HOUSEHOLD HEALTH SURVEY

BASELINE EVALUATION

2006

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PREFACE

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

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

This report summarizes the national (population-based) baseline household health survey results, which assessed knowledge, attitude, and practice with regard to open enrollment and family medicine, perceived health status, use of early diagnostics and preventive services, and accessibility to and perceived quality of care received. The household health survey creates a referent for future evaluation of the project's impact at a national level.

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

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

Richard A. Yoder, PhD, MPH
Chief of Party
Primary Healthcare Reform Project

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ACRONYMS

AMD	Armenian drams (1 USD~374AMD at the time of the survey)
AUA	American University of Armenia
BBP	Basic Benefits Package
CHSR	Center for Health Services Research and Development
CLD	Chronic Lung Disease
DHS	Demographic Health Survey
FM	Family Medicine
IHD	Ischemic Heart Disease
KAP	Knowledge, attitude, practice
NGO	Non-governmental Organization
OE	Open Enrollment
PHC	Primary Health Care
PHCR	Primary Health Care Reform
PMP	Performance Monitoring Plan
USAID	United States Agency for International Development
M&E	Monitoring and Evaluation

EXECUTIVE SUMMARY

For the past two decades, the people of Armenia have been challenged by several fundamental problems with their primary health care (PHC) system, including low utilization of preventive and basis care services, lack of trust in PHC providers, widespread misunderstanding and low awareness regarding privileged/free of charge PHC services, and the absence of ongoing national health promotion or public education programs. In 2005, USAID launched the Primary Healthcare Reform (PHCR) project under a contract awarded to Emerging Markets Group, Ltd. (EMG). The primary objective of the PHCR project is to increase the utilization of sustainable, high-quality primary healthcare services in Armenia through strengthening PHC facilities and family medicine providers and improving public health awareness, health-seeking behavior, and competent demand for PHC services.

The American University of Armenia's Center for Health Services Research and Development (CHSR), one of EMG's partners, implements the program monitoring and evaluation activities. The Monitoring and Evaluation team utilizes several small-scale research activities in each targeted marz to evaluate facility and patient level interventions and an extensive nationwide household health survey to evaluate the impact of the project on a national level. The main goal of the household health survey is to assess the attitude, practice, and knowledge of the population with regard to open enrollment and family medicine, their perceived health status, use of early diagnostics and preventive services, accessibility and perceived quality of care, as well as the level of exposure to health education activities conducted by PHCR Project.

Baseline data were collected from October to December 2006 with a sample of 2,310 households drawn from throughout Armenia (210 households surveyed in each of 10 marzes and in Yerevan). The survey utilized a multi-stage probability proportional to size cluster sampling technique. This provided precise marz level statistical estimates and inter-marz comparisons and allowed for calculation of national statistics through weighting. The survey instrument was of a hybrid (combination of interviewer-administered and self-administered) design. Interviews were conducted with adult (≥18 years) female representatives of households (with the preference given to women with children under 18 years). The self-administered portion of the survey was completed by both the main female respondent and an adult (≥18 years) male living in that household, with first priority given to the husband of the main respondent. The survey instruments were based on tools developed by CHSR for prior household health surveys and in close collaboration with and input from the PHCR Public Education, Open Enrollment, and Family Medicine components' teams. The survey will be repeated in five years upon completion of the project activities.

Overall, the baseline data confirmed the findings of previous large surveys conducted in Armenia, and significantly added to the knowledge base of health-related situation in the country. The following findings are of particular importance and interest for the PHCR project and other implementers working to improve the health status of the Armenian population:

Health status
- More than 60% of respondents rated their health status as only "fair" or "poor".
- Respondents generally perceived their own health as declining while perceiving the health of children in the household as improving.
- The annual number of episodes of acute illness (defined as fever, cold, or diarrhea) was 4.3 for female respondents and 6.2 for male respondents (3.8 and 7.1 national estimates, respectively).
- Most respondents (55.2% of female respondents and 60.8% of the male respondents; 55.7% and 61.4% national estimates, respectively) perceived they had a chronic health condition. The rate was higher for other (generally older) adults in the household (64.3%) and lower for children (14.1%). Vision problems were the most prevalent conditions (reported in 22.4% of women, 22.4% of men, and 4.5% of children), followed by problems with joints and bones (in

22.1% of women and 22.4% of men). For other adult members of the household, high blood pressure was the most frequent problem (28.7%), followed by vision problems (25.8%).
- Only 8.6% of the respondents (7.7% national estimate) reported having had an accident in their households during the last 12 months.
- Nearly two-thirds of the female respondents and a half of male respondents reported being limited in their vigorous physical activities due to health problems.
- Mean satisfaction score with one's own health and life was 56.8% for females and 57.5% for males (57.5% and 59.8% national estimates, respectively).
- Almost half of the females and 37.8% of males (48.1% and 30.9% national estimates, respectively) seemed to suffer from probable or possible depression according to 20-item depression scale used in the survey. The detected prevalence of probable depression was significantly higher among women (30.4%; 30.1% national estimate) than among men (18.5%; 13.9% national estimate).

Health behavior/lifestyle
- Over 60% of men and 1.7% of women (64.1% and 3.6% national estimates, respectively) reported they were current smokers. The average daily number of cigarettes smoked by men was 22.8 and 12.3 by women.
- Overall, 52.8% of the people living in the surveyed households were either active (20.9%) or passive (31.9%) smokers (usually or always exposed to cigarette smoke at home).
- Forty percent of men and four percent of women (39.3% and 3.7% national estimates, respectively) reported having one or more drinks per week. The proportion of households where any member drank 5 or more portions of any kind of alcohol almost every day was 12.7% (11.5% national estimate), with this proportion being 2.8% among female and 27.2% among male respondents.
- Nearly four percent of female and 7.1% of male respondents stated they knew someone in their community who was drug-addicted.
- Sixty percent of females and 56.0% of males believed that staying healthy is a matter of luck more than anything else.
- Forty percent of females and 44.7% of males agreed that it is generally better to practice self-treatment than visit a doctor.

Use of PHC/early diagnostic and prevention services
- Approximately 26% of respondents (27.9% national estimate) had not visited a PHC facility in the last two months even when there was a need. The main reasons for not using PHC services were lack of money/too expensive healthcare (49.7%), lack of trust in PHC providers/their qualification (16.7%), and lack of time (10.8%).
- More than 22% of the sample (26.0% national estimate) reported that they never use PHC services.
- Among screenings, only checking blood pressure was commonly practiced by respondents (76.9% of eligible respondents [76.6% national estimate] measured their blood pressure). Eye exam was done by 37.6% of eligible respondents (42.7% national estimate), Pap smear screening by 15.3% of women (15.7% national estimate), cholesterol screening by 11.0% (11.8% national estimate). Women rarely received mammograms or clinical breast exams (4.3% and 2.9% respectively or, national estimates, 5.2% and 3.2% respectively).
- Only 12.8% of households (13.8% national estimate) had members who had made preventive visits to PHC facility during the last 12 months.
- Ninety-two percent of children aged 1.5- 5 years (93.7% national estimate) were fully vaccinated, according to female respondents.
- For all assessed conditions (diabetes, hypertension, IHD, chronic lung disease, eye problems), the prevalence of secondary prevention activities was lower than recommended.

Public awareness of Open Enrollment (OE), Family Medicine (FM) and Free PHC

- Only 9% of respondents (10.6% national estimate) reported having heard about OE. Of them, 51.2% enrolled (4.6% of the total sample; 5.5% national estimate). The enrollment experience was easy for all enrolled respondents.
- The concept of FM was familiar to 62.7% of all respondents (67.8% national estimate). Five percent of the total sample had received care from a family doctor during the past year; the overwhelming majority considered that the care was of good or very good quality.
- Approximately half of those respondents, who knew about FM, thought that it means more expensive health care.
- Almost 64% of those aware of FM thought that FM is appropriate for Armenia.
- Eighty-one percent of the respondents had heard about free PHC services available to population. More than half who had heard about the free services had sought free care.
- The most common source of information on primary health care was national media (83.9% of people aware of free PHC, 82.2% of people aware of FM, and 62.7% of respondents aware of OE mentioned national media as the main source). Healthcare providers, local media, and friends/ neighbors were also mentioned as information source.

Community involvement

- Only 6.8% of respondents (5.2% national estimate) reported attending a meeting or activity in the community about health improvement. Almost 85% of those who had not, were intended to do so in the future. Of 336 people who would not attend, 50.3% stated that they are not interested in such a meeting, 20.8% that they do not have time, and 10.7% that health is a private matter.

Significant variations were found across marzes for most items with Vayots Dzor and Shirak being the most disadvantaged in terms of health status and health behavior/attitudes. Urban/rural differences were also found, with urban populations having better awareness of reforms in PHC sector. As expected, significant positive correlations were observed between many awareness and health-related variables and respondent education and financial status.

1. INTRODUCTION

Like many of the former Soviet Republics, Armenia's entire health care system deteriorated following independence in 1991. Access to health care, its affordability, and its quality have declined, negatively impacting the health status of the population.[i] Armenia's primary healthcare (PHC) system has been challenged by several fundamental problems, including low utilization of preventive and basic care services, lack of trust in PHC providers, widespread misunderstanding and low awareness regarding privileged/free of charge PHC services, and the absence of ongoing national health promotion or public education programs.[ii]

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

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

The project utilizes a regional scale-up approach, which allows for the zonal expansion of reforms throughout the country over the life of the project. The following assessments are planned to monitor its implementation and evaluate its impact:

1) Baseline assessments:
   - Facility level assessments in target facilities at the start of the project activities in each marz, including a) interviewer-administered facility assessment covering structural indicators for all project components (with some of them being Performance

Management Plan (PMP) indicators) and some indicators of general facility performance; and b) client satisfaction survey.
- Population-based assessment, including countrywide household health survey.

2) Follow-up assessments:
- Repeating all facility level assessments mentioned above upon completion of the project activities in target facilities of each marz.
- Repeating nationwide population-based assessment upon completion of project activities.

This report summarizes the data obtained from the nationwide baseline household health survey. The main goal of the household health survey is to assess the knowledge, attitude, and practice (KAP) of the population with regard to open enrollment and family medicine, perceived health status of the population, use of early diagnostics and preventive services, accessibility and perceived quality of care, as well as the level of the exposure to health education campaigns conducted by PHCR Project. The main research questions are the following:

- What is the perceived health status and current level of KAP of Armenian population regarding the constructs mentioned above?
- Will the perceived health status and KAP of Armenian population on above-mentioned constructs positively change in coming 5 years?
- Are any observed changes attributable to the PHCR project?

The household health survey evaluates PHCR impacts at the national and marz levels, while the remaining evaluation activities focus on facility and community level impacts.

2. METHODS

Survey Concept

The survey utilized a multi-stage cluster sample, probability proportional to size design. The instrument was a hybrid of interviewer-administered and self-administered components. This approach ensured:

- Generalizability of the survey findings for the population in each targeted marz and in Armenia as a whole;
- Efficient use of limited human and financial resources and feasibility of implementing the survey within the existing constraints; as well as
- Consistency and quality of data for measuring the impact of the on-going primary health care reform project in between-marz and pre-post comparisons.

The interviewer-administered portion of the survey was designed to gather information on the main socio-demographic characteristics of the household members, the extent of their exposure to PHCR Project activities, and their health-related practices (including PHC services utilization); the self-administered portion of the questionnaire sought more personal information on perceived health status, attitudes, and behaviors of the respondent, along with quality of life and mental health items.

Inclusion Criteria

All women 18 years old and older living in a selected household were considered eligible for both interviewer-administered and self-administered portions of the survey. However, women

having children were considered as the preferred choice; other married women in the household were considered the second choice. Preference was given to these categories of women since the questionnaire contained many questions about the health and health-related behavior of other household members including the children in the household, issues presumably more familiar to the married women/mothers in the household. All men 18 years and older living in a selected household and available at the time of interview were considered eligible for the self-administered portion of the survey, with preference given to the husband of the female respondent.

Sampling Strategy

The main goal of the sampling strategy was to provide a reasonable sample that is representative for the population of Armenia and is sufficiently large to detect statistically significant differences: (1) between baseline and follow-up samples at the marz and national level, (2) between different marzes, (3) between urban and rural populations, and (4) between female and male respondents.

Sample sizes were calculated using STATA software and the formula for a two sample comparison of proportions so that the following conditions were satisfied: minimal detectable difference of 0.1, power of 0.7, and alpha error of 0.05. The proportion of people using preventive services was set as the basic variable for calculation. Based on the findings of Armavir marz household health survey conducted in 2004,[iii] the proportion of the population using preventive services in each marz was estimated as 0.1 at the baseline.

.sampsi 0.1 0.2, p(0.7)
Estimated sample size for two-sample comparison of proportions
Test Ho: p1 = p2, where p1 is the proportion in population 1 and p2 is the proportion in population 2
Assumptions:

    alpha = 0.0500 (two-sided)
    power = 0.7000
      p1 = 0.1000
      p2 = 0.2000
    n2/n1 = 1.00
Estimated required sample sizes:
    n1 = 177,   n2 = 177

Based on prior experience with similar surveys[iv], a design effect of approximately 1.2 was anticipated. The resulting calculation yielded a sample 30 full clusters of 7 households (210 in total) per marz, which equals 2,310 households nationally.

Multi-stage cluster sampling (probability proportional to size) was chosen for this study based on considerations of methodological rigor and feasibility/cost of implementation. At the first stage, the desired numbers of clusters from populated areas (city/village/district) in each marz were identified using systematic random sampling from the recent census list of populated areas[v]. A random starting point was selected first and then clusters were systematically drawn from the ordered list of populated areas so that the number of clusters from each site was proportionate to the size of population in that site. Health facilities in each selected area were then identified. For larger areas assigned more than one clusters and where there were several primary health care facilities (cities like Yerevan, Vanadzor, Gyumri, Kapan), additional selection was conducted to assign a number of clusters to different

policlinics proportionate to the population size they serve. Then particular medical districts among those served by the selected policlinics were randomly chosen from enumerated lists of districts served by these policlinics.

Finally, medical rosters of children born in 2004 (as the youngest population category with the highest coverage by primary health care services as shown in recent studies[vi]) taken from the selected PHC facilities were used to randomly generate the cluster starting addresses. The typical cluster sampling procedure of selecting adjacent households was further modified to assure that the starting addresses and proximal households to respondents were excluded from the sample so as not to bias the sample with households having young children and to minimize design effect. This approach more closely mimicked a simple random sampling design by increasing the catchment area of the cluster and thus the within-cluster heterogeneity. For each cluster, interviewers found the starting address first and then visited the household next to the starting address on right/up direction. Selection of the respondents from a household was conducted in accordance with the instructions described in the ***"Selection of Respondents"*** page (Appendix 1). Subsequent selection of households to complete 7 required surveys per cluster depended on whether a completed survey was obtained from the previous household:

- If the visit to the prior household resulted in a completed survey, the interviewer skipped 4 households moving always to the right/up from the prior household and attempted the fifth household.
- If the attempt in the prior household was not successful (refusal, no eligible respondent, incomplete survey, etc.), the interviewer attempted to survey the next household moving in the same direction.

The Interviewers also completed ***"Journal Forms"*** (Appendix 2) for each cluster to monitor compliance of the survey implementation with the study protocols and to assess response and refusal rates.

The above-mentioned sampling methodology produces equal samples from each marz and thus provides precise marz level statistics and sufficient samples for between marz comparisons. In some cases, the respondent data were weighted by marz population to derive a statistics reflective of the nation as a whole. Where relevant, this national estimate is reported next to the respondent summary statistics.

Survey Instrument Development and Pre-testing

The Center for Health Services Research and Development (CHSR) had extensive prior experience in conducting household health surveys in Armenia,[vii],[viii] as well as in measuring the quality of life of different population groups through standardized validated tools like the SF-36.[ix] This experience contributed to the development of the instrument for this survey, particularly the portions intended to measure perceived health status, health satisfaction, and health behavior of the respondents and family members, as well as their access to primary health care and early diagnosis and prevention services. Items measuring the knowledge and experience of respondents in the areas of open enrollment, family medicine, and Basic Benefits Package (BBP), as well as their exposure to public education activities implemented by PHCR project, were developed in close collaboration with Overseas Strategic Consulting (OSC) and the staff of different components of the PHCR project.

Interviewer-administered portion of the instrument covered the following topics (Appendix 3):

- Key demographic and socio-cultural factors (family size, employment, income, living standards)
- Perceived health status of family members
- Health behavior of family members (smoking, alcohol consumption)
- Awareness on Open Enrollment, Family Medicine, and Free PHC
- Community involvement in health-related activities
- Access to primary health care services
- Use of early diagnostics and prevention services.

The self-administered part of the instrument (intended for both female and male respondents) covered the following topics (Appendix 4):

- Perceived health status and quality of life of respondent
- Respondent's satisfaction with own health and life
- Depression in respondent
- Practice and attitude of respondent toward smoking, alcohol and drug abuse
- Attitude of respondent toward healthy lifestyle.

A "Guide for interviewers" was developed by the PHCR project Monitoring and Evaluation (M&E) team. Ten interviewers with previous interviewing experience and two experienced team leaders were hired and trained during 19-20 October 2006. The training consisted of theoretical and practical sessions with the latter devoted to interviewer and survey instrument pre-testing. The pre-testing was conducted in Yerevan and identified the need for several minor changes in survey instrument that were subsequently introduced. All 12 interviewers were assessed as capable of conducting the fieldwork and assigned to two teams of six interviewers each. Assuming each interviewer completed one cluster per day, this organization facilitated each team completing the 30 clusters within a marz during a 5 day period.

Ethical Considerations

Meeting ethical concerns is crucial when asking people questions regarding their personal life and the life of their family. Thus, the study protocol was reviewed and approved by the Institutional Review Board (IRB) N1 of the American University of Armenia (AUA). Respondents were provided with an informed consent form (Appendix 5) before the start of the interview. The form included general information about the goals and terms of the survey as well as information concerning respondents' right to refuse, confidentiality issues, and contact information.

According to the survey administration protocol, interviewers were instructed to select the respondents, introduce the survey (introduction, consent form, etc.), and conduct the first part of survey by guiding the female respondent through the les sensitive items included in the interviewer-administered survey. The interviewer then provided the female and male (whenever available) respondents with the self-administered portion of the survey to complete individually and seal in an envelope to ensure that the completed survey would only be accessible to data entry staff at AUA. The interviewer left the respondents to finish completing the self-administered part of the questionnaire on their own and moved onto the next house after making an appointment to return in a short time to collect the completed and sealed surveys. Both the self-administered format of the survey (containing almost all the sensitive items) and the instruction to seal the completed questionnaires in an envelope

provided tangible reassurance that the confidentiality of the survey and the right to refuse would be kept.

The main language of survey was Armenian. However, for the cases when respondents expressed a preference for Russian, they were provided with the Russian format of the survey (or its self-administered part). Thus, Armenian, Russian, and mix (Armenian interviewer-administered and Russian self-administered) surveys were generated.

Survey Administration

Data collection started on October 26, 2006 and lasted six weeks. The 12 interviewers were organized into two teams of six interviewers, fielding the survey simultaneously in two marzes per week. The marzes were surveyed in the following sequence: 1st week - Lori and Shirak, 2nd week - Tavush and Syunik, 3rd week - Gegharkunik and Vayots Dzor, 4th week - Aragatsotn and Ararat, 5th week - Kotayk and Armavir, and 6th week - Yerevan. The PHCR project M&E team conducted periodic spot-checks during the survey implementation.

Data Review, Entry, and Cleaning

CHSR staff reviewed and entered the data into an SPSS data file. Double-entry was used to ensure the precision of the information entered. Upon completion of the entry phase, which lasted almost three months, the data were cleaned. The analysis was carried out using SPSS 11.0 and STATA 8.0 software.

3. RESULTS: INTERVIEWER-ADMINISTERED SURVEY

Administrative/General

A total of 2,310 respondents were included in the household health survey. Overall, it took 5,743 attempts to complete 2,310 interviews (2.5 door knocks to complete one interview). The primary reason for non-response was the absence of all household members (35.1%), followed by the refusal by the household to participate (8.2%), the absence of the selected respondent (7.0%), the absence of any eligible respondent (2.9%), or an unoccupied house (5.0%). Refusal by the selected respondent was recorded in 1.8% of cases.

Of 2,310 respondents, 51.5% were from rural areas, and 48.5% from urban areas. The mean age of respondents was 41.5 (spanning from 18 to 88). Virtualy all respondents were of Armenian nationality (98.6%). Russians constituted 0.5% of the sample, followed by Yesidi respondents (0.4%), and Assyrians (0.4%). There were two Greeks, two Ukrainians, one Georgian, and one German in the sample. The mean total number of people living in the surveyed households was 4.7, ranging from 1 to 17 (4.5 national estimate). The mean total number of adult males living in the household was 1.6, ranging from 0 to 5 (1.5 national estimate), while the mean total number of children under 18 per household was 1.4, ranging from 0 to 9 (1.3 national estimate).

Approximately nine percent of women had less than 10 years of school education. The majority of women had either completed 10 years of school education (39.5%), or 10-13 years of professional technical education (34.6%). Less than 17% of women completed Institute/University, and only 0.2% mentioned having postgraduate education. One woman from Gegharkunik marz had not received any education.

The mean number of people currently employed in a household was 0.9 (spanning from 0 to 5). The overwhelming majority of respondents were not employed (84.9%); 1.4% were on the

maternity leave. Of those not employed, 35.3% mentioned they are looking for work, 21.3% reported that they cannot work due to disability, and 15.1% reported that they are retired. Table 1 shows the distribution of some of the socio-demographic indicators by rural/urban area of residence. Almost all characteristics differed by urban/rural residency area. There was a higher proportion of employed and better educated people, as well as a higher proportion of less populated households in the urban sample as compared to rural one.

Table 1. Socio-demographic status of respondents by urban/rural area of residence

	Urban (1,120)	Rural (1,190)	Total (2,310)
Mean age (n)*	42.7 (1,119)	40.3 (1,190)	41.5 (2,309)
Mean number of adults per household*	4.4 (1,119)	5.1 (1,190)	4.7 (2,309)
Mean number of adult males per household*	1.5 (1,120)	1.7 (1,190)	1.6 (2,310)
Mean number of children under 18 per household	1.2 (1,120)	1.6 (1,190)	1.4 (2,310)
Nationality	**(1,107)**	**(1,170)**	**(2,277)**
Armenian	99.0 (1,096)	98.1 (1,148)	98.6 (2,244)
Russian	0.5 (6)	0.4 (5)	0.5 (11)
Yesidi	-	0.7 (8)	0.4 (8)
Assyrian	0.2 (2)	0.5 (6)	0.4 (8)
Level of education % (n)*	**(1,110)**	**(1,177)**	**(2,287)**
1. Incomplete school	6.1 (68)	11.6 (136)	8.9 (204)
2. Complete school	32.2 (357)	46.4 (546)	39.5 (903)
3. Professional technical education	38.2 (424)	31.2 (367)	34.6 (791)
4. Institute / University or higher	23.5 (261)	10.9 (128)	17.0 (389)
Employment status % (n)*	**(1,116)**	**(1,188)**	**(2,304)**
Employed	17.5 (195)	13.0 (154)	15.1 (349)
Not employed	82.5 (921)	87.0 (1,034)	84.9 (1,955)

The distribution of employment status, educational level, mean age, and mean number of adults and children in a household across marzes is demonstrated in Figures 1-5. According to data, the highest percentage of employed respondents was found in Shirak (20.1%), followed by Armavir (19.5%), and Yerevan (19.2%), while the lowest percentage was found in Kotayk (8.1%) and Ararat (9.6%). The educational status of respondents was also unevenly distributed across the marzes with Yerevan and Shirak having the highest percentages of respondents who completed institute/university or higher educational level (38.5% and 22.3% respectively), while Aragatsotn and Vayots Dzor had the lowest percentages (8.2% and 10.0% respectively). The highest proportion of respondents having incomplete school education lived in Tavush (14.1%). The mean age of respondents also significantly differed across marzes. As shown in Figure 3, on average, Gegharkunik's sample was the youngest (mean age 38.5), versus Yerevan's sample (mean age 44.6). The most populated households were in Gegharkunik (mean number of adult members in the household is 5.3) and Aragatsotn (5.3), the least populated in Yerevan (4.0), (Figure 4). Similar distribution was found for the mean number of children in the household (Figure 5), with Yerevan households having 1.1 children on average, and Gegharkunik 1.7.

Figure 1. Respondents' employment status by marz*
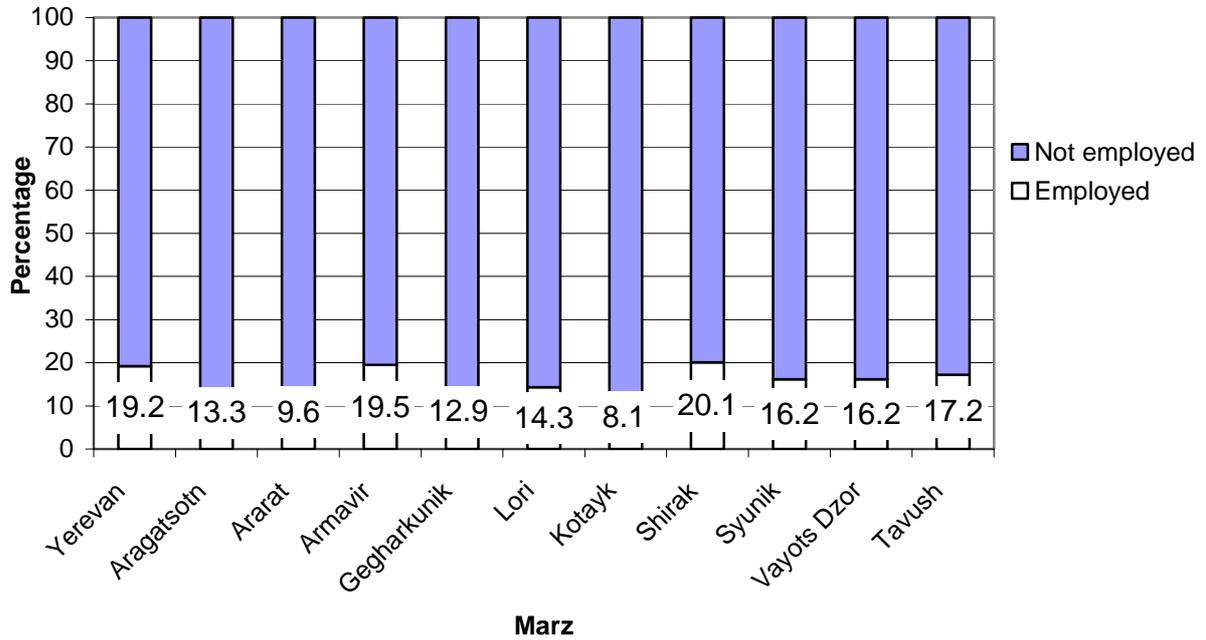
the marzes are statistically heterogeneous, p < 0.05

Figure 2. Respondents' education level by marz*
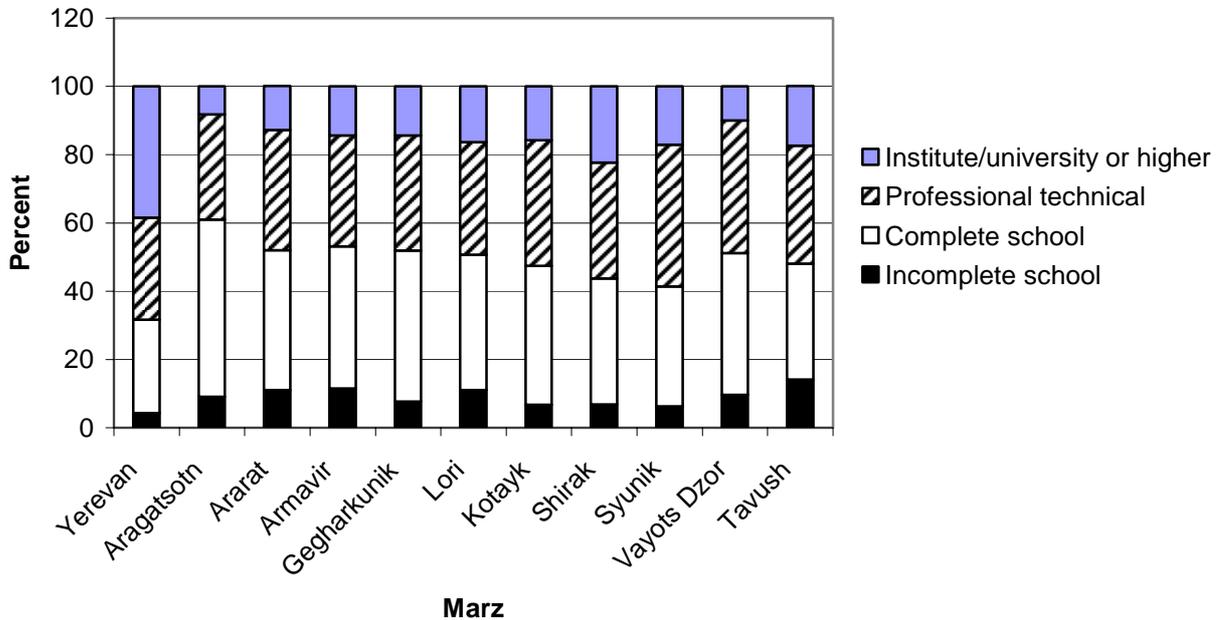
the marzes are statistically heterogeneous, p < 0.05

Figure 3. Mean age of respondents by marz*
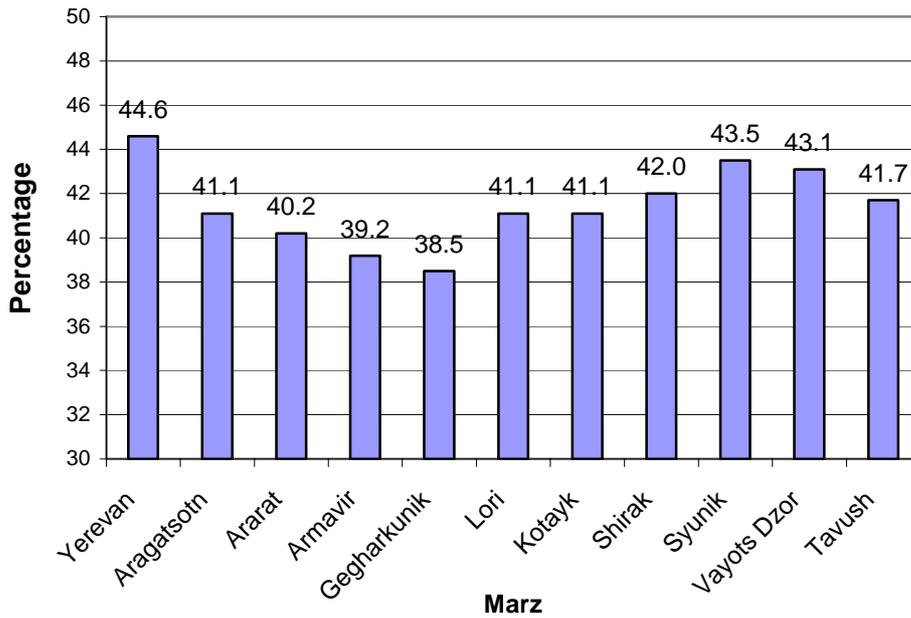
the differences are statistically significant, p < 0.05

Figure 4. Mean number of adult members of a household by marz*
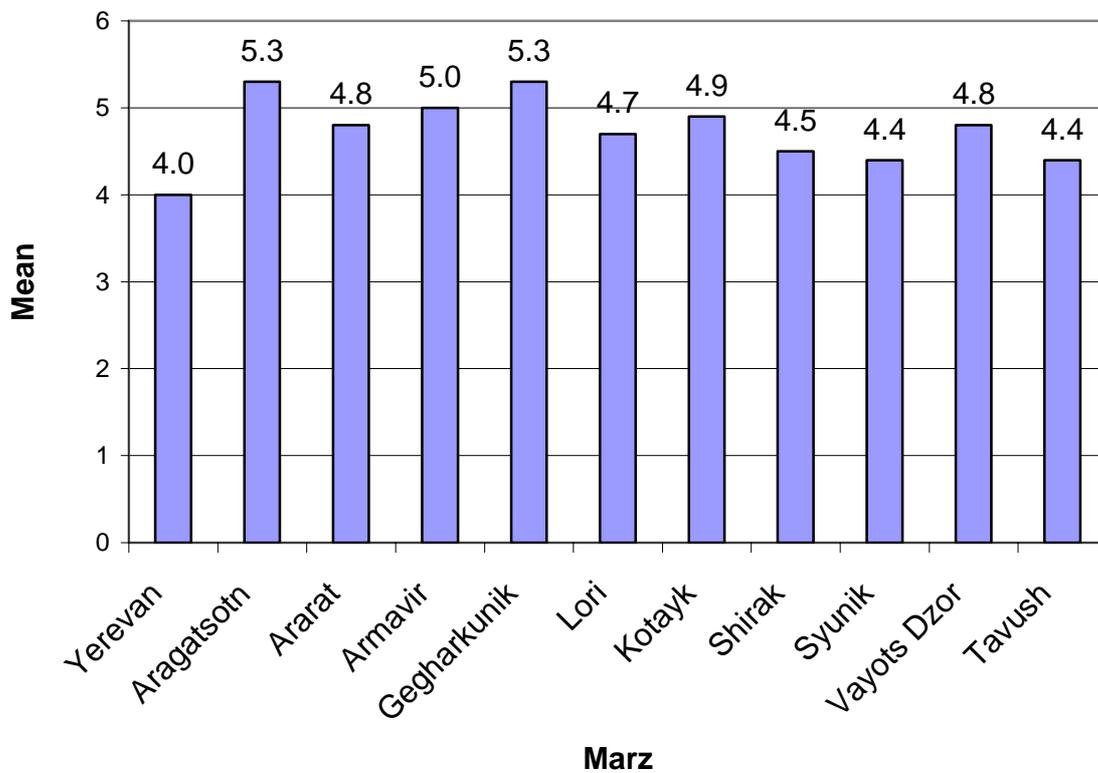
* the marzes are statistically heterogeneous, p < 0.05

Figure 5. Mean number of children in a household by marz*
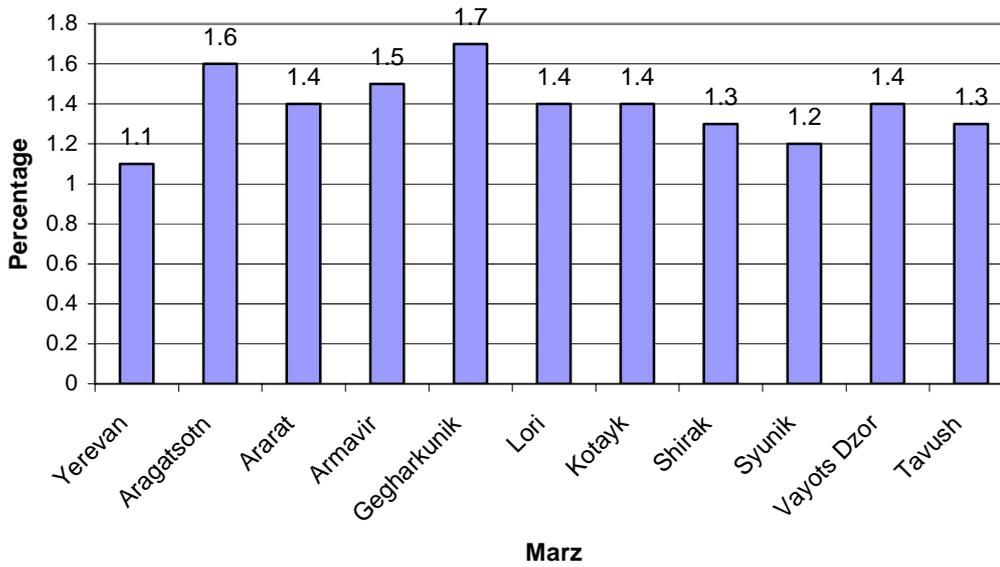
the marzes are statistically heterogeneous, p < 0.05

Living standards

Several items were included in the questionnaire to assess the living standards and possessions of the surveyed households. Of the respondents, 27.1% rated their family's general standard of living below average (with 8.6% considering it substantially below) and 14.8% above average. In urban areas, the proportion of those perceiving their living standards as slightly or substantially above average was significantly higher than in rural areas (18.7% vs. 11.0%). Twenty percent of the respondents reported that their families' standard of living had worsened over the last 12 months, while another 21.6% felt theirs had improved. However, 5.6% described their living standards as "much worsened", while only 0.9% as "much improved" (Table 2). There were no significant urban-rural or between-marz differences in this respect.

In terms of household ownership of some convenience/luxury items, the most frequent possessions were color television, telephone, and cellular phone, while personal computer, satellite, vacation home/villa, and auto washing machine were mentioned as the least frequent possessions. Urban households own indoor bathroom/toilet, hot water tank, auto washing machine, personal computer, telephone, VCR, and cellular phone significantly more frequently than rural households. Meanwhile, automobile was more frequent possession for rural households (Table 2).

The amount of expenditures made by household members during the last month was taken as another measure of living standards. In total, 24.4% mentioned spending less than 25,000 AMD, 34.2% between 25,000 and 50,000 AMD, 28.5% between 51,000 and 100,000 AMD. In total, 12.9% of the families spent more than 100,000 AMD and only 2.9% more than 250,000 AMD. Overall, urban households spent significantly more than rural households (Table 2).

Table 2. Percent of different replies to living standard-measuring items

	Residence		Total (%)
	Urban (%)	Rural (%)	
Living standards*			
Substantially below average	8.0	9.1	8.6
Little below average	18.0	19.0	18.5
Average	55.2	60.9	58.1
Little above average	14.7	8.3	11.4
Substantially above average	4.0	2.7	3.4
Change in living standards			
Much worsened	5.3	6.0	5.6
Slightly worsened	14.3	14.4	14.4
Stayed the same	58.3	58.4	58.4
Slightly improved	21.0	20.4	20.7
Much improved	1.1	0.8	0.9
Possession of convenience/luxury items			
Indoor bathroom/toilet*	89.7	21.9	54.8
Hot water tank*	46.8	13.2	29.5
Color television	90.3	89.5	89.8
VCR*	57.2	46.9	51.9
Automobile*	28.7	36.4	32.7
Auto washing machine*	21.1	8.7	14.7
Telephone*	81.5	61.3	71.1
Personal computer*	10.3	2.1	6.1
Satellite	8.6	7.9	8.3
Cellular phone*	65.3	60.5	62.8
Vacation home/villa	10.3	10.9	10.6
Mean number of luxury items in household*	5.1	3.6	4.3
Household expenditures last month*			
Less than 25,000 AMD (less than ~$65)	20.1	28.4	24.4
25,000-50,000 AMD (~$65-130)	29.9	38.3	34.2
51,000-100,000 AMD (~$130-260)	32.7	24.6	28.5
101,000-250,000 AMD (~$260-660)	13.3	6.8	10.0
Above 250,000 AMD (above ~$660)	3.9	1.9	2.9
Number of households	1120	1190	2310

Statistically significant urban-rural difference was detected, p <0.05

Based on the items intended to measure living standards and possessions of the surveyed households and considering the number of people employed in each household, a wealth score was constructed by assigning different weights to each response option/household asset. These scores were summed by household. The possible range of wealth score was from 0 (min) to 29 (max), (Appendix 6). The wealth scores were then used to construct two summative measures of economic status of the households: wealth category and wealth quintile.

To calculate wealth category, the wealth scores were converted into percentages (where the maximum possible score of 29 is 100%) and grouped in 5 categories with equal intervals of 20 percent. The distribution of households per each category is provided in Figure 6. As evident from the figure, more than half (51.3%) of the surveyed households were in the second (poor) category (wealth scores between 20-40%), while 21.7% were in the first (poorest) category (wealth scores between 0-20%). Third (middle, wealth score of 40-60%) category was the next in terms of frequency (20.3% of households). The proportion of

households in the fourth (rich, wealth score of 60-80%) and fifth (richest, wealth score of 80-100%) categories were much lower (6.2% and 0.5% respectively).

Figure 6. Percent of households in each wealth category (n=2,310)
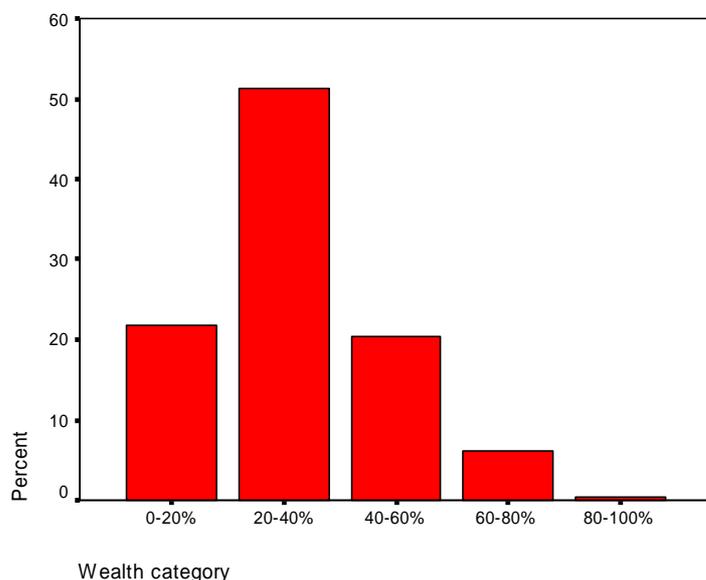
For the second summative measure, wealth quintile, the wealth scores were grouped into quintiles (e.g. groups that each contained approximately 20% of the respondents). While the wealth category serves as an absolute measure of household wealth, the wealth quintile is a relative measure. For example, it indicates the degree to which wealth is evenly distributed by residency areas. Table 3 shows the distribution of surveyed households across wealth quintiles, by marz and urban-rural areas. Not surprisingly, the proportion of households in the lowest quintile is higher in rural areas, while the proportion of those in the highest quintile is higher in urban areas (p-value < 0.000). Marzes also differ significantly in terms of the distribution of households across wealth quintiles with a higher proportion of households in the highest quintile in Yerevan and Armavir, and lower in Ararat, Gegharkunik, Vayots Dzor, and Tavush. Accordingly, Yerevan and Armavir have lower proportions of households in the lowest quintile, while Tavush, Ararat, and Vayots Dzor higher. In Yerevan, 60% of the households are in the highest two quintiles. Unlike this, almost half (49.5%) of the households in Tavush are in the lowest two quintiles.

Table 3. Household distribution by wealth quintile

| | Wealth quintile | | | | | |
	Lowest	Second	Middle	Fourth	Highest	Total
Marzes*						
Yerevan	11.0	9.0	20.0	21.9	38.1	100.0
Aragatsotn	19.0	17.6	19.5	28.1	15.7	100.0
Ararat	24.3	19.0	25.7	19.0	11.9	100.0
Armavir	14.3	17.6	21.4	20.5	26.2	100.0
Gegharkunik	15.7	26.2	23.3	20.0	14.8	100.0
Lori	15.7	23.3	20.0	18.6	22.4	100.0
Kotayk	21.0	20.0	24.3	18.6	16.2	100.0
Shirak	18.1	23.8	21.9	18.1	18.1	100.0
Syunik	18.1	23.3	17.6	19.0	21.9	100.0
Vayots Dzor	23.3	20.0	21.4	20.5	14.8	100.0
Tavush	29.0	20.5	17.6	17.6	15.2	100.0

	Wealth quintile					
	Lowest	**Second**	**Middle**	**Fourth**	**Highest**	**Total**
Residence*						
Urban	15.1	17.6	19.7	20.4	27.2	100.0
Rural	22.8	22.4	22.5	20.0	12.4	100.0
Total	**19.0**	**20.0**	**21.2**	**20.2**	**19.6**	**100.0**

* *Statistically significant between marz/urban-rural difference detected, p < 0.05.*

Perceived health status of children in the household

Women were asked about acute illnesses experienced by any child in the household within the last 30 days (Table 4). Cold or flu was the most frequently mentioned sign (57.1% of cases), followed by cough (43.1%), fever (28.9%), and sore throat (20.2%). Diarrhea was mentioned by 11.2% of women, vomiting by 7.5% of women, allergy/rash by 4.0%, and convulsions by 1.1 % only. Seven women reported that their children had had blood in their stool in the last 30 days.

Table 4. Illnesses experienced by children in the last 30 days*

Illness signs % (n)	(1,620)
Cold/flu	55.4 (897)
Cough	43.1 (698)
Fever	28.9 (468)
Sore throat	20.2 (327)
Diarrhea	11.2 (182)
Vomiting	7.5 (122)
Allergy/rash	4.0 (64)
Convulsions	1.1 (18)
Blood in stool	0.4 (7)

* *Multiple responses for the question were obtained*

The comparison of proportions across marzes, wealth quintiles, and educational categories of respondents showed statistically significant differences for some of the illnesses (Figures 7, 8, and 9).

Figure 7. Illnesses experienced by children in the last 30 days by marz*
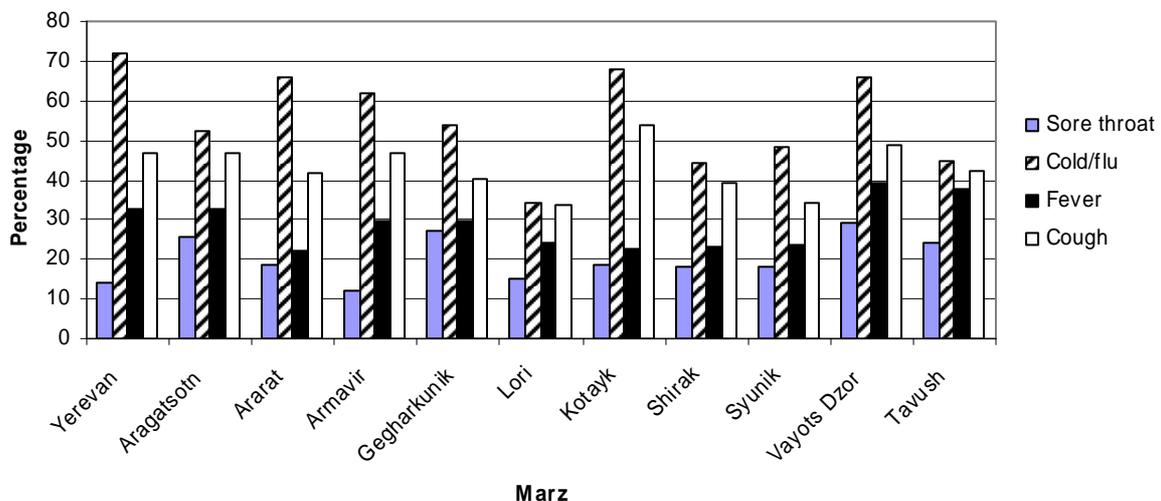
* *The differences in proportions for each illness are statistically significant across marzes, p < 0.05*

Cold/flu was the most frequently reported acute condition among children in Yerevan and the least frequently mentioned condition in Lori. Cough was the most common among children in Kotayk. Fever and sore throat were the most widespread among Vayots Dzor children. Overall, children in Vayots Dzor experienced acute illnesses relatively more frequently, while children in Lori less frequently than in other marzes.

Cough was more common in the households belonging to the lowest wealth quintile (Figure 8). Also, there was negative association between the educational level of respondents and the frequency of some of the reported acute illness episodes among children in their household (Figure 9).

Figure 8. Illnesses experienced by children in the last 30 days by wealth quintile: cough*
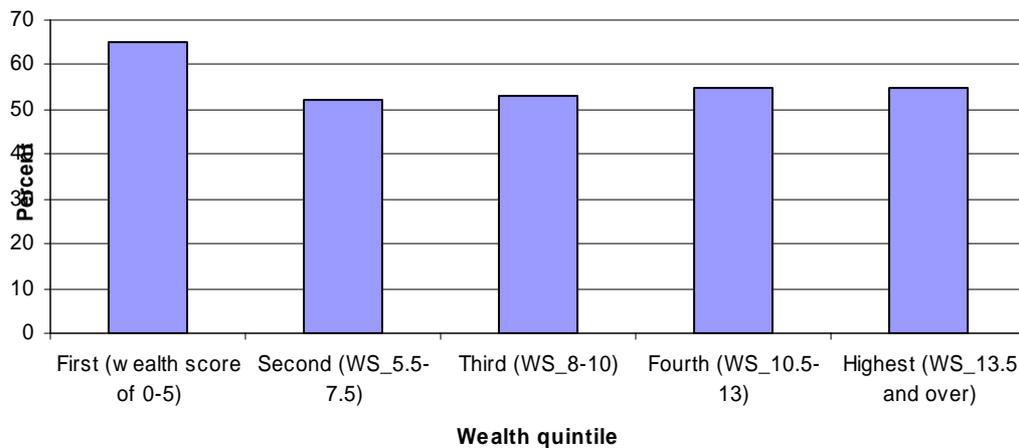
* The difference is statistically significant, p < 0.05

Figure 9. Illnesses experienced by children in the last 30 days by education category: fever and diarrhea*
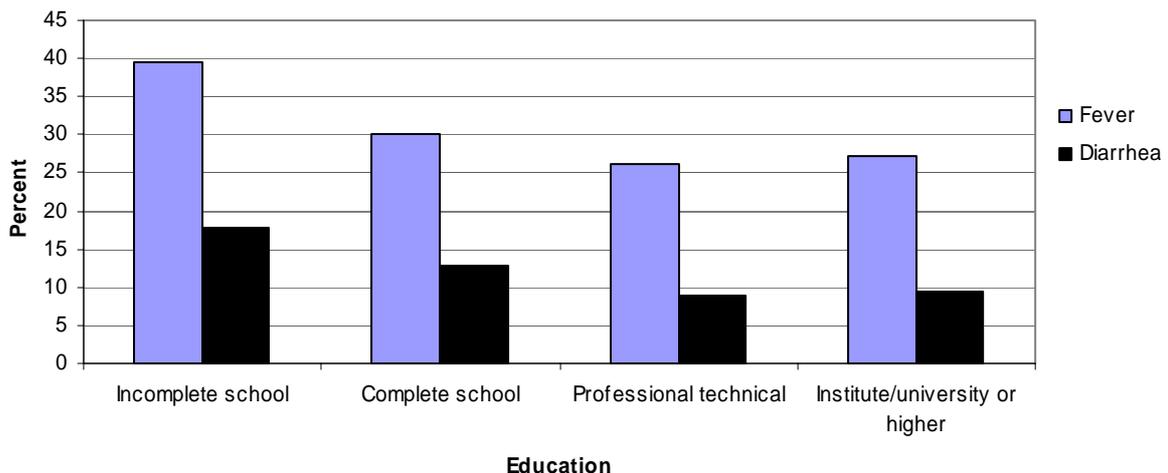
* The differences in proportions for each illness are statistically significant across education categories, p < 0.05

The majority of respondents reported that children in their households have no chronic health problems (85.9%). The remainder mentioned eye/vision problems (4.5%), problems with joints/bones (1.6%), stomach/intestine disease (1.4%), tonsillitis (1.1.), lung disease (1.1), and allergy (1.0) as chronic health problems in household children. The list of the relatively frequent problems is presented in Table 5. The small number of chronic problems in children did not permit comparative analysis between different categories of respondents.

Table 5. Chronic diseases in children*

Diseases % (n)	(1,607)
Eye/vision problems	4.5 (72)
Problems with joints/bones	1.6 (25)
Stomach/intestine disease	1.4 (23)
Tonsillitis	1.1 (18)
Lung disease (including asthma)	1.1 (17)
Allergy	1.0 (16)
Heart disease	0.9 (15)
Kidney problems	0.8 (13)
Developmental problems	0.8 (13)
Epilepsy	0.5 (8)

* *Multiple responses for the question were obtained*

During the interview, the respondents were also asked about overall health status and health dynamics of the children in the household. The responses to these items are discussed in Chapter 4.2 of this report, where comparisons are made with parallel findings in respondents gathered through similar items included in the self-administered portion of the survey.

Injuries among household members

The average number of times in the past 12 months when a respondent or any other member of a household (including children) had an accident, injury or poisoning that required professional help was 0.09, ranging from 0 to 4 (0.08 national estimate). The overwhelming majority of women mentioned having had no accidents in the household (91.4%), while 7.6% mentioned having had one, and 0.7% mentioned two. One woman reported three cases of accident, injury or poisoning, and two women reported four such cases. The most frequently mentioned cause of injury was fall (42.7%), followed by poison/overdose (19.8%), cut/slash/puncture (10.9%), and burns (6.8%). The list of causes is shown in Table 6.

Table 6. The main causes of injuries*

% (n)	(192)
Fall	42.7 (82)
Poison/overdose	19.8 (38)
Cut/slash/puncture	10.9 (21)
Burns	6.8 (13)
Auto crash	5.2 (10)
Hit/struck by person/object	4.2 (8)
Gunshot	1.0 (2)
Pedestrian/vehicle	1.0 (2)

* *multiple responses for the question were obtained*

The comparison of mean number of injuries across marzes, urban/rural residency, wealth quintiles, and educational categories of respondents is shown in Table 7.

Table 7. Mean number of injuries in the household in the past 12 months across marzes, residency areas, age groups, and wealth quintiles

	Mean	N	Std. Deviation	Minimum	Maximum
Marzes*					
Yerevan	0.08	208	0.29	0	2
Aragatsotn	0.12	210	0.34	0	2
Ararat	0.06	210	0.24	0	1
Armavir	0.10	209	0.33	0	2
Gegharquniq	0.06	208	0.24	0	1
Lori	0.12	210	0.37	0	2
Kotayk	0.10	209	0.37	0	3
Shirak	0.06	210	0.33	0	4
Syunik	0.05	210	0.24	0	2
Vayots Dzor	0.15	210	0.47	0	4
Tavush	0.13	210	0.35	0	2
Residence					
Urban	0.10	1,116	0.34	0	4
Rural	0.09	1,188	0.32	0	4
Age ranges					
18-30	0.08	678	0.30	0	2
31-40	0.09	552	0.35	0	4
41-50	0.09	480	0.31	0	2
51-60	0.11	300	0.38	0	4
>=61	0.12	294	0.38	0	3
Wealth quintiles					
Wealth score of 0-5	0.11	439	0.35	0	2
WS_5.5-7.5	0.11	462	0.36	0	3
WS_8-10	0.08	488	0.36	0	4
WS_10.5-13	0.09	465	0.31	0	2
WS_13.5 and over	0.08	450	0.28	0	2
Highest education					
School (less than 10 years)	0.12	204	0.37	0	2
School (10 years)	0.08	902	0.29	0	2
Professional technical (10-13 years)	0.11	787	0.39	0	4
Institute/University and higher	0.07	388	0.27	0	2
Total	**0.09**	**2,304**	**0.33**	**0**	**4**

* The categories are statistically heterogeneous, one-way ANOVA, p < 0.05

Choice of a doctor

When asked about what type of a doctor household members (including the female respondent) visited in the last 6 months, 31.8% of women stated that they had not visited a doctor. Approximately 25% mentioned that they had visited a doctor at the hospital, while 24.5% had visited a specialist at the policlinic. Twenty-two percent visited a therapist, and 18.4% a district pediatrician. Relatively few had visited a gynecologist (9.4%), a dentist (3.1%), or family physician (2.0%, 46 families).

Public awareness of Open Enrollment

Only 9% of respondents (10.6% national estimate) had heard about the concept of Open Enrolment (OE) for primary care (Table 8). Of these, 82.7% thought that open enrollment is "selecting my primary care physician," 25.5% "registering at the policlinic of my choice," and 19.7% thought it means improving health care. However there were also 79 people (38.0

%) who incorrectly thought that it means "getting free health care services from the government."

The respondents were asked about the sources from which they learned about Open Enrollment. The majority mentioned national media including national TV, radio, newspapers (62.7%); health care providers (55.0%); and local media (22.5%). Approximately ten percent stated that they learned about OE from a neighbor/friend/relative, and two people mentioned community meetings as a source. Four people were aware of the concept because they are health care workers themselves.

About 51% of those who have heard about OE (4.6% of the total sample; 5.5% national estimate) stated that they were enrolled (Table 8). Those who did not enroll were asked about the reasons they did not do so, and the most frequently mentioned reason (the most important one) was "do not think it's important" (31.3%), followed by "do not want to use primary health care and prefer to go to the hospital" (21.2%), "there is no need" (11.1%), and "it is too far to travel to the policlinic/ambulatory of my choice" (8.1%). Of those who enrolled, 44.6% did so because they "wanted to choose their own physician," 43.6% because "it is a law/they had to," and 8.9% because they wanted free health care. The enrollment experience was easy for all who enrolled, except one person for whom it was somewhat difficult, because she could not decide which doctor to choose.

Table 8. Proportion of respondents who have heard of Open Enrollment and who enrolled by marz, residence, wealth, age and education categories

	Heard of OE % (n)	Enrolled % (n)
Marz	* (p=0.000)	* (p=0.000)
Yerevan	12.9 (27)	55.6 (15)
Aragatsotn	9.5 (20)	70.0 (14)
Ararat	4.3 (9)	22.2 (2)
Armavir	5.7 (12)	41.7 (5)
Gegharquniq	2.9 (6)	16.7 (1)
Lori	27.6 (58)	72.9 (43)
Kotayk	6.2 (13)	7.7 (1)
Shirak	12.4 (26)	23.1 (6)
Syunik	4.3 (9)	44.4 (4)
Vayots Dzor	5.7 (12)	50.0 (6)
Tavush	7.6 (16)	62.5 (10)
Residence	* (p=0.000)	(p=0.065)
City	11.9 (133)	56.0 (75)
Village	6.3 (75)	42.7 (32)
Wealth quintiles	* (p=0.003)	(p=0.652)
Wealth score of 0-5	6.4 (28)	53.6 (15)
WS_5.5-7.5	8.2 (38)	52.6 (20)
WS_8-10	8.0 (39)	50.0 (20)
WS_10.5-13	9.0 (42)	59.5 (25)
WS_13.5 and over	13.5 (61)	44.3 (27)
Age ranges	(p=0.495)	(p=0.576)
18-30	8.7 (59)	57.6 (34)
31-40	10.5 (58)	43.1 (25)
41-50	8.9 (43)	48.8 (21)
51-60	9.3 (28)	55.2 (16)
>=61	6.8 (20)	55.0 (11)

|	Heard of OE % (n)	Enrolled % (n)
Highest education	* (p=0.000)	(p=0.173, small n)
School (less than 10 years)	3.4 (7)	71.4 (5)
School (10 years)	6.2 (56)	61.4 (35)
Professional technical (10-13 years)	10.6 (84)	46.4 (39)
Institute/University and higher	15.2 (59)	45.8 (27)
Total	**9.0 (208)**	**51.2 (107)**

* Differences are statistically significant, p<0.05

Respondents were also asked if they had switched primary care physicians in the past 6 months; only 5 women responded positively. According to all of them, the procedure of switching was easy and they did not experience any problems.

Family medicine

Of 2,310 respondents 62.7% (67.8% national estimate) had heard of Family Medicine (Table 9). This number exactly repeats the findings of Demographic Health Survey conducted in Armenia in 2005.[x] When asked about how they heard about Family Medicine, most respondents mentioned national media (82.2%), healthcare provider (28.2%), and neighbor/relative/friend (15.8%) as a source. Fewer people mentioned local media (10.8%), and community meetings (0.5%).When asked to describe Family Medicine, 79.8% stated it means providing services to all age categories of patients, 78.7% thought it means a doctor who would care for all family members, and 60.6% thought it means a doctor who has been trained to treat patients with a large spectrum of conditions. Approximately sixty percent of respondents agreed with the description "providing mainly preventive health care", and 48.5% thought it means more expensive care. Only 5.0% of all respondents (116 people) had received care from a family doctor during the past year. Of them, 44.8% rated the quality of the care provided by a family doctor as very good, 35.3% as good, 16.4% as fair, and 3.4% (4 respondents) as poor (Figure 10).

Figure 10. Quality of care provided by the family doctor
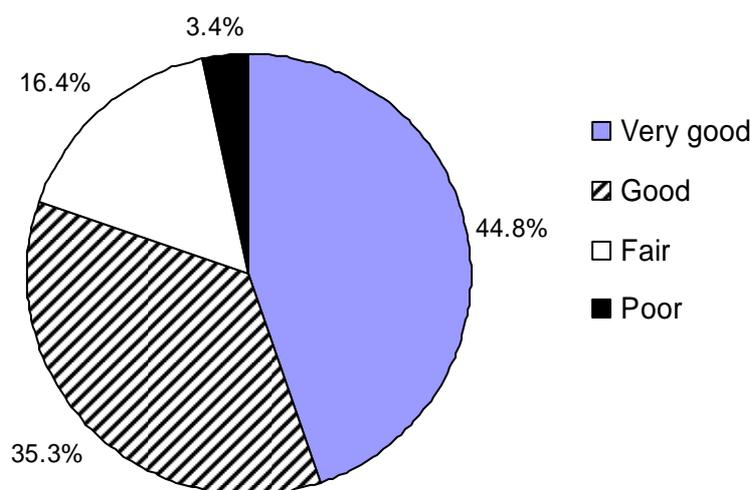
The visit to a family doctor helped to understand the problem or condition of 92.2%. Approximately 67.2% had received educational or informational materials from the family

doctor about their condition or problem. Ninety-nine percent of those receiving materials found them useful (only one person thought they were not useful). All but two people found the materials easy to understand. Out of 115 people who visited family doctor, 107 (93.0%) reported that the family doctor had clearly explained to them how to manage or treat their condition. To 96.5%, medicine was prescribed; the majority took it as prescribed (95.5%). Of the five people who did not get their prescription medicines, two mentioned that they feared its side effects, one person was unable to get the medicine, one person was indifferent, and another thought she had not been diagnosed yet.

Ten respondents had concerns with the care received from family doctor. The concerns included "doctor was unable to diagnose" (3 cases) and "doctor was unable to treat my condition" (3 cases). Thirteen percent of respondents had to pay family doctor for the care. Approximately half of respondents received a referral to a specialist from the family doctor they visited; 44.6% of them paid for the referral care.

Those who had heard of Family Medicine (1,449) were asked about whether they think that family medicine is appropriate for Armenia. About 64% (40.1% of the total sample; 43% national estimate) responded positively (Table 8). Of those responding "no" or "not sure," 59.3% thought that family medicine is more expensive, 11.1% that family doctors receive insufficient training, and 10.8% that family doctors are less qualified than narrow specialists, and 8.9% just preferred the old system of primary care.

The distribution of proportions of respondents who had heard about FM, and who think it is appropriate for Armenia across different respondent categories is presented in Table 9, and Figures 8, 9 and 10. As shown in Table 8, both proportions significantly differ across marzes. The highest proportion of respondents aware of FM (77.6%) was in Yerevan, the lowest (49.5%) in Tavush. Respondents with positive attitudes toward FM were frequent in Aragatsotn (75.6%) and Gegharkunik (75.6%), versus Shirak, and Tavush which had the lowest proportions (54.9% and 53.8% respectively).

An interesting trend was observed with the distribution of awareness of/ positive attitude toward FM across urban/rural areas of residence. As shown in Table 9, urban dwellers are significantly more likely to be aware of FM than rural ones (69.6% versus 56.2%), however they are also less likely to think that FM is good for Armenia (59.0% versus 69.6%).

Table 9. Proportions of respondents who have heard of Family Medicine across marz, residence, wealth, age and education categories

	Heard of Family Medicine % (n)	Think that FM is appropriate for Armenia % (n)
Marz	*(p=0.000)*	*(p=0.000)*
Yerevan	77.6 (163)	62.7 (101)
Aragatsotn	56.7 (119)	75.6 (90)
Ararat	62.9 (132)	72.1 (93)
Armavir	55.2 (116)	64.0 (73)
Gegharqunik	62.4 (131)	75.6 (99)
Lori	70.0 (147)	56.6 (83)
Kotayk	61.0 (128)	61.7 (79)
Shirak	69.0 (145)	54.9 (79)
Syunik	67.6 (142)	64.5 (91)
Vayots Dzor	58.1 (122)	62.0 (75)
Tavush	49.5 (104)	53.8 (56)

	Heard of Family Medicine % (n)	Think that FM is appropriate for Armenia % (n)
Residence	*(p=0.000)*	*(p=0.000)*
City	69.6 (780)	59.0 (457)
Village	56.2 (669)	69.6 (462)
Wealth quintiles	*(p=0.000)*	*(p=0.018)*
Wealth score of 0-5	45.9 (202)	53.7 (108)
WS_5.5-7.5	56.4 (261)	61.8 (160)
WS_8-10	63.4 (310)	69.3 (214)
WS_10.5-13	69.3 (323)	62.6 (201)
WS_13.5 and over	78.1 (353)	67.6 (236)
Age ranges	*(p=0.000)*	*(p=0.000)*
18-30	59.9 (407)	72.0 (291)
31-40	70.9 (392)	63.7 (249)
41-50	68.7 (331)	60.0 (198)
51-60	64.8 (195)	61.1 (118)
>=61	42.0 (124)	52.1 (63)
Highest education	*(p=0.000)*	*(p=0.032)*
School (less than 10 years)	22.1 (45)	48.9 (22)
School (10 years)	54.4 (491)	66.9 (326)
Professional technical (10-13 years)	71.8 (568)	62.3 (352)
Institute/University and higher	85.3 (332)	63.8 (210)
Total	62.7 (1,449)	63.9 (919)

* Differences are statistically significant, p<0.05

Figures 11, 12, and 13 show strong correlations between the awareness of/attitude toward FM and education, age, and wealth category of a respondent.

Figure 11. Correlation between awareness of/attitude toward FM and education level*
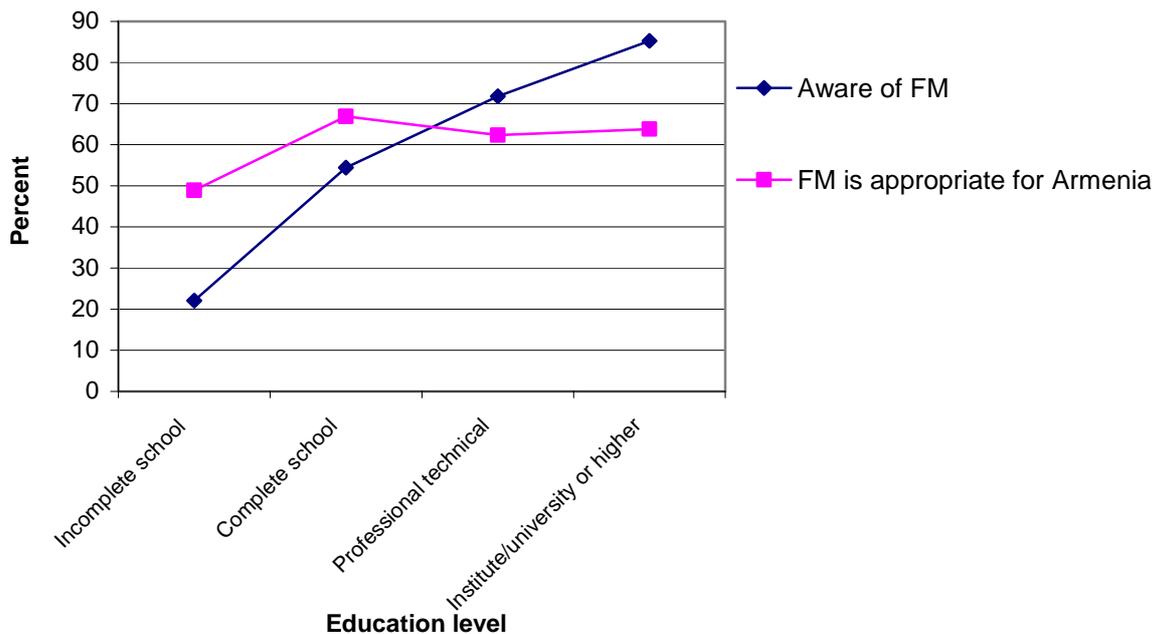
* Correlation is statistically significant, p<0.05

Figure 12. Correlation between awareness of/attitude toward FM and respondent's age*
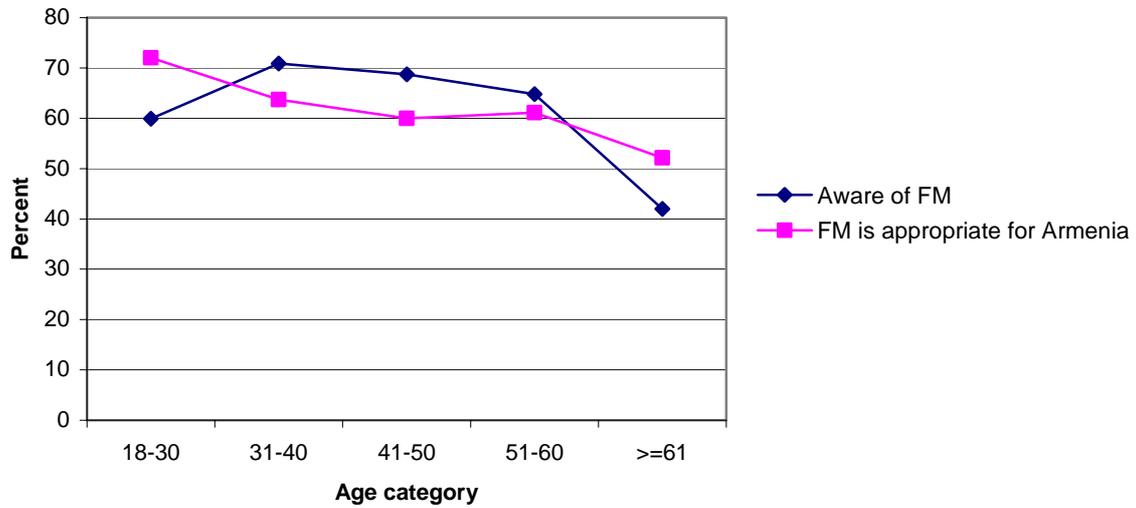
* Correlation is statistically significant, p<0.05

Figure 13. Correlation between awareness of/attitude toward FM and wealth quintile*
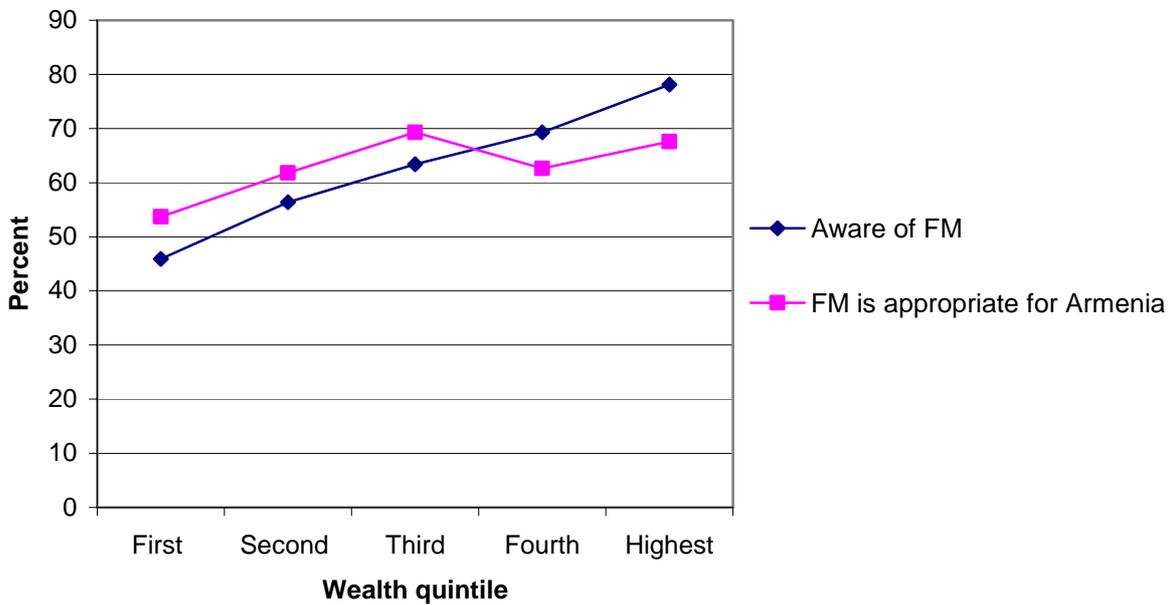
*Correlation is statistically significant, p<0.05

Apparently, more educated and better-off respondents are more likely to be aware of FM and to think that FM is appropriate for Armenia. Awareness of FM awareness is lowest in the youngest and the oldest categories of respondents (18-30 and ≥61), while a positive attitude toward FM gradually decreases with increasing age.

Free PHC

The majority of respondents (81.5%) had heard about free primary health care available to all Armenian residents (Table 10). Most got this information from national media (83.9%), 29.2% from healthcare provider, 12.4% from a neighbor/ friend/ relative, 9.7% from the local media, and 0.6% from community meetings. More than half of the respondents who had heard about the free services had sought them (Table 10); however for 28.8% of them (289) the services were not actually free. These respondents were asked about the reasons for not receiving free care. The most frequently mentioned responses were "the doctor said that the service/test/treatment was not free" (49.5%), and "the doctor asked for payment" (33.4%), followed by "the doctor prescribed drugs which were not free" (11.8%), and "payment demanded by a nurse/other health workers" (4.2%). Two hundred sixty seven respondents listed the services for which payment was demanded. Among these services were lab tests, prescription medicines, physician consultation, and medical examinations. Instrumental analysis, manipulations and physician visits were also mentioned. Without linking these reported incidents to specific clinic visits, it is impossible to categorize these reported charges as either legitimate, questionable, or clearly illegitimate.

The distribution of people who had heard about free primary care services and sought the services from a policlinic across different respondent categories is presented in Table 10 and Figures 14 and 15. The proportion of women aware of free PHC and who sought them increased with education level (Figure 14). The correlation between awareness/seeking care and age was also statistically significant, with the highest proportion of women being aware of services present in the age category 31-40 (84.1%) and 51-60 (84.1%), and the lowest in women ≥61 (74.9%). Women in 18-30 and 51-60 age categories were most likely to seek services from policlinic/ambulatory after the services became free of charge (58.7% and 55.6% respectively).

Table 10. Awareness of free PHC services/care seeking after the services became free across marz, residence, wealth, age and education categories

	Heard about free PHC % (n)	Sought PHC services after they became free % (n)
Marz	* (p=0.000)	*(p=0.000)
Yerevan	84.3 (177)	54.8 (97)
Aragatsotn	82.9 (174)	55.5 (96)
Ararat	82.9 (174)	53.7 (94)
Armavir	85.2 (179)	59.9 (106)
Gegharqunik	85.6 (179)	51.4 (92)
Lori	82.9 (174)	48.9 (85)
Kotayk	90.0 (189)	66.7 (126)
Shirak	69.0 (145)	45.5 (66)
Syunik	79.5 (167)	42.5 (71)
Vayots Dzor	77.5 (162)	50.0 (81)
Tavush	76.7 (161)	56.6 (90)
Residence	(p=0.813)	(p=0.207)
City	81.7 (915)	55.0 (502)
Village	81.3 (966)	52.1 (502)
Wealth quintiles	* (p=0.007)	(p=0.795)
Wealth score of 0-5	76.8 (338)	55.8 (188)
WS_5.5-7.5	82.3 (380)	53.4 (202)
WS_8-10	79.8 (390)	51.0 (198)

	Heard about free PHC % (n)	Sought PHC services after they became free % (n)
WS_10.5-13	86.1 (401)	53.8 (215)
WS_13.5 and over	82.5 (372)	53.7 (201)
Age ranges	*(p=0.009)*	*(p=0.023)*
18-30	80.2 (544)	58.7 (318)
31-40	84.1 (465)	51.4 (239)
41-50	82.7 (398)	48.5 (193)
51-60	84.1 (253)	55.6 (140)
>=61	74.9 (221)	51.8 (114)
Highest education	*(p=0.000)*	*(p=0.011)*
School (less than 10 years)	71.6 (146)	42.5 (62)
School (10 years)	79.5 (716)	52.0 (372)
Professional technical (10-13y.)	84.6 (669)	56.5 (376)
Institute/University and higher	85.1 (331)	56.2 (186)
Total	**81.5 (1,881)**	**53.5 (1,004)**

* Differences are statistically significant, p<0.05

Figure 14. Correlation between awareness of/seeking of free PHC services and education level*
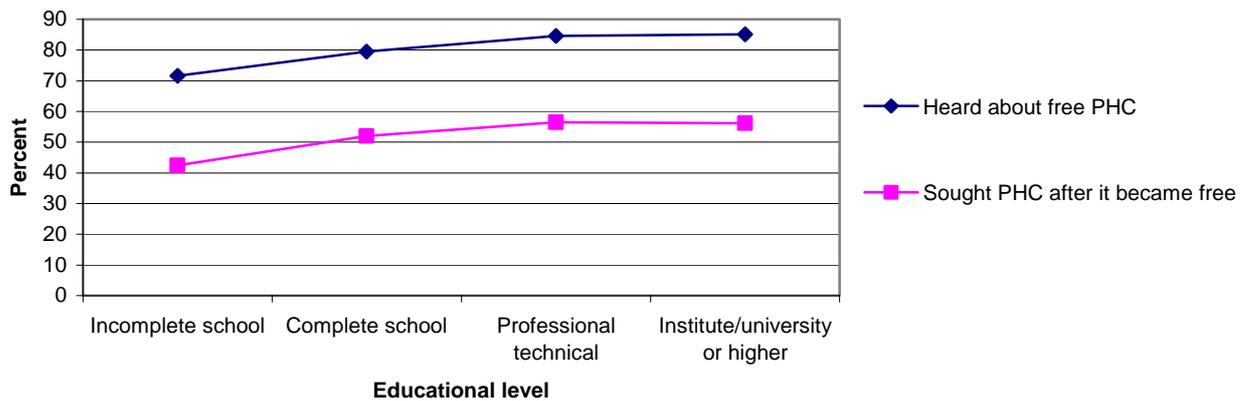
* Correlation is statistically significant, p<0.05
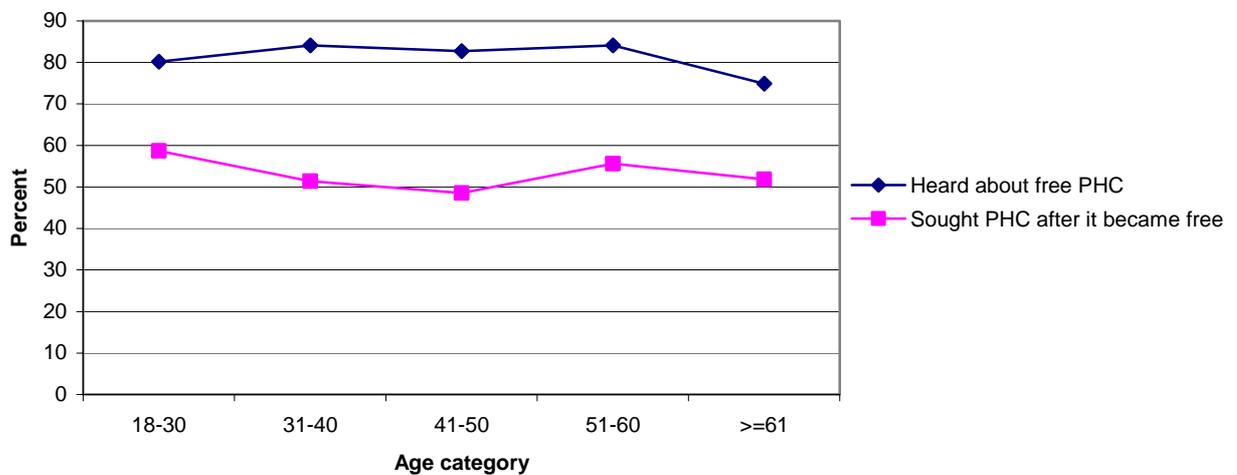
Figure 15. Correlation between awareness of/seeking free PHC and respondent age*

Correlation is statistically significant, p<0.05

Community involvement

A low percentage of the respondents (6.8%; 5.2% national estimate) had attended a meeting or activity organized in the community about health improvement (Table 11). When asked if they knew what organization helped to organize the activity, some of them reported that they do not know (22.4%), some mentioned it was a local NGO (12.6%), and some that it was project Nova (11.9%). PHCR was also mentioned among these organizations (10.5%), as well as World Vision (6.3%), and Oxfam (4.9%). Twenty-two people stated that it was "another international organization" not identifying specific name.

Table 11. Attendance of community meetings in the past year, and intention to attend in the future across marz, residence, wealth, age and education categories

	Attended a community meeting in the past year % (n)	Intention to attend in the future % (n)
Marz	*(p=0.013)*	*(p=0.202)*
Yerevan	1.9 (4)	81.4 (171)
Aragatsotn	5.3 (11)	90.4 (189)
Ararat	6.2 (13)	83.8 (176)
Armavir	6.2 (13)	87.1 (183)
Gegharqunik	5.2 (11)	84.8 (178)
Lori	11.0 (23)	83.8 (176)
Kotayk	7.6 (16)	82.8 (173)
Shirak	5.3 (11)	80.8 (168)
Syunik	11.0 (23)	86.6 (181)
Vayots Dzor	7.7 (16)	87.5 (182)
Tavush	7.2 (15)	83.7 (174)
Residence	*(p=0.000)*	*(p=0.000)*
City	4.6 (52)	82.0 (915)
Village	8.8 (104)	87.4 (1,036)
Wealth quintiles	*(p=0.235)*	*(p=0.000)*
Wealth score of 0-5	6.8 (30)	79.7 (349)
WS_5.5-7.5	9.1 (42)	85.3 (394)
WS_8-10	5.7 (28)	88.5 (430)
WS_10.5-13	6.4 (30)	88.0 (409)
WS_13.5 and over	5.8 (26)	82.0 (369)
Age ranges	*(p=0.787)*	*(p=0.000)*
18-30	6.0 (41)	89.7 (609)
31-40	7.6 (42)	86.3 (473)
41-50	6.2 (30)	86.9 (419)
51-60	7.0 (21)	83.0 (249)
>=61	7.5 (22)	68.8 (201)
Highest education	*(p=0.011)*	*(p=0.000)*
School (less than 10 years)	7.4 (15)	73.3 (148)
School (10 years)	4.8 (43)	85.1 (766)
Professional technical (10-13y.)	7.5 (59)	87.3 (688)
Institute/University and higher	9.5 (37)	85.1 (330)
Total	**6.8 (156)**	**84.8 (1,932)**

* Differences between values provided under this sign are statistically significant, p<0.05

Respondents were asked if they would attend a meeting or activity organized in their community about health improvement in the future. The majority stated that they would (84.8%). Of 336 people who would not attend, 50.3% stated that they are not interested in

such meeting, 20.8% stated they do not have time, and 10.7% thought that health is a private matter. Approximately four percent felt that there are more important problems in the community than health, and 1.8% felt that there are no health problems in their community.

As shown in Table 11, the population of Lori and Syunik marz was the most active in attending health-related community meetings in the past year (11.0% both) versus Yerevan, where only 4 people attended such meetings. The intention to attend in the future is equally high across all marzes. However, residents of urban areas are significantly less inclined to be involved in the community health activities than residents of rural areas (4.6% of urban women attended such meeting versus 8.8% of rural women; also 82.0% of urban women plan to attend community meeting in the future versus 87.4% of rural women).

Also the data show that older respondents and respondents with lower educational status have less intention to attend community meetings in the future (Table 11).

Access to primary health care

Women were asked if there was a time in the past two months when they/anyone in their family felt that they needed to go to the policlinic or ambulatory to get a healthcare. Forty-one percent responded that there was no such time, 32.4% reported "yes, and we went", and 26.4% reported "yes, but we did not go" (27.9% national estimate). Sixteen percent of those who did not go went to a hospital or a specialist instead. Of those who went neither to a policlinic nor to a hospital/specialist, 72.1% self-treated and went to a pharmacy to buy medicine. According to 51.7% of these respondents, buying that medicine was their own decision, while 25.6% stated that friends who are healthcare workers recommended that medicine. "Recommended by pharmacist" was mentioned by 16.3%, "by family members/relative" by 2.5%, and "friend/neighbor" by 2.0%. The most frequently mentioned reason for not going to the policlinic or ambulatory was lack of money/too expensive healthcare, mentioned by 49.7% of respondents. Lack of time, no qualified doctors available at the facility, and not trusting healthcare providers at the policlinic/ambulatory were mentioned by 10.8%, 9.2%, and 7.5% respectively. Fewer people reported practicing self-treatment (4.0%), fear of diagnosis (3.1%), considering the problem not serious (3.1%), lack of transportation (3.0%), and "healthcare facility is not well-equipped and clean" (1.7%). About twenty-two percent of all respondents (26.0% national estimate) never use primary health care services.

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Figure 16. Reasons for not seeking PHC
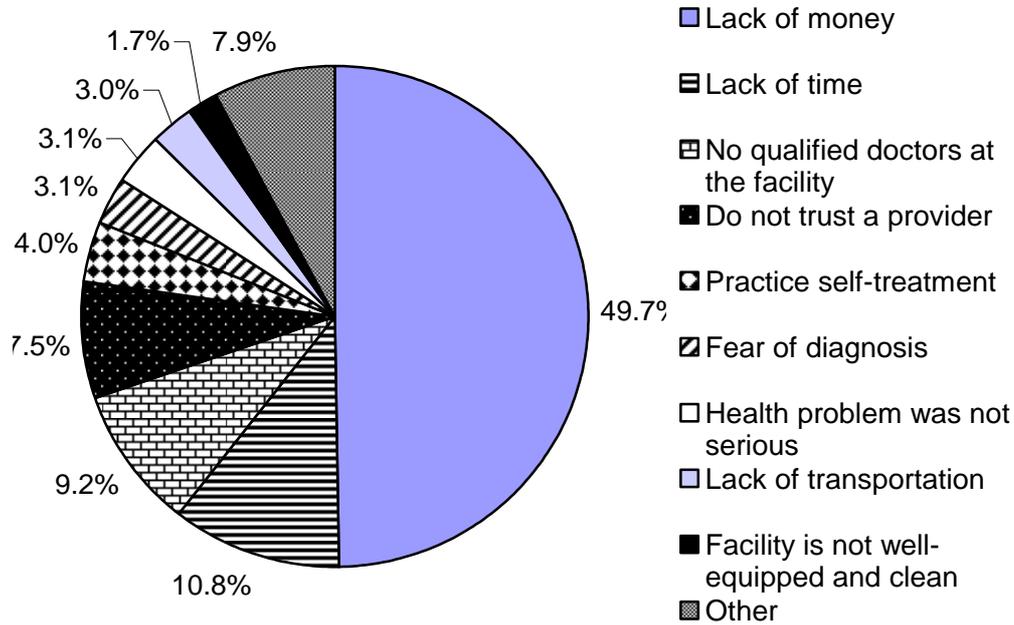
The average waiting time to see a doctor at a primary health care facility reported by those who used PHC services was less than 15 minutes for 71.6% of respondents, 15-30 minutes for 19.9%, 30-60 minutes for 5.4%, and 1-2 hours for 2.5% (Figure 17). Ten respondents reported that they had to wait for more than 1-2 hours on average.

Figure 17. Waiting time at a PHC facility
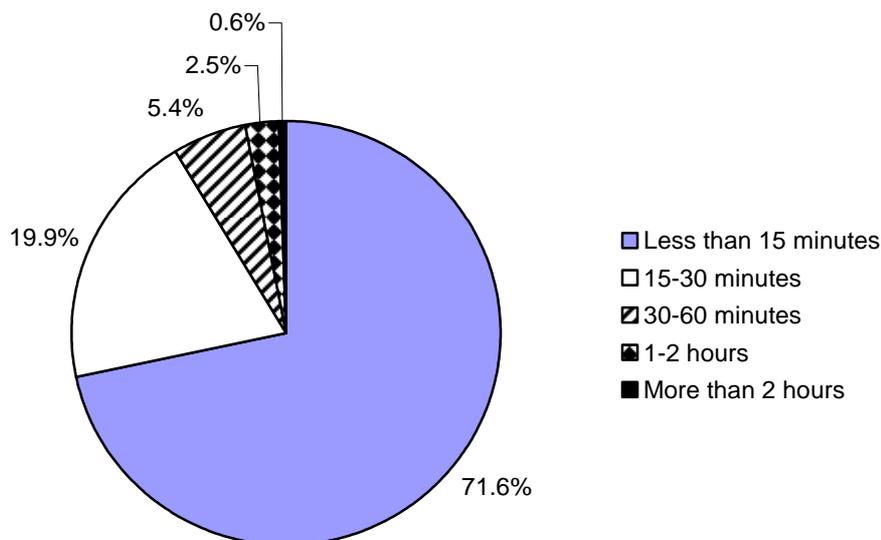
Women were also asked if the physicians and the staff at the policlinic/ambulatory treated them with courtesy and respect during their visits. Eighty-eight respondents responded "yes," 9.7% "somewhat," and 1.9% negatively.

According to 20.2% of respondents, a household member was hospitalized during the past 12 months.

Use of early diagnostic and prevention services

The primary (female) respondents were asked whether and how long ago they received age-appropriate basic screening tests. Their replies are summarized in Table 12. Of all respondents aged 20 and over, 76.9% (76.6% national estimate) reported that they had their blood pressure checked less than a year ago and 8.4% one to two years ago, while 6.7% had never checked their blood pressure and 5.0% had checked it more than 3 years ago. The situation was much worse with the screening of blood cholesterol level. Of those aged 20 and over, only 6.4% checked their blood cholesterol less than a year ago and 2.6% one to two years ago (thus, the compliance to recommended screening was 11.0% for the studied sample; 11.8% national estimate). Meanwhile, 89.0% had never checked their blood cholesterol level (Figures 18 and 19).

Figures 18 & 19. Blood pressure & blood cholesterol screening in women ≥ 20
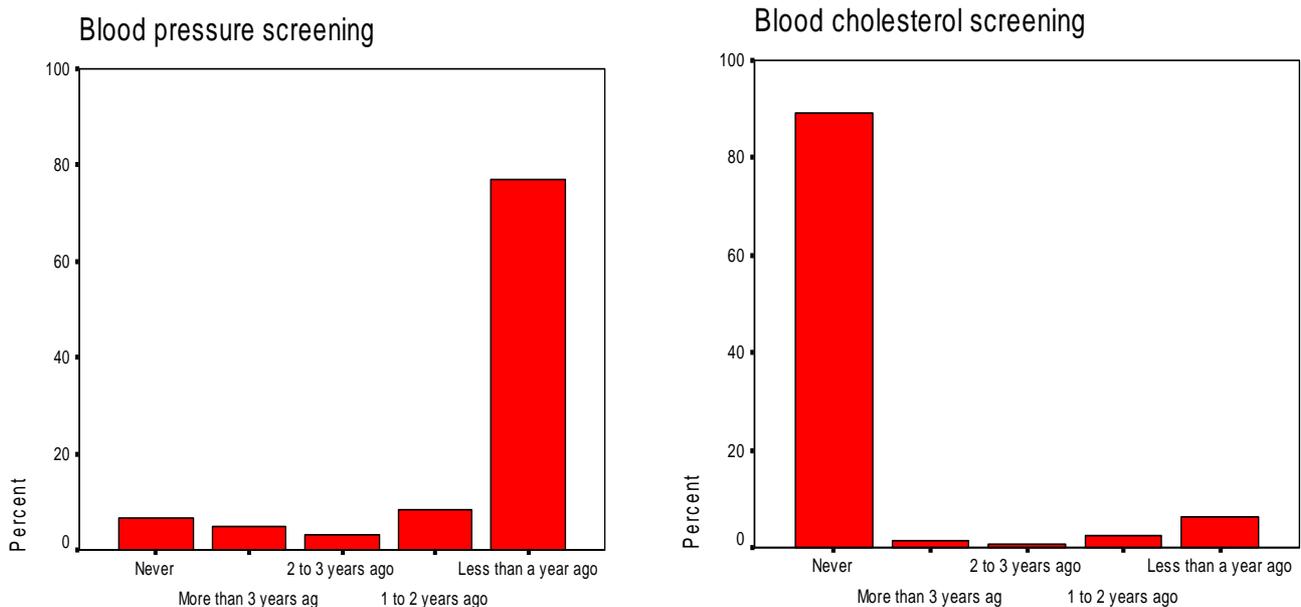
Female respondents aged 30 to 60 years were asked about their frequency of Pap smear tests. According to the existing guidelines in Armenia[xi], all women of this age category should undergo this screening at least once every three years. The proportion of those who had had a Pap smear test within 3 years was 15.3% (15.7% national estimate), while 9.3% had had the test more than 3 years ago and 75.4% had never had a Pap smear test (Figure 20). Of the women 40 years and older, most (90.9%) had never undergone a clinical breast exam and only 2.9% (3.2% national estimate) reported that they had clinical breast exam within a year as recommended[11] (Figure 21).

Figures 20 & 21. Cervical cancer screening in women aged 30-60 and clinical breast exam in women 40 years old and over
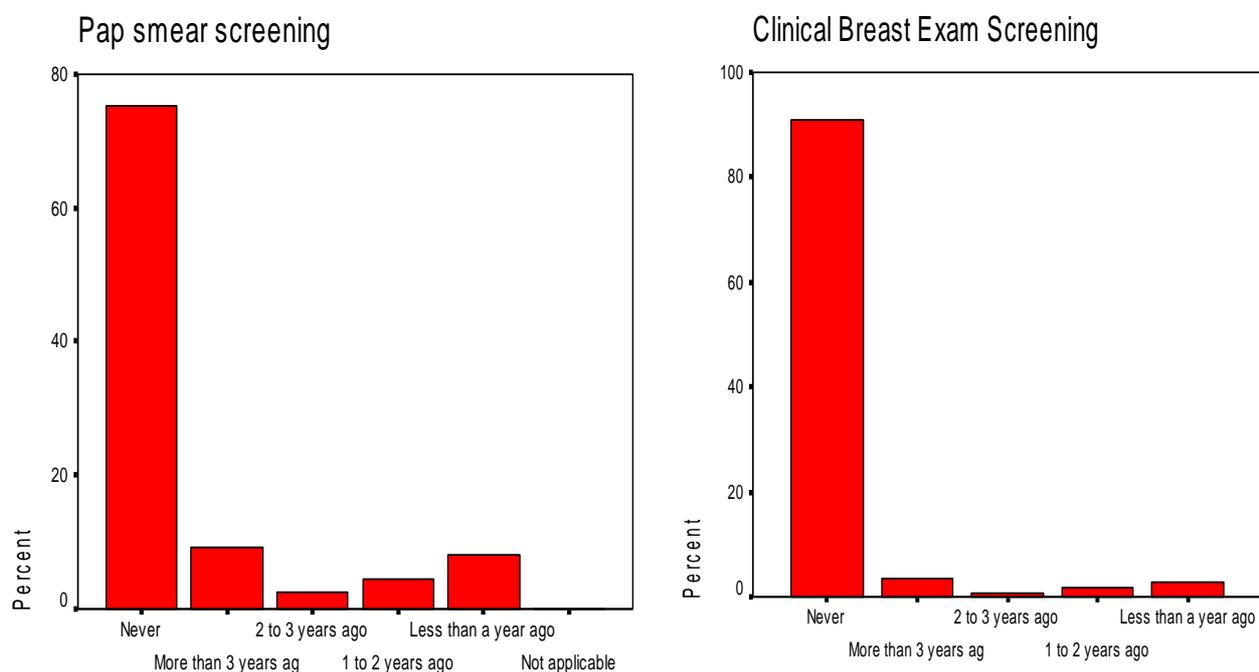
The existing guideline also recommends women aged 50 to 70 years to undergo mammography every two years. [XI] Only 4.3% (5.2% national estimate) of respondents of this age category reported having had a mammogram within two years, while 91.8% had never had a mammogram.

Female respondents aged 40 and over were also asked how long ago, if ever, they had had an eye exam: 62.4% replied "never." The proportion of "never" replies was much higher to the question concerning the test for hidden blood in stool among the respondents aged 50 and over: 98.3% of the respondents had never had this test.

Table 12. Frequency (%) of screenings in female respondents

	Less than a year ago	1 to 2 years ago	2 to 3 years ago	More than 3 years ago	Never	Eligible (n)
1. *(If 20 or over)* Blood pressure checked	76.9	8.4	3.0	5.0	6.7	2282
2. *(If 20 or over)* Blood cholesterol checked	6.4	2.6	0.6	1.4	89.0	2282
3. *(If from 30 to 60y.o.)* Pap smear	8.2	4.5	2.6	9.3	75.4	1417
4. *(If 40 or over)* Clinical breast exam	2.9	1.9	0.8	3.6	90.9	1128
5. *(If from 50 to 70y.o.)* Mammogram	3.5	0.8	0.4	3.5	91.8	520
6. *(If 40 or over)* Eye exam	15.6	8.6	3.3	10.1	62.4	1128
7. *(If 50 or over)* Hidden blood in stool	1.0	0.2	0.2	0.4	98.2	646

Urban-rural and per marz distribution of proportions of those respondents who received the above-mentioned screenings in accordance with existing recommendations is provided in Table 13. Significant urban-rural differences were found only in proportions of those who had ever checked their blood cholesterol level and who had ever had an eye exam. Both proportions were significantly higher in urban areas (14.1% vs. 8.0% and 43.5% vs. 31.3% respectively).

Marzes were statistically heterogeneous in terms of blood pressure, Pap smear, and eye exam screenings. Blood pressure checking was more widespread among residents of Lori and Kotayk marzes (83.5% and 82.3% respectively), and less widespread among residents of Armavir (66.8%). Proportions of those who had had Pap smear screening were higher in Kotayk and Ararat marzes (22.0% and 21.4% respectively) and lower in Aragatsotn and Lori (8.6% and 9.0% respectively). Eye exams in 40 and over age group were more frequently conducted in Yerevan (54.3%) and less frequently in Tavush (28.1%) and Aragatsotn (30.8%).

Table 13. Proportion (%) of female respondents screened in compliance with existing recommendations, by marz and residency area (urban vs. rural)[¶]

	1.Blood pressure	2.Cho-lesterol	3.Pap smear	4.Clinical breast exam	5.Mammo-gram	6.Eye exam	7.Hidden blood in stool
Marz	*		*			*	
Yerevan	76.6	15.3	15.3	2.6	6.0	54.3	1.3
Aragatsotn	75.2	9.2	8.6	1.0	0.0	30.8	2.1
Ararat	77.7	8.4	21.4	4.1	5.0	38.8	0.0
Armavir	66.8	10.8	11.6	3.3	4.9	33.0	0.0
Gegharkunik	76.0	10.1	15.8	2.5	3.3	34.6	2.5
Lori	83.5	8.3	9.0	5.9	6.0	32.6	3.5
Kotayk	82.3	9.2	22.0	3.0	4.1	39.8	0.0
Shirak	73.3	7.3	18.7	6.7	9.3	41.5	3.7
Syunik	79.9	12.1	19.7	1.7	5.6	43.2	4.3
Vayots Dzor	79.8	13.9	11.1	0.0	0.0	32.4	1.6
Tavush	74.2	15.8	16.7	1.0	2.2	28.1	0.0
Residence		*				*	
Urban	77.3	14.1	16.9	3.6	5.2	43.5	2.0
Rural	76.5	8.0	13.8	2.1	2.9	31.3	1.5
Total	**76.9**	**11.0**	**15.3**	**2.9**	**4.3**	**37.6**	**1.8**
Weighted total	**76.6**	**11.8**	**15.7**	**3.2**	**5.2**	**42.7**	**1.6**

[¶] *Proportions of female respondents aged: (1) 20 and over, who had checked their blood pressure less than a year ago, (2) 20 and over, who ever checked their blood cholesterol level, (3) from 30 to 60 years, who underwent Pap smear test less than three years ago, (4) 40 and over, who had clinical breast exam less than a year ago, (5) from 50 to 70 years, who underwent mammography less than two years ago, (6) 40 and over, who ever had eye exam, and (7) 50 and over, who ever checked the stool for hidden blood*
* *Differences are statistically significant, p < 0.05*

The proportions of those who checked blood pressure and cholesterol level in accordance with the existing guidelines, was positively correlated with their age (Table 14).

Table 14. Compliance with blood pressure and cholesterol screening by age group

	Blood pressure*		Cholesterol*	
Age category	%	n	%	n
18-30	71.8	650	8.9	642
31-40	73.4	552	8.3	552
41-50	80.9	481	9.1	481
51-60	80.7	301	17.3	301
>=61	84.0	294	17.0	294
Total	**76.9**	**2278**	**11.0**	**2270**

* *Statistically significant positive correlation across age categories*

For some screenings (blood cholesterol, Pap smear, eye exam), the frequency of compliance with the existing recommendations was positively correlated with respondent education level (Table 15 and Figure 22).

Table 15. Compliance with select recommended screenings by education category

	Cholesterol*		Pap smear*		Eye exam*	
	%	#	%	#	%	#
Incomplete school (<10y.)	8.5	200	7.4	68	30.3	152
Complete school (10y.)	9.3	882	13.1	548	26.8	388
Prof. technical (10-13y.)	11.7	783	15.6	545	41.1	394
University or higher (>13y.)	13.9	382	22.6	230	58.5	159
Total	**10.9**	**2247**	**15.4**	**1391**	**37.1**	**1093**

* Statistically significant positive correlation across educational categories

Figure 22. Compliance with select recommended screenings by education categories
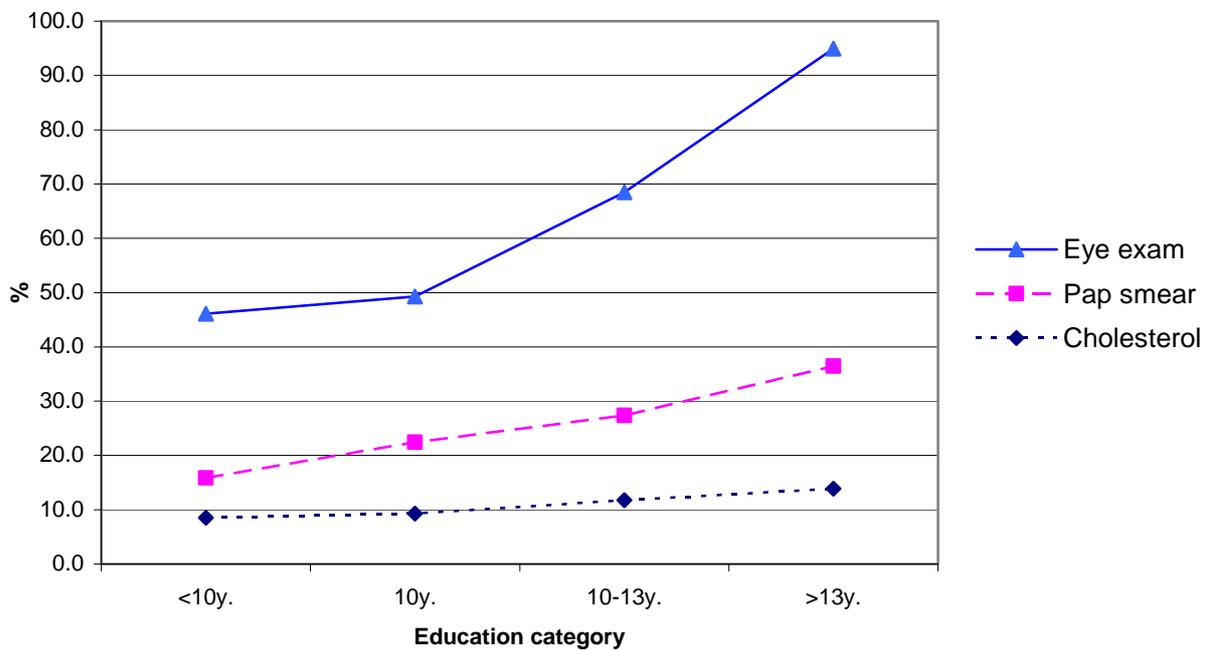
The proportion of those families, members of which made preventive visit(s) to a PHC facility during the last 12 months was 12.8% (the weighted national-level estimate was 13.8%). There was no significant urban-rural difference (13.0% in urban areas vs. 12.6% in rural). Respondents' educational level and the household wealth index were unrelated to this proportion. Per marz distribution of the proportion of those families whose member(s) made preventive visit(s) during the last 12 months is provided in Figure 23. The highest proportion of preventive visits was reported in Yerevan (15.9%) and Kotayk (15.7%), and the lowest in Shirak (8.6%). The difference between the highest and lowest proportions was statistically significant.

Figure 23. Percent of preventive visits to PHC facilities made in the last year, by marz
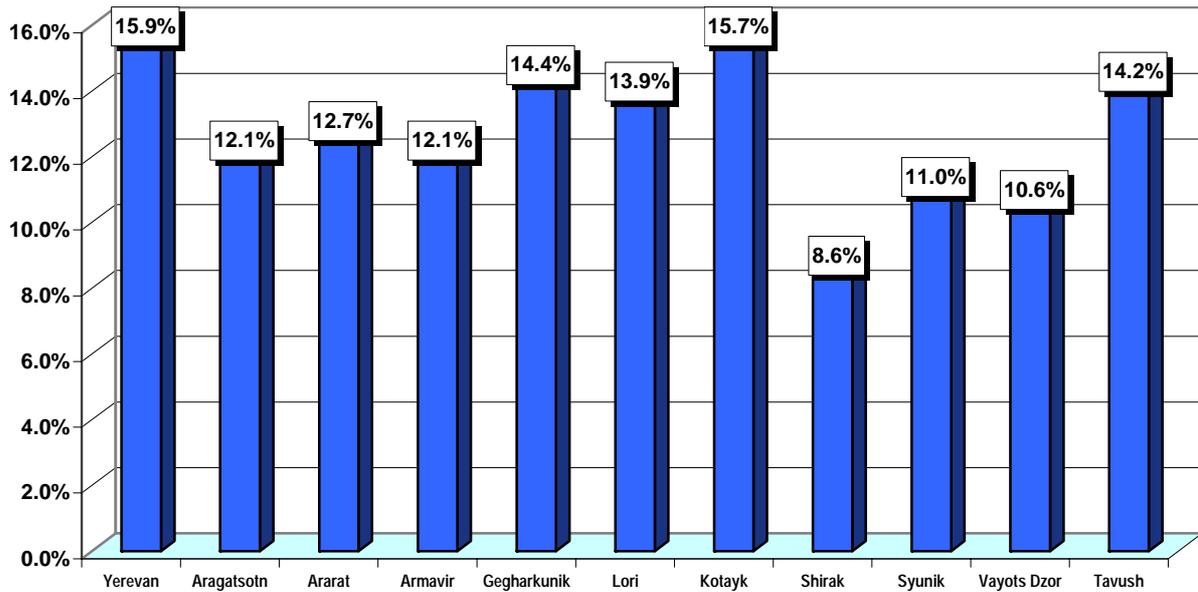
A high proportion (92.1%) of the respondents (93.7% national estimate), reported that children aged 1.5 to 5 years- old living in their household are fully vaccinated against all the diseases included in the children's immunization schedule in Armenia: hepatitis B, tuberculosis, diphtheria-whooping cough-tetanus, polio, and measles-mumps-rubella. There were no urban-rural differences found in these proportions (Table 16). Marzes were rather homogenous in this respect, although statistically significant difference was detected between Armavir marz with the highest proportion of fully vaccinated children (97.8%) and Vayots Dzor and Ararat with the lowest proportions (86.1% and 86.8% respectively).

The proportion of school-age children who had received eye screening during the last year was low: 39.7% (41.6% national estimate). In urban areas, this proportion was significantly higher than in rural areas (44.4% vs. 36.3%). The marzes were also different from each other in this matter. The proportion of children who had received an eye exam in the last year varied between marzes from 19.0% in Gegharkunik to 53.9% in Armavir (Table 16).

Table 16. Proportion of fully vaccinated children aged 1.5-5 years and school-aged children who received eye screening less than a year ago by marz and residence

	1.5-5 year-old children			School-age children		
	(n)	fully vaccinated (n)	fully vaccinated(%)	(n)	eye screened (n)	eye screened (%)
Marz			*			*
Yerevan	51	49	96.1%	154	75	48.7%
Aragatsotn	76	73	96.1%	216	116	53.7%
Ararat	76	66	86.8%	182	60	33.0%
Armavir	91	89	97.8%	193	104	53.9%
Gegharkunik	108	101	93.5%	210	40	19.0%
Lori	68	62	91.2%	201	65	32.3%
Kotayk	90	81	90.0%	171	48	28.1%
Shirak	60	57	95.0%	155	65	41.9%
Syunik	61	57	93.4%	152	62	40.8%
Vayots Dzor	72	62	86.1%	198	86	43.4%
Tavush	83	73	88.0%	150	66	44.0%

	1.5-5 year-old children			School-age children		
	(n)	fully vaccinated (n)	fully vaccinated(%)	(n)	eye screened (n)	eye screened (%)
Residence						*
Urban	343	321	93.6%	826	367	44.4%
Rural	493	449	91.1%	1156	420	36.3%
Total	**836**	**770**	**92.1%**	**1982**	**787**	**39.7%**
National estimate			**93.7%**			**41.6%**

Differences are statistically significant, p < 0.05

Secondary prevention

The respondents were asked if they ever were diagnosed with the following diseases: diabetes, high blood pressure, ischemic heart disease (IHD), chronic lung disease (including asthma), and eye disease. High blood pressure was the most common condition diagnosed in 19.0% of respondents (19.5% national estimate) followed by eye disease (in 13.9%; 15.8% national estimate) and IHD (in 6.9%; 6.8% national estimate). Diabetes and chronic lung diseases were uncommonly diagnosed: respectively, in 2.3% (3.5% national estimate) and 2.6% (2.3% national estimate) of the respondents. No urban-rural or between-marz differences were detected in the prevalence of diagnosed high blood pressure, IHD, and chronic lung disease (CLD). Diabetes was more frequently diagnosed among urban residents than among rural (3.1% in cities vs. 1.4% in villages, p=0.006). Marzes were also different in this respect with the highest prevalence of diabetes found in Yerevan (6.2%) and the lowest in Vayots Dzor (0.0%), Gegharkunik (0.5%), and Aragatsotn (1.0%), (Table 4). Eye problems were also non-homogeneously distributed with higher prevalence in urban areas (16.0% in cities vs. 11.9% in villages, p=0.004), in Yerevan (20.6%) and Syunik (20.1%), while the lowest prevalence of diagnosed eye diseases was detected in Armavir (6.7%), Aragatsotn (9.6%), and Vayots Dzor (10.1%), (Table 17).

Table 17. Proportion (%) of respondents ever diagnosed with diabetes, hypertension, IHD, CLD, or an eye problem (n=2,291)

	Diabetes	High Blood Pressure	IHD	CLD (inc. asthma)	Eye problem
Marz	*				*
Yerevan	6.2	21.5	7.7	1.4	20.6
Aragatsotn	1.0	17.7	6.7	4.3	9.6
Ararat	1.4	15.4	4.3	4.8	14.4
Armavir	1.9	14.4	5.7	2.9	6.7
Gegharkunik	0.5	16.7	6.7	1.4	14.4
Lori	2.9	20.9	5.8	2.4	13.1
Kotayk	2.9	21.9	6.2	2.4	16.2
Shirak	2.4	16.3	5.7	1.9	11.5
Syunik	3.3	23.4	7.7	2.9	20.1
Vayots Dzor	0.0	19.3	9.2	1.4	10.1
Tavush	2.4	21.8	10.7	2.9	16.0
Residence	*				*
Urban	3.1	20.2	7.5	2.3	16
Rural	1.4	17.9	6.5	2.9	11.9
Total	**2.3**	**19.0**	**6.9**	**2.6**	**13.9**
Weighted total	**3.5**	**19.5**	**6.8**	**2.3**	**15.8**

Of diabetic female respondents (n=52), 19.2% (10) reported having had their feet examined for sores or irritations within the past year, 55.8% (29) had had an eye exam within the last year, 9.6% (5) had received a chest X-ray within the last two years, and 48.1% (25) had checked their blood pressure during a visit to/by PHC provider at least every six months.

Of those female respondents diagnosed with hypertension (n=436), 63.1% (275) reported using blood-pressure lowering medicine regularly as prescribed by doctor, 41.5% (181) checked their blood pressure during a visit to/by PHC provider at least every six months and an additional 8.6% (30) checked every year.

Of the respondents with IHD (n=159), 43.4% (69) reported being prescribed with low-dose daily aspirin; 29.6% (47) were using the aspirin as prescribed and 44.7% (71) checked their blood pressure during a visit to/by PHC provider at least every six months.

Thirty percent (18) of the respondents diagnosed with CLD (including asthma, n=60) had had their most recent chest X-ray during the last year, 16.7% (10) 1-2 years ago, 10.0% (6) 2-3 years ago, and the rest more than 3 years ago or never.

Of those with a diagnosed eye condition (n=318), 40.6% (129) had had an eye exam last year, 16.7% (53) 1-2 years ago, 7.9% (25) 2-3 years ago, and the rest over 3 years ago or never. The limited number of cases precluded assessing between-marz or urban-rural differences.

## 4. RESULTS: SELF-ADMINISTERED SURVEY

Demographic data

As described above, a self-administered survey that contained the main body of sensitive personal questions was administered to the primary female respondent and, whenever available at the time of interview, to a male household member at least 18 years of age, with preference given to the husband of the primary respondent. Overall, the self-administered portion of the survey was completed by 2,309 female and 462 male respondents. A small number (2.9% of female, 2.0% of male respondents) completed the Russian version of the self-administered survey, while the rest completed the Armenian version. The male respondents' relationship to the primary respondent was the following: her husband in 68.7% of cases, son in 16.1%, father-in-law in 6.8%, brother-in-law in 3.1%, father in 2.0%, brother in 2.0%, and other relative in 1.3%.

The mean age of male respondents was 43.9 years (sd 16.6), ranging from 18 to 83. This is slightly, but significantly, higher than the mean age of female respondents: 41.5 (sd 15.2) with a range of 18 to 88 (p=0.003). The sample of male respondents was homogeneous in term of nationality (457 Armenians [98.9%], 3 Russians, 1 Yesidi, and 1 Assyrian) and did not differ from the sample of female respondents in this respect. Male respondents' educational level included 12.2% incomplete high school, 34.9% high school, 31.1% professional technical education 20.6% university/institute, and 1.1% postgraduate The proportion of those with higher education (university/institute/ postgraduate) was higher among male respondents than among female (21.7% vs. 17.0%, p=0.018). However, the proportion of those with incomplete school education (less than 10 years) was also slightly higher among male respondents (12.2% vs. 8.9%, p=0.03).

Perceived health status

When asked to rate their own health in the last 30 days, almost the half of the female and male respondents rated their health as "fair" (48.1% and 48.5% respectively). The next category by frequency was "good" (31.4% and 26.8% respectively). A "poor" rating was given by 13.6% of female and 11.3% of male respondents. While the trend was not different between female and male respondents, the proportion of male respondents rating their health as "very good" and "excellent" (7.1% and 6.4% respectively) was significantly higher than for female respondents (4.0% "very good" and 2.8% "excellent", p=0.000). (Figure 24).

Figure 24. Perceived health of respondents and children during the last 30 days
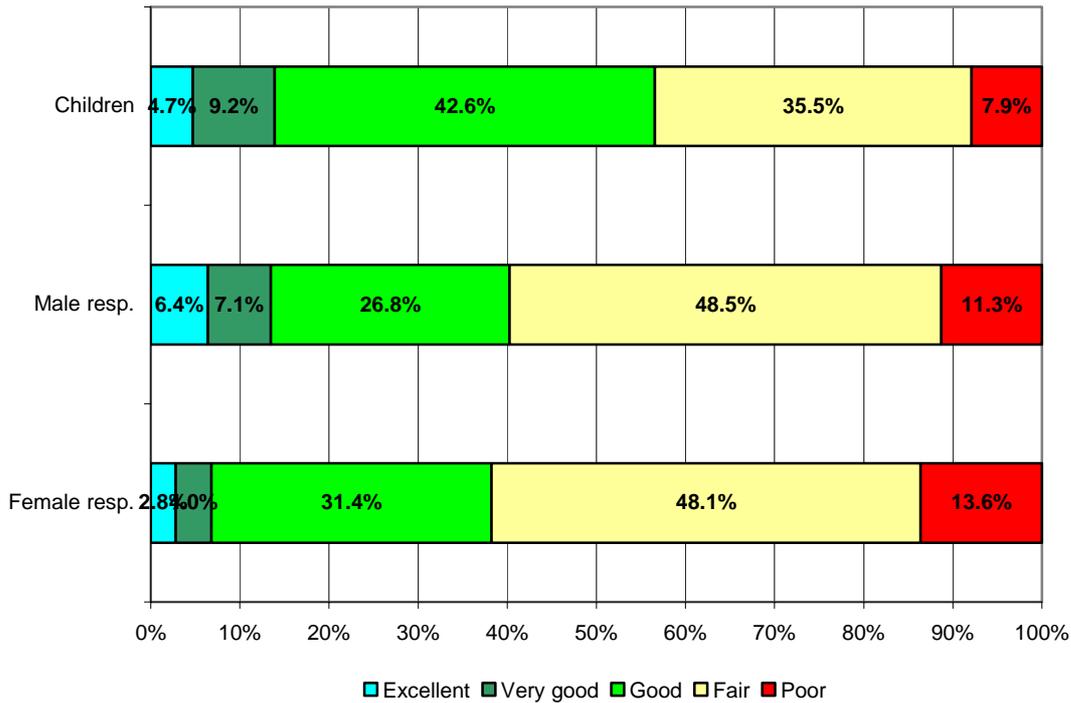
The distribution of female respondents' health ratings by marz identified slight but significant differences with higher proportions of "poor" ratings and lower proportions of optimistic ratings in Kotayk and Vayots Dzor (Table 18). Slight between-marz differences were also found for rating of children's health in the household with the highest proportion of "poor" rating and the lowest proportion of "good", "very good", and "excellent" ratings again in Kotayk. Lower proportions of positive ratings to children's health were also given in Vayots Dzor and Syunik. No significant urban-rural differences were found in either categories of female population and children in terms of perception of overall health status during the last 30 days.

Table 18. Perceived health of female respondents and children in the household during the last 30 days by marzes and residence

	Female respondents' health				Children's health in family			
	Good, Very good, Excellent (%)	Fair (%)	Poor (%)	(n)	Good, Very good, Excellent (%)	Fair (%)	Poor (%)	(n)
Marzes[*, **]								
Yerevan	36.8	49.8	13.4	209	62.5	29.7	7.8	128
Aragatsotn	44.0	44.0	12.0	209	62.7	33.5	3.7	161
Ararat	40.9	44.7	14.4	208	54.4	39.6	6.0	149
Armavir	46.7	40.5	12.9	210	63.3	32.9	3.8	158
Gegharkunik	37.9	48.1	14.1	206	56.8	32.1	11.1	162
Lori	33.8	52.2	14.0	207	52.5	39.9	7.6	158
Kotayk	33.0	47.8	19.1	209	44.9	42.2	12.9	147
Shirak	43.8	47.6	8.6	210	65.2	23.9	10.9	138
Syunik	36.4	54.5	9.1	209	49.3	39.6	11.2	134
Vayots Dzor	31.9	50.5	17.6	210	49.7	44.1	6.3	143
Tavush	35.2	50.0	14.8	210	60.7	32.4	6.9	145
Residence								
Urban	36.8	50.9	12.3	1114	54.8	36.0	9.2	739
Rural	39.6	45.6	14.9	1183	58.0	35.1	6.9	884
Total	**38.2**	**48.1**	**13.6**	**2297**	**56.6**	**35.5**	**7.9**	**1623**
Weighted total	**38.2**	**48.3**	**13.5**		**58.6**	**33.3**	**8.1**	

[*] *Between-marz difference is significant for health rating of female population, p < 0.05*
[**] *Between-marz difference is significant for health rating of children in the household, p < 0.05*

The distribution of females' perception of their own health and that of their children across wealth quintiles showed significant positive correlation: the higher the wealth quintile of the household, the higher proportion of those respondents who rated their own health and the overall health of children in the family as "Excellent", "Very good", or "Good" (Table 19, Figure 25).

Table 19. Perceived health of female respondents and children in the household during the last 30 days by wealth quintile

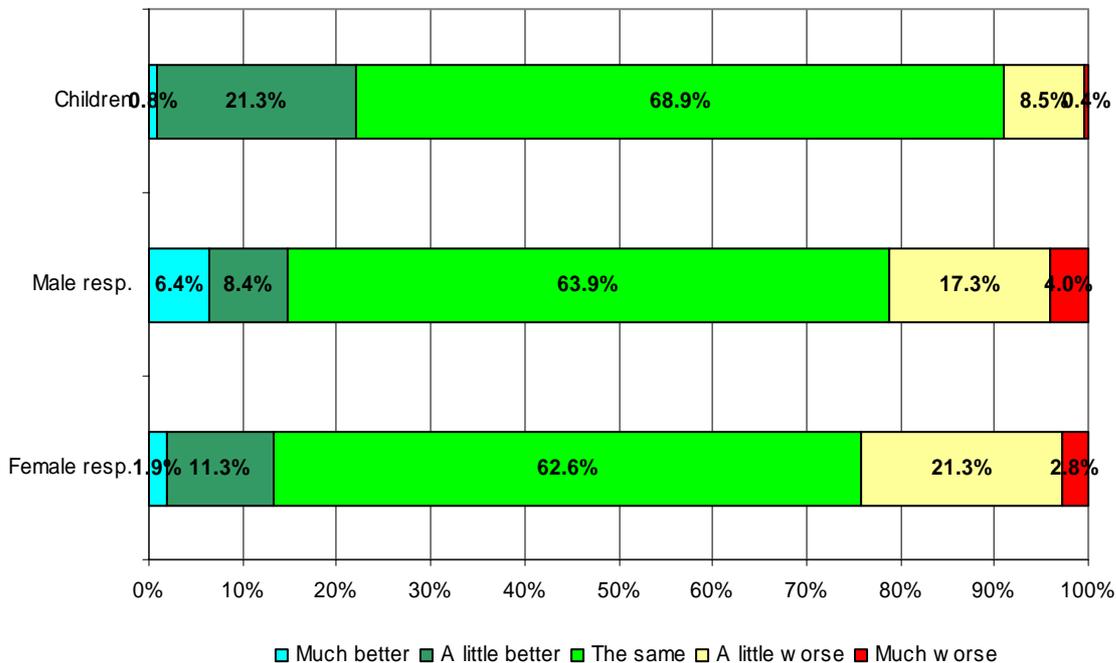|	Health of female respondents				Health of children in family			
Wealth quintiles*	Good, very good, Excellent (%)	Fair (%)	Poor (%)	(n)	Good, very good, Excellent (%)	Fair (%)	Poor (%)	(n)
First	19.2	50.5	30.4	438	39.3	46.9	13.8	224
Second	34.7	48.2	17.1	461	56.2	37.1	6.7	313
Third	41.8	49.2	9.1	486	55.3	38.2	6.4	374
Fourth	43.9	48.7	7.4	462	60.4	32.7	6.9	364
Highest	50.7	44.2	5.1	450	65.2	26.7	8.0	348
Total	**38.2**	**48.1**	**13.6**	**2297**	**56.6**	**35.5**	**7.9**	**1623**

[*]*Significant positive correlation for both population categories, p < 0.05*

Figure 25. Correlation between women's perception of own health status and wealth quintile of the household
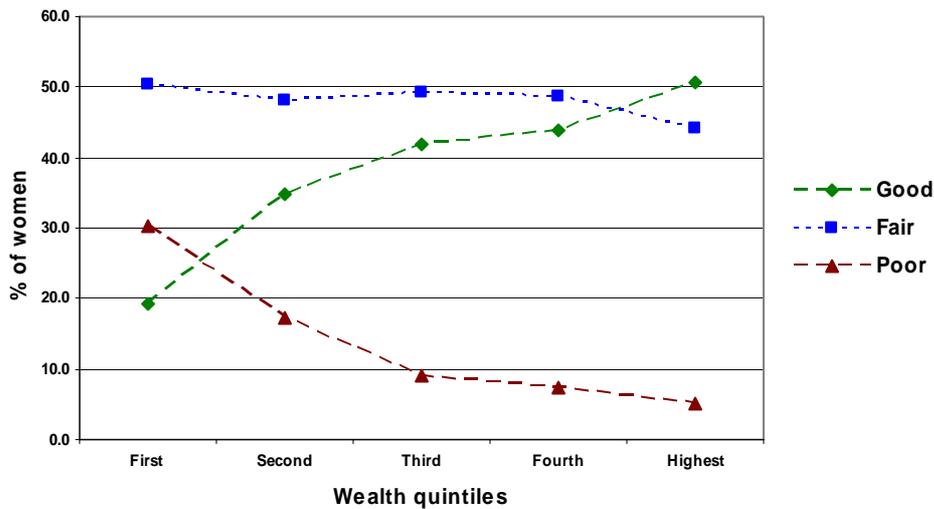
The proportion of female and male respondents who rated their overall health as worse now compared to one year ago were higher than the proportion of those who rated their health as better now (24.1% vs. 13.2% respectively for female respondents and 21.3% vs. 14.8% for male respondents). On the contrary, the health dynamic of children in the household was rated as positive more frequently than as negative (8.9% rated it as worse compared to one year ago, while 22.1% rated it as better) (Figure 26).

Figure 26. Health of respondents and children compared to one year ago

No between-marz or urban-rural differences were found in terms of female respondents' perception of their own health dynamics and that of children in the household. Across wealth quintiles, again, a positive correlation was found: the poorer the family, the stronger

respondents' perception of negative health dynamic among themselves and the children in the household (Table 20).

Table 20. Perceived health of female respondents and children in the household as compared to one year ago by wealth quintile

Wealth quintiles*	Health dynamic of female respondents				Health dynamic of children in the household			
	Better (%)	The same (%)	Worse (%)	(n)	Better (%)	The same (%)	Worse (%)	(n)
First	11.2	45.2	43.6	436	19.1	64.5	16.4	220
Second	11.1	60.5	28.4	461	20.9	69.9	9.2	306
Third	12.3	69.5	18.1	486	22.9	67.3	9.8	367
Fourth	15.7	66.8	17.5	464	20.9	72.6	6.6	350
Highest	15.8	69.9	14.3	449	25.8	68.8	5.3	337
Total	**13.2**	**62.6**	**24.1**	**2296**	**22.2**	**68.9**	**8.9**	**1580**

Significant positive correlation for both population categories, $p < 0.05$

Frequency of acute illnesses

The mean number of acute illnesses (e.g., fever, cold, diarrhea) experienced by respondents during the last 30 days was 0.36 (sd 0.93) for female and 0.52 (sd 1.52) for male respondents (0.32 and 0.59 national estimates, respectively). The observed difference was statistically significant (p=0.007) showing that male respondents reported getting acute illness episodes more frequently than did female respondents. However, the proportion of those who had no episodes of an acute illness during the last 30 days was equal among female and male respondents (76.9% and 75.9% respectively), meaning that the observed difference in means is due to higher frequency of reported acute illness episodes among a small number of male respondents.

The mean number of acute illness episodes experienced by other adult household members (excluding all female and male respondents) during the last 30 days (as reported by the female respondent during the interview) was somewhat lower: 0.24 per person, which could be a result of underreporting because of recall bias or respondents' poor knowledge of other adult household members' health. Overall, the mean number of acute illness episodes experienced by adults in the surveyed households was 0.273 per person (2,120 reported cases per 7,762 adults) per month or approximately 3.28 episodes per person per year. For the reasons mentioned above, this number could also be underestimated.

Female respondents' self-reported mean monthly numbers of acute illness episodes were compared across marzes, residency areas (urban vs. rural), household wealth quintiles, respondents' educational levels, and age groups (Table 21). According to one-way ANOVA test, the observed differences were significant across all the listed categories except age group The highest mean number of acute illness episodes were reported in Vayots Dzor (0.69 per person per month) and Aragatsotn (0.54). Acute illnesses were more common in rural areas (0.41 in villages vs. 0.31 in cities), among those with the lowest education level (0.59) and in the lowest wealth quintile (0.47). The mean number of acute illness episodes for male respondents was not significantly different across any of the above-mentioned categories, possibly because of small sample size.

Table 21. Mean number acute illness episodes per female respondent within the last month, by marz, residency areas, education level, wealth quintile, and age category

	Mean	N	Std. Deviation	Minimum	Maximum
Marz*					
Yerevan	0.32	197	0.67	0	4
Aragatsotn	0.54	173	1.53	0	15
Ararat	0.28	200	0.60	0	4
Armavir	0.29	180	0.67	0	5
Gegharquniq	0.37	195	0.85	0	6
Lori	0.20	179	0.56	0	4
Kotayk	0.29	198	0.64	0	4
Shirak	0.33	193	0.97	0	10
Syunik	0.29	195	0.81	0	6
Vayots Dzor	0.69	170	1.60	0	15
Tavush	0.39	184	0.72	0	4
Residence*					
Urban	0.31	1019	0.72	0	10
Rural	0.41	1045	1.10	0	15
Highest education*					
School (less than 10 years)	0.58	178	1.53	0	15
School (10 years)	0.35	796	0.93	0	15
Professional technical (10-13 years)	0.31	699	0.76	0	10
Institute/University and higher	0.35	369	0.86	0	10
Wealth quintiles*					
First (wealth score of 0-5)	0.47	389	0.98	0	7
Second (WS_5.5-7.5)	0.36	413	1.03	0	15
Third (WS_8-10)	0.34	433	1.09	0	15
Fourth (WS_10.5-13)	0.27	416	0.59	0	4
Highest (WS_13.5 and over)	0.36	413	0.89	0	10
Age ranges					
18-30	0.30	616	0.88	0	15
31-40	0.34	494	0.76	0	5
41-50	0.37	425	1.00	0	15
51-60	0.48	263	1.20	0	10
>=61	0.40	266	0.91	0	7
Total	**0.36**	**2064**	**0.93**	**0**	**15**

Across-group differences in means are statistically significant, one-way ANOVA test, $p < 0.05$.

Perceived prevalence of chronic health conditions

When asked to indicate any chronic health condition they suffered from, respondents cited vision/eye problems most frequently (22.4%). Problems with joints and bones were the next frequently mentioned condition reported by 22.1% of female and 22.4% of male respondents. High blood pressure was third among female respondents (22.1%) and fourth among male respondents (14.1%), while stomach diseases were third most cited for males (16.2%). Heart diseases were the next in terms of frequency (12.9% female,13.4% male respondents), followed by kidney/urinary problems (8.4% female, 9.2% male) and lung diseases/asthma (3.8% female, 8.1% male). Among other problems, gynecological diseases (2.9%), diabetes (2.4%), neurological/mental conditions (2.3%), goiter (1.5%), circulatory/vein disorders (1.4%), and gall bladder/liver diseases (1.4%) were reported relatively more frequently by female respondents. Neurological/mental conditions and diabetes were relatively frequent among male respondents (3.2%).

High blood pressure was reported significantly more frequently by females as compared to males (22.1% vs. 14.1%, p=0.000). However, the 2005 DHS[10] findings on prevalence of hypertension generated by direct measurements of blood pressure showed that the difference between genders is not that large: 27.3% in women and 21.7% in men aged 15-49 years old. Taking into consideration the age-dependence of hypertension, these proportions should be larger in this sample since older ages were included. Thus, the self-reported prevalence of hypertension generated by this survey likely substantially underestimates the true prevalence and is indicative of respondents', especially men's, lack of awareness of their true health status.

Unlike hypertension, stomach/intestine disorders and lung diseases/asthma were more commonly reported by male respondents than by females (respectively, 16.2% vs. 12.1%, p=0.019 and 8.1% vs. 3.8%, p=0.0001). The proportion of those who reported no chronic health condition was higher among female respondents than among males (44.8% vs. 39.2%, p=0.03, Table 22). Table 22 provides also the findings from the interviewer-administered portion of the survey, where female respondents were asked to indicate chronic health problems in any adult household member other than themselves and the male respondent. Among other adults, high blood pressure was the most common perceived chronic health condition (28.7%), followed by vision/eye problems (25.8%), problems with joints/bones (25.4%), heart diseases (16.8%), and stomach/intestine problems (15.8%).

Table 22: Prevalence (%) of self-reported chronic health conditions in respondents and other adult household members (according to respondents' perception)

Chronic conditions (%)	Female respondents n=2255	Male respondents n=433	Other adults n=2026
Diabetes	2.4	2.8	4.0
High blood pressure*	22.1	14.1	28.7
Heart disease	12.9	13.4	16.8
Lung disease/asthma*	3.8	8.1	7.8
Stomach/intestine dis.*	12.1	16.2	15.8
Cancer	0.5	0.2	0.5
Vision problems	22.4	22.4	25.8
Kidney/urinary diseases	8.4	9.2	8.8
Joint/bone diseases	22.1	22.4	25.4
Other (incl. neurological/ mental problems)	13.1 (2.3)	10.9 (3.2)	13.1 (4.1)
No chronic conditions*	44.8	39.2	35.7

* Reported prevalence significantly different among female and male respondents, p < 0.05

Self-reported prevalence of the most common chronic health conditions in respondents was analyzed by marz, residency area, and wealth quintile. For female respondents, significant between-marz differences were found in perceived prevalence of stomach/intestine diseases, vision problems, joint/bone problems and kidney/urinary diseases (Table 23). Stomach/intestine disorders were most frequently reported in Vayots Dzor, vision problems in Yerevan, joint/bone problems in Kotayk and Aragatsotn, and kidney/urinary problems in Gegharkunik. Statistically significant urban-rural differences were found in the self-reported prevalence of high blood pressure and vision problems with higher frequency in urban areas. Also, significant differences were found in the prevalence of all the studied conditions across wealth quintiles. A general tendency of higher prevalence of all these health conditions in poorer categories was observed.

Table 23. Prevalence (%) of self-reported chronic health conditions in female respondents

	N	High BP	Heart disease	GI disease	Eye/vision problems	Joint/bone disease	Kidney/ urinary problems
Marz				*	*	*	*
Yerevan	207	23.2	13.5	15.0	33.0	22.7	5.3
Aragatsotn	205	20.5	12.7	11.2	13.2	29.8	10.2
Ararat	208	21.2	13.5	9.1	23.6	23.6	6.3
Armavir	204	19.1	9.8	12.7	22.5	20.1	7.8
Gegharquniq	207	18.4	12.1	7.7	15.9	18.4	14.5
Lori	202	23.3	13.4	10.9	19.3	17.3	5.0
Kotayk	206	29.6	16.5	14.6	29.6	30.6	11.7
Shirak	206	17.0	8.3	7.8	18.0	13.6	4.4
Syunik	203	24.6	12.8	12.8	27.6	19.2	6.4
Vayots Dzor	204	22.1	15.2	20.6	19.6	27.0	9.8
Tavush	203	24.1	14.3	10.8	24.6	20.7	10.8
Residence		*			*		
Urban	1097	24.1	13.2	12.8	24.6	21.7	7.4
Rural	1158	20.2	12.6	11.5	20.4	22.5	9.3
Wealth quintile		*	*	*	*	*	*
First (wealth score of 0-5)	433	34.4	21.2	19.4	36.5	36.0	12.5
Second (WS_5.5-7.5)	452	23.0	16.4	13.9	22.8	26.1	10.6
Third (WS_8-10)	475	18.7	10.9	9.1	20.0	17.7	7.2
Fourth (WS_10.5-13)	454	19.2	9.7	11.2	18.7	16.7	7.0
Highest (WS_13.5 and over)	441	15.6	6.6	7.3	14.8	14.5	4.8
Total	**2255**	**22.1**	**12.9**	**12.1**	**22.4**	**22.1**	**8.4**
National estimate		**22.3**	**12.9**	**12.5**	**25.7**	**21.8**	**7.2**

* Differences are statistically significant, p < 0.05

For male respondents, significant urban-rural differences were found for problems with joints and bones with higher perceived prevalence in rural areas (17.5% in cities vs. 26.9% in villages, p=0.013). A negative correlation was observed between wealth quintiles and vision problems, joint/bone diseases, and kidney/urinary problems in men: the perceived prevalence of all these conditions significantly decreased in upper wealth quintiles. While no significant association was found between self-reported prevalence of chronic health conditions across educational categories, the positive correlation between all these conditions and age ranges was highly significant.

Extent of being limited in daily activities because of health

Female respondents reported experiencing more bodily pain during the last 30 days than did male respondents. No pain was reported by 28.9% of female and 38.9% of male respondents (p=0.0001), while moderate, severe, and very severe pain was mentioned by 32.0% of female and 26.8% of male respondents (p=0.032).

The respondents were asked if their current health condition limits their physical activities. Generally, female respondents reported being limited in their daily activities more frequently than did male respondents. Almost two-thirds (63.9%) of female respondents and over half (50.8%) of male respondents reported being limited in vigorous activities, such as running, lifting heavy objects, participating in strenuous sports. Climbing several flights of stairs was difficult for 46.1% of female and 39.0% of male respondents. Over half (54.8%) of female and 41.6% of male respondents were limited in walking more than two kilometers, and

17.4% of female and 13.6% of male respondents were limited in even bathing or dressing oneself (Table 24).

Table 24. Proportion of female and male respondents with limited physical activities

Activity	Limited a lot (%)		Limited a little (%)		female (n)	male (n)	p-value
	Female	Male	Female	Male			
Bathing or dressing oneself	5.3	5.0	12.1	8.6	2157	421	0.056
Walking one hundred meters	9.1	7.9	16.4	11.0	2161	420	0.006†
Walking several hundred meters	19.8	14.4	19.1	15.3	2146	425	0.000†
Walking more than two kilometers	32.7	26.2	22.1	15.4	2104	423	0.000†
Bending, kneeling, or stooping	22.1	16.4	21.4	22.0	2113	414	0.055
Climbing one flight of stairs	12.4	8.0	15.9	14.1	2111	411	0.010†
Climbing several flights of stairs	25.8	19.0	20.3	20.0	2122	415	0.007†
Lifting or carrying groceries	23.8	16.1	20.7	19.5	2126	416	0.001†
Moderate activities (moving a table, pushing a vacuum cleaner)	18.3	12.2	16.4	13.6	2117	403	0.001†
Vigorous activities (running, lifting heavy objects, participating in strenuous sports)	39.1	30.5	24.8	20.3	2159	423	0.000†

† Differences in proportions of respondents limited in the given activity statistically differ between genders, p < 0.05

The proportion of respondents who were limited in selected physical activities because of health were compared by marz, residency area, wealth quintile, and age category. For female respondents, between-marz differences were statistically significant for those limited in easier activities like bathing and dressing oneself, climbing several flights of stairs, bending/kneeling/stooping, with the highest proportions of limited respondents in Vayots Dzor. Meanwhile, for vigorous activities or walking more than a mile, the between-marz differences were statistically insignificant. There was no urban-rural difference by any selected activity. Unlike this, the between-wealth quintile differences were statistically significant for all the selected activities, with higher proportions of those limited in daily activities because of health status in lower wealth quintiles (Table 25).

Table 25. Proportion of female respondents with limited physical activities

	Bathing or dressing oneself	Bending, kneeling, stooping	Climbing several flights of stairs	Walking more than a mile	Vigorous activities
Marz*	*	*	*		
Yerevan	13.8	37.8	41.1	53.1	64.1
Aragatsotn	20.8	48.6	49.5	53.7	59.5
Ararat	14.3	40.9	45.3	51.2	67.6
Armavir	16.6	46.1	48.7	58.1	63.5
Gegharquniq	11.5	46.0	42.3	51.5	60.2
Lori	16.8	41.9	38.5	54.4	68.1
Kotayk	17.0	37.9	41.6	56.3	68.3
Shirak	16.0	41.6	46.7	54.3	59.0
Syunik	17.3	42.8	49.8	55.2	62.7
Vayots Dzor	25.7	54.4	56.3	60.1	66.7
Tavush	23.4	41.4	48.2	56.1	63.2
Residence					
Urban	16.3	42.0	44.7	53.5	63.5
Rural	18.5	44.8	47.5	56.2	64.3

	Bathing or dressing oneself	Bending, kneeling, stooping	Climbing several flights of stairs	Walking more than a mile	Vigorous activities
Wealth quintiles*	*	*	*	*	*
Wealth score of 0-5	31.9	60.9	66.6	69.6	78.3
WS_5.5-7.5	21.4	46.9	50.2	58.7	67.1
WS_8-10	12.9	40.7	42.7	51.4	62.7
WS_10.5-13	13.9	38.3	38.5	51.5	59.9
WS_13.5 and over	8.1	31.7	34.3	44.3	52.8
Total	**17.4**	**43.4**	**46.1**	**54.8**	**63.9**
Weighted total	**15.7**	**41.2**	**43.8**	**54.1**	**64.1**

* Differences are statistically significant, p < 0.05

For male respondents, no urban-rural or between-marz differences were found, but the differences were significant across wealth quintiles: the proportion of those limited in their daily activities was higher in the lower wealth quintiles. Significant positive correlations were found between age ranges and proportion of those male and female respondents limited in the studied activities, with higher proportions of limited people in higher age groups.

Satisfaction with own health and life

Both female and male respondents were asked to rate the degree of their satisfaction with their own health and life, including body health, thinking ability, sexual activity, interaction with family/friends, daily activities, income meeting needs, recreational activities, etc. The results are presented in Table 26 and Figure 27. Overall, the respondents were most satisfied with seeing family/friends and the help they get from family/friends. Over two-thirds of respondents were satisfied with their thinking ability, more than half with their ability to help others. The lowest proportion of "satisfied" or "very satisfied" ratings was given to household income meeting family needs: only one-fourth of respondents gave a positive rating to this item. Health of body and recreational or leisure time activities also received low positive ratings (~40%). The only significant difference between female and male respondents was detected in the proportion of those satisfied or very satisfied with their sexual activity (58.7% of female vs. 72.6% of male respondents, p=0.000).
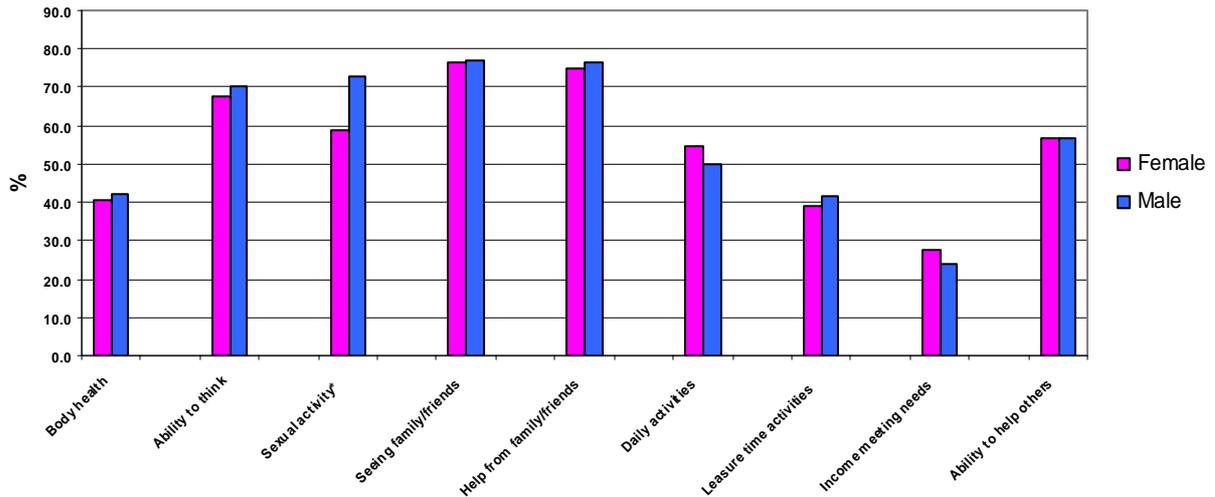
Table 26. Respondents' satisfaction with their own health and life, by sex

Satisfaction with:		Extremely dissatisfied (%)	Dis-satisfied (%)	Neither dissatisfied nor satisfied (%)	Satisfied (%)	Very satisfied (%)	(n)
Body health	female	8.1	20.6	30.7	36.3	4.3	2241
	male	10.4	16.5	31.0	32.6	9.5	442
Ability to think	female	3.0	11.0	18.3	56.3	11.5	2165
	male	4.2	7.7	17.9	52.7	17.5	429
Sexual activity*	female	5.0	5.6	30.7	50.2	8.5	2053
	male	3.1	5.7	18.7	49.2	23.4	423
Seeing family/friends	female	1.8	5.0	16.4	63.9	12.8	2113
	male	1.4	4.4	17.3	57.5	19.4	428
Help from family/friends	female	2.6	5.8	16.7	61.7	13.3	2118
	male	1.2	4.7	17.5	53.8	22.9	424
Daily activities	female	5.8	12.7	27.2	49.0	5.4	2148
	male	6.0	13.4	30.9	39.1	10.6	417
Leasure time activities	female	11.6	21.7	27.7	34.5	4.4	2125
	male	12.4	18.5	27.3	34.8	7.0	428

Satisfaction with:		Extremely dissatisfied (%)	Dis-satisfied (%)	Neither dissatisfied nor satisfied (%)	Satisfied (%)	Very satisfied (%)	(n)
Income meeting needs	female	18.4	25.8	28.1	25.3	2.3	2202
	male	18.7	28.2	29.1	20.1	3.9	433
Ability to help others	female	4.4	9.9	29.1	51.1	5.6	2134
	male	5.1	9.5	28.8	47.0	9.5	430

* Significant difference between female and male respondents, p < 0.05

Figure 27. Percentage of respondents satisfied with selected aspects of own health & life

Based on the nine items measuring respondents' satisfaction with their own health and life, a summative satisfaction score was computed by assigning a score of one to each "satisfied" or "very satisfied" response and summing these scores by respondent. The satisfaction score (ranging from 0 to 9) was then expressed as a percentage, where 100 meant that all 9 items received a "satisfied" or a "very satisfied" rating and 0 meant that no item received a positive rating. The mean satisfaction score was 56.8 for female respondents (57.5 national estimate) and 57.5 for male (59.8 national estimate). The difference between genders was insignificant. The scores were then analyzed by marz, urban and rural area, education category, wealth quintile, and age group. Table 27 demonstrates the results for female respondents.

Table 27. Female respondents' mean satisfaction scores by marz, residency area, age group, and wealth quintile

	Mean	N	Std. Dev.	Minimum	Maximum
Marz*					
Yerevan	56.3	173	28.9	0	100
Aragatsotn	53.8	155	32.5	0	100
Ararat	65.1	195	26.1	0	100
Armavir	57.7	153	29.0	0	100
Gegharquniq	62.2	178	28.5	0	100
Lori	56.5	166	29.7	0	100
Kotayk	60.4	192	28.1	0	100
Shirak	58.5	175	27.7	0	100
Syunik	54.3	192	29.9	0	100
Vayots Dzor	45.9	155	29.8	0	100
Tavush	51.1	152	29.7	0	100

	Mean	N	Std. Dev.	Minimum	Maximum
Residence					
Urban	56.8	945	29.5	0	100
Rural	56.8	941	29.3	0	100
Age range*					
18-30	68.1	571	26.5	0	100
31-40	59.0	469	29.4	0	100
41-50	52.4	391	28.5	0	100
51-60	48.9	229	27.1	0	100
>=61	39.5	226	27.9	0	100
Wealth quintile*					
Wealth score of 0-5	38.3	332	26.7	0	100
WS_5.5-7.5	50.6	371	29.5	0	100
WS_8-10	58.5	402	26.5	0	100
WS_10.5-13	62.0	394	26.9	0	100
WS_13.5 and over	71.7	387	26.9	0	100
Total	**56.8**	**1886**	**29.4**	**0**	**100**

* The categories are statistically heterogeneous, one-way ANOVA, $p < 0.05$

For both genders, mean satisfaction scores did not differ between urban and rural areas. Marzes were heterogeneous in terms of female respondents' satisfaction with their own health and life. Lower mean satisfaction scores were observed in Vayots Dzor (45.9), Tavush (51.1), Aragatsotn (53.8), and higher scores in Ararat (65.1), Gegharkunik (62.2), and Kotayk (60.36). For both genders, a clear inverse correlation was observed between age and mean satisfaction score. Wealthier respondents reported being more satisfied with their health and life.

Prevalence of depression among respondents

The CES-D 20-item scale,[xii] previously translated into Armenian, was included in the questionnaire to estimate the prevalence of possible and probable depression among respondents of both genders. The completed scale was not considered valid if an answer to any of the 20 items was missing. As a result, 621 (26.9%) questionnaires out of 2,309 completed by female respondents and 126 (27.3%) out of 462 completed by male respondents were considered invalid, decreasing the response rate for this item of the self-administered questionnaire to 73.1% for female and 72.7% for male respondents.

A cumulative depression score was calculated for each respondent. According to the scale, a cumulative score of 17-22 is considered as a sign of possible depression and a cumulative score 23 and over as a sign of probable depression. The results revealed that 30.4% of female respondents suffered from probable depression and an additional 19.2% from possible depression. The prevalence of probable depression among male respondents was significantly lower: 18.5%, (p=0.000) with an additional 19.3% having possible depression (Table 28).

Table 28. Depression prevalence among female and male respondents

	Probable depression (%)*	Possible depression (%)	No depression (%)	(n)
Female	30.4	19.2	50.4	1689
National estimate	30.1	18.0	51.9	
Male	18.5	19.3	62.2	336
National estimate	13.9	17.0	69.1	

* Statistically significant difference by sex, $p < 0.05$

The average depression score was 17.96 (sd 10.67) for female respondents and 15.55 (sd 9.02) for male respondents (17.56 and 13.94 national estimates, respectively). The gender difference was statistically significant (p=0.0001, t-test). By comparison, the US population average depression score varies between 7.80 and 9.92,[XII] which is considerably lower than the average scores in this Armenian sample.

Female respondents' mean depression score was compared between urban and rural area, by marz, age group, and wealth quintile (Table 29).

Table 29. Female respondents' mean depression score by marz, residency area, age group, and wealth quintile

	Mean	N	Std. Dev.	Minimum	Maximum
Marz*					
Yerevan	17.2	174	10.9	0	46
Aragatsotn	17.1	124	10.3	0	44
Ararat	16.2	189	9.9	0	48
Armavir	16.3	128	11.0	0	45
Gegharquniq	18.5	169	10.7	0	53
Lori	17.7	140	10.4	0	54
Kotayk	17.7	179	10.5	0	50
Shirak	19.0	153	11.8	0	57
Syunik	19.5	173	9.5	0	51
Vayots Dzor	20.4	118	11.9	1	59
Tavush	18.2	142	10.4	1	50
Residence					
City	18.0	877	10.9	0	59
Village	17.9	812	10.5	0	51
Age range*					
18-30	13.8	515	9.3	0	48
31-40	16.4	411	9.4	0	53
41-50	18.9	343	10.5	0	57
51-60	22.4	201	11.0	1	53
>=61	25.0	219	10.7	0	59
Wealth quintile*					
Wealth score of 0-5	25.6	303	11.3	0	53
WS_5.5-7.5	19.6	314	10.6	0	59
WS_8-10	16.7	357	9.6	0	48
WS_10.5-13	15.6	350	8.7	0	45
WS_13.5 and over	13.6	365	9.2	0	54
Total	**18.0**	**1689**	**10.7**	**0**	**59**

* The categories are statistically heterogeneous, one-way ANOVA, p < 0.05

No significant urban-rural differences were found. Marzes were again heterogeneous with the highest mean depression score in Vayots Dzor, followed by Syunik and Shirak, and the lowest in Ararat and Armavir.[1] A clear, positive correlation was observed between mean depression score and age (Figure 28).

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[1] As compared to the Armavir household health survey findings at the follow-up phase (Demirchyan A, Thompson ME. *Armavir Household Health Assessment: Follow-up 2004.* American University of Armenia, Center for Health Services Research and Development, August 2004, Yerevan), the mean depression score was improved considerably among female residents of this marz, declining from 22.5 (sd. 95) in 2004 to 16.3 in 2006.

Figure 28. Mean depression score in female and male respondents by age group

Figure 28. Mean depression score in female and male respondents by age group
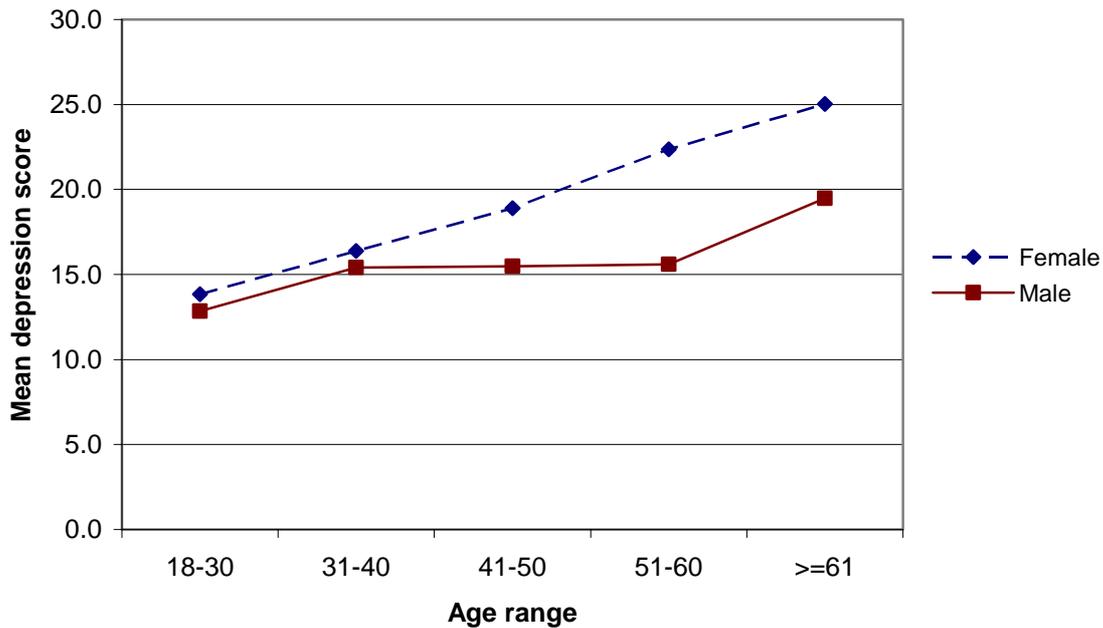
A negative correlation was found between mean depression score and wealth quintile (Figure 29).

Figure 29. Mean depression score in female & male respondents by wealth quintile
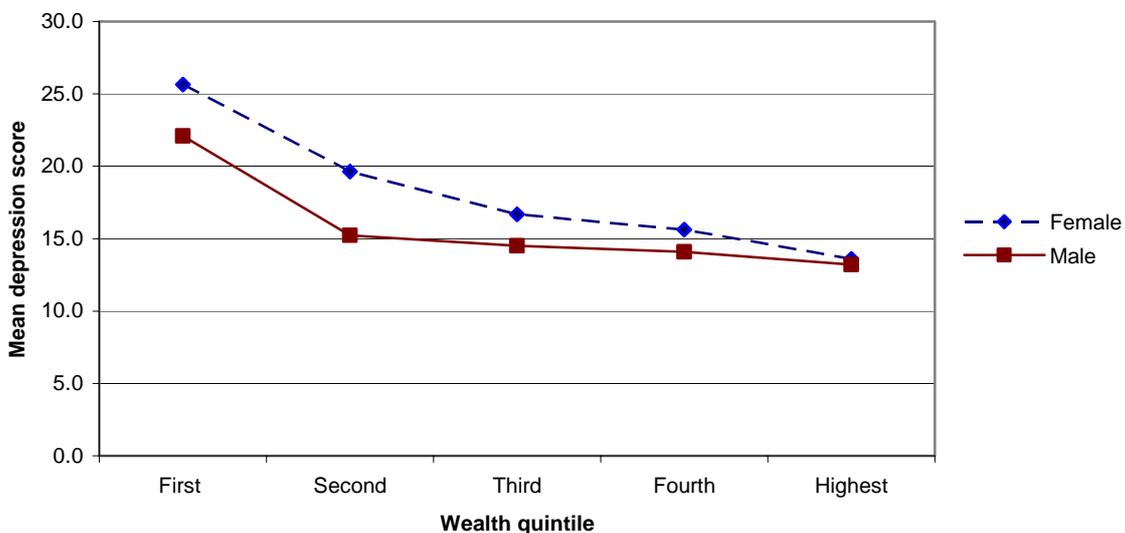
The mean depression score in male respondents was also analyzed between urban and rural areas, by age group and wealth quintile (between-marz comparisons were not conducted due to the small number of male respondents in each marz). The findings were identical to that in female respondents. Again, no significant urban-rural differences were found. The same tendency of increasing in higher age groups and decreasing in wealthier quintiles was in place (Figures 28 & 29, Table 30).

Table 30. Male respondents' mean depression score by residence, age group, and wealth quintile

	Mean	N	Std. Dev.	Minimum	Maximum
Residence					
City	15.4	164	9.1	0	52
Village	15.7	172	9.0	0	48
Age range*					
18-30	12.8	83	8.1	0	38
31-40	15.4	74	8.7	0	48
41-50	15.5	69	7.5	0	35
51-60	15.6	35	7.6	1	36
>=61	19.5	58	11.5	1	52
Wealth quintile*					
Wealth score of 0-5	22.1	56	11.2	1	52
WS_5.5-7.5	15.2	69	8.8	0	48
WS_8-10	14.5	72	8.7	0	48
WS_10.5-13	14.1	65	7.2	1	33
WS_13.5 and over	13.2	74	6.9	0	34
Total	**15.6**	**336**	**9.0**	**0**	**52**

* The categories are statistically heterogeneous, one-way ANOVA, p < 0.05

Health behavior

***Smoking*:** The proportion of male respondents who ever smoked cigarettes was 83.8%, of which 72.4% (or 60.7% of the whole male sample; 64.1% national estimate) were current smokers. They smoked an average of 22.8 cigarettes per day, ranging between 1 and 60 (excluding one outlier who reported smoking 150 cigarettes per day). The proportion of current smokers was slightly higher in urban areas (65.4% in cities vs. 56.5% in villages). The difference, however, was not significant (p=0.06). No significant differences were found in the proportion of current smokers by education level or wealth quintile. The only significant (p=0.000) heterogeneity was found by age category with a higher proportion of smokers in the middle age groups (31-50 years old) and the lowest in the oldest age group (Figure 30).

Figure 30. Percentages of current smokers among male respondents by age category
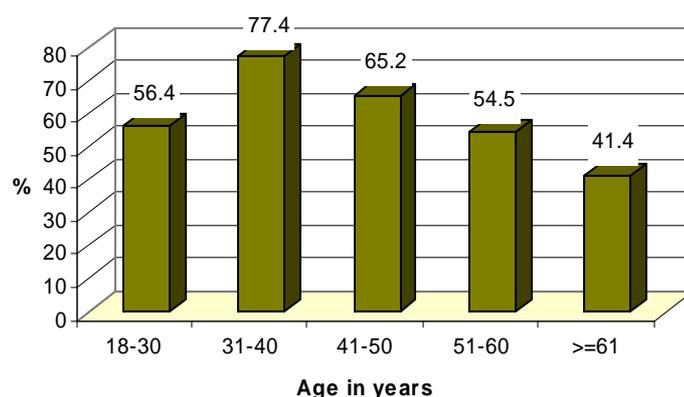
Only 3.7% of the female respondents reported that they had ever smoked a cigarette and only 1.7% of the female sample (37 women) reported smoking currently (3.6% national estimate). The smoking prevalence detected by this survey (60.7% among men and 1.7% among women) is similar to the 2005 Armenia DHS finding, according to which 60% of men and 2% of women are smokers. Average daily number of cigarettes smoked per woman was 12.3 with a range of 1-40. Smoking among female respondents was apparently underreported. Yet,

significant differences were found in the proportion of female smokers by wealth quintile, education level, and residency area. The highest proportion of female smokers (or, more accurately, those who confessed that they smoke) were found in Yerevan (8.4%), in the highest education category (institute/university or higher, 4.2%), and in the highest wealth quintile (3.4%). The urban-rural difference in the proportion of female smokers was also significant (2.7% in cities vs. 0.7% in villages, p=0.000).

In the interviewer-administered portion of the questionnaire, the respondents were asked about the total number of smokers in their household and the number of adult men among them. Overall, 10,956 people were living in the surveyed households, of which 2,285 (20.9%) were current smokers. The total number of adult males (18 years old and over) living in the surveyed households was 3,607, of which 2,221 were current smokers. Thus, the proportion of smokers among all adult males was 61.6% (61.4% national estimate), which parallels the rate observed for the male respondents only reported above (60.7%). Thus, adult males constitute 97.2% of the (reported) household smokers.

Marzes were statistically heterogeneous in terms of both the proportion of smokers among the whole population living in the surveyed households and the proportion of smoking adult male among the adult male population living in the surveyed households (Table 31). The proportion of smoking men was the highest in Aragatsotn (66.9%) followed by Kotayk (63.9%) and the lowest in Lori (54.1%). The proportion of smokers among the total population was the highest in Kotayk (22.5%) followed by Yerevan (22.3%) and Syunik (22.3%) and the lowest in Lori (17.5%). There were no urban-rural differences in the proportion of smokers.

Table 31. Proportion of smokers among household members and proportion of smoking adult males among adult males, by marz and residence

	Household members (n)	Smoking household members (n)	Smoking household members (%)	Adult male (n)	Smoking adult male (n)	Smoking adult male (%)
Marz			*			*
Yerevan	187	839	22.3%	168	272	61.8%
Aragatsotn	240	1111	21.6%	237	354	66.9%
Ararat	218	1012	21.5%	213	344	61.9%
Armavir	213	1051	20.3%	210	344	61.0%
Gegharkunik	221	1113	19.9%	221	352	62.8%
Lori	174	997	17.5%	166	307	54.1%
Kotayk	229	1020	22.5%	223	349	63.9%
Shirak	207	955	21.7%	199	315	63.2%
Syunik	205	921	22.3%	201	325	61.8%
Vayots Dzor	215	1012	21.2%	209	331	63.1%
Tavush	176	925	19.0%	174	314	55.4%
Residence						
Urban	4897	1070	21.9%	1632	1025	62.8%
Rural	6059	1215	20.1%	1975	1196	60.6%
Total	**2285**	**10956**	**20.9%**	**2221**	**3607**	**61.6%**
National estimate			**21.3%**			**61.4%**

* Marzes are statistically heterogeneous in terms of proportions of smokers, p < 0.05

Passive smoking was quite high: 45.2% of those respondents having smoker and non-smoker family members reported that the smoker(s) in their household always smoke in the presence of non-smoker family members and an additional 20.7% that they usually do (Figure 31). In 31.6% of the surveyed households (731 households inhabited with 2858 people), no family member was smoking. In the remaining 1579 households, 3495 non-smokers (31.9% of the whole population sample) were always or usually exposed to cigarette smoke through passive smoking. Thus, 52.8% of the people living in the surveyed households were either active (20.9%) or passive (31.9%) smokers.

Figure 31. Smoking in the presence of non-smokers
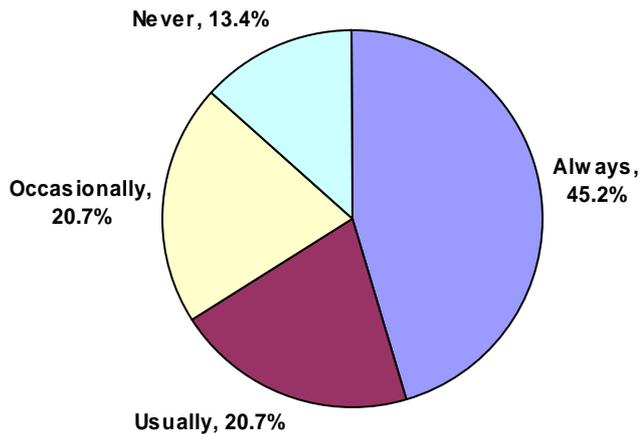
Several items measuring respondents' knowledge about and attitude toward smoking were included in the self-administered questionnaire. Overall, the vast majority of both female and male respondents demonstrated appropriate tobacco risk knowledge and attitudes consistent with the known risks. However, the proportion of those with appropriate attitude was significantly higher among females than males for all items except for the item on tobacco's negative effects on a fetus, where the groups were indistinguishable. Generally, less support for regulating exposure to tobacco smoke was seen from men (Table 32).

Table 32. Knowledge and attitude of female and male respondents toward smoking

	Desired knowledge/attitude, female (n=2184-2263) (%)	Desired knowledge/attitude, male (n=435-444) (%)	p-value
1. Smoking tobacco is harmful to a person's health.	94.8	86.5	0.000
2. Breathing smoke from another person's cigarette is harmful to a person's health.	95.3	89.2	0.000
3. Smoking in the presence of pregnant woman negatively affects the fetus.	96.3	94.5	NS*
4. Students should be allowed to smoke in public.	87.3	81.8	0.002
5. Workers should be allowed to smoke while on the job.	78.7	60.4	0.000
6. Smoking should be prohibited in public buildings and restaurants.	68.6	57.1	0.000

NS=not significant

Two cumulative scores were constructed from these smoking items which were assessed with a five-point Likert-type scale. The first (acceptance of harm caused by smoking) summarized the responses to the first three items concerning the knowledge/acceptance of different harmful consequences of smoking. The second (attitude toward prohibiting smoking) summarized the responses to the last three items concerning the degree the respondents agreed with different measures to restrict smoking. The first score was computed by averaging the values of the responses to the first three items. The second score was computed by averaging the responses to the last three items (after reverse-coding the responses to the fourth and fifth items). Thus, both summative scores varied between one and five, where one was associated with low knowledge and permissive attitudes toward smoking and five was associated with high knowledge and restrictive attitudes toward smoking. These cumulative scores differed significantly between female and male respondents (Table 33).

Table 33. Cumulative attitudinal scores toward smoking among female and male respondents

Scores	Female respondents			Male respondents			p-value
	N	Mean	Std. Deviation	N	Mean	Std. Deviation	
Acceptance of harm caused by smoking	2200	4.52	0.64	432	4.40	0.71	0.0005
Attitude towards prohibiting smoking	2139	4.05	0.75	427	3.75	0.85	0.0000

The cumulative attitudinal scores were analyzed for both female and male respondents by marz, residency area, wealth quintile, and age category. Among male respondents, the only significant difference was found for the second score – attitude toward prohibiting smoking – across marzes. The score was the highest in Ararat marz (4.3), relatively high in Kotayk (4.0) and the lowest in Shirak (3.5) and Lori (3.6). For female respondents, significant differences were found for the first score (acceptance of harm caused by smoking) across education category, wealth quintile, and place of residence (urban-rural) and for the second score (attitude towards prohibiting smoking) by marz and education category. The acceptance of harm caused by smoking was higher in urban areas (4.56 in cities vs. 4.48 in villages, p=0.003), in the highest educational category (4.65), and in the highest wealth quintile (4.62). Supportive attitudes toward prohibiting smoking was again the most favorable in the highest education category (4.16) and in Ararat (4.26) and Kotayk (4.19) marzes.

Use of alcohol and drugs: The majority of female respondents reported drinking never (65.8%) or having less than one drink a week (29.8%). Drinking was explained in the survey instrument as having at least a glass of wine; can/bottle of beer; shot of liquor, whiskey or vodka, or mixed drink. Only 3.2% of them reported having one to three drinks a week and 1.2% four drinks a week or more. Drinking was significantly more widespread among male respondents. Many of them reported having less then one drink a week (43.6%) or drinking never (16.2%), while over one-fourth (27.1%) were having one to three drinks a week, and the rest (13.1%) four drinks a week or more.

The proportion of respondents who reported having one or more drinks a week were compared across marzes, residency areas, wealth quintiles, educational and age categories (Table 34). For female respondents, significant differences were found between marzes, residency areas, age categories, and wealth quintiles. In rural areas, women reported drinking more frequently, than in urban areas (5.3% vs. 3.5%, p=0.024). The highest proportion of female respondents drinking once a week or more frequently were in Aragatsotn (8.8%) and Vayots Dzor (8.5%), and the lowest in Kotayk (1.4%) and Gegharkunik (1.9%). The highest

proportion of women drinking once a week or more were observed also in the lowest wealth quintile (7.9%) and in the highest age group (6.9%). The difference across education categories was not significant for female respondents. No significant differences were found for male respondents across any of the above mentioned categories, possibly, because of the small sample size of male respondents.

Table 34. Proportion of respondents drinking once a week or more by marz, residence, wealth quintile, and age group

	Female		Male	
	%	**n**	**%**	**n**
Marz	* *(p=0.001)*			
Yerevan	3.5	197	39.1	23
Aragatsotn	8.8	193	34.6	26
Ararat	2.9	205	38.2	34
Armavir	4.1	194	40.0	25
Gegharquniq	1.9	206	38.1	42
Lori	3.0	197	44.2	52
Kotayk	1.4	207	38.5	26
Shirak	4.4	206	34.0	50
Syunik	3.5	198	37.7	61
Vayots Dzor	8.5	200	45.0	40
Tavush	6.5	201	51.2	41
Residence	* *(p=0.024)*			
City	3.5	1067	39.8	201
Village	5.3	1137	40.6	219
Wealth quintile	* *(p=0.000)*			
Wealth score of 0-5	7.9	416	44.7	76
WS_5.5-7.5	2.5	437	42.0	88
WS_8-10	2.4	466	35.2	88
WS_10.5-13	3.8	447	40.7	81
WS_13.5 and over	5.7	438	39.1	87
Age range	* *(p=0.029)*			
18-30	2.8	652	29.6	98
31-40	4.5	533	40.2	92
41-50	4.0	455	51.2	86
51-60	6.3	287	42.9	42
>=61	6.9	277	40.3	72
Total	**4.4**	**2204**	**40.2**	**420**
National estimate	**3.7**		**39.3**	

* Differences are statistically significant, p<0.05

Drinking 5 or more portions of alcoholic drinks in a single day during the last 30 days was also significantly different among female and male respondents. While most had not had more than 5 drinks in a day (85% women, 43.9% men), 6.8% of the women and 14.5% of the men reported one instance, 4.7% of the women and 12.8% of the men reported two instances, 2.5% of the women and 7.4% of the men three instances, and 1.0% of the women and 21.4% of the men four or more instances, with the latter proportion including 10.1% of men who reported 10 or more instances within the last 30 days.

The mean number of times during the last 30 days, when those respondents reported ever using alcoholic beverages (e.g., excluding those 1,451 female and 68 male respondents, who never use alcohol) drank five or more portions of alcoholic drinks in a single day, was 0.29

for female and 2.66 for male respondents (p=0.000, t-test). No significant differences in this mean were found across any of the socio-demographic category either for female or for male respondents.

To the question if ever there was a time(s) in the life of respondent when he/she drank 5 or more portions of any kind of alcoholic beverage almost every day, 27.2% of male and 2.8% of female respondents answered positively. To the similar question included in the interviewer-administered portion of the survey and concerning any household member other than the respondents, 7.3% answered positively.

Based on these three items, a cumulative variable was constructed to indicate the proportion of those households with a member who ever drank 5 or more portions of any kind of alcoholic beverages almost every day. For the whole sample, this proportion was 12.7% (11.5% national estimate). It was significantly higher in rural areas compared to urban (14.7% vs. 10.5%, p=0.003). Marzes also differed significantly, with the highest proportion of such households in Shirak (17.1), Syunik (16.7%), and Gegharkunik (16.2%) and the lowest, 6.7% in Armavir (Figure 32).

Figure 32. Proportion (%) of households with a member who ever drank 5 or more portions of any kind of alcoholic beverages almost every day, by marz
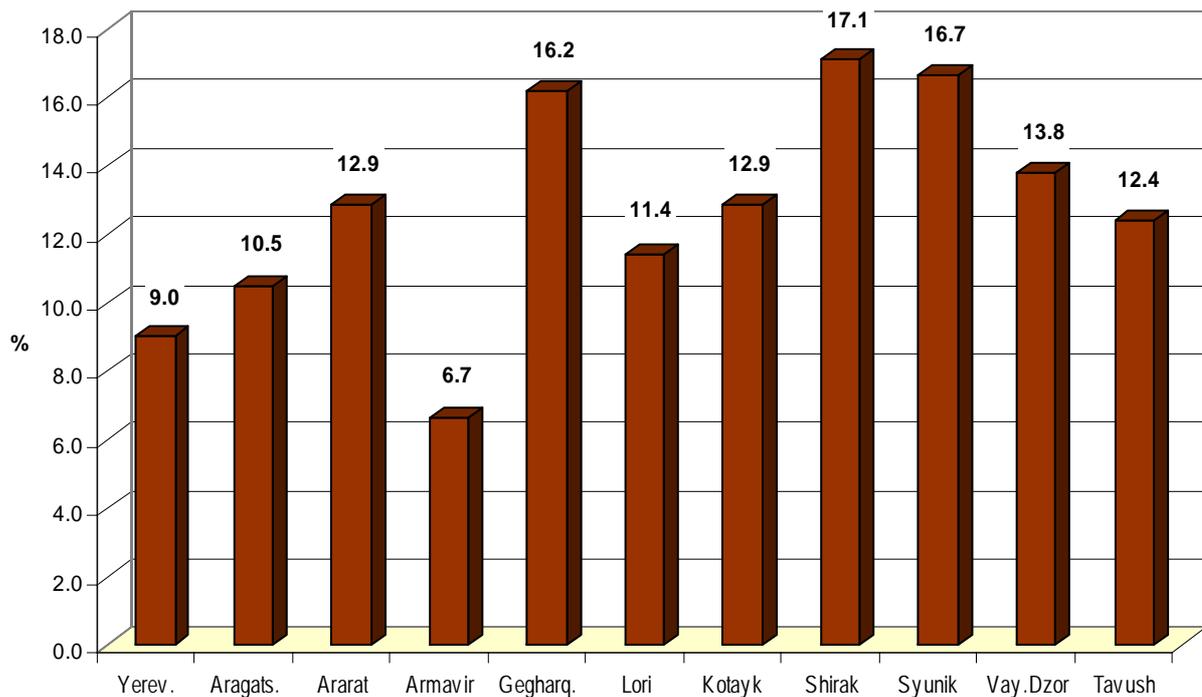
The attitude of respondents toward the harm to health caused by alcohol was measured through two statements. The responses of both female and male respondents are summarized in Table 35. Although the overwhelming majority of respondents of both genders agreed that drinking too much or too often is harmful to health and that a small amount of alcohol during pregnancy negatively affects the fetus, the proportion of those who disagreed with these statements or was indifferent was higher among male respondents. For the first statement, this difference was statistically significant (5.3% of female vs. 13.7% of male, p=0.000).

Table 35. Attitude of respondents toward alcohol as a harmful agent to health

	Strongly disagree (%)		Disagree (%)		Neither agree nor disagree (%)		Agree (%)		Strongly agree (%)	
	F	M	F	M	F	M	F	M	F	M
Drinking alcohol too much or too often is harmful to a person's health.	1.2	2.7	1.6	3.8	2.5	7.2	37.2	36.6	57.5	49.7
A small amount of alcohol (e.g. 1-2 glasses of beer or wine) during pregnancy negatively affects the fetus.	1.6	1.2	4.8	5.1	8.5	11.0	36.7	34.5	48.4	48.3

As with the items measuring attitude towards smoking, a summative score was constructed for the two items measuring respondents' attitude to alcohol using the same approach. The mean score was 4.4 (sd 0.70) for women and 4.3 (sd 0.77) for men (p=0.01, t-test), and did not differ significantly by marz, residency area (urban-rural), age group, or education level.

An item was included in the self-administered questionnaire asking if the respondent knows someone in his/her community who has a problem with drug addiction. Of female respondents, 3.7% and 7.1% of male respondents answered positively to this question (the difference between genders was significant, p=0.001). There was a statistically significant urban-rural difference in the proportions of those female respondents knowing a drug-addicted person in their community: 5.0% in cities vs. 2.5% in villages, p=0.001. Those female respondents in the highest educational category (institute/ university or higher) reported knowing a drug-addict in their community significantly more frequently (6.2%) than did others. Among marzes, the highest proportion of female respondents knowing a drug-addict in the community was observed in Ararat (8.5%) followed by Armavir (5.7%) and Shirak (5.3%), and the lowest in Aragatsotn (0.5%), (Figure 33).

Meanwhile, 0.3% of female and 0.5% of male respondents mentioned that someone living in their household had a problem with drug addiction, and 0.6% of female and 1.1% of male respondents were not sure (no significant differences between genders and across other categories were detected).

Figure 33. Proportion (%) of female respondents knowing a drug-addicted person in their community
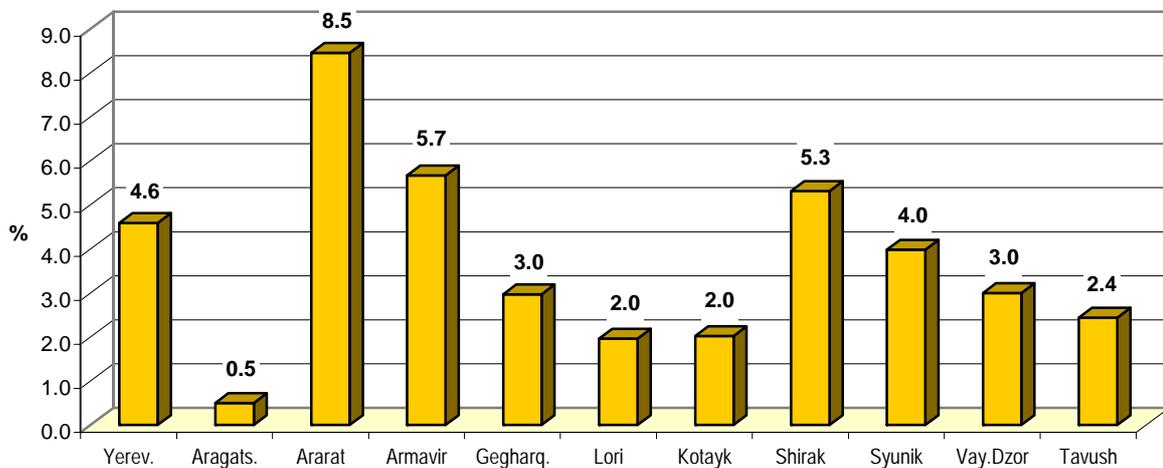
Attitude toward healthy lifestyle

The self-administered portion of the survey contained 6 statements measuring the degree to which respondents believed that healthy lifestyle and management/prevention of health problems could improve one's health. A five-point Likert-type scale of response options (from 'strongly disagree' to 'strongly agree') was used to assess respondent's attitude toward each statement. Table 36 summarizes the proportion of those female and male respondents who expressed favorable attitude toward each statement.

Table 36. Proportion of respondents with favorable attitude toward the statement

	Female respondents		Male respondents	
	%	**n**	**%**	**n**
Most people can become healthier by changing their lifestyle and behaviors.	84.8	2203	83.9	436
My health largely depends on how well I take care of myself.	88.2	2176	86.3	436
I think staying healthy is a matter of luck more than anything else.	39.9	2191	44.0	432
It is generally better to practice self-treatment than to refer to a doctor.	64.1	2148	55.3	432
Instead of going to doctor, it is better to buy medicine directly from pharmacy.	78.7	2175	73.4	433
Doctors can help me prevent and manage health problems.	82.9	2207	79.9	434

Although attitudes expressed by both female and male respondents were generally favorable, many (35.9% of female and 44.7% of male respondents) still relied on self-treatment to some extent, and the majority (60.1% of female and 56.0% of male respondents) believed that staying healthy is a matter of luck more than anything else.

To make evaluation of the expressed attitudes and comparisons between different groups more meaningful, a cumulative score was constructed on the basis of these six items, reversing the scores for items three, four, and five, and using the method described for the other summative scores. A score of one corresponded to consistently expressing the least favorable attitude and a five with the most favorable.

The mean attitudinal score toward healthy lifestyle was slightly but significantly higher in female respondents than in males (3.80 vs. 3.74, p=0.04). There were no urban-rural differences in this score either for women or for men. The mean score for male respondents was not significantly different by marz, wealth quintile, education level or age group. In contrast, significant differences were found across all these variables for females (Table 37). The score was the highest in Yerevan (3.98) followed by Armavir (3.90) and the lowest in Shirak (3.69) and Lori (3.71).

Table 37. Mean attitudinal score toward healthy lifestyle in female respondents by marz, residence, wealth quintile, education category, and age group

	Mean	N	Std. Dev.	Minimum	Maximum
Marz	*				
Yerevan	3.98	193	0.52	2.33	5.00
Aragatsotn	3.84	181	0.50	2.33	5.00
Ararat	3.83	198	0.54	2.50	5.00

	Mean	N	Std. Dev.	Minimum	Maximum
Armavir	3.90	171	0.52	2.67	5.00
Gegharquniq	3.75	190	0.51	2.17	5.00
Lori	3.71	193	0.56	2.17	5.00
Kotayk	3.78	197	0.50	2.33	5.00
Shirak	3.69	194	0.53	2.00	4.83
Syunik	3.79	194	0.47	2.67	5.00
Vayots Dzor	3.74	182	0.57	2.00	5.00
Tavush	3.74	192	0.50	2.33	5.00
Residence					
Urban	3.81	1026	0.53	2.00	5.00
Rural	3.78	1059	0.52	2.00	5.00
Wealth quintile	*				
Wealth score of 0-5	3.68	389	0.55	2.00	5.00
WS_5.5-7.5	3.75	404	0.50	2.00	5.00
WS_8-10	3.75	439	0.52	2.17	5.00
WS_10.5-13	3.84	429	0.51	2.33	5.00
WS_13.5 and over	3.94	424	0.52	2.00	5.00
Education	*				
Incomplete school	3.60	177	0.52	2.00	5.00
Complete school	3.71	784	0.51	2.00	5.00
Professional technical	3.83	729	0.51	2.17	5.00
Institute/university or higher	3.97	372	0.52	2.17	5.00
Age range	*				
18-30	3.84	622	0.51	2.00	5.00
31-40	3.77	508	0.50	2.00	5.00
41-50	3.81	432	0.54	2.33	5.00
51-60	3.86	261	0.54	2.00	5.00
>=61	3.64	262	0.53	2.00	5.00
Total	**3.79**	**2085**	**0.53**	**2.00**	**5.00**

* Differences are statistically significant, $p < 0.05$

The mean attitudinal score toward healthy lifestyle was positively associated with wealth quintiles and with educational level (Figure 34). Age groups were also heterogeneous in terms of this score: the oldest age group had the lowest score (3.64), possibly because of considerable proportion of people with low educational level in this age group.

Figure 34. Attitudinal score of women toward healthy lifestyle by education

55
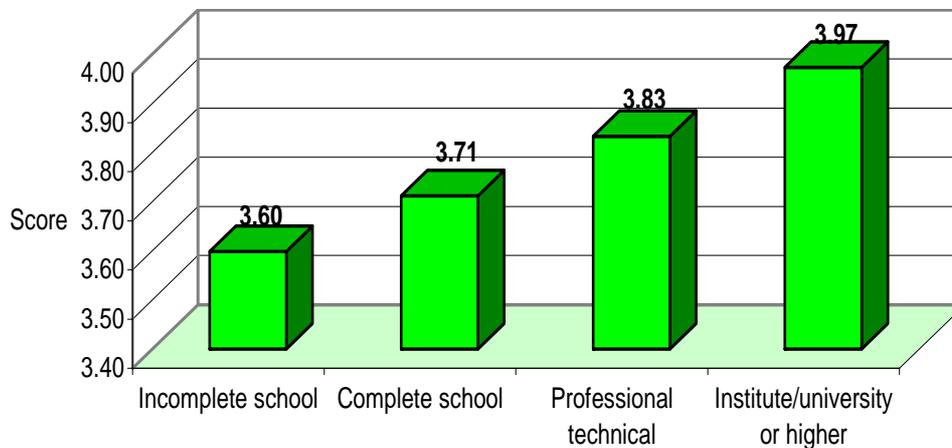
The respondents were asked to rate several health-related activities in terms of their importance in improving a person's health. The results for both female and male respondents are summarized in Table 38. Both female and male respondents rated 'seeing the doctor/nurse regularly' as the least important among the five given activities, while the most important, according to them, was 'consuming diet rich in fruits and vegetables'. Male respondents were generally more skeptical of 'not smoking' or 'limiting alcohol consumption' as a means to improve person's health. According to them, 'leading an active life' was the second after 'consuming healthy diet' in terms of importance for staying healthy. Unlike this, women rated 'not smoking' as the second in terms of importance, followed by 'limiting alcohol consumption', and only then – 'leading an active life/exercising'.

Table 38. Female and male respondents' perception of the importance of select activities to improving one's health

	Not important (%)		Somewhat important (%)		Very important (%)	
	Female	**Male**	**Female**	**Male**	**Female**	**Male**
1. Seeing the doctor/nurse regularly	4.0	9.2	28.1	31.7	67.9	59.2
2. Leading an active life (exercising)	2.5	2.3	24.6	20.0	72.9	77.8
3. Consuming diet rich in fruits/vegetables	0.6	1.8	8.6	11.7	90.8	86.4
4. Not smoking	7.5	13.9	5.9	16.4	86.6	69.6
5. Limiting alcohol consumption	3.5	8.4	12.6	31.1	83.9	60.5

A cumulative score on perception of importance of healthy behaviors was constructed on the basis of these items by giving a 0 weight to each "not important" answer, 1 to each "somewhat important", and 2 to each "very important", and then summing the responses to the given five items per each respondent, so that the cumulative score would range from 0 to 10, where 10 was the most favorable attitude and 0 the least favorable. The average cumulative score for female respondents was 8.85 (sd 1.50, range 3-10) and for male respondents 8.20 (sd 1.84, range 0-10). The difference between genders was statistically significant (0.000, t-test) showing that women are generally more inclined than men to believe that they can practice behaviors that can improve one's health.

The cumulative scores on perceived importance of healthy behaviors for both genders were compared by marz, residence, wealth quintile, age group, and education category. For male respondents, significant differences were found between residency areas and across marzes. The score was higher in rural areas than in urban (7.99 in cities vs. 8.41 in villages, p=0.02). Across marzes, Ararat significantly differed from Yerevan (the score was 9.15 – the highest, in Ararat and 7.29 – the lowest, in Yerevan, p=0.008). For female respondents, the perceived importance of healthy behaviors was not different between urban and rural areas, age categories, or wealth quintiles. Marzes were different: again, Ararat had the highest score(9.12), and differed significantly from Lori, which had the lowest score (8.57). Significant differences were also found across educational categories with higher scores among those with higher educational level (Figure 35).

Figure 35. Average cumulative score of perceived importance of healthy behaviors in female respondents by education
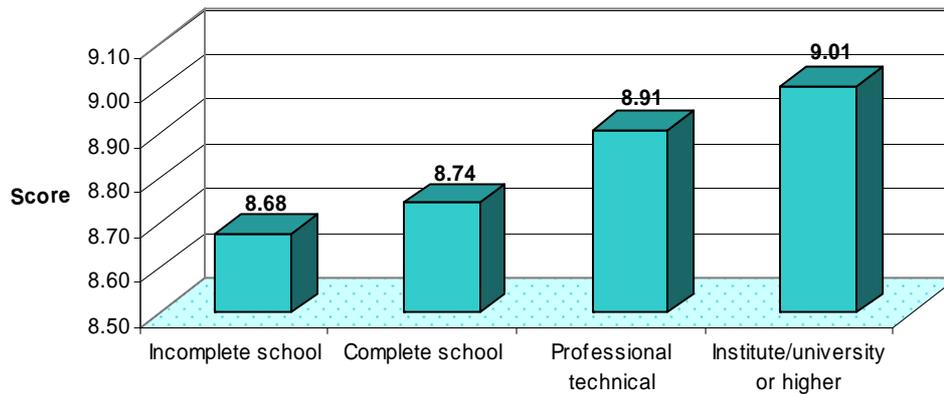
5. MAIN FINDINGS

This nation-wide household health survey investigated health-related characteristics of the population of each administrative subdivision (marz) of Armenia to create a baseline database against which the results from future surveys will be assessed. These characteristics included economic status and well-being of population of each marz, their quality of life, health behaviors and attitudes, their exposure to up-to-date health information (especially the information disseminated by PHCR project), as well as accessibility and use of primary healthcare services.

Socio-demographic characteristics

The data showed that the households on average had 4.7 members in total (4.5 national estimate), while the number of children was 1.4 (1.3 national estimate). As expected, rural households were more populated than urban ones; also mean age was lower in the rural areas (40.3 versus 42.7). The above-mentioned characteristics all differed significantly across marzes, with Gegharkunik being the "youngest" marz, and having the highest number of children per household as opposed to Yerevan which was shown to have an "older" population and the least number of children per household on average.

Seventeen percent of the sample had Institute/University education or higher; the majority (74.1%) had either complete school or professional/technical education. The level of education differed between urban and rural areas, with rural respondents having significantly lower educational status. Yerevan and Shirak were shown to have highest proportion of respondents with higher education.

Employment status also differed by area of residence, with a higher proportion of employed people concentrated in urban areas (17.5% in urban versus 13.0% in rural). In 37% of the surveyed households, no one was employed. In some marzes (Tavush, Gegharkunik), almost half of the households had no employed members. The lowest proportion of employed respondents was found in Kotayk and Ararat.

Almost three-fourths of the surveyed households were categorized as below average in terms of their economic status as measured by their "wealth category", while only one-fifteenth of the households were categorized as above average. Generally, the economic status of urban households was better than that of rural households. Households in Yerevan and Armavir were economically the most advantaged, while the least advantaged were households in

Ararat, Gegharkunik, Vayots dzor, and Tavush. The last-month expenditures of nearly one-fourth of the surveyed households were below 25,000 drams. However, according to the respondents, there was no clear tendency of worsening economic situation in the household over the last year.

Health status

Over 60% of the respondents rated their overall health status as 'fair' or 'poor'. These negative ratings were especially common in Vayots Dzor and Kotayk. The health dynamic of both female and male respondents was rated as negative more frequently than as positive, while positive ratings were more common for the health dynamic of children in the household. There was clear positive correlation between respondents' perception of their/children's health status/health dynamics and wealth quintile of the household with higher proportions of positive ratings in the households belonging to higher wealth quintiles.

The most frequently mentioned signs of illness experienced in the last 30 days by children in a household were cold/flue, cough, fever, sore throat, and diarrhea. Clear correlation existed between the education level of female respondents and reported diarrhea and fever in children, with the least educated women reporting these illnesses most frequently. The majority of respondents (85.9%) mentioned that children in their households have no chronic problems; the most frequently mentioned chronic condition was eye/vision problem (4.5%).

The approximate annual number of acute illness episodes was 4.3 for female respondents, 6.2 for male respondents (3.8 and 7.1 national estimates, respectively). The mean number of acute illness episodes for female respondents varied significantly across marzes with the highest values in Vayots Dzor and Aragatsotn. Acute illness episodes were more frequent in rural areas, among those with lowest educational level and in the lowest wealth quintile.

Among perceived chronic health conditions, vision problems were mentioned the most frequently (by 22.4% of both female and male respondents; 25.7% and 24.1% national estimates, respectively), closely followed by problems with joints and bones. High blood pressure, gastro-intestinal pathology, and heart diseases were the next frequent chronic conditions in respondents of both genders. Vision problems and high blood pressure were more widespread in urban areas. Marzes were heterogeneous in terms of perceived prevalence of different chronic health conditions: gastro-intestinal pathology was more frequently reported in Vayots dzor, kidney/urinary problems in Gegharkunik, joint/bone problems in Kotayk and Aragatsotn, and vision problems in Yerevan.

Few women reported having had an accident, injury, or poisoning in the household during the last 12 months (8.6%; 7.7% national estimate). The most frequently mentioned cause of injury was fall, followed by poison/overdose, cut/slash/puncture, and burns.

Public awareness of Open Enrollment and Family Medicine

Only 9% of the respondents (10.6% national estimate) have heard about the concept of Open Enrollment. Of them, most had learned about it through national media and health care providers; local media and friends/neighbors/relatives were also mentioned as sources by some of the respondents. One hundred and seven people reported that they had enrolled and that the enrollment experience was easy for all of them. The proportion of respondents who have heard of OE and those who enrolled varied significantly across different respondent categories. As expected people aware of OE were more frequently located in the PHCR target

regions of Lori, Yerevan, and Shriak. Respondents who lived in urban areas and had higher economical and education status were also significantly more likely to be aware of OE.

Unlike OE, Family Medicine was widely known (62.7%; 67.8% nationa lestimate). Again, the majority learned about it through national media and health care providers; neighbors/friends/relatives and local media were relatively rarely mentioned. However, almost half of the respondents who knew about FM associated it with more expensive care. One hundred and sixteen respondents had received care from a family doctor during the past year; the overwhelming majority of them considered the care they received to be of very good or good quality. Only ten respondents reported a problem with care, such as the doctor was unable to diagnose their condition (3 cases), or unable to treat (3 cases). Most of the respondents who were aware of FM thought that FM is appropriate for Armenia (63.9%). Those who did not think so explained their opinion by family medicine being more expensive, family doctors having insufficient training and being less qualified than narrow specialists. Some just preferred the old system of primary care.

Urban dwellers are more likely to be aware of FM than rural ones; however they were also less likely to think that FM is appropriate for Armenia. Also, more educated and better-off respondents were more likely to be aware of FM and to think that it is good for Armenia. FM awareness was the lowest among the youngest and the oldest respondents, while positive opinion about FM decreased with increasing respondent age.

Free primary health care

Approximately 81% of respondents had heard about the free primary health care available to all Armenian residents. National media, healthcare providers, and neighbors/friends were more frequently mentioned as sources of information on free care. More than half of the respondents who had heard about free services had sought primary health care after the services became free. For 28.8% of them, the services were not free in reality, and the frequent reasons for that were "the doctor said that the service/test/treatment was not free", "the doctor asked for payment", "the doctor prescribed drugs which were not free", and "payment demanded by a nurse/other health workers". More educated women are more likely to be aware of free services offered and to have sought care from policlinic/ambulatory after the care became free. Women 61 and over were the least likely to be aware of free services.

Community involvement

Only 6.8% (5.2% national estimate) of the respondents had attended a meeting or activity in the community about health improvement. However, most of those who did not reported their intention to attend in the future (84.8%). The people of Lori and Syunik marzes most actively participated in such meetings (11.0% each), while Yerevan had the lowest attendance (4 people). Overall, residents of urban areas were shown to be significantly less inclined to be involved in community health activities than residents of rural areas. Women with lower educational status also had significantly less intention to attend such meetings in comparison with better educated women.

Access to primary health care

Approximately 26% of respondents (27.9% national estimate) had not visited a primary health care facility in the past two months even when there was a recognized need to do so. The most frequent reasons for not seeking care were lack of money/too expensive healthcare (49.7%), lack of time (10.8%), no qualified doctors available at the facility (9.2%), and not trusting healthcare providers at the policlinic/ambulatory (7.5%). Twenty-two percent of

respondents (26.0% national estimate) stated that they do not use primary health care services at all. Of those who used the care, 71.6% stated that they had to wait for less than 15 minutes to see a doctor at the facility. The vast majority of respondents considered that physicians and staff at the PHC facility they visited treated them with courtesy and respect.

Quality of life

Almost two-thirds of female respondents (63.9%; 64.1% national estimate) and half of male respondents (50.8%; 48.2% national estimate) reported being limited in vigorous activities (e.g. running) because of health, while 17.4% of female (15.7% national estimate) and 13.6% of male (12.0% national estimate) respondents were limited in even bathing or dressing themselves. The highest proportion of female respondents limited in their daily activities because of health was observed in Vayots Dzor. Both chronic health conditions and limitations in daily activities because of health were more commonly reported by respondents living in poorer households.

Satisfaction with one's own health and life measured by mean satisfaction score was 56.8 (57.5 national estimate) for female respondents and 57.5 (59.8 national estimate) for male (out of 100 possible). The proportion of satisfied respondents were lowest for 'income meeting the needs of family,' 'health of body,' and 'leisure time activities' items. Mean satisfaction scores correlated negatively with age and positively with household wealth quintile. Marzes were heterogeneous in terms of female respondents' mean satisfaction scores: the lowest scores were detected in Vayots Dzor (45.9) and Tavush (51.1). The only significant difference between female and male respondents was found for the degree of being satisfied with own sexual activity, with men being more satisfied.

Depression

Almost half (49.6%) of the female and more than one-third (37.8%) of the male respondents suffered from possible or probable depression (48.1% and 30.9% national estimates, respectively). The detected prevalence of probable depression was significantly higher among women (30.4%; 30.1% national estimate) than among men (18.5%; 13.9% national estimate). Mean depression score was more than two-fold higher in female respondents than that observed in the US. Probable depression among women was more widespread in Vayots Dzor, Syunik, and Shirak. For both genders, the mean depression scores correlated positively with age and negatively with wealth quintile of the household.

Health behavior

Of male respondents, 83.8% had ever smoked cigarettes and 60.7% were current smokers (64.1% national estimate). The proportion of smokers among men was higher in middle age groups and the lowest in the oldest age group. The average number of cigarettes smoked by a man per day was 22.8. The prevalence of smoking among women was likely underreported: 3.7% of them reported having ever smoked cigarettes and 1.7% smoking cigarettes currently (3.6% national estimate), with 12.3 the average daily number of cigarettes smoked. The highest proportions of women reporting they smoked were found in urban areas, in the highest educational category, and in the highest wealth quintile. Among marzes, this proportion was the highest in Yerevan. The proportion of smokers within the adult male population captured by this survey was 61.6% (61.4% national estimate). This proportion was the highest in Aragatsotn and the lowest in Lori. Exposure to passive smoking was common in 65.9% of the surveyed households having smoking and non-smoking members. Overall, 52.8% of the people living in the surveyed households were either active (20.9%) or passive (31.9%) smokers.

Generally, women's attitude toward smoking was stricter than men's. The harmful effects of smoking were acknowledged by respondents more often than the necessity of restricting smoking. The latter necessity was relatively more recognized by residents of Ararat and Kotayk and less by residents of Shirak and Lori. The acceptance of harm caused by smoking was higher among female respondents living in urban areas, belonging to the highest educational category, and in the highest wealth quintile.

Drinking alcohol was significantly more widespread among men than women (4.4% of women and 40.2% of men [3.7% and 39.3% national estimates, respectively] reported having one or more drinks a week). The proportion of those households with a member who ever drank five or more portions of any kind of alcoholic beverages almost every day was 12.7% (11.5% national estimate). This proportion was 2.8% among female and 27.2% among male respondents. In rural areas and in some marzes (Shirak, 17.1%; Syunik, 16.7%; and Gegharkunik, 16.2%), this proportion was the highest. The attitude of respondents toward alcohol as harmful to health was slightly but significantly stricter among female than male respondents.

A small percentage of respondents (3.7% female; 7.1% male) stated they know someone in their community who was drug-addicted. Women living in urban areas and belonging to the highest educational category reported knowing such person(s) more frequently. The proportion of women knowing drug-addicted person was highest in Ararat (8.5%), followed by Armavir (5.7%), and Shirak (5.3%) and lowest in Aragatsotn (0.5%). Also, 0.9% of female and 1.6% of male respondents mentioned that someone living in their household was surely or possibly drug-addicted.

Attitude toward healthy lifestyle

The majority of respondents (60.1% female, 56.0% male) believed that staying healthy is a matter of luck more than anything else, and many (35.9% female, 44.7% male) still rely on self-treatment. The mean attitudinal score toward healthy lifestyle was slightly higher among female respondents (3.8 of 5 in women vs. 3.74 in men). This score was highest among female respondents living in Yerevan and Armavir. The score correlated positively with education level and wealth quintile.

Respondents of both genders rated 'consuming healthy diet' as the most important for improving a person's health and 'seeing doctor/nurse regularly' as the least important. Female respondents gave more importance to 'not smoking' and 'limiting alcohol consumption' as means to improve person's health than did male respondents. The cumulative score on perception of importance of healthy behaviors was again higher among women than men (8.85 vs. 8.20 respectively). This score was the highest in Ararat marz. Again, a positive correlation was found between this score and the education level of female respondents.

Use of early diagnosis and prevention services

Among screenings, compliance with existing recommendations was the highest for checking blood pressure (76.9% of eligible female respondents) followed by undergoing eye exam (37.6% of eligible). Only 15.3% of eligible women had received a Pap smear screening and 11.0% cholesterol screening. The compliance was very low for clinical breast exam (2.9% of the eligible screened), mammography (4.3% of eligible), and hidden blood in stool (1.8% of eligible). Screening levels varied by marz with higher compliance with blood pressure checks in Lori (83.5%) and Kotayk (82.3%), to Pap smear screening in Kotayk (22.0%) and

Ararat (21.4%), to eye exam in Yerevan (54.3%). Eye exam and checking blood cholesterol were more widespread in urban areas than in rural (43.5% vs. 31.3% and 14.1% vs. 8.0% respectively). For the latter two screenings and Pap-smear screening, the frequency of compliance was positively correlated with respondent educational level.

The proportion of households with a member making a preventive visit to a primary healthcare facility during the last 12 months was 12.8%. This proportion was highest in Yerevan (15.9%) and Kotayk (15.7%) and lowest in Shirak (8.6%). Respondent's residence (urban or rural), education level, and wealth quintile of the household were unrelated to this proportion.

Of the children aged 1.5 to 5 years living in the surveyed households, 92.1% were fully vaccinated according to female respondents' recall. The proportion of school-age children who received eye screening during the last year was much lower: 39.7%, with significantly higher proportions in urban areas (44.4%) than in rural (36.3%).

The prevalence of secondary prevention activities was measured among those female respondents diagnosed with diabetes, hypertension, IHD, chronic lung disease, and eye disease. Of diabetics, 19.2% had had their feet examined, 55.8% had had an eye exam, 9.6% a chest X-ray, and 48.1% blood pressure checked by PHC provider as recommended. Of those with hypertension, 63.1% had used blood-pressure lowering medicine regularly and 41.5% had had their blood pressure checked by PHC provider as recommended. Of those with IHD, 43.4% were prescribed with low-dose daily aspirin, 29.6% used the aspirin as prescribed, and 44.7% had had their blood pressure checked by PHC provider as recommended. Of those diagnosed with chronic lung disease, 56.7% had had a chest X-ray and of those with eye condition, 65.2% had had an eye exam during the last three years.

6. CONCLUSIONS

Significant diversities were found among marzes in terms of living standards, perceived health status, and health behavior/attitudes of the population, with Vayots Dzor and Shirak being among the most disadvantaged. Despite this heterogeneity, the main public health problems identified by the survey were more or less typical for the country as a whole.

Public awareness of Open Enrollment was rather low throughout the country, while the concept of Family Medicine was much better known. The majority of the population received information about health care reforms mostly through national media and healthcare providers; some were informed through local media and friends/neighbors network. People had positive feelings about FM. However, many of them had misconceptions of what FM means and were apparently in need of more information and details.

Overall, the general population was rather passive in terms of health-related community activities, with very low percentage attending meetings or activities currently. However, the intention to be involved in such activities in the future was rather high, which is a promising finding.

Despite all the reforms and improvements undertaken by the government in the PHC sector in the recent years, more than a quarter of the surveyed population does not attend PHC facilities even if they feel a need. The reasons for not using the services mentioned by the respondents highlight the problems and (mis)perceptions consistently experienced by

Armenian PHC in the last decade, and include expensive healthcare (despite the switch to free primary care), lack of qualified doctors at the facility, and lack of trust in providers. However, the data indicate that the majority of those who did use the services (visited family doctor, or other provider in PHC facility), are satisfied with the care received, wait for less than 15 minutes to receive care, and are treated with respect. The data were not detailed enough as to provide a more thorough analysis of the above-mentioned findings or to assess the real picture of services at the PHC facilities.

Involvement of both genders in completing parallel versions of the self-administered portion of the survey identified several distinctive differences between men and women. As compared to females, male respondents were less depressed and slightly more optimistic about their own health status and the degree in which health limits them in daily activities. Men were generally more skeptical about the positive effects of a healthy lifestyle and thus practiced unhealthy behaviors (smoking, drinking alcohol) more frequently than women did.

Several associations were detected between the assessed awareness and health-related variables and socio-demographic characteristics, the most consistent among these were:

- positive correlation between the wealth quintile of the household and respondent's optimistic perception of their own/their family members' health status/health dynamics, as well as their satisfaction with own health and life
- negative correlation between the wealth quintile of the household and perceived incidence of acute and prevalence of chronic diseases among respondents/household members, as well as the extent of limitations in daily activities and the level of depression among respondents
- positive correlation between respondents' education level and degree of favorable attitude toward healthy lifestyle and behaviors, including their approach to smoking and alcohol consumption
- positive correlation between respondent's education level and wealth quintile and the awareness of and positive attitude toward Family Medicine
- positive correlation between respondent's education level and the awareness of free services offered at policlinics and ambulatories and reported care seeking
- positive correlation between respondent's education level and intention to attend health-related community meetings/activities

The first two correlations confirm the long-standing observation that not only does health leads to wealth, but wealth leads to health. Improving the economic status of people in Armenia is one of the most effective ways to improve their health. The next correlations show the potential of public education in building favorable attitude among population toward healthy lifestyle and behaviors and in increasing their awareness of available PHC services. However, the lack of correlation between either wealth quintile or education level and actual use of primary preventive services indicates that the low utilization problem cannot be addressed merely through means of public education or making the primary healthcare services more affordable. Other measures to empower PHC services and providers should also be initiated to reach this goal.

According the survey results, the following were the main areas of concern throughout the country needing immediate attention:

- Low utilization of primary healthcare services for both primary and secondary prevention,

- Lack of knowledge about health care reforms and their meaning,
- Little involvement of the community in health-related matters,
- High prevalence of certain chronic health conditions that can be effectively managed and that negatively impact the quality of life of people when not,
- High prevalence of probable depression, especially among women,
- High level of exposure to either active or passive smoking,
- High reliance on fate and self-treatment in fighting against diseases ,
- Low living standards that negatively impact health.

REFFERENCES

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Appendix 1.   Selection of the Main (Female) Respondent

1. How many women 18 years old and over live in this household?
(a) No one ———————➤ Apologize, go to the next house.
(b) One ———————➤ "May I talk to her?" *(If no, identify the reason, fill in the journal form, and*
leave the household.)
(c) More than one ➤*Go to Ins. 2*

2. How many of those women have children under 18?

(a) No one ———————➤*Go to Ins. 3*
(b) One ———————➤ "May I talk to her?" *(If no, identify the reason, fill in the journal form, and*
go to Ins. 3)
(c) More than one ➤*Specify the names:*   *1.*_____
*2.*_____
*3.*_____
*4.*_____
*5.*_____
*6.*_____

Select the respondent using the table below.

3. How many of those women are married?
(a) No one ———————➤*Go to Ins. 4*
(b) One ———————➤ "May I talk to her?" *(If no, identify the reason, fill in the journal form, and*
go to Ins. 4)
(c) More than one ➤*Specify the names:*   *1.*_____
*2.*_____
*3.*_____
*4.*_____
*5.*_____
*6.*_____

Select the respondent using the table below.

4. *Specify names of women ≥ 18 years old: 1.*_____
*2.*_____
*3.*_____
*4.*_____
*5.*_____
*6.*_____

Select the respondent using the table below.

	The last digit of the visit/attempt number									
# of possible respondents	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
2	1	2	1	2	1	2	1	2	1	2
3	3	1	2	3	1	2	3	1	2	3
4	3	4	1	2	3	4	1	2	3	4
5	1	2	3	4	5	1	2	3	4	5
6	6	1	2	3	4	5	6	1	2	3

Selection of the Male Respondent

(to complete the self-administered portion of the survey)

1. *Ask if the main respondent is a married woman. Otherwise, go to Ins. 2*

   May I ask your husband to complete this questionnaire?

   (a) No ⟶ *Identify the reason, write it in the interviewer-administered questionnaire, and go to Ins. 2*

   (b) Yes ⟶ *Give the self-administered portion of the survey to both the respondent and her husband to complete.*

2. *Ask if there are male(s) 18 years old and over living in the household (see Q.4). Otherwise, give the self-administered portion of the survey only to the main respondent.*

   May I ask any of the men living in this household to complete this questionnaire?

   (a) No ⟶ *Identify the reason, write it in the interviewer-administered questionnaire, and give the self-administered portion of the survey only to the main respondent.*

   (b) Yes ⟶ *Specify names of men ≥ 18 years old who are available to complete the survey.*

   1._____

   2._____

   3._____

   4._____

   5._____

   6._____

   Select the male respondent using the table below.

	The last digit of the visit/attempt number									
# of the male respondents	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
2	1	2	1	2	1	2	1	2	1	2
3	3	1	2	3	1	2	3	1	2	3
4	3	4	1	2	3	4	1	2	3	4
5	1	2	3	4	5	1	2	3	4	5
6	6	1	2	3	4	5	6	1	2	3

Appendix 2.   JOURNAL FORM
(one form per cluster)

Date: _____

City/Village_____

Interviewer's name _____

Cluster number: _____

Starting address: _____

Visit/attempt number	001	002	003	004	005	006	007	008	009	010	011	012	013	014
# of eligible respondents														
Result														

Visit/attempt number	015	016	017	018	019	020	021	022	023	024	025	026	027	028
# of eligible respondents														
Result														

Visit/attempt number	029	030	031	032	033	034	035	036	037	038	039	040	041	042
# of eligible respondents														
Result														

Visit/attempt number	043	044	045	046	047	048	049	050	051	052	053	054	055	056
# of eligible respondents														
Result														

RESULT CODES

1. Completed interview
2. No eligible females
3. Nobody at home
4. Selected respondent is not at home
5. Refusal
6. Refusal by selected respondent
7. Unoccupied house
8. Respondent incompetent _____
9. Other _____
10. Incomplete interview

Visit/attempt number	057	058	059	060	061	062	063	064	065	066	067	068	069	070
# of eligible respondents														
Result														

Visit/attempt number	071	072	073	074	075	076	077	078	079	080	081	082	083	084
# of eligible respondents														
Result														

Visit/attempt number	085	086	087	088	089	090	091	092	093	094	095	096	097	098
# of eligible respondents														
Result														

Visit/attempt number	099	100	101	102	103	104	105	106	107	108	109	110	111	112
# of eligible respondents														
Result														

Visit/attempt number	113	114	115	116	117	118	119	120	121	122	123	124	125	126
# of eligible respondents														
Result														

Visit/attempt number	127	128	129	130	131	132	133	134	135	136	137	138	139	140
# of eligible respondents														
Result														

RESULT CODES

1. Completed interview
2. No eligible females
3. Nobody at home
4. Selected respondent is not at home
5. Refusal

6. Refusal by the selected respondent
7. Unoccupied house
8. Respondent incompetent _____
9. Other _____
10. Incomplete interview

Appendix 3. Baseline Household Health Survey, Part A: Interviewer-administered

1A. ID NUMBER* _ _ / _ / _ _ _ / _ _ _   **1B. CITY/VILLAGE NAME**
_____

*The Coding for Household Code:

Digit 1-2	Marz ID (00=Yerevan, 01=Aragatsotn, 02=Ararat, 03=Armavir, 04=Gegharkunik, 05=Lori, 06=Kotayk, 07=Shirak, 08=Syunik, 09=Vayots Dzor, 10=Tavush)
Digit 3	1=city, 2=village
Digit 4-5-6	Cluster number
Digit 7-8-9	Visit number (number of attempted household/person in a cluster)

1C. INTERVIEW DATE: **1D. INTERVIEW START TIME:**

  Day   Month   Year   **Hours : Minutes**

/_____/_____/_____   _____:_____

a) Household general information

1. Your age in years at the last birthday _____
2. Your nationality?
    1. Armenian
    2. Russian
    3. Yesidi
    4. Other *(describe)* _____

3. What is the total number of people living in your household (including you)? _____
4. What is the total number of adult males (18 and over) living in your household? _____
5. What is the total number of children under 18 living in your household? _____*(if 0, go to Q.6)*
    5a) Out of these children how many attend school? _____
    5b) How many of them are in the age group of 1.5 - 5 years?_____

6. Indicate the highest level of education that you have completed:
    1. School (less than 10 years)
    2. School (10 years)
    3. Professional technical education (10-13 years)
    4. Institute/University
    5. Postgraduate

7. How many members of your household (including yourself) are currently employed? _____

8. Are you currently employed?
> 1. Yes *(Go to Q10)*
>
> 2. Yes, but on maternity/pregnancy leave *(Go to Q10)*
>
> 3. No

9. Which of the following best describes your situation? *(Read answers 1-9)*
> 1. Unemployed, looking for work
>
> 2. Unemployed, not looking for work
>
> 3. Can't work due to (permanent) disability
>
> 4. Can't work due to inability to find/afford child care
>
> 5. Student/attending school
>
> 6. Homemaker
>
> 7. Retired
>
> 8. Self-employed
>
> 9. Farmer
>
> 10. Other _____

Ask, if the main respondent is a married woman. Otherwise, go to Q. 11

10. May I ask your husband to complete this questionnaire?
> 1. Yes – *Give Part B form to the respondent's husband*
>
> 2. No *(specify the reason)* _____

Ask, if there are male(s) 18 years old and over living in the household (see Q.4).

11. May I ask any of the men over 18 living in this household to complete this questionnaire?
> 1. Yes – *Give the Part B form to the selected male*
>
> 2. No *(specify the reason)* _____

CONTINUE INTERVIEW WITH THE MAIN RESPONDENT

b) Perceived health status

If there are no children under 18 in the household (see Q. 5), go to Q.16

12. How would you describe the health of the child(ren) in this house in the last 30 days? *(Read answers)*
> 1. Excellent
>
> 2. Very good
>
> 3. Good
>
> 4. Fair
>
> 5. Poor

13. How would you rate the overall health of the child(ren) in the house compared to one year ago? *(Read answers)*

> 1. Much better
> 2. A little better
> 3. About the same
> 4. A little worse
> 5. Much worse

14. Did any child in this household experience any of the following during the last 30 days? *(Circle all that apply)*

> 1. Diarrhea
> 2. Vomiting
> 3. Blood in stool
> 4. Cold
> 5. Sore throat
> 6. Cough

> 7. Fever
> 8. Convulsions
> 9. Allergy/rash
> 10. Other (specify)_____
> 11. None of the above mentioned

15. Please indicate any chronic health problem(s) that any child in this family presently has: *(Read and circle all that apply)*

> 1. Developmental problems
> 2. Diabetes
> 3. Heart disease
> 4. Lung disease (including asthma)
> 5. Stomac/intestine disease
> 6. Cancer
> 7. Eye/vision problems
> 8. Kidney problems
> 9. Problems with joints/bones
> 10. Other problems *(describe)* _____
> 11. No chronic health problems *(in any child)*

Skip to Q.18, if there are no other adults in the household besides the respondent(s).

16. During the last 30 days, how many episodes of an acute illness (like fever, cold, diarrhea) did the adult members in this household (other than you and the male respondent) experience? _____ *(Put 0 if none)*

17. Please indicate any chronic health problem(s) that any adult member in your family (other than you and the male respondent) presently has: *(Circle all that apply)*
    1. Diabetes
    2. High blood pressure
    3. Heart disease
    4. Lung disease (including asthma)
    5. Stomac/intestine disease
    6. Cancer
    7. Eye/vision problems
    8. Kidney problems
    9. Problems with joints/bones
    10. Other problems _____
    11. No chronic health problems

18. During the past 12 months, how many times have you or anyone in your household (including children) had an accident, injury or poisoning that required professional help?

    _____

    (If 0, go to Q.20)

19. Please, indicate the main cause(s) of the injury(ies): *(Circle all that apply)*
    1. Auto crash
    2. Pedestrian/vehicle
    3. Fall
    4. Burns
    5. Drowning
    6. Poison/overdose
    7. Cut/slash/puncture
    8. Gunshot
    9. Hit/struck by person/object
    10. Other (specify) _____

c) Health behavior

20. During the past 6 months, what type of a doctor have you or any of your household members visited? *(Circle all that apply)*
    1. I/we did not visit a doctor
    2. District pediatrician
    3. Gynecologist
    4. Therapist
    5. Family doctor
    6. Specialist at the policlinic
    7. Doctor at the hospital
    8. Other *(specify)*_____
    9. Don't remember

Skip to Q.25, if there are no other people in the household besides the respondent(s).

21. How many of your household members (other than you and the male respondent) currently smoke? _____ **(If 0, go to Q.24)**

22. How many of these smokers are adult male (18 years and over)? _____

23. How often do your household member(s) smoke in the same room where non-smoking household members are present? **(Read answers)**
    1. Always
    2. Usually
    3. Occasionally
    4. Never
    5. No smokers among household members

24. Has anyone living in this household (other than you and the male respondent)) ever drunk 5 or more portions (1 glass of wine; can/bottle of beer; shot of liquor, whiskey or vodka, or mixed drink) of any kind of alcoholic beverage almost every day?
    1. Yes
    2. No
    88. Don't know

d) Public awareness on Open Enrollment, Family Medicine, and BBP

25. Have you heard of the concept of Open Enrollment for primary care?
    1. Yes
    2. No **(Go to Q.36)**

26. Please describe what Open Enrollment is: **(Read and circle all that apply)**
    1. Selecting my primary care physician
    2. Registering at the polyclinic of my choice
    3. Getting free health care services from the government
    4. Improving health care
    5. Other(specify)_____

27. From what source did you learn about Open Enrollment? **(Circle all that apply)**
    1. From national media (national TV, radio, newspapers)
    2. From local media (local TV, radio, newspapers)
    3. From a healthcare provider
    4. From a neighbor/ friend/ relative
    5. From community meetings
    6. Other (specify)_____

28. Have you enrolled?
    1. Yes **(Go to Q.30)**
    2. No

29. Why have not you enrolled?

    1. Don't think it is important
    2. It is too far to travel to the polyclinic/ambulatory of my choice
    3. Don't trust doctors at the polyclinic/ambulatory
    4. Don't go to the health care facility to receive health care
    5. Do not want to use primary care and prefer to go to the hospital specialist
    6. Other(specify)_____

ALL WHO DID NOT ENROLL GO TO Q.36

30. Why have you enrolled?

    1. Because it is a law/because have to
    2. Wanted to choose my own physician
    3. Wanted free health care
    4. Other(specify)_____

31. How would you describe your enrollment experience? *(Read answers)*

    1. Easy *(Go to Q.33)*
    2. Somewhat difficult
    3. Very difficult

32. What were the main problems you experienced while enrolling?

    1. Too much paperwork
    2. Took too much time
    3. Polyclinic staff unable to answer questions
    4. Polyclinic staff did not know enrollment procedures
    5. Polyclinic staff unwilling to help or rude
    6. Other(specify)_____

33. Have you switched primary care physicians in the past 6 months?

    1. Yes
    2. No *(Go to Q.36)*

34. How would you describe the procedure of switching from one doctor to another? *(Read answers)*

    1. Easy *(Go to Q.36)*
    2. Somewhat difficult
    3. Very difficult

35. What were the main problems you experienced while switching: _____

_____

Family Medicine

36. Have you heard of Family Medicine?

    1. Yes
    2. No *(Go to Q.55)*

37. How did you hear about Family Medicine? *(Circle all that apply)*

    1. From national media (national TV, radio, newspapers)
    2. From local media (local TV, radio, newspapers)
    3. From a healthcare provider
    4. From a neighbor/ friend/ relative
    5. From community meetings
    6. Other(specify)_____

38. Do you think the following is true for family medicine?

	Yes	*No*	*Don't know*
1. A doctor who would care for all family members	☐1	☐2	☐3
2. Doctors who have been trained to treat patients with large spectrum of conditions	☐1	☐2	☐3
3. More expensive health care	☐1	☐2	☐3
4. Provides mainly preventive health care	☐1	☐2	☐3
5. Provides services to all age categories of patients	☐1	☐2	☐3

39. Have you received care from a family doctor during the past year?

    1. Yes
    2. No *(Go to Q.53)*

40. How would you rate the quality of care provided by the family doctor? *(Read answers)*

    1. Very good
    2. Good
    3. Fair
    4. Poor
    5. Very poor

41. Did the visit to family doctor help you to understand your problem or condition?

    1. Yes
    2. No
    88. Don't know

42. Did you receive any educational or informational materials from the family doctor about your condition or problem?

    1. Yes
    2. No *(Go to Q.45)*

43. Did you find the materials useful?

    1. Yes
    2. No
    88. Don't know/don't remember

44. Did you find the materials easy to understand?
    1. Yes
    2. No
    88. Don't know/don't remember

45. Did the family physician clearly explain you how to manage or treat your condition?
    1. Yes
    2. No
    88. Don't know/don't remember

46. Did the family doctor prescribed you medicines?
    1. Yes
    2. No *(Go to Q.49)*
    88. Don't know/don't remember *(Go to Q.49)*

47. Did you take the medicines as prescribed?
    1. Yes *(Go to Q.49)*
    2. No
    88. Don't know/don't remember *(Go to Q.49)*

48. What was the reason for not following the prescription?
    1. Was unable to get medicine(s)
    2. Was unable to buy medicine(s)
    3. Side effects/fear of side effects
    4. Felt better/recovered
    5. Did not trust the doctor
    6. Got different advice from another doctor
    7. Forgot to take medicine(s)
    8. Other *(describe)* _____

49. Did you have any problems with care from the family doctor? *(Indicate only the main problem)*
    1. I had to wait too long before receiving care
    2. Doctor did not give complete explanations
    3. Doctor did not discuss with me the treatment options
    4. Doctor did not make me to feel free to ask questions
    5. Doctor was rude
    6. Doctor asked for extra payment
    7. Doctor was unable to diagnose
    8. Doctor was unable to treat my condition
    9. Other (specify)_____
    10. No problems

50. Did you have to pay the family doctor for the care?
    1. Yes
    2. No

51. Did you receive a referral to a specialist from the family doctor you visited?
    1. Yes
    2. No *(Go to Q.53)*

52. Did you have to pay the referral doctor for the care he provided?
    1. Yes
    2. No

53. Do you think that family medicine is appropriate for Armenia?
    1. Yes *(Go to Q.55)*
    2. No
    3. Not sure/Don't know

54. Please explain why not or why you are not sure:
    1. I prefer the old system of primary health care
    2. Family doctors are less qualified than narrow specialists
    3. Family doctors receive insufficient training
    4. Family doctors are more expensive
    5. Other(specify) _____
    6. Don't know

BBP

55. Have you ever heard about free primary health care available to all Armenian residents?
    1. Yes
    2. No *(Go to Q.61)*

56. How did you hear about the free primary health care? *(Circle all that apply)*
    1. From national media (national TV, radio, newspapers)
    2. From local media (local TV, radio, newspapers)
    3. From a healthcare provider
    4. From a neighbor/ friend/ relative
    5. From community meetings
    6. Other(specify)_____

57. Have you sought primary care services from a polyclinic after the services became free?
    1. Yes
    2. No *(Go to Q.61)*

58. Were these services provided free of charge?
    1. Yes *(Go to Q.61)*
    2. No
    3. The doctor said the service/test/treatment was unnecessary *(Go to Q.61)*
    4. The service/test/treatment was not provided by PHC facility *(Go to Q.61)*

59. Why the services were not free of charge? *(Circle all that apply)*
    1. I was not enrolled
    2. The doctor said that the service/test/treatment was not free

3. The doctor asked for payment
4. The doctor prescribed drugs which were not free
5. Other
*(specify)*_____

60. Please, list, for what services you were asked to pay: _____
_____

e) Community involvement

61. In the past year, have you attended a meeting or activity organized in your community about health improvement?
  1. Yes
  2. No *(Go to Q.63)*

62. Do you know what organization helped to organize the activity? *(Do not read options, circle all that apply)*
  1. Primary Health Care Reform Project (PHCR)
  2. Project NOVA
  3. Another international organization
  4. A local NGO
  5. Don't know
  6. Other(specify) _____

63. In the future, would you attend a meeting or activity organized in your community about health improvement?
  1. Yes *(Go to Q.65)*
  2. No

64. Why not? *(Circle all that apply)*
  1. We do not have any health problems in our community
  2. Health is a private matter
  3. There are more important problems in the community than health
  4. I don't have time
  5. I am not interested
  6. Other(specify) _____

  (Go to Q.66)

f) *Access to primary health care*

65. Was there a time in the past two months when you or anyone in your family felt that they needed to go to the policlinic or ambulatory?
    1. Yes, and we went *(Go to Q.70)*
    2. Yes, but we did not go
    3. No *(Go to Q.71)*

66. Did you (or they) instead go to hospital or to a specialist?
    1. Yes *(Go to Q.69)*
    2. No

67. Did you (or they) instead go to pharmacy to buy medicine directly?
    1. Yes
    2. No *(Go to Q.69)*

68. Who recommended you buying that medicine?
    1. Own decision
    2. Family member/relative
    3. Pharmacist
    4. Neighbor/friend
    5. Familiar provider
    6. Other *(specify)* _____

69. What was the reason for not going to the policlinic or ambulatory? (*Circle all that apply).*
    1. Lack of money / too expensive healthcare
    2. Lack of transportation
    3. Lack of time
    4. Fear of diagnosis
    5. Didn't trust healthcare providers at the policlinic/ambulatory
    6. No qualified doctors are available at the facility
    7. Health care facility is not well equipped and clean
    8. Other (specify)_____
    88. Don't know

70. What is the average time you usually wait to see a provider at your primary healthcare facility?
    1. Less than 15 minutes
    2. 15-30 minutes
    3. 30-60 minutes
    4. 1-2 hours
    5. More than 2 hours
    6. Do not apply to primary health care services

71. Physicians and staff at the policlinic/ambulatory treat me with courtesy and respect during my visits.

     1. Yes

     2. Somewhat

     3. No

     4. Do not use policlinic/ambulatory services

72. Was anyone from your household hospitalized during the past 12 months?

     1. Yes

     2. No

     88. Don't know

g) Access to early diagnostics and prevention services

73. About how long ago, if ever, did you have the following screenings? *(See Q.1 for age)*

	Less than a year ago	1 to 2 years ago	2 to 3 years ago	More than 3 years ago	Never	Does not apply
1. *(If 20 or over)* Blood pressure checked	☐5	☐4	☐3	☐2	☐1	☐88
2. *(If 20 or over)* Blood cholesterol checked	☐5	☐4	☐3	☐2	☐1	☐88
3. *(If from 30 to 60y.o.)* Pap smear *(cytology of cervical mucosa of uterus*	☐5	☐4	☐3	☐2	☐1	☐88
4. *(If 40 or over)* Clinical breast exam	☐5	☐4	☐3	☐2	☐1	☐88
5. *(If from 50 to 70y.o.)* Mammogram *(X-ray of breast tissue)*	☐5	☐4	☐3	☐2	☐1	☐88
6. *(If 40 or over)* Eye exam	☐5	☐4	☐3	☐2	☐1	☐88
7. *(If 50 or over)* Hidden blood in stool	☐5	☐4	☐3	☐2	☐1	☐88

74. During the last 12 months, did you or a member of your family visit a policlinic (ambulatory, health post) for preventive services (help to avoid getting sick in future)?

     1. Yes

     2. No

     88. Don't know/unsure

Go to Q.76, if there are no children in the age group 1.5-5 years living in the household

75. Out of children aged 1.5 to 5 years living in your household, how many are fully vaccinated *(against all the following diseases: hepatitis B, tuberculosis, diphtheria-whooping cough-tetanus, polio, measles-mumps-rubella)*:

              _____*(Record 0, if none)*

           88. Don't know

Go to Q.77, if there are no school-age children living in the household

76. Out of all school-age children in your household, how many received eye screening during the last year?

                                  _____(***Record 0, if none***)

                       88. Don't know

77. Has a doctor ever told you that you have any of the following health problems or conditions? *(Circle all that apply)*

    1. Diabetes
    2. High blood pressure
    3. Heart attack, or ischemic heart disease
    4. Chronic lung disease (including asthma)
    5. Eye problems
    6. None of the above *(Go to Q.86)*

If has diabetes (Q.77, option 1):

78. Have your feet been examined for sores or irritations in the last year?
    1. Yes
    2. No
    88. Don't know

79. Have you had an eye exam in the last year?
    1. Yes
    2. No
    88. Don't know

If has high blood pressure (Q.77, option 2):

80. Do you use blood-pressure lowering medicine regularly as prescribed by doctor?
    1. Yes
    2. No
    3. Was not prescribed
    88. Don't know

If has heart attack, or ischemic heart disease (Q.77, option 3):

81. Have you been prescribed with low-dose aspirin to be taken daily?
    1. Yes
    2. No
    88. Don't know

82. Do you use aspirin as prescribed?
    1. Yes
    2. No

If has chronic lung disease or diabetes (Q.77, option 4 or 1):

83. When have you had your last chest X-ray?

    1. Last year

    2. 1-2 years ago

    3. 2-3 years ago

    4. More than 3 years ago

    5. Never

    88. Don't know

If has an eye problem (Q.77, option 5):

84. When have you had your last eye exam?

    1. Last year

    2. 1-2 years ago

    3. 2-3 years ago

    4. More than 3 years ago

    5. Never

    88. Don't know

If has diabetes, high blood pressure or heart attack (Q.77, option 1, 2, or 3):

85. How often your primary health care provider checks your blood pressure?

    1. At least every six months

    2. Every year

    3. Every two years or less frequently

    4. Never

    88. Don't know

h) Living standards

86. How would you rate your family's general standard of living? *(Read answers)*

    1. Substantially below average

    2. Little below average

    3. Average

    4. Little above average

    5. Substantially above average

    88. Not sure/difficult to answer

87. Over the last 12 months, has your family's overall standard of living changed?*(Read answers)*
   1. Much worsened
   2. Slightly worsened
   3. Stayed the same
   4. Slightly improved
   5. Much improved

88. Please tell me whether this household or any member of it has the following working items:

	Yes	No
a. Indoor bathroom/toilet	1	2
b. Hot water tank	1	2
c. Color television	1	2
d. VCR	1	2
e. Automobile	1	2
f. Auto Washing machine	1	2
g. Telephone	1	2
h. Personal computer	1	2
i. Satellite	1	2
j. Cellular phone	1	2
k. Vacation home/villa	1	2

89. Last month, the approximate amount of household income spent by all of your household members was:
   1. Less than 25,000 drams
   2. From 25,000 - 50,000 drams
   3. From 51,000 - 100,000 drams
   4. From 101,000 - 250,000 drams
   5. Above 250,000drams
   88. Don't know

Give Part B to the main respondent to complete.

Thank you for your time!   **1E. INTERVIEW END TIME:** _____:_____
                                                                    Hours   Minutes

Appendix 4. Baseline Household Health Survey, Part B: Self-administered

1A. ID number _ _ / _ / _ _ _ / _ _ _

Instructions for Completing the Questionnaire

First, carefully read each question and the possible responses. Choose the option that best represents your response and check (√) the box next to the option number. Some questions should be answered by words or by a number. There are blank lines next to these questions for you to write your response.

Please follow the instructions in <u>Italics</u>. These instructions will help you to complete the questionnaire and indicate <u>which questions to skip for your particular case</u>. Some questions may look like others, but each one is different. Please, take time to answer <u>each</u> of them.

Check the boxes with a pencil. If you make a mistake or change your mind, erase completely and check the correct box. Answer, please, <u>ALL THE</u> questions.

<u>Example</u>

In many questions, You will be asked to choose and check response options provided in tables. The following example shows how to check the responses in tables:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. People could die from hunger.	☐1	☐2	☐3	☐4	√5
2. Overfed people are healthier.	☐1	√2	☐3	☐4	☐5

<u>Answer the questions starting from here</u>!

1F. Your gender: ☐ 1. Male
☐ 2. Female ⟶ *Go to Question 94*

90. Your relation to the main respondent: ☐ 1. Husband (or partner)
☐ 2. Father
☐ 3. Brother
☐ 4. Son
☐ 5. Father in law
☐ 6. Brother in law
☐ 7. Other (specify)
_____

91. Your age in years at the last birthday _____

92. Your nationality?   ☐ 1. Armenian
☐ 2. Russian
☐ 3. Yesidi
☐ 4. Other (specify) _____

93. The highest level of education you have completed:

     ☐ 1. School (less than 10 years)
     ☐ 2. School (10 years)
     ☐ 3. Professional technical education (10-13 years)
     ☐ 4. University/Institute (14-16 years)
     ☐ 5. Postgraduate

94. How would you describe your health in the last 30 days?

     ☐ 1. Excellent
     ☐ 2. Very good
     ☐ 3. Good
     ☐ 4. Fair
     ☐ 5. Poor

95. How would you rate your overall health now compared to one year ago?

     ☐ 1. Much better
     ☐ 2. A little better
     ☐ 3. About the same
     ☐ 4. A little worse
     ☐ 5. Much worse

96. How many episodes of an acute illness (like fever, cold, diarrhea) did you experience during the last 30 days? _____ *(Put approximate number if you do not remember exactly*)
    (*Put 0 if none*)

97. Please indicate any chronic health problem(s) that you presently have. *(Mention all that apply)*

     ☐ 1. Diabetes
     ☐ 2. High blood pressure
     ☐ 3. Heart disease
     ☐ 4. Lung disease (including asthma)
     ☐ 5. Stomach /intestine disease
     ☐ 6. Cancer
     ☐ 7. Eye/vision problems
     ☐ 8. Kidney problems
     ☐ 9. Problems with joints/bones
     ☐ 10. Other problems *(describe)* _____
     ☐ 11. No chronic health problems

98. Please, indicate, how much <u>bodily</u> pain have you had during the last 30 days?

        □ 1. None
        □ 2. Very mild
        □ 3. Mild
        □ 4. Moderate
        □ 5. Severe
        □ 6. Very severe

99. The following items are about activities you might do during a typical day. Does <u>your health now limits you</u> in these activities? If so, how much?

<u>ACTIVITIES</u>	Yes, Limited A Lot	Yes, Limited A Little	No, Not Limited At All
a. Bathing or dressing yourself	□1	□2	□3
b. Walking **one block**	□1	□2	□3
c. Walking **several blocks**	□1	□2	□3
d. Walking **more than a mile**	□1	□2	□3
e. Bending, kneeling, or stooping	□1	□2	□3
f. Climbing **one** flight of stairs	□1	□2	□3
g. Climbing **several** flights of stairs	□1	□2	□3
h. Lifting or carrying groceries	□1	□2	□3
i. **Moderate activities**, such as moving a table, pushing a vacuum cleaner	□1	□2	□3
j. **Vigorous activities**, such as running, lifting heavy objects, participating in strenuous sports	□1	□2	□3

100.   Please, indicate, how satisfied are you with:

	Extremely dissatisfied	Dis-satisfied	Neither satisfied nor dissatisfied	Satisfied	Very Satisfied
1. The health of your body?	□1	□2	□3	□4	□5
2. Your ability to think?	□1	□2	□3	□4	□5
3. Your sexual activity?	□1	□2	□3	□4	□5
4. How much you see your family or friends?	□1	□2	□3	□4	□5

	Extremely dissatisfied	Dis- satisfied	Neither satisfied nor dissatisfied	Satisfied	Very Satisfied
5. The help you get from family or friends?	□1	□2	□3	□4	□5
6. Your daily activities?	□1	□2	□3	□4	□5
7. Your recreational or leisure time activities?	□1	□2	□3	□4	□5
8. Your household income meeting your needs?	□1	□2	□3	□4	□5
9. Your ability to help in your community?	□1	□2	□3	□4	□5

101. Below are some statements. Using the following scale, please describe how you felt during the **past seven days**: how often have you felt like each of these?

Answer, please, all the questions.

	Rarely or none of the time (<1 day)	Some of the time (1-2 days)	Moderate amount of time (3-4 days)	All of the time (5-7 days)
1. I was bothered by things that usually don't bother me.	□1	□2	□3	□4
2. I did not feel like eating; my appetite was poor.	□1	□2	□3	□4
3. I felt that I could not shake off the blues even with help from my family or friends.	□1	□2	□3	□4
4. I felt that I was just as good as other people.	□1	□2	□3	□4
5. I had trouble keeping my mind on what I was doing.	□1	□2	□3	□4
6. I felt depressed.	□1	□2	□3	□4
7. I felt that everything I did was an effort.	□1	□2	□3	□4
8. I felt hopeful about the future.	□1	□2	□3	□4
9. I thought my life had been a failure.	□1	□2	□3	□4
10. I felt fearful.	□1	□2	□3	□4
11. My sleep was restless.	□1	□2	□3	□4

	Rarely or none of the time (<1 day)	Some of the time (1-2 days)	Moderate amount of time (3-4 days)	All of the time (5-7 days)
12. I was happy.	□1	□2	□3	□4
13. I talked less than usual.	□1	□2	□3	□4
14. I felt lonely.	□1	□2	□3	□4
15. People were unfriendly.	□1	□2	□3	□4
16. I enjoyed life.	□1	□2	□3	□4
17. I had crying spells.	□1	□2	□3	□4
18. I felt sad.	□1	□2	□3	□4
19. I felt that people disliked me.	□1	□2	□3	□4
20. I could not get "going".	□1	□2	□3	□4

102. Have you ever smoked cigarettes? □ 1. Yes
 □ 2. No *(Go to Q.105)*

103. Do you currently smoke cigarettes? □ 1. Yes
 □ 2. No *(Go to Q.105)*

104. How many cigarettes per day do you smoke? _____ cigarettes

105. Please indicate your response to the following statements.

	Strongly disagree	*Disagree*	*Neither agree nor disagree*	*Agree*	*Strongly agree*
1. Smoking tobacco is harmful to a person's health.	□1	□2	□3	□4	□5
2. Breathing smoke from another person's cigarette is harmful to a person's health.	□1	□2	□3	□4	□5
3. Smoking in the presence of pregnant woman negatively affects the fetus.	□1	□2	□3	□4	□5
4. Students should be allowed to smoke in public.	□1	□2	□3	□4	□5
5. Workers should be allowed to smoke while on the job.	□1	□2	□3	□4	□5
6. Smoking should be prohibited in public buildings and restaurants.	□1	□2	□3	□4	□5

106. On average, how often do you drink (having at least 1 glass of wine; can/bottle of beer; shot of liquor, whiskey or vodka, or mixed drink)?

☐ 1. Never *(Go to Q.108)*

☐ 2. Less than one drink a week

☐ 3. One to three drinks a week

☐ 4. Four to six drinks a week

☐ 5. Seven to thirteen drinks a week

☐ 6. Fourteen drinks or more a week

107. During the last 30 days how many times did you drink 5 or more portions of alcoholic drinks in a single day? *(Put approximate number if you do not remember exactly)*

_____times *(Put 0 if none)*

108. Was there ever a time or times in your life when you drank 5 or more portions of any kind of alcoholic beverage almost every day?

☐ 1. Yes

☐ 2. No

109. Please indicate your response to the following statements:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. Drinking alcohol too much or too often is harmful to a person's health.	☐1	☐2	☐3	☐4	☐5
2. A small amount of alcohol (for example one-two glasses of beer or wine) during pregnancy negatively affects the fetus.	☐1	☐2	☐3	☐4	☐5

110. Do you know someone in your community who has a problem with drug addiction?

☐ 1. Yes

☐ 2. No

111. Does anyone in your household have a problem with drug addiction?

☐ 1. Yes

☐ 2. No

☐ 88. Don't know

112. Please indicate how much you agree or disagree with each of the following statements.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. Most people can become healthier by changing their lifestyle and behaviors.	□1	□2	□3	□4	□5
2. My health largely depends on how well I take care of myself.	□1	□2	□3	□4	□5
3. I think staying healthy is a matter of luck more than anything else.	□1	□2	□3	□4	□5
4. It is generally better to practice self-treatment than to refer to a doctor.	□1	□2	□3	□4	□5
5. Instead of going to doctor, it is better to buy medicine directly from pharmacy.	□1	□2	□3	□4	□5
6. Doctors can help me prevent and manage health problems.	□1	□2	□3	□4	□5

113. Please rate these activities in terms of improving a person's health:

	Not important	Somewhat important	Very important
1. Seeing the doctor/nurse regularly	□1	□2	□3
2. Leading an active life (exercising)	□1	□2	□3
3. Consuming diet rich in fruits and vegetables	□1	□2	□3
4. Not smoking	□1	□2	□3
5. Limiting alcohol consumption	□1	□2	□3

Thank you for your time!

Appendix 5.   **CONSENT FORM**

(Household survey, Baseline phase)

Good day. My name is _____ .

Thank you for taking the time to talk with me. The Primary Health Care Reform project is conducting this research to assess the attitude and knowledge of population in regard to reforms conducted in the sphere of primary health care, their perceived health status and how they use early diagnostics and preventive services. The study is countrywide and will be conducted in all 11 marzes of Armenia.

Your household was randomly selected from ambulatory records to participate in the study. Your responses will help to support the efforts of reforming primary health care and improving services provided to families in Armenia, so please be as truthful and complete as possible.

Your participation in this study is voluntary. You may choose to participate or not participate in the study. You may also stop responding at any time during the interview. However, we would really appreciate if you spend few minutes to answer our questions. Your individual response will remain confidential and will not be available to anyone other than the research team. Only aggregate/summary data will be publicly reported. The interview will last about 15 minutes. Then you will be asked to complete a short questionnaire on your own.

You will be given a card with contact information of the research team. If you have any questions related to this research, please feel free to contact the research team.

May I continue?

Appendix 6.   Items included in the calculation of Wealth Score and weights assigned to each response option

Response options	Weights

7. How many members of your household (including yourself) are currently employed?

-no one	0.0
-one	0.5
-two	1.0
-three	1.5
-four	2.0
-five *(the highest in the sample)*	2.5

86. How would you rate your family's general standard of living?

-Substantially below average	0.0
-Little below average	1.0
-Average/ Not sure/difficult to answer/missing	2.0
-Little above average	3.0
-Substantially above average	4.0

87. Over the last 12 months, has your family's overall standard of living changed?

-Much worsened	0.0
-Slightly worsened	0.5
-Stayed the same/missing	1.0
-Slightly improved	1.5
-Much improved	2.0

88. Whether this household or any member of it has the following working items:
a. *Indoor bathroom/toilet*

-yes	0.5
-no/missing	0.0

b. *Hot water tank*

-yes	1.5
-no/missing	0.0

c. *Color television*

-yes	1.0
-no/missing	0.0

d. *VCR*

-yes	1.0
-no/missing	0.0

e. *Automobile*

-yes	2.5
-no/missing	0.0

f. *Auto Washing machine*

-yes	1.5
-no/missing	0.0

g. *Telephone*

Response options	Weights
-yes	0.5
-no/missing	0.0

h. *Personal computer*
-yes	2.0
-no/missing	0.0

i. *Satellite*
-yes	1.5
-no/missing	0.0

j. *Cellular phone*
-yes	1.0
-no/missing	0.0

j. *Vacation home/villa*
-yes	3.5
-no/missing	0.0

89. *Last month, the approximate amount of household income spent by all household members:*
-Less than 25,000 drams	0.0
-From 25,000 - 50,000 drams	1.0
-From 51,000 - 100,000 drams/don't know/missing	2.0
-From 101,000 - 250,000 drams	3.0
-Above 250,000drams	4.0