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for Health

NETWORK FOR HEALTH IN ARMENIA
BASELINE SURVEY REPORT FOR THREE ORGANIZATIONS

ADRA, CARE and Save the Children

March 2001

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Joseph Valadez, PhD, MPH, ScD
Corey Leburg, MHS
Lusine Mirzoyan, MD, MPH
Vardan K. Matevosyan
Liliana Veloso, MD

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ACRONYMS

ADRA	-	Adventist Development and Relief Agency
CARE	-	Cooperative for American Relief Everywhere
CS	-	Child Survival
HF	-	Healthy Families
HIV/AIDS	-	Human Immunodeficiency Virus/Acquired Immune Deficiency
LQAS	-	Lot Quality Assurance Sampling
NGO	-	Non-Governmental Organization
PVO	-	Private Voluntary Organization
RH	-	Reproductive Health
SA	-	Supervision Area
TOT	-	Training of Trainers
US	-	United States
USAID	-	United States Agency for International Development
WHO	-	World Health Organization

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BACKGROUND

The USAID-funded Network for Health Project in Armenia is designed to increase the access to quality reproductive health and healthy family information and services through a coordinated effort of three private voluntary organizations (PVOs), local non-governmental organizations (NGOs), government agencies, and other entities. Project activities began in March 2000 with the Adventist Development and Relief Agency (ADRA), the lead PVO, establishing the Network for Health office in Yerevan. This administrative office serves as a coordinating unit and provides the requisite support to three regional pilot sites directed by CARE in Gyumri, Save the Children in Gavar, and ADRA in Goris. The pilot sites form the nucleus of the regional networks and are linked to the central network in Yerevan.

The goal of the Network for Health Project in Armenia is to reduce mortality and morbidity resulting from preventable reproductive health conditions through increasing access to high quality care and improved reproductive health and healthy family information and services. Improved access to quality services and information should affect knowledge, attitudes, and practice at the community, couple, and individual levels.

The Armenia Project goal supports the larger strategic objective of the NGO Networks for Health (*Networks*) project as defined in the USAID Results Framework. The strategic objective for *Networks* is to increase the use of healthy families/reproductive health/child survival/HIV (HF/RH/CS/HIV) practices and services through enhanced capacities of PVO/NGO networks.” The strategic objective will be achieved through accomplishing the project’s four principal intermediate results, which include:

- (1) Sustained PVO capacity to provide quality HF/RH/CS/HIV services,
- (2) Accurate knowledge and sustained behavior change at the community level,
- (3) Expanded, sustained PVO/NGO networks to provide HF/RH/CS/HIV service delivery,
- (4) Expanded service coverage through public/private and private/private partnerships.

Catchment Areas for the Three PVO Partners

In order to establish the context for this baseline report, we briefly describe the locations of the three pilot sites and describe their supervision systems. Local supervision systems were developed for each pilot site based on the principles of LQAS (Lot Quality Assurance Sampling). Each PVO’s catchment area was divided into administratively meaningful *supervision areas* (SA). The number of SA divisions in each pilot site is as follows: Save the Children (5), CARE (4), and ADRA (5). Baseline and monitoring data pertain to each SA. The locations for each pilot project are indicated on the following map.



METHODOLOGY

Questionnaire Development

Network for Health in Armenia used three short questionnaires for the baseline survey. Each one corresponded to a particular sampling universe:

- Mothers with children 0-11 months,
- Women of reproductive age 15-49 years, not pregnant,
- Men of reproductive age 15-54 years¹.

Indicators from the *Networks* Monitoring & Evaluation (M&E) Plan were adapted to assess knowledge and practices for the selected interventions and were included in the questionnaires (Valadez 2000). Corresponding questions were derived from the KPC-2000 Instrument (CSTS and CORE 1999). Additional questions were added that the three PVO partners identified as essential for program planning and specific to their projects.

Draft questionnaires, based on the KPC-2000 questionnaire, were first adapted by a joint effort of the reproductive health (RH) advisors from each partner, the RH advisor on the Network for Health team in Yerevan, and team members from the *Networks* office in Washington, D.C. The questionnaires were translated into Armenian by a native speaker and then translated back to ensure their accuracy. A revised version was then pre-tested in a low-income area in Yerevan that was outside the project area. Questions were reviewed and revised on a question-by-question basis until the team reached a consensus.

¹ These age ranges were used during the DHS national survey in Armenia in December 2000.

Training

Training of Trainers in Survey Methodology: 30 Nov 2000—1 Dec 2000

The Senior M&E Advisor and M&E Specialist from *NGO Networks* in Washington D.C. co-facilitated a training of trainers (TOT) that focused on:

- Basic principles of monitoring and evaluating health programs,
- LQAS methodology,
- Finalizing questionnaires.

The TOT included one person from each of the three sites and one representative from the Network for Health team in Yerevan. The four RH advisors from each of the PVOs and the central Network also participated. During the workshop, the three following objectives were achieved:

1. **To build an M&E team in Armenia:** This objective required discussions among the partners on how to effectively monitor and evaluate programs, how project managers can make informed decisions about improving proposed interventions, priority setting, and data for decision-making and program planning. Discussion on the latter topic was held in more detail before the data collection.
2. **To create a team of trainers and supervisors.** In this regard, we focused on topics such as presentation skills and working as a team.
3. **To finalize map preparation and logistics:** This was carried out for each of the three pilot sites, as they were used during data collection. Logistics included organizing the training for the community mobilizers, planning the data collection activities, renting cars and drivers, and planning meals, etc.

By the end of this training, each participant was able to facilitate and lead sections of the larger training for the community mobilizers as well as assist in the supervision of data collection activities.

Training for Community Mobilizers: 3 Dec 2000—6 Dec 2000

The trainers who participated in the TOT facilitated this training. Mobilizer training was carried out for 18 community mobilizers in Armenia. All materials were based on the training materials used in the TOT and were translated into Armenian. *Networks* M&E team provided support to the trainers during the workshop and was responsible for quality control.

The workshop took place over a three-day period, covering the same principles as discussed in the above section. A substantial amount of time was spent creating a strong understanding of the questionnaires and familiarizing the team with the questionnaire formats. Two separate field practice activities were included in the training to practice household selection and interviewing skills. On the final day, the PVO teams finalized data collection plans and logistics.

Data Collection: 6/7 Dec 2000—12 Dec 2000

The data collection at each site began immediately following the second training and was supported and supervised by a trainer and a member of *Networks* M&E team. While each site varied slightly in the amount of time needed to collect data, no team took more than four days.

Mobilizers anticipated difficulty in finding eligible respondents. There were two major concerns: first, many homes had been abandoned due to emigration. Second, the fertility rate in Armenia is low, thereby limiting the proportion of households having women with babies less than one year old. Regardless of these concerns, the teams finished the data collection on schedule without major problems.

Tabulation, Analysis, and Interpretation: Completed 15 December 2000

Together, the PVOs collected data from a total of 14 SAs. Nineteen sets of data were collected in each SA.² The day following the data collection, a tabulation workshop was held at each of the three sites. The TOTs trained team members to hand tabulate results using tabulation sheets. Community mobilizers and supervisors tabulated data by hand for key variables, thereby providing information almost immediately after the survey was completed for use in setting priorities among supervision areas. LQAS was used by SA community mobilizers and PVO RH advisors and supervisors to make decisions about each SA vis-a-vis other SAs within the catchment area of each PVO, as well as to calculate overall coverage of the catchment area.

The tabulation workshop lasted for less than two days and also began the process for the PVOs to apply the results to improve their program designs. Therefore, within 48 hours of data collection, data were used for programmatic decision-making.

Lot Quality Assurance Sampling

The M&E system for Network for Health in Armenia uses LQAS for data collection in baseline surveys (Dodge and Romig 1944; Wolfe and Black 1989; Valadez 1991; Robertson, Anker et al. 1997). The intention is that this method also be used for recurrent community monitoring by Network for Health members in Armenia, with LQAS mobilizers collecting small samples in each SA, which they will use to judge performance. These data, when aggregated for an individual PVO site or for Network for Health, are equivalent to a stratified random sample. For further information, refer to Appendix 1.

The data reported were derived from the hand-tabulated tables of the baseline survey (discussed in the preceding section) that the mobilizers in each pilot area prepared after their data collection. For this analysis, the results are not weighted by the population sizes, which will have a minute impact on the calculations presented and will not affect program decisions. However, a supplemental report will include weighted proportions and confidence intervals; weighting will use the *direct adjustment method*.

² A set is equivalent to one interview for each of the three types of respondents. One set is completed per sampling point.

RESULTS AND DISCUSSION

All of the results in this section are analyses of responses to questions asked of three different categories (or universes) of respondents: non-pregnant women 15-49 years, men 15-54, and mothers of children 0-11 months of age. For the purpose of brevity, we refer to these three universes as: women, men, and mothers.

The results presented are for Network for Health as a whole, since individual reports have already been written by each PVO summarizing results pertinent to their own organization (ADRA Field Office in Goris 2001; CARE Field Office in Gyumri 2001; Save the Children 2001). On occasions in which there is important PVO variation, we have reported it. Otherwise, we maintain this analysis at a macro level, which is of the Network for Health as a whole.

Healthy Families

Fertility behavior and healthy family questions were asked of men, women, and of mothers. These results are reported in this section and summarized in Table 1 and Figure 1.

Child Spacing

Although knowledge is not necessarily associated with behavior, women were interviewed to determine if they knew that a woman should space births at least two years apart. About 90 percent of women reported that a birth interval of at least 24 months was desirable. This result did not vary substantially across the sites, thereby indicating a uniformly high level of knowledge. A behavioral indicator measuring the interval between the most recent birth and the next to last birth confirmed this finding, as 78 percent of women had at least a 24-month child spacing interval.

Healthy Family Preferences and Post Abortion Care

Eighty-five percent of mothers reported that their most recent pregnancy was planned. Although this proportion ranged from 78 percent (Goris) to 93 percent (Gyumri), this result nevertheless suggests that pregnancies that come to term are wanted. The operational question, however, is whether pregnancies that result in abortions are intended.

Eleven percent of women reported an induced abortion in the last 12 months. While this result is probably under reported, it is difficult to interpret at face value. This particular result ought to be the subject of discussion with the Ministry of Health and WHO to determine whether this rate is unacceptably high. This result should be cross-checked with the annual abortion rates in local hospitals to determine whether those records agree with the population-based result reported here. The induced abortion rate reflected substantial variation across the three sites, with Gyumri reporting 6 percent and Gavar reporting 20 percent. A qualitative investigation of this variation could clarify whether variation is due to measurement error or to other site-specific factors.

The 2000 Demographic and Health Survey (DHS) included a question concerning *self-induced* abortions. DHS's reasoning was based on finding that some respondents interpreted an *induced abortion* to mean abortions taking place in a health facility, while *self-induced* abortions meant those taking place outside of a health facility. In Network for Health's

baseline survey, 5 percent of women reported having had a self-induced abortion in the last 12 months.

Healthy Families Information Dissemination

Further analysis of women who had an induced abortion in the last 12 months revealed that only 36 percent had received any information concerning healthy family methods after the abortion. An even smaller percentage (21%) of women reported being informed about modern healthy family methods. However, this further decrease in the Network for Health-wide measure is due to the particularly small proportion of women in Gyumri being informed about modern methods (5%), which lowers the average. However, even without this result, all sites reported low healthy family method use. Data from the other two sites suggest that when women were informed about healthy family methods after an abortion (albeit seldom), they tended to be informed about modern methods. This observation should not distract from the principal conclusion of this section, namely that healthy family method use was low at all sites (see Figure 1).

Antenatal and postnatal experiences of mothers were also examined to determine whether they received healthy family information. During antenatal visits, only 10 percent of mothers were given any information about healthy families. Considerable variation among the sites was evident, as these proportions ranged from 5 percent to 21 percent of mothers, with Gavar exhibiting the highest proportion of informed mothers. During postnatal care, 17 percent of mothers were given information about healthy families. Although Gavar still displayed the highest proportion of informed mothers, Gyumri and Goris had nearly 3 times as many mothers being informed about healthy families during postnatal visits than during antenatal visits.

The need for improved dissemination of healthy family method options may be underscored by the fact that 31 percent of women reported their first birth under the age of 20. Interestingly, the highest proportion of women who gave birth before 20 years was in Gavar (44%) which had the highest proportion of informed mothers. This result may suggest that providing information alone does not necessarily lead to contraceptive acceptance. Further analysis of unmet needs will be presented in a supplemental report.

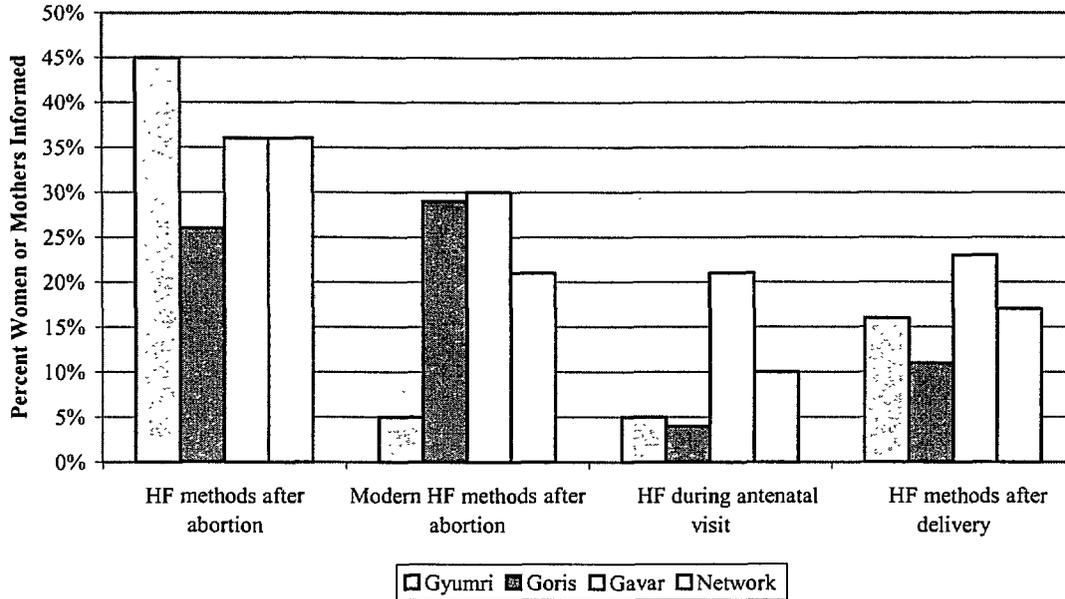
Healthy Family Method Use

While a Contraceptive Prevalence Rate (CPR) will be calculated when the computerized database is available, this report focuses on women using a modern healthy family method. On average, 32 percent of women report using a modern method. Goris had the lowest proportion with 18 percent. Gyumri and Gavar reported 40 percent and 38 percent modern method use, respectively. These data suggest that the Goris is a priority area for increasing modern method acceptance. More detailed analyses of behaviors concerned with healthy family method use will take place once the computerized database is available.

Men show a similar pattern to women, with 44 percent reporting they or their partner use a modern healthy family method. As among women, Goris also had the lowest proportion of men using modern methods (28%), while Gyumri and Gavar reported higher percentages (58% and 46% respectively).

We suspect that a large percentage of women and men who report using a modern method are using condoms rather than clinical contraceptives. Further analysis will clarify this point once the computer database of the baseline survey is available.

Figure 1: Percent of Women and Recent Mothers Informed about Healthy Family (HF) Methods: Post Abortion, Antenatal, and Postnatal Care



Men and Women’s Decision-making About Healthy Family Method Use

Both women and men were asked who made the decision concerning healthy family method choice. Among women, 85 percent said that they were either the principal decision-maker or participated jointly with their partner in selecting a healthy family method. There were no statistically meaningful variations among the pilot sites to note.

Among men, 81 percent viewed women as either the primary decision-maker or a joint decision-maker. Variation occurred across the project sites with 97 percent of males in Gyumri, 80 percent in Gavar, and 66 percent in Goris embracing this perspective. While these proportions are high, they do suggest that Goris has the possibility of making the greatest strides in terms of empowering women.

Table 1. Child Spacing, Post Abortion Care and Healthy Family Indicators for Network for Health Baseline Survey in Armenia

Indicator	Pilot Areas			Average
	Gyumri	Goris	Gavar	
% women knowing the importance of spacing births at least 2 years apart	85%	93%	92%	90%
% women whose most recent birth spaced >23 months from previous birth	76%	79%	81%	78%
% most recent pregnancies that were planned	93%	78%	83%	85%
% women reporting induced abortion in last 12 months	6%	9%	20%	11%
% women reporting self-induced abortion in last 12 months	3%	2%	9%	5%
% women informed about healthy family methods after abortion	45%	26%	36%	36%
% women informed about modern healthy family methods after abortion	5%	29%	30%	21%
% mothers given information about healthy families during antenatal visit	5%	4%	21%	10%
% mothers given information about healthy families after delivery	16%	11%	23%	17%
% women with first birth before age 20	15%	35%	44%	31%
% women using a modern healthy family method	40%	18%	38%	32%
% men using a modern healthy family method	58%	28%	46%	44%
% women who perceive that women participate in healthy family method decision	82%	85%	87%	85%
% men who perceive that a woman participates in healthy family method decision	97%	66%	80%	81%

Safe Motherhood

This section presents responses to safe motherhood questions concerning pre-natal care, delivery, post-natal care, maternal nutrition, and newborn care. Depending on the question, the following groupings were sampled in Network for Health sites: women, men, and mothers. The two former groups were asked *knowledge* questions, as the project's premise is that women and men should be knowledgeable about these topics. The mothers were asked *behavior* questions to assess safe motherhood behaviors. The following sections analyze behavior responses first and then knowledge responses. Results are summarized in Table 2 and in Figures 2 and 3.

Pre-Natal Care

Mothers were examined to assess the most recent behavior of mothers with infants. Almost all mothers (81%) in Network for Health sites said they had received pre-natal care by a clinically trained provider. There was little variation by site, although Gyumri (68%) was somewhat lower than Gavar (79%) and Goris (96%), with the proportion receiving pre-natal care by a clinically trained provider being at least 80 percent in all PVO catchment areas.

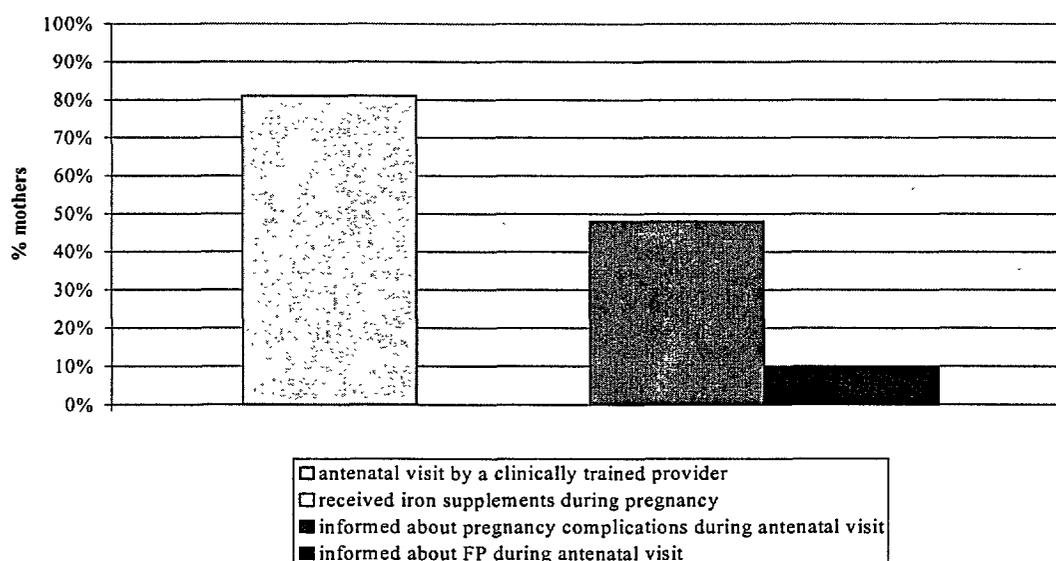
As both men and women in the program area ought to be knowledgeable of prenatal danger signs, the questions in this section were asked of both women and men. Only 58 percent of the women and 36 percent of men knew two or more pregnancy danger signs. Analysis

reveals some variation, with Gyumri and Goris exhibiting the lowest knowledge levels for both men and women (women: 45% and 60%, men: 32% and 28%).

Few mothers (10%) reported that they received iron during their most recent pregnancy. Although Goris (3%) exhibited the lowest coverage, the other areas also revealed few mothers with iron supplements (14%). This finding is particularly important, as 81% of mothers reported having antenatal care. Given this situation, iron folate supplementation usage could be increased if integrated into antenatal care procedures with a policy to supplement all pregnant women with iron folate according to WHO guidelines.

Another indication of constrained information dissemination during antenatal visits is that only 48 percent of mothers were informed about pregnancy complications during the visit. While Gyumri (28%) exhibited quite a low proportion, Goris (61%), which has the highest proportion, can still substantially improve the program by informing mothers about life threatening complications.

Figure 2: Antenatal Care and Information Dissemination Network Wide



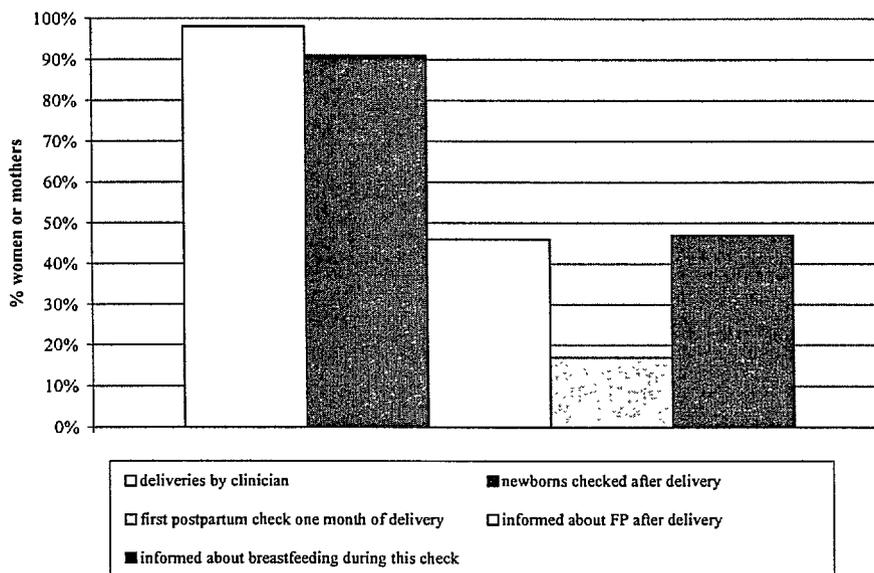
Delivery

For Network for Health as a whole, 98 percent of mothers were attended by trained medical personnel during their most recent birth. No site variation was observed.

With regards to knowledge of danger signs during delivery, 56 percent of women knew at least two of them. Gavar (79%) exhibited the highest proportion of knowledgeable women whereas Gyumri (46%) and Goris (44%) had lower levels. Among men, 32 percent knew at least two danger signs. The variation among pilot sites was similar as among women, men were substantially less knowledgeable than women.

Despite these low levels of knowledge of danger signs, 93 percent of women and 95 percent of men knew the closest health facility where a delivery with trained medical practitioner could take place. Therefore, while they were knowledgeable about where to bring women to deliver, they were not knowledgeable about delivery danger signs. This lack of knowledge can present a health risk for women should complications develop during pregnancy or postpartum. Should large proportions of women deliver at home, this deficiency in knowledge could present an additional health risk for women. Pilot programs should focus on teaching men and women to recognize danger signs of maternal complications so they know *when* to seek emergency health care. Otherwise, life-threatening delays could result.

Figure 3: Delivery and Postnatal Care and Information Dissemination



Post-Natal

Forty-six percent of mothers reported they had had their first post-natal check within one month of delivery by a clinically trained provider. Proportions ranged from 41 percent in Gyumri to 59 percent in Gavar; in Goris 51 percent of mothers had been checked within one month of delivery. As 50 percent of mothers received a home visit within one month of delivery, it is possible that some post-natal care occurred at that time. Further in-depth analyses will focus on this point. We suspect that newborns rather than women were examined during the home visits.

As reported earlier, despite post-natal care coverage of 46 percent, only 17 percent of mothers had received information about healthy families during their visit. The provision of healthy family information was lowest in Goris (11%) and highest in Gavar (23%). Despite this variation, the conclusion remains clear that few mothers are receiving information about healthy families. This is quite an interesting finding, as 47 percent of mothers received information about breastfeeding and breast care during their clinical check or immediately after delivery. The pilot programs may want to link the conveyance of healthy families information with the breastfeeding information, particularly the option of the *Lactational Amenorrhea Method*.

Sixty-three percent of women knew two or more post-natal danger signs, with the highest proportion of knowledgeable women in Gavar (76%) followed by Goris (63%) and Gyumri (49%). Far fewer men were knowledgeable, with 39 percent knowing two or more danger signs. Little variation among pilot sites was detected.

Although men were not knowledgeable about *when* to seek care, 95 percent of them knew the importance of seeking care from a medical facility should maternal complications occur. An equal percent knew the closest facility. These proportions were equally high in women.

When asked about who participates in making the decision to seek medical care for maternal complications, 81 percent of women said they did independently or jointly with their partner. An equally high proportion of men shared this perception (80%).

Summary of Knowledge of Maternal Complications

Although lower proportions of men than women were able to mention at least two danger signs during pregnancy, delivery, after delivery, and for the newborn, both genders knew where to take a woman who had maternal complications. This result among men suggests that their lack of knowledge of danger signs could result in a delay in making a decision to take a woman experiencing maternal complications for treatment.

Indicator	Pilot Areas			Average
	Gyumri	Goris	Gavar	
% Attending an antenatal visit by clinically trained provider	68%	96%	79%	81%
% Women knowing 2 or more pregnancy danger signs	45%	60%	71%	58%
% Men knowing 2 or more pregnancy danger signs	32%	28%	47%	36%
% Mothers receiving iron supplements during pregnancy	15%	3%	14%	10%
% Informed about pregnancy complications during antenatal visit	28%	61%	56%	48%
% Deliveries by a clinically trained provider	97%	99%	98%	98%
% Women knowing 2 or more danger signs during labor/delivery	46%	44%	79%	56%
% Men knowing 2 or more danger signs during labor/delivery	32%	25%	40%	32%
% Women who know the closest health facility to deliver with a clinically trained practitioner	91%	96%	92%	93%
% Men who know the closest health facility to deliver with a clinically trained practitioner	97%	96%	91%	95%
% Mothers with first postpartum check within one month of delivery	41%	45%	52%	46%
% Homes visited by clinician within one month of delivery	41%	51%	59%	50%
% Mothers given information about healthy families after delivery	16%	11%	23%	17%
% Mothers given information about breastfeeding during this check	30%	57%	54%	47%
% Women knowing 2 or more post-partook danger signs	49%	63%	76%	63%
% men knowing 2 or more post partum danger signs	39%	34%	44%	39%

% men knowing to seek care for maternal complications from an appropriate medical facility	92%	96%	97%	95%
% women knowing to seek care for maternal complications from an appropriate medical facility	93%	97%	96%	95%
% women who report that the woman participates in the decision to seek medical care for maternal complications	84%	79%	81%	81%
% men who report that the woman participates in the decision to seek medical care for maternal complications	74%	73%	93%	80%

Newborn Care

Mothers were asked about newborn care behaviors while women were asked about knowledge. The results are summarized in Table 3.

About one-third (31%) of the mothers had had their babies placed with them immediately after the cord was cut. The proportion was highest in Gyumri (49%) and substantially lower in Goris (15%) and in Gavar (30%). A second newborn care behavior concerns newborns staying with the mother in her room after the birth. While 40 percent of newborns did so, there was variation among the sites. Gyumri (62%) exhibited the highest proportions, with Goris (31%) and Gavar (28%) displaying lower proportions. These results suggest that technical assistance could enhance mother to newborn contact and support a policy of early and exclusive breastfeeding.

Despite this finding, there is substantial post-natal contact between the health system and the child, with 91 percent of newborns having been checked by a clinician after delivery. This universally high coverage proportion is important, given that many fewer women are receiving a post-natal check (46%). It may be possible to combine newborn and maternal post-natal checks.

With respect to knowledge indicators, 60 percent of women knew two or more immediate danger signs in the newborn, with Gavar (72%) having higher proportions than at the other two sites (Gyumri: 58%, Goris: 52%). Sixty-eight percent of women knew two or more danger signs in the newborn within the first seven days (68%). The variation among the pilot sites for this indicator was similar to the variation for the preceding indicator.

Among men, 38 percent knew two or more immediate newborn danger signs, while 48 percent knew two or more danger signs in the first seven days. Although some variation among the sites is indicated, fewer men consistently knew danger signs for newborns.

Perceptions of who participates in decision-making about seeking treatment for the newborn were consistent across genders. Eighty-seven percent of women indicated that they made this decision either alone or jointly with the partner. Eighty-five percent of men shared this perception. Little statistical variation was noted among the pilot sites.

Indicator	Pilot Areas			Average
	Gyumri	Goris	Gavar	
% newborns put with mother immediately after cord was cut	49%	15%	30%	31%
% newborns who stayed with the mother in her room	62%	31%	28%	40%
% newborns checked by a clinician after delivery	96%	97%	81%	91%
% women knowing 2 or more danger signs in newborn	58%	52%	72%	60%
% women knowing 2 or more danger signs in newborn within first 7 days	57%	68%	79%	68%
% men knowing 2 or more danger signs in newborn	50%	31%	34%	38%
% women who view women as decision-makers in seeking care for sick child	87%	94%	80%	87%
% men knowing 2 or more danger signs in newborn within first 7 days	42%	53%	51%	48%
% men who view men as decision-makers in seeking care for sick child	87%	88%	80%	85%

Breastfeeding and Complementary Feeding

Mothers were asked questions about when breastfeeding was initiated, whether they fed colostrum to their newborns, and whether they knew when to introduce various types of complementary foods. An assessment of exclusive breastfeeding is postponed until a computer database of the baseline data is prepared. Results are summarized in Table 4.

Nineteen percent of newborns began breastfeeding within one hour after birth. This behavior ranged from 3 percent in Goris to 34 percent in Gavar. Gyumri (20%) was about average. Immediate breastfeeding may be low due to the separation of the baby from the mother noted in a preceding section. Despite this tendency, 85 percent of mothers report feeding their baby colostrum. Little variation was noted between the sites.

Knowledge about when to commence complementary breastfeeding was assessed using the responses from mothers. Only 29 percent knew that children should be given complementary foods at 6 months of age. The lowest proportions were exhibited in Gyumri (17%) and Gavar (20%). Goris (48%) revealed the highest proportion of knowledgeable mothers for this indicator (48%).

Indicator	Pilot Areas			Average
	Gyumri	Goris	Gavar	
% newborns beginning breastfeeding within 1 hour of birth	20%	3%	34%	19%
% newborns fed with colostrum	80%	91%	84%	85%
% mothers knowing complementary breastfeeding should start at 6 months of age	17%	48%	20%	29%

HIV/AIDS and Other Sexually Transmitted Infections (STIs)

This section reports responses of men and women for questions concerning HIV/AIDS, as well as other sexually transmitted diseases. Results are summarized in Table 5.

Awareness

Awareness of HIV/AIDS was high among both women (94%) and men (91%) with little variation between geographic areas. Although HIV/AIDS awareness was high, knowledge of ways to prevent HIV/AIDS transmission was not. Only 60 percent of women and 65 percent of men were able to mention two or more ways to prevent HIV/AIDS transmission. Knowledge was lowest for both women and men in Gyumri (62% and 55%, respectively) and Gavar (52% and 63%, respectively). Goris (66% and 78%, respectively) was the highest for both genders.

Ninety-four percent of women and 97 percent of men had heard of other STIs, while 70 percent of women and 78 percent of men could name at least two STIs. Again, despite these high levels of knowledge, few women and men knew the symptoms associated with STIs. Thirty-six percent of women were able to mention two or more symptoms in men while only 62 percent of men knew these symptoms. As for STI symptoms in women, only 46 percent of women and 36 percent of women knew two or more.

Prevention and Treatment

With regard to prevention, 80 percent of women and 89 percent of men knew at least two ways to prevent STI transmission. Although some variation exists among the sites, the levels of knowledge are generally high. The exception was Gavar, where 61 percent of women knew two or more ways to prevent STI transmission.

With respect to treatment behavior, 88 percent of women knew where to be tested for an STI and 90 percent knew where to be treated. Among men, 94 percent knew where to be tested and treated for STIs. Apparently, men and women know where to go for testing and treatment, but they may not be going because of their inability to identify STI symptoms.

Indicator	Pilot Areas			Average
	Gyumri	Goris	Gavar	
% women having heard of HIV/AIDS	95%	98%	91%	94%
% men having heard of HIV/AIDS	99%	98%	78%	91%
% women knowing 2 or more ways of preventing HIV infection	62%	66%	52%	60%
% men knowing 2 or more ways of preventing HIV infection	55%	78%	63%	65%
% women aware of sexually transmitted infections	95%	98%	89%	94%
% men aware of sexually transmitted infections	99%	98%	94%	97%
% women knowing at least 2 STIs	75%	66%	68%	70%
% men knowing at least 2 STIs	78%	74%	83%	78%
% women knowing 2 or more STI symptoms in men	33%	33%	43%	36%
% men knowing 2 or more STI symptoms in men	72%	47%	66%	62%
% women knowing 2 or more STI symptoms in women	45%	46%	46%	46%
% men knowing 2 or more STI symptoms in women	30%	31%	46%	36%
% women knowing at least 2 ways to prevent STIs	84%	94%	61%	80%
% men who know 2 or more ways to prevent STIs	89%	91%	88%	89%
% women knowing where to go to be tested for an STI	89%	98%	77%	88%
% men knowing where to go to be tested for an STI	99%	96%	86%	94%
% women knowing where to go to be treated for an STI	88%	98%	84%	90%
% men knowing where to go to be treated for an STI	97%	98%	87%	94%

Condom Use

Men (34%) reported using a condom during each sexual intercourse more frequently than did women (17%). When asked whether they used a condom during the last sexual intercourse, an equivalent proportion of men (32%) and women (17%) responded affirmatively. When asked whether they had ever used the same condom twice only 2 percent of both men and women said they had.

When asked about the benefits of using a condom, 78 percent of women and 88 percent of men knew that condoms reduce the chance of HIV infections and STIs. An equally high proportion of women (81%) and men (85%) knew the closest location to obtain condoms. Although variation among the pilot sites is indicated, this variation does not have great programmatic relevance. These results are summarized in Table 6.

Indicator	Pilot Areas			Average
	Gyumri	Goris	Gavar	
% women reporting partner uses a condom during each sexual intercourse	25%	2%	23%	17%
% men reporting partner uses a condom during each sexual intercourse	42%	39%	20%	34%
% women reporting partner uses a condom during last sexual intercourse	30%	1%	20%	17%
% men reporting partner uses a condom during last sexual intercourse	50%	13%	33%	32%
% women knowing that condoms reduce the chance of STIs and HIV infection	89%	83%	61%	78%
% men knowing that condoms reduce the chance of STIs and HIV infection	99%	85%	81%	88%
% women reporting use of the same condom twice	1%	0%	3%	2%
% men reporting use of the same condom twice	3%	5%	0%	2%
% women knowing the closest location to obtain condoms	85%	84%	74%	81%
% men knowing the closest location to obtain condoms	96%	91%	68%	85%

This report presents hand tabulations of baseline data collected by mobilizers and their supervisors in three pilot sites in Armenia. In addition to indicating baseline conditions, it has attempted to demonstrate how data were used shortly after their collection to make practical and focused programming decisions that can consequently improve the impacts at each pilot site.

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APPENDIX I: LOT QUALITY ASSURANCE SAMPLING

The M&E system for Network for Health in Armenia uses Lot Quality Assurance Sampling (LQAS) for data collection in baseline surveys (Dodge and Romig 1944; Wolfe and Black 1989; Valadez 1991; Robertson, Anker et al. 1997). The intention is that this method also be used for recurrent community monitoring by Network's members. With LQAS, mobilizers collect small samples in each SA, which they use to judge performance. These data, when aggregated for a PVO or for Network, are equivalent to a stratified random sample.

There are three major advantages to the use of LQAS. First, in addition to permitting calculation of a conventional average coverage for a program area, program managers can also determine the relative performance of the different SAs that comprise the catchment area. For example, a typical PVO program area could include several communities with a total population of several thousand people. To manage program implementation, the program area is divided into units or SAs. Each SA is managed by a supervisor such as a nurse, a midwife, a community mobilizer, or some other individual. During monitoring, supervisors determine whether each SA reaches an annual performance benchmark. During baseline surveys, one assumes that SAs are homogeneous. In baseline surveys, LQAS determines whether any SA is below average needing special assistance. In monitoring, LQAS is used to determine whether SAs reach performance benchmarks.

Second, LQAS uses a small sample size for making judgements. For most applications, a sample of 19 individuals is required in each SA to judge whether it is below average or has reached a performance benchmark. However, to calculate a coverage proportion for the catchment area, the individual samples of 19 are added together and an average is calculated. Assuming there are about five SAs, the total sample would be 95. With $p=50\%$, this sample results in a PVO coverage measure with a *confidence interval* that is $\pm 10\%$ of the true coverage. In addition to carrying out fewer interviews than other conventional sampling methods, the smaller sample size leads to a quicker analysis and interpretation.

Third, as LQAS uses a small sample to judge whether a health worker's performance reaches a predetermined standard, data collection does not seriously compete for time health workers allocate to other health care activities. Health workers in developing countries are often overworked and need management tools that can easily be understood within their own cultural context.

Using LQAS for Baseline Surveys

The data presented in the following sections are coverage proportions. These results were also used by PVO RH advisors to identify priority SAs in their catchment areas, meaning SAs that fall below average.

To use LQAS to calculate coverage proportions, *correct* responses are counted for relevant indicators from all SAs. An average is then calculated for each PVO catchment area. This result is used to identify the corresponding average coverage at baseline (in the case of monitoring the annual coverage target is substituted). Once calculated, a mobilizer goes to Table 7 (the Composite LQAS Table) to locate the column header corresponding to the average coverage. In the next step, the mobilizer locates the row for a sample of 19 (or the appropriate sample size if different than 19). At the intersection of this column and row, one

finds the *Decision Rule*. If the total number of correct responses in an SA is less than the decision rule, then the SA is below average or did not reach the target and is in need of special attention. For example, if average coverage for an indicator was found to be 70 percent, then the decision rule would be 11. Any SA having less than 11 correct responses for that indicator would be judged to be below average. When using Table 7, the procedure is to always round upward, as this produces a more conservative decision rule. Therefore, if average coverage was 68 percent, then one would round up to the nearest number divisible by 5 percent, which is 70 percent.

Table 8 demonstrates how mobilizers used their data to make judgements about the SAs in their catchment area, and it displays summary results for Gyumri. The first indicator in this example is from Section 3A of the questionnaire, 'Percentage of mothers attending an antenatal visit by a clinically trained provider.' In this catchment area, there are 4 SAs. The first series of columns shows the number *correct* in each of the 4 SAs (13, 10, 10, 16), making the total correct 52. The next series of columns shows that the sample size in each SA was 19, for a total sample size of 76. The average coverage (68%) is calculated and recorded in the far right cell. Table 8 was then used by mobilizers to determine the decision rule, 11. The highlighted cells indicate those SAs that were found to be below average. Two other indicators are included in this example to demonstrate how these LQAS data are used for local decision-making. The remainder of this report uses the aggregate measures only.

Table 7: LQAS Decision Rules for Sample Sizes of 12–30 and Coverage Targets/Average of 5%–95%

Sample Size	Average Coverage (Baselines) / Annual Coverage Target (Monitoring and Evaluation)																		
	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%
12	0	0	0	1	1	2	2	3	4	5	5	6	7	7	8	8	9	10	11
13	0	0	0	1	1	2	3	3	4	5	6	6	7	8	8	9	10	11	11
14	0	0	0	1	1	2	3	4	4	5	6	7	8	8	9	10	11	11	12
15	0	0	0	1	2	2	3	4	5	6	6	7	8	9	10	10	11	12	13
16	0	0	0	1	2	2	3	4	5	6	7	8	9	9	10	11	12	13	14
17	0	0	0	1	2	2	3	4	5	6	7	8	9	10	11	12	13	14	15
18	0	0	0	1	2	2	3	5	6	7	8	9	10	11	11	12	13	14	16
19	0	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
20	0	0	0	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	17
21	0	0	0	1	2	3	4	5	6	8	9	10	11	12	13	14	16	17	18
22	0	0	0	1	2	3	4	5	7	8	9	10	13	13	14	16	16	18	19
23	0	0	0	1	2	3	4	6	7	8	10	11	12	13	14	16	17	18	20
24	0	0	0	1	2	3	4	6	7	9	10	11	13	14	15	16	18	19	21
25	0	0	1	2	2	4	5	6	8	9	10	12	13	14	16	17	18	20	21
26	0	0	1	2	3	4	5	6	8	9	11	12	14	15	16	18	19	21	22
27	0	0	1	2	3	4	5	7	8	10	11	13	14	15	17	18	20	21	23
28	0	0	1	2	3	4	5	7	8	10	12	13	15	16	18	19	21	22	24
29	0	0	1	2	3	4	5	7	9	10	12	13	15	17	18	20	21	23	25
30	0	0	1	2	3	4	5	7	9	11	12	14	16	17	19	20	22	24	26

**This composite table was developed by La Rue Seims

Table 8: Summary Results Baseline Survey—December 2000

Mothers with Children 0–11 Months

PILOT AREA: GYUMRI											Average Coverage = Total Correct / Total Sample Size	
NO.	INDICATOR	Total Correct in Each Supervision Area				Total Correct	Sample Size in Each Supervision Area				Total Sample Size	Average Coverage
		Decision Rule					1	2	3	4		Decision Rule
		1	2	3	4							
Section 3A: Prenatal Care												
1	% mothers attending an antenatal visit by a clinically trained provider	13	10	13	16	52	19	19	19	19	76	68%
		11	11	11	11							11
Section 3B: Delivery and Newborn Care												
5	% newborns put with mother immediately after cord was cut	15	5	5	12	37	19	19	19	19	76	49%
		7	7	7	7							7
Section 4: Healthy Families												
2	% of mothers who most recent birth was planned	17	18	12	16	63	19	19	19	19	76	16%
		14	14	14	14							14

NGO Networks for Health is a worldwide project to improve health services by building or strengthening partnerships at the community level—between organizations that are already working there. These partnerships provide a range of services—including family planning, maternal and child health, and HIV prevention—that are relevant to the local situation. This five-year effort began in June 1998, and brings together five development organizations—the Adventist Development and Relief Agency (ADRA), CARE, PLAN International, PATH (Program for Appropriate Technology in Health), and Save the Children USA. NGO Networks is supported by USAID's Global/Population, Health and Nutrition Center.

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