Lori Marz	Shirak Marz
PC/WC	2	13	9
HC/ Rural Ambulatory	-	26	13
Health Post (FAP)		73	72
Total	2	112	94

6 Some FAPs that were not on the Marz administration lists were added when they were found during the fieldwork.

Observation of provider performance

Provider performance was measured in ANC and integrated PP/IC. ANC was observed in both physicians and lower level cadres (midwives, nurses and *feldshers*), using the same instrument. PP/IC was assessed only among nurses and midwives.

Antenatal care

The observation checklist for ANC included 42 items that relate to interpersonal communication, basic triage, clinical tasks that can be done in a primary care setting (for example, it did not include pelvic examinations), and client education. As described in the data analysis section, the results section only reports on 37 of the items. Table 5 presents average performance scores for physicians and the combined scores for nurses, midwives and *feldshers*. For physicians, it was possible to conduct real client-provider interactions in three-fourths of observations, whereas with nurses and midwives this was only possible in approximately half of observations (47%). This difference in availability of real clients may indicate the relative opportunity nurses and midwives have to provide services in their daily jobs. In terms of average performance, physicians using simulated clients achieved a higher score (71%) than those interacting with real clients (58%). Conversely, the nurses/midwives/*feldshers* observed using simulated clients achieved lower scores (36%) than those who were serving real clients (40%). Neither of these differences proved to be significant.

Table 5 also shows an expected contrast between individual items and overall performance that physicians accomplished compared to nurses and midwives. In effect, in all but four items, scores are significantly different between the two cadres. Physicians only scored less than one third in three items whereas nurses/midwives/*feldshers* scored less than one third in 16 items. An itemized analysis reveals the areas of particular weakness: clinical skills such as temperature reading, breast examination and counseling were consistently not observed during the antenatal consultations of all providers.

Table 5: Percentage of providers who fulfilled each item and average ANC score[1]

#	Item or task	Physicians (n=64)	Nurses/ midwives/ *feldshers* (n = 285)	Sig
1.	Washes hands with soap & water and dries them	50.0	13.0 (284)	**
2.	Greets and calls woman by her name or surname and introduces him/herself if first visit	95.3	91.6	NS
3.	Ensures woman is in a comfortable environment	65.6	51.2	NS
4.	Explains purpose of the session and nature of the procedures	73.4	53.5 (284)	**
5.	Asks questions and allows client to express herself	98.4	88.4 (284)	*
6.	Pays attention and is interested in personal problems of the woman	40.6	68.1	**
7.	Reviews clinic record before start of session/does new record for new client	100.0	63.9	**
8.	In case it's possible, performs medical tests (urine, blood)	75.0 (60)	53.4 (279)	**
9.	Explores pulse rate	73.4	20.8 (283)	**

#	Item or task	Physicians (n=64)	Nurses/ midwives/ *feldshers* (n = 285)	Sig
10.	Explores blood pressure	100.0	91.9	*
11.	Takes temperature	10.9	13.0 (284)	**
12.	Gets anthropometric measurements: weight, height	89.1	48.2 (284)	**
13.	Examines skin and conjunctivae	65.6	16.1	**
14.	Checks for edema, redness and varicose veins – legs	81.3	44.9	**
15.	Examines thyroid, mouth	21.9	4.2	**
16.	Examines breasts	53.1	31.0 (284)	**
17.	Examines the heart and lungs, if necessary send her to the relevant specialist	53.1	13.7	**
18.	Inspects and palpates abdomen for scars, pigmentation…	76.6	11.6	**
19.	Palpates uterus and performs maneuvers to detect fetal position and situation	81.4 (59)	29.5 (281)	**
20.	Measures uterine height, abdomen circumference and listens to the fetal heart rate (in case of pregnancy ≥ 18 weeks)	78.1 (61)	37.7 (281)	**
21.	Determines weeks of pregnancy and probable delivery date	79.7	38.9	**
22.	Informs woman about the progress of pregnancy	71.9	29.8	**
23.	Informs woman about her health condition	53.1	30.5	**
24.	Informs woman about the fetus' health condition	57.8	16.5	**
25.	Informs woman about any complications	57.8	29.8	**
26.	Orients woman on the place of delivery (hospital contacts, transportation, etc.)	45.3 (57)	46.3	NS
27.	Orients woman about management of common pregnancy-related afflictions	68.8	33.7	**
28.	Orients woman about personal hygiene, rest and general care	89.1	69.1	**
29.	Orients woman about gender, sexuality and STI prevention	50.0	15.1	**
30.	Orients woman about alarm signs: pain, fever, bleeding and loss of vaginal fluid	57.8	34.4	**
31.	Counsels woman about her nutritional needs and prescribes iron and folates	81.3	16.8	**
32.	Informs woman of positive and side effects of medicines during pregnancy	21.9	6.3	**
32.	Orients woman about breast feeding, baby vaccination and use of contraception	59.4	37.3 (284)	**
34.	Solicits questions to ensure client has understood	70.3	26.3	**
35.	Schedules appointment according to clinic needs and woman's convenience	100.0	54.4	**
36.	Records all findings, assessments, diagnosis and care with client	100.0	38.9	**
37.	Thanks client for her time	64.1	50.5	NS
	Average Percentage Score	67.7%	38.4%	
	Total Mean Score (Items 0 - 37)[2]	25.1	14.2	**

[1] Percentages of total valid observations

[2] Obtained by adding up all the positive answers to each item: range 0 – 37 (0 = Nil; 37 = All)

* $p<0.05$; ** $p<0.01$; NS: not significant

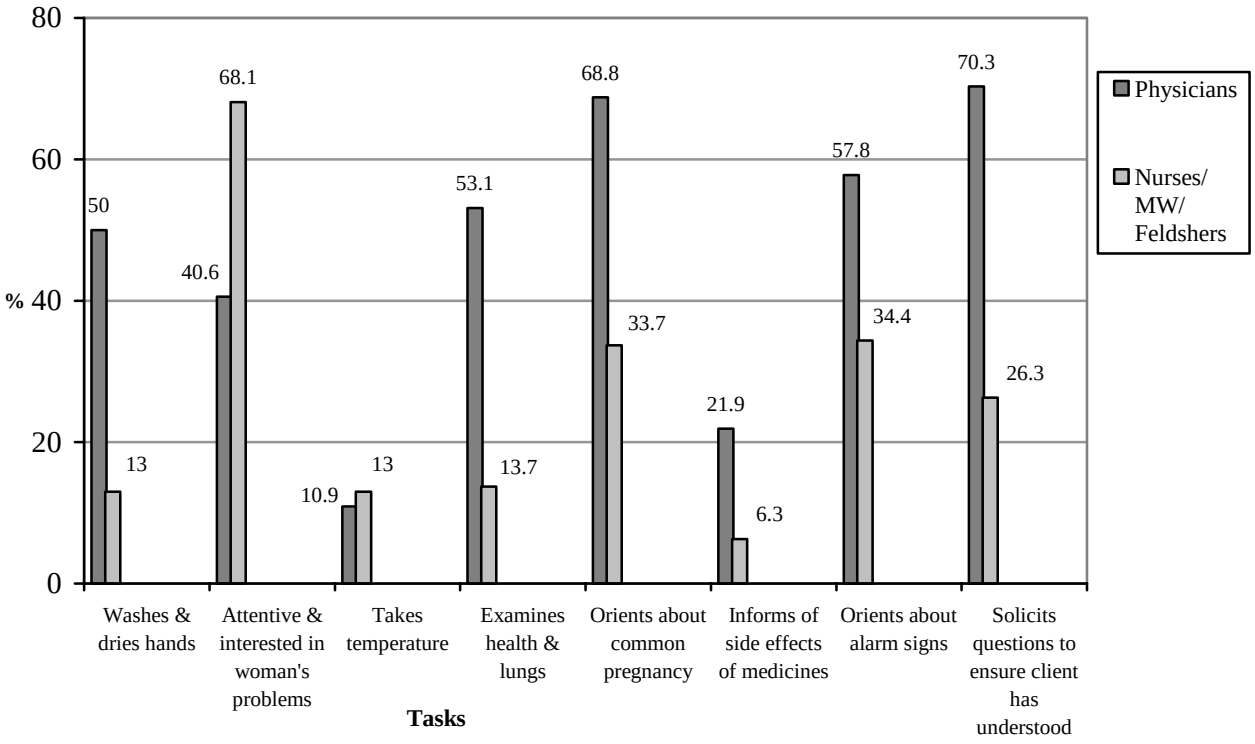
Nearly half of physicians observed performed other important tasks such as: washes hands with soap and water and dries them; pays attention and is interested in personal problems of the woman; examines breasts; examines the heart and lungs; if necessary sends her to the relevant specialist; orients woman on the place of delivery; and orients woman about gender, sexuality and STI prevention. The

nurses/midwives/*feldshers* are not performing the above-mentioned tasks nor are they doing" percentages for simple, yet critical and relatively simple clinical or public health tasks items such as:

- "Explores pulse rate,"
- "Examines skin and conjunctivae,"
- "Inspects and palpates abdomen for scars, pigmentation;"
- "Counsels woman about her nutritional needs and prescribes iron and folates;" and
- "Informs woman of positive and side effects of medicines during pregnancy.

Figure 3 shows some of these contrasts between the two cadres.

Figure 3: Physicians and nurses/midwives/*feldshers* fulfilling antenatal care tasks (in percent)



Integrated PP and infant care

The study observed integrated PP/IC only for nurses, midwives and *feldshers* at primary care facilities. The instrument included a total of 32 separate tasks, or items. Some of the tasks were similar to those observed in the ANC instrument, particularly those related to provider-client interactions, triage skills and client education. The clinical tasks included some focused on women (checking uterine involution) and others on the child (e.g., assessing health of baby, breastfeeding). In contrast to ANC observations the PP/IC tasks were accomplished mainly through simulated exchanges (three-fourths of the cases), possibly revealing the low use of these services generally.

Table 6 presents the detailed findings. The table reveals some consistency in provider performance. Some tasks similar to tasks in ANC had comparable scores, such as: explains purpose of the session and nature of the procedures; pays attention and is interested in personal problems of the woman; orients woman about personal hygiene; thanks client for her time; and explores pulse rate. However, it becomes clear that these providers score relatively higher in the fulfillment of PP/IC tasks than in ANC, particularly tasks related to IC. This difference may be attributable to the fact that nurses and midwives are expected to refer ANC clients to the physicians at WCs, often in PCs quite far from the villages where women reside, and not provide these services. In contrast, at the same time, PP/IC visits in rural settings like Lori marz are often done at the client's home by the nurse, midwife or *feldsher*.

Table 6: Percentage of providers who fulfilled each item and average PP/IC score[1]

#	Item or task	Nurses/ midwives/ *feldshers* (n = 285)
1.	Washes hands with soap & water and dries them	22.8
2.	Greets and calls woman by her name and introduces him/herself if first visit	91.9
3.	Ensures woman is in a comfortable environment	38.0 (284)
4.	Explains purpose of the session and nature of the procedures	52.5 (284)
5.	Asks questions and allows client to express herself	85.6 (284)
6.	Pays attention and is interested in personal problems of the woman	69.5
7.	Asks about last pregnancy and delivery: evolution, outcome, any complications	71.9
8.	Asks about present status and any danger signs	73.7
9.	Explores pulse rate	20.9 (282)
10.	Explores blood pressure	66.3
11.	Takes temperature	58.1 (284)
12.	Examines skin and conjunctivae	18.7 (284)
13.	Checks for edema, redness and varicose veins – legs	16.2 (284)
14.	Inspects and palpates abdomen for uterine involution	41.8
15.	Examines breasts and inquires for any lactation problem	74.7
16.	Examines lochia (amount, color, smell)	48.4
17.	Asks about baby's health: sleeping, feeding, posture, skin color, breathing, fever	68.1
18.	Assesses baby's health: feeding, posture, skin color, breathing, fever	57.5
19.	Informs woman about her health condition	44.9
20.	Informs woman about the baby's health condition	49.8
21.	Informs woman about potential complications and trains on self assessment	40.0
22.	Orients woman about breast feeding and breast care	86.3
23.	Orients woman about personal hygiene	74.0
24.	Orients woman about gender, sexuality and STI prevention	24.2
25.	Counsels woman about her nutritional needs	60.4 (283)
26.	Orients woman about hospital/clinic services (e.g., location, hours, etc.) for follow-up	32.4 (284)
27.	Orients woman about baby vaccination	56.1
28.	Orients woman about birth spacing and contraception	19.4 (284)

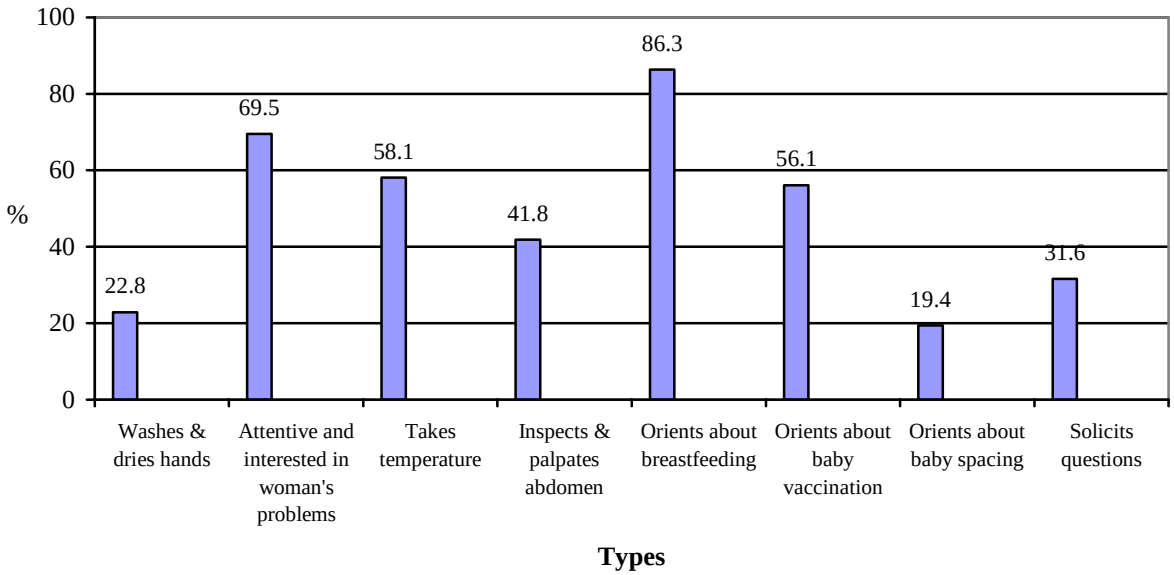
#	Item or task	Nurses/ midwives/ *feldshers* (n = 285)
29.	Solicits questions to ensure client has understood	31.6
30.	Schedules appointment according to clinic needs and woman's convenience	60.4
31.	Records all findings, assessments, diagnosis and care with client	39.3
32.	Thanks client for her time	46.3
	Average Percentage Score	51.3%
	Total Mean Score (Items 0 - 32)[2]	16.4

[1] Percentages of total valid observations

[2] Obtained by adding up all the positive answers to each item: range 0 – 32 (0 = Nil; 32 = All)

Compared to ANC, a greater number of providers in PP/IC inform women about the condition of their health and nearly 50% of providers demonstrated newborn-related care tasks such as assessing baby's health and orienting women about baby vaccination. The qualitative portion of this study explains this trend by confirming that these providers are more empowered to provide childcare, in particular immunization services, than ANC tasks for which they are often expected to refer clients to PCs. Figure 4 provides average scores for some of the important PP/IC tasks.

Figure 4: Nurses/Midwives/*Feldshers* fulfilling PP care tasks (in percent)



Performance scores for nurses and midwives broken down by type of facility and provider can be seen in Table 7 (leaving out *feldshers*). The table reveals major differences in performance only in the area of ANC, by cadre and type of facility. It can be seen that performance levels are higher at referral sites than in FAPs. In addition, midwives have relatively higher scores for ANC. However, such differences are not as prominent in the area of PP/IC. Again this can be explained by

the greater expectation for the nurse as opposed to the midwife to refer women for ANC services.

Table 7: Mean ANC and PP/IC performance scores by type of provider and facility

Category	ANC mean score	Number	PPC mean score
Type of facility (for nurses, midwives and *feldshers* only)			
PC/WC	17.4**	64	18.0
Ambulatory/HC	13.4	68	15.7
FAP	13.2	153	16.2
Type of provider			
Nurse	13.5*	170	16.9
Midwife	15.4	108	16.0

* $p<0.05$; ** $p<0.01$

Performance factors semi-structured interview

A total of 285 providers were interviewed using the performance factors questionnaire (all nurses, midwives and *feldshers*) after they were observed performing ANC and PP/IC tasks. The structured interview had 114 variables that probed each of the six factors that could potentially affect the service performance of these providers. This section outlines the results of this questionnaire by giving background information on those studied and then the results according to each of the performance factors.

Background information

All respondents but one were female. Eighty-two percent of the total were married at the time of the interview, followed by 8% single, 7% widowed, 2% divorced and 1% living alone. The mean and median age was 42 years. Providers interviewed had been working in their current position for nearly 20 years, 14 of which were in that facility. This finding both suggests a relative stable workforce as well as a lack of mobility or promotion opportunities for providers working in rural primary care sites. Most respondents said they decided to become health workers as a matter of personal interest, out of compassion or simply to "do good." Table 8 presents the demographic characteristics of the providers by type of facility.

Table 8: Demographic characteristics of providers by type of facility

	Mean age	Years as provider	Years in current workplace	Percent Married
PC/WC	42.0	19.5	14.4	82.4
HC/AM	41.9	19.5	15.4	85.3
Health Post	42.8	20.9	12.4	76.6
Total	42.2	19.8	14.2	81.8

Clear job expectations: Nearly seven out of ten interviewees did not have a job description for their present position. When asked about how they knew what to do in their jobs, 69% answered "through oral explanation from the supervisor or other

person." Other responses included their experience, training, learning from older colleagues and self-study. According to the qualitative data results, the meaning of job descriptions was misunderstood (see in-depth interview results).

Providers were also asked whether standards for their performance had been set (i.e., how they should do their job) and 78% responded affirmatively. They were asked if they had guidelines, job aids and/or protocols to assist them with their tasks. Most respondents or 78% used guidelines, 71% had some other written material, and 38% had protocols. It was not explored whether these materials were updated or validated by MOH policies or guidelines.

A related question to providers was if their assignment gave them the necessary authority (translated as "power" in the Armenian context) to fulfill tasks and roles, to which 93% stated they were not. When asked whether they were able to influence decisions about organizing the services offered in their facilities, 40% acknowledged they had that capacity, with most examples describing either making changes to the clinic physical environment, organizing the way services are provided to the community or being able to make changes to clinic practices.

Motivation and incentives: Asked whether they had received bonuses or raises when they did their job well, 92% of nurses/midwives responded negatively. This finding is not surprising since respondents noted that they had not received their salaries on a regular basis. This was followed by a question on if they received non-monetary incentives from the employer: 92% had received "verbal" recognition as an incentive and 5% had not received any verbal recognition. 591 of total respondents, the most common was verbal recognition[7] (44%), followed by training courses (21%) and free/reduced medicine (15%). Less than 7% received written recognition.

When asked if non-monetary incentives were offered to the provider by the clients or community, 94% of providers had received verbal recognition and only five providers said they had not. When all open-ended responses were tabulated (736), 36% reported receiving verbal recognition, 31% received respect from the community; 19% received in-kind products (e.g., pack of coffee, chocolate bar) and 11% received services in return (digging potatoes, cutting wood). Respondents said they did not receive additional monetary compensation from their clients (see qualitative results).

Regarding opportunities for promotion, a high proportion (83%) said either they did not exist or they did not know of such opportunities. Of those who answered positively, a little more than half (25 respondents) again referred to some form of training as a promotion. Only four people spoke of promotion to higher occupational/professional levels and another four of facility-related promotions.

A final question was asked about any disincentives or negative consequences received for a poorly done job. The question prompted mixed responses, with nearly

7 This verbal recognition operates in the form of "trust" expressed usually from physicians to nurses/midwives, as found in the qualitative study.

45% stating there are no consequences, another 39% stating there are consequences and yet 16% who did not know or could not answer the question. Upon probing of the 112 respondents who answered positively, most follow up statements were unclear or irrelevant ("it never happened," "I'm trying to do my best to avoid such things") and only a fraction of respondents admit that they would be reprimanded or penalized.

Feedback: Ninety-three percent of providers say they receive feedback or information about their job performance. Similarly, high percentages acknowledge it is work-related (100%), related to the standards and not to behavior (94%), is immediate and frequent enough to be effective (93%), selective and specific –not vague or generic (93%) and that is educational, positive and constructive, to learn (93%).

When asked for an example, nearly two-thirds mention occasions when a supervisor or a "physician" praised them for some good deed. However, when asked from whom they receive such feedback, 600 answers were received describing a long list of persons and institutions providing this "feedback." Of the open-ended responses received, 45% mentioned clients, community, village head, and/or village council[8]; 37% colleagues; 7% the sanitary-epidemiological station; and 7% from the chief doctor, director, supervisor, and/or regional pediatrician. Other entities mentioned included officials at the regional and Marz level health administration as well as local and international health organizations. Such a wide range of answers suggests the existence of a formal and non-formal supervisory system and the degree to which political and social structures have influence over nurses and midwives operating in rural primary care settings. However, such responses do not appear to describe a standard definition of "feedback" provided frequently and positively by the immediate supervisor.

Organizational support: The study explored two aspects of organizational support. First, asked about performance reviews between supervisors and supervisees: Sixty-4% admitted to such reviews, through more over 80% of answers described them as only oral exercises. The second question was on how often supervision occurred. Ninety-four percent of providers said a supervisor had come in the last six months to supervise. Surprisingly, the mean number of times this occurred was nine. Over 10% of FAP workers reported that they had not been visited at all during the past six months. In an effort to understand this answer better averages were broken down by type of facility. The results are seen in Table 9.

8 This is consistent with the qualitative study, where apparently patients are quoted as being the most important source of any feedback to nurses/midwives, either to them directly or through doctors (supervisors, often) when visiting their

Table 9: Average number of times supervisor has come to supervise in past six months and time it lasts, by facility type

Facility Type	Average # of times			Time it lasts (min.)		
	Mean	N	Std. Deviation	Mean	N	Std. Deviation
PC/WC	12.5	64	8.2	65.0	38	71.6
HC/AMB	11.2	68	11.4	156.3	59	127.0
FAP	6.7	153	7.9	139.9	135	88.4
Total	9.1	285	9.3	131.8	232	101.7

Note: Differences between means for each case are statistically significant ($p<0.01$)

For the PC/WC or HC/rural ambulatory, it is reasonable to assume (and has been reported in the qualitative component of the study) that providers would report they receive supervision because their supervisor, the head of the facility, works along side them at the same facility[9] unlike at FAPs where the supervising physician works in another facility and visits infrequently. However, even the finding for FAPs reveals higher figures than expected, averaging slightly more than one visit per month.

Even though these visits were long in duration (see Table 9), it is likely that the majority of this time was the visiting physician providing services or handling administrative tasks as can be seen with the results of the questions about the content of supervision. Eighty-six percent of supervision is administrative. Of 323 responses to an open-ended question, two-thirds express that when the supervisor comes s/he performs administrative tasks (e.g., "checks forms, vaccinations," "checks the working hours"). A further 24% say they see clients and work in the clinic and only in few cases the supervisor checks for an appropriate environment or solicits client feedback. Hence, this "regular" supervision does not imply that the providers are being observed and guided in any way to do their job better.

Environment (tools and equipment) and work organization: In looking at the environment, providers were asked if the physical condition of the workplace was adequate (i.e., location, working conditions). Seventy-seven percent of providers thought the physical location of their workplace was appropriate. Seventy-one percent said the size of their workplace was adequate, 82% reported that amenities such as electricity were sufficient. Approximately three-fourths (77%) of respondents said they were satisfied with the way their work environment was organized. However, only 40% of respondents reported that their overall work environment is adequate. Seventeen respondents stated that they lacked water, 12 that they lack heating and 10 that they lack sewage.

The other critical aspect of this performance factor is whether providers' perceive they have the required equipment to do their jobs well. When asked this question,

9 However, it has to be said that working with a supervisor in the same facility does not mean necessarily that the worker receives proper supportive *supervision*. Hence, this high figure should be interpreted with caution.

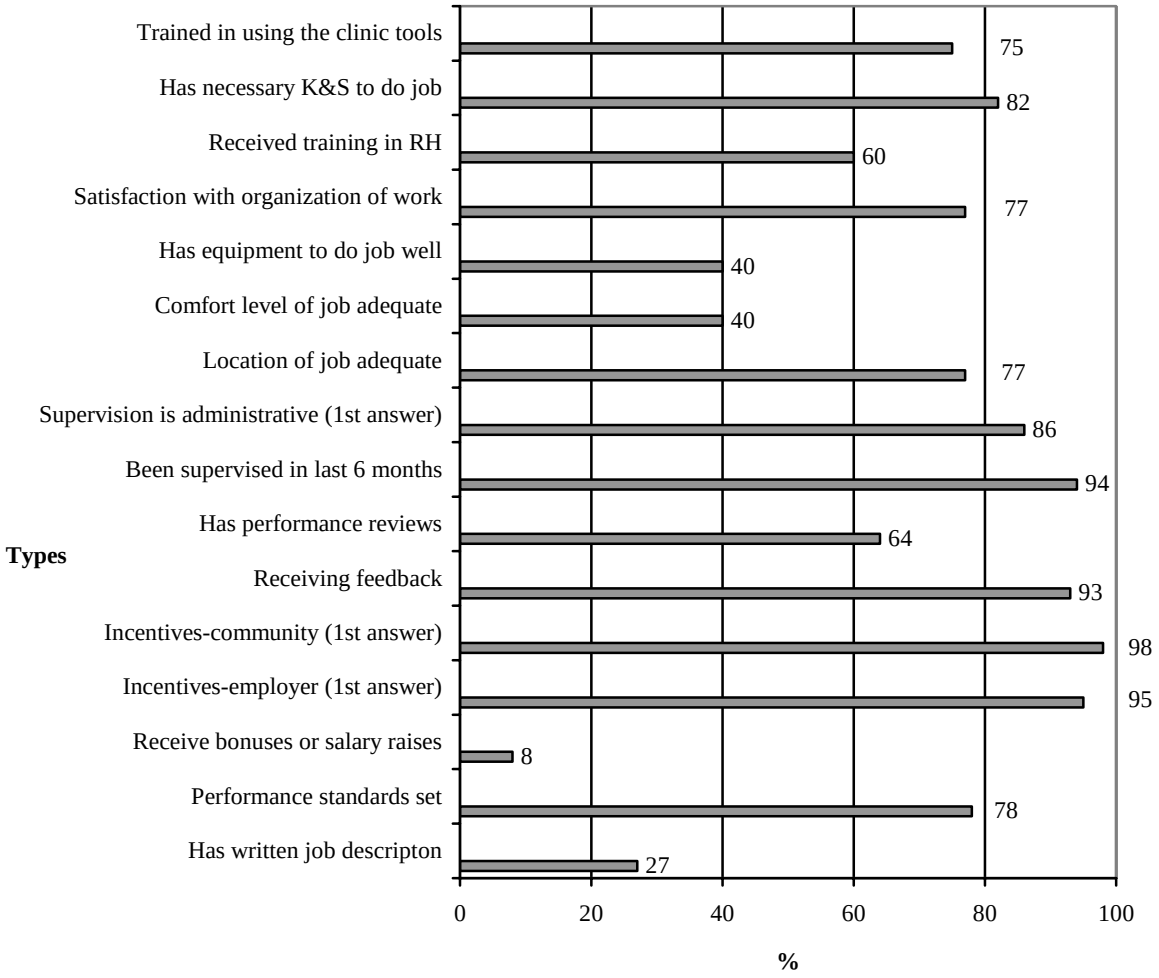
nearly 60% answered negatively or did not know. When asked to describe what equipment was lacking, providers gave a wide array of responses (468 in total and an average of 2.8 items mentioned per eligible individual). Listing first aid medicine (14%) followed by surgical instruments (11%), scales (9%) and sphygmomanometers (6%). Nearly three-fourths reported having been trained in the use of equipment/tools.

Knowledge and skills: A clear majority (82%) stated they thought they had the necessary K&S to do their current job. Ninety-seven percent of these providers expressed they had been able to apply what they had learned to their work. Forty percent of respondents had not received any RH[10] training prior to the time of this study. Of those trained, over one third received the training in 2002. On average, two thirds received training since 2000.

Figure 5 provides a summary view of answers to some important performance factors.

10 The courses that the recently-trained providers had received focused on maternal and child health.

Figure 5: Nurses/Midwives perception of performance factors (in percent)



Self-assessed performance: In the performance factor instrument, questions were asked to determine which services providers offered and how they perceived their own performance. The majority of services reported were maternal and child services. This is not surprising considering FAPs do not generally offer FP or HIV/AIDS counseling and screening in which only 10% and 11% of nurse and midwives reported to have provided these services, respectively. However, nearly 60% thought that there was a demand in their area for provision of such services. As expected, a clear majority of providers (88%) reported providing services outside the facility, as all outpatient providers are expected to make home visits to clients who cannot make it or chose not to come to the health facility.

Respondents were also asked to judge their own performance, on a scale from one to 10, one being the poorest performance and 10 the best. This question was followed by one asking them how their supervisors would rate them using the same scale. The average response for both questions was very similar: 7.6 vs. 7.9. The analysis of variance (ANOVA) between and within groups for the supervisor evaluation was significant (p=0.038) suggesting that nurses have a stronger perception of their

abilities than midwives. However, for ANC and PP/IC, midwives as a category performed higher than nurses (see Table 10).

Table 10: Comparison of average self vs. supervisors' evaluation scores by type of provider

Type of worker	Measures	Self-evaluation	Supervisor evaluation*
Nurse	Mean	7.7	8.1
	N	166	161
	Std. deviation	1.8	1.8
Midwife	Mean	7.6	7.6
	N	105	104
	Std. deviation	1.5	1.6
Feldsher	Mean	6.4	7.4
	N	7	7
	Std. deviation	.79	.79
Total	Mean	7.6	7.9
	N	278	272
	Std. deviation	1.7	1.7

* Analysis of variance (between/within groups) for supervisor evaluation ($p = 0.038$)

Finally, the providers were asked about what they need to best perform their jobs. This question yielded a wide range of responses (see Table 11). The most frequent responses fell into the physical environment category, namely equipment and supplies. Monetary remuneration was a close second.

Table 11: Categories of responses on what would help respondents do their jobs best (N=285)

Order	Category	No. of responses	Percent
1	Physical environment (supplies, equipment)	183	45.3
2	Monetary remuneration	121	30.0
3	Skills and knowledge	43	10.6
4	Organizational support – improved management	25	6.2
5	Community support and involvement (incl. recognition)	10	2.5
6	Improved socioeconomic conditions for the population	10	2.5
	Sub-total	392	97.1
7	Others	12	2.9
	Grand Total	404	100.0

In-depth qualitative interviews on selected performance factors

The in-depth interview guide focused on the four different performance factors (job expectations, feedback, motivation/incentives, and organization support) that required further interpretation and understanding following the administration of the performance factors questionnaire. Generally, providers perceived the research team cautiously. Any visitor to their facility is a potential supervisor or controller, and many providers thought the interview was a government control-measure, even after researchers clearly outlined the study sponsor and purpose. This attitude influenced interviewee's responses. In most cases, respondents would relax after the first 15-20 minutes. In addition, there was a general lack of self confidence among those interviewed. More self-confident providers were often senior and held prominent, long-standing positions in the community .[11]

Clear job expectations: Most providers stated that they have a written job description, supporting the findings from the quantitative analysis. However, the qualitative analysis revealed that these providers had a different notion about what was meant by job description. Interviewees perceived their job description as what they recorded in their client in-take logs that are then sent to their supervisors. To them, a job description was not a formal document outlining expectations and duties, but where the were describing their daily interactions with clients.

After re-defining the term 'job description', most of the nurses claimed to have had a comprehensive job description or contract. Again the respondents understood this as a description of how to offer services. Therefore, nurses referred to job aids, reference manuals and other literature outlining clinical procedures as job descriptions. When asked about how they knew which procedures they were supposed to do or allowed to do they said they said they knew from watching older nurses.

The range of activities a nurse or midwife is expected to do depends very much on the relationship she has with her supervisor. Some supervisors allowed their supervisees a great deal of client interaction. Usually, physicians allowed senior-level nurses to perform more services. Therefore, the types of procedures a nurse was allowed to do depended again on each situation, but generally conversations focused on providers' duties as they related to vaccination programs. In fact many questions about supervisors, reports, regular meetings and guidelines all related to vaccination programs. For example, when two different interviewees were asked whether their supervisor regularly visits their facilities, one answered, "Yes, a month ago, during the vaccination program." Another answered, "Yes, people from sanitary epidemiological station came to see how the vaccination program is conducted."

This pattern suggests that nurses and midwives are more responsible for child health procedures than maternal health procedures. This trend is supported by the

11 For example, we encountered it while looking for the home of one provider – we asked her supervisor (the chief doctor in the clinic), subordinate (the nurse working in the same facility), and a villager. Everybody referred to her as a high class professional in her field.

observation data, which indicated that IC tasks were done more often than the PP tasks. This focus on child health appears to reflect the acceptance of offering child health services at the primary care level by senior health officials. The following situation illustrates the point. During one interview, researchers remarked that childcare seems to receive more attention. The interviewee said, "Yes, but the doctor (supervisor) said that from now on we should care also about pregnant women."

Feedback: Providers did not appear to understand the concept of performance reviews, and therefore, it is concluded that they are not formally used as a tool to assess job performance in the health delivery system. As documented above, quality of the work is monitored by supervisors' solicitation of client impressions. Most interviewees said that their supervisors do not notice when their work was done well or not. In the cases where they did notice, they were simply told they were doing a good job, but it had no consequence on their career.

Motivation and incentives: Nurses and midwives at FAPs do not have explicit incentives to serve pregnant women. In most cases, nurses are obliged by the regional obstetrician to send pregnant women for ANC to him or her. In many cases, nurses can only register and refer the woman — more is forbidden by the supervising doctor. They are more interested in sustaining good relations with the supervising bodies to be able to work effectively on the services they currently offer (PP care, immunization) than in providing ANC. The more pregnant women they refer, the more her supervisor values her. FAP nurses and midwives primarily offer injections and other procedures prescribed by their supervising doctor. These services can result in increased income for the FAP provider as well, as some services require formal payments (other primary care services are considered free of charge by the government) and, of course, there are informal payments.

Salaries are very low. They were reportedly paid on a regular basis in 2002. However, most providers are owed back pay for 2000 and 2001. The question about the existence of bonuses received for a high performance caused many interviewees to smile or laugh. The only incentive existing in the administrative system is a moral one. The better you work, the more you are trusted by the doctor, and therefore are allowed to serve clients, which can also translate into more informal payments.

Informal payments of any kind for health services are illegal, yet thought to be widely practices throughout the health system in Armenia. Researchers explored this topic directly with interviewees by asking them if they receive gifts in kind from the community for their services, respondents vehemently answered "No! We do not take anything from our clients! Even if they give us small presents, we do not take them." At the same time, all providers claimed that it happens in neighboring villages. For example, women in the community said they would dig potatoes or cut wood in return for services (out of gratitude). In addition, a few providers finally said they would occasionally accept small gifts such as a pack of coffee or a chocolate bar ($0.15-0.20), but all rejected the suggestion that they might take money as illustrated by the following direct quotes: "People do not have anything, so I do not expect them to pay me anything." "It is not allowed." "It is a village, everybody is a friend

or relative to everybody, so it is not appropriate to take money or gifts for anything – tomorrow I will ask him/her for something."

Organizational support: When asked about their last supervisory visit, many respondents said that PRIME II's last visit to the clinic was the last time they were supervised, clearly indicating a lack of understanding of supervision. In most regions no supervisory body visits FAPs on a regular basis with the purpose of assessing the quality of services. Providers were uncomfortable speaking freely about their supervisors. When providers said supervisors come to their clinic, the last time was often more than a year ago, contrasting what was reported in the quantitative data. Both supervisors and the nurses stated that the reason for that was absence of petrol or financial means to travel to the FAP.

In the facilities where nurses work together with physicians, constant supervision is provided. Nurses and midwives said they receive new knowledge from physicians. However, at the FAP level where providers work alone this supervision is not frequent. FAP nurses and midwives visit their reporting facility (either a PC, HC or rural ambulatory) once a month to submit their intake logs and receive salary from the head physician. At that time they meet with their supervisors. This meeting often only addresses administrative issues, never involves clinical observation of the nurse or midwife, and only occasionally involves consulting the physician for opinions on professional needs. Other times when health post nurses and supervisors come together include when the physician has come to the facility to provide direct services to clients.

From the findings, it appears that supervisors find out if nurses and midwives are working appropriately through communication with their referred clients. At that time, the supervisor (the same physicians) asks the client how he/she was treated. Their response serves as information about the performance of the nurse or midwife and sometimes supervisors use this information to give feedback to their supervisee.

Client exit interviews

To supplement the assessment of the clinic environment, the study examined client perspectives. Client exit interviews were conducted in 94 clinics (27 in PCs/WCs; 20 in Ambulatories/HCs; and 47 in FAPs). Client age ranged from 18 to 45 years, with a mean of 23. Fifty-four percent had no children while 28% had one child and 15% had two children. Of the 94 women interviewed, 82 were currently pregnant and on average in their sixth month of pregnancy. Eighty-five percent had secondary or vocational education and all were married or cohabiting. All but one interviewee spoke Armenian at home and 96% belonged to the Armenian Apostolic Church. Thirty-seven percent said that their current income was a little less than what's needed for normal living in Armenia while 57% reported it was much less than what's needed. Table 12 presents the client characteristics by type of facility, suggesting little differences among clientele you frequent each level of service.

Table 12: Client characteristics by type of facility where interviewed (N=94)

	Mean Age	Percent married	Percent without children	Percent with sec education	Gestational age at first ANC visit
PC/WC	22.5	93.6	44.7	95.7	3.3
HC/AMB	22.0	100.0	75.0	95.0	3.4
Health Post	24.4	96.3	55.6	100.0	3.0
Total	22.9	95.7	54.3	96.8	3.3

Use of services: Of women who had children, 91% stated they delivered their last child at another facility. This finding is expected. Women do not deliver at outpatient facilities but rather in maternity hospitals.. When asked about ANC visits, on average these women had had four visits thus far with their first at three months of pregnancy. And the question about where they planned to deliver also yielded a similar pattern, 88% plan to deliver at another facility. Again, this response is due to the fact that women must, by law, deliver in maternity hospitals or in a few licensed rural HCs. The major reasons for women's choice of place of delivery are "staff provide good service" and "it's nearest to me" (see Table 13). The majority of clients interviewed came on foot that day, 9% took a private vehicle and 2% came by public transportation. The average time it took for them to arrive at the clinic was 15 minutes, with a median of 10 minutes. While the data show that the women who use services live close by them, it is important to point out that many women cannot receive the full range of RH services they require at most primary care facilities including health posts and rural ambulatories.

Table 13: Reasons for choosing clients' place of delivery

Order	Reason	N	%
1	Staff provide good service	57	28.4
2	Nearest to me	53	26.4
3	Facility has good reputation	28	13.9
4	I always come here (go there)	22	10.9
5	I like/know the staff	20	9.9
6	Friends/relatives recommended	11	5.5
7	It's less expensive	10	5.0
	Total Number of Responses	201*	100.0

* More than one answer was allowed for this question.

Satisfaction with the quality of services: This section addresses client's perception about the quality of services they had just received and suggested ways to improve those services (see Table 14). Starting with triage, 55, 62 and 86% of respondents answered they had been weighed, their height had been measured and their blood pressure had been taken, respectively. These statistics correspond closely with the ANC observation results where 52% took anthropometric measurements and 92% took blood pressure.

Table 14: Percentage clients who answered positively about different aspects of quality of ANC (N-94)

#	Item	Percent (N = 94)
1.	Provider weighed you today	55.3
2.	Provider measured your height	61.7
3.	Provider took your blood pressure	86.2
4.	Provider told you when to come back for next visit	81.9
5.	Provider asked questions	95.7
6.	Client felt comfortable asking questions during consultation	67.0
7.	Provider explained about potential complications	81.9
8.	Client satisfied about advice for complications	92.2 (77)
9.	Provider counseled about nutrition during pregnancy	77.7
10.	Client finds useful information given during this visit (very useful: 36.2 + useful: 58.5)	94.7
11.	Client perceived other clients could hear what was said	9.6
12.	Client felt information shared with provider would be kept confidential	62.8
13.	Provider treated you very well (64.9) + well (34.0)	98.9
14.	Other staff treated you very well (41.4) + well (58.6)	100.0 (70)
15.	Provider gave material to take home for reading	18.1
16.	Client rates the services received as "very satisfactory"	89.4

Almost everyone interviewed said the provider asked questions (to ensure understanding) but only two-thirds felt comfortable asking the provider. A large majority (82%) said the provider talked about the potential complications of pregnancy. When clients were asked about specific conditions, only bleeding and abnormal fetal movement were mentioned. Others (e.g., acute abdominal pain, blurred vision, fever, swollen face and limbs) were mentioned only half the time. Nearly 80% of clients did not receive iron/folate pills. Of those who were prescribed relatively low percentages were told about long-term dosage and side

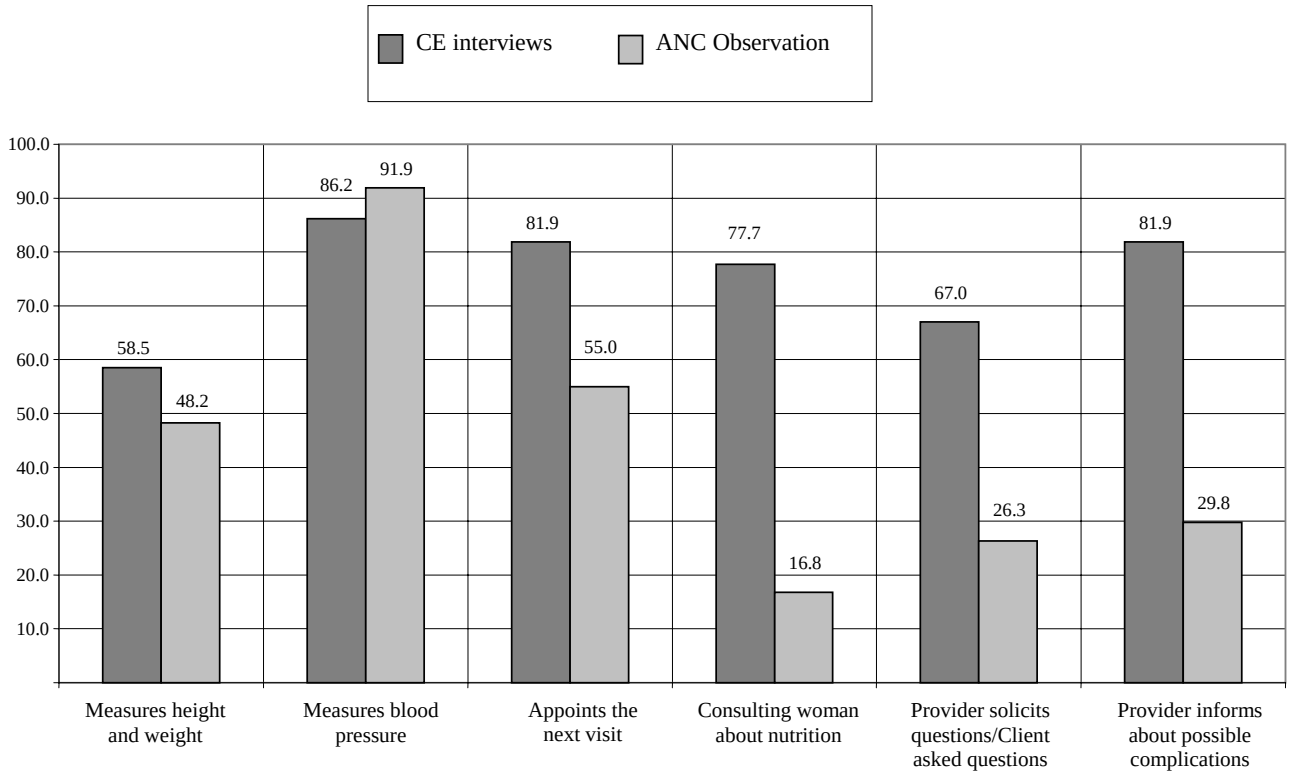
Table 15: Clients prescribed iron/folic pills and given appropriate counseling (N= 94)

Topic	N	%	Of Total
Prescribed	22	23.4	94
Talked about side effects	15	68.2	22
Talked about nausea	11	50.0	22
Talked about black stools	2	9.1	22
Talked about constipation	2	9.1	22
Talked about how long to take pills			22
- for one week	10	45.5	
- for one month	6	27.3	
- for three months	4	18.2	
- for entire pregnancy	1	4.5	
- don't know	1	4.5	

Among other findings from Table 14, few educational materials are given to the clients. Of the few that do receive them, the main subject is child nutrition, followed by antenatal and postnatal care, FP and STI/HIV/AIDS. When asked about a clinical examination performed during the visit, only 12 clients (13%) claimed to have had one. Again, this reflects the nurses and midwives' expectation to refer women to doctors at either WCs or ambulatories for ANC. The 12 clients who did have an ANC exam, nearly all said the provider explained the examination before proceeding, explained the results after it and could easily understand the language of both explanations. However, only seven clients stated they had "enough privacy during [the] exam."

See Figure 6 for a summary of comparisons with observations where applicable. It is important to stress that some questions were not strictly comparable.

Figure 6: Comparison between ANC observation and corresponding questions in client exit interviews



As can be seen from Figure 6, certain tasks observed during consultations between clients and providers, and recalled by clients, coincide closely. In particular, tasks that involve concrete, observable actions, such as taking blood pressure or pulse rate, are more easily recalled and do not require expert knowledge. However, when clients are asked about tasks that are not so easily recognized or understood , such as soliciting questions or informing about complications, results of client interviews gave much higher results than the ANC observations. The reason for this might be that clients do not expect the provider to provide more information than they already

provide. Another explanation could be desire of clients to create a positive image for their providers. Both explanations suggest the need to assess client perspectives as well as observe performance in order to get a more complete picture of service quality.

Table 16 summarizes client responses on improving services. Improving the supply of medicines was the single most common suggestion by clients. However, a clear majority of responses focus on factors associated with provider practices, availability of providers, and type of providers available at a SDP. Interestingly, the second most common suggestion related to the cleanliness of the facility, a factor closely associated with infection prevention measures that are an important element of quality care.

Table 16: Client's suggestions to improve the quality of the services

Order	Suggestions	N	%
1	Improve supply of drugs	45	17.8
2	Improve hygiene/cleanliness	35	13.8
3	Buy necessary equipment	31	12.3
4	Increase space	27	10.7
5	Increase number of providers	22	8.7
6	Increase professional level of providers	21	8.3
7	Regularly available physicians	19	7.5
8	Increase motivation of providers	17	6.7
9	To improve physician conditions (incl. salaries)	8	3.2
10	Increase the number of hours open	6	2.4
10	Community be involved in supervision/organization	6	2.4
10	Supervise providers	6	2.4
13	New literature	2	0.8
13	Gynecologist	2	0.8
13	To increase transport conditions	1	0.4
13	To improve water supply	1	0.4
13	Room for sonography	1	0.4
13	Free services	1	0.4
13	Have a lab	1	0.4
13	Have separate facility for children	1	0.4
20	Total suggestions	253	97.8

This instrument included a question about what makes women delay and end up seeking ANC services later than the first trimester. Most answers grouped around three topics: lack of resources for transportation (40%), they saw no reason for it (19%) and traditional beliefs (14%).

Client record reviews

Researchers attempted to review records at every facility visited. However, records were unavailable at many facilities or were of such low quality that it was impossible to extract data from them. As such, the data reported here are from 206 facilities, including 21 PC/WCs, 38 HC/AMB and 147 health posts.

Client record reviews in clinics asked about number and types of personnel working at the facility. Table 17 describes the range of staff working in different facilities. It can be seen that the nurses form the largest cadre in all facilities, even at the higher-level facilities where doctors are also present. According to this data, no separate category “family doctor” was reported in any of the facilities. There could be a few reasons for not seeing this reported. First, there are some family medicine physicians working in some sites across Armenia, however these physicians are a new cadre in Armenia. Second, the term general physician has a very different connotation in Armenia. This general physician could be a terapeft, who only sees adults, or a family physician or general practitioner who never receives post-graduate training.

Table 17: Distribution of personnel by type of facility

Facility Type		General Physicians	Ob-Gyn	Surgeons	Nurses	Midwives	Pedia/Neonat.	*Feldsher*	Lab Assistant	Head sister	Anesthesiologist
PC/WC	Mean	1.05	1.90	.33	6.90	3.24	1.86	.00	.10	.00	.10
(n=21)	Total	22	40	7	145	68	39	0	2	0	2
AMB/HC	Mean	1.00	.24	.03	3.73	.84	.55	.26	.13	.03	.00
(n=38)	Total	38	9	1	138	32	21	10	5	1	0
FAP*	Mean	.14	.05	.00	1.07	.14	.10	.04	.00	.00	.00
(n=147)	Total	20	8	0	157	20	15	6	0	0	0
Total	Mean	.39	.28	.04	2.15	.58	.36	.08	.03	.00	.01
(n=206)	Total	80	57	8	440	120	75	16	7	1	2

Facility Type		Cardiol-ogist	Stomatol-ogist	Otolaryng-ologist	Neuropath-ologist	Ophthal-mologist	Infec-tionist	Rentge-nologist	Psychi-atrist	Derma-tologist	Diasco-pist
PC/WC	Mean	.05	.29	.10	.10	.10	.05	.05	.05	.05	.10
(n=21)	Sum	1	6	2	2	2	1	1	1	1	2
AMB/HC	Mean	.03	.05	.00	.00	.00	.00	.05	.00	.00	.00
(n=38)	Sum	1	2	0	0	0	0	2	0	0	0
FAP	Mean	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00
(n=147)	Sum	0	1	0	0	0	0	0	0	0	0
Total	Mean	.01	.04	.01	.01	.01	.00	.01	.00	.00	.01
(n=206)	Sum	2	9	2	2	2	1	3	1	1	2

* Physicians are not permanently stationed at FAPs. However, there is the practice of physicians regularly visiting FAPs to offer services. Some FAP nurses may have included the physicians who offer such services in their inventories.

As part of the record reviews, the health provider assisting with completion of the forms was asked which services are offered at their facilities. Table 18 presents the percentages of facilities that report to offer different RH services. These findings suggest that health posts do indeed offer ANC and PP care services, despite the widespread belief that health posts nurses simply refer to higher-level facilities. As expected, few health posts offer FP, STI or HIV services.

Table 18: Services offered by type of facility (percentage)

Service	Facility Type		
	PC/WC (N=21)	HC/AMB (N=38)	FAP (N=147)
ANC	95.2	94.7	89.1
Delivery	9.5	13.2	0.7
PP	95.2	89.5	91.8
FP	85.7	31.6	17.0
STI	81.0	21.1	17.0
HIV/AIDS	42.9	15.8	10.9
Gynecological Cancer Prevention	47.6	7.9	0.0
Vaccination[1]	0.0	0.0	8.8
First Aid[1]	0.0	2.6	5.4
Mammography	19.0	0.0	0.0
Gynecology	4.8	0.0	0.0
Child Care[1]	0.0	7.9	6.1

[1] The review form asked specifically for RH services, hence may not have captured the full range of services in other areas.

The following tables present client statistics extracted from clinic records. Table 19 and Figure 7 present a picture of average client attendance at the mix of services studied in this assessment at all facilities in the last year. It can be seen how the number of ANC clients far exceeds those for postpartum care. Comparing these figures to the catchment's population for these facilities might provide a better idea of the coverage that these services have in the general population.

Table 19: Number of client visits by maternal health services in selected facilities, August 2001 - July 2002

Service	Total	Monthly Average	Monthly Average – FAP	Monthly Average – HC/AM	Monthly Average – PC/WC
ANC (N=151**)	12,222	6.7	1.2	6.9	39.8
ANC-referred (N=133**)	2,392	1.5	1.1	1.9	3.9
Maternal deaths* (N=140**)	43	0.026	0.036	0	0
Fetal deaths (N=141**)	92	0.054	0.054	0.024	0.113
PPC (N=136**)	3,596	26.4	10.2	22.7	129.5
PPC-home (N=130**)	2177	1.4	0.8	1.8	5.1

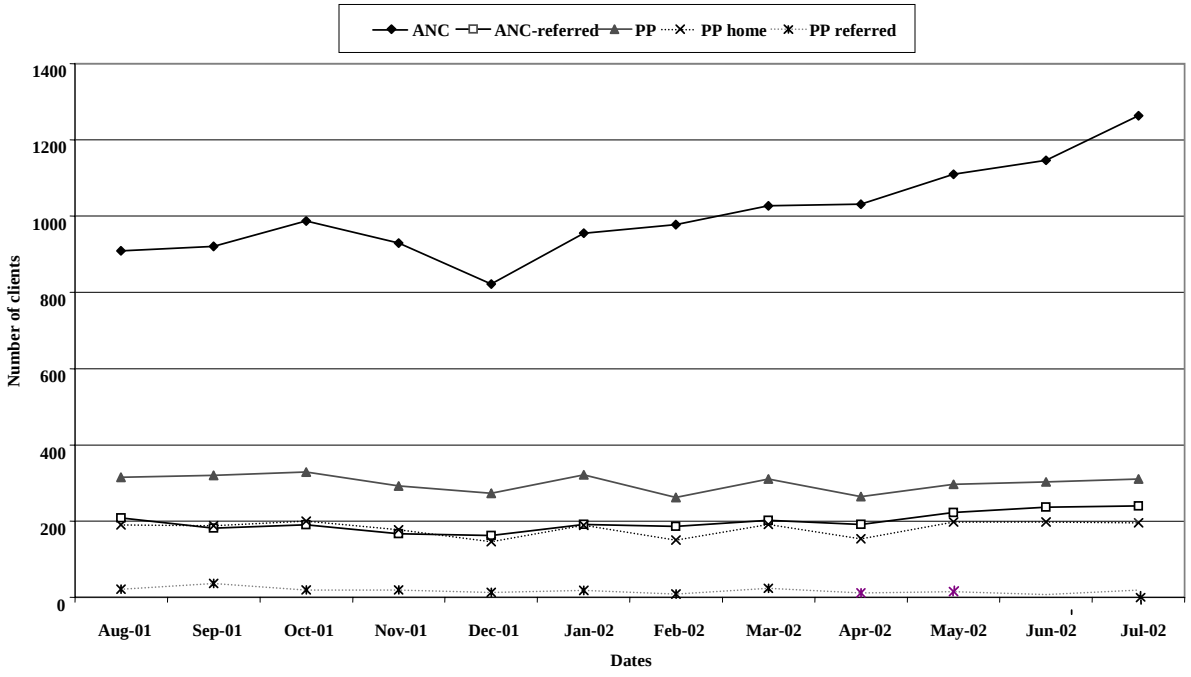
Service	Total	Monthly Average	Monthly Average – FAP	Monthly Average – HC/AM	Monthly Average – PC/WC
PPC-referred (N=108**)	214	0.2	0.2	0.1	0.2

* These maternal death figures are much higher than expected. It is thought that health posts nurses may have included deaths that take place outside the perinatal period.

** This number shows how many facilities kept records for the relevant section. The average number is counted based on this number.

Similarly, Table 20 presents a summary of clients receiving FP services (by type of service) in the facilities surveyed. The client records indicated that no clients received female sterilization (a service done at hospitals), counseling on fertility awareness (FA), spermicides, emergency contraception, or lactational amenorrhea method (LAM). Though numbers are difficult to interpret[12], the overall levels correspond more to PPC than to ANC. This may be an indication of the relative low delivery and/or accessibility of these services to women of reproductive age. Both PPC and FP figures have a tremendous potential to increase if services become more available to the population, especially close to their place of residence.

Figure 7: Number of clients seen for antenatal and PP care in selected facilities



12 Often the records did not differentiate between new and continuing clients, thus making separate counts difficult.

Table 20: Number of client visits by FP services in selected facilities, August 2001 - July 2002 (N = 55*)

Service	Total	Total per month average	FAP monthly average	HC/AMB monthly average	PC/WC monthly average
FP (N=10**)	3,279	27.3	0.0	51.3	27.7
FP-adolescents (N=10)	189	1.6	0.0	1.7	1.8
FP-new (N=5)	830	13.8	0.0	31.2	12.7
FP-continuer (N=5)	935	19.5	0.0	28.5	24.7
FP-Ocs (N=13)	4,486	28.8	0.0	185.4	17.1
FP-IUDs (N=10)	376	3.1	0.0	0.0	3.5
FP-Condoms (N=12)	20,456	142.1	0.0	683.8	102.1

* 55 facilities report to provide FP services.

** This number shows how many facilities kept records for the relevant section. The average number is counted based on this number.

Equipment inventories (health post only)

During visits to health posts, interviewers asked about and verified the existence and state of basic equipment. Table 21 presents this information. From the list one can understand the inadequacy of basic conditions for operation in many of the most primary level facilities, such as electrical power, running water, indoor toilets, examination tables, a table and chairs and a kitchen or stove. Also, many items needed for basic hygiene and clinical procedures such as soap, thermometers, stethoscopes, infant scales and disinfection solutions are absent or in disrepair. Even the best trained providers will not be able to apply their K&S and exert any positive changes in the community if they are not supported with minimum equipment and supplies to do their jobs.

Table 21: Equipment of FAPs (Total no. of facilities = 146)

No	Equipment in working order	N	%
1	Exam light	2	1.4%
2	Penlights	0	0.0%
3	Measurement tape	69	47.3%
4	Thermometers	102	69.9%
5	Stethoscope	101	69.2%
6	Sphygmomanometer	82	56.2%
7	Adult scale	20	13.7%
8	Infant scale	103	70.5%
9	Surgical sets	36	24.7%
10	Glucometer	1	0.7%
11	Infant stethoscope	13	8.9%
12	Infant sphygmomanometer	3	2.1%
13	First Aid kit	38	26.0%
14	Pelvimeter	37	25.3%

No	Equipment in working order	N	%
15	Obstetrical stethoscope	48	32.9%
16	Electrical power	60	41.1%
17	Running water[1]	33	22.6%
18	Functioning toilet[2]	24	16.4%
19	Examination table	102	69.9%
20	One table and two chairs	125	85.6%
21	Disinfection solution	63	43.2%
22	Soap	88	60.3%
23	Sterile gloves	25	17.1%
24	Gauze/cotton balls	77	52/7%
25	Syringes	96	65.8%
26	Kitchen/stove	62	42.5%

[1] Other facilities obtain water in buckets or cylinders.

[2] Additionally, there were 11 toilets/latrines, but outside the building (and no toilets in 111 FAPs).

In an effort to condense this information, researchers created an index of all 26 items, summing up all equipment that exists as it should and is in working order. FAPs score an average of 10 items or 37% of equipment/infrastructure required. Table 22 breaks down this average by region investigated. It can be seen that there are regions in Shirak (e.g., Artik, Akhuryan) where more investment is required to bring their FAPs to a better working level.

Table 22: Index score of equipment/infrastructure availability among the FAPs investigated (maximum total = 26)

District	Mean	% Total	N
Lori Marz			
Alaverdi	7.3	27.9%	20
Stepanavan	9.5	36.4%	11
Vanadzor	7.8	29.9%	13
Spitak	9.3	35.9%	15
Tashir	10.1	38.7%	14
Shirak Marz			
Akhuryan	11.2	43.0%	28
Artik	12.6	48.6%	19
Ani	6.0	23.1%	12
Amasia	11.0	42.3%	14
Total	9.7	37.1%	146

Differences between means are statistically significant (p=0.02)

Special study on relationships among factors and performance

As data from the study has already shown, the low percentage performance scores found are indicative of gaps in performance between actual performance and what might be desired or expected. The special study seeks to provide further analysis on the causes of the gap by determining which performance factors would affect

performance most. The first set of analyses concentrate on how average performance scores vary (or not) according to the presence of absence of identified background variables, as well as each performance factor (see Table 23).

Table 23: Mean ANC and PP/IC scores by presence/absence of performance factors (variables significant for both clinical tasks are highlighted)

Performance factors	Presence	ANC mean scores	N	PP/IC
Background				
1. Age	≤ 41 yrs.	13.9	140	16.1
	42+	14.4	145	16.8
2. Years working in the facility	0-11	14.1	138	16.4
	12+	14.3	147	16.5
Job Expectations				
3. ***Has job description***	Yes	**15.7***	**76**	**18.8***
	No, DK	**13.6**	**209**	**15.6**
4. Whether standards for performance has been set	Yes	14.4	223	16.8
	No	13.4	62	15.3
Motivation and Incentives				
5. Receive bonuses or raises for good work	Yes	14.0	23	16.0
	No	14.2	262	16.5
6. ***Non-monetary incentives (employer) - 1st reply****	Yes	**14.4****	**272**	**16.7****
	No	**8.6**	**13**	**10.7**
7. ***Non-monetary incentives (community) - 1st reply***	Yes	**14.3***	**280**	**16.6****
	No	**7.6**	**5**	**7.4**
8. Opportunities for promotion	Yes	15.8	48	17.7
	No	13.8	220	16.2
9. Disincentives for job badly done	Yes	14.2	112	16.3
	No	14.8	127	15.9
Feedback				
10. Receive feedback about job performance	Yes	14.3	265	16.4
	No	12.7	15	16.3
11. Appropriate feedback (composite)	Yes	14.6+	217	16.9#
	No, DK	12.8	68	15.1
12. ***Having performance reviews***	Yes	**14.8***	**183**	**17.4****
	No, DK	**13.1**	**102**	**14.8**
Organizational Support				
13. Received supervision in last six months	Yes	14.4	267	16.6
	No	10.9	18	14.2
14. Nature of supervision - 1st reply	Admin	14.8	213	16.8
	Other	11.8	35	16.1
Work Organization and Environment				
15. Adequacy of workplace (composite)	Yes (≥75%)	14.3	184	16.5
	Yes (≥75%)	13.9	101	26.4
16. Has the necessary equipment, instruments and supplies	Yes	15.5**	117	17.0
	No	13.3	166	16.1
17. **Satisfied with organization of work**	Yes	**14.9****	**218**	**16.9***
	No, DK	**11.8**	**67**	**14.9**

Performance factors	Presence	ANC mean scores	N	PP/IC
Knowledge and Skills				
18. **Satisfied with organization of work**	Yes	**14.8****	**234**	**17.0****
	No, DK	**11.5**	**51**	**13.9**
19. **Whether received training in RH**	Yes	**15.0***	**171**	**17.5****
20. **Been trained in the use of tools**	Yes	**13.0**	**280**	**16.6****
	No	**11.8**	**72**	**13.3**
21. Year of last training	2001-2002	15.3	128	17.7
	1972-1999	13.9	43	17.0
Self-Perception of Performance				
22. Self-evaluation (1-10)	8+	14.7	160	17.0*
	Up to 7	13.3	118	15.3
23. Appropriate feedback (composite)	8+	14.5	173	17.0*
	Up to 7	13.61	43	17.0
Overall Mean Score		**14.2**	**285**	**16.4**

* $p<0.05$; ** $p<0.01$; $^{+}$ $p=0.047$; $^{\#}$ $p=0.05$

*** These were open-ended questions and this item refers to the first reply given by the respondent.

Two variables were used as background factors: age and years working at the facility. For the six performance factor areas, 19 variables were created from all of the questions asked, except those that resulted in irrelevant answers. In two cases, questions were combined to create composite variables (variable 11 and 15). Two additional variables representing perception of self-performance were added to see if they had any effect on observed performance. To aid interpretation of results, all values were either "yes" or "no," or the range of replies was collapsed into two categorical sets of answers. Means of the performance index were broken down by each dichotomous value in these variables. Results of these analyses for both types of clinical skills yield 11 variables that significantly affect performance, although with slight differences between clinical areas. It is interesting to note that variables with each of the six performance factor areas were found to be significant. Specific findings are discussed below.

No significant difference in performance was found related to workers' **age** or the **years** they had been **working** in the present facility. This is somewhat surprising, as it infers that neither increased experience nor recent graduation from nursing or midwifery pre-service education had any effect on observed performance.

Within the **job expectations** factor, the variable "has job description" significantly affects performance. The variable about setting job standards does not show such influence.

From **motivation and incentives**, the two variables on non-monetary incentives (from the employer and from the community) also influence performance, while other aspects such as bonuses or raises, and opportunities for promotion are not related to performance. This is likely because workers have until very recently not even been paid their regular salary so raises and bonuses were simply out of the question. Disincentives that might discourage a performer from doing her job also do not appear to affect performance.

In the area of **feedback**, the composite variable "Appropriate Feedback" is borderline for both performance areas (p=0.047 and p=0.05). The variable of whether the provider receives feedback about his/her performance was not influential at all; in contrast, "having performance reviews" was correlated with performance in both areas.

In the area of **organizational support**, whether the provider received supervision in the last six months affected performance only in the area of ANC.[13] The kind of supervision received, on the other hand, produced some small differences only in the area of ANC, which did not reach statistical significance.

In terms of **environment , tools**, and **the organization of the work**, only one of three variables was related to performance for both clinical skills: being satisfied with the organization of the work. Having the necessary equipment, instruments and supplies was only critical to performance for ANC. The only variable in the factor that did not exert an influence on performance was the composite variable depicting adequacy of the workplace.

Finally, in knowledge and skills, three of four variables had significant effect on ANC and PP/IC performance.

1. Whether the provider believes she has the necessary skills to do the job,
2. whether she has received training in RH, and
3. if she has been trained in the use of clinic tools.[14]

Each of these variables significantly affected performance, regardless of clinical area. The fourth variable, whether providers had been trained within the last year or not, did not reach significance.

The two variables describing the **perception of self-performance** influenced performance scores only for PP/IC skills. This might reflect the perceived needs of these providers, who recognize the need for more support in this skill area.

Multivariate analysis

Once the effects of individual performance factor areas on performance were revealed, the next step was to test which performance factor variables that significantly affect performance independently are still associated with performance when taken collectively. That is, when these factors are allowed to interact with each other, do they affect performance in the same way. This "multivariate analysis" determines, for this particular context and specific set of performance scores, the factors more strongly associated with performance, also called the "predictors" of performance.

13 This last variable was originally placed in the "work organization and environment" factor. However, since it explicitly asks for training, it was moved to the "knowledge and skills" category.

14 The procedure will be done through the *stepwise* inclusion/elimination of variables. All dichotomous variables are converted to "dummy variables" beforehand. Missing values will be eliminated *pairwise*.

Since the performance scores act as an interval (continuous) variable, multiple linear regression was selected and applied on the subset of variables that had a significant relationship with performance. Regression analyses were done separately for ANC and PP/IC.

Antenatal care and performance

Eleven of the 23 variables tested had a significant relationship with ANC performance and were included in the linear regression analysis, as well as the three background variables of importance (age, years working in the facility and facility type). Results appear in Table 24.

Table 24: Features of the best-fit multiple regression model of performance (ANC) and factors

Variables in the model	Unstandardized coefficients - Beta	Std Error	Standardized coefficients - Beta	t	Sig.
(Constant)	5.631	1.958	--	2.875	.004
Incentives by employer	4.687	1.880	.144	2.493	.013
Have you been trained in using the tools	2.317	.910	.149	2.547	.011
Facility type	-1.659	.479	-.200	-3.466	.001

Dependent variable: Provider performance score
R=0.319; R square=0.102; R square adjusted=0.092

Table 24 shows that three of the 14 variables entered into the regression analysis became strongest predictors of performance in ANC. These are, in order of importance (based on the standardized -Beta coefficients), the type of clinic the provider works in, whether the provider "[has] been trained in using the tools" of the clinic and "whether provider received non-monetary incentives by the employer." The adjusted R Square for the model is 0.09, that is, the model is explaining 9%of the variation on performance found.

Integrated postpartum and infant care and performance

There were 11 significant variables affecting performance in PP/IC. These significant variables plus the three background variables were included in a similar stepwise multiple regression fashion as before. Table 25 presents the results obtained.

Table 25: Features of the best-fit multiple regression model of performance (PP/IC) and factors

Variables in the model	Unstandardized coefficients - Beta	Std Error	Standardized coefficients - Beta	t	Sig.
(Constant)	2.861	3.010	---	.951	.343
Incentives by community	8.195	2.893	.160	2.833	.005
Have you been trained in using the tools	3.370	.911	.219	3.699	.000
Do you think you have the necessary skills for doing your present job?	2.113	1.034	.121	2.043	.042
Are there any performance reviews?	2.030	.791	.145	2.566	.011

Dependent variable: provider performance score
R=0.370; R square=0.137; R square adjusted=0.125

The regression analysis this time yields four "predictor" variables in the area of PP/IC. Using the Beta coefficient as a measure of relative order, one can see that whether the provider "[has] been trained in using the [clinic] tools" becomes the strongest predictor of PP/IC performance. It is followed by "having received non-monetary incentives from the community." A third variable of significance is whether supervisors carry out performance reviews, followed by whether the provider thinks s/he has the necessary skills to do the job. The adjusted R Square for this model is 0.13.

Summary and Discussion

The performance assessment and special study of RH primary care providers and services obtained information from at least four categories of provider (physicians, nurses, midwives and *feldshers*), four types of facilities (PCs/WCs, HCs, rural ambulatories and health posts), clients attending these facilities, client records and inventories from health posts.

Performance assessment. One of the most important components of the performance assessment was the observation of **providers' performance**. Tasks were observed for ANC for nurses, midwives, *feldshers* and physicians and integrated PP/IC for nurses, midwives and *feldshers*.

The results of the observation checklists highlighted specific areas of weakness that can inform programs about where to concentrate on skill updates and service policy development. For example, physicians scored particularly low in areas of client provider interaction. They did not pay enough attention to women's problems or inform them about the side of effects in pregnancy. When designing an intervention for physicians, it may be prudent to include a module on client-provider interaction.

Physicians also score low in critical clinical examinations of the thyroid, mouth, breasts, heart and lungs. During the Soviet era narrow specialists were expected to conduct examinations of specific organs of the body. Given this fragmented approach to care, it is not unexpected to find that ob-gyns and other primary care providers did not uniformly examine other body organs.

Technical areas where nurses and midwives scored low such as management of common pregnancy-related complications were often tasks or procedures that they were not expected to perform by their immediate supervisors nor were they trained or empowered to perform them (although they are allowed to perform them according to government regulation). This explanation does not account for low scores in such items as taking temperature or pulse rate which may point more toward lack of K&S regarding what constitutes comprehensive ANC.

For **PP/IC**, performance scores were higher than for ANC, though still only averaging 50% of all possible items. Again checklist analyses reveal some areas of weakness in both client provider interaction and clinical competence. Nurses and midwives scored low on ensuring client's comfort, orienting women toward follow-up visits and birth spacing, soliciting questions to ensure women understood key messages and keeping good record of the findings and care provided.

On the clinical side, nurses and midwives rarely took the pulse rate, examined skin and eyes, or checked for any abnormality in the legs — all crucial procedures for ruling out life-threatening complications after birth. Even the most basic procedure of inspecting and palpating the abdomen for uterine involution was carried out by only four out of ten providers.

When scores are broken down by **type of facility** and **category of worker**, there are differences in the area of ANC. Providers in PCs/WCs score higher than those in

ambulatory/HCs or FAPs. In Armenia, ANC is usually offered in WCs while more rural primary care facilities are expected to identify and refer. This reality is substantiated when we look at higher integrated PP/infant scores for nurses and midwives at the health post level, as these providers are indeed empowered and even sometimes trained to perform these skills and procedures.

Performance factors. The qualitative and quantitative **performance factors** interviews revealed several important features of the Armenian health care job environment. **Job expectations** are poorly defined and disseminated. Awareness of their tasks apparently comes from informal and verbal directions from anyone higher up in the health care system or by referring to various written reference materials.

There are no or few **motivations and incentives**. Bonuses or raises and job promotions are virtually nonexistent. Non-monetary incentives, both from the employer and the community come largely in the form of verbal recognition. However, these informal ways of recognizing workers seem to be highly and consistently associated with higher levels of performance. As expected, health post providers did not readily report that they receive informal payments, such as money, gifts or in-kind services, although most providers did acknowledge that this illegal practice is conducted in most other SDPs than their own. It is assumed that such informal payments do play an important role in motivating rural primary providers.

Similarly, when asked about employees receiving **feedback** from supervisors, it does not seem to be a regular practice. Feedback is mostly in the form of comments supervisors receive from clients and community representatives and then inform their supervisees.

The **environment and work organization** questions focused on provider perception of the workplace. Though a large majority of respondents found the workplace environment adequate, when giving more specific information about the necessary equipment to do the job well, nearly 60% did not find the workplace adequate.

Lastly, 80% of providers felt they had the necessary **knowledge and skills** to do their jobs well. However, 40% stated not having received any training in RH. In a cross-reference between environment and K&S, only around three-fourths of the providers claimed they had been trained in the use of equipment and tools of daily use.

Organizational support was explored as the realization of performance reviews and supervision of providers. Regarding the first, less than two thirds admitted having performance reviews, and among those, most were informal oral exercises. According to the qualitative interviews, providers were not familiar with the concept of performance reviews and may not have answered the question in the quantitative interview accurately. All but 18 providers stated having had a visit of a supervisor within the previous six months. The supervisory exchanges averaged over two hours, and the average number of supervisory visits was nine overall and seven at health posts. However, this exchange may only be cautiously interpreted as technical supervision designed to support health providers in their work. Such visits seem to reflect the presence of an authority figure or reporting physician in the same facility, the monthly visit made by a health post nurse to her reporting facility, or the

physician coming to the facility on a periodic basis to provide direct services to clients. These findings were in contrast to the qualitative data that found supervisors rarely visit health posts. The large number of visits found in the quantitative data may be interpreted as number of administrative or official visitors of any kind at the health post or rural ambulatory.

Reported (self-evaluated) performance yielded a higher average than actual performance (76% vs. 38% ANC, 51% PP/IC), without any appreciable differences between cadres of providers, except when asked how their supervisors would evaluate them. In this case nurses thought they would have a higher score than their counterparts, although in fact, midwives performed better than nurses in the observations. This result may be due to the fact that nurses generally work side-by-side with their supervisors while midwives have a degree of autonomy, and therefore, may not be as comfortable in estimating that their supervisors would rate them higher.

Client exit interviews. Eighty-seven percent of clients interviewed were pregnant at the time of interview an average of six months and had had relatively regular ANC (four visits). When asked about elements of quality of care, clients stated that most tasks were indeed performed. However, the interviews indicated gaps in the client-provider interactions, such as being comfortable asking questions or having enough privacy during the consultation, or in actual services such as the provider mentioning important potential complications of pregnancy, prescribing iron/folate pills or providing educational material. The client interviews supported the observation findings that there is not a common practice of prescribing iron/folate pills to pregnant women, despite the fact that UNICEF has indicated to PRIME II that the practice is universal.[15] The four most common suggestions made by clients to improve services accounted for more than 50% of total suggestions. These include improvements to the physical environment of the clinic (space and hygiene/cleanliness) and on equipment and supplies. Other common suggestions focused on improving the quantity and qualifications of providers.

Client record reviews. On average two Ob/Gyns, two pediatricians, seven nurses and three midwives work in PCs/WCs. At the same time, there was an average of one general physician (a terapeft, family physician or general practitioner), three nurses and one midwife working in HCs and rural ambulatories, with an average of one pediatrician in every two and one Ob/Gyn in every four such facilities. Generally nurses work alone in health posts, but in one out of ten health posts, midwives are working either together with nurses or replacing them as the sole provider.

Regarding use of services, it is clear that FP is a highly specialized service offered mainly at the PC/WC level in urban areas. It is offered in nearly 90% of PCs/WCs, dropping dramatically to 32% and 17% respectively in ambulatories/HCs and FAPs. This study did not examine the role that facilities play in FP counseling and referral, a critical service that rural facilities can play to complement the direct services offered

15 During the time PRIME II project design technical visits, UNICEF representatives indicated that all pregnant women in Armenia receive iron/folate tablets.

at WCs. Other important RH services such as STI and HIV/AIDS treatment and prevention follow a similar pattern. Review of the client statistics, though limited by quality issues, demonstrates the usual pattern: PP/IC and FP service use is typically a fourth of those of ANC. Any programmatic interventions should seek to increase the use of PP services and strengthen the availability and referral linkages for FP services.

Equipment inventories. The inventory of equipment and supplies at health posts completed the picture of needs at this most primary level of service delivery. Important structural and furniture deficiencies such as water, electricity, toilets, examination tables and kitchens were found in a number of posts. However, there were also gaps in critical hygiene and clinical items such as soap and disinfection solutions, thermometers, stethoscopes and infant scales, without which even the best trained providers cannot perform effectively. Their construction/repair/purchase should be considered as part of a comprehensive PI intervention.

Special study

Bivariate relationships. The special study of the relationship between and among performance factors and actual performance has shown how the factors are related to performance and the relative importance of some factors as compared to others. On the one-to-one relationships, it is encouraging to find 11 of the 24 variables tested (including facility type) were associated with higher performance. However, more important is the fact that seven of the 11 significant variables are the same for both clinical areas. These are

1. having a job description
2. receiving non-monetary incentives (from the employer)
3. receiving non-monetary incentives (from the community)
4. having had performance reviews
5. having been trained in the use of tools [for the job]
6. believing to have the necessary skills for the job
7. receiving training in RH

These variables represent the consistent importance of **job expectations**, **motivation/incentives**, and **knowledge and skills** on both areas of performance. Findings from the multivariate analysis reinforce in particular the crucial importance of the last two factors. It may be important to further explore the concept of performance reviews among providers and managers working in the system. The qualitative component of the study found that performance reviews were not a common practice in Armenia, and many providers were unfamiliar with the concept. While this variable was found to be significant, it may not, indeed, by considered differently in practice from the practice of giving oral feedback.

In addition, in the **ANC** arena two extra variables are significantly associated with differential levels of performance. These are

- Received supervision in last six months, and
- Having the necessary equipment, instruments and supplies [to do the job well].

In the **PP/IC area**, the two extra variables affecting performance are

- Self-evaluation (1-10 score), and
- Perception of supervisor's evaluation (1-10).

Since these providers are not generally expected or empowered to perform ANC, supervision would play a large role in how comfortable they are in providing those services. This lack of confidence may also cause them to report that they need more equipment or supplies to do provide these services.

Multivariate analysis. The multiple regression analysis produced three predictors of importance for the ANC and four predictors for PP/IC. Table 26 presents a summary picture. It is clear that with ANC, the type of facility in which the provider works is clearly associated with performance (i.e., higher RH performance in more specialized facilities). This is explained by the fact that ANC is predominantly done in WCs, where physicians are present and supplies more abundant. Knowledge and skill seem to be present in both ANC and PP/IC as are **motivation and incentives** (i.e., mostly verbal recognition by either employer or the community). For PP/IC having proper **job expectations** (i.e., having written job descriptions) and **feedback/support** from the employer (having performance reviews) also adds prediction of performance. It is important to note that the four variables in the PPC model explain slightly better the changes in performance found than the three-variable model with ANC (higher value of the R Square).

Table 26: Predictors of performance in ANC and PP/IC areas and order of importance

Predictors	ANC	PP/IC
Background		
Type of facility in which provider works	1st	
Performance Factors		
Motivation & Incentives		
Incentives by employer	3rd	
Incentives by community		2nd
Knowledge & Skills		
Having been trained in the use of clinic tools	2nd	1st
Job Expectations		
Having a written job description		3rd
Feedback (and Organizational Support)		
Having had performance reviews		4th
R Square (adjusted)	**0.09**	**0.13**

Interpretation of these findings needs to be done carefully. However, it seems warranted to recognize the important influence for provider performance in ANC and integrated PP/IC of having been trained in the use of the tools [existing] in the facility. This finding is not only logical, but in light of the variable becoming more significant than the one describing more generally having received training in RH, it stresses an important distinction. Providers may be trained in many aspects of RH, usually at the theoretical level. In Armenia, most pre-service and in-service training

is theoretical, and trainees are not given the opportunity to practice new skills in clinical situations. What matters most for improved performance is whether they have essential and practical K&S of the everyday equipment, tools and supplies they need to provide proper care.[16]

A second predictor of importance in this analysis is receiving non-monetary incentives by either providers' employers or from the community where they work. This is consistent with findings of the qualitative component of the study, where more senior providers appeared confident about the work they do because of the respect they draw from the communities they serve.

For postpartum care, the importance for providers of having clear job expectations and support and feedback on the jobs they are carrying out cannot be sufficiently emphasized, as also demonstrated in this study.

16 This finding is indirect relevance to PRIME's efforts of studying what is the **Essential Learning** content and media providers need to perform appropriately in resource poor environments.

Conclusions and Recommendations

Findings of this performance assessment and the supplementary information brought in with the special study have direct policy and programmatic implications for RH care in Armenia. HCs, rural ambulatories and health posts make up the entire health delivery network in rural zones in Armenia. PCs and WCs are situated only in cities and regional capitals. While health providers such as midwives, nurses and *feldshers* (those that still remain in the system) are legally allowed by MOH order to serve ANC and PP care clients when they work facilities that do not have ob-gyns, the implementation of this government order has many significant barriers.

- Providers in rural ambulatories and health posts work alone, are poorly paid, and are not recognized by the health system as contributing to improved health status of the population.
- Providers' immediate supervisors have financial and non-financial incentives to continue not allowing nurses and midwives to offer services to pregnant and PP women.
- Providers themselves have not been trained to effectively provide these services nor are they aware of their legal right to offer these services.
- Lastly, many of the rural primary care facilities such as rural ambulatories and FAPs do not have the appropriate equipment and supplies to ensure that providers can offer the range of services needed to provide routine care for healthy pregnant and PP women.

In order for rural women to have access to needed maternal and infant health services, these rural facilities must be empowered, trained and equipped to offer quality services. This study and the later dissemination of the results (see Epilogue) identified many of the gaps and deficiencies in the system. Future priority intervention areas should emphasize the following:

- Training of physicians, nurses and midwives in comprehensive maternal health care. It is clear from the study results that providers were not performing the range of tasks required in comprehensive ANC or PP care. In particular, all cadres were weak in certain clinical aspects of care, such as provision of iron folate tablets to all pregnant women (anemia in pregnancy is considered a priority public health concern in Armenia). Just as importantly, providers performance did not suggest a strong orientation toward "client-centered" care, such as ensuring clients have the right information to play effective roles in their own care. Future trainings should emphasize clinical practice as well as strong client-provider interaction skills.
- Place greater emphasis on integrated PP care: At present, few women visit health facilities to receive PP care. Yet, there are critical prevention and treatment services that health providers can offer within the first 40 days after childbirth for both mother and infant. In particular, mothers need to be counseled on the health

benefits of breastfeeding exclusively until six months and to understand the danger signs of complications during this period.

- Strengthen rural facilities' role in counseling and referral for other RH services. Very few rural ambulatory and health post providers indicated that they offer FP, STI treatment and prevention or gynecological services. However, needs exist in rural communities for more information and access to these services. Rural health providers could expand their capability to offer counseling and referral for a full range of RH services.
- Definition and dissemination of the roles and responsibilities of rural health facilities in RH: If providers and their supervisors have a common understanding of their expected duties related to RH care, providers would be more empowered and ready to do so. At present, it appears that existing government regulations are not well understood at the primary levels.
- Improve the technical supervision and support of nurses and midwives in primary care centers. This study found that supervising physicians are visiting rural facilities, but are not using those opportunities to give supportive feedback and technical guidance to nurses and midwives to improve their performance.
- Expand the community role in supporting providers' performance. Seeking mechanisms and strategies that enhance community's positive influence on health workers, either through more structured feedback to providers or actual contributions to improved care (e.g., rehabilitating facilities, establishing community funds), could prove critical in trying to strengthen RH care in rural areas.
- Rehabilitation and equipping of rural facilities. The GOAM supports the refurbishment of rural ambulatories around the country through the World Bank-funded primary care program. While that program is critical, it does not reach to the level of the health post. This study found a majority of health posts lack the most basic equipment and infrastructure to offer primary RH care. Even the clients interviewed as part of the study indicated that improvements to the physical infrastructure and environment as their priority need. Any service improvement efforts for primary care facilities must consider the need to improve the physical environment and access to equipment and supplies for providers.

These findings and conclusions can assist the GOAM prioritize future interventions in strengthening and expanding primary care services. Specifically, the PRIME II project is implementing interventions to address the identified gaps in performance including training nurses and midwives at health posts and rural ambulatories, strengthening the clinical supervision system, and working with the community to help motivate health providers and improve the quality of care.

Epilogue

Results dissemination and action planning, December 2002

PRIME II disseminated the initial results of the performance assessment and special study through a series of meetings with local counterparts in Yerevan and in the marzes where PRIME II conducted the research. The dissemination activities focused on validating the findings and conclusions of the study and on making recommendations for future PRIME II interventions.

December 11, 2002: Initial Vetting of Research Findings

A representative group of MOH representatives, study field supervisors and PRIME II staff and consultants met to get familiar with the initial results of the study and to further qualify the performance data through small group discussion and a root cause analysis. By doing this analysis, the group identified the major causes for the gaps in performance and led to the development of discussion topics about what interventions would close the gaps in performance. The meeting served to prepare PRIME II for local dissemination meetings that would happen a few days later in Shirak and Lori marzes.

December 16, 2002: Regional Dissemination

Dissemination meetings took place in the capital of each marz involved in the study, Gyumri for Shirak marz and Vanadzor for Lori marz. Participants at each of the meetings included some of the marz-level data collectors, heads of facilities included in the study, and representatives of the marz-level health department. At each meeting, PRIME II staff and consultants presented the data to participants and requested reactions from them regarding the nature of the findings. In addition, participants were asked to comment on the proposed root causes of the gaps in performance.

The research found, and the later discussions with local stakeholders verified, that several causes are linked to the significant gaps in performance. Among the most critical causes is a lack of clarity in responsibilities for the nurses and midwives that is compounded by a complex informal structure of conflicting demands and/or approvals by supervising physicians. Although it is understood that many of the FAP nurses provide very basic primary care to pregnant women, our preliminary findings suggest that most are not. They register the pregnant woman, and refer her directly to a regional policlinic. There are many reasons for this, including lack of infrastructure, skills, supplies, culture, and direction from supervisors/physicians (many are told not to provide care and refer instead to physicians). Some MOH representatives maintain that the responsibilities of the nurse have indeed been defined. However, whether or not she is allowed to fulfill those responsibilities is contingent upon her knowing what they are, and the supervising physician allowing her to fulfill them. In actuality, neither of these conditions exists.

December 19, 2000 National Dissemination

The objectives for the national dissemination were to:

- Present findings of RH Performance Factor Study with key stakeholders and partners
- Share regional discussions and priorities
- Discuss priority gap areas and possible interventions
- Outline actions and future activities for Prime II.

Approximately 60 individuals attended a one-day dissemination meeting at the Congress Hotel in Yerevan. Representatives were from the MOH, USAID, the marz health department and heads of facilities studied, university faculty, and other international organizations. The morning sessions were devoted to presenting the data and conclusions drawn about performance gaps and weaknesses. In the afternoon, participants broke into small groups to discuss methodological aspects of the research or to brainstorm possible areas of intervention to fill performance gaps. Small groups tackled each of the following causes of performance problems: clear expectations of providers, supervision of nurses and midwives from FAPs and ambulatories, and alternative monetary incentive structures.

Group 1: Clear Expectations

Participants were asked to discuss what roles FAP nurse and midwives play in maternal and newborn health, how her roles are defined and by whom. PRIME II asked the team to focus on the role of the reporting physician in allowing her to complete her duties and to communicating with the nurse about her roles.

Recommended Interventions

- Clarify job expectations of the FAP nurses and midwives through creating and disseminating job descriptions and supporting providers with supervision.
- Review and revise current MOH orders to more clearly and explicitly define standards of care in RH at each level of the service delivery system and by provider type.
- Disseminate widely any new orders to all facilities and providers.

Group 2: Supervision (Feedback on Performance)

This group focused on who supervises a FAP nurse or midwife, what the supervision consists of, and how often it takes place.

Recommended Interventions

- Redefine supervision from a punitive faulty-finding exercise to an opportunity for constructive feedback and skills building.
- Identify alternative supervision strategies that address the issues of distance and lack of funding for transport for supervisors to visit facilities.

Group 3: Monetary Incentive Structure

FAP nurses and midwives receive very small salaries and often do not even receive those. The study findings did not uncover clearly how the informal payment system works for this level of health facility. This group was asked to identify any possible

community-based mechanisms for increasing FAP provider motivation through monetary and non-monetary incentives.

Recommended Interventions

- Better understand the role of informal payments on FAP and ambulatory service provider motivation.
- Build relationship between health providers and the communities where they work, thus ensuring that those services better meet the needs of its clients and that health providers are more appropriately recognized and compensated for their work.
- Explore alternative models that increase facility upgrades community support for health care that motivate providers, financially or otherwise, to better performance (community boards, revolving transport funds,).

PRME II incorporated the outcomes of this meeting, particularly the intervention ideas, into the 2004 workplan.

References

1. Combary, P., et al. 2001. Performance Needs Assessment of Safe Motherhood Regional Resource Teams in Upper East, Upper West and Northern Regions of Ghana. PRIME II Project/Intrah Technical Report #31, Chapel Hill, NC.
2. Fort, A. 2002. Measuring Provider Performance: Summary of a Technical Meeting: PRIME Best Practices Series, No. 1, Chapel Hill, NC.
3. Fort, A., et al. 2002. Baseline Study on Licensing and the Performance of Primary Reproductive Health Care Providers in Region 7- Olancho, Honduras. PRIME II Project/ Intrah Technical Report #29, Chapel Hill, NC.
4. McCaffery, James, et al. 1999. Performance Improvement, Stages, Steps and Tools, PRIME II, Chapel Hill, NC.
5. Measure Evaluation. 2001. Quick Investigation of Quality (QIQ): A User's Guide to Monitoring Quality of Care in Family Planning. Manual Series No. 2, Carolina Population Center, UNC at Chapel Hill, NC.
6. Ministry of Health National Statistical Services, Macro International. 2000. Armenian Demographic and Health Survey (DHS), Yerevan, Armenia.
7. Ministry of Health. 1997. National Reproductive Health Survey, Yerevan, Armenia.
8. United Nations Population Fund (UNFPA). 2000. Project Document: Government of Armenia, Armenian Family Health Association, and UNFPA, Yerevan, Armenia.
9. USAID/Armenia. 2001. Results Review and Resource Request (R4).

Appendix 1: Antenatal Care Observation Checklist

Checklist for Physician's Assessment of Pregnancy and Prenatal Care Examination

General Information

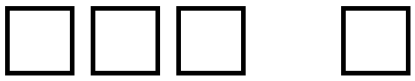
Date of the observation (dd/mm) ____/___/_____ Starting time _____

Name of Interviewer, team number _____

Clinic name _____

Clinic address _____

ID# of the provider (the Interviewer should ensure that the number coincides with the list number foreseen for the observations).



NOTE TO THE OBSERVER:
Conduct this observation whenever possible through a real client-provider interaction. If there are no clients/patients at the time of the visit, conduct a simulated observation with the following scenario: This is a young married woman of age 23, first-time pregnant who comes first time to the provider and the clinic. She is approximately seven months pregnant, has been seen once before in another clinic but did not have money before to access this clinic. Tell the provider s/he should include all elements in the interaction, including education/information, examinations and procedures. Do not remind the provider about steps forgotten to include. Only register steps/procedures spontaneously carried out/mentioned by the provider. Mark the way in which the information was collected, below.

□ Information was collected through a simulated exchange and not through observation of a real case.

□ Information was collected through a real-case scenario.

Use the following guide to mark the results of your observations:

1 = Done 0 = Not done, or done unsatisfactorily NA = Not applicable

#	Item	Y/N/NA
1	Washes hands with soap and water and dries them	
2	Greets and calls woman by her name/surname and introduces him/herself if first visit	
3	Ensures woman is in a comfortable environment	
4	Explains purpose of the visit and nature of the interventions	
5	Asks questions and allows the woman to express herself	
6	Pays attention and is interested in personal problems of the woman	
7	Reviews clinic record before starting the session/does new record for new client	

#	Item	Y/N/NA
8	For first consultation, checks about previous pregnancies: number, evolution and outcomes	
9	For current pregnancy: assesses LMP, symptoms, Lab tests (urine, blood if applicable)	
10	In case it is possible, performs medical examination (urine, blood)	
11	Collects woman's medical anamnesis	
12	Explores pulse rate	
13	Explores blood pressure	
14	Explores temperature	
15	Gets anthropometric measurements: weight, height	
16	Examines skin and conjunctivae	
17	Examines the legs for oedema, redness and varicose veins	
18	Examines thyroid, mouth	
19	Examines breasts	
20	Examines the heart and lungs, in case it is necessary, sends her to the relevant specialist	
21	Inspects and palpates abdomen for scars, pigmentation…	
22	Palpates uterus and performs maneuvers to detect fetal position and situation	
23	Measures uterine height, abdomen circumference and listens to the fetal heart rate (in case of pregnancy of 18 weeks and more)	
24	Determines weeks of pregnancy and probable delivery date	
25	Informs woman about the progress of pregnancy	
26	Informs woman about her health condition	
27	Informs woman about the fetus' health condition	
28	Informs woman about any complications	
29	Orients woman for the place of delivery (hospital, contacts, transportation, etc)	
30	Orients woman about management of common pregnancy-related afflictions	
31	Orients woman about personal hygiene, rest and general care	
32	Orients woman about gender, sexuality, STD prevention	
33	Orients woman about alarm signs: pain, fever, bleeding and loss of vaginal fluid	
34	Counsels about nutritional needs and prescribes iron and fola	
35	Informs woman of positive and side effects of medicines during pregnancy	
36	Orients woman about breast feeding, baby vaccination and use of contraception	
37	Orients woman about baby vaccination	
38	Orients woman about birth spacing and use of contraception	
39	Solicits questions to ensure client has understood	
40	Schedules the next appointment according to clinic needs and woman's convenience	
41	Records all findings, assessments, diagnosis and care with client	
42	Thanks client for her time	

Finishing time _____

Appendix 2: Integrated PP and Infant Care Observation Checklist

Checklist for Nurse/Midwives' Assessment of Postpartum Care

General Information

Date of the observation (dd/mm) ____/___/_____ Starting time _____

Name of Interviewer, team number _____

Clinic name _____

ID# of the provider (the Interviewer should ensure that the number coincides with the list number foreseen for the observations).

☐☐☐ ☐

NOTE TO THE OBSERVER:
Conduct this observation whenever possible through a real client-provider interaction. If there are no clients/patients at the time of the visit, conduct a simulated exchange with the following scenario: This is a young married woman of age 23, first-time pregnant who has gone to the nearest hospital for delivery, had a normal delivery and was discharged two days after. Tell the provider s/he should include all elements in the interaction, including education/information, examinations and procedures. Do not remind the provider about steps forgotten to include. Only register steps/procedures spontaneously carried out/mentioned by the provider. Mark the way in which the information was collected, below.

- □ Information was collected through a simulated exchange and not through observation of a real case.
- □ Information was collected through a real-case scenario.

Use the following guide to mark the results of your observations:

1 = Done 0 = Not done, or done unsatisfactorily NA = Not applicable

#	Item	Y/N/NA
1	Washes hands with soap and water and dries them	
2	Greets and calls woman by her name or surname and introduces him/herself if first visit	
3	Ensures woman is in a comfortable environment	
4	Explains purpose of the session and nature of the procedures	
5	Asks questions and allows client to express herself	
6	Pays attention and is interested in personal problems of the woman	
7	Asks about last pregnancy and delivery: evolution, outcome, any complications	
8	Asks about present status and any danger sign (bleeding, fever, excessive pain)	
9	Explores pulse rate	

#	Item	Y/N/NA
10	Explores blood pressure	
11	Explores temperature	
12	Examines skin and conjunctivae	
13	Checks for legs - oedema, redness and varicose veins	
14	Inspects and palpates abdomen for uterine involution	
15	Examines breasts and inquires for any lactation problem	
16	Examines lochia (amount, color, smell)	
17	Asks about baby's health: sleeping, feeding, posture, skin color, breathing, fever	
18	Assesses baby's health: feeding, posture, skin color, breathing, fever	
19	Informs woman about her health condition	
20	Informs woman about the baby's health condition	
21	Informs woman about potential complications and trains on self-assessment	
22	Orients woman about breast-feeding and breast care	
23	Orients woman about personal hygiene	
24	Orients woman about gender, sexuality, STI prevention	
25	Counsels about nutritional needs	
26	Orients woman about hospital/clinic services (e.g., location, hours, etc.) for follow-up	
27	Orients woman about baby vaccination	
28	Orients woman about birth spacing and contraception	
29	Solicits questions to ensure client has understood	
30	Schedules appointment/next visit according to needs and woman's convenience	
31	Records all findings, assessments, diagnosis and care with client	
32	Thanks client for her time	

Finishing time _____

Appendix 3: Performance Factor Questionnaire

Interview with the Provider

General Information

Date of the visit (dd/mm/yy) ____/___/_____ Starting time _____

Interviewer's (your) full name, Team # _____

Name of Facility _____

Location of the Facility _____

Health worker ID# (Interviewer: Make sure that the number corresponds to the number of the remaining instruments).

☐☐☐ ☐

Performance Factors Questionnaire

Good morning. My name is _____. I represent INTRAH PRIME II international organization which conducts this survey in cooperation with the Ministry of Health. Its goal is to improve the service quality in Lori and Shirak marzes. Your opinion is very important for us. The research is confidential and the received data will be presented only in a summarized form. Your name and the name of the facility will not be mentioned anywhere.

1. Health Worker Details

			Nurse	Midwife	Nurse Midwife	Other (Specify)
1.1	What are your responsibilities?		1	2	3	4
1.2	How long have you worked in the health services?					____Years ____Months
1.3	How long have you worked in this facility?					____Years ____Months
1.4	Why did you decide to become a health worker? _____ _____					

2. Job Expectations

In this section of the questionnaire we'd like to learn more about your job.

		Yes	No	Don't know	Filter
2.1	Do you have a written job description of this job?	1	2	9	
2.2	Do you know/understand what roles and tasks you have to carry out in your job?	**Yes**	**No**	**Don't know**	If NO or DON'T KNOW, go to Q 2.4
		1	2	9	

2.3	How do you know it? (INTERVIEWER: MORE THAN ONE ANSWER) 1. Through the written job description 2. Through the verbal explanation by the manager or other person 3. Other means (please, specify)				
2.4	Are you involved in discussing these tasks and roles in any way?	**Yes**	**No**	**Don't know**	
		1	2	9	
2.5	Have standards for your performance been set? That is, how should your work be implemented?	**Yes**	**No**	**Don't know**	
		1	2	9	
2.6	Do you have any guidelines, models, written material or protocols assisting you to implement your tasks? (INTERVIEWER: MORE THAN ONE ANSWER)	Guidelines Models, written material Protocols Other (specify) None			1 2 3 4 5
2.7	Have your managers created any obstacles that hinder you to carry out your tasks and roles well?	**Yes**	**No**	**Don't know**	If NO or DON'T KNOW, go to Q 3.1
		1	29		
2.8	If YES, please describe an example of such an obstacle. _____ _____ _____				

3. Motivation/Incentives

In this set of questions we will ask you how you are awarded for your work.

3.1	Are there bonuses or raises in your salary if you do your work well?	**Yes**	**No**	**Don't know**	
		1	2	9	
3.2	Are there any non-monetary incentives coming from the employer if you do your work well? (Interviewer: More than one answer): 1. Verbal recognition 2. Written recognition 3. Uniforms 4. Free/ reduced medicines 5. Equipment/ medicines 6. Training courses 7. Other, please specify _____ 8. No (DO NOT READ)				
3.3	Are there any non-monetary incentives coming from the client or community if you do your work well? 1. Verbal recognition 2. Written recognition 3. In-kind products or small gifts 4. Services in return 5. Respect in community				

	6. Other, please specify _____ 7. No (DO NOT READ)				
3.4	Are there opportunities for promotion or career development in your job?	**Yes**	**No**	**Don't know**	IF NO or DON'T KNOW, go to Q 3.6
		1	2	9	
3.5	If YES: what are the opportunities for the further promotion and how they can be achieved? Please, explain *all* possible options.				
3.6	Are there any job consequences if you do your work badly, in a way it should not be done?	**Yes**	**No**	**Don't know**	If NO or DON'T KNOW, go to Q 4.1
		1	2	9	
3.7	If YES, please describe one of the recent cases mentioning the reason, consequences and the results. _____ _____ _____				

4. Opinion/Feedback

In this section we will ask you about your work assessment.

		Yes	**No**	**Don't know**	
4.1	Do you receive feedback or information about your job performance from your employer?	1	2	9	If YES, go to Q 4.3
4.2	How do you know if your performance is as it should be? Please, explain. _____ _____ _____ (AFTER EXPLAINING, SKIP TO SECTION 5)				
4.3	If YES: Please tell me whether it has the following characteristics or not. (PLEASE, READ ALL OPTIONS)	**Yes**	**No**	**Don't know**	
	1. Feedback that relates to the work, not to the person	1	2	9	
	2. Feedback that describes results related to standards and not just your behavior	1	2	9	
	3. Feedback that is immediate so as you remember what you did	1	2	9	
	4. Feedback that is concrete and specific, not vague or generic	1	2	9	
	5. Feedback that is educational, positive and constructive, to learn from it	1	2	9	
	Please, describe a recent example of a feedback				
4.4	Are there other parties from which you receive feedback or information about your job? (INTERVIEWER: ACCEPT MORE THAN ONE ANSWER) 1. Clients/Community 2. Colleagues 3. Other supervisors, please specify _____ 4. Others, please specify _____ 5. None (Do not read.)				
4.5	If you receive feedback from supervisor, how often do you receive this feedback/information? (INTERVIEWER: MENTION THE TIME PERIOD) _____				

5. Organizational Support

In this part of the questionnaire we would like to ask how your organization helps you to perform your job.

		Yes	No	Don't know	
5.1	Are you able to influence on the decision-making process in this facility regarding the organization of the health care service (through meetings, by voting, etc.)?	1	2	9	If NO or DON'T KNOW, go to Q 5.3
5.2	IF YES: Please, describe a recent example of such influence. In what way, how and what are the results? _____ _____ _____				
5.3	Are there any performance *reviews* carried out with your supervisors or other specialists?	**Yes**	**No**	**Don't know**	If NO or DON'T KNOW, go to Q 5.5
		1	2	9	
5.4	IF YES: Describe how these reviews are done and whether they are verbal or in a written form? _____				
5.5	How many times has a supervisor come to this facility for the purpose of supervising you in the past 6 months?	_____ Times			0 times, skip to question 6.1.
5.6	When the supervisor comes to supervise, what does she/he do and how long does it take? (MARK AND DESCRIBE AS SPECIFICALLY AS POSSIBLE, BELOW.) TYPICAL DURATION OF VISIT ___hr(s). ___min				

6. Equipment and Organization

Now you'll be asked some questions about your working conditions.

		Yes	No	Don't know	
6.1	Do you feel you have an adequate place/space to do your job well? (INTERVIEWER: TRY TO EXPLAIN THE SITUATION IN A COUPLE OF WORDS.)				
	a. the location _____	1	2	9	
	b. the size _____	1	2	9	
	c. light _____	1	2	9	
	d. the level of comfort _____	1	2	9	
	e. other, please specify _____	1	2	9	
6.2	Do you have the equipment, tools and materials necessary to perform your job well?	1	2	9	If YES, go to 6.4
6.3	IF NO, please, specify all that is necessary. _____				
		Yes	**No**	**Don't know**	
6.4	Have you been trained in the use of these tools?	1	2	9	

		Yes	No	Don't know	
6.5	Are you satisfied with the way your work is organized?	1	2	9	If YES or DON'T KNOW, go to 7.1
6.6	If NO, what needs to be improved? _____ _____				

7. Knowledge and Skills

7.1	When did you receive your last training in reproductive health (maternal/neonatal care)?	DATE (Month and year):			If NO, go to Q 7.4
7.2	In what aspect did you receive training? _____				
7.3	Have you been able to apply in the work what you learned in the training course?	**Yes**	**No**	**Don't know**	If YES, go to Q 7.5.
		1	2	9	
7.4	If NO, why? _____				
7.5	Do you think you have the knowledge or skills necessary for doing your present job?	**Yes**	**No**	**Don't know**	If YES, go to Q 8.1
		1	2	9	
7.6	If NO, what knowledge do you lack to do your present job? _____				
7.7	And what skills do you lack to do your present job? _____				

Part II. Performance

Some questions about your facility.

8.1	What services do you offer in this center? 1. Prenatal care 2. Postpartum care 3. Newborn care 4. Counseling in sexually transmitted diseases. 5. Services of sexually transmitted diseases. 6. Counseling in HIV/AIDS. 7. Child care 8. Family planning 9. Other _____				
8.2	Does your facility provide services out of the facility?	**Yes**	**No**	**Don't know**	If NO, go to Q 8.4.
		1	2	9	
8.3	If YES, which services are being provided? _____ _____				

8.4	Have you had any patients/clients asking for/requesting any services to prevent or limit their pregnancies?	**Yes**	**No**	**Don't know**	If YES, go to Q 8.6
		1	2	9	
8.5	Do you yourself feel there is any demand in your area to provide services for women to space or limit pregnancies?	Yes	No	Don't know	
		1	2	9	
8.6	If you were to judge your own performance, how would you rate yourself on the scale from 1 to 10, 1 being the poorest performance and 10 being the best performance?				
	1 2 3 4 5 6 7 8 9 10				
8.7	And how do you think your supervisor would rate your performance on the scale from 1 to 10, 1 being the poorest performance and 10 being the best performance?				
	1 2 3 4 5 6 7 8 9 10				
8.8	Finally, if what you wish could become a reality, what would you need in order to do your job as best as possible? LET THE PROVIDER EXPRESS HIM/HERSELF. _____ _____ _____ _____				

9. Personal Data

And in the end several short questions about you.

9.1	Your age	_____ years old
9.2	Sex (Do Not Read)	1. Male 2. Female
9.3	Marital status	1. Not married 2. Married 3. Divorced 4. Living alone 5. Widow

Thank you for your time!

Time the interview ends _____

Appendix 4: Client Exit Interview Questionnaire

Client Exit Interview

General Information

Date (day/month/year) ____/___/_____ Starting time _____

Interviewer (your) name. Team # _____

Name of facility _____

Address of facility _____

ID# of the provider (the Interviewer should ensure that the number coincides with the list number foreseen for the observations).

☐☐☐ ☐

INSTRUCTIONS TO INTERVIEWER:
Good morning. My name is _____. I represent INTRAH PRIME II Project which conducts this survey together with the Ministry of Health. This inquiry assists the quality increase of maternity health care services. The inquiry is confidential and the information provided by you will be presented only in a summarized form. Can you spare me 20-25 minutes to answer our questions?

TO THE INTERVIEWER: IN CASE OF AGREEMENT, GO TO QUESTION 1.

Section 1. Information about the Visit

#	Question	Response	Go To
01	How many months are you pregnant?	Months Don't know……...…….9	
02	Including this visit, how many antenatal visits have you made during your pregnancy?	Number of visits _____ Don't know……...…….9	If 1, go to Q 4
03	How many months pregnant were you when you had your first antenatal visit?	Number of months Don't know……...…….9	
The questions that follow concern this visit or all previous visits during this pregnancy.			
04	During this pregnancy, did a provider explain the pregnancy complications that would require you to immediately seek medical attention?	Yes……..……1 No……...…….2 Don't know/Don't remember……..……...9	If NO, go to Q 7
05	Were you satisfied with the advice that you received for the complications?	Yes…….……1 No…….…….2 Don't know…….……...9	

#	Question	Response			Go To
06	What were the complications that a provider told you necessitate immediate medical attention? (CIRCLE ALL MENTIONED)		**Yes**	**No**	
		1. Bleeding	1	2	
		2. Acute/constant abdominal pain	1	2	
		3. Severe headache	1	2	
		4. Blurred vision	1	2	
		5. Fever	1	2	
		6. Swollen face/limbs	1	2	
		7. Accelerated or reduced fetal movements	1	2	
		8. Other (Specify) _____			
07	During this pregnancy, did a provider give or prescribe any iron or folic acid pills?	Yes……1 No……2 Don't know/Don't remember……9			If NO, go to Q 12
08	During this pregnancy, did a provider tell you about the side effects of these pills?	Yes……1 No……2 Don't know/Don't remember……9			If NO, go to Q 11
09	What are these side effects? (DO NOT READ THE OPTIONS.)		**Yes**	**No**	
		Nausea	1	2	
		Black stools	1	2	
		Constipation	1	2	
10	How often were you told to take these pills?	Every day.....1 Every week.....2 Another time frame.....3 Don't know.....9			
11	How long were you told to take these pills?	One week.....1 One month.....2 Three months.....3 During the whole pregnancy.....4			
12	During this pregnancy, did a provider tell you what to eat to ensure proper nutrition during your pregnancy?	Yes.....1 No.....2 Don't know/Don't remember.....9			
13	Did a provider weigh you today?	Yes .....1 No 2			
14	During this pregnancy, did a provider measure your height?	Yes.....1 No 2			
15	Did a provider take your blood pressure today?	Yes .....1 No 2			
16	Did a provider tell you today, when to come back for your next visit?	Yes .....1 No 2			

Section 2. Client Satisfaction

#	Question	Response	Go To
17	Did you ask a provider any questions today?	Yes .....1 No.....2 Don't know/Don't remember.....9	
18	Did you feel comfortable asking questions during your consultation today?	Yes .....1 No.....2	
19	How useful did you find the information given to you today during this visit?	Very useful.....1 Useful……2 Slightly useful.....3 Not useful.....4 Don't know/Don't remember.....9	
20	Did you have a clinical exam during your visit today?	Yes .....1 No.....2	If NO, go to Q 25
21	Did the provider explain the examination before it was performed?	Yes .....1 No.....2	
22	Did the provider explain the results of this examination?	Yes .....1 No.....2	
23	(IF 21 AND/OR 22 = YES) Could you easily understand the language the provider used to explain about the examination?	Yes .....1 No.....2	
24	Did you have enough privacy during your exam? (Could any person, other than those caring for you, see you?)	Yes .....1 No.....2 Don't know……9	
25	When meeting with the provider during your visit, do you think that other clients could hear what you said?	Yes .....1 No.....2 Don't know……9	
26	Do you THINK the information you shared about yourself with the provider will be kept confidential?	Yes .....1 No.....2 Don't know……9	
27	During this visit to the clinic, how did the provider treat you?	Very well……1 Well……2 Poorly……3 Very poorly……...4	
28	During this visit to the clinic, how did the other staff treat you?	Very well……1 Well……2 Poorly……3 Very poorly……..…4 There was no other staff ……5	
29	How long did you wait between the time you arrived at this clinic today?	Minutes _____ Don't know……..…….9	

#	Question	Response	Go To
30	During this visit, did the provider give you any material to take home for reading?	Yes .....1 No.....2	If NO, go to Q 32
31	If yes, what was the subject of the reading material? May I see it? (Ask for the reading material and record the subject)	1. Family Planning 2. Antenatal Care 3. Postnatal Care 4. STDs 5. HIV/AIDS 6. Child nutrition 7. Other (Specify) _____	
32	What other services other than antenatal care did you receive today?	1. FP Counseling 2. STD Counseling 3. HIV Counseling 4. STD screening/diagnosis 5. Other (Specify) 6. Nothing (for reading)	
33	What is the major reason that you chose to come to this facility? (TO THE INTERVIEWER: DON'T READ THE OPTIONS.)	1. Nearest to me 2. Staff provide good service 3. I like/know the staff 4. Better facilities 5. Good reputation 6. Always come here 7. Friends /relative recommend 8.Other (specify) _____	
34	Overall, how do you rate the services you received at this facility today? PROBE TO SEE HOW (DIS)SATISFACTORY IT WAS.	Very satisfactory ……..……1 Satisfactory……..…….2 Dissatisfactory……...……3 Very dissatisfactory……...……4 Don't know……...…….9	
35	Give one or more major suggestion(s) that you think will improve the services at this facility. (INTERVIEWER: DON'T READ THE OPTIONS. MENTION ALL THE OPTIONS.)	1. Increase space……...…...1 2. Improve hygiene/cleanliness……2 3. Improve supply of drugs……..3 4. Buy necessary equipment……..…4 5. Regularly available doctor…….……..5 6. Increase number of providers……...…6 7. Increase motivation of providers….....7 8. Increase professional level of providers…..8 9. Supervise providers……..9 10. Increase number of hours open…….....10 11. Community be involved in supervision/ organization……...……11 12. Other (specify)……...……12	

#	Question	Response	Go To
36	Where do you plan to deliver?	At this facility……..……...……1 At another facility…..……...……..2 At home ……...…….3 Other (specify)……...……4	
37	What is the major reason for your place of delivery choice?	1. Nearest to me 2. Good service 3. Good reputation 4. I like the staff 5. Always deliver here 6. Friends/Relative recommend 7. Less expensive 8. Other (specify)_____ 9. Don't know (Don't read.)	
Section 3. Personal Characteristics of Client			
38	How old are you?	Age in years	
39	What is the highest level of school that you finished: primary; secondary; or higher?	Primary……...……...1 Unfinished secondary……...…….2 Secondary or Vocational……3 Higher/University……...……...4 Not attended school……...……5	
40	What is your current marital status?	Married……...……...1 Co-habitating……...……..2 Single, never married…….3 Engaged……...……..4 Divorced/separated/widowed…….5	
41	Which language do you normally speak at home?	Armenian……...……1 Russian……...2 Other……...……...3	
42	What is your religion?	Armenian Church……...1 Catholic……..2 Protestant……...……3 Muslim……..……4 Russian/Greek Orthodox……...……5 Other……..6 No religion…….7	
43	Is your current income satisfactory for normal living in Armenia?	1. Significantly more than necessary 2. A little more than the necessary amount 3. As much as it is necessary 4. A little less than the necessary amount 5. Very little from the necessary amount	
44	How much time (in minutes) did it take you to travel here today? (CONVERT HOURS INTO MINUTES.)	Minutes Don't know……...…….9	

#	Question	Response	Go To
45	What means of transport did you use to travel here today?	Walking……..1 Motorcycle……...……..2 Private Motor Vehicle…….……3 Public Bus……..4 Taxi……5 Other (Specify) _____	
46	How many children do you have?	Number of children	If 0, go to Q 48
47	Where did you deliver from your last birth?	1. At this facility 2. At another facility 3. At home 4. Other (specify)	
48	Pregnant women should seek antenatal care services during the first three months of pregnancy. In your opinion, what makes women delay antenatal care services later of the first three months of pregnancy? (PROBE TO ESTABLISH THE MAJOR REASON.) _____ _____ _____ _____ _____		

Thank the Respondent for her Time

Ending Time_____

Appendix 5: Client Record Review Form

Clinic Client Record Review Form

General Information

Date of the visit (dd/mm/yy) ____/___/_____ Starting time _____

Name of Clinic _____

Address of Clinic _____

Name of interviewer, team member _____

ID# of the provider (the Interviewer should ensure that the number coincides with the list number foreseen for the observations).

☐☐☐ ☐

Number of personnel providing Reproductive Health Services

(NOTE: Please ask the person in charge of establishment. Do not limit the count to people who are present during the assessment, but count everyone regularly providing services.

Personnel	Count
1. General Physicians/terapefts	Number:
2. Obstetrician-gynecologists	Number:
3. Surgeons	Number:
4. Nurses	Number:
5. Midwives	Number:
6. Pediatrician	Number:
7. Other (name) _____	Number:

Reproductive Health Services offered in the facility (verify with registers; check below)

- □ Prenatal care
- □ Delivery
- □ Postpartum/Puerperium
- □ Family Planning
- □ Sexually Transmitted Infections (STIs)
- □ HIV/AIDS
- □ Prevention of Gynecological Cancer
- □ Other (specify) _____

Review of Client Records

NOTE: FOR EACH OF THE FOLLOWING CALENDARS:
Place an "N" in the cells if the records are not available and a zero "0" if there were no such services offered that month.

	Year 2001					Year 2002							
	Aug	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Total**
PRENATAL CARE													
a. total number of women seen													
(from total in a.): b. number of women referred to higher level centers													
c. number of maternal deaths during pregnancy													
d. number of fetal deaths													
POSTPARTUM													
a. total number of women seen													
(from total in a): b. number of women seen at their homes													
(from total in a): c. number of women referred to higher level centers													
d. number of maternal deaths up to 42 days													
FAMILY PLANNING													
a. total number of new clients (new + continuers)													
(from total): b. number of ADOLESCENTS (<20) seen													
c. Number of **new FP** clients													
d. Number of **continuers**													
DISAGGREGATED FP: Number of total clients (new + continuers) provided with:													
Oral contraceptives (Pills)													
IUD													
Counseling/reference for female sterilization													
Counseling for natural FP (Billings & related)													
Condom													
Spermicides													
Emergency contraception													
Counseling for LAM (Lactation Anorrehea Method)													

Appendix 6: Health Post Inventory Checklist

Inventory (only FAPS)

General Information

Date (day/month/year) ____/___/_____ Starting time _____

Interviewer (your) name, First Name, Last Name, Team # _____

Name of the Facility _____

Address of the Facility _____

ID# of the provider (the Interviewer should ensure that the number coincides with the list number foreseen for the observations).

☐☐☐ ☐

#	Item	Yes	No	Yes, but does not work
1	Exam light-floor based adjustable	1	2	3
2	Penlights – reusable diagnostic	1	2	3
3	Physicians tape measure (flexible)	1	2	3
4	Digital thermometers	1	2	3
5	Stethoscopes	1	2	3
6	Portable sphygmomanometer w/sm., med, lg cuffs	1	2	3
7	Adult scale metric	1	2	3
8	Infant scale	1	2	3
9	Outpatient Surgical sets [scalpel holders iris scissors/Kelly clamps]	1	2	3
10	Glucometer [not requiring strips]	1	2	3
11	Infant stethoscope	1	2	3
12	Infant spyngomanometer	1	2	3
13	First aid kit	1	2	3
14	Pelvimeter	1	2	3
15	Obstetrical stethoscope or doppler	1	2	3
16	Electrical power	1	2	3
17	Running water	1	2	3
18	Functioning toilet	1	2	3
19	Examination table	1	2	3
20	1 table and 2 chairs	1	2	3
21	Disinfection solution	1	2	3
22	Soap	1	2	3
23	Sterilized gloves	1	2	3

#	Item	Yes	No	Yes, but does not work
24	Gauze or cotton balls	1	2	3
25	Injectors	1	2	3
26	Kitchen or stove	1	2	3

Appendix 7: In-depth Interview Guide

1. *Introductory questions*[*]. How long have you worked in the facility? Are you satisfied with the choice of your profession? What aspect of your work gives you the most satisfaction? Do you feel satisfaction helping people to have children?
2. Organizational Support/Supervision:
   - Who supervises your work? Do you have more than one supervisor? If so, who are they?
   - Please describe how you interact with your supervisor? How often?
   - For what purpose? What do they do when they supervise you? (Ask for an example of last supervision visit in detail; especially, What happened that was not administrative?)
   - Is it usually a positive or a negative experience?
   - When you are doing your work, do you feel that you are doing the things that everybody would do in your position? (What does this mean?)
   - If you have a problem, do you have anyone you can go to for help in solving it? Who?
3. Clear Expectations:
   - Do you completely understand what your supervisor demands from you? How do you know that? Has your supervisor described it to you?
   - Do you have a job description that you can show?
   - Do you understand what the community expects of you? Is it the same as what your supervisor expects?
4. *Feedback/opinion*.
   - Is usually feedback done in the way that you find it appropriate? Does the supervisor usually shout or speak rude if finds that you have done something wrong? When they tell you something, is it specific?
   - Is your communication usually reflected in written form? After getting the feedback, do you usually understand what do you need to improve in order to satisfy the demand? Tell me, please, about a recent example of a feedback you received from your supervisor. Do you think it was an objective feedback based on the quality of your work, or more of a subjective disappointment with your personality? If you do not feel that the supervisor is objective enough, what can you do, to whom can you complain, will it have consequences for your career?

[*] Introductory questions' main purpose is not the receiving valuable information, but more of creating an atmosphere of trust.

5. *Role of relations with peers*. On what occasions do you interact with other nurses working in FAPs? What are your relations with the colleagues? Do you happen to see how your colleagues are working, accepting clients? How often? Do you exchange opinions and advice about your work, how the things should be done, do you give opinions about each other's work? Are you having regular meetings/discussions with colleagues and/or supervisors? What do you usually discuss there? Does it affect the methods you use in the work?

6. *Motivation/Incentives*. How would you position your salary in your sources of income: is it the most important one or not very important? Is it usually delayed or paid on time? Do you receive signs of gratitude from your clients? In which form are they usually delivered? Other than the salary you are paid, what other aspects of your work do you find motivating (for example, treating a patient, having adequate drugs, receiving visits from other health workers)

    - If you do a good job (what your supervisor expects of you), does your job get easier or more difficult? (example, examine clients more thoroughly, have a back up of clients, work longer hours, etc.)
    - If you don't do what your supervisor expects of you, does anything happen? Does your supervisor even know?
    - Which is more important to you, what your supervisor wants you to do or what the community wants you to do? Are they the same thing?

7. *Role in community/Motivation*. How would you evaluate your social position in the community? Do you feel that people have a different attitude towards you because you are a health worker? Is it reflected in everyday life? Do you feel that you are respected more because of your profession? What ways do you interact with the village leader (mayor?). Does the mayor have responsibility for your work in any way? Do you meet with him or his representative on a regular basis, if so why?

8. Do you have anything to add? What do you think is important in order to improve the quality of the service? Whose role is the most important here: ordinary health workers, clients' consciousness, health management, policy makers, and international organizations?

Appendix 8: Further Analysis for PRIME II Target Facilities

Lori Marz (61 facilities)

This analysis includes the following facilities where PRIME II will be conducting interventions to improve provider performance: three PCs, four rural HCs, 11 rural ambulatories and 43 FAPs covering all five regions in Lori Marz.

Table 1: Performance scores for all facilities and target facilities

Category	ANC mean score	Number	PPC mean score
All Facilities			
Type of facility (for nurses, midwives and *feldshers* only)			
PC/WC	17.4**	64	18.0
Ambulatory/HC	13.4	68	15.7
FAP	13.2	153	16.2
Type of provider			
Nurse	13.5*	170	16.9
Midwife	15.4	108	16.0
Doctors	25.0		
Target Facilities			
Category	**ANC mean score**	**Number**	**PPC mean score**
Type of facility (for nurses, midwives and *feldshers* only)			
PC/WC	16.2*	19	17.8
Ambulatory/HC	12.8	22	18.0
FAP	12.6	45	17.0
Type of provider			
Nurse	12.5	54	17.6
Midwife	15.0	29	16.9
Physicians	27.3	20	
Total:	13.5		17.4

*p<0.05; ** p<0.01

Table 2: Services offered by type of facility for target sites and all sites (Client Record Forms)

Service	Facility type					
	FAP		AMB/HC		PC/WC	
	All sites (%)	Target (%)	All sites (%)	Target (%)	All sites (%)	Target (%)
Antenatal care	89.1	86.0	94.7	100.0	95.2	100.0
Delivery	0.7	0.0	13.2	23.1	9.5	40.0
Post partum	91.8	88.4	89.5	100.0	95.2	100.0
FP	17.0	2.3	31.6	15.4	85.7	100.0
STI	17.0	9.3	21.1	7.7	81.0	80.0
HIV/AIDS	10.9	4.7	15.8	7.7	42.9	20.0
Gyn cancer prevention	0.0	0.0	7.9	0.0	47.6	0.0
Vaccination	8.8	4.7	0.0	0.0	0.0	0.0
First aid	5.4	0.0	2.6	0.0	0.0	0.0
Mammography	0.0	0.0	0.0	0.0	19.0	0.0

Service	Facility type					
	FAP		AMB/HC		PC/WC	
	All sites (%)	Target (%)	All sites (%)	Target (%)	All sites (%)	Target (%)
Gynecology	0.0	0.0	0.0	0.0	4.8	0.0
Child care	6.1	7.0	7.9	7.7	0.0	0.0

Table 3: Number of clients seen for maternal health services in selected facilities (August 2001 - July 2002)

Service	Type of facility	Total number of facilities keeping records on specific service (N)		For last 12 months		Monthly average	
		All sites	Target	All sites	Target	All sites	Target
ANC	FAP	103	23	1519	445	1.2	1.6
	AMB/HC	31	11	2590	867	6.9	6.6
	PC/WC	17	5	8113	2436	39.8	40.6
	Total	151	39	12,222	3748	6.7	8.0
PPC	FAP	96	23	979	215	10.2	0.8
	AMB/HC	24	9	545	203	22.7	1.9
	PC/WC	16	5	2072	678	129.5	11.3
	Total	136	37	3596	1096	26.4	2.5
Maternal deaths	FAP	99	22	43	33	0.036	0.125
	AMB/HC	27	10	0	0	0.0	0.000
	PC/WC	14	2	0	0	0.0	0.000
	Total	140	34	43	33	0.026	0.081
Fetal deaths	FAP	100	22	65	37	0.054	0.140
	AMB/HC	27	10	8	5	0.024	0.042
	PC/WC	14	3	19	12	0.113	0.333
	Total	141	35	92	54	0.054	0.129
Overall FP	FAP	1	0	0	N/A	0.0	N/A
	AMB/HC	1	0	616	N/A	51.3	N/A
	PC/WC	8	3	2663	822	27.7	22.8
	Total	10	3	3279	822	27.3	22.8
IUD	FAP	1	0	0	N/A	0.0	N/A
	AMB/HC	0	0	N/A	N/A	N/A	N/A
	PC/WC	9	2	376	14	3.5	0.6
	Total	10	2	376	14	3.1	0.6
OC	FAP	1	0	0	N/A	0.0	N/A
	AMB/HC	1	0	2225	N/A	185.4	N/A
	PC/WC	11	4	2261	445	17.1	9.3
	Total	13	4	4486	445	28.8	9.3
Condoms	FAP	1	0	0	N/A	0.0	N/A
	AMB/HC	1	0	8205	N/A	683.8	N/A
	PC/WC	10	3	12251	288	102.1	8.0
	Total	12	3	20456	288	142.1	8.0

Table 4: Equipment Inventory at target and all FAPs (Total No. of facilities = 41,146)

No	Equipment in working order	Target		All	
		N	%	N	%
1	Exam light	0	0.0	2	1.4
2	Penlights	0	0.0	0	0.0
3	Measurement tape	16	39.0	69	47.3
4	Thermometers	22	53.7	102	69.9
5	Stethoscope	26	63.4	101	69.2
6	Sphygmomanometer	26	63.4	82	56.2
7	Adult scale	2	4.9	20	13.7
8	Infant scale	30	73.2	103	70.5
9	Surgical sets	11	26.8	36	24.7
10	Glucometer	0	0.0	1	0.7
11	Infant stethoscope	2	4.9	13	8.9
12	Infant sphygmomanometer	0	0.0	3	2.1
13	First Aid kit	7	17.1	38	26.0
14	Pelvimeter	8	19.5	37	25.3
15	Obstetrical stethoscope	14	34.1	48	32.9
16	Electrical power	12	29.3	60	41.1
17	Running water	6	14.6	33	22.6
18	Functioning toilet	7	17.1	24	16.4
19	Examination table	26	63.4	102	69.9
20	One table and two chairs	35	85.4	125	85.6
21	Disinfection solution	11	26.8	63	43.2
22	Soap	19	46.3	88	60.3
23	Sterile gloves	6	14.6	25	17.1
24	Gauze/cotton balls	19	46.3	77	52/7
25	Syringes	22	53.7	96	65.8
26	Kitchen/stove	22	53.7	62	42.5

Appendix 9: Agenda for National Dissemination Meeting

Congress Hotel
19 December 2002; 9:30 - 17:00

9:30 - 10:00	Registration
10:00 - 10:30	Opening Remarks • Ministry of Health, Karine Saribekyan, MCH Unit Head • USAID, Edna Jonas • PRIME II, Rebecca Kohler
10:30 - 10:45	Agenda and objectives, Lauren Voltero
10:45 - 11:00	Study design and methods, Sona Oksuzyan, Hayk Gyuzalyan
11:00 - 11:30	Presentation of data (1) Hayk Gyuzalyan ▪ Performance of providers in antenatal, PP and newborn care
11:20 - 12:00	BREAK
12:00 - 12:30	Presentation of data (2) Sona Oksuzyan • Client interviews, record reviews, inventories • Qualitative Interview results
12:30 - 13:00	Performance factors, Lauren Voltero, Karine Saribekyan • Major gaps in performance and causes for those gaps • PI Approach
13:00 - 14:00	LUNCH
14:00 - 14:15	Priority areas for intervention
14:15 - 14:30	Introduction of working groups • Clarify role of nurses and midwives (expectations) • Relationships between FAPs and their referral sites (supervision) • Monetary incentives • Data analysis and discussion
14:30 - 15:30	Working groups
15:30 - 16:00	BREAK
16:00 - 16:30	Report out from working groups and next steps
16:30 - 17:00	Closing remarks