



Evaluation of the Child Health State Certificate Program

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ACRONIMS

AMD	Armenian Drams
AUA	American University of Armenia
BBP	Basic Benefits Package
CHSC	Child Health State Certificate
CHSR	Center for Health Services Development
CIS	Commonwealth of Independent States
DHS	Demographic Health Survey
EU	European Union
FD	Family Doctor
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GoA	Government of Armenia
IRB	Institutional Review Board
MAAC	Mobilizing Action Against Corruption
MCH	Maternal and Child Health
MOH	Ministry of Health
MPH	Master of Public Health
NGO	Non-Governmental Organization
NHA	National Health Accounts
OCSC	Obstetric Care State Certificate
PHC	Primary Health Care
RA	Republic of Armenia
SD	Standard Deviation
SHA	State Health Agency
SWOT	Strengths, Weaknesses, Opportunities, Threats
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

Since 1996, hospital care for children less than seven years old have been a part of the Basic Benefit Package (BBP) and thus presumably free. However, formal and informal payments for child hospital care were common because of insufficient public funding. Recognizing that financial barriers preventing access to health care services limits the effectiveness of other health system reforms, on July 1, 2008 the Ministry of Health (MoH) introduced the Obstetric Care State Certificate (OCSC) Program in Armenia and the Child Health State Certificate (CHSC) Program on January 1, 2011 to resolve this problem. The latter program was designed to assure that state funding for child hospital services adequately covered actual costs, to eliminate informal payments and improve access of children to hospital in-patient care and improve its quality, and to reduce the child hospital mortality.

To evaluate the newly established CHSC Program and to provide findings to inform future decision-making concerning the program, the Center for Health Services Research and Development of the American University of Armenia (CHSR/AUA), in collaboration with the MoH and with financial support from the USAID Mobilizing Action Against Corruption (MAAC) in Armenia, conducted a comprehensive quantitative and qualitative assessment of the Program. The study pursued two main objectives: (1) to generate nationwide estimates of informal payments for in-patient pediatric healthcare services before and after the launch of the CHSC Program by conducting quantitative baseline and mid-term assessments among mothers or main caregivers of hospitalized children 0-7 years of age, (2) to generate qualitative information on pediatric personnel's attitudes, practices, experience and overall satisfaction with the CHSC Program through qualitative assessments among providers at the 5-6 month mark after the launch of the CHSC Program.

For the quantitative survey, a pre-post independent-group design with stratified (Yerevan vs. marzes) simple random sampling was used. The respondents were mothers or main caregivers of children less than seven years of age who received in-patient care during the periods August-December 2010 for the baseline and March-May 2011 for the mid-term assessments. The CHSR/AUA team used the State Health Agency's (SHA) computerized database of all hospitalized children as the sampling frame for this study. A total of 1,603 mothers/caregivers of hospitalized children were interviewed during the two stages of the survey (801 cases at baseline and 802 cases at mid-term).

The qualitative assessment used purposive and convenience sampling methods to identify participants for in-depth interviews and focus group discussions (FGD). The study was conducted in Yerevan and six marzes (Ararat, Armavir, Gegharkunik, Shirak, Lori, and Syunik). Fifty six participants from five study groups included hospital pediatricians, hospital pediatric nurses, primary healthcare (PHC) pediatricians/family doctors, hospital administrators, and policymakers/experts.

The qualitative assessment consisted of fifteen key-informant in-depth interviews and eight focus group discussions with 41 providers from 15 different healthcare facilities. The CHSR/AUA team applied the SWOT framework to analyze the qualitative data which includes 1) Strengths, 2) Weaknesses, 3) Opportunities, and 4) Threats.

The following findings of the quantitative assessment are of particular importance for the mid-term evaluation of the CHSC Program:

- The proportion of cases presenting to the hospital an official referral form from the PHC facility increased significantly both in Yerevan and marz facilities and the overwhelming majority of cases interviewed at the mid-term assessment presented a Child Health State Certificate to the hospital.
- The proportion of those who made any payment for pediatric inpatient care decreased sharply at mid-term compared to baseline in both Yerevan and marz facilities.
- Those who were hospitalized in Yerevan reported making a payment for care more frequently than those who were hospitalized in marzes at both assessments.
- The mean overall spending decreased significantly in marz hospitals and did not change in Yerevan. The reported mean spending was significantly higher in Yerevan facilities compared to marz facilities at both assessments.
- At the mid-term assessment, those who made any payment for child's inpatient care most frequently reported paying for drugs from pharmacies, followed by making gifts to providers, paying doctors, and paying for the ward .
- After the launch of the CHSC Program, the reported frequencies of many different types of payments decreased significantly both in Yerevan and marz hospitals, including payments to doctors, to nurses, to cleaning ladies, for instrumental examinations, and for laboratory tests.
- The overall number of those who reported spending on gifts/"thank you" payments for providers decreased significantly from baseline to midterm among all population groups and for both Yerevan and marz hospitals.
- The mean amount spent on gifts was similar across residency groups (Yerevan, other urban, and rural populations) both at the baseline and mid-term assessments and did not change significantly from baseline.
- Almost all mothers/caregivers surveyed at the mid-term assessment were aware of their right of getting free hospital care for their children less than seven years old. The observed improvement in the level of awareness from baseline to midterm was highly statistically significant and the role of healthcare providers as a source of this information increased significantly among all residency groups.
- The proportion of eligible children who received the CHSC increased significantly in all three residency groups at mid-term. This rate was significantly higher in Yerevan compared to other urban and rural populations.
- Almost all mothers/caregivers who used the CHSC were satisfied with the Program at mid-term. The satisfaction rate was significantly higher in marz hospitals than Yerevan hospitals.
- Regardless of the hospital location (marz or Yerevan), equally high proportions of respondents (over 85%) rated the overall quality of child's care as good or very good at the mid-term assessment. Since baseline, this proportion increased significantly for marz facilities; it did not change for Yerevan facilities.
- At both baseline and mid-term, ratings for indicators of the quality of inpatient care by healthcare personnel were very high for both Yerevan and marz facilities. The remaining attributes (facility's physical conditions, cleanliness, availability of medical equipment and drugs/medical supplies) were rated relatively high for Yerevan hospitals (both at baseline and mid-term), but much lower for marz facilities.
- A significant decrease was observed in the proportion of those who reported that their child needed medical care after being discharged from the hospital, but they did not apply to a doctor for all residency groups (Yerevan, other urban, and rural).
- The proportion of those who reported being unable to afford hospital care for their child decreased in all three residency groups.

- The priorities of respondents to improve hospital services changed considerably for both Yerevan and marz hospitals: the need to eliminate informal payments was mentioned significantly less frequently at mid-term. Increasing providers' salaries was one of the most frequent suggestions to improve the quality of hospital services at both assessment.

The findings of the quantitative assessment clearly demonstrated that the Child Health State Certificate Program significantly reduced informal payments for pediatric inpatient care for children 0-7 years of age and increased accessibility of care for those who could not afford it previous to the program. It also suggested the need to further increase providers' salaries, to increase drug supplies in the hospitals, and for marz hospitals to improve physical conditions and medical equipment.

The findings of the qualitative survey confirmed the projects' positive impact in increasing official salaries of pediatric service providers, reducing informal payments, improving access to inpatient pediatric services, increasing trust of the population in the State and improving control and monitoring of financial flows through MoH. However, lack of financing for the program leading to insufficient reimbursement to providers, lack of regulation standards for referrals and hospitalizations, inadequate dissemination of information and low quality of services (because of unnecessary referrals, increased workload, low provider motivation, limits on patient admissions and length of stay in the hospitals), as well as retention problems of pediatric service specialists are of particular concern. To strengthen the Program and to assure its sustainability, study participants identified several opportunities for improving the Program: increasing the financing of the Program to adequately reimburse providers based on their real workload, strengthening Program regulations and monitoring, developing a standardized list of indications for out-patient and in-patient care and for referrals from polyclinics to hospitals, introducing co-payments in hospitals for out-patient services, strengthening pediatric PHC services to enhance the Program, and increasing public and provider awareness about the scope of services covered by the Program and primary health care.

Another objective of this assessment was to characterize the dynamics of payment rates for obstetric care over time and to describe payment practices for antenatal and obstetric care after the launch of the Obstetric Care State Certificate Program on July 1st of 2008. The trend analysis for rates of informal payments for obstetric care was conducted for the period of July 2008 - July 2011 semiannually, seasonally and monthly for the total study population, by facility location (Yerevan versus marz) and by mode of delivery (vaginal delivery versus C-Section). No statistically significant change (increase or decrease) was found for trends over time. The analysis of the total study population showed that the overall payment rates and the mean amount paid were much higher in facilities located in Yerevan than in the marzes; the payment rates and the mean amount paid were much higher for C-section than for vaginal delivery; the main portion of unofficial payments for obstetric care were for "thank you" payments; the rates and mean amounts of "thank you" payments did not differ between Yerevan and marz facilities and between three residency groups; and the rates and mean amounts of "thank you" payments were higher for C-section than vaginal delivery.

INTRODUCTION

Document review

Numerous assessments and studies of healthcare services conducted in Armenia during the last decade focus on the same major shortcoming of the Armenian health care system that adversely affects many aspects of healthcare in the country: insufficient public spending for maintaining an acceptable level of functioning of the health care system and ensuring at least some level of equitable distribution of quality healthcare services.¹⁻⁶

The health system the country inherited from the former Soviet Union was highly centralized and provided universal access to a wide range of state-financed services, with a heavy emphasis on secondary and tertiary care. It had a well-developed infrastructure with high numbers of health personnel and hospital beds with respect to patient loads, exceeding the existing needs.^{1,2} The main challenge the country has faced since then was to maintain this complex and inefficient health care system in the new socio-economic circumstances. While formally public funding remained the main source of financing for the Armenian health system, it was insufficient to sustain the system even after a chain of reforms that substantially reduced the number of health facilities, health personnel, and hospital beds.¹ According to a recent evaluation, although public expenditures on health increased from 13.9 billion Armenian drams (AMD) to 19.4 billion AMD during 2006-2008, the share of government expenditures in health care as a percentage of Gross Domestic Product (GDP) decreased from 1.48% in 2006 to 1.36% in 2008.^{i,4} This proportion is about half that found in the Commonwealth of Independent States (CIS) countries, a fourth that of the European Union (EU), and is one of the lowest shares of public spending on health in the world.^{5,6}

In 2008, public expenditures constituted 38.7% of the total expenditures on health, while out-of-pocket payments accounted for about 51.0%.⁴ Out of pocket payments still continue to be the main source of the health system's financing in the country. According to the National Health Accounts (NHA) 2006 report, only 7-8% of these payments were made for officially paid services and 15% for nonprescription drugs; the remaining portion (over 70%) were informal payments.⁷ High out-of-pocket payments result in a number of negative consequences, including poor utilization of healthcare services especially for more expensive

ⁱ According to the referred source (4), in 2009, this proportion reached the target of 1.7% set by the medium term expenditure framework. However, this was largely because of the fall of GDP.

services such as inpatient care; unequal access to quality health services; and unavoidable catastrophic health expenditures for the poor.

Of all expenses on healthcare, out-of-pocket spending on hospital care is responsible for the largest financial burden on the population, comprising 6.2% of household income on average. This burden is much heavier for the poorest quintile of the population (14.7% of the reported income vs. 2.0% of that for the wealthiest quintile).⁴ There is a consistent positive association between income and hospital utilization: as income falls, utilization declines.⁴ Inability to pay for services is the main reason for not seeking care when needed or for not receiving the recommended care or service.^{4, 8}

Infant and under-five mortality rates are one of the most sensitive indicators of a healthcare system's performance. According to the official data from the Ministry of Health, during the period of 2000-2009, the infant mortality rate in Armenia decreased from 20.1 to 12.4 per 1,000 live births.⁹ The Armenia Demographic and Health Survey 2005 (DHS 2005) showed a decline of this rate from 30 per 1,000 live births for the period 1996-2000 to 26 for the period 2001-2005 and to 13 for the period 2006-2010. For the same periods, under-five mortality rate decreased from 36 per 1,000 live births to 30 and then to 16 respectively.^{10,11}

Several indicators suggest that a considerable proportion of child deaths in the country are potentially preventable. The proportion of child hospital deaths occurring during the first 24-hours after admission is 23.7% in Yerevan and as high as 58.7% in marzes (reaching 70-80% in some of the marzes). Child deaths occurring at home comprised 2.6% of all cases in Yerevan and 28.1% in the marzes in 2009.⁹ These percentages suggest differences existing between Yerevan and marzes in utilization, accessibility and, possibly quality of pediatric healthcare services. A recent study on the infrastructure and resources for mother and child care services in the country highlights several possible reasons for these differences: the lack of pediatric personnel, poor equipment and supplies, and lower quality of care in regional hospitals.¹² The number of pediatricians declined substantially in regional and Yerevan hospitals over the past decade.⁹ The main reasons for this decline included low reimbursement for pediatric personnel and a lack of incentives for these personnel to work in the regions.²

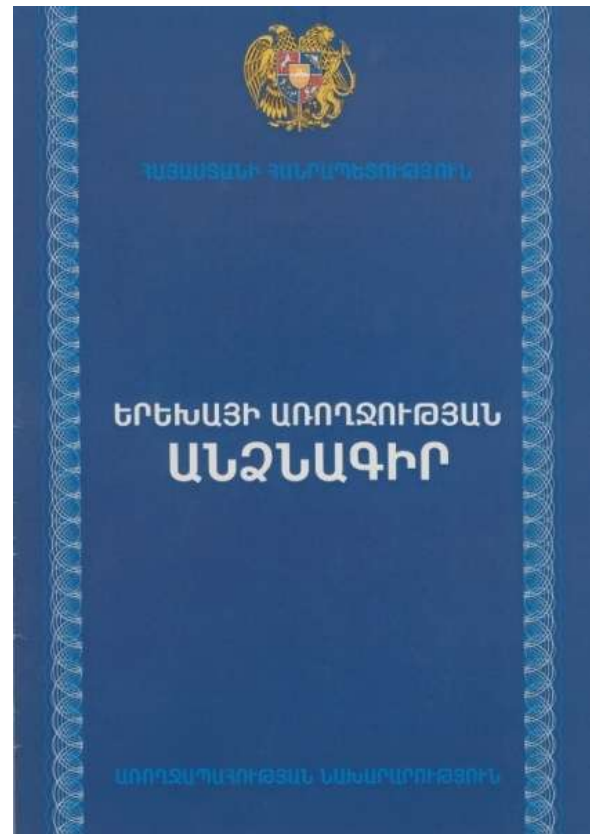
Financial barriers preventing access to health care services can seriously limit the ability of other health system reforms to improve population health, because many people may not have the financial resources to benefit even from well-organized high-quality healthcare services.³ The MoH recognizes the importance of eliminating these barriers, with first priority for the vulnerable and disadvantaged population groups, to ensure equitable and effective healthcare.

In 2003, the MoH developed and adopted the National Strategy on Maternal and Child Healthcare (MCH) in Armenia for the Years 2003-2015. This comprehensive document summarized all the challenges faced by the country's mother and child health services and delineated the main directions for action.¹³ Two of the main problems identified in this Strategy was poor access to healthcare services and less-than-ideal quality of healthcare services in the MCH facilities, especially in the marzes. The most important effective step in addressing these issues was the introduction of the Obstetric Care State Certificate (OCSC) Program in 2008.¹⁴ This initiative assured free obstetric and post-natal care for all women through a three-fold increase in the state budget allocations to these services under the scope of the OCSC Program. The OCSC Program was successful in making women's health care substantially more affordable reducing the out-of-pocket payments.¹⁵ Several studies recommended that this model could be used to reduce informal payments in other health services offered within the BBP in Armenia, if adequately funded, rigorously enforced, and the transparency of provider reimbursement mechanisms for the state funding was assured.^{4,15}

With the success of the OCSC Program, infant and early childhood care was selected as the next area for intervention; in October 2010, the MoH issued an order introducing a new Child Health State Certificate (CHSC) Program, which was initiated on January 1, 2011. This initiative, based on the concepts stated in the National Strategy on Child and Adolescent Health and Development for 2010 -2015 approved by the GoA in 2009 and the National Strategy on Mother and Child Healthcare for 2011, aims to assure affordability and increase quality of pediatric hospital care services for children less than seven years of age to reduce child hospital mortality.¹⁶ In December 2010 the MoH issued an order clarifying the procedures of implementation for the CHSC Program and approved two documents to be introduced under the scope of the program: 1) the Child Health State Certificate (Figure 1) and 2) the Child Health Passport (Figure 2).¹⁷

Figure 1: Child Health State Certificate

Figure 2: Child Health Passport



Since the establishment of the BBP, hospital care for 0-7 years old children had been officially free. However, formal and informal payments for child hospital care were common because of the low levels of public funding.² The CHSC Program pursues two important goals: to assure that state funding for child hospital services is adequate to meet actual costs and eliminate the need for informal payments, and to raise the awareness of the population about their right to use free-of-charge hospital services for all children less than seven years of age who's parents are Armenian citizens.¹⁷ To address these goals, the public funds allocated for hospital services for children 0-7 years old were almost doubled, from 3.5 billion AMD in 2010 to 6.4 billion AMD in 2011.¹⁸ The State Health Agency (SHA) anticipated that the salaries of pediatricians could increase from last years' average of 40,000-50,000 AMD to 200,000-230,000 AMD under the new program. Raising population awareness concerning their right to these free-of-charge services was partially addressed by providing summary information on state-guaranteed hospital care services that are provided free-of-charge on the back page of the Child Health State Certificate form and in the Child Health Passport. The Passport contains information for parents on the procedure to acquire

the Child Health State Certificate, on child growth and development, vaccinations, and other important information on child care and nutrition.¹⁷

Starting on January 1st, 2011, the caregivers of children 0-7 years of age in Armenia began receiving the Child Health State Certificate that guarantees full coverage for pediatric hospital in-patient services, including drugs and medical supplies, lab tests and instrument examinations, specialist consultations, prescribed medical procedures, and hospital ward stay. All of these services are stated on the back page of the CHSC, with specifications on which population groups were eligible for these services; these eligible groups included all children less than 7 years old, children 7-18 years old who are included in socially vulnerable or special groups, and all children less than 18 years of age needing emergency care. The first page of the CHSC contains administrative information about the given child, including his/her name, birth date and setting, birth certificate number, parents' names, address, the facility providing the CHSC and the date of provision. All of the Child Health State Certificates have unique numbers and are signed by the head of the facility providing the Certificate (Figure 1).

According to the procedures established by the MoH, starting 1 January 2011 all newborns should receive their Certificates and Passports from the maternity hospitals where they were born. All other children less than seven years of age should receive their Certificates from the primary healthcare facility where they are registered and receive ambulatory care. To acquire the Certificate, the child's caregiver presents an identification document and proof of being the parent or the official caregiver of the child. At each hospitalization, along with child's birth certificate and the official referral form from a healthcare facility, the Child Health State Certificate is presented to the hospital as proof of the child's right to receive free care. It is also required for the hospital to receive financial reimbursement from the state health budget through submission of the Certificate number and services rendered. The hospital maintains a copy of the Certificate in the child's medical record form.¹⁷

The Child Health State Certificate Program provides no regulations on pediatric hospital care providers' salary calculations. Providers' salaries are calculated based on the general Reimbursement Standards of Employees of the Hospitals Providing State-Guaranteed Free Medical Care and Services. The decree of the Minister of Health N 101-A (31 January 2011), amended by the decrees N 314-A (25 February 2011) and N 613-A (06 April 2011),

describe these standards.¹⁹⁻²¹ These decrees define the minimal hospital health providers' salary (base salary), equaling 50,000 AMD for physicians and 40,000 AMD for nurses. The whole salary of each physician is the sum of the minimal base salary, the officially determined rate for duties, and the bonus salary.

To closely monitor and evaluate the CHSC Program to provide information for improvements, the MoH requested the formal evaluation of the CHSC Program. The Center for Health Services Research and Development of the American University of Armenia (CHSR/AUA) in collaboration with the MoH and with financial support from the USAID Mobilizing Action Against Corruption (MAAC) in Armenia initiated a comprehensive quantitative and qualitative assessment of the CHSC Program covering the first five-six months of its implementation.

Objectives of the Study

The overall aim of the study is to quantitatively and qualitatively evaluate the MoH CHSC Program at the initial stage of its implementation (first five-six months) to provide findings that could serve as a basis for future decision making to improve the Program.

The goals of the evaluation study were:

- Generate nationwide estimates of informal payments for in-patient pediatric healthcare services before and after the launch of the CHSC Program through quantitative baseline and mid-term assessments among mothers (or the main caregivers) of hospitalized children 0-7 years old.
- Generate qualitative data on pediatric personnel's attitude, practice, experience and overall satisfaction related to the CHSC Program through qualitative assessments among providers at 5-6 months after the launch of the CHSC Program.

The specific objectives of the study were:

- Measure the proportion of people making informal payments for inpatient care of children less than seven years old at baseline (August-December, 2010) and at mid-term (March-May, 2011) assessments;

- Measure the average amount of informal payments for hospital care of children less than seven years old at baseline (August-December, 2010) and at mid-term (March-May, 2011) assessments;
- Compare complimentary “thank you” payment practices between Yerevan, other urban, and rural populations;
- Compare the level of awareness of free in-patient care between Yerevan, other urban, and rural populations;
- Qualitatively explore providers’ attitudes and practices with respect to the CHSC Program at five –six months of its implementation.

QUANTITATIVE ASSESSMENT

METHODS

Study Design

The evaluation used a quasi-experimental pre-post independent group design with a stratified (Yerevan vs. marzes) simple random sampling for this self-reported survey of mothers/caregivers of children under seven years old who received in-patient care in the selected periods of interest. This design provides a representative sample of children receiving hospital care in Yerevan and/or marz facilities.

Inclusion Criteria

Mothers of children under seven years old who received in-patient care in Armenia during the periods of August 1 – December 31, 2010 (baseline) and March 1 – May 31, 2011 (mid-term) were considered eligible for the survey. In rare cases, the primary caregiver of the child (other than the mother) was interviewed.

Sampling Strategy

The survey used a stratified (Yerevan vs. marzes) simple random sampling to select cases from the sampling frame – the State Health Agency's (SHA) computerized list of all hospitalized children (excluding those who died during the given hospitalization). To ensure comparability of the data collected at baseline and mid-term assessments, the research team applied the same sampling methodology at both stages. The sampling frame included children 0-7 years old discharged from a hospital during the period of August 1 – December 31, 2010 for the baseline evaluation and discharged during March 1 – May 31, 2011 for the mid-term. All ten marzes and Yerevan facilities were involved in the sampling frame. Unique hospitalized cases were the sampling units meaning that each pediatric hospitalization case in Yerevan and in marzes had an equal probability of being selected.

At each stage (baseline and mid-term), the research team selected a sample of 800 cases (400 cases treated in Yerevan facilities and 400 cases treated in marz facilities) enabling comparisons between Yerevan and marz facilities to detect 10% difference with 0.8 power and 0.05 Alpha error. This was considered as the main sample. An additional list of 800 children (400 cases from Yerevan and 400 from marz facilities) was also prepared from the sampling frame to substitute any possible nonresponse/refusal, wrong/missing addresses and other possible errors/omissions in the main list.

The sampling process included the following procedures/steps:

1. Extracting children of 0 – 7 years old from the main SHA database of all hospitalized cases for the periods of August 1 – December 31, 2010 (baseline) and March 1 – May 31, 2011 (mid-term) with the database extract having the following fields:
 - a. First and last name of the child
 - b. Date of birth of the child
 - c. Child's contact details (full address, including marz, city/town/village, street, building, apartment, telephone, when available)
 - d. Date of admission to the hospital
 - e. Date of discharge from the hospital
 - f. Diagnosis.
2. Separating the database into two parts
 - a. Children who were treated in marz hospitals
 - b. Children who were treated in Yerevan hospitals.
3. Using SPSS software's script for random selection of cases, drawing two random samples (main and additional) of 400 children from each list (treated in Yerevan and in marz facilities), so that the additional sample was proportional to the main sample by the number of cases from each marz.

Survey Instrument Development

Mobilizing Action Against Corruption (MAAC) provided the first draft of the questionnaire designed for face-to-face interview with mothers (in exceptional cases – other primary caregivers) of eligible children to CHSR. The study team reviewed and revised the instrument through re-formulating some items and adding several new items and topics based on experience from other program evaluations. The Ministry of Health provided feedback on the revised instrument, and the CHSR team addressed the comments. The questionnaire was developed in English, then translated into Armenian and Russian, pre-tested, and adjusted to improve it.

The final instrument (Appendix 1) covered the following topics:

- General Information on the Hospitalization Case
- Payments for Pediatric Hospital Care
- Perceived Quality of Health Services
- Health Status of the Child

- Health Environment
- Caregiver's Knowledge on Caring for Young Children
- Payments for Antenatal Care
- Payments for Obstetric Care
- Current experience with Child Health State Certificate
- Demographic Data and Living Standards.

Along with the questionnaire, the CHSR team developed a Screening/Journal form to guide interviewers through the process of selection of eligible cases/respondents, to monitor compliance of the survey implementation with the study protocols, to check the accuracy of the information taken from the SHA database, and to assess response and refusal rates (Appendix 2).

The same study instruments were used (with a few additional items included in the mid-term instrument) at baseline and mid-term to ensure comparability of the data.

Interviewer Training and Instrument Pre-testing

The study team developed the “Interviewer Guide” as a training manual for interviewers. Fourteen interviewers with previous interviewing experience participated in the two-day training in March 2011 for the baseline assessment. The training consisted of theoretical and practical sessions with the latter devoted to pre-testing of interviewers and the survey instruments. The pre-testing was conducted among urban (Yerevan) and rural (Ararat marz) population groups and identified the need for several changes in the survey instruments that were subsequently introduced. All 14 interviewers were capable of conducting the fieldwork. For the mid-term assessment, 16 interviewers were trained, including eight interviewers from the baseline phase who underwent 4-hour refresher training and eight new interviewers with previous interviewing experience who attended the two-day training in June 2011.

Ethical Considerations

The Institutional Review Board of the American University of Armenia approved the study for compliance with locally and internationally accepted ethical standards. All participants were informed about their rights (their participation was voluntary, they could stop at any time and refuse to answer any question they chose, and their anonymity and confidentiality

were fully respected). Before the start of the interview, verbal informed consent was sought from the respondents to participate in the survey (Appendix 3). The form included general information about the goals and terms of the survey as well as information concerning respondents' right to refuse to participate, confidentiality issues, and contact information. The questionnaire contained only the identification number of the child, while child's name and contact information taken from SHA were kept separate from the main data. Only a limited number of people at the CHSR (survey supervisors and/or administrators) had access to the respondents' responses and to the addresses/names from the SHA database. The SHA only provided the sampling frame (list of all hospitalizations for the specified time periods for the baseline and mid-term assessments).

Survey Language

The primary language of the survey was Armenian. However, when respondents expressed a preference for Russian, they were provided with the Russian version of the informed consent and survey.

Survey Administration

The baseline data collection took place in March-April 2011 and the mid-term took place in June-July 2011. For feasibility and efficiency purposes, the CHSR/AUA study team grouped the children's addresses from the main and additional lists to small portions located in the same or close neighborhoods/towns/villages. Interviewers received these portions as their daily assignments. Each "assignment" consisted of five main and five additional addresses in Yerevan; and four main and four additional addresses in marzes. The interviewers were instructed to interview the respondents from the main list first, making two attempts as necessary to locate them, and to refer to the addresses from the additional list only when neither of these attempts was successful. At both stages, the fieldwork started from Yerevan, then moved to close marzes, and then remote marzes. During the survey implementation, the CHSR/AUA study team made efforts for quality assurance to make sure that the fieldwork was implemented strictly according to the study protocol; these efforts included frequent spot-checks through visits and phone calls to the interviewers and study respondents both at baseline and mid-term.

Data Processing

The CHSR/AUA team reviewed all the questionnaires before the data were entered into an SPSS database. At baseline, the study team hired and trained four data enterers. Single entry was conducted at this stage with subsequent data cleaning, which required a lot of time and effort from several members of the study team. To avoid this at mid-term and to assure high quality of the database, double-entry was conducted. At mid-term, the study team hired and trained eight data enterers to finish the double entry on time. The entry phase, with subsequent data cleaning, lasted almost four weeks at both baseline and mid-term. The analysis was carried out using SPSS 11.0 software. This report provides descriptive statistics by the facility location and residency group. To identify whether the differences between baseline and mid-term, between facilities in Yerevan or marzes, between different residency groups were statistically significant, the research team used Chi-square test for proportions, independent t-test for means and Mann-Whitney test for ordinal variables with more than two response options.

Weighting

The study was stratified by hospitalizations in facilities located in Yerevan and in marzes (equal probability). However, in the SHA database of all eligible hospitalizations 58.8% were treated in Yerevan facilities and 41.2 % in marz facilities at baseline and 60.6% and 39.4% at mid-term (the actual selection probabilities). Therefore, the study team decided to also provide the weighted sample estimates to improve representativeness of the sample in terms of the existing proportions of Yerevan vs. marz facility hospitalizations in the target population: the weight given to each unit is the inverse of the actual selection probability.²² The weighting was done only for the descriptive statistics; all the comparisons were made based on the non-weighted estimates.²²

RESULTS

Administrative/General

The number of mothers/caregivers of hospitalized children under seven years old participating in the survey was 801 at baseline and 802 at mid-term. Overall, it took 1,414 attempts (trying to contact 1,176 cases) to complete 801 interviews at baseline and 1,260 attempts (trying to contact 1,089 cases) to complete 802 interviews at mid-term. Of the 801 completed interviews at baseline, 543 (67.8%) were from the main list of addresses and 258 (32.2%) from the additional. Of the 802 completed interviews at mid-term, 583 (72.7%) were from the main list and 219 (27.3%) from the additional.

Response rates

For the addresses contacted from the main list, the overall response rate in Yerevan was 57.0% of 316 attempts at mid-term, which is significantly higher than the same rate at baseline (44.5% of 371 attempts, $p<0.001$). The same difference was detected in marzes (68.5% of 613 attempts at mid-term vs. 61.5% of 615 attempts at baseline, $p<0.01$). The response rates in marzes were significantly higher than in Yerevan both at the baseline and mid-term assessments ($p<0.001$).

For the addresses contacted from the additional list, the overall response rate in Yerevan was 60.7% of 112 attempts at mid-term and 52.7% of 226 attempts at baseline. The same trend was detected in marzes: 68.5% of 219 attempts at mid-term vs. 62.1% of 224 attempts at baseline. The response rates in marzes were significantly higher than in Yerevan both at the baseline and mid-term assessments ($p<0.001$).

Appendix 4, Table 1 and 2 provide the detailed distribution of the response rates and the reasons for non-response for the cases included in the main and additional lists for both the baseline and mid-term surveys. At mid-term (the first attempt), the primary reason for non-response in Yerevan was absence of mother/caregiver (13.5%), followed by child's wrong name or absence of correct address (11.4%), wrong address that was corrected (9.0%), and absence of all household members (8.2%). This pattern was somewhat different at baseline with much higher proportion of child's wrong name or absence of correct address (25.5%), followed by absence of all household members (11.3%), absence of mother/caregiver (8.5%), and wrong address that was corrected (7.4%). In marzes, at both assessments, the primary reason for non-response was child's wrong name or absence of correct address (13.9% at

mid-term and 12.2% at baseline), followed by absence of mother/caregiver, absence of all household members, and wrong address that was corrected.

Socio-Demographic Data

Demographic characteristics of sampled hospitalized children

In terms of the main demographic characteristics (gender, age, number of life-time hospitalizations), the baseline and mid-term samples of children hospitalized in Yerevan or marzes were not statistically significantly different from each other, and thus, were comparable (Table 1). No statistically significant differences in demographic characteristics were found between the baseline and mid-term samples of children from Yerevan, other cities, and villages (Table 2).

Table 1. Demographic characteristics of surveyed children by facility location

	Yerevan facilities		Marz facilities	
	Baseline N=380	Mid-term N=381	Baseline N=416	Mid-term N=417
Gender: Male, %	59.7	61.9	59.4	58.0
Female, %	40.3	38.1	40.6	42.0
Age in months at hospitalization, <i>mean (SDⁱⁱ)</i>	27.6 (22.9)	27.8 (25.8)	28.3 (23.5)	28.6 (23.3)
Age group: Neonate ⁱⁱⁱ (%)	9.7	13.6	3.8	2.6
Infant	24.2	25.1	29.8	29.7
Toddler	33.9	27.0	36.3	36.0
Preschooler	32.1	34.3	30.0	31.7
Overall number of child's hospitalizations, <i>mean (SD)</i>	1.9 (1.9)	2.0 (2.2)	2.2 (3.1)	2.1 (2.5)

Table 2. Demographic characteristics of surveyed children by residency

	Yerevan		Other urban		Rural	
	Baseline (n=282)	Mid-term (n=232)	Baseline (n=281)	Mid-term (n=270)	Baseline (n=233)	Mid-term (n=296)
Gender: Male, %	58.9	59.5	64.4†	61.5	54.5†	58.8
Female, %	41.1	40.5	35.6†	38.5	45.5†	41.2
Age in months at the hospitalization, <i>mean (SD)</i>	28.3 (22.9)	28.3 (25.1)	29.1 (23.8)	28.1 (24.1)	26.1 (22.8)	28.3 (24.4)
Age group: Neonate (%)	7.8	12.1	6.0	5.9	6.0	6.4
Infant	24.5	23.7	27.0	28.4	30.5	29.7
Toddler	34.8	28.4	33.8	34.3	37.3	31.8
Preschooler	33.0	35.8	33.1	31.4	26.2	32.1
Overall number of child's hospitalizations, <i>mean (SD)</i>	1.8 (1.5)	1.8 (1.3)	2.2 (2.2)	2.1 (2.2)	2.2 (3.7)	2.4† (3.0)

† Statistically significant difference across residency groups (p<0.05).

ⁱⁱ SD - standard deviation.

ⁱⁱⁱ Neonate – <1month, Infant – 1-12 months, Toddler – 13-36 months, and Preschooler 37-84 months.

Independent of the location of the hospitals and across all three residency groups, at both assessments, the proportion of hospitalized boys among sampled children was higher than the proportion of girls (Tables 1 and 2). The mean age of children was similar across the residency groups and did not differ by the location of the hospitals at both assessments. The mean number of one child's hospitalizations during his/her life-time ranged from 1.8 among Yerevan residents to 2.4 among rural residents at mid-term; no difference was found by the hospital location at both assessments.

Socio-demographic characteristics of mothers/caregivers

Both at baseline and mid-term, the vast majority (over 98.6%) of the surveyed caregivers were the mothers of hospitalized children. No significant differences were found between the baseline and mid-term samples of respondents selected from Yerevan and marz facilities in terms of age, education, marital status, and employment (Table 3).

Table 3. Demographic characteristics of respondents by facility location

	Yerevan		Marz	
	Baseline (n=379)	Mid-term (n=381)	Baseline (n=414)	Mid-term (n=417)
Being the child's mother, %	98.7	98.7	99.3	99.5
Age, mean (SD)	29.0 (6.0)	28.2 (5.6)	27.5† (5.0)	27.5 (5.7)
<i>Marital status (%)</i>				
Married	97.9	96.3	96.9	97.4
Divorced	1.8	2.1	2.2	1.4
Widowed	0.3	0.3	0.2	0.2
Single	0.0	1.3	0.7	1.0
<i>Education (%)</i>				
School <10years	3.4	3.7	††	††
School -10 years	27.2	35.1	5.8	4.3
Prof/technical	32.2	25.9	35.5	46.8
University/higher	37.2	35.4	41.8	30.2
Employed, % ^{iv}	32.0	28.3	16.9	18.7
			23.2†	24.6

† Statistically significant difference between Yerevan and marz hospitals (p<0.05).

†† Statistically significant difference between Yerevan and marz hospitals for the whole item (p<0.05).

At both assessments, the mean age and marital status of the respondents did not differ significantly between the samples by hospital location and across the residency groups – Yerevan, other urban, and rural (Tables 3 and 4). The majority of respondents were young

^{iv} Caregivers were considered as employed if they reported being employed, being in maternity/pregnancy leave, self-employed, or seasonal workers/farmers, and unemployed if they reported being unemployed, being students or retired.

women (75% younger 30 years and 97% younger 40 years) and the overwhelming majority of them were married. The vast majority (over 93% in rural areas and over 95% in urban) had at least 10 years of school education. The residency groups were significantly different from each other in terms of respondents' educational level with the highest proportion of those with university and higher education living in Yerevan and the lowest in rural areas at both assessments. The same was true for their employment status with the highest proportion of employed respondents living in Yerevan and the lowest in villages (Table 4).

Table 4. Respondents' socio-demographic characteristics by residency

	Yerevan		Other urban		Rural	
	Baseline (n=282)	Mid-term (n=232)	Baseline (n=281)	Mid-term (n=270)	Baseline (n=230)	Mid-term (n=296)
Child's mother as caregiver, %	98.6	98.7	98.9	98.9	99.6	99.7
Age, mean (SD)	29.5† (6.2)	28.8 (5.8)	27.9† (4.9)	28.0 (6.1)	27.0† (5.2)	26.9† (5.1)
<i>Marital status (%)</i>						
Married	97.2	94.8	96.1	96.7	99.1	98.6
Divorced	2.5	3.0	2.9	1.9	0.4	0.7
Widowed	0.4	0.4	0.0	0.4	0.4	0.0
Single	0.0	1.7	1.1	1.1	0.0	0.7
<i>Education (%)</i>						
	††	††			††	††
School <10years	3.2	3.9	4.6	1.9	6.5	6.1
School -10 years	23.0	26.8	27.0	39.3	47.4	54.2
Prof/technical	29.4	26.4	47.0	33.3	34.8	24.7
University/higher	44.3	42.9	21.4	25.6	11.3	14.9
Employed, %	34.9†	31.5†	25.6†	26.8	20.4†	22.0†

† Statistically significant difference across residency groups (p<0.05)

†† Statistically significant difference between residency groups for the whole item (p<0.05).

No significant differences were found between the baseline and mid-term samples of respondents from the marz strata in terms of family structure, the ratio of employed and unemployed family members, and the family's average spending per month. However, in the marz facilities strata the mean number of employed household members and the proportion of families included in "Paros" state social support program were higher at mid-term, and significantly less people perceived their standard of living substantially below average at mid-term. The only significant difference between the baseline and mid-term samples in the Yerevan strata was the reported family's average spending per month, more people at mid-term reported spending less than 50,000 AMD per month (Table 5).

Table 5. Socio-demographic characteristics of households by facility location

	Yerevan		Marz	
	Baseline (n=379)	Mid-term (n=381)	Baseline (n=414)	Mid-term (n=417)
Number of adults in a household, <i>mean (SD)</i>	3.8 (1.5)	3.8 (1.5)	3.8 (1.4)	3.8 (1.5)
Number of children in a household, <i>mean (SD)</i>	2.1 (1.1)	2.1 (1.1)	2.2 (1.0)	2.2 (1.1)
Number of employed people per household, <i>mean (SD)</i>	1.8 (1.1)	1.9 (1.2)	1.7 (1.1)	2.0* (1.3)
Employed/unemployed ratio per household, <i>mean (SD)</i>	3.4 (2.1)	3.4 (2.0)	3.5 (2.1)	3.3 (1.9)
Households included in “Paros”, %	13.5	15.2	21.5†	27.1*†
<i>Family’s perceived standard of living, %</i>				**
Substantially below average	14.8	13.9	19.1	15.3
Little below average	22.8	21.8	21.0	20.6
Average	51.9	52.8	53.4	51.8
Little above average	10.1	10.2	6.0	10.6
Substantially above average	0.5	1.3	0.5	1.7
<i>Family’s average monthly spending, %</i>		**	††	††
< 50,000 AMD	9.4	12.6	21.6	20.6
50,001 – 100,000 AMD	35.0	37.1	49.1	49.2
100,001 – 200,000 AMD	33.6	38.3	21.1	25.1
200,001 – 300,000 AMD	16.0	9.7	6.9	4.0
> 300,001 AMD	6.0	2.3	1.3	1.1

* Statistically significant difference between baseline and mid-term ($p<0.05$).

** Statistically significant difference between baseline and mid-term for the whole item ($p<0.05$).

† Statistically significant difference between Yerevan and marz hospitals ($p<0.05$).

†† Statistically significant difference between Yerevan and marz hospitals for the whole item ($p<0.05$).

The mean number of household members and the mean number of children were the same in the samples by facility location, but they ranged across the residency groups from 3.6 to 4.2 for the mean number of household members and from 2.0 to 2.3 for the mean number of children in a household (Tables 5 and 6). Both means were significantly higher in rural areas compared to urban. The same was true for the number of employed household members with higher mean numbers for rural residents, probably because seasonal work and farming was considered as employment. Each breadwinner had over three dependant (unemployed) household members (including children) regardless the residency group. The proportion of families included in “Paros” state social support program was statistically significantly higher in rural and other urban residency groups compared to Yerevan. At both assessments, there were no differences across the residency groups in terms of perceived living standards. However, families’ monthly spending was significantly higher among Yerevan residents compared to other urban and rural residents at both assessments (Table 6).

Table 6. Socio-demographic characteristics of households by residency

	Yerevan		Other urban		Rural	
	Baseline (n=282)	Mid-term (n=232)	Baseline (n=281)	Mid-term (n=270)	Baseline (n=230)	Mid-term (n=296)
Number of adults in a household, <i>mean (SD)</i>	3.7 (1.4)	3.6 (1.5)	3.6 (1.4)	3.7 (1.4)	4.2† (1.5)	4.1† (1.5)
Number of children in a household, <i>mean (SD)</i>	2.0 (1.1)	2.0 (1.2)	2.0 (1.0)	2.1 (1.0)	2.3† (1.0)	2.3† (1.1)
Number of employed people per household, <i>mean (SD)</i>	1.8 (1.0)	1.7 (1.1)	1.5 (1.0)	1.8* (1.1)	2.0† (1.3)	2.3*† (1.4)
Employed/unemployed ratio per household, <i>mean (SD)</i>	3.5 (2.2)	3.5 (2.2)	3.5 (2.2)	3.3 (1.8)	3.4 (2.1)	3.4 (1.8)
Households included in “Paros”, %	12.1	12.9	19.9†	27.0*†	21.7†	23.0†
<i>Family’s perceived standard of living, %</i>						
Substantially below average	12.1	15.1	19.9	14.8	19.7	14.2
Little below average	22.7	20.3	21.4	20.0	21.4	23.0
Average	53.9	50.9	50.5	54.4	53.7	51.4
Little above average	10.6	12.1	7.8	8.9	4.8	10.5
Substantially above average	0.7	1.7	0.4	1.9	0.4	1.0
<i>Family’s average monthly spending, % ††</i>						
< 50,000 AMD	5.7	10.6	19.2	16.0	24.1	22.0
50,001 – 100,000 AMD	33.3	29.3	45.8	47.7	49.5	50.2
100,001 – 200,000 AMD	34.1	45.2	25.5	29.2	20.3	23.1
200,001 – 300,000 AMD	19.2	12.0	7.4	5.3	6.1	4.0
> 300,001 AMD	7.7	2.9	2.2	1.6	0.0	0.7

* Statistically significant difference between baseline and mid-term ($p<0.05$).

** Statistically significant difference between baseline and mid-term for the whole item ($p<0.05$).

† Statistically significant difference across residency groups ($p<0.05$).

†† Statistically significant difference between residency groups for the whole item ($p<0.05$).

Pediatric In-patient Care

Patterns of referral and hospital stay

The hospitalization cases with the outcome of child’s death were excluded from the study sampling frame; however, mothers of five children who died later-on agreed to participate in the survey. The baseline database contained data on two such cases (0.3%) and the mid-term database on three (0.4%). Both cases interviewed at baseline were self-referred to the hospital. Two of the three cases at mid-term were again self-referred, and the third was transferred from an obstetric department. Of these five cases, three were hospitalized with pneumonia, one with intracranial hemorrhage, and one with severe prematurity. Only the case with intracranial hemorrhage interviewed at mid-term reported paying 12,000 AMD for instrumental examinations. Neither of the remaining cases made any payments while being in the hospital.

The only significant change between the two assessments was observed in Yerevan hospitals in terms of decrease of self-referrals and increase of transfers from other facilities (Table 7). The referrals through PHC providers also increased in Yerevan, although it did not reach statistical significance. Both at baseline and mid-term, the majority of studied cases were self-referred to hospital. At both assessments, this referral pattern was more common for marz facilities, but it reached statistical significance only at mid-term. The next frequent mode of referral was through primary health care (PHC) providers (almost third of the cases both in Yerevan and marz hospitals). Referral through an emergency/ambulance service was more widespread in Yerevan facilities compared to marz facilities (Table 7). The weighted estimates for the referrals to represent all hospitalized cases registered in the SHA database were: self referral - 60.1% at baseline and 55.9% at mid-term, referral through PHC provider - 28.1% and 30.2%, respectively, ambulance - 7.7% and 6.2%, transfer from other facility - 3.9% and 6.9%.

Table 7. Patterns of referrals to the hospital by facility location

	Yerevan, %		Marzes, %		Total, %	
	Baseline (N=382)	Mid-term (N=383)	Baseline (N=417)	Mid-term (N=417)	Baseline (N=799)	Mid-term (N=800)
Self-referral	57.6	49.9*	63.6	65.2†	60.6	57.9
PHC provider	24.9	30.3	32.6†	30.0	28.9	30.1
Ambulance	11.0	8.1	3.1†	3.4†	6.9	5.6
Transfer	6.0	10.4*	0.9†	1.4†	3.4	4.9
Other	0.5	1.8	-	-	0.3	0.9

* Statistically significant difference between baseline and mid-term ($p < 0.05$).

† Statistically significant difference between Yerevan and marz hospitals ($p < 0.05$).

The proportion of cases presenting to the hospital an official referral form from the PHC facility increased significantly both in Yerevan and marz facilities (from 54.7% to 71.2% in Yerevan and from 55.0% to 71.4% in marzes, $p < 0.001$ for both). The overwhelming majority of cases interviewed at mid-term presented the Child Health State Certificate to the hospital. This proportion was 97.4% for Yerevan hospitals and 97.8% for marz hospitals. A few cases (7 in Yerevan and 8 in marzes) at mid-term who did not present the certificate explained that they did not have it at the time of hospitalization and only one respondent said that the hospital did not ask for it. The most common reason for not possessing the certificate was not applying to a PHC facility for the certificate yet. Only one respondent reported that the PHC facility refused to give them the certificate, and another one stated that she was not aware of the certificate at that time (both from marzes).

According to the self-reported data, the mean duration of child's hospital stay did not change significantly since the baseline assessment neither in Yerevan, nor in marz facilities (from 7.3 to 8.0 in Yerevan and from 5.8 to 6.1 in marz facilities). At both assessments, the mean hospital stay was significantly longer in Yerevan facilities compared to marz facilities ($p < 0.001$ for both comparisons). The hospital stay in the whole sample was 6.5 days (SD 5.0) at baseline and 7.0 days (SD 5.7) at mid-term; this change did not reach statistical significance. The weighted estimates for all hospitalized cases were 6.7 days at baseline and 7.3 days at mid-term.

The sample means were not statistically significantly different from the mean number of hospital stay calculated using the admission and discharge dates of the surveyed cases taken from the SHA database.

Overall payments for pediatric inpatient care

The study observed a sharp decrease in the proportion of those who made any payment for pediatric hospital services: this decrease was highly significant for both Yerevan hospitals (from 63.9% to 20.6%) and marz hospitals (from 47.4% to 8.9%, Table 8 and Figure 3). The same pattern was observed for the whole sample - from 55.3% of the cases included in the baseline sample to 14.5% of those included in the mid-term sample ($p < 0.001$). The weighted estimates for all hospitalized cases were 57.1% at baseline and 16.0% at mid-term. Those who were treated in Yerevan hospitals more frequently reported making a payment for the care than those who were hospitalized in marz facilities both at baseline and mid-term. These differences between Yerevan and marz hospitals were statistically significant at both baseline and mid-term.

At mid-term, a few respondents still reported making a payment for pediatric inpatient care as a whole package of services, but the proportion of such cases decreased dramatically in Yerevan hospitals (from 45.6% or 108 respondents to 10.3% or 8 respondents) in Yerevan hospitals; it did not change in marz hospitals (from 6.2% or 12 respondents to 10.8% or 4 respondents) (Table 8). When conducting the same analysis with one of the Yerevan hospitals excluded^v the proportions for Yerevan hospitals changed (from 20.3% or 29

^v A hospital that was piloting a different payment approach.

respondents to 12.7% or 8 respondents); the observed dynamics in the proportions of those who paid for services and in the overall mean payments did not change in the analysis without this hospital.

Table 8. Payments^{vi} for pediatric hospital care by facility location

	Yerevan		Marzes		Total	
	Baseline N=382	Mid-term N=383	Baseline N=418	Mid-term N=418	Baseline N=800	Mid-term N=801
Made any payment, % (n)	63.9 (244)	20.6* (79)	47.4† (198)	8.9*† (37)	55.3 (443)	14.5* (116)
Overall spending of those who paid [§] , mean (SD), median	N=227 46,335 (57,566) 30,000	N=74 39,174 (48,923) 20,000	N=184 35,329† (34,160) 25,000	N=35 17,751*† (26,035) 10,000	N=411 41,408 (48,760) 30,000	N=109 32,295 (43,957) 17,000
Proportion of those who paid to cashier, % (n)	N=208 52.9 (110)	N=68 29.4* (20)	N=172 7.0† (12)	N=33 18.2* (6)	N=380 32.1 (122)	N=101 25.7 (26)
Overall payment to cashier [£] , mean (SD), median	18,063 (22,521) 9,000	5,588* (13,004) 0	919† (5,999) 0	1,439 (3,583) 0	10,303 (19,138) 0	4,233* (11,011) 0
Proportion of those who made a payment as a whole package, % (n)	N=237 45.6 (108)	N=78 10.3* (8)	N=195 6.2† (12)	N=37 10.8 (4)	N=432 27.8 (120)	N=115 10.4* (12)
Of those who paid, borrowed money to cover expenses, % (n)	N=186 34.4 (64)	N=77 31.2 (24)	N=194 41.8 (81)	N=34 29.4 (10)	N=380 38.2 (145)	N=111 30.6 (34)

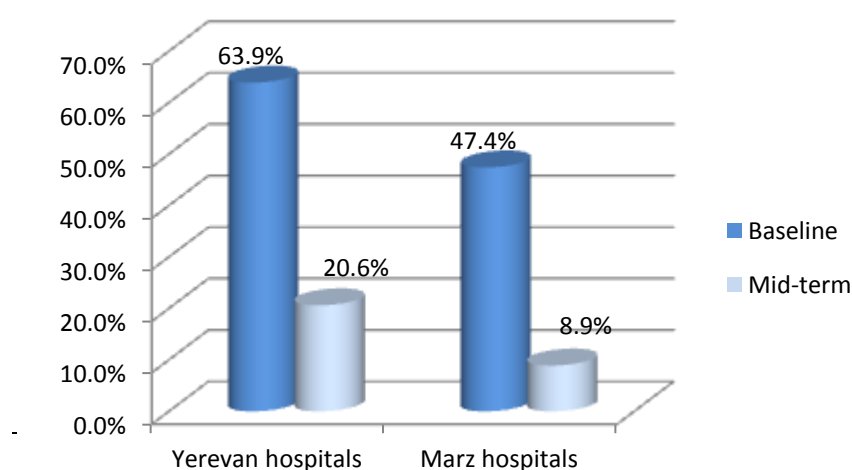
[§] For those who made any payment in the hospital and reported the amount.

[£] For those who made any payment in the hospital and reported the amount paid to the cashier, including 0.

* Statistically significant difference between baseline and mid-term (p<0.05).

† Statistically significant difference between Yerevan and marz hospitals (p<0.05).

Figure 3. Proportions of those who paid for pediatric inpatient care



The number of not honest or contradictory responses^{vii} on the payments for pediatric hospital care also decreased from baseline to the mid-term (from 21 to 4 among those treated in Yerevan facilities and from 13 to 6 among those treated in marz hospitals).

The reported mean spending on child's hospitalization (of those who paid for the care and reported the amount) decreased significantly in marz hospitals (from 35,329 AMD to 17,751 AMD, $p<0.005$), but the detected decrease of this amount in Yerevan hospitals (from 46,335 AMD to 39,174 AMD) was not statistically significant.

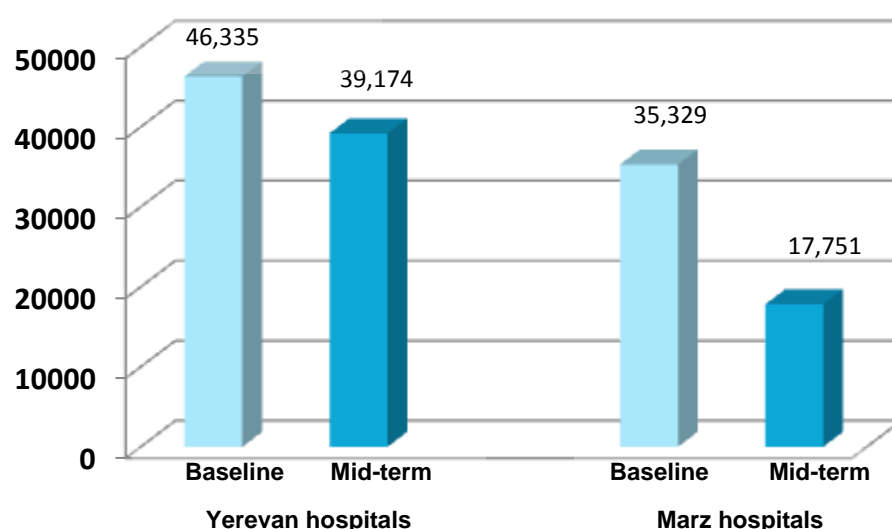
For the total sample, the overall mean spending on child's hospital care (of those who paid for the care and reported the amount) decreased from 41,408 AMD at baseline to 32,295 AMD at mid-term (Table 8). This decrease, however, did not reach the level of statistical significance. The weighted estimates for all hospitalized cases were 42,575 AMD at baseline and 34,477 AMD at mid-term.

From the overall spending, the reported mean amount paid to cashier in Yerevan facilities decreased significantly (from 18,063 AMD to 5,588 AMD, $p<0.001$). The opposite (not significant) trend was noticed for the marz facilities (from 919 AMD to 1,439 AMD). For the whole sample the payment to cashier was 10,303 AMD at baseline and 4,233 AMD at mid-term; this reduction was statistically significant ($p<0.005$). The weighted estimates for all hospitalized cases were 12,129 AMD at baseline and 4,660 AMD at mid-term. When excluding one hospital from the Yerevan sample, the amount paid to cashier was 7,142 AMD at baseline and 5,782 AMD at mid-term. The baseline-mid-term difference in this case was not significant in Yerevan.

At both baseline and mid-term, patients who paid for the hospitalization services, reported spending significantly more in Yerevan facilities compared to marz facilities ($p<0.05$ for both; Table 8). At both baseline and mid-term, the reported payment to cashier (for those who made any payment for child's inpatient care) was also significantly higher in Yerevan and marz hospitals ($p<0.001$; Table 8 and Figure 4).

^{vii} Those cases, when the interviewers observed that family members of a selected respondent were not allowing the respondent to tell the truth about the hospital payments.

Figure 4. Reported overall mean spending on pediatric inpatient care in AMDs



At both assessments, around one-third of those who paid for the child's hospital care reported that they had to borrow money to cover these expenses. There were no significant differences in terms of this proportion between Yerevan and marzes; at mid-term substantially less people (41.8% or 81 respondent vs. 29.4% or 10 respondents at mid-term) reported borrowing money to pay for the child's hospitalization in marz facilities, but the difference was not statistically significant, probably because of small numbers involved (Table 8).

Payments for secondary and tertiary pediatric care

Payment practices were also compared between hospitals providing tertiary and secondary pediatric care. All the pediatric hospitals were considered as tertiary care facilities. These included all the hospitals located in Yerevan, the "Austrian" Pediatric Hospital in Gyumri, Shirak marz and the "Masis" Pediatric Orthopedic Republican Hospital in Ararat marz. All the remaining hospitals providing pediatric inpatient care in pediatric departments (pediatric beds) of the regional general hospitals were considered as settings providing secondary pediatric care. As this distribution of hospitals was rather close to the Yerevan-marz distribution, the findings were generally similar.

Table 9 shows the proportions of those who paid for care in secondary and tertiary care settings and the amounts paid. Again, the proportion of those who paid for the care decreased significantly in both types of hospitals. Both at baseline and mid-term, more people reported making payments for the care in the hospitals providing tertiary care compared to those

providing secondary care. The same was true for the overall mean payment, which was significantly more in tertiary care facilities than in secondary at both assessments. This amount decreased in both types of hospitals, but the reported decrease reached the level of statistical significance only in secondary care facilities. Indeed, overall mean payment to cashier increased significantly in secondary care facilities, while in tertiary care facilities it decreased significantly (Table 9).

Table 9. Payments in secondary vs. tertiary level facilities

	Secondary care facilities		Tertiary care facilities	
	Baseline N=359	Mid-term N=356	Baseline N=441	Mid-term N=445
Made any payment, % (n)	44.3 (159)	9.3* (33)	63.7† (281)	18.7*† (83)
	N=146	N=31	N=263	N=78
Overall spending of those who paid [§] , mean (SD), median	28,534 (24,864) 20,000	13,365* (12,439) 10,000	48,749† (56,793) 30,000	39,819† (49,479) 20,000
	N=136	N=30	N=242	N=71
Proportion of those who paid to cashier, % (n)	5.1 (7)	20.0 (6)	46.7 (113)	28.2 (20)
Overall payment to cashier [£] , mean (SD), median	327 (1,847) 0	1,583* (3,733) 0	15,864† (22,021) 0	5,352* (12,773) 0
	N=155	N=33	N=275	N=82
Proportion of those who made a payment as a whole package, % (n)	3.9 (6)	9.1 (3)	41.1† (113)	11.0* (9)
	N=157	N=30	N=223	N=81
Of those who paid, borrowed money to cover expenses, % (n)	39.5 (62)	23.3 (7)	37.2 (83)	33.3 (27)

[§] For those who made any payment in the hospital and reported the amount.

[£] For those who made any payment in the hospital and reported the amount paid to the cashier, including 0.

* Statistically significant difference between baseline and mid-term (p<0.05).

† Statistically significant difference between hospitals providing secondary and tertiary pediatric care (p<0.05).

Only a few people reported making a payment for all services as a whole package in secondary care facilities at both assessments, while in tertiary care facilities the proportion of those making such payment decreased significantly from 41.1% to 11.0%. When conducting the same analysis with one of the tertiary hospitals excluded, the proportion of those who made a payment as a whole package was 19.2% at baseline and 13.4% at mid-term and the overall mean payment to cashier was 6,252 AMD at baseline and 5,483 AMD at mid-term.

Types of unofficial payments in pediatric hospitals

Among those who made any payment for child's hospital care (excluding those who paid as a whole package), slightly different patterns of payment types in terms of their reported frequencies were observed between Yerevan and marz hospitals (Table 10). At baseline, those who reported making any payment for their child's hospital care in Yerevan, paid most frequently for instrumental examinations (59.5%), followed by paying doctors (53.3%), paying for drugs/supplies from pharmacy (50.7%), paying nurses (50.7%), and paying for laboratory tests (48.8%). Those who paid for child's hospital care in marzes, reported most frequently paying for drugs/supplies from pharmacy (76.3%), followed by paying doctors (66.7%) and nurses (53.2%), paying for laboratory tests (38.4%) and for instrumental examinations (30.6%). The reported frequencies of many different types of payments decreased significantly at mid-term in both Yerevan and marz hospitals. At mid-term, the sequence of most frequently reported types of payments in Yerevan hospitals (among those who paid) was the following (Table 10): buying drugs from pharmacy (53.5%), paying for gifts to providers (34.3%), paying doctors (26.8%) and nurses (20.0%), and paying for ambulance (20.0%). The sequence in marz facilities was basically the same: paying for drugs/supplies from pharmacy (66.7%), paying for gifts to providers (24.2%), paying doctors (21.2%), paying for laboratory tests (12.5%) and for ward (12.1%).

For the total sample, the most frequent type of payment was paying for drugs/supplies from pharmacy to provide the hospitalized child with the drugs he/she needed at both baseline and mid-term (65.4% and 57.7%, respectively, of those who made any payment) (Table 10). At baseline, paying doctors was second place (61.1%), followed by paying nurses (52.2%), paying for instrumental examinations (48.1%), and laboratory tests (42.8%). This sequence changed at mid-term: paying for gifts to providers was second place (31.1% of those who made any payments), followed by paying doctors (25.0%), paying for ward (20.2%) and ambulance (18.2%).

In general, the reported frequencies of many different types of payments decreased significantly after implementing the Child Health State Certificate program. Among these were payments to doctors (for the whole sample, from 61.1% to 25.0% of those who made any payment, $p<0.001$), to nurses (from 52.2% to 16.5%, $p<0.001$), to cleaning ladies (from

30.3% to 15.5%, $p<0.01$), for instrumental examinations (from 48.1% to 16.9%, $p<0.001$), and for laboratory tests (from 42.8% to 10.1%, $p<0.001$) (Table 10).

Table 10. Reported frequencies of payments for different services among those who made any payment^{viii} by facility location

	Yerevan		Marzes		Total	
	Baseline N=136	Mid-term N=71	Baseline N=186	Mid-term N=33	Baseline N=322	Mid-term N=104
For drugs/supplies from pharmacy, % (n)	50.7 (70)	53.5 (38)	76.3† (142)	66.7 (22)	65.4 (212)	57.7 (60)
To doctors for treatment, % (n)	53.3 (72)	26.8* (19)	66.7 (124)	21.2* (7)	61.1 (196)	25.0* (26)
To nurses for manipulations, % (n)	50.7 (69)	20.0* (14)	53.2 (99)	9.1* (3)	52.2 (162)	16.5* (17)
To cleaning ladies, % (n)	32.8 (45)	18.6* (13)	28.5 (53)	9.1* (3)	30.3 (98)	15.5* (16)
For the ward, % (n)	23.4 (32)	23.9 (17)	12.4† (23)	12.1 (4)	17.0 (55)	20.2 (21)
For any gifts to providers, % (n)	23.9 (33)	34.3 (24)	23.9 (44)	24.2 (8)	23.9 (77)	31.1 (32)
	N=127	N=71	N=177	N=31	N=304	N=102
To the department head, % (n)	17.3 (22)	7.0* (5)	5.6† (10)	0	10.5 (32)	4.9 (5)
	N=111	N=59	N=72	N=18	N=183	N=77
For instrumental examinations, % (n)	59.5 (66)	18.6* (11)	30.6† (22)	11.1 (2)	48.1 (88)	16.9* (13)
	N=127	N=67	N=177	N=32	N=304	N=99
For laboratory tests, % (n)	48.8 (62)	9.0* (6)	38.4 (68)	12.5* (4)	42.8 (130)	10.1* (10)
	N=17	N=10	N=7	N=1	N=24	N=11
To the ambulance, % (n)	35.3 (6)	20.0 (2)	28.6 (2)	0	33.3 (8)	18.2 (2)
	N=127	N=56	N=143	N=26	N=270	N=82
For drugs/supplies from hospital, % (n)	7.9 (10)	3.6 (2)	11.2 (16)	3.8 (1)	9.6 (26)	3.7 (3)

* Statistically significant difference between baseline and mid-term ($p<0.05$).

† Statistically significant difference between Yerevan and marz hospitals ($p<0.05$).

The report does not present weighted estimates of frequencies of payments for different services among those who made any payment as not everyone who made a payment answered all the questions about specific services.

At the baseline assessment, the Yerevan and marz hospitals were significantly different from each other in terms of the reported frequencies of making some types of payments. In particular, patients who made any payments, paid more frequently for drugs/supplies from

^{viii} These payments do not include paying for all services as a whole package.

pharmacies in marzes than in Yerevan (76.3% vs. 50.7%), while in Yerevan hospitals, paying for instrumental examinations (59.5% in Yerevan vs. 30.6% in marzes), for the ward (23.4% vs. 12.4%), and to department heads (17.3% vs. 5.6%) was a more frequent practice than in marz hospitals. At the mid-term assessment, all these differences remained, but did not reach the level of statistical significance; this could be because of the much lower number of those who made any payments (Table 10).

In a few cases, mainly at baseline, respondents reported making other payments than specified in the study questionnaire. These included paying for transportation to the hospital (11 reports), for the medical record (8 reports), for child's food (7 reports), for visiting the child (3 reports), for medical information/epicrisis (3 reports), for discharging the child (2 reports), for child's care/hygiene supplies (1 report), for elevator (1 report), and others.

Table 11 provides the mean and median amounts of payments made in Yerevan and marz hospitals for different services at baseline and mid-term (only for those who made such payments and reported the sums). In general, the numbers of those who reported paying for any of these services decreased sharply since the baseline. At both assessments, the payments to doctors were usually the highest, followed by the payments for wards and for drugs/supplies from pharmacy. The reported mean payment to nurses for manipulations increased in both Yerevan and marz hospitals, reaching a statistical significance only in the total sample (probably because of low numbers of those who paid at mid-term). The amount paid for instrumental examinations also increased significantly in both Yerevan hospitals and in the total sample. This could be a result of the increased proportion of expensive/rare instrumental examinations in the overall pool of instrumental examinations for which patients paid. Some payments decreased significantly since the baseline, including the payments for laboratory tests in the Yerevan hospitals, the payments to doctors and the spending on drugs/medical supplies from pharmacy in marz hospitals. A few people reported paying to the ambulance at baseline (seven of them reported paying 1,000 – 3,000 AMD and one 160,000 AMD for transferring the child from marz to Yerevan) and only two at mid-term (one reported paying 2,000 AMD and one 30,000 AMD).

The report does not present weighted estimates of mean payments for different services among those who made any payment as not everyone who made a payment answered all the questions about specific services or reported the paid amount.

**Table 11. Reported mean payments for different services among those who paid (AMD)
by facility location**

	Yerevan		Marzes		Total	
	Baseline	Mid-term	Baseline	Mid-term	Baseline	Mid-term
For drugs/supplies from pharmacy, <i>mean, median</i>	N=62 13,494 6,250	N=32 16,653 5,500	N=114 13,641 10,000	N=20 8,500* 5,500	N=176 13,589 7,250	N=52 13,517 5,500
To doctors for treatment, <i>mean, median</i>	N=71 32,275 20,000	N=17 26,471 10,000	N=111 20,189† 10,000	N=6 8,500*† 5,500	N=182 24,904 15,000	N=23 21,783 10,000
To nurses for manipulations, <i>mean median</i>	N=64 7,789 5,000	N=12 14,542 6,000	N=90 5,600† 4,000	N=3 10,333 8,000	N=154 6,510 5,000	N=15 13,700* 7,000
To cleaning ladies, <i>mean, median</i>	N=42 3,048 2,000	N=10 5,150 2,500	N=49 2,800 2,000	N=3 2,333 2,000	N=91 2,914 2,000	N=13 4,500 2,000
For the ward, <i>mean, media</i>	N=30 16,174 11,000	N=17 20,412 12,000	N=21 4,619† 3,000	N=4 7,000† 7,000	N=51 11,400 6,000	N=21 17,857 10,000
For any gifts to providers, <i>mean, median</i>	N=29 10,069 10,000	N=20 8,100 8,500	N=31 5,855 5,000	N=7 11,857 10,000	N=60 7,892 5,000	N=27 9,074 10,000
To department heads, <i>mean, median</i>	N=24 18,333 15,000	N=5 13,600 8,000	N=9 15,556 10,000	N=0 - -	N=33 17,576 15,000	N=5 13,600 8,000
For instrumental exams, <i>mean, median</i>	N=61 6,770 4,000	N=12 12,834 9,000	N=18 4,361 3,000	N=2 2,500† 2,500	N=79 6,222 3,500	N=14 11,357* 5,500
For laboratory tests, <i>mean, median</i>	N=58 6,526 4,750	N=5 3,000* 4,000	N=60 2,537† 2,000	N=4 2,625 2,500	N=118 4,497 3,000	N=9 2,833 3,000
For drugs/supplies from hospital, <i>mean, median</i>	N=8 6,375 1,000	N=2 1,500 1,500	N=9 6,556 3,000	N=1 30,000* 30,000	N=17 6,471 3,000	N=3 11,000 3,000

* Statistically significant difference between baseline and mid-term ($p<0.05$).

† Statistically significant difference between Yerevan and marz hospitals ($p<0.05$).

At both assessments, Yerevan and marz hospitals were significantly different from each other in terms of the mean payments to providers and for getting a ward (with higher reported amounts in Yerevan hospitals). The mean payments for laboratory tests at baseline and for instrumental examinations at mid-term were also significantly higher in Yerevan compared to marzes, probably because of higher availability of expensive tests and instrumental examinations in Yerevan hospitals (Table 11).

The study detected several important differences between Yerevan and marz hospitals in terms of use of different services among those who reported paying for certain hospital services. Those who paid for pediatric hospital care, were asked whether the child underwent instrumental examinations or laboratory tests while in hospital, whether he/she received drugs from the hospital, and whether they used ambulance service. The baseline assessment identified statistically significant differences in the use of instrumental examinations and drugs between Yerevan and marz hospitals. Both these services and supplies were more used in Yerevan hospitals compared to marz facilities. The ambulance service was also much less used in marzes. Despite the lower number of those who paid for hospital services (and thus, answered this item), the mid-term assessment also detected similar statistically significant difference between Yerevan and marz facilities in term of usage of instrumental examinations. The study found that the proportion of those who were not provided with drugs in the hospital (among those who made payments for care) increased significantly in Yerevan hospitals from 7.3% at baseline to 20.0% at mid-term. Although this question was not about availability of the mentioned services, however, they could suggest about lack of availability of instrumental examinations and drugs in the hospitals, particularly in marz hospitals.

Differences in overall spending across residency groups

The proportion of those who made any payment for child's inpatient care was significantly different across residency groups at baseline with the highest proportion among Yerevan residents (65.7%) and the lowest among residents of other cities (45.3%). At the mid-term assessment, all these proportions decreased significantly and the differences across residency areas disappeared (Table 12). The weighted estimates for these proportions at baseline and mid-term were: Yerevan – 65.7% to 16.7%; other urban – 47.4% to 11.9%; villages – 58.2% to 18.1%.

No statistically significant differences in the mean overall spending were detected across residency groups both at baseline and mid-term (Table 12). The mean overall spending on child's hospital care decreased substantially among residents of Yerevan and other cities, but this decrease was not statistically significant, probably because of small numbers of those who reported making any payments and reported the amount at mid-term. The mean overall spending for our sample almost did not change in rural areas, but its weighted estimate

decreased considerably. The weighted estimates for the mean overall spending at baseline and mid-term were: Yerevan – 41,464 AMD to 25,442 AMD; other urban – 42,429 AMD to 21,887 AMD; rural areas – 46,114 AMD to 31,950 AMD.

“Thank you” payments and gifts

When calculating the rates of those who spent on gifts from all respondents who gave a valid answer to both the item on any payments and the item on gifts, the decrease was statistically significant across all population groups: residents of Yerevan (from 12.9% to 4.0%), other urban areas (from 10.2% to 2.2%), and rural areas (from 11.6% to 5.8%) (Table 12 and Figure 5). At baseline, there was no significant difference by residency in the proportions of those who spent on gifts for providers. At mid-term, this proportion was significantly lower among those living in other urban areas compared to rural residents (Table 12). The weighted estimates at baseline and mid-term were: Yerevan – 13.0% to 4.0%; other urban areas – 10.1% to 2.5%; rural areas – 11.1% to 7.0%.

The mean amount spent on gifts was similar across residency areas at both baseline and mid-term and did not change significantly since baseline (Table 12). The weighted estimates for mean spending on gifts at baseline and mid-term were: Yerevan - 9,533 AMD to 10,000 AMD; other urban areas - 7,879 AMD to 11,011 AMD; rural areas - 8,334 AMD to 9,816 AMD.

The trend was similar when analyzing the gifts /“thank you” payments by the location of the hospital. The overall number of those who reported spending on gifts for providers decreased considerably since baseline: in Yerevan facilities from 33 to 24 and in marzes from 44 to 8 (Table 10). In terms of proportion of those who spent on gifts among all those who paid for the care and the mean amount spent on gifts (among those who paid and reported the amount) did not change statistically significantly in Yerevan or marz facilities (Tables 10 and 11). However, calculating the rates of those who spent on gifts from all respondents who gave a valid answer to the items on any payments and on gifts, the decrease was statistically significant: in Yerevan hospitals it decreased from 12.1% to 6.4% and in marz hospitals from 11.1% to 1.9%.

Table 12. Overall spending on child care and spending on gifts for providers by residency

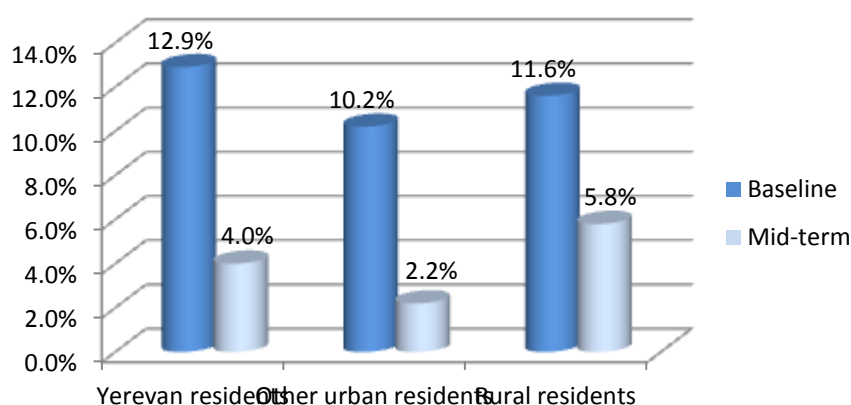
	Yerevan		Other urban		Rural	
	Baseline N=283	Mid-term N=233	Baseline N=278	Mid-term N=272	Baseline N=230	Mid-term N=295
Proportion of those who paid for services, % (n)	65.7† (186)	16.7* (39)	45.3† (126)	11.4* (31)	56.5† (130)	15.6* (46)
Overall spending on care, mean (SD), median, AMD	41,459 (55,561) 30,000	25,442 (25,481) 19,000	40,309 (39,247) 30,000	26,172 (43,945) 10,000	42,405 (47,120) 30,000	41,939 (53,918) 24,500
	N=201 [§]	N=227	N=254	N=268	N=216	N=292
Proportion of those who spent on gifts for providers, % (n)	12.9 (26)	4.0* (9)	10.2 (26)	2.2* (6)	11.6 (25)	5.8*† (17)
Spending on gifts, mean (SD), median, AMD	9,583 (11,477) 5,500	10,000 (6,803) 9,500	7,105 (5,896) 5,000	11,250 (2,500) 10,000	6,382 (4,972) 3,000	8,000 (5,691) 6,000

[§] These total numbers do not include the respondents who paid for all services as a whole package (they were not asked about the gifts) and those with “don’t know”/missing responses.

* Statistically significant difference between baseline and mid-term ($p < 0.05$).

† Statistically significant difference between rural residents and residents of other cities ($p < 0.05$).

Figure 5. Proportions of those who spent on gifts and/or “thank you” payments



“Thank you” payments and gifts in secondary and tertiary pediatric care settings

The proportion of those who spent on gifts or “thank you” payments for providers decreased significantly since the baseline assessment in both types of pediatric inpatient care settings (Table 13). At mid-term, these settings were significantly different from each other in this respect: spending on gifts/“thank you” payments were more common in tertiary care facilities compared to secondary care facilities, although the absolute proportion of those making such spending was small in both types of facilities: 5.7% vs. 2.0%, respectively. The mean

spending on gifts/“thank you” payments was 6,063 AMD at baseline and 10,500 AMD at mid-term in secondary care facilities, but this difference did not seem to be statistically significant, mainly because of small numbers of people making those payments and reporting the amount. The mean spending on gifts/“thank you” payments remained about 9,000 AMD in tertiary care facilities.

Table 13. Spending on gifts for providers in secondary and tertiary care settings

	Secondary care facilities		Tertiary care facilities	
	Baseline N=344	Mid-term N=352	Baseline N=323	Mid-term N=435
Proportion of those who spent on gifts/“thank you” payments for providers, % (n)	10.5 (36)	2.0* (7)	12.7 (41)	5.7*† (25)
	N=24	N=6	N=36	N=21
Spending on gifts, mean (SD)	6,063 (6,179)	10,500 (6,285)	9,111 (10,298)	8,667 (5,595)
median, AMD	4,000	10,000	5,500	9000

* Statistically significant difference between baseline and mid-term (p<0.001).

† Statistically significant difference between secondary and tertiary care facilities (p<0.01).

Awareness of free in-patient care

Almost two-thirds of the respondents were aware of their right of getting free hospital care for their under-seven years-old child[ren] at the baseline assessment. At the mid-term assessment, almost all the surveyed mothers/caregivers reported that they were aware of this right; no difference between residency groups. The observed increase in the level of awareness was highly statistically significant among all residency groups (Table 14). There was no difference between those getting treatment in Yerevan hospitals and in marz hospitals in terms of this indicator (at baseline: 63.4% and 65.6%, respectively; at mid-term: 98.2% and 96.2%, respectively).

At baseline, the main source of information about free of charge hospital care for children under 7 years old was mass media (TV, radio, newspapers) closely followed by healthcare providers in all three residency groups. About one-fifth of the respondents in all three groups reported that they learned from posters in health facilities about free pediatric hospital care. At mid-term, the role of healthcare provides as a source for this information increased significantly among all residency groups (Table 14) and providers became the most important source of information. The role of mass media and posters in health facilities decreased significantly at mid-term. The Child Health State Certificate itself served as a source of

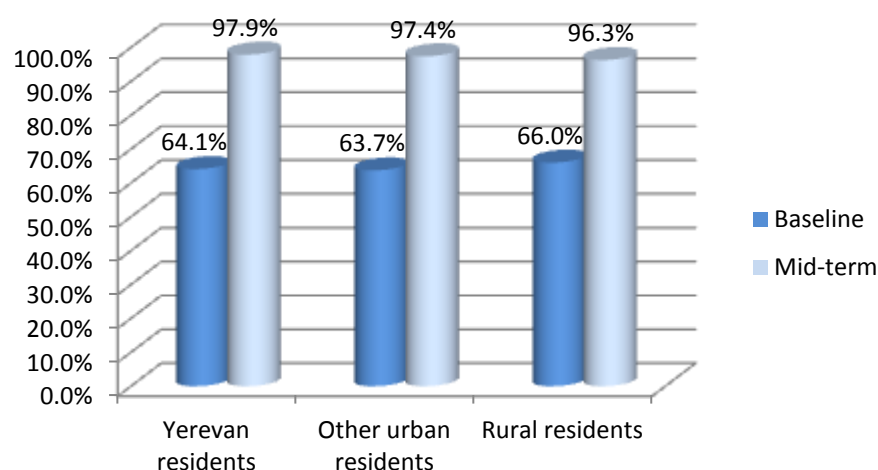
information about free of charge pediatric hospital care for up to 30%-40% of the respondents (Table 14). The study did not find any statistically significant differences about the sources of information between the residency groups.

Table 14. Awareness about free of charge hospital care for children under seven years old by residency

	Yerevan		Other urban		Rural	
	Baseline (N=284)	Mid-term (N=233)	Baseline (N=281)	Mid-term (N=271)	Baseline (N=235)	Mid-term (N=297)
Aware of free of charge hospital care for children under seven, %	64.1	97.9*	63.7	97.4*	66.0	96.3*
Learned from posters in health care facilities, %	18.2	8.7*	18.5	9.1*	23.1	9.0*
Learned from mass media (TV, radio, newspapers), %	47.8	32.8*	48.3	28.3*	48.4	27.1*
Learned from healthcare providers, %	42.2	74.2*	44.4	67.2*	43.9	66.7*
Learned from the child health certificate, %	-	28.8	-	40.4	-	34.5
Learned from neighbors/friends/relatives, %	2.8	2.2	4.5	3.0	1.9	2.8

* Significant difference between baseline and mid-term ($p < 0.001$).

Figure 6. Awareness of free pediatric inpatient care for children under seven years old



Current experience with the Child Health State Certificate

At mid-term in June-July 2011, the vast majority of children in all residency groups received the Child Health State Certificate. This proportion ranged from 86.1% of hospitalized

children in rural areas to 94.9% in Yerevan and, in all three residency groups, was significantly higher than the proportions of those who received the CHSC at the baseline assessment in March-April 2011. However, at mid-term, this proportion was significantly higher in Yerevan compared to other urban and rural population groups (Table 15).

Table 15. Current experience with the Child Health State Certificate (CHSC) by residency

	Yerevan		Other urban		Rural	
	Baseline N=433[§]	Mid-term N=389	Baseline N=467	Mid-term N=455	Baseline N=417	Mid-term N=539
Children under 7 who received CHSC, %	51.3	94.9*	47.8	89.0*†	45.6	86.1*†
Families, who:	N=152[‡]	N=228	N=146	N=269	N=115	N=293
Used CHSC, %	27.0	98.7*	24.0	99.3*†	30.4	99.0*
Were:	N=41[‡]	N=219	N=35	N=267	N=34	N=288
Satisfied with CHSC, %	87.8	87.7	88.6	95.9†	82.4	93.8*†
Neutral, %	2.4	5.5	2.9	3.4	0	2.4*
Dissatisfied, %	9.8	6.8	8.6	0.7*†	17.6	3.8*†

[§] These totals include all children under seven years old living in the surveyed families of the given residency group.

[‡] Number of families, the child(ren) of which received the CHSC.

[‡] Number of families who used the CHSC.

* Statistically significant difference between baseline and mid-term ($p < 0.01$).

† Statistically significant difference across residency groups ($p < 0.05$).

The vast majority of those who used the CHSC were satisfied with it at both baseline and mid-term (Table 15). The main reason for being satisfied was being able to actually receive free of charge care and the main reason of being dissatisfied was being forced to pay for it. Only among the Yerevan residents the study did not find any significant changes in terms of satisfaction between the baseline and mid-term assessments (Table 15). At the mid-term assessment, 95.9% of other urban and 93.8% of rural respondents were satisfied with the CHSC, which was statistically significantly higher than the satisfaction rate among Yerevan respondents (87.7%, $p=0.01$ and $p=0.02$, respectively). The rate of those who were satisfied with CHSC increased significantly among rural residents since the baseline assessment, while the rates of those being dissatisfied significantly decreased. The rate of those dissatisfied with the certificate significantly decreased among other urban residents as well. Overall, small proportions of people were dissatisfied with the CHSC Program at both assessments. At mid-term, statistically significantly lower proportion of other urban respondents (0.7%) were dissatisfied with the Program compared to Yerevan and rural respondents (6.8% and 3.8%, respectively, $p < 0.01$ for both).

Table 16 illustrates the satisfaction rates of respondents who used the CHSC by hospitalization location. At the mid-term assessment, mothers/caregivers of the children treated in marz facilities were more satisfied with the CHSC program than those whose children were treated in Yerevan facilities (96.6% vs. 88.6%, $p<0.01$). Consistent with this, significantly lower proportion of respondents whose children were treated in marz facilities were neutral or dissatisfied with the CHSC program than those whose children were treated in Yerevan facilities (respectively, 2.2% vs. 5.2% neutral, $p<0.05$ and 1.2% vs. 6.3% dissatisfied, $p<0.01$).

Since the baseline assessment, the satisfaction rates with the CHSC program increased significantly among those who got treatment in marz facilities (from 85.7% to 96.6%, $p<0.01$), while dissatisfaction rates decreased (from 12.5% to 1.2%, $p<0.01$). No significant changes in these rates were detected among those treated in Yerevan facilities (Table 16). The weighted estimates for all hospitalized cases at mid-term were: 91.8% satisfied, 4.0% neutral, and 4.3% dissatisfied.

Table 16. Satisfaction with the CHSC among the families who used it by facility location

Satisfaction with CHSC	Yerevan		Marzes		Total	
	Baseline n=54	Mid-term n=367	Baseline n=56	Mid-term n=407	Baseline n=110	Mid-term n=774
Satisfied, %	87.0	88.6	85.7	96.6*†	86.4	92.8
Neutral, %	1.9	5.2	1.8	2.2†	1.8	3.6
Dissatisfied, %	11.1	6.3	12.5	1.2*†	11.8	3.6

* Statistically significant difference between baseline and mid-term ($p<0.01$).

† Statistically significant difference between Yerevan and marz facilities ($p<0.05$).

Perceived quality of health services

The vast majority of the respondents expressed a readiness to return to the same hospital if needed. This indicator was similarly high among those treated in Yerevan and marz facilities. With respect to this proportion, the only significant difference between the baseline and mid-term assessments was detected for marz hospitals: the proportion of those who would return to the same hospital if needed was higher at mid-term compared to baseline (Table 17).

The proportion of those who reported receiving the epicrisis (medical case history) from the hospital statistically significantly increased at mid-term in both Yerevan and marz hospitals; at both assessments these proportions were statistically significantly lower among the

respondents treated in marz hospitals compared to Yerevan hospitals (Table 17). The vast majority of those who received epicrisis, passed it to the child's PHC provider at both assessments. This rate was similarly high for children hospitalized in Yerevan and marz facilities (Table 17).

Table 17. Some indicators on perceived/reported quality of care by facility location

	Yerevan		Marzes		Total	
	Baseline N=382	Mid-term N=383	Baseline N=419	Mid-term N=419	Baseline N=801	Mid-term N=802
Would return to the same hospital if needed, %	88.2	86.4	84.2	90.0*	86.1	88.3
Received child's epicrisis, %	73.9	85.1*	51.6†	62.8*†	64.8	73.4*
Passed the epicrisis to child's PHC provider, %	N=303 92.1	N=325 87.7	N=219 92.2	N=265 92.8	N=522 92.1	N=590 90.0

* Statistically significant difference between baseline and mid-term ($p < 0.05$).

† Statistically significant difference between Yerevan and marz hospitals ($p < 0.001$).

The proportion of those respondents who rated the overall quality of child's care as good/very good increased significantly in marz facilities, while the reported slight increase among those treated in Yerevan facilities was not significant (Table 18). The same was true for all different attributes of care the respondents were asked to rate. At mid-term, all these attributes (doctor's attitude, doctor's competence, nurses' attitude, nurses' competence, facility's physical conditions, cleanliness, availability of medical equipment and availability of drugs/medical supplies) were rated more frequently as good/very good than at baseline by the respondents treated in marz facilities. No significant changes in this respect were detected among those treated in Yerevan hospitals. Overall, at both baseline and mid-term, the ratings were very high for both Yerevan and marz facilities with respect to all attributes related to healthcare personnel. The remaining attributes (facility's physical conditions, cleanliness, availability of medical equipment and drugs/medical supplies) were rated again rather high for Yerevan hospitals (at both baseline and mid-term), but not for marz facilities. For the latter, the proportion of "good/ very good" rating at baseline was 41.1% for hospital's physical conditions and 56.3% for cleanliness, which statistically significantly improved at mid-term - 51.1% and 67.1%, respectively. These numbers were statistically significantly lower than that for Yerevan hospitals at both assessments (Table 18).

Table 18. Rating overall care and its different attributes as “good/very good” by facility location

	Yerevan		Marzes		Total	
	Baseline N=382	Mid-term N=383	Baseline N=419	Mid-term N=419	Baseline N=801	Mid-term N=802
Overall care, %	81.4	85.4	77.3	88.8*	79.3	87.2*
Doctors’ attitude, %	89.0	90.6	88.8	93.5*	88.9	92.1*
Doctors’ competency, %	90.0	90.8	85.6	91.1*	87.7	90.9*
Nurses’ attitude, %	83.9	88.1	87.5	95.4*†	85.8	91.9*
Nurses’ competency, %	83.8	88.2	82.4	94.2*†	83.1	91.3*
Physical conditions of the hospital, %	74.9	75.1	41.1†	51.1*†	57.1	62.6*
Cleanliness of the hospital, %	78.3	80.2	56.3†	67.1*†	66.8	73.4*
Availability of modern medical equipment, %	87.1	89.6	61.7†	74.2*†	76.2	82.4*
Availability of drugs and medical supplies, %	84.3	87.8	60.3†	91.3*	71.7	89.6*
	N=308	N=234	N=285	N=260	N=542	N=545
Summative satisfaction score, <i>mean (SD)</i>	28.0 (4.6)	29.4* (4.9)	25.3† (4.9)	28.0*† (4.0)	26.8 (4.9)	28.7* (4.6)

* Statistically significant difference between baseline and mid-term ($p<0.05$).

† Statistically significant difference between Yerevan and marz hospitals ($p<0.05$).

The study also looked at the dynamics of “poor/very poor” ratings of these attributes. Generally, at both baseline and mid-term, very few people gave such ratings in both Yerevan and marz samples. The two exceptions were hospital’s physical conditions and availability of drugs/medical supplies in the marz hospitals: 26.0% and 17.4% (respectively) of the respondents rated those services as “poor/very poor” at baseline. Both these indicators went down at mid-term to 19.7% for physical conditions and to 1.4% for drugs’ availability, and these were the only significant changes detected for “poor/very poor” rating.

Based on the items listed in Table 18 (each of which had five response options ranging from “very poor” to “very good”), the research team calculated the summative satisfaction score measuring respondents’ satisfaction with the hospital services. The satisfaction score ranged from 0 (the lowest possible value) to 36 (the highest). At baseline, the mean satisfaction score for Yerevan hospitals was 28.0 and for marz hospitals 25.3; at mid-term these scores increased to 29.4 and 28.0, respectively. This increase was statistically significant for both Yerevan and marz hospitals. The satisfaction summative score for Yerevan hospitals was significantly higher than for marz hospitals at both baseline and mid-term (Table 18). The score for the whole sample also improved significantly from 26.8 at baseline to 28.7 at mid-

term. The weighted estimates of summative satisfaction score for all hospitalized cases were: 26.8 at baseline and 28.8 at mid-term.

The same patterns were observed when comparing this score between the facilities providing secondary and tertiary pediatric care: significant increase in the mean summative satisfaction score from 24.8 (SD 5.1) to 27.9 (SD 4.0) in secondary care settings and from 28.0 (SD 4.4) to 29.3 (SD 4.8) in tertiary care settings, and significant differences between secondary and tertiary care facilities in terms of this score at both assessments with higher satisfaction scores in tertiary care settings.

Table 19 shows the distribution of responses to a question about up to three measures that a respondent would consider the most important to improve hospital services. At baseline, the most frequently mentioned suggestion for Yerevan hospitals was increasing providers' salary (57.0%), followed by eliminating informal payments (47.8%), while for marz hospitals improving drug supplies was the most common suggestion (55.6%), followed by improving hospital's physical conditions (50.4%), improving medical equipment (49.4%), and eliminating informal payments (45.1%). The prioritization of these measures changed considerably at mid-term. For both Yerevan and marz hospitals, the need for eliminating informal payments was mentioned significantly less frequently than at baseline (from 47.8% and 45.1% to 27.2% and 17.7% at mid-term, respectively, $p < 0.001$ for both comparisons). Increasing providers' salary was the most frequent suggestion for Yerevan hospitals, although its frequency decreased significantly compared to baseline (57.0% vs. 48.0%, $p < 0.05$). For marz hospitals, the most common suggestions at mid-term were improving physical conditions of the hospital (57.8%), improving medical equipment (56.3%), and increasing providers' salaries (39.6%). All these frequencies were significantly higher than at baseline (Table 19). Some measures were mentioned significantly less frequently at mid-term compared to baseline, including the need for increasing drug supplies and improving attitude and counseling skills of providers.

Table 19. Measures perceived as the most important to improve hospital services by facility location

	Yerevan		Marzes		Total	
	Baseline N=379	Mid-term N=383	Baseline N=419	Mid-term N=419	Baseline N=798	Mid-term N=802
Increase staff competence, %	28.3	25.8	22.7	25.1	25.3	25.4
Improve attitude/counseling skills of providers, %	26.9	23.5	18.9†	10.3*†	22.7	16.6*
Increase salary of providers, %	57.0	48.0*	32.7†	39.6*†	44.2	43.6
Improve physical conditions of the hospital, %	24.0	27.4	50.4†	57.8*†	37.8	43.3*
Improve cleanliness of the hospital, %	16.6	21.1	22.9†	30.1*†	19.9	25.8*
Improve medical equipment in the hospital, %	42.0	38.4	49.4†	56.3*†	45.9	47.8
Increase free of charge drug supplies, %	38.8	32.6	55.6†	33.2*	47.6	32.9*
Eliminate informal payments, %	47.8	27.2*	45.1	17.7*†	46.4	22.2*
No measure, as everything is good, %	1.1	5.0*	0.0†	1.0*†	0.5	2.7*

* Statistically significant difference between baseline and mid-term ($p<0.05$).

† Statistically significant difference between Yerevan and marz hospitals ($p<0.05$).

Health status of the child

At both assessments, the majority of respondents mentioned that the child fully recovered after the selected hospitalization (Table 20). The findings of the baseline and mid-term assessments were not different from each other in terms of this outcome of pediatric inpatient care neither in Yerevan, nor in marz facilities. The only significant difference was detected between Yerevan and marz facilities at mid-term with higher proportion of fully recovered cases in marz facilities (79.7%, vs. 87.1%, $p<0.05$). The same (but not statistically significant) pattern was revealed between marz and Yerevan facilities at the baseline assessment. This could be explained by more severe hospitalization cases in Yerevan facilities compared to marz facilities, most tertiary level hospitals are located in Yerevan.

The child recovery rate at a given hospitalization for the whole sample did not change between baseline and mid-term and remained at about 84%. The weighted estimate for all pediatric hospitalizations was 83.4% at baseline and 82.6% at mid-term.

The study suggests that roughly each 5th hospitalized child was re-hospitalized for the same condition. Since the baseline assessment, this indicator improved significantly in marz facilities (from 0.2 to 0.1) but not in Yerevan facilities (Table 20).

Table 20. Selected results of the given hospitalization by hospital location

	Yerevan facilities		Marz facilities		Total	
	Baseline N=361	Mid-term N=349	Baseline N=399	Mid-term N=396	Baseline N=760	Mid-term N=745
Child fully recovered during the hospitalization, %	82.0	79.7	85.5	87.1†	83.8	83.6
Number of child's re-hospitalizations for the same condition, mean, (SD)	N=377 0.2 (0.6)	N=416 0.2 (0.4)	N=381 0.2 (0.5)	N=418 0.1*† (0.4)	N=793 0.2 (0.6)	N=799 0.1 (0.4)

* Statistically significant difference between baseline and mid-term ($p < 0.01$).

† Statistically significant difference between Yerevan and marz facilities ($p < 0.01$).

Approximately half of the mothers/caregivers across all residency groups rated the current health status of their child as “good” and one-fifth to one-fourth as “fair” at both assessments (Table 21). There was no significant difference between the baseline and mid-term assessments in these response options. The proportion of “very good” ratings increased significantly since the baseline assessment among the respondents from rural and other urban areas, while among Yerevan residents the detected increase was not statistically significant. The proportion of “poor/very poor” ratings was small (from 1.3% to 3.6% across the residency groups at baseline and from 0 to 2.6% at mid-term). The only statistically significant decrease in this rating was observed among rural respondents (from 1.3% to 0).

Table 21. Child's current health status by residency

Child's current health status, %	Yerevan		Other urban		Rural	
	Baseline N=281	Mid-term N=230	Baseline N=281	Mid-term N=270	Baseline N=232	Mid-term N=295
Very good	23.8	28.3	19.9	31.1*	19.8	27.1*
Good	53.0	50.4	53.0	45.6	54.7	49.8
Fair	19.9	19.1	23.5	20.7	24.1	23.1
Poor/very poor	3.2	2.1	3.6	2.6	1.3	0*†
Number of acute illness episodes the child had in the last 30 days, mean (SD)	0.5 (0.6)	0.6 (1.8)	0.6 (1.1)	0.5 (1.9)	0.5 (0.7)	0.5 (1.1)

* Statistically significant difference between baseline and mid-term ($p \leq 0.05$).

† Statistically significant difference across residency groups ($p < 0.05$).

The mean number of episodes of acute illnesses or exacerbation of a chronic condition experienced by a child within the last 30 days prior to the interview was 0.5-0.6 in all three residency groups. This indicator did not change from baseline to mid-term and between residency groups (Table 21).

At baseline, 14.8% of the respondents living in Yerevan, 19.1% living in other urban areas and 15.7% in rural areas reported that the child needed medical care after being discharged from the hospital, but they did not apply to a doctor (Table 22). These proportions decreased at mid-term to 10.0%, 11.1%, and 8.4%, respectively. The observed reduction was statistically significant for other urban and rural residents ($p < 0.01$ for both) and for the whole sample (from 16.6% to 9.8%, $p < 0.001$). The weighted estimates for all hospitalized cases were 16.3% at baseline and 9.7% at mid-term.

Table 22. Families' medical care seeking behavior by residency

	Yerevan		Other urban		Rural	
	Baseline N=283	Mid-term N=231	Baseline N=282	Mid-term N=270	Baseline N=235	Mid-term N=298
Child needed medical help after discharge, but parents did not seek care, % (n)	14.8 (42)	10.0 (23)	19.1 (54)	11.1* (30)	15.7 (37)	8.4* (25)
Reasons for not seeking care (%)	N=42	N=23	N=54	N=30	N=37	N=25
Preferred self treatment	52.4	57.7	69.8	82.8†	56.8	64.0
Could not afford the care	28.6	23.1	32.1	10.3*	40.5	20.0
Did not trust providers	7.1	19.2	11.3	17.2	2.7	8.0
Lack of qualified doctors	11.9	7.7	9.4	0	10.8	0
Lack of transportation	4.8	3.8	7.5	3.4	8.1	12.0
Lack of time	0	3.8	1.9	0	0	4.0
Fear of diagnosis	0	3.8	0	0	0	0
Facility not well equipped	0	3.8	5.7	0	2.7	0
Facility not clean	0	0	9.4	3.1	0	0

* Statistically significant difference between baseline and mid-term ($p < 0.05$).

† Statistically significant difference across residency groups ($p < 0.05$).

At both assessments, the most commonly reported reason for not seeking medical care for a child was 'preferring self-treatment.' The frequency of mentioning this reason increased since the baseline assessment among other urban residents, making them significantly different from Yerevan population in this respect (Table 22). The next reason for not applying for medical care when needed was being unable to afford it. Since the baseline assessment, the proportion of those who reported that 'could not afford' the child care decreased in all three population groups, reaching the level of statistical significance among

other urban residents (from 32.1% to 10.3%, $p<0.05$) and for the whole sample (from 33.3% to 17.5%, $p<0.05$). The third most frequently mentioned barrier for seeking health care at mid-term was ‘not trusting health care providers’ among respondents from Yerevan and other rural areas, this proportion increased at mid-term in all three residency groups (not reaching statistical significance in any group and in the whole sample). The proportion of those mentioning the lack of qualified doctors decreased in all three groups (reaching statistical significance for the whole sample: from 10.6% to 1.3%, $p<0.05$). Among rural respondents 12.0% reported lack of transportation as a reason for not seeking care. The other reasons for not seeking care such as lack of time, fear of diagnosis, not well equipped or not clean facility were mentioned only by a few respondents (Table 22).

Health and environment

Caring for the child

The mean duration of breastfeeding among the studied cases was 9.7 (SD 8.5) months at baseline and 9.1 (SD 7.9) months at mid-term. At the baseline assessment, the mean duration of breastfeeding was significantly shorter among Yerevan cases compared to other urban and rural population groups; there was no difference between the residency groups at mid-term (Table 23). The mean duration of exclusive breastfeeding was 3.1 (SD 2.6) months at baseline and 3.0 (SD 2.7) at mid-term. The weighted estimates for all hospitalized cases were 3.0% at both baseline and mid-term. There were no differences between the residency groups in terms of exclusive breastfeeding at both assessments. About 10.0% of the studied children at baseline and 10.4% at follow-up were not breastfed or were breastfed for less than a month.

Table 23. Breastfeeding practice of mothers in months by residency

	Yerevan		Other urban		Rural	
	Baseline N=263 [§]	Mid-term N=199	Baseline N=240	Mid-term N=224	Baseline N=202	Mid-term N=259
Duration of breastfeeding, <i>mean (SD)</i>	8.0 (7.1)	8.3 (7.4)	11.4 [†] (10.0)	9.5* (8.2)	10.0 [†] (7.8)	9.4 (8.1)
	N=280 [§]	N=220	N=278	N=247	N=233	N=280
Duration of exclusive breastfeeding, <i>mean (SD)</i>	2.8 (2.4)	2.9 (2.9)	3.2 (2.7)	3.3 (2.6)	3.3 (2.6)	2.9 (2.7)

[§] These totals do not include the cases when the child was on breastfeeding/exclusive breastfeeding at the time of survey.

* Statistically significant difference between baseline and mid-term ($p<0.05$).

[†] Statistically significant difference across residency groups ($p<0.01$).

The study asked the respondents to mention who would usually baby-sit the child when the mother/caregiver was not at home. For the overwhelming majority of cases, this person was a family member of the child at both assessments (Table 24). The second answer was that mother would never leave the child with others (the proportion of respondents who were always with the child increased significantly among Yerevan residents since the baseline assessment). The next answers by frequency were leaving the child with other relatives and nursery/kindergarten. The other options like leaving the child with neighbors/friends or hiring baby sitter were mentioned by only a few respondents. Only two respondents at baseline and four at mid-term reported leaving the child alone.

Table 24. Main caregivers of children by residency

Takes care of the child when mother is not at home:	Yerevan, %		Other urban, %		Rural, %	
	Baseline N=279	Mid-term N=230	Baseline N=280	Mid-term N=270	Baseline N=231	Mid-term N=294
Family member	86.0	80.9	87.9	80.7*	90.9	88.4†
Always with mother	2.9	11.4*	7.9	11.5	6.9	9.2
Other relative	4.3	4.4	7.5	6.7	4.3	2.7†
Nursery or kindergarten	4.3	3.9	6.1	4.4	3.9	2.0
Paid baby sitter	2.5	2.6	0.0†	0.0†	0.0†	0.0†
Neighbors/friends	1.4	0.0	1.8	1.5	0.4	0.0†
Stays alone	0.4	0.9	0.4	0.4	0.0	0.3

* Statistically significant difference between baseline and mid-term ($p < 0.05$).

† Statistically significant difference across residency groups ($p < 0.01$).

Health behavior of family members

Table 25 shows smoking practices of respondents and their household members and alcohol consumption by their household members. At both assessments, about 2.8% of the whole sample reported ever being smokers. The distribution of respondents who reported ever smoking or being current smoker was unequal across residency groups at both assessments with significantly higher rates among Yerevan residents (see Table 25 for details). The mean number of cigarettes the smoking respondents smoked per day was 8.4 (SD 11.0) at baseline and 8.2 (SD 6.9) at mid-term. Only two respondents at baseline and four at mid-term reported smoking during pregnancy with the selected hospitalized child. Indeed, only one of them reported smoking every day, and two - several days per week while being pregnant (the rest smoked several days a month or less).

At both assessments, the mean number of smoking household members was more than one among all residency groups ranging from 1.1 among other urban residents to 1.3 among rural

residents. These population groups were statistically significantly different from each other with higher number of people smoking in rural households (Table 25).

At the mid-term assessment, almost 40% of the respondents across all residency groups reported that people never smoked in their household in the same room where the child was present. However, over 40% reported that the child was exposed to cigarette smoke in their household several days a week or more, including almost 30% in all residency groups who reported that people smoked in their household every day in the same room where the child was. Table 25 presents the details.

The respondents answered whether there was a time when any of their household members consumed 5 or more portions of any kind of alcoholic beverage almost every day, after their child was born. At the baseline assessment 3.6% and at the mid-term 3.9% of the mothers/caregivers answered positively to this question for the whole sample. Table 25 provides the details by the residency groups.

Table 25. Smoking and alcohol consumption among respondents and family members by residency

	Yerevan		Other urban		Rural	
	Baseline N =280	Mid-term N =230	Baseline N =281	Mid-term N =270	Baseline N =233	Mid-term N =296
Ever smoking cigarettes among respondents, %	6.1	7.0	1.1†	1.9†	0.4†	0.3†
Current smokers among respondents, %	3.6	4.4	0†	1.5*	0†	0†
Number of current smokers in the household, <i>mean (SD)</i>	1.2 (0.9)	1.2 (0.9)	1.1 (0.8)	1.1 (0.8)	1.3† (0.9)	1.3† (0.9)
Frequency of smoking in the same room with the child, %						**
Every day	37.3	29.6	33.8	32.1	45.1	29.7
Several days in a week	9.3	9.3	6.4	6.0	8.6	6.4
Several days in a month	6.8	11.1	8.9	7.8	9.9	10.8
Once a month or less	6.8	11.5	10.3	13.1	3.9	13.2
Never	39.8	38.5	40.6	41.0	32.6	39.9
Any household member drinking 5 or more portions of any alcoholic beverage almost every day, %	1.8	3.9	6.4†	2.6*	2.6†	5.1

* Statistically significant difference between baseline and mid-term ($p<0.05$).

** Statistically significant difference between baseline and mid-term for the whole item ($p<0.01$).

† Statistically significant difference across residency groups ($p<0.01$).

Caregivers' knowledge on caring for young children

The questionnaire had eight true-false knowledge items to measure mothers'/caregivers' knowledge on caring for young children. Two of the items were on breastfeeding, two on child development, and one on each of the listed topics: tobacco smoke, diarrhea, vaccination, and child safety. Most of the respondents gave correct answers to most questions (at least 70%), except the question about exclusive breastfeeding (Table 26). Based on these items, the research team calculated a cumulative knowledge score equal to the sum of correct answers for the listed items; the score ranged from 0 to 8. The mean score for the whole sample was 6.15 (SD 1.4) at baseline and 6.17 (SD 1.3) at mid-term (the difference was not statistically significant). There were no differences in the mean cumulative knowledge score across residency groups neither at baseline, nor at mid-term (Table 26).

Table 26. Caregivers' knowledge on child care by residency (% of correct answers)

Knowledge on child care	Yerevan, %		Other urban, %		Rural, %	
	Baseline (n=281)	Mid-term (n=232)	Baseline (n=280)	Mid-term (n=270)	Baseline (n=230)	Mid-term (n=296)
The more frequent a baby is breastfed, the more mother's milk is produced.	85.1	84.9	83.6	84.8	87.4	85.5
A baby does not need any other food, water or liquid but breast milk for the first six months of life.	45.7	50.0	55.7	46.5*	52.4	53.6
Playing is not an important part of children's development - it's only a way for them to occupy their time.	88.2	90.0	82.0	86.5	77.4	82.9
Physical punishment is necessary to make a child obey and respect parents.	77.9	80.1	67.0	79.5*	70.4	72.5
Tobacco smoke can make a child's pneumonia more severe.	90.0	91.8	93.9	93.7	94.3	94.2
When a child has diarrhea, he/she should be given less liquids than usually.	74.6	75.9	74.9	73.3	76.1	71.3
Heavily dressing a child is a better way to prevent him from getting measles than vaccination.	76.4	80.4	77.5	77.8	81.2	72.3*
A child less than 4 years old should not be allowed to play with items smaller than his/her fist or toys with components that can easily come loose.	79.4	73.2	77.1	72.2	76.1	75.6
Cumulative score, mean (SD)	6.2 (1.3)	6.3 (1.3)	6.1 (1.3)	6.2 (1.3)	6.2 (1.5)	6.1 (1.4)

* Statistically significant difference between baseline and mid-term ($p < 0.05$).

The study included in this section an item measuring mothers'/caregivers' knowledge on danger signs of childhood illnesses that require immediate medical care (Table 27). The main listing of dangerous signs for this item was taken from the Child Health Passport (which has been distributed by all maternities to the newborns in the scope of the CHSC Program). Respondents were asked to list as many signs as they could (without reading the possible response options). To measure the extent to which mothers knew the danger signs listed in the Child Health Passport, the research team developed a cumulative score based solely on these 9 signs; the value of it showed the number of correct signs mentioned by a respondent. The score ranged from 0 to 9. At the mid-term assessment, the mean score of knowledge on dangerous signs was 1.9 (mean percent score 21.1%) and did not differ between residents of Yerevan, other urban, and rural areas (Table 27). Moreover, no statistically significant difference was found in this score between those mid-term study participants whose child was born after the launch of the CHSC Program (and, presumably, received the Child Health Passport) and those whose child was born before the Program. The former group included 108 children, and the score of dangerous signs in this group was 1.88 (SD 1.19), while in the latter group the score was 1.92 (SD 0.98).

Table 27. Caregivers' knowledge on danger signs of childhood illnesses by residency

Signs	Yerevan, %		Other urban, %		Rural, %	
	Baseline (n=281)	Mid-term (n=231)	Baseline (n=280)	Mid-term (n=270)	Baseline (n=230)	Mid-term (n=296)
Cannot eat or drink (incl. at breast)	4.6	3.0	7.5	5.6	7.8	6.1
Vomiting after each meal or drink	19.9	11.7	14.3	8.1	9.6	5.7
Convulsions	27.4	18.2	22.9	14.1	11.3	10.8
Unusually weak, lethargic or difficult to wake	15.7	10.0	18.9	19.3	17.0	16.9
High fever	89.7	87.9	90.7	88.1	93.5	91.9
Fast or difficult breathing	18.9	14.3	22.9	29.1	14.1	15.2
Dehydration or diarrhea for several days	48.0	41.1	46.4	39.6	45.7	41.2
Painful swelling behind ear	2.8	1.3	1.1	1.9	4.3	0.3
Severe wasting	3.9	4.8	2.1	1.5	3.9	2.0
Cumulative score (SD)	2.3 (1.0)	1.9 (1.0)	2.3 (1.0)	1.9 (1.0)	2.2 (1.0)	1.9 (1.0)

The respondents listed as danger signs requiring immediate medical intervention many other signs of child illnesses that were not included in the main list of the nine signs. The other signs (excluding those listed by less than 0.5% of the respondents) were grouped into 13 categories: cough/pneumonia, trauma/burn, allergy/rash, crying/anxiety, pain, infectious

diseases, syncope/paleness, bleeding/nasal bleeding, swallowing foreign body /breathing, constipation/intestinal problems/worms, acute illness/purulent tonsillitis, suffocation/cyanosis, and poisoning/bites.

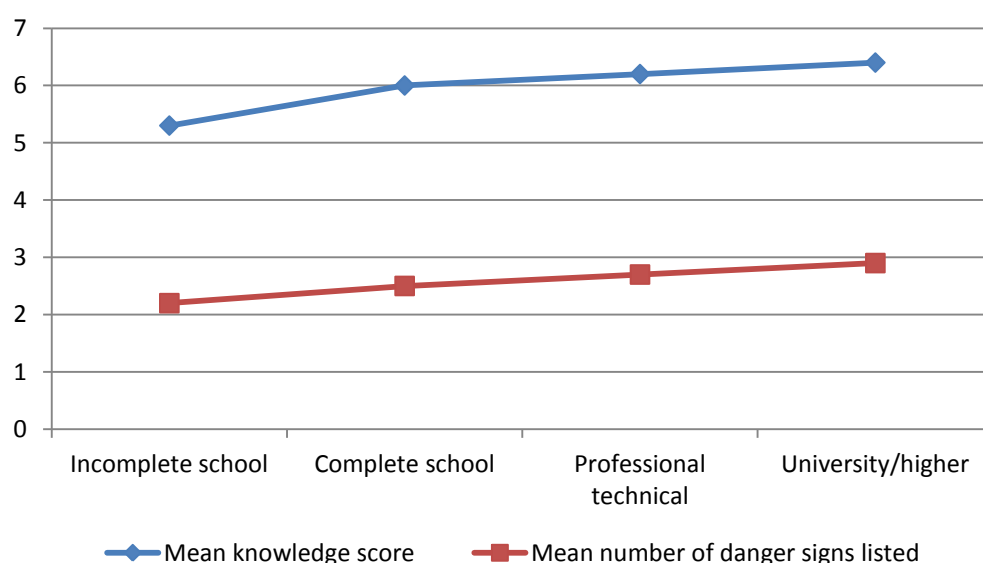
In average, each respondent of the mid-term survey, regardless the residency, listed 2.5 dangerous signs in children requiring immediate medical attention. Based on the observed distribution in the sample, the knowledge of a respondent who listed no or only one danger sign was considered as “low”, two or three signs – “average”, four or five – “good”, and more than five signs – “excellent”. No significant differences across the residency groups were found in the caregivers’ knowledge level for the danger signs (Table 28).

Table 28. Level of caregiver’s knowledge on danger signs in children by residency

Level of knowledge	Yerevan		Other urban		Rural	
	Baseline (n=281)	Mid-term (n=231)	Baseline (n=280)	Mid-term (n=270)	Baseline (n=230)	Mid-term (n=296)
“Low”	9.6	17.3	8.9	17.8	9.1	20.3
“Average”	70.1	67.5	69.3	61.9	75.2	66.4
“Good”	19.2	14.7	21.1	18.9	14.3	12.9
“Excellent”	1.1	0.4	0.7	1.5	1.3	0.3

There was a strong positive correlation between the mean knowledge score, the mean number of danger signs listed and respondents’ educational level ($p < 0.001$, Figure 7).

Figure 7. Respondents’ knowledge on childcare by education level (the whole sample)



MAIN FINDINGS OF THE QUANTITATIVE STUDY

Referral to hospital and hospital stay

At both assessments, the majority of studied cases were self-referred to hospital, which was significantly more common for marz facilities. The next frequent mode of referral was through PHC providers (almost third of the cases). The only significant change between the two assessments was observed in Yerevan in terms of reduction of self-referrals and increase of referrals through PHC providers. The proportion of cases presenting to the hospital an official referral form from the PHC facility increased significantly both in Yerevan and marz facilities (from 54.7% to 71.2% in Yerevan and from 55.0% to 71.4% in marzes). The overwhelming majority (>97%) of cases interviewed at the mid-term assessment presented Child Health State Certificate to the hospital. According to the self-reported data, the mean duration of child's hospital stay did not change between the two assessments.

Overall payments for pediatric inpatient care

The proportion of those who made any payment for pediatric inpatient care decreased sharply from 55.3% of the cases included in the baseline sample to 14.5% of those included in the mid-term sample. The weighted estimates for all hospitalized cases were 57.1% at baseline and 16.0% at mid-term. This decrease was highly significant for both Yerevan hospitals (from 63.9% to 20.6%) and marz hospitals (from 47.4% to 8.9%). Those who were hospitalized in Yerevan, reported making a payment for in-patient care more frequently than those who were hospitalized in marzes.

For the total sample, the overall mean spending on child's hospital care (of those who paid and reported the amount) decreased (but not statistically significantly) from 41,408 AMD at baseline to 32,295 AMD at mid-term. The weighted estimates for all hospitalized cases were 42,575 AMD at baseline and 34,477 AMD at mid-term. This decrease was significant in marz hospitals (from 35,329 AMD to 17,751 AMD), but not in Yerevan hospitals (from 46,335 AMD to 39,174 AMD). The reported spending was significantly higher in Yerevan facilities compared to marz facilities.

At both assessments, around one-third of those who paid for the child's hospital care reported that they had to borrow money to cover these expenses. There were no significant differences in terms of this proportion between Yerevan and marzes; at mid-term

substantially less people (41.8% or 81 respondent vs. 29.4% or 10 respondents at mid-term) reported borrowing money to pay for the child's hospitalization in marz facilities.

Payments for secondary and tertiary pediatric inpatient care

The proportion of those who paid for the care decreased significantly in both secondary and tertiary care hospitals but, at both assessments, more people reported making payments for care in the hospitals providing tertiary care compared to those providing secondary care. The same pattern was true for the overall mean spending, which was significantly higher in tertiary care facilities than in secondary at both assessments.

Types of unofficial payments in pediatric hospitals

The reported frequencies of many different types of unofficial payments among those who reported making any payment decreased significantly in the whole sample after implementing the Child Health State Certificate program. Among these were payments to doctors (from 61.1% to 25.0%), to nurses (from 52.2% to 16.5%), to cleaning ladies (from 30.3% to 15.5%), for instrumental examinations (from 48.1% to 16.9%), and for laboratory tests (from 42.8% to 10.1%). This was true for both Yerevan and marz hospitals.

At the baseline assessment, the most frequent type of unofficial payment for inpatient pediatric care was paying for drugs/supplies from pharmacy (65.4%) followed by paying doctors (61.1%), paying nurses (52.2%), paying for instrumental examinations (48.1%) and laboratory tests (42.8%). This sequence changed at the mid-term assessment: paying for drugs/supplies from pharmacy was again in the first place (57.7%), followed by making gifts to providers (31.1%), paying doctors (25.0%), paying for the ward (20.2%). The reported frequencies of making different types of payments were significantly different in marz and Yerevan hospitals at the baseline assessment. At the mid-term assessment, all these differences remained, but did not reach the level of statistical significance because of much lower number of those who reported making payments for the mentioned services.

Differences in overall spending and gifts/"thank you" payments across residency groups

The proportion of those who made any payment for child's inpatient care was significantly different across residency groups at the baseline with the highest proportion among Yerevan residents and the lowest among residents of other urban areas. At the mid-term assessment, all these proportions decreased significantly and the differences between them disappeared.

The overall number of those who reported spending on gifts or “thank you” payments for providers decreased considerably since the baseline. The decrease was statistically significant across all population groups: residents of Yerevan (from 12.9% to 4.0%), other urban (from 10.2% to 2.2), and rural areas (from 11.6% to 5.8). The weighted estimates at baseline and mid-term were: Yerevan – 13.0% to 4.0%; other urban areas – 10.1% to 2.5%; rural areas – 11.1% to 7.0%.

The trend was similar when analyzing the gifts /“thank you” payments by the location of the hospital: in Yerevan hospitals it decreased from 12.1% to 6.4% and in marz hospitals from 11.1% to 1.9%.

The mean amount spent on gifts was similar across residency groups at both baseline and mid-term, and did not change between baseline and mid-term.

Awareness of free in-patient care

Almost two-thirds of the respondents were aware of their right of getting free hospital care for their children less than seven years old at the baseline assessment. At mid-term, almost all the surveyed mothers/caregivers reported that they were aware of this right. The observed increase in the level of awareness was highly statistically significant among all residency groups. There was no difference between those getting treatment in Yerevan hospitals and in marz hospitals or between the residency groups. The role of healthcare providers as a source for this information increased significantly among all residency groups since the baseline assessment, bringing this source to the first place, while the role of mass media and posters in health facilities decreased.

Current experience with the Child Health State Certificate

At the mid-term assessment, the vast majority of eligible children in all residency groups received the Child Health State Certificate. This rate increased significantly in all three residency groups since the baseline assessment and ranged from 86.1% in rural areas to 94.9% in Yerevan. This rate was significantly higher in Yerevan compared to other urban and rural population groups. Eighty-nine percent of mothers/caregivers who used the CHSC in Yerevan hospitals and 97% of those who used it in marz hospitals, were satisfied with the

Program. The satisfaction rate was significantly higher in marz hospitals compared to Yerevan.

Perceived quality of hospital services

The vast majority of the respondents expressed readiness to return to the same hospital if needed. This indicator was similarly high among those treated in Yerevan (86.4%) and marz facilities (90.0%). Since the baseline assessment, the proportion of those who received epicrisis at discharge increased statistically significantly in both Yerevan and marz hospitals. However, this proportion was still significantly lower for marz hospitals compared to Yerevan hospitals (62.8% vs. 85.1%). Regardless of the hospital location (marz or Yerevan), equally high proportion of respondents (over 85%) rated the overall quality of child's hospital care as "good/very good" at the mid-term assessment. Since the baseline, this proportion increased significantly for marz facilities. Overall, at both baseline and mid-term, the ratings were very high for both Yerevan and marz facilities with respect to all attributes related to healthcare personnel. The remaining attributes (facility's physical conditions, cleanliness, availability of medical equipment and drugs/medical supplies) were rated much lower in marz facilities compared to the ones in Yerevan (at both baseline and mid-term).

When asked about measures to improve hospital services the respondents mentioned eliminating informal payments significantly less frequently at mid-term for both Yerevan and marz hospitals. Many of the respondents (about 40%-50%) suggested increasing providers' salaries at both baseline and mid-term. Improving physical conditions of the hospital and improving medical equipment (about 60%) were the most frequent suggestions for marz hospitals.

Health status of the child

Since the baseline assessment, the proportion of those who reported that the child needed medical care after being discharged from the hospital, but did not apply to a doctor significantly decreased (from 14.8% to 10.0% among Yerevan residents, from 19.1% to 11.1% among other urban, and from 15.7% to 8.4 among rural residents).. At both assessments, the most commonly reported reason for not seeking medical care for a child was preferring self-treatment. The next common reason was being unable to afford the care. The proportion of the latter substantially decreased in all three population groups since the baseline assessment, reaching the level of statistical significance for the whole sample.

Health and environment

The mean duration of breastfeeding among the studied cases was about 9 months and the mean duration of exclusive breastfeeding was about 3.0 months at both assessments. About 10% of the studied hospitalized children were breastfed for less than a month.

At both assessments, the mean number of smoking household members was more than one in all residency groups, ranging from 1.1 among other urban residents to 1.3 among rural residents. The mean number of people smoking in rural households was statistically significantly higher than in other urban. At the mid-term assessment, over 40% of the respondents reported that their child was exposed to cigarette smoke in their household several days a week and more.

Caregivers' knowledge on caring for young children

The mean cumulative knowledge score of mothers/caregivers for the whole sample was 6.2 out of 8.0 possible and the mean knowledge score on dangerous signs in a child was 1.9 of 9.0 possible. There were no differences in these scores across residency groups. The second score was based on the nine danger signs listed in the Child Health Passport. However, no statistically significant difference was found in this score between those respondents whose child was born after the launch of the CHSC Program (and, presumably, received the Child Health Passport) and those whose child was born before the Program.

QUALITATIVE ASSESSMENT

METHODS

Study Design

To evaluate the Child Health State Certificate Program from the perspective of the pediatric healthcare providers, the study team developed and implemented a qualitative study (focus group discussions and semi-structured in-depth interviews). Comprehensive and rigorous assessment methodologies²³⁻²⁷ were applied to explore the perspectives of providers of inpatient and outpatient child healthcare services from Yerevan and marz facilities. These providers had different responsibilities with respect to the CHSC Program.

Study Participants

The CHSR/AUA identified key informants using purposive and convenient sampling methods to provide pertinent information for the assessment, based on key informants' experience and expertise in pediatric healthcare services. To identify the differences between perceptions of pediatric secondary/tertiary and primary healthcare providers towards the CHSC Program by residence, seven sites were targeted – Yerevan city and Ararat, Armavir, Gegharkunik, Shirak, Lori, and Syunik marzes.

Due to the complexity of the assessment, the CHSR/AUA team used multiple purposive sampling techniques which included representativeness or comparability and sequential approaches.²⁸ Five groups of participants took part in the study 1) primary health care physicians – pediatricians or family doctors (FD), 2) hospital pediatric nurses, 3) hospital pediatricians, 4) hospital administrators, and 5) policymakers/experts.

Forty-one pediatric care providers from 15 different healthcare facilities participated in eight focus group discussions (FGDs) facilitated by the research team, averaging 5-6 participants per focus group. The research team also interviewed 15 key-informants including pediatric care providers, administrators, and policymakers/experts.

Research Instruments

Semi-structured in-depth interview and focus group discussion guides were developed based on conventional qualitative research methods. The guides were designed to optimize the value of the data collected to meet the objective of the qualitative study. The questions in each guide were adapted to specific participants' roles, responsibilities and professional

experience in the areas related to pediatric healthcare services. The guides were progressively adapted based on the data collected in previous in-depth interviews or focus group discussions. A short demographic information form was developed to be completed by participants after each focus group discussion.

All guides were first developed in English and translated by the research team into Armenian. Appendix 5 provides an example of a focus group discussion guide for pediatric hospital care providers.

Data Collection and Analysis

The fieldwork for the qualitative assessment took place during May–June, 2011, and the research team recruited 56 study participants (39 females and 17 males).

Of the eight focus groups with 41 participants, three were conducted in Yerevan (two with hospital pediatricians and one with PHC pediatricians/FDs), two in Ararat marz (one with hospital pediatricians and one with hospital nurses), two in Lori marz (one with hospital pediatricians and one with PHC pediatricians/FDs), and one in Shirak marz (with hospital pediatricians). Fourteen participants were from Yerevan and 27 from marzes, with the mean age of 49 and average professional experience of 24 years. About one-fourth of the focus group discussion participants were males. The mean duration of the focus group discussions was 66 minutes.

Fifteen participants (11 healthcare providers and four policymakers/experts) were involved in 13 individual and one dyadic (two individuals) in-depth interviews. Seven in-depth interview participants were from Yerevan and eight from Gegharkunik, Syunik, Shirak and Armavir marzes. Out of 11 healthcare providers two had administrative responsibilities in addition to their medical practice. The mean duration of in-depth interviews was 38 minutes.

The CHSR/AUA research team conducted all the in-depth interviews and focus group discussions. Each focus group had a trained moderator and a note-taker. These roles were rotated among the CHSR/AUA research team members. All FGDs and in-depth interviews were transcribed. The qualitative study followed the research methods of heterogeneity and triangulation, and terminated when saturation was achieved.²⁹ After data collection, the CHSR/AUA team used advanced analytical qualitative research methods to analyze in-depth

interview and focus group discussion transcriptions utilizing mixed – conventional inductive and directed deductive content analysis techniques.^{30, 31} SWOT framework was applied to systematize the qualitative data into four categories – 1) Strengths, 2) Weaknesses, 3) Opportunities, and 4) Threats. The research team developed subcategories to further analyze the data.

Categorization of Study Participants

The analysis section of this study was based on the results from professional judgments and experiences derived from the in-depth interviews and focus group discussions. The direct quotes provided in the boxes in this section are abstracted from both in-depth interviews and focus group discussions. Study participants were categorized into five groups: 1) policy maker/expert, 2) hospital administrator, 3) hospital doctor, 4) PHC doctor, and 5) hospital nurse.

Policymakers/Experts were professionals employed in the pediatric field and involved in development and implementation of health policies. Hospital administrators were hospital managers in addition to being practicing doctors. Hospital doctors were pediatricians from hospitals; some of them were the head of the pediatric department. PHC doctors were pediatricians or FDs with pediatric practice in polyclinics; some of them were the head of the department. Nurses were pediatric nurses from hospitals.

The individual informant identifiers (e.g., Policymaker/Expert 1.A.1.) specify the category of participants who provided the quot and indicate if the same participant provided more than one quote within a single box. A single informant who provided quotes in more than one box would have different identifiers for each box. After each identifier, it is indicated whether an individual participated in a focus group discussion or an in-depth interview. For hospital doctors, PHC doctors, hospital nurses and hospital administrators, the geographic area of practice (Yerevan versus marz) is also indicated.

Ethical Considerations

The Institutional Review Board of the American University of Armenia approved the study for compliance with locally and internationally accepted ethical standards. All participants were informed about their rights (their participation was voluntary, they could stop at any time and refuse to answer any question they chose, and their anonymity and confidentiality

were fully respected). After being informed of their rights, all those who chose to participate provided verbal informed consent. Audio-recording was possible only with permission of all participants; if a participant did not want to be audio-recorded, only written notes were taken. Transcripts and the final report do not contain respondents' names, positions, institutions, or any other details that could identify the participants.

FINDINGS

1. STRENGTHS

1.A. Increased State financing of pediatric hospital care

Financing for pediatric hospital care increased with the Program, with the Government allocating an additional 3 billion AMD for child hospital care in 2011. A participant indicated that policymakers and experts used the World Bank recognized estimates to calculate the real costs of pediatric hospital care services. In addition, to better control the flow of finances, the MoH developed a special standard for provider's reimbursement, which defines a new payment mechanism for health care providers. Participants stated that different meetings and group discussions were organized with pediatric hospital administrators and departmental heads to inform them about the Program and its' financing, so that they could disseminate this information among their staff.

The majority of pediatric hospital doctors indicated that their official salaries increased with the Program implementation and that they were informed about salary calculation methods. Some of the marz hospital doctors who worked alone or with one colleague were more satisfied with their salaries, since they had larger caseloads.

The majority of participants reported that the salaries of the mid-level health care personnel also increased after the Program, but not as much as for the physicians. Most of the participants highlighted that hospital administrations benefited significantly from the Program since it increased hospital finances and the administrative staff salaries and allowed to allocate more resources for medications, supplies and administrative expenses of the hospital.

Allocated budget

In 2011, the State allocated additional resources (3 billion AMD) for child hospital care services. These resources should be allocated to cover the increasing costs for medical

services and to pay off yet unpaid costs in previous years [that are owed by the State to the hospitals]. ...using their [the “Avag Solution” independent consulting local agency on behalf of the World Bank] assessment methodology and our figures for the previous years (admissions, not financed cases), we estimated the real costs for pediatric hospital care services per case at 150,000 AMD and 170,000 AMD for surgical services.

Policymaker/Expert 1.A.1

In-depth interview

The standard to regulate reimbursements was developed because, since January 1, 2011, various programs, such as child hospital care, co-payment for emergency care, gynecological services and others, had different financial allocation schemes- these disparities led to the development of the standard for controlling the flow of the allocated resources... With this standard the Minister of Health systematized the reimbursement percentage that providers are paid out of the total cost of each treated case.

Policymaker/Expert 1.A.1

In-depth interview

...The heads of hospitals and polyclinics participated in meetings and discussions held in the MoH on this issue [the CHSC Program].... We (administrators) informed our staff about this Program- we received the Ministerial order, had trainings, learned how to complete the Certificate, and others.

Hospital administrator 1.A.1

In-depth interview, Yerevan

We are informed by our administration how our salaries are calculated and we can request our salary calculation form from the administration at any time. ... We are satisfied with our hospital administration's payment policy and our salaries.

Hospital doctor 1.A.1

Focus group discussion, Yerevan

We know how much work we have done and how much we are paid. It is transparent in our hospital.

Hospital doctor 1.A.2

Focus group discussion, marz

Salaries of hospital pediatricians

The increase of salary was a good incentive for the doctor. It was impossible for the doctor to live with 50,000 AMD.

Hospital doctor 1.A.3

In-depth interview, marz

Even though the salary we receive after the Program implementation is not that much, at least it is two times more than our previous [official] salary.

Hospital doctor 1.A.4

In-depth interview, marz,

I have not heard any complaints from our doctors [about their salaries]. Their salaries ... increased under the Program.

Hospital nurse 1.A.1

In-depth interview, Yerevan

The salary of providers was always very low and this Program increased their salaries to some extent.

Hospital doctor 1.A.5
Focus group discussion, Yerevan

Even though the patient load increased and we are more overloaded now [under the Program], but our salaries have also increased, and that is positive.

Hospital doctor 1.A.6
Focus group discussion, marz

Pediatricians in hospitals have benefited from increased salaries. Just compare 60,000-70,000 AMD before the Program to 600,000-700,000 AMD after the Program...

Hospital administrator 1.A.2
In-depth interview, marz

Yes, I know how my salary is formulated. It is transparent and I am satisfied with the salary. However, if a second pediatrician is hired, I will receive only half of today's payment and it will certainly be very small; on one hand I want to have another colleague to work with me and share the responsibilities, but on the other hand I will have financial problems.

Hospital doctor 1.A.7
In-depth interview, marz

I am more or less satisfied with my salary because I am the only pediatrician in the hospital and I also work as a general pediatrician and an infectious disease doctor... otherwise my salary would be disastrous.

Hospital doctor 1.A.8
In-depth interview, marz

For facilities that have more pediatricians, their salaries are not very high since the caseload is less; however in hospitals, particularly in the marzes, where there are only one or two pediatricians the salary is higher.

Policymaker/Expert 1.A.2
In-depth interview, Yerevan

Salaries of pediatric hospital nurses

The mid-level health care personnel benefited from the Program since their salaries also increased due to the increased finances under the Program.

Policymaker/Expert 1.A.3
In-depth interview, Yerevan

Their [mid-level health care personnel] salary also increased by 30%-100% in different hospitals due to increased financing provided by the Program. Of course the salary increase of doctors was 2-3 times more, much more than mid-health care personnel.

Policymaker/Expert 1.A.1
In-depth interview, Yerevan

... after the implementation of the Program we [nurses] had an increase in our salaries.

Hospital nurse 1.A.1

In-depth interview, Yerevan

Hospital administration financing

Hospital administration salaries also increased due to this Program.

Policymaker/Expert 1.A.3
In-depth interview, Yerevan

The hospital administration benefited from the Program with financial increases.

Hospital administrator 1.A.1
In-depth interview, Yerevan

Administrations benefited because some portion of the budget now goes to cover the administrative expenses of the hospitals.

Policymaker/Expert 1.A.4
In-depth interview

The administrations definitely benefited because the amount of money entering the facility increased, so now hospitals are fully stocked with medications and patients are satisfied with the services.

Hospital doctor 1.A.8
In-depth interview, marz

Administrations also benefited; we have better financing for the hospital such that we can easily cover the hospital's State tax payments and provide 100% medication coverage. I am not ashamed anymore to send patients to the pharmacy for simple medications and medical supplies, now that we can provide them with everything.

Hospital administrator 1.A.2
In-depth interview, marz,

Hospital administrations only benefited [from the Program]. Now they receive a larger budget from the State and have more options to utilize the money received.

Hospital doctor 1.A.9
In-depth interview, marz

1.B. Reduction of informal payments

Most of the participants indicated that an important outcome of the Child Health State Certificate Program was a substantial reduction in informal payments for pediatric hospital care. The official salaries of the providers increased significantly due to this Program, providing a way for a major reduction in informal payments and removing the incentives for providers to ask for financial gifts.

I can say that the implementation of this Program was just in time... Before the Program we were in a situation when there was no way to regulate informal payments anymore. Doctors were paid 30,000-40,000 AMD, with a maximum salary of 70,000 AMD, and because of that they were forced to take money from patients... So it was the right decision at the right time....

Hospital administrator 1.B.1

In-depth interview, marz

So, it [the Program] was a positive step towards first improving service accessibility and second implementing adequate official financial reimbursement mechanisms for the doctors to make all payments official.

Policymaker/Expert 1.B.1

In-depth interview

The hospital doctors are now more confident since they receive their official salaries without “looking at the patient’s hand” [negotiating with their patients for informal payments]. They meet their responsibilities and receive their official salary for the work performed.

Policymaker/Expert 1.B.2

In-depth interview

...the Certificate helps to reduce unofficial payments - it has some preventive role. Currently in our department the unofficial payments are categorically forbidden - unofficial payment is a “taboo”.

Hospital administrator 1.B.2

In-depth interview, Yerevan

Before the Program, doctors had a salary of 20,000 AMD, which of course became a reason for informal payments. Now we are staying away from doctor-patient financial negotiations [informal payments], which is very positive.

Hospital doctor 1.B.1

In-depth interview, marz

Now the money we receive is sufficient so that we don’t have to take money from the patient.

Hospital doctor 1.B.2

In-depth interview, marz

The patients do not lose anything. In the past the patients were paying something to the doctor- now they [the patients] don’t make any payments... The patients and doctors now are free of the emotional burden of “thank you” payments. They don’t think about it. This is an important strength of the Program.

Hospital doctor 1.B.2

In-depth interview, marz

1.C. Improved access to pediatric healthcare services

All the participants agreed that the CHSC Program provides free hospital care for children, and that the Certificate protects the right to receiving needed care. According to them, the parents of children were more confident that their children would receive free care regardless of their financial status. Moreover, primary health care providers feel more comfortable referring them to the hospital. As a result, the flow of patients into pediatric hospitals increased significantly compared to previous years. Most providers highlighted that this Program also improved free medication coverage and now they were able to provide their patients with the necessary medication for free. Some of the participants highlighted that free care both in the primary care settings and now in the secondary/tertiary care levels would

remove the financial barriers for parents in seeking timely care for their children, which could reduce the number of complicated cases, improve children's health and ultimately contribute to having a healthier generation in the future.

People know that they will receive free birth delivery, the primary care is free since 2006, and now they know that treatment for their children in hospitals is also free. The chain for providing health care for their children [over the span of their childhood] is free. ... our population knows that the Certificate is an important document that protects their rights and now they use it actively when applying to the hospital.

Hospital administrator 1.C.1
In-depth interview, Yerevan

The implementation of this Program was timely. People now are more confident that in case of a need they can seek and receive free care.

Hospital nurse 1.C.1
Focus group discussion, marz

I think this is a very good Program with considerable impact since it substantially improves access to health care - not only improving affordability, but also increasing utilization of services. Now people are more confident in seeking health care.

Policymaker/Expert 1.C.2
In-depth interview, Yerevan

Now PHC providers can refer their patients to hospitals more assuredly since care is free there. We have noticed an increase in hospitalization after the Program implementation.

Policymaker/Expert 1.C.1
In-depth interview, Yerevan

The strength of the Program is that now people can receive free full treatment and we [PHC providers] can easily refer them to hospitals for free treatment.

PHC doctor 1.C.1
In-depth interview, marz

The flow of patients to the hospital increased one-and-a-half times that of the flow before the Program implementation.

Hospital doctor 1.C.1
In-depth interview, marz

The Program has a positive side for patients and doctors - free medication. Now patients are provided free medication and we are more comfortable because we can provide them what they need without cost.

Hospital doctor 1.C.2
Focus group discussion, marz

Before the Program the population was afraid of coming to hospitals. We had only very severe and complicated cases but now we have also milder cases. Thus, some people come earlier and are treated more effectively and completely.

Hospital doctor 1.C.3
In-depth interview, marz

1.D. Increased provider dignity

Some hospital doctors emphasized that this Program improved their dignity, since they no longer had to solicit for informal payments from patients. They receive their official salaries without expecting informal payments from the patients.

<i>Doctors benefitted because they no longer deal with patients for finances [for soliciting informal payments]; they maintain their dignity.</i>	Policymaker/Expert 1.D.1 In-depth interview
<i>I am satisfied with the Program. I don't "look at the hands of the patients"They [hospital doctors] are trusted more by the patients...</i>	Hospital doctor 1.D.1 In-depth interview, marz
<i>This Program improves the dignity of doctors. ...We [doctors] benefit because we earn our money in a respectable manner.</i>	Hospital doctor 1.D.2 In-depth interview, marz

1.E. Increased population trust in the State

Some participants mentioned that this Program increased the population's trust in the State.

<i>The State benefits since the reputation of the State improved among the population.</i>	Hospital doctor 1.E.1 Focus group discussion, marz
<i>The Government is the major beneficiary because they gain the population's trust ...</i>	Hospital administrator 1.E.1 In-depth interview, marz
<i>The State's reputation has improved as a result of the Program.</i>	Hospital doctor 1.E.2 In-depth interview, marz

1.F. Reduced burden on the State

Some participants mentioned that this Program helps the Government to better protect the health of the children through improved access to health care services, which in the long term will help to improve the health of the children, reduce the financial burden on the Government and produce a healthier population in the future.

The main benefit for the State is protecting the health of its population. Population health improves with better health in childhood; if the population is healthier then the burden on the State will be less.

Policymaker/Expert 1.F.1
In-depth interview

The State generally benefits since this Program substantially improves health care access for the population and contributes to detecting and treating diseases in earlier stages, reducing complications and ultimately improving the health of the children.

Policymaker/Expert 1.F.2
In-depth interview

1.G. Establishment of monitoring mechanisms

Some participants mentioned that the Ministry of Health actively monitored the Program.

There are monitoring teams that regularly visit pediatric hospitals, identify problems on-site, present the problems to the Ministry and seek timely solutions.

Monitoring teams were developed for programs where additional finances were allocated, such as the CHSC Program, the Obstetric Care State Certificate, and the Co-payment programs. These teams visit hospitals, observe program functioning, identify problems on site, take complaints from patients and providers, and report to the Ministry of Health and the State Health Agency ... to find solutions in a timely manner.

Policymaker/Expert 1.G.1
In-depth interview

We have a monitoring component in our Program [CHSC]. We conducted monitoring in June, but only in Yerevan facilities. We have also involved NGOs that were conducting patient satisfaction assessments.

Policymaker/Expert 1.G.2
In-depth interview

... After this Program, different people are coming to our department and asking the patients whether they made any additional payments to us or gave us any candies.

Hospital doctor 1.G.1
Focus group discussion, marz

All doctors were informed about the Program and its monitoring system, including the hotline, to show that this Program is a priority.

Hospital administrator 1.G.1
In-depth interview, marz

2. WEAKNESSES

2.A. Public awareness about the Program

Though the Certificate Program was generally advertised on TV, all the study participants agreed that clear information about the Program was not provided to the population – it was

fragmented and did not fully explain the purpose of the Certificate and the scope of services it covers. Participants indicated that it remained unclear to the population that the Certificate only covered inpatient care and that the range of free services was unclear not only for the general population, but also for health care providers. As a result, participants reported that people demand free ambulatory services in hospitals (which were not covered by the CHSC). Some study participants suggested that primary health care providers should also carry the responsibility to inform people about the Program.

Patients are not sufficiently informed about the purpose of the Certificate. Sometimes different people from the same family come to take certificates, as many as possible, thinking that it will provide them with money.

PHC doctor 2.A.1
Focus group discussion, marz

There is a problem of misinformation. The population is not very aware that the Certificate does not cover the ambulatory services in the hospitals; it covers only inpatient care.

Hospital doctor 2.A.1
Focus group discussion, Yerevan

They do not know that hospital ambulatory services are different from PHC services and are not covered by the Certificate. If they decide not to go to the polyclinics for different reasons and receive ambulatory services here [in the hospital], they have to pay.

Hospital administrator 2.A.1
In-depth interview, marz

The parents are not fully aware of the scope of free services... The explanation on the Certificate is not clear. It states that hospital care is free but it means in-patient care is free... People look at the Certificate as a magic wand that can do everything. They believe that with the Certificate even "Xeroxing" will be done for free in the hospital.

Hospital doctor 2.A.2
In-depth interview, marz

The information provided by TV was fragmented and did not fully explain the scope of the Program and responsibilities of each part of the pediatric services and exactly what services are free... Neither we [PHC providers], nor patients know the complete list of free services.

PHC doctor 2.A.2
Focus group discussion, Yerevan

I had cases when people were coming to my house with the Certificate in their hands; they think they can receive free care whenever and wherever they want.

Hospital doctor 2.A.3
In-depth interview, marz

2.B. Patient – provider relationship

Across all the groups of study participants, there was an agreement that populations' respect for pediatricians decreased with the advent of the Program. Study participants interpreted

this as an exaggerated heightening of confidence among people to demand free services, complicated by misunderstanding about which services were free and which were not. Participants felt that this deterioration of the patient-provider relationship led to greater aggressiveness of people towards pediatricians.

All participants felt that it was wrong to label pediatric services “corrupted.” They were very disgruntled with the way the Government introduced the Program - as an anticorruption action, and felt that now there was a need to protect the rights of health care providers.

Attitude towards doctors in hospitals have changed dramatically. The Program was not introduced in the best way: doctors were first presented as enemies of the people. What kind of strategy is that?... The population had no respect for doctors after the Program implementation. They just yelled at doctors and demanded their rights.

Hospital doctor 2.B.1
In-depth interview, marz

Before the Program there was a sense of acknowledgement of the importance of doctors by patients. Now this has disappeared. Patients now don't thank the doctors, even verbally. We [doctors] have lost their respect.

Hospital doctor 2.B.2
Focus group discussion, Yerevan

Doctors are in a situation where any patient can blame them and shout at them. The population does not respect doctors anymore; they only demand the free service, because they have the right.

Hospital administration 2.B.1
In-depth interview, marz

The first thing that the patient shows me [the hospital pediatrician] when entering my office is the Certificate. They [patients] have the audacity to tell us what we have to do. For example, they say: “I came with the Certificate, and since I do not have time to stay at the hospital, you have to serve me on an outpatient basis.”

Hospital doctor 2.B.3
Focus group discussion, marz

People, I am sorry to say, now [since the beginning of the Program] become impudent and demand ambulatory treatment from a surgeon while he is doing surgery, and when asked to wait, they call the hotline with a complaint... I think doctors are now more vulnerable than patients were, and now is the time to protect their [doctors'] rights.

Policymaker/Expert 2.B.1
In-depth interview

Changes are starting from the wrong place. Pediatric services are not the right place to fight corruption... It is a terrible shame [for the Government] to call doctors and teachers as the most corrupted specialists and present us [doctors] as enemies of the population.

Hospital doctor 2.B.4

Focus group discussion, marz

They [the Government] affected pediatricians' reputation. We have never been as depressed as we are now. We are really fed up with this situation.

Hospital doctor 2.B.5
Focus group discussion, marz

2.C. Referrals from primary healthcare facilities to hospitals

Almost all the study participants, both from Yerevan and the marzes, were concerned about the increased number of unnecessary referrals from polyclinics to hospitals. These participants indicated that before the Certificate Program referrals from PHC facilities were much more selective and were provided to more severe cases; now children with mild problems are also referred to hospitals.

Pediatricians, both from hospitals and PHC facilities, and policymakers/experts identified two main reasons for this increase in referrals. First, PHC providers are paid fixed salaries per capita and not for fee-for-service - which means that they have no incentive to increase their workload and treat more patients. Second, because they are paid less than hospital pediatricians, they have incentive to shift more of their patient load to their hospital colleagues. Participants felt that as a result, PHC facilities were declining in their capacity as primary health care service providers.

Polyclinic doctors prefer to avoid the "headache" and refer the patients directly to the hospitals [without consultation]. If they can receive the same amount [salary] without any effort, then why should they be motivated to consult more patients? Before the Program, if a patient [who arrived at the hospital without a referral from their polyclinic] had a serious problem and needed to be hospitalized, we [hospital doctors] called the polyclinic head and asked for a referral... now it is quite the opposite. We switched from one extreme situation to another.

Hospital doctor 2.C.1
Focus group discussion, Yerevan

Now there are many unnecessary referrals from polyclinics. They send patients to the hospital even for minor procedures.

Hospital doctor 2.C.2
Focus group discussion, Yerevan

Now it becomes worse, it [the primary health care facility] starts to be a place where only forms and referrals are provided. ... There are many unnecessary referrals from polyclinics to our hospital.

Hospital administrator 2.C.1
In-depth interview, marz

Primary health care facilities refer all patients to hospitals, because doctors do not have incentives to consult and do not want to increase their workload.

PHC doctor 2.C.1
Focus group discussion, Yerevan

The primary health care providers do not want to deal with their patients, even the mild cases, and refer them to the hospital immediately. They say that the hospital doctors receive more money and they should deal with these patients.

Hospital administrator 2.C.2
In-depth interview, Yerevan

The PHC providers do not have incentive for improving their work. They are paid a certain amount of salary, according to the number of population served, and it does not matter how many patients they serve per month – so why should a polyclinic doctor provide ambulatory service without reimbursement when she knows that the hospital doctor earns much more money for the same work; so they refer patients directly to the hospital. We are facing a serious problem with a reduction in the role of the PHC facilities.

Policymaker/Expert 2.C.1
In-depth interview

2.D. Program regulations

All groups of study participants stressed uncertainty and confusion concerning CHSC Program regulations. Criticism was directed towards ambulatory services provision, the system of referrals, and the regulatory mechanisms for pediatrician's bonuses. Even though the government developed regulatory standards for ambulatory services within the hospital, pediatricians from both Yerevan and marzes complained about vague and confusing procedures and protocols in the regulations' content. This included confusion on what exact services are free, what services should be reimbursed and how they could be reimbursed without extra budget allocations for additional functions.

PHC providers indicated that they were caught in a dilemma by the regulations for the referral system – they cannot give referrals without consulting the patient and assessing his/her health condition, but cannot see the patient if the child was taken directly to the hospital for emergency care on the weekend – where hospital pediatricians had no right to admit the patient without referral.

Many study participants were confused with the bonus regulatory mechanism due to its frequent changes and lack of transparency. They were also dissatisfied with the reduction of bonus amounts and the confusion it caused.

Treatment

Almost every month new regulatory decisions [for the Program] of the government are released, which are not very clear and confuse doctors. They do not know which one to follow.

Policymaker/Expert 2.D.1

In-depth interview

There is a Ministry of Health order and standard on how to provide ambulatory consultations in the hospital for this population group – however, there are no budget allocations for this additional function.

Policymaker/Expert 2.D.2

In-depth interview

There is a new order which states that ambulatory consultation is only free for acute cases - what does that mean? We do not have a clear definition for “acute cases” and for what cases we should provide free consultation... This new order about ambulatory consultations in the hospital is also very complicated and reimbursement for ambulatory consultations are not clearly explained there.

Hospital doctor 2.D.1

Focus group discussion, marz

We have a problem [with the regulations] when providing emergency care for patients during weekends. If a patient needs emergency care on Saturday, parents take their child to the hospital without referral, because the polyclinic is closed. The hospital is required to refuse a patient without a referral form, but has to register the patient with the condition that they bring the referral form later. Now, our polyclinic administration says that without seeing the patient we do not have a right to give a referral.

PHC doctor 2.D.1

Focus group discussion, marz

Financing

We are not aware how bonuses are calculated. If you call the accounting office and try to find out, you receive 1,000 answers but not a single right answer.

Hospital doctor 2.D.2

Focus group discussion, Yerevan

Bonuses are being used for confusing us to the extent that we are not able to monitor our salary/income.

Hospital doctor 2.D.3

Focus group discussion, Yerevan

The payment standard has been changed three times since the launch of the Program. In the beginning the bonus was 25% - now it has been reduced. There are no positive aspects in this Program. We don't even receive extra money for our shift-work.

Hospital doctor 2.D.4

Focus group discussion, marz

In the beginning the bonus constituted 20% of the payment [per case], then it was reduced to 15%, then the payment for night shifts was reduced and now it is integrated into the regular salary.

2.E. Financing

2.E.1. Budget projections

Almost all study participants were convinced that the budgetary projections for the Program were not realistic because of not considering such important factors as increased patient flow, increased birthrates, and inclusion of ambulatory services in the hospital care responsibilities. As the pediatric care physicians and policymakers/experts indicated, the first six months of the Program demonstrated that the allocated budget was far from sufficient.

The State introduced the Program without real estimates of its capacity to pay, and now it struggles to manage expenses... The State implemented the Program, increased the payment for care from 99,500 AMD to 150,000 AMD without realizing that the flow of patients would increase and they [the State] now cannot cope with the payments.

Hospital doctor 2.E.1.1
Focus group discussion, marz

[Reasons for miscalculation of the budget] First, the Program budget was calculated based on previous years of hospitalization statistics, without considering the increase of the birthrate in the country over the last three years. We had 7,000 more children born in 2010 than in 2007.

Policymaker/Expert 2.E.1.1
In-depth interview, Yerevan

They [the Government] did not investigate all the services appropriately – for example, [they did not take into account] the number of patients treated in each hospital, the number of beds... and the number of patients.

Hospital doctor 2.E.1.2
Focus group discussion, marz

If we want to provide free care for 0-7 years old children, then we should have had realistic estimates of the required budget.

Policymaker/Expert 2.E.1.1
In-depth interview

I do not know who decided that three billion AMD is enough to cover pediatric hospital services; they were incorrect in their calculations.

Policymaker/Expert 2.E.1.2
In-depth interview

An assessment of all our needs will probably show one billion AMD budget shortfall.

Hospital administrator 2.E.1.1
In-depth interview, marz

I think at least another three billion AMD is needed to implement the Program appropriately.

Policymaker/Expert 2.E.1.1
In-depth interview

I am not saying that the hospitals should not provide ambulatory consultations, but when we require that they provide these consultations without providing additional resources, we face a problem.

Policymaker/Expert 2.E.1.1
In-depth interview

2.E.2. Hospital financing

According to the participants, the Program budget was insufficient to cover the increased patient load. All groups of study participants indicated that because of the hospital budget caps, doctors were not fully paid for the number of treated cases. Participants reported that some hospitals limited patient admissions and were forced to reduce patient length of stay in the hospital to save money. Moreover, some hospital administrators indicated that the current tax policy was a significant problem, as the hospitals pay taxes based on the number of provided services and not based on the amount they receive from the MOH for the cases covered by the Program. This could be an additional incentive to limit the patient admissions.

We have a budget limitation for each month and we cannot exceed that limit. Even if we see more patients, we cannot be reimbursed according to our performance.

Hospital doctor 2.E.2.1
Focus group discussion, marz

There are limitations in hospital financing and we cannot pay for every treated patient. They [bonuses] are not as much as we were promised at the beginning of the Program. For example, if a doctor treats 100 cases, s/he may be reimbursed only for 10.

Hospital administrator 2.E.2.1
In-depth interview, Yerevan

The hospital administration insists on reducing the length of stay to no longer than 3-4 days, because the longer the patients stay at the hospital, the more money the hospital spends.

Hospital doctor 2.E.2.2
Focus group discussion, marz

The heads of hospitals are “between two stones” [between a rock and a hard place] – on the one hand, the doctors are demanding their money for their services; on the other hand, the government does not have the money to pay for all the work performed.

Hospital administrator 2.E.2.2
In-depth interview, marz

Our concern is that the budget is fixed, the number of patients is increasing, and our budget cannot cover all the required services. If I paid my doctors for all the work performed (130-140 cases per month) they would receive salaries of 1.5 million AMD, but I cannot because if I did, the money for the year would last for about 5 months – then we would be without money for the rest of the year.

Hospital administrator 2.E.2.2
In-depth interview, marz

The Program led to increases in patient numbers and we are doubtful that the budgeted money will be sufficient to cover our work after September.

Hospital doctor 2.E.2.3
Focus group discussion, marz

The weak point of the Certificate Program is that its budget is unable to cover all hospital admissions. Is it ethical to tell the patient that the basic benefit package budget has run out and the facility does not have resources for their admission?

Hospital nurse 2.E.2.1
Focus group discussion, marz

Since the Program has begun, I have a cumulative debt in the amount of 21 million AMD to my doctors for their work and for which they have not been paid. You know what is happening in this situation – we report all of the work performed and pay taxes for that work, but we do not receive salaries because of Program budget limitations. This is a very scary situation for the hospital finances.

Hospital administrator 2.E.2.2
In-depth interview, marz

If we announce that care is free but the existing resources cannot realistically cover that care then we face a contradiction... this puts the health care providers in an unfavorable situation. They [health care providers] are not allowed to find additional resources for covering the real costs of the care.

Policymaker/Expert 2.E.2.1
In-depth interview

2.E.3. Number of hospital admissions

Study participants reported a substantial increase in patient flow with the start of the Program, especially during the first months of its implementation. They further observed that higher numbers of admissions placed additional burden on the hospital pediatricians, forcing them to work under pressure. Increased patient load increased also the financial burden on hospitals when the cost of serving the patient load exceeded the budget for pediatric services. To regulate this problem, some hospital administrators reportedly put caps on the number of patients admitted to their hospitals. Those study participants who were pediatricians working in hospitals where a cap on admissions was enforced, expressed their dissatisfaction and concern about the limited number of admissions, which substantially reduced their salaries. Those study participants who were pediatricians from hospitals where there was no cap on hospital admissions reported that if they were not paid for all patients they served in a given month, they would have to be reimbursed in a month when they served fewer patients than budgeted – if this ever occurred.

Increases in admissions

During the first three months [of the Program], patient flow increased and the number of planned surgeries rose.

Hospital doctor 2.E.3.1
Focus group discussion, marz

The flow of patients increased dramatically.

Hospital doctor 2.E.3.2
Focus group discussion, marz

We see two-and-a-half times more patients in a month than before the Certificate. We cannot refuse patients because our hospital administration requires meeting the needs of all patients. To enforce this, there is a hot line and you do not know what this patient [parents of patient] will say on the hot line if you refuse him Program services.

Hospital doctor 2.E.3.3
Focus group discussion, Yerevan

The flow of patients increased, if we compare the situation now and the same period a year ago, the number of patients increased by 20-30 patients per month for our department. Our patient load increased but we can handle it – we are used to working under pressure.

Hospital nurse 2.E.3.1
In-depth interview, Yerevan

We [doctors] see many more patients [covered by the Program] in a day, and we try to maintain the quality of care to the extent of our ability. ... By the end of the day I am so exhausted that I do not have energy for my children and family.

Hospital doctor 2.E.3.4
Focus group discussion, Yerevan

The patient load increased very much [with the start of the Program]. Before, we had 100 patients discharged from our department in a month; currently, this number increased up to 250-350.

Hospital administrator 2.E.3.1
In-depth interview, Yerevan

Budget cap

In the beginning of the Certificate Program we thought that the amount of money per patient would be increased and we would receive salaries. But now we have constraints on the number of patients that we can treat in the hospital per month. The basic benefit package for pediatric services is fixed. If there are more patients, we cannot admit them... Now, though the flow of patients has increased, we admit fewer of them. Before the Program we used to have 40-50 patients [monthly] admitted; now we have only 8-9 patients admitted.

Hospital doctor 2.E.3.5
Focus group discussion, Yerevan

I am not allowed to treat more than 18 patients per month under the Program.

Hospital doctor 2.E.3.6

Focus group discussion, marz

The head of the hospital strictly instructed us to cut down the number of patients served. I had a conflict with the administration because as the head of an infectious disease department I cannot plan when infectious disease outbreaks will happen and how many patients will be involved. Especially in this season, when summer begins and intestinal infections rise... I have used up all my quotas (planned number of patients that can be served) till July 1st. It is absurd – I will not be paid for any case I treat for the next two months.

Hospital doctor 2.E.3.7
Focus group discussion, marz

Now we have a financial limit in department admissions and if we admit patients, exceeding that limit by the end of the month, the extra cases will receive the care without reimbursement (“banned cases”). If later, there are months when we do not exceed the limit, we will get payment for those “banned cases”.

Hospital doctor 2.E.3.8
In-depth interview, marz

At the beginning of the Program in February, when patient flow to the hospital was comparably high, I treated 10 patients more than the budget allowed, so my payment for those patients was refused; I would be paid only when some months later the number of patients would be less than permitted by the budget – if not, I will never get this money.

Hospital doctor 2.E.3.9
In-depth interview, marz

In marz facilities, the increased patient flow to the hospitals can still reasonably be paid by the government –instead of 6 patients that they had before, they now have 10 – and doctors are happy. However, in Yerevan, the patient flow is too high – instead of 30, now they have 60 – and the government cannot reimburse all the expenses because of budget limitations ...Current limits for the number of served patients that the government set to each hospital because of the budget shortage make doctors angry.

Policymaker/Expert 2.E.3.1
In-depth interview

2.E.4. Pediatric healthcare providers’ payment

Pediatric care physicians reported discrepancies between the amount of salaries that was promised by the government to be paid at the start of the Program and their real salaries after a few months following the introduction of the Program. All study participants indicated that their payments did not correspond to the amount of work, including night-shifts, because of budget shortfalls. Moreover, the overall income of pediatric physicians and nurses in both Yerevan and marzes declined because the number of patients permitted for treatment per month was capped, inpatient stays were shortened, and informal payments eliminated.

Some policymakers/experts indicated that payments were lower in the facilities where there were more pediatricians. Although majority of the study participants agreed that the official salary significantly increased after the CHSC Program started, all doctors and nurses of pediatric services who participated in the study reported that they and their colleagues were not satisfied with their current salary, because it did not meet their expectations: 1) the current official salaries of providers were lower than their overall income (that included unofficial payments) before the CHSC Program; 2) the amount of completed work was much more than the actual reimbursement; 3) bonus payment amounts were decided by hospital heads and could vary from person to person and from facility to facility. The PHC physicians also reported dissatisfaction because of not being included in the Program and continuing to receive low salary.

Most of the participants reported that hospital heads could change the bonus payments as they wanted, which could provide an opportunity for favoritism or for re-allocating the bonus money for other needs of the hospital.

Hospital Nurses

Nurses are in a worse situation than we [doctors] are. Their salaries are fixed and have increased very little after the Certificate Program was implemented, while at the same time their workload has increased.

Hospital doctor 2.E.4.1
Focus group discussion, marz

Mid-level personnel in the hospitals are also overloaded. Their salaries did increase a little bit with the Program... They now receive 90,000 AMD, but it is not much compared to the workload that they have.

Hospital doctor 2.E.4.2
Focus group discussion, Yerevan

Nurses are very disappointed, because they expected to have more bonuses from the Program, but their salaries almost did not change... The amount of their work almost doubled, but their salaries changed very little and the Program did not consider their involvement in the services at all.

Hospital administrator 2.E.4.1
In-depth interview, marz

Nurses lost a lot, because their salaries increased very little. The number of patients increased dramatically but informal payments completely disappeared.

Hospital doctor 2.E.4.3
In-depth interview, marz

Our salary has increased little since January 2011. We receive a fixed salary per hour, which is 195 AMD per hour. It is fixed regardless of the number of the patients we serve. ...it would be better if we had a fixed salary with bonuses. Currently we do not receive bonuses, only our fixed salary.

Hospital nurse 3.E.4.1
Focus group discussion, marz

Hospital physicians

We received a higher salary only for the first month of the Program, and then it was reduced [because of the cap].

Hospital doctor 2.E.4.4
Focus group discussion, Yerevan

The payment does not correspond to the amount of work. We work two-three times more and get less since the budget is fixed. The payment does not depend on the work, no matter how much work you do. I go home at 20:00 or 22:00 o'clock... If I was paid for all my work, I would be happy with my salary. But now I receive 2-3 times less.

Hospital doctor 2.E.4.5
In-depth interview, marz

We treat 150 patients but the State allows us to have only 18 patients. In the beginning we were told that we will receive 20,000 drams times the number of patients. But we don't receive money for all of our treated cases. After the cap on the number of patients, we do not receive bonuses and the number of medical admissions is frozen. Now we receive less money compared to what we were earning before the Program [including unofficial payments].

Hospital doctor 2.E.4.6
Focus group discussion, marz

There are many cases where we treat the patient for 5-6 day – so we should receive 150,000 AMD for that situation but the [reported] duration is reduced to 3-4 days and we receive only 50,000 – 60,000 AMD. I cannot refuse the patient who has a referral, so we hospitalize all of these cases, working more and getting less.

Hospital doctor 2.E.4.7
In-depth interview, marz

I work 7- 8 overnight shifts to earn more money, but the payment is still too small considering that I am at work in the daytime after the night-shifts. So, I work 32 hours without sleeping 7-8 times a month and receive 150,000-200,000 AMD.

Hospital doctor 2.E.4.8
Focus group discussion, marz

They [hospital pediatricians] are doing a tremendous job, but are still not paid accordingly. I am talking about Yerevan hospitals, because in marzes they never had as many patients and the current increase in the number of patients is a positive change for them. However, in Yerevan, pediatricians were always overloaded and now are more overloaded than ever, thus doctors complain. The amount of work does not correspond to the payment.

Policymaker/Expert 2.E.4.1
In-depth interview

If we compare the income [including informal payments] we had before the Program and now,

we can definitely say that it reduced significantly.

Hospital doctor 2.E.4.9
Focus group discussion, marz

In the facilities that have more pediatricians, their salaries may not be that much higher since the cases served by providers are fewer. Meanwhile, in the hospitals, particularly in the marzes, where there are only one or two pediatricians the salaries are higher.

Policymaker/Expert 2.E.4.2
In-depth interview

PHC physicians

It is not fair to provide hospital doctors with 15,000 AMD per patient when she/he might see that patient for only few days, while we [PHC physicians] are taking care of these patients for their entire lifetime and receive only 87 AMD per person per month.

PHC doctor 2.E.4.1
Focus group discussion, marz

The primary health care providers are dissatisfied because of receiving nothing more after this Program was implemented – in other words, they receive nothing from this Program.

Hospital administrator 2.E.4.2
In-depth interview, Yerevan

Bonus payments

Now, 10% of bonus payments go to doctors but the heads of hospitals have the prerogative to reduce it by 5%. Why? ... According to current regulations, the head doctor can even further reduce this percent with application to the Minister of Health.

Hospital doctor 2.E.4.7
In-depth interview, marz

The heads of hospitals may personally like one doctor and dislike another [this may influence how heads of hospitals pay one doctor one bonus and pay another doctor a different bonus].

Hospital doctor 2.E.4.4
Focus group discussion, Yerevan

The government gives an opportunity to pediatricians to earn more money, but the administration of the hospital takes my money for other needs in the facility.

Hospital doctor 2.E.4.3
In-depth interview, marz

We do not restrict nurses from receiving bonuses for the care they provide; it is the hospital heads' decision.

Policymaker/Expert 2.E.4.2
In-depth interview

2.E.5. Work overload/understaffing

Study participants who were pediatricians from marz hospitals indicated that there was a shortage of pediatric specialists in their facilities, leading to work overload. Some of them believed that such a shortage was due to transforming pediatricians into family physicians.

Some marz pediatricians reported that they would prefer to take additional responsibilities for a higher salary, even if they had to be overloaded with work. Policymakers/experts added that currently many of the hospitals were privatized and the Government had no right to regulate the numbers of their hospital staff.

<i>Taking into account the workload we have today, the number of pediatricians is insufficient.</i>	Hospital doctor 2.E.5.1
	Focus group discussion, marz
<i>We have a lack of specialists. It was a big mistake to transform pediatricians into family doctors. Now we are facing problems. We are overloaded in our work.</i>	Hospital doctor 2.E.5.2
	Focus group discussion, marz
<i>I am the only pediatrician in the department. Of course, it is difficult for me to handle all the work and carry all the responsibilities alone. The need for a second specialist is urgent, but we cannot find anybody yet...however, if the second pediatrician will be hired, I will receive only half of today's salary. Thus, on one hand it would be nice to have another colleague to work with me and share the responsibilities; on the other hand I will have financial problems.</i>	Hospital doctor 2.E.5.3
	In-depth interview, marz
<i>We [policymakers/experts] do not have the right to dictate to the hospital heads how many providers they have to keep, since the hospitals are mostly privatized.</i>	Policymaker/Expert 2.E.5.1
	In-depth interview

2.F. Quality of services

Most of the study participants stated that the quality of both pediatric hospital care and primary health care services suffered since the implementation of the Certificate Program. Participants mentioned a few reasons for the reported decrease in the quality of pediatric care in hospitals: limitation on the number of days for pediatric inpatient stay, higher numbers of admissions, decreasing enthusiasm of nurses, overcrowding of hospitals with pediatric patients, and inadequate financial resources.

<i>The restrictions that were set in our facility [shortening hospital stays] have a negative effect on the quality of care. Instead of thinking about patients' wellbeing first, we are more concerned not to exceed restrictions.</i>	Hospital doctor 2.F.1
	Focus group discussion, marz
<i>Infection is a condition that cannot be treated in three days [the cap on pediatric hospital stay],</i>	

so we have to discharge patients not fully recovered, which may lead to complications, re-infections, and so on. Overall, the quality of services declines because of incomplete care.

Hospital doctor 2.F.2
Focus group discussion, marz

The population loses the quality of pediatric services... They [PHC physicians] do not pay enough attention to the patients like before, because currently there are no incentives. At the same time, the quality of hospital services has also suffered, because, with the increased number of patients, they [pediatricians] physically do not have time to provide quality care. They are also unsatisfied with their job, because of the payment they get. They keep patients for few days in the hospital and then discharge them without completing the treatment, so patients very often come to us with disease complications for re-admission.

PHC doctor 2.F.1
Focus group discussion, Yerevan

Due to high hospital admission rates and also the State Health Agency requirement for short course treatment of acute cases, we have to discharge patients earlier (after 2-3 days). But medically this is wrong, especially for the most vulnerable age group of children from 0 to 3 years. Considering their physiological needs, three days are not enough to assure full recovery.

Hospital doctor 2.F.3
Focus group discussion, marz

Due to high admission rates, we have to discharge pediatric patients who are not fully recovered.

Hospital administrator 2.F.1
In-depth interview, Yerevan

Some of the patients [pediatric patients and their parents] could be unsatisfied with the quality of services, because with such high number of patients it is impossible to pay sufficient attention to each one.

Policymaker/Expert 2.F.1
In-depth interview

Our nurses perform their daily activities [in hospital pediatric care], however with less enthusiasm.

Hospital doctor 2.F.4
Focus group discussion, Yerevan

The numbers of pediatric patients and their parents increased very much in our department; we had to put additional beds even in the cafeteria and additional baby bassinets in the doctors' room. The high number of patients and parents strained the infection control situation in our department – people started to infect each other. This, of course, is an unfavorable situation.

Hospital administrator 2.F.1
In-depth interview, Yerevan

They [pediatric hospital staff] cannot provide appropriate care with the allocated resources.

Policymaker/Expert 2.F.2
In-depth interview

3. OPPORTUNITY

3.A. Increase financing of the Program

All participants, including policymakers and healthcare providers, agreed that it is necessary to increase the financing of the Child Health State Certificate Program to improve it. The increased financing would assure quality of care, enhance the monitoring of the Program and increase the public awareness of the Program. In addition to increasing financing, one policymaker/expert suggested strengthening primary healthcare and reducing the age range of patients who should receive free of charge hospital services. Another policymaker reported that the Government recognized that the allocated funds were not sufficient to fully cover expenses given the increase in service utilization under the CHSC Program and they currently work towards increasing financial allocations for the Program.

The increase of patient flow can be unfavorable if the providers continue to provide care to more and more patients without additional financing. To control this situation, on one hand it is necessary to strengthen primary healthcare and on the other hand to increase the financing of the Program.

Policymaker/Expert 3.A.1
In-depth interview

It is necessary to increase the financing of the Program to improve the quality of care in the hospital. ... We need more financing to improve the monitoring of the Program and to raise the awareness of the population.

Policymaker/Expert 3.A.2
In-depth interview

I think this is a good Program if it had sufficient financing. ... it would be good if the doctor received full payment for the work he/she has performed. ... If I received the amount which I was supposed to receive, then I would be happy with my salary. ... But now I receive half to a third [of what I was supposed to receive]. The payment system should be reviewed. If the current budget is not enough to pay for the work we do, then it should be increased.

Hospital doctor 3.A.5
In depth interview, marz

If we have an approved [limited] budget ...we could assess for what age groups we are able to provide free care. Maybe in this case, the upper age limit should be reduced.

Policymaker/Expert 3.A.1
In-depth interview

... we are familiar with this problem [lack of financial resources given the higher admission rates of patients]. ... we are currently working on a proposal that will be submitted to the Ministry [of Health] and to the Government to get additional resources for the hospital care of 0-7 years old children.

3.B. Change the payment mechanisms

Some doctors working in hospitals reported that the bonus payment mechanism was not the best for improving their salaries and that it could be used to manipulate and control the physicians. Instead they suggested paying doctors higher fixed salaries that would not depend on the number of treated patients and would be stable over time. The majority of healthcare providers recommended eliminating the cap on the number of patients treated monthly. They mentioned that it would provide them the opportunity to treat more patients and to receive higher reimbursements. A few doctors suggested reimbursing providers based on the diagnosis-related groups rather than number of patients.

The pediatricians, both from Yerevan and marzes, and some hospital administrators were in agreement that the authority to determine the percent of bonuses for doctors in the Program should not be in the hands of the hospital administrators but should be determined by the Government.

To reduce unnecessary referrals from the primary healthcare facilities to hospitals, one expert suggested introducing co-payments in the hospital for the ambulatory services; others suggested strengthening the PHC services or including them in the CHSC Program. A few doctors suggested redirecting finances from marzes to Yerevan facilities and from primary healthcare to secondary healthcare services to address the shift in actually provided services.

Fixed salaries for hospital pediatricians

It is better to receive a fixed salary to be financially more protected.

Hospital doctor 3.B.1
In-depth interview, marz

Let them [the Government] pay what they have promised us. We are against bonus mechanisms. We would like to receive a fixed salary.

Hospital doctor 3.B.2
Focus group discussion, Yerevan

If the state wanted to help us, then they would pay fixed higher salaries to doctors - for example, a 500,000 AMD salary without bonuses.

Hospital doctor 3.B.3
Focus group discussion, marz

Elimination of the cap on number of patients

I would be happy with the Program if there was no cap on the number of patients. Now we definitely receive less money compared to what we were earning before the Program began.

Hospital doctor 3.B.4
Focus group discussion, marz

The main recommendation is that the number of patients should not be restricted [by the Government].

Hospital doctor 3.B.5
In-depth interview, marz

Payment by diagnosis-related groups

I suggest calculating different rates of payment [from the Government] for each diagnosis related group.

Hospital doctor 3.B.6
Focus group discussion, Yerevan

Payment mechanisms should be changed shifting from number of cases to the case specifics [e.g., diagnosis-related groups].

Hospital doctor 3.B.7
Focus group discussion, marz

Fixed bonuses set by the State

There should be a clear regulatory standard from the State on what percent of the payment should go to the doctors. The head of the hospital should not have the right to make the decision about percent of payment.

Hospital doctor 3.B.8
In-depth interview, marz

I think that the State should fix the size of bonuses, not the head doctor. It is not right. We would like to get fixed salaries from the State, such as 500,000 – 600,000 AMD.

Hospital doctor 3.B.4
Focus group discussion, marz

Co-payments for ambulatory services in the hospital

I suggest having some regulatory mechanisms to reduce unnecessary [ambulatory] visits to the hospital. It could be resolved through some small symbolic fee for ambulatory services at the hospitals, such as 5,000 AMD. It could motivate parents first visit primary healthcare facilities.

Policymaker/Expert 3.B.1
In-depth interview

Redirection of finances for services rendered

I suggest that if our hospital provides the care that the polyclinic should provide, then it is reasonable that the finances for that patient care should be redirected from the polyclinic to our hospital.

Hospital doctor 3.B.9
Focus group discussion, Yerevan

Many patients from marzes close to Yerevan like Vedi, Masis come to our hospital [in

Yerevan]. *One option is to transfer the finances from marzes to Yerevan hospitals [for these services].*

Hospital doctor 3.B.10
Focus group discussion, Yerevan

There should be mechanisms allowing patients to choose our hospital services if they desire. Now our hospital receives limited BBP and patients don't have the choice to come to us.

Hospital doctor 3.B.11
Focus group discussion, Yerevan

Including PHC services in the Program

It would be good if the Certificate could also cover pediatric services in primary healthcare by paying PHC doctors for treatments that they perform at patients' homes.

Hospital administrator 3.B.1
In-depth interview

3.C. Need for standardized guidelines for patient flow and management

Many study participants mentioned that there was a need to develop and implement official standardized guidelines for referrals from polyclinics to hospitals, for services provided in hospitals and primary healthcare facilities, for justification for hospitalization and duration of hospitalization. One Policymaker/Expert reported that the Government was aware of this need and will try to address it in the future, though this person indicated that it was resource heavy to develop such standards.

I think it is necessary to develop mechanisms to control referrals [for child healthcare services from polyclinics to hospitals] and to require justification for hospitalization.

Policymaker/Expert 3.C.1
In-depth interview

... we should have clear standards for all hospitalized cases to assess whether the child should be hospitalized or not, what is the appropriate number of days for hospital stay and what is appropriate treatment.

Hospital administrator 3.C.1
In-depth interview, marz

There should be a clear division between what services are free in the hospital and what services are free in the polyclinic.

Hospital doctor 3.C.1
Focus group discussion, Yerevan

To control the rates of hospitalization and to reduce unnecessary hospitalizations, we need to have appropriate standards in place. However, it is not feasible for us to have standards now because it is very expensive process [to develop standards]. We are aware of this problem and we plan to resolve it sometime in the future.

Policymaker/Expert 3.C.2

3.D. Increasing the awareness of the population about the Program

Many participants reported that there was a need to better inform the population about the Program, especially informing the population that free services were provided only if the child was hospitalized and that for hospitalization the patient needed to have a referral from the primary healthcare doctor.

TV programs should be developed to better cover all aspects of this Program and to explain to the population that only hospital care is covered by the Program. It also should be clearly stated that only primary healthcare doctors can decide whether hospitalization is necessary for the patient.

Hospital doctor 3.D.1
Focus group discussion, Yerevan

One way [TV] of disseminating the information among the population is not enough ... it is the responsibility of health care providers, particularly PHC providers, to explain to people carefully the purpose of the Certificate.

Policymaker/Expert 3.D.2
In-depth interview, Yerevan

3.E. Assuring sustainability of the Program

Both doctors and Policymakers/Experts reported that the sustainability of the Program should be assured and additional financial resources would be necessary to adequately support the Program in the future.

It is necessary to make the Program sustainable. The State has taken the responsibility and should assure that the Program continues.

Policymaker/Expert 3.E.1
In-depth interview

It is necessary to assure sustainability [of the Program], since there is no other choice. At the very least, it is necessary to maintain the Program at its current levels. However, for adequate functioning it is necessary to increase the Program budget in the future.

Policymaker/Expert 3.E.2
In-depth interview

I am for the sustainability of the Program but the budget should be increased. Provision of medications and salaries should be increased. Providers should be paid according to their workload.

Hospital doctor 3.E.1
In-depth interview, marz

4. THREATS

Study participants agreed that inadequate payments to providers may lead to decreased provider motivation and lower quality of services. This might also contribute to retention problems of pediatric specialists in the Program.

...though doctors are unsatisfied [with the Program], the vast majority of the population is satisfied with the Program. But ...this small part of the population [doctors] plays a big role in the Program's success; if doctors continue to be unsatisfied, the quality of services will suffer and as a result the population will begin to resent the Program. Or doctors will quit their jobs and leave Armenia - we already have such cases and we are losing our best specialists.

Policymaker/Expert 4.1
In-depth interview

In 5 or 6 years the population will receive very poor quality of service [within the Program]. The physicians will leave their positions [because of low salaries].

Hospital doctor 4.1
Focus group discussion, marz

... we have the bonus system after the implementation of the Certificate – however, the financing is limited and [as a result] we do not receive all bonuses for all treated patient. This may reduce the provider's motivation [to provide quality services].

Hospital administrator 4.1
In-depth interview, Yerevan

If we announce that care is free but the existing resources are not adequate, then we face a dilemma. ...we assure the population that care is free but due to the limited budget ... doctors cannot provide appropriate care [for the entire population] with the allocated resources.

Policymaker/Expert 4.2
In-depth interview

MAIN FINDINGS OF THE QUALITATIVE STUDY

Strengths

- Financing for pediatric hospital care increased
- The MOH developed providers' reimbursement standards to better control the flow of finances
- Official salaries of pediatricians in hospitals increased significantly
- There were substantial reductions in informal payments for pediatric hospital care
- Providers' dignity improved, since they no longer had to solicit informal payments from patients
- The access to pediatric hospital care improved

- Population's trust in the State increased
- Future health burden on the State potentially decreased through improved timely access to child healthcare services
- The Ministry of Health improved the monitoring mechanisms of the pediatric hospital services

Weaknesses

- Information disseminated by the State for the general population and health care providers about the Program was fragmented and lacked clarity on the scope of services covered
- Regulations of the Program, including outpatient services, referrals, and the bonus mechanisms for hospital pediatricians were not adequate
- Budgetary projections for the Program were not adequate
- The amount of salaries that was promised by the State to be paid to pediatricians at the start of the Program was more than the actually paid salaries
- Placement of limits (cap) on patient admissions and patient length of stays in the hospital could negatively influence the quality of pediatric care
- Populations' lack of understanding of the scope of the Program led to some deterioration in patient-provider relationships
- The number of unnecessary referrals from polyclinics to hospitals increased
- Reportedly the quality of pediatric care both in hospitals and primary healthcare facilities has declined

Opportunities

To assure sustainability of the Program it is necessary to

- Further strengthen primary healthcare to better support adequate functioning of the Program in the hospitals
- Increase public awareness of the services provided by the Program and PHC Providers
- Further increase financing of the Program to adequately reimburse providers based on their real workload
- Develop standardized guidelines for referrals from polyclinics to hospitals, for services to be provided in hospitals and primary healthcare facilities, and for

indications for hospitalization and hospital length of stay to assure good quality of pediatric care and efficient resource allocation

- Introduce co-payments in the hospital for the ambulatory services to reduce unnecessary referrals from the primary healthcare facilities to hospitals
- Strengthen the monitoring of the Program

Threats

- Inadequate financial remuneration to providers may lead to a decreased provider motivation and lower quality of services. This may also contribute to retention problems of pediatric specialists in the system.

CONCLUSIONS

The findings of the quantitative assessment clearly demonstrated that the Child Health State Certificate Program made a significant impact in terms of meeting its main goals of reducing informal payments for pediatric inpatient care and improving access to hospital care of children 0-7 years old. Due to the CHSC Program, the proportion of those who made any payment for hospital care decreased almost four times. The observed decrease was statistically significant for both Yerevan and marz hospitals. The proportion of those who paid for gifts and/or “thank you” payments also decreased about three times. Statistically significantly fewer mothers/caregivers reported that there was a time when their child needed medical care, but they did not apply for it. The findings from the qualitative assessment with health providers also supported this conclusion.

Almost all the surveyed mothers/caregivers, who used the hospital pediatric services in March-May 2011, were informed about the Program, mainly from healthcare providers, and the vast majority of those who used the CHS Certificate were satisfied with the Program, because it provided a real chance to get free of charge care.

The proportion of cases presenting to the hospital an official referral form from the PHC facility increased significantly both in Yerevan and marz facilities and almost all the cases presented Child Health State Certificate to the hospital.

After the implementation of the program, paying for drugs/supplies from pharmacy for a hospitalized child remained the most common type of spending in both Yervan and marz hospitals.

While the inpatient care quality attributes related to hospital personnel received very high ratings from the respondents both in Yerevan and marzes, the attributes related to facility’s physical conditions, cleanliness, availability of medical equipment and drugs/medical supplies were rated significantly lower in marz hospitals compared to Yerevan. Several data points in the study suggested about not optimal physical conditions and lower availability of instrumental examinations, drugs/medical supplies, and ambulance services in marz hospitals compared to Yerevan hospitals.

Increasing providers' salary remained one of the most frequently mentioned suggestions by the respondents to further improve the quality of services in both Yerevan and marz hospitals. This finding validates the conclusions from the qualitative assessment, which focuses on another important stakeholder group – the health providers – there was consistent dissatisfaction among the hospital pediatricians. Despite the increase of official salaries, the current income of the pediatricians was less compared to their income in the past, because the unofficial payments decreased significantly. The quantitative assessment also supported this finding: about half of mothers/caregivers suggested increasing the providers' salary to improve the quality of care. Dissatisfaction of healthcare providers might potentially lead to lower quality of pediatric healthcare services and reinforcement of unofficial payments in the future.

The CHSR/AUA research team makes the following recommendations based on the literature and documents review and findings from quantitative and qualitative assessments:

- To further increase the budget of the Program to improve it and assure sustainability taking into consideration all the factors that might influence the number of annual necessary hospitalizations (e.g., increased number of births in 2007-2010 and information from 2011)
- To improve regulation and monitoring of the Program, including financial flows within the pediatric hospitals
- To work with facility administrations to set realistic budget caps to better regulate the number of needed pediatric hospitalizations and the length of stay for each hospitalization
- To pay the providers based on their real workload
- To develop standardized guidelines for referrals from polyclinics to hospitals, for services to be provided in hospitals and primary healthcare facilities, and for indications for hospitalization and hospital length of stay to assure good quality of pediatric care and efficient resource allocation
- To further strengthen pediatric primary healthcare to better support adequate functioning of the Program in the hospitals
- To consider introducing small co-payments in the hospital for the ambulatory (out-patient) services to reduce unnecessary referrals from the primary healthcare facilities to hospitals

- To increase awareness of the services provided by the Program and PHC Providers among the general public and health providers
- To continue promoting a collaborative role of civil society in Program monitoring and evaluation
- To continue to improve the condition of hospitals in marzes, particularly the physical conditions and availability of equipment, drugs/medical supplies, and ambulance services

The next step in evaluating the CHSC Program should be a similar evaluation in 2012 when the Program is more established and some of the identified shortcomings are addressed.

This study confirmed that the CHSC Program, similar to the Obstetric Care State Certificate Program¹⁵, was effective in curbing informal payments for health services included in the Basic Benefit Package in Armenia.

EVALUATION OF THE ANTENATAL AND OBSTETRIC SERVICES

METHODS

The respondents that delivered a child after the launch of the Obstetric Care State Certificate Program (July 1, 2008) were extracted from the merged (baseline and mid-term) database of the study to be analyzed for the sections on Payments for Antenatal and Obstetric Care.

Overall, 1,113 cases were analyzed to understand Payments for Antenatal and Obstetric Care. The CHSR/AUA team conducted trend analyses for the payments for obstetric care to check if there were any trends observed over time between July 2008 and June 2011.

FINDINGS

Payments for Antenatal Care

Out of the total 1,113 cases, 719 women (64.6%) received antenatal care in marz healthcare facilities, 389 (35.0%) in Yerevan healthcare facilities, four (0.4%) out of Armenia and one woman (0.1%) did not receive any antenatal care.

In the total sample 20% of women made some payments (including “thank you”/gifts) to the facility of facility staff for antenatal care. In Yerevan facilities, 34.0% of women made payments (including “thank you”/gifts) for antenatal care; in marz facilities 12.6% of women paid for antenatal care (Table 29). There was a highly statistically significant difference between the percentages of women who made any payments for antenatal care in Yerevan and marz facilities ($p < 0.001$).

Among women who made some payments for antenatal care 28.2% made the payment for the whole package of services: 46.8% paid for the whole package in Yerevan facilities and only 1.1% (one person) in marz facilities (Table 29). The difference between these percentages was highly statistically significant ($p < 0.001$).

Women who did not pay for antenatal services as a whole package were asked to further mention the services for which they paid (Table 29). Among those who paid (not as a whole package), the services for which women paid most frequently were ultrasound (63.5%), laboratory tests (42.3%), physician’s counseling/visits (25.0%), nurses’ manipulation (14.7%) and any medical document (6.4%). These services were not different between Yerevan and marz facilities.

For the total sample the mean amount spent on antenatal care (including “thank you”/gifts) among women who paid and reported the amount was 25,323 AMD. In Yerevan facilities, the mean amount was 34,988 AMD, while in marz facilities this amount was 10,471 AMD (Table 29). This difference between Yerevan and marz facilities was highly statistically significant ($p<0.001$).

The mean amount spent on antenatal care (including gifts and “thank you” payments) per an average studied woman was 4,832 AMD. In Yerevan facilities this mean was 11,601AMD, while in marz facilities it was much lower - 1,218 AMD; a highly statistically significant difference ($p<0.001$) (Table 29).

Table 29: Payments for antenatal care by facility location

Payments for antenatal care	Yerevan	Marzes	Total
Made any payment (including “thank you”/gifts payments), %	N=385 34	N=713 12.6*	N=1098 20.0
Made a payment for all services as a whole package among those who paid, %	N=126 46.8	N=87 1.1*	N=213 28.2
Overall spending in AMD (including “thank you”/gifts) among those who paid and reported the amount, <i>mean (SD), median</i>	N=126 34,988 (71,570) 30,000	N=82 10,471* (15,351) 5,000	N=208 25,323 (31,178) 10,000
Overall spending in AMD (including “thank you”/gifts) per average studied woman, <i>mean (SD), median</i>	N=380 11,601 (25,958) 0	N=705 1,218* (6,197) 0	N=1090 4,832 (16,849) 0
Overall payment in AMD to the cashier among those who paid to the cashier and reported the amount, <i>mean (SD), median</i>	N=56 48,946 (21,305) 20,000	N=4 12,775* (12,889) 10,000	N=60 46,535 (22680) 50,000
Among those who paid, but not as a whole package, a payment was made for (%):	N=67	N=89	N=156
Ultrasound	64.2	62.9	63.5
Laboratory tests	43.3	41.6	42.3
Physician’s counselling/visits	32.8	19.1	25.0
Nurses’ manipulations	17.9	12.4	14.7
Any medical document	4.5	7.9	6.4

* Statistically significant difference between Yerevan and marz facilities ($p<0.05$).

In the whole sample 60 women reported a payment to cashier, and the mean amount paid to cashier was 46,535 AMD. In Yerevan facilities, 56 women reported paying to cashier; the mean amount paid to cashier was 48,946 AMD. In marz facilities only four women reported making a payment to cashier, and the mean amount was 12,775 AMD, which is statistically significantly less than in Yerevan ($p<0.005$) (Table 29).

The percentage of women who paid for antenatal care (including “thank you”/gifts) was statistically significantly higher among Yerevan residents compared to other urban and rural residents (over 2 times more in Yerevan, $p<0.001$ for both comparisons) (Table 30). The mean amount of payment for antenatal care (including “thank you”/gifts) was statistically significantly higher among Yerevan residents compared to other urban (over 2 times more in Yerevan, $p<0.001$); rural residents paid almost the same amount as Yerevan residents.

Table 30: Payments for antenatal care by residency

Payments for antenatal care	Yerevan	Other urban	Rural
Made any payment (including “thank you”/gifts payments), %	N=334 33.2*	N=386 13.7	N=383 14.9
Overall spending in AMD (including “thank you”/gifts) among those who paid and reported the amount, <i>mean (SD), median</i>	N=108 33,134† (36,633) 27,500	N=48 15,231 (18,769) 6,500	N=53 32,028 (101,692) 8,000

* Statistically significant difference between Yerevan and other two residency groups ($p<0.01$).

† Statistically significant difference between Yerevan and other urban populations ($p<0.01$).

Payments for Obstetric Care

Out of the total 1,113 cases, 623 women (56.0%) delivered in marz maternity facilities, 485 (43.6%) in Yerevan maternity facilities and 5 women (0.4%) out of Armenia.

Almost all respondent women (97.7%) received the OCSC: 97.1% of those who delivered in Yerevan facilities and 98.2% of those who delivered in marz facilities (Table 31).

In the total sample 34.2% of women made some payments (including “thank you”/gifts) for obstetric care. About 41.3% of women in Yerevan facilities and 28.6% in marz facilities reported that they made a payment during their stay in the maternity (including “thank you”/gifts) (Table 31). The detected difference between Yerevan and marz facilities was highly statistically significant ($p<0.001$).

The overall mean spending for obstetric care (including “thank you”/gifts) among those women who paid and reported the amount was 44,523 AMD. The mean payment was 58,763 AMD in Yerevan facilities and 28,235 AMD in marz facilities; this difference was highly statistically significant ($p<0.001$) (Table 31).

The overall mean spending (including “thank you”/gifts) per an average studied woman was 13,921 AMD: 22,502 AMD in Yerevan and 7,297 AMD in marz facilities ($p<0.001$).

The percentages of women who spent on “thank you” payments and gifts in the maternities were not different in Yerevan and marz facilities: 25.4% in Yerevan and 25.7% in marzes. The mean spending on “thank you” payments and gifts among those who reported the amount was 28,545 AMD. The mean spending on “thank you” payments and gifts in Yerevan facilities was statistically significantly higher than in marz facilities (41,895 AMD versus 19,978 AMD, $p<0.001$). The mean spending on “thank you” payments and gifts by facility location was calculated for all studied women (per average studied woman) and it was 5,735 (7,506 AMD for Yerevan and 4,353 AMD for marz facilities -the difference between Yerevan and marz facilities was not statistically significant) (Table 31).

The mean difference between the overall payment for obstetric care (including “thank you” and gifts) and the payments for “thank you” and gifts among women who paid was 11,190 AMD in all facilities, 18,458 AMD in Yerevan facilities and in 6,457 AMD in marz facilities (the difference between Yerevan and marz facilities was not statistically significant, $p>0.05$) (Table 31). When calculating the mean per average studied woman, the mean difference between these two payments was 1,095 AMD for all facilities, 3,230 AMD for Yerevan and 1,354 AMD for marz facilities (the difference was not statistically significant).

The mean payment to cashier among women who paid to the cashier and reported the amount was 52,258 AMD: 56,779 AMD in Yerevan facilities and 19,500 AMD in marz facilities; this difference was highly statistically significant ($p<0.001$) (Table 31). The same mean calculated among all studied women was 3,205 AMD (7,082 AMD in Yerevan and 255 AMD in marz facilities-the difference was highly statistically significant, $p<0.001$).

When comparing the types of payments for different obstetric services (Table 31) the most frequently paid services were doctors for care (41.6%), nurses for manipulation (30.9%), wards and special services (26.7%), cleaning ladies (22.8%), mother and child care supplies (13.6%), selecting doctor (8.6%), drugs/medical supplies (7.5%), laboratory tests (4.7%) and

Table 31: Payments for obstetric care by facility location

Payments for obstetric care	Yerevan	Marzes	Total
Respondent women who received the obstetric care state certificate, %	N=484 97.1	N=620 98.2	N=1106 97.7
Made any payment (including “thank you”/gifts payments), %	N=480 41.3	N=615 28.6*	N=1095 34.2
Overall spending in AMD (including “thank you”/gifts payments) among those who paid and reported the amount, <i>mean (SD), median</i>	N=175 58,763 (60,135) 40,000	N=153 28,235* (31,063) 20,000	N=328 44,523 (51,043) 30,000
Overall spending in AMD (including “thank you”/gifts payments) per average studied woman, <i>mean (SD), median</i>	N=457 22,502 (46,279) 0	N=592 7,297* (20,030) 0	N=1049 13,921 (35,205) 0
Frequency of those who spent on “thank you”/gifts payments, %	N=480 25.4	N=615 25.7	N=1095 25.6
Overall spending in AMD on “thank you”/gifts payments among those who paid for these and reported the amount, <i>mean (SD), median</i>	N=86 41,895 (56,937) 23,500	N=134 19,978* (19,031) 15,000	220 28,545 (39,917) 20,000
Overall spending in AMD on “thank you”/gifts payments per average studied woman, <i>mean (SD), median</i>	N=480 7,506 (28,878) 0	N=615 4,353 (12,107) 0	N=1095 5,735 (21,210) 0
Difference between overall mean spending and mean spending on “thank you”/gifts among women who paid, <i>mean (SD), median</i>	N=84 18,458 (35,233) 0	N=129 6,457* (18,143) 0	N=213 11,190 (26,820) 0
Difference between overall mean spending and mean spending on “thank you”/gifts among all studied women, <i>mean (SD)</i>	N=480 3,230 (16,260) 0	N=615 1,354 (8,692) 0	N=1095 1,095 (12,611) 0
Overall payment in AMD to the cashier among those who paid to the cashier and reported the amount, <i>mean (SD), median</i>	N=58 56,779 (34,661) 52,500	N=8 19,500* (14,629) 20,000	N=66 52,258 (35,026) 40,000
Overall payment in AMD to the cashier per average studied woman, <i>mean (SD), median</i>	N=465 7,082 (22,367) 0	N=611 255* (2,716) 0	N=1076 3,205 (15,217) 0
Among those who paid, a payment was made to/for (%):	N=189	N=170	N=359
Doctors for the care	37.2	46.5	41.6
Nurses for manipulations	32.3	29.4	30.9
Cleaning ladies	24.3	21.2	22.8
Ward and special services (food, TV, etc)	46.0	5.3*	26.7
Mother and child care supplies (including from pharmacy)	14.3	13.5	13.8
Selecting the doctor	14.8	1.8*	8.6
Drugs/medical supplies (including from pharmacy)	6.3	8.8	7.5
Laboratory tests	4.8	4.7	4.7
Instrumental examination (ultrasound, ECG, X-ray, etc)	4.2	0.6*	2.5

* Statistically significant difference between Yerevan and marz facilities ($p \leq 0.05$).

instrumental examination (2.5%). Statistically significant differences were found between Yerevan and marzes in terms of payments for ward and special services (8.8 times higher in Yerevan, $p<0.001$), for selecting the doctor (8.7 times higher in Yerevan, $p<0.001$) and for instrumental examinations (7 times higher in Yerevan, $p<0.05$). Payments for other services were similar in Yerevan and marz facilities.

The proportions of women who paid for obstetric care during their stay in the maternity were different across the residency groups with Yerevan residents paying most often and residents of other urban areas least often: women living in Yerevan made a payment 1.7 times more often than those living in other urban areas ($p<0.001$); women living in rural areas made a payment 1.3 times more often than those living in other urban areas ($p<0.05$) (Table 32).

The mean payment for obstetric care (including “thank you” payments and gifts) was statistically significantly higher among Yerevan residents than among residents of other urban and rural areas ($p<0.005$ for both comparisons) (Table 32).

The frequency of paying for “thank you” and gifts were not statistically significantly different across the residency groups (Table 32). The mean amount paid for “thank you” and gifts was different only between the respondent women of Yerevan and other urban areas (38,063 AMD for women from Yerevan versus 21,296 AMD for women from other urban areas).

Table 32: Payments for obstetric care by residency

Payments for obstetric care	Yerevan	Other urban	Rural
Made any payment (including “thank you”/gifts payments), %	N=330 43.9%†	N=381 26.5†	N=384 33.3†
Overall spending in AMD (including “thank you”/gifts payments) among those who paid and reported the amount, <i>mean (SD)</i>	N=130 56,973* (56,078)	N=85 34,959 (40,301)	N=113 37,394 (56,656)
Frequency of those who spent on “thank you”/gifts payments, %	N=330 27.0	N=381 22.0	N=384 27.9
Overall spending in AMD on “thank you”/gifts payments among those who paid for these and reported the amount, <i>mean (SD), median</i>	N=63 38,063† (45,380)	N=71 21,296† (21,876)	N=86 27,558 (45,786)

* Statistically significant difference between Yerevan and other two residency groups ($p<0.01$).

† Statistically significant difference across residency groups ($p\leq 0.05$).

About one fifth (21.7%) of women had C-Section in both Yerevan and marz facilities. In Yerevan facilities 32.7% of women had C-section compared to 13.6% in marz facilities; this difference was highly statistically significant ($p<0.001$) (Table 33).

About 32.5% of women who had vaginal delivery made some payments (including “thank you”/gifts) for obstetric care and 39.7% of women who had C-Section made payments; the difference was statistically significant, $p<0.05$). The overall mean spending among women who paid and reported the amount was 39,368 AMD for vaginal delivery and 59,354 AMD for C-Section; the difference was statistically significant ($p<0.05$). The overall mean spending per an average studied woman was 11,668 AMD for vaginal delivery and 21,609 for C-Section (difference <0.001). The difference of frequency of those women who spent money on “thank you”/gifts was not statistically different by mode of delivery – about 25%. However, the mean spending on “thank you”/gifts was statistically significantly higher for C-Section (41,476 AMD) compared to vaginal delivery (25,816 AMD). The same mean per average studied woman was 5,367 AMD for vaginal and 7,607 AMD for C-Section delivery (no statistically significant difference) (Table 33).

Table 33: Payments for obstetric care by mode of delivery

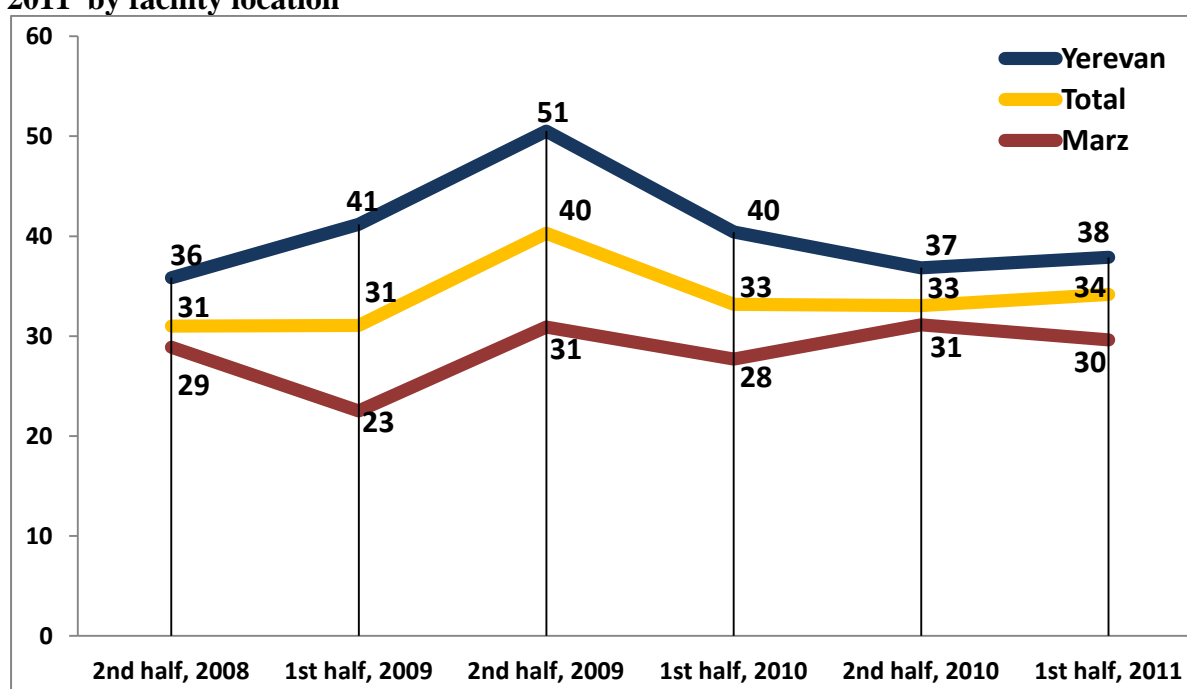
Payments for obstetric care	Vaginal	C-Section	Total
Made any payment (including “thank you”/gifts payments), %	N=837 32.5	N=229 39.7*	N=1095 34.2
Overall spending in AMD (including “thank you”/gifts payments) among those who paid and reported the amount, <i>mean (SD), median</i>	N=238 39,368 (53,730) 20,000	N=79 59,354* (41,504) 50,000	N=328 44,523 (51,043) 30,000
Overall spending in AMD (including “thank you”/gifts payments) per average studied woman, <i>mean (SD), median</i>	N=803 11,668 (34,303) 0	N=217 21,609* (37,967) 0	N=1049 13,921 (35,205) 0
Frequency of those who spent on “thank you”/gifts payments, %	N=837 25.7	N=229 25.3	N=1095 25.6
Overall spending in AMD on “thank you”/gifts payments among those who paid for these and reported the amount, <i>mean (SD), median</i>	N=174 25,816 (40,766) 15,000	N=42 41,476* (35,490) 30,000	N=220 28,545 (39,917) 20,000
Overall spending in AMD on “thank you”/gifts payments per average studied woman, <i>mean (SD), median</i>	N=837 5,367 (21,302) 0	N=229 7,607 (22,029) 0	N=1095 5,735 (21,210) 0

* Statistically significant difference between vaginal delivery and C-Section ($p<0.05$).

Trend Analysis

The trend analysis for the rates of informal payment was conducted for the period of July 2008 - June 2011 to identify semi-annual, seasonal, and (whenever possible) monthly trends of these rates. Even though there were some fluctuations of overall payment rates and “thank you” payment rates over time, no systematic pattern of change by months, seasons or semi-annually was revealed; the same was true for the mean amount of payments per an average respondent. Figure 8 and 9 present the trend in the frequency of women who made any payments (including “thank you” payments and gifts) and the trend in the mean amount of payment (including “thank you” payments and gifts) for the obstetric care per an average respondent (among all the study women) (grouped by 6 months - semiannually) for the whole sample and by facility location. Figure 10 and 11 present the semi-annual trend for only “thank you” payments and for gifts. Figure 12 and 13 present the same trends by the mode of delivery^{ix}. No statistically significant change (increase or decrease) was found for any of these trends over time (the p-value for each trend analysis is presented below each figure). The trend analyses s by months and seasons also did not show any statistically significant change over time.

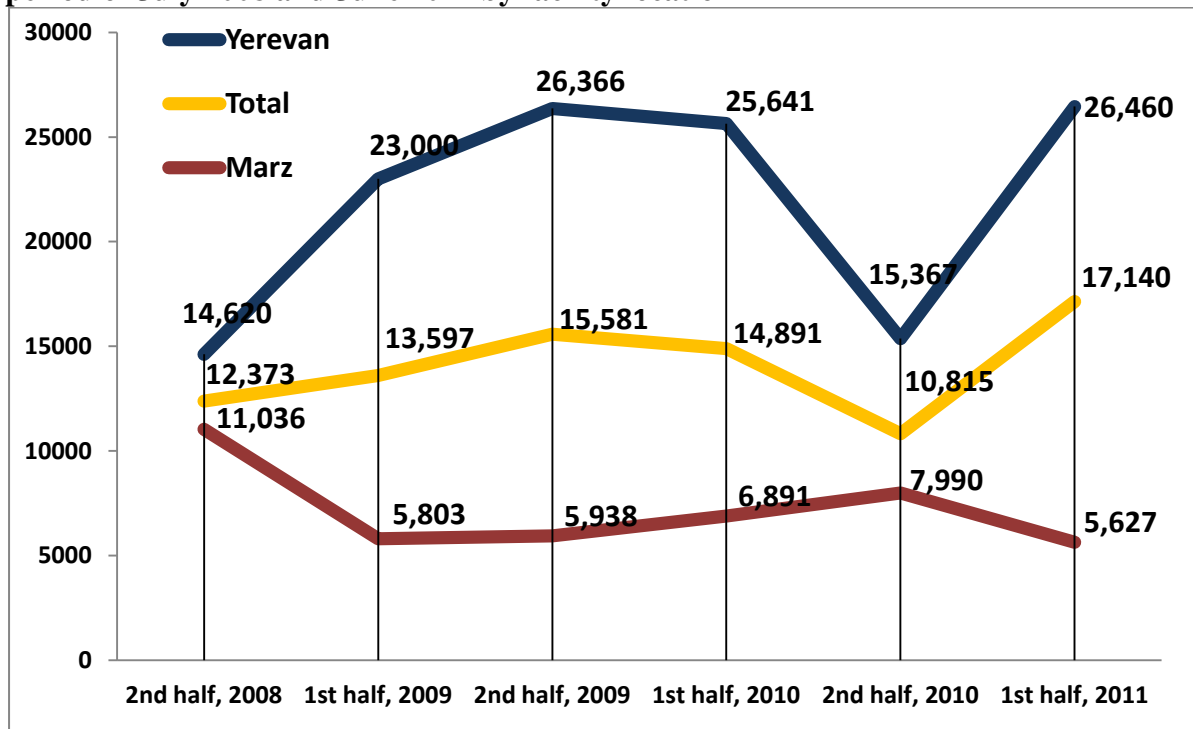
Figure 8: Percent of women who made a payment (including “thank you” payments and gifts) for obstetric care: semi-annual trend analysis for the period of July 2008 and June 2011 by facility location



No statistically significant change for the total sample ($p=0.775$), for Yerevan ($p=0.810$) and for marz facilities ($p=0.357$).

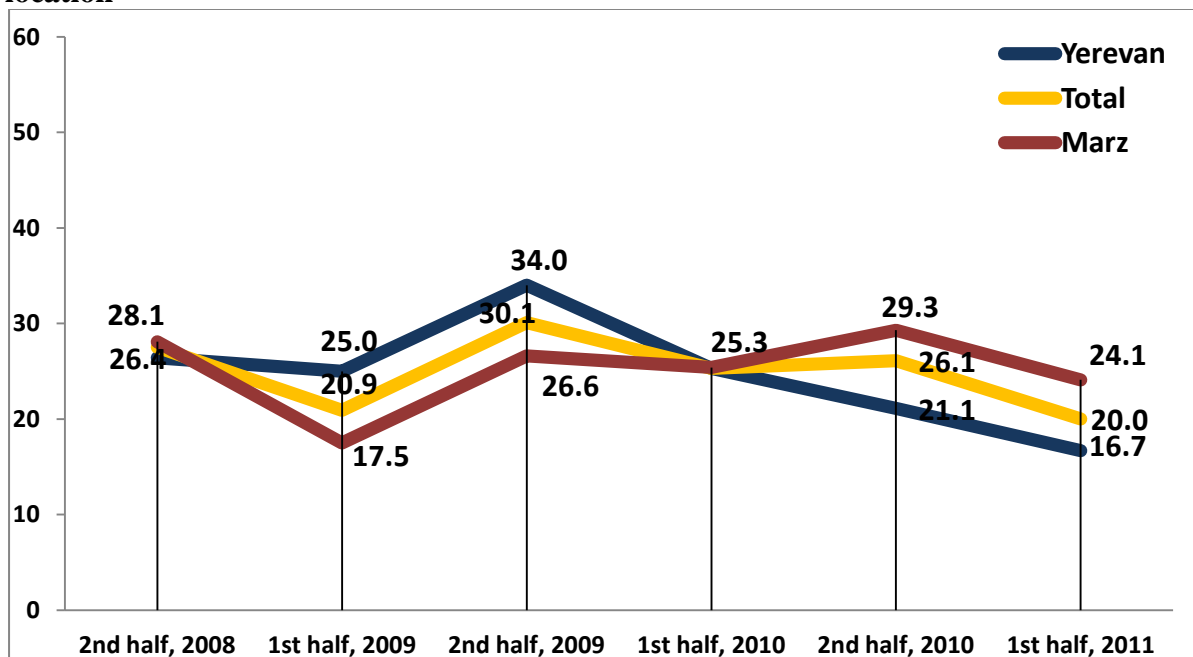
^{ix} Because of small size it was not possible to conduct trend analysis for mean spending on “thank you” payments and gifts for obstetric care by mode of delivery.

Figure 9. Mean spending in AMD (including spending on “thank you” payments and gifts) for obstetric care among all studied women: semi-annual trend analysis for the period of July 2008 and June 2011 by facility location



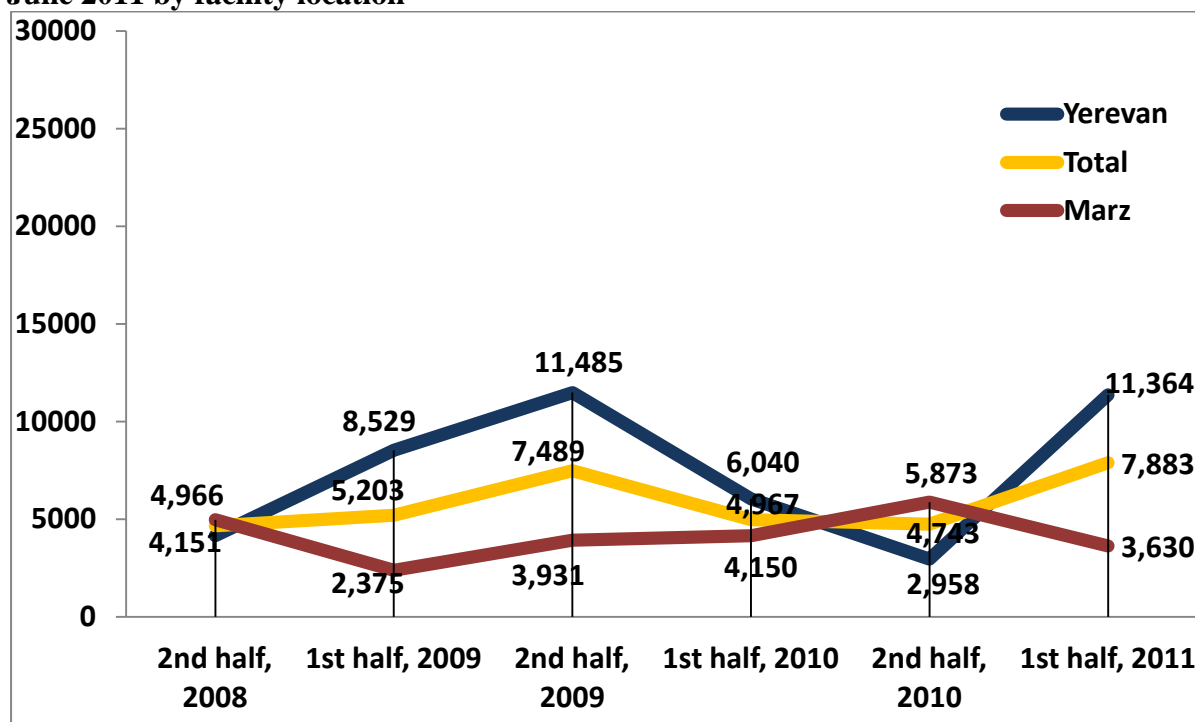
No statistically significant change for the total sample ($p=0.501$), for Yerevan ($p=0.503$) and for marz facilities ($p=0.308$).

Figure 10: Percent of women who made “thank you” payments and gifts for obstetric care: semi-annual trend analysis for the period of July 2008 and June 2011 by facility location



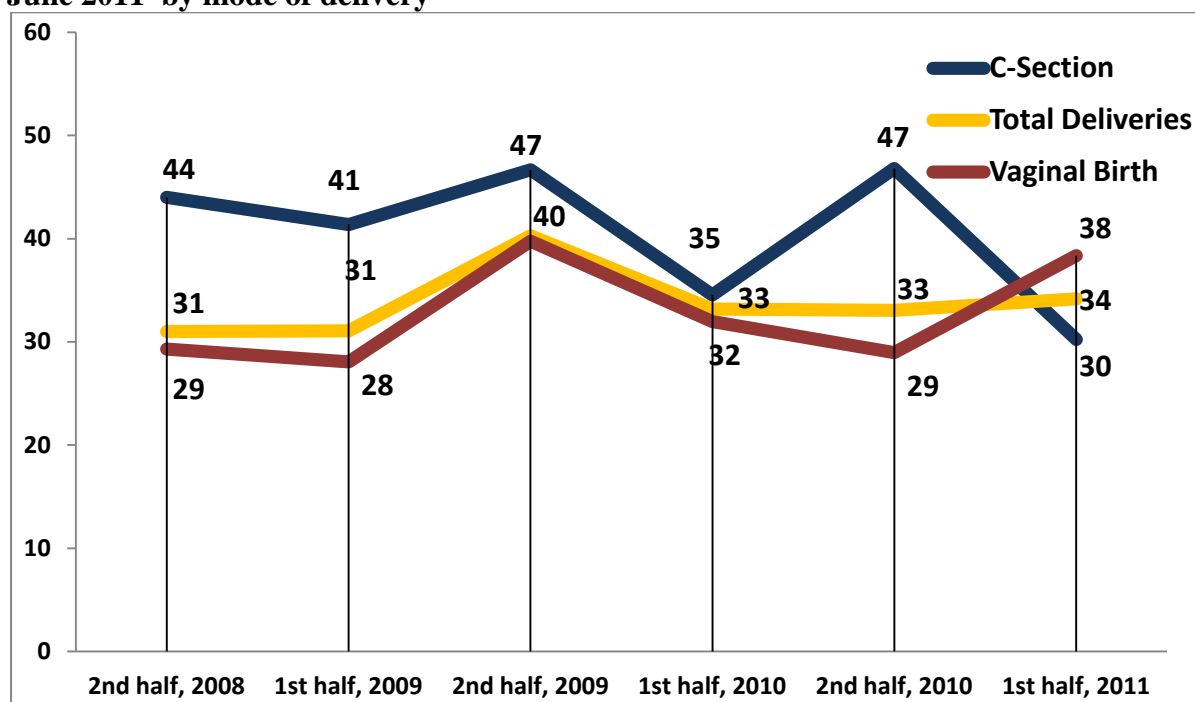
No statistically significant change for the total sample ($p=0.473$), for Yerevan ($p=0.173$) and for marz facilities ($p=0.731$).

Figure 11. Mean spending in AMD on “thank you” payments and gifts for obstetric care among all studied women: semi-annual trend analysis for the period of July 2008 and June 2011 by facility location



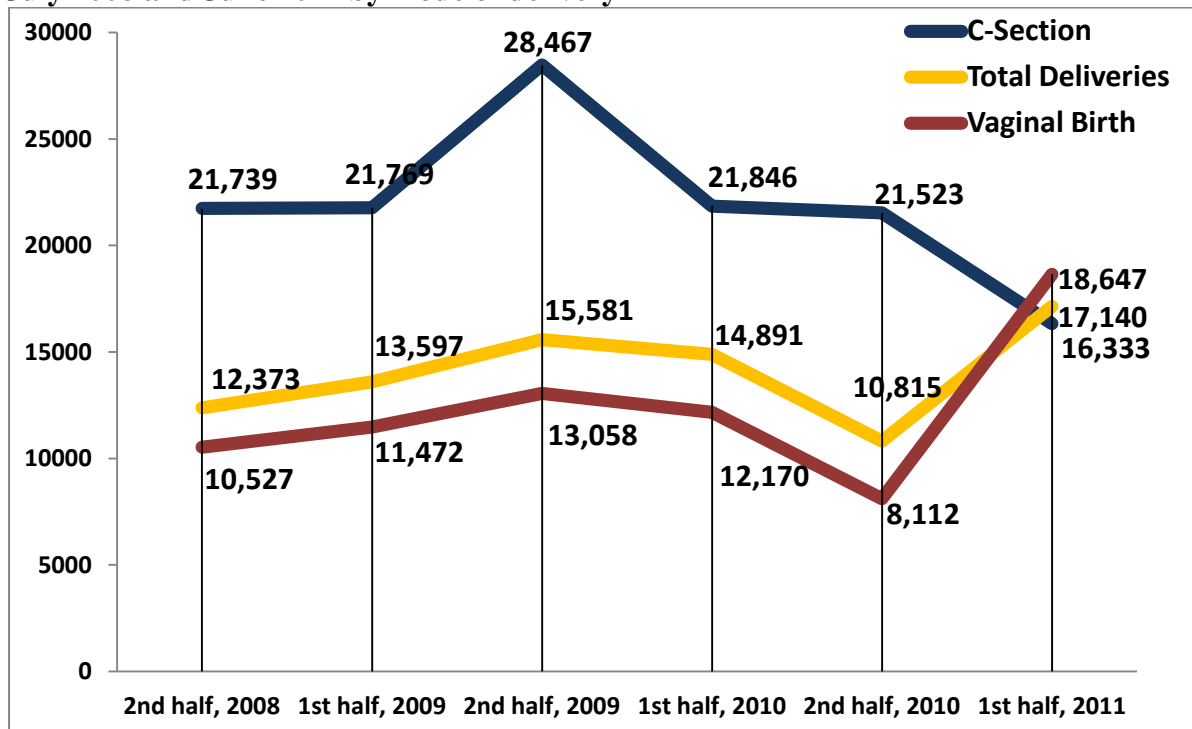
No statistically significant change for the total sample ($p=0.374$), for Yerevan ($p=0.697$) and for marz facilities ($p=0.732$).

Figure 12: Percent of women who made a payment (including “thank you” payments and gifts) for obstetric care: semi-annual trend analysis for the period of July 2008 and June 2011 by mode of delivery



No statistically significant change for the total sample ($p=0.775$), for vaginal delivery ($p=0.411$) and for C-section ($p=0.316$).

Figure 13. Mean spending (including spending on “thank you” payments and gifts) for obstetric care among all studied women: semi-annual trend analysis for the period of July 2008 and June 2011 by mode of delivery



No statistically significant change for the total sample ($p=0.501$), for vaginal delivery ($p=0.372$) and for C-section ($p=0.339$).

Project NOVA’s household survey suggested that informal payments significantly improved since the introduction of the OCSC: 91.0% in 2006 and 21.5% in 2009³². The current trend analysis for the rates of some payments or informal payments for the period of July 2008 - June 2011 conducted semiannually, seasonally or monthly found no statistically significant change (increase or decrease) over time during the period that the OCSC Program has been in force.

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APPENDIX 1. INSTRUMENT

Evaluation of Child Health State Certificate Program

Mid-term Assessment

1. Interviewer's first name, last name _____
2. Date (dd/mm/yy) ____/____/____
- 2.1 Interview start time ____:____
3. Child's ID ____
4. Marz _____ 4.1 City/Village _____

5. Residency of the child:	1. Yerevan 2. Other cities 3. Villages
6. Child's birth date:	____ / ____ / ____ (day, month, year)
7. Child's gender:	DO NOT READ 1. Male 2. Female
8. What is your relationship to the child?	1. Mother 2. Other caregiver (specify) _____
9. Overall, how many times was the child hospitalized during his/her life?	

Details of the case selected with the Screening form (DO NOT READ, WRITE DOWN):

10. a. Hospitalization date _____ (day, month, year) b. Hospital code _____

NOTE TO THE INTERVIEWER: Please, remember and tell the respondent that the questions you ask hereafter refer to the hospitalization case selected in the Screening Form.

General Information

11.	NOTE IF THE CHILD IS ALIVE OR DECEASED	(DO NOT ASK) 1. Alive 2. Deceased
12.	What was the final diagnosis?	_____ 88. Don't know/Don't remember
13.	How were you referred to the hospital?	1. Self-referral 2. Emergency/ambulance service 3. Primary healthcare provider 4. Transfer from obstetrical department (specify the maternity) _____ 5. Transfer from other hospital (specify the hospital) _____ 6. Other (specify) _____ 88. Don't know/Don't remember
14.	Did you have an official referral form (with the facility stamp) from the head doctor of your primary health care facility?	1. Yes 2. No 88. Don't know/Don't remember
14.1	Did you present to the hospital your child's State Health Certificate?	1. Yes 2. No (Why? _____) 88. Don't know/Don't remember
15.	How many days did your child stay in the	Number of days _____

	hospital?	88. Don't know/Don't remember
16.	Did you make any payments during your child's stay in the hospital (including "thank you" payments). NOTE TO THE INTERVIEWER: Inform the respondent to Exclude "thank you" payments for delivery if the child was a neonate hospitalized in the maternity where the delivery took place.	1. Yes 2. No → Go to Q 21 3. Health insurance company made the payment → Go to Q 21 88. Don't know/Don't remember → Go to Q 21 99. Not honest (mark this along with the main response option if you feel that the response is not honest).
17.	Overall how much money did you spend during your child's stay in the hospital (including "thank you" payments)?	_____AMD 88. Don't know/Don't remember → Go to Q 18.1
18.	Of this amount, how much was paid to cashier?	_____AMD 88. Don't know/Don't remember
18.1	Did you pay for all services as a whole package?	1. Yes → Go to Q 20 2. No 88. Don't know/Don't remember

Payments for Pediatric Hospital Care

READ: Now, I would like to learn what type of expenses you had during your child's hospital care. Please, be sincere and try to remember all the medical costs related to the hospital care of your child.

19.	a. Did you pay?		b. How much did you pay?	c. How much of this was paid to cashier?
19.1	To doctors for treatment (excluding "thank you" payments and gifts)	1. Yes 2. No → Go to Q19.2 3. Don't know → Go to Q19.2	_____AMD 88. Don't remember	_____AMD 88. Don't remember
19.2	To the department head (excluding "thank you" payments and gifts) (<i>don't ask, if he/she was the child's doctor</i>)	1. Yes 2. No → Go to Q19.3 3. Don't know → Go to Q19.3	_____AMD 88. Don't remember	_____AMD 88. Don't remember
19.3	To nurses for manipulations (excluding "thank you" payments and gifts)	1. Yes 2. No → Go to Q19.4 3. Don't know → Go to Q19.4	_____AMD 88. Don't remember	_____AMD 88. Don't remember
19.4	For instrumental examinations (ECG, X-ray, ultrasound, etc.), if used	1. Did not use → Go to Q19.5 2. Paid 3. Did not pay → Go to Q19.5 4. Don't know → Go to Q19.5	_____AMD 88. Don't remember	_____AMD 88. Don't remember
19.5	For laboratory tests, if used	1. Did not use → Go to Q19.6 2. Paid 3. Did not pay → Go to Q19.6 4. Don't know → Go to Q19.6	_____AMD 88. Don't remember	_____AMD 88. Don't remember
19.6	For the ward (and other special services)	1. Yes 2. No → Go to Q19.7 3. Don't know → Go to Q19.7	_____AMD 88. Don't remember	_____AMD 88. Don't remember
19.7	To cleaning ladies	1. Yes		

19.	a. Did you pay?		b. How much did you pay?	c. How much of this was paid to cashier?
		2. No → Go to Q19.8 3. Don't know → Go to Q19.8	_____ AMD 88. Don't remember	_____ AMD 88. Don't remember
19.8	To the ambulance, if used	1. Did not use → Go to Q19.9 2. Paid 3. Did not pay → Go to Q19.9 4. Don't know → Go to Q19.9	_____ AMD 88. Don't remember	
19.9	For any drugs / medical supplies (syringe, needle, cotton) in the hospital, if provided	1. Not provided → Go to Q19.10 2. Paid 3. Did not pay → Go to Q19.10 4. Don't know → Go to Q19.10	_____ AMD 88. Don't remember	_____ AMD 88. Don't remember
19.10	For any drugs / medical supplies (syringe, needle, cotton) from pharmacy	1. Yes 2. No → Go to Q19.11 3. Don't know → Go to Q19.11	_____ AMD 88. Don't remember	
19.11	For any gifts to providers (including "thank you" payments)	1. Yes 2. No → Go to Q19.12 3. Don't know → Go to Q19.12	_____ AMD 88. Don't remember	
19.12	Other expenses (specify) _____	1. Yes 2. No 3. Don't know	_____ AMD 88. Don't remember	_____ AMD 88. Don't remember
19.13	Other expenses (specify) _____	1. Yes 2. No 3. Don't know	_____ AMD 88. Don't remember	_____ AMD 88. Don't remember

20.	Did you have to borrow money or sell something to cover the expenses of your child's hospital care?	1. Yes 2. No 88. Don't know/Don't remember
21.	At the time when your child needed hospitalization, did you know that the medical care for children of 0-7 years old was free of charge?	1. Yes 2. No → Go to Q 23 88. Don't remember → Go to Q 23
22.	Where from did you receive that information?	DON'T READ. CIRCLE ALL THAT APPLY. 1. Posters about free services in hospitals and polyclinics 2. Mass media (TV, Radio, newspapers) 3. Health care providers 4. Child Health State Certificate Other (specify) _____

Perceived Quality of Health Services

23.	Have you received a medical summary on child's condition/ treatment (epicrisis) at discharge?	1. Yes 2. No → Go to Q 25 88. Don't know/Don't remember → Go to Q 25
24.	Have you passed that summary to the child's primary health care provider?	1. Yes 2. No 88. Don't know/Don't remember

25.	How would you rate the overall quality of the medical care your child received at the hospital?	1. Very good 2. Good 3. Average 4. Poor 5. Very poor				
26.	How would you rate (<i>ONE RESPONSE FOR EACH</i>):	Very good	Good	Average	Poor	Very poor
	26.1 Doctors' attitude	1	2	3	4	5
	26.2 Doctors' competency	1	2	3	4	5
	26.3 Nurses' attitude	1	2	3	4	5
	26.4 Nurses' competency	1	2	3	4	5
	26.5 Overall physical conditions of the hospital	1	2	3	4	5
	26.6 Overall cleanliness of the hospital	1	2	3	4	5
	26.7 Availability of modern medical equipment	1	2	3	4	5
	26.8 Availability of drugs and medical supplies	1	2	3	4	5
27.	Would you return to the same hospital if needed?	1. Yes 2. No 88. Don't know				
28.	What are the main three ways you would suggest for improving the quality of services in that hospital?	<i>READ AND CIRCLE UP TO THREE OPTIONS.</i> 1. Increase staff competence 2. Improve physical conditions of hospital 3. Improve cleanliness of the hospital 4. Improve medical equipment in the hospital 5. Increase free of charge drug supplies 6. Improve attitude/counseling skills of providers 7. Increase salary of providers 8. Eliminate informal payments 9. Other (specify) _____				

Health Status of the Child

(ASK IF THE CHILD IS ALIVE. OTHERWISE GO TO Q 45)

29.	Was the child fully recovered during the hospitalization we are discussing?	1. Yes 2. No 88. Don't know /Not sure 99. Not applicable
30.	Was the child hospitalized again after that hospitalization for the same condition?	_____ times (<i>put 0 if no</i>)
31.	After the discharge, was there a time when you felt that the child needed medical help, but you did not apply to a doctor or hospital?	1. Yes 2. No → <i>Go to Q 33</i> 88. Don't know /Not sure → <i>Go to Q 33</i>
32.	What was the reason for not applying?	CIRCLE AS MANY AS APPLY (DON'T READ) 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 6. No qualified doctors are available at the facility 7. Health facility is not well equipped 8. Health facility is not clean 9. Self-treatment 10. Other (specify) _____
33.	How would you describe the health status of the child now?	1. Very good 2. Good 3. Fair 4. Poor 5. Very poor
34.	During the last 30 days, how many episodes of an acute illness (like fever, cold, diarrhea) or exacerbation of a chronic condition did the child experience?	_____ (<i>Put 0 if none</i>)

Health Environment

35.	For how long the child was breastfed?	1. _____ months (<i>put 0, if less than a month and go to Q 37</i>) 2. Currently on breastfeeding
36.	For how long the child received exclusive breastfeeding (<i>no water, other liquids or foods</i>)?	1. _____ months (<i>put 0 if less than a month</i>) 2. Currently on exclusive breastfeeding
37.	Who usually baby-sits the child when you are not at home?	MARK ALL THAT APPLY: 1. Family member 2. Other relative 3. Neighbors, friends 4. Paid baby-sitter 5. Nursery or kindergarten 6. Stays alone 7. Other (specify) _____

38.	Have you ever smoked cigarettes?	1. Yes 2. No → Go to Q.42
39.	<i>ASK IF THE RESPONDENT IS THE MOTHER.</i> How often did you smoke when pregnant with this child?	1. Never 2. Once a month or less 3. Several days a month 4. Several days a week 5. Every day
40.	Do you currently smoke cigarettes?	1. Yes 2. No → Go to Q.42
41.	How many cigarettes per day do you smoke?	_____ cigarettes
42.	How many of your household members currently smoke?	_____
43.	How often do people smoke in the same room where your child is present?	1. Every day 2. Several days a week 3. Several days a month 4. Once a month or less 5. Never
44.	After your child was born, has anyone living in this household ever drunk 5 or more portions of any kind of alcoholic beverage almost every day (5 glasses of wine; 5 cans/bottles of beer; 5 shots of brandy, vodka or liquor)?	1. Yes 2. No 88. Don't know /Not sure

Caregiver's Knowledge on Caring for Young Children

READ: Now, I will ask you to express your opinion about several statements concerning child health. Please, tell whether you think each of these statements is true or false:

45.	The more frequent a baby is breastfed, the more mother's milk is produced.	1. True 2. False 88. Don't know /Not sure
46.	Tobacco smoke can make a child's pneumonia more severe.	1. True 2. False 88. Don't know /Not sure
47.	When a child has diarrhea, he/she should be given less liquids than usually.	1. True 2. False 88. Don't know /Not sure
48.	A baby does not need any other food, water or liquid but breast milk for the first six months of life.	1. True 2. False 88. Don't know /Not sure
49.	Heavily dressing a child is a better way to prevent him from getting measles than vaccination.	1. True 2. False 88. Don't know /Not sure
50.	Playing is not an important part of children's development - it's only a way for them to occupy their time.	1. True 2. False 88. Don't know /Not sure

51.	Physical punishment is necessary to make a child obey and respect parents.	1. True 2. False 88. Don't know /Not sure
52.	A child less than 4 years old should not be allowed to play with items smaller than his/her fist or toys with components that can easily come loose.	1. True 2. False 88. Don't know /Not sure
53.	What are the dangerous signs of child illnesses that require immediate seeking for medical care? Please, list as many signs as you can.	<i>CIRCLE AS MANY AS LISTED (DON'T READ)</i> 1. Cannot eat or drink (incl. at breast) 2. Vomiting after each meal or drink 3. Convulsions 4. Unusually weak, lethargic or difficult to wake 5. High fever 6. Fast or difficult breathing 7. Dehydration or diarrhea for several days 8. Painful swelling behind ear 9. Severe wasting 10. Other (specify) _____

Payments for Antenatal Care *(If the respondent is other than the mother, go to Q 68)*

NOTE TO INTERVIEWER: See the child's birth date from Q.6. If the child was born after July 01, 2008, go to Q 54. Otherwise, ask:

- DO YOU HAVE A CHILD BORN AFTER JULY 01, 2008?

1. Yes (specify the birth date of the child _____) → continue asking about him/her.

Day, month, year

2. No → Go to Q 68

READ: Now, let's recall the time when your child was born. We would like to learn what type of expenses you had related to the birth of your child. Please be sincere and try to remember all the medical costs related to the birth of the child.

54.	In what health facility did you receive your antenatal care primarily?	Name of facility _____
54.1	Specify, where is it located?	1. Yerevan 2. Marz
55.	Did you pay anything for your antenatal care to that facility or facility staff (including gifts and "thank you" payments)?	1. Yes 2. No → Go to Q 60 88. Don't know/Don't remember → Go to Q 60
56.	Overall how much money did you spend for your antenatal care in that facility (including gifts and "thank you" payments)?	_____AMD 88. Don't know/Don't remember → Go to Q 58
57.	Of this amount, how much was paid to cashier?	_____AMD 88. Don't know/Don't remember
58.	Did you pay for all services as a whole package?	1. Yes → Go to Q 60 2. No

		88. Don't know/Don't remember → Go to Q 60
59.	For what antenatal care services did you pay in that facility?	READ AND CHECK ALL THAT APPLY 1. To physician for counseling/visits 2. To nurses for manipulations 3. For laboratory tests 4. For ultrasound 5. For any medical document 6. Other _____ 88. Don't know/Don't remember

Payments for Obstetrical Care

60.	In what hospital/maternity was your child born?	Name of facility _____
60.1	Specify, where is it located?	3. Yerevan 4. Marz
61.	Did you receive obstetrical care state certificate?	1. Yes 2. No 88. Don't know/Don't remember
62.	How did you deliver?	1. Normal birth 2. C-section
63.	Did you make any payments during your stay in the maternity (including "thank you" payments and gifts)?	1. Yes 2. No → Go to Q 68 88. Don't know/Don't remember → Go to Q 68
64.	How much money did you spend for "thank you" payments or gifts?	_____ AMD (put 0 if none) 88. Don't know/Don't remember
65.	Overall how much money did you spend during your stay in the maternity (including "thank you" payments and gifts)?	_____ AMD 88. Don't know/Don't remember → Go to Q 67
66.	Of this amount, how much was paid to cashier?	_____ AMD 88. Don't know/Don't remember
67.	For what services did you pay in the maternity? (Read and check all that apply)	READ AND CHECK ALL THAT APPLY 1. To doctors for the care 2. To nurses for manipulations 3. To cleaning ladies 4. For instrumental exams (ultrasound, ECG, X-ray) 5. For laboratory tests 6. For the ward and special services (food, TV, etc.) 7. For drugs/medical supplies (including from pharmacy) 8. For mother/child care supplies (incl. from pharmacy) 9. For any gifts to providers (incl. "thank you" payments) 10. For selecting your doctor 11. Other _____ 88. Don't know/Don't remember

Current experience with Child Health State Certificate

READ: Now, I would like to ask you to express your opinion about the Child Health State Certificate program (Show the copy of the certificate).

68.	How many children under 7 live in your	
-----	--	--

	family?	_____
69.	For how many of them did you receive Child Health State Certificate?	_____ (Put 0 if none and go to Q 73)
70.	Where from did you receive it?	MARK ALL THAT APPLY. 1. Maternity 2. Polyclinic/ambulatory 88. Don't know/Not sure
71.	Have you used it?	1. Yes 2. No → Go to Q 73 3. 88. Don't know /Not sure → Go to Q 73
72.	Are you satisfied with Child Health State Certificate program? 1. Satisfied → Why? → 2. Neutral 3. Dissatisfied → Why? →	RECORD CLEARLY. _____ _____ _____ _____

Demographic Data

73.	Gender of the respondent	DO NOT READ 1. Male 2. Female
74.	How old are you?	_____
75.	What is your marital status?	1. Married 2. Separated/Divorced 3. Widowed 4. Single
76.	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
77.	Are you employed?	1. Yes 2. Yes, but on maternity/pregnancy leave 3. No 4. Self-employed 5. Seasonal worker or farmer 6. Student 7. Retired 8. Other (specify) _____
78.	How many adults (aged 18 and over) live in your household (including the respondent)?	_____
79.	How many children (under 18 years old) live in your household?	_____
80.	How many members of your household (including yourself) are currently employed? INCLUDE SELF-EMPLOYMENT, FARMING, AND SEASONAL/MIGRANT	_____

	WORK	
81.	Is your family registered in a family poverty benefit program (e.g. PAROS)?	1. Yes 2. No
82.	How would you rate your family's general standard of living?	1. Substantially below average 2. Little below average 3. Average 4. Little above average 5. Substantially above average
83.	In average, how much money does your family spend monthly?	1. Less than 50,000 AMD 2. From 50,000 to 100,000 AMD 3. From 100,000 to 200,000 AMD 4. From 200,000 to 300,000 AMD 5. Above 300,000 AMD 88. Don't know/refusal

Thank you!

Interview end time ____:____

APPENDIX 2. SCREENING AND JOURNAL FORM
Evaluation of Child Health State Certificate Program
Mid-term Assessment

Before each visit, fill in the data on the Sampled case in the table below.

Interviewer name: _____

Marz _____ City/Village _____ Date _____

Screening form

INTRODUCE YOURSELF AND BRIEFLY EXMPLANE THE AIME OF YOUR VISIT.

84. Is there a child named _____ in this household?

- a. Yes → *Go to the question 3*
- b. No

85. Do you know where does this child live?

- a. Yes (*Clarify the address, phone _____*)
Go to that household. Fill the result code for the attempt.
- b. No → *Fill the result code. Go to the question 6.*

86. Was your child _____ hospitalized between March 1 and May 31 of 2011?

- a. Yes
- b. No → *Fill the result code. Go to the question 6.*

87. Was the child less than 7 years old when discharged from the hospital?

- a. Yes
- b. No → *Fill the result code. Go to the question 6.*

88. CHECK THE DETAILS ABOUT THE SAMPLED CASE

	Name of the child	Date of admission	Date of discharge	Hospital code	Child's phone #	ID #	Tick mark
Sampled case							
Clarified sampled case							
New sampled case							
New sampled case							
New sampled case							

- a. If the information in the row for the **sampled case** is correct, put “+” in the corresponding cells of the row for the **clarified sampled case**. Start the interview.
- b. If there are some discrepancies with the sampled case, put the correct information in the corresponding cell of the row for the clarified sampled case. Start the interview.
- c. If the information collected for the clarified sampled case shows that the data on hospitalization are completely wrong, ask about all the hospitalizations of the child for the period of March 1 - May 31, 2011 and fill in the free cells for **new sampled cases**. Take the **new sampled case** that occurred in the same place (Yerevan vs. marzes) as the **sampled case** and is the closest to the date of the **sampled case** and put a tick mark “√” in the appropriate cell. Start the interview.

89. Is there any other child in your household who was hospitalized in Yerevan/marzes (the same location as the sampled case) between March 1 and May 31, 2011?

- a. Yes
- b. No → Go to the next address.

90. Was the child less than 7 years old when discharged from the hospital?

- a. Yes → Fill in the table below (if there are couple of cases that meet both the questions 6 and 7, take the hospitalization case closest to the date of the **sampled case**). Start the interview.
- b. No → Go to the next address.

	Name of the child	Date of admission	Date of discharge	Hospital code	Child's phone #	ID*	Result code**
Completely new case							

* Identification number = N-Selected Case's ID (e.g. N-0001)

** The possible result codes are: 1; 6; 7; 10; 11 (see the Result codes below)

Journal form

At the end of each attempt/completed interview choose the result code from the list below and fill in the table.

	Result code
Attempt 1	
Attempt 2	

Result code

- | | |
|---|-----------------------------------|
| 1. Completed interview | 7. Refusal |
| 2. No such case (wrong name, wrong address) | 8. Hospitalization out of Armenia |
| 3. The child was over 7 years old at discharge | 9. Clarified address* |
| 4. The child was not hospitalized between March 1- May 31, 2010 | 10. Postponed interview* |
| 5. Nobody at home* | 11. Incomplete interview* |
| 6. Mother or caretaker is not at home* | 12. Other (specify)_____ |

* These result codes could require second attempt.

APPENDIX 3. INFORMED CONSENT FORM

Hello, my name is _____. The Center for Health Services Research and Development of the American University of Armenia in collaboration with the Ministry of Health of Armenia is conducting this study to evaluate the effectiveness of the Child Health State Certificate Program in Armenia. The aim of this program is improving the quality of pediatric care services and reducing informal payments for child hospital care in Armenia.

You are invited to participate in this study since your child has been hospitalized in March-May, 2011 and thus you have an experience of utilizing hospital care services in Armenia. The name of your child was randomly selected from the official database of children hospitalizations^x.

The interview will take approximately 30 minutes.

Please be informed that your name and your child's name will not be mentioned anywhere. We are not going to put your name or your address on the questionnaire. All the information given by you will stay confidential. Only the summary of the data from all interviews will be presented in the final report.

Your participation in this study is voluntary. You may refuse to answer any question in the interview or stop the interview at any time.

This assessment is not an examination or a test. We just want to learn more about your experience with hospital services.

There are no known risks to you resulting from your participation in the study. There is no financial compensation or other personal benefits from participating in the study, but your sincere answers will help to understand the situation with informal payments in the pediatric hospitals in Armenia and to develop strategies to fight effectively against this problem.

If you have any questions regarding this study you can call to the American University of Armenia (*provide the contact card*).

If you agree to participate could we continue?

^x Read this introduction (the first two paragraphs) before completing the Screening form, and the rest – before filling in the questionnaire.

APPENDIX 4. RESPONSE RATES

Table 1. Response rates and reasons for non-response in percentages: main sample

Response Results	Assess-ments	Yerevan, %		Marz, %		Total, %	
		First attempt	Second attempt	First attempt	Second attempt	First attempt	Second attempt
		N ₁ =283 N ₂ =245*	N ₁ =88 N ₂ =71	N ₁ = 517 N ₂ =546	N ₁ =98 N ₂ =67	N ₁ = 800 N ₂ =791	N ₁ =186 N ₂ =138
Completed interview	Baseline	36.4	70.5	58.2	78.6	50.5	74.7
	Mid-term	51.4	76.1	63.9	82.1	60.1	79.0
Wrong name/ address or no address	Baseline	25.5	6.8	12.2	1.0	16.9	3.8
	Mid-term	11.4	1.4	13.9	0	13.1	0.7
Nobody at home	Baseline	11.3	11.4	6.0	11.2	7.9	11.3
	Mid-term	8.2	11.3	5.3	6.0	6.2	8.7
Mother/caretaker is not at home	Baseline	8.5	1.1	10.4	4.1	10.1	2.7
	Mid-term	13.5	5.6	8.2	9.0	9.9	7.2
Ineligible case	Baseline,	2.9	0	2.7	3.1	2.8	1.6
	Mid-term	1.4	1.4	0.8	1.5	1.1	1.4
Refusal	Baseline	1.1	6.8	0.8	1.0	0.8	3.8
	Mid-term	1.6	2.8	0.2	1.5	0.6	2.1
Clarified address	Baseline	7.4	0	4.8	0	5.8	0
	Mid-term	9.0	0	4.2	0	5.7	0
Moved/Other	Baseline	6.0	3.4	4.9	1.0	5.3	2.1
	Mid-term	3.2	1.4	3.5	0	3.4	0.7

*N₁ – baseline total, N₂ – mid-term total

Table 2. Response rates and reasons for non-response in percentages: additional sample

Response Results	Assess-ments	Yerevan, %		Marz, %		Total, %	
		First attempt	Second attempt	First attempt	Second attempt	First attempt	Second attempt
		N ₁ =183	N ₁ =43	N ₁ =193	N ₁ =31	N ₁ =376	N ₁ =74
		N ₂ =101*	N ₂ = 11	N ₂ =197	N ₂ = 22	N ₂ =298	N ₂ =33
Completed interview	Baseline	50.8	60.5	58.0	87.1	54.5	71.6
	Mid-term	57.4	90.9	66.5	86.4	63.4	87.9
Wrong name/ address or no address	Baseline	15.3	0	13.5	0	14.4	0
	Mid-term	12.9	0	9.6	4.5	10.7	0
Nobody at home	Baseline	8.7	14.0	7.3	9.7	8.0	12.2
	Mid-term	9.9	9.1	5.6	4.5	7.0	6.1
Mother/caregiver is not at home*	Baseline	12.0	4.7	14.0	3.2	11.2	4.1
	Mid-term	8.9	0	8.1	4.5	8.4	3.0
Ineligible case	Baseline	1.6	2.3	2.1	0	1.9	1.4
	Mid-term	1.0	0	2.0	0	1.7	3.0
Refusal	Baseline	2.7	16.3	0.5	0	1.6	9.5
	Mid-term	5.9	0	0	0	2.0	0
Clarified address	Baseline	5.5	0	5.2	0	5.3	0
	Mid-term	3.0	0	6.1	0	5.0	0
Moved/ Other	Baseline	3.2	2.3	3.1	0	3.2	1.4
	Mid-term	1.0	0	2.0	0	1.7	0

*N₁ – baseline total, N₂ – mid-term total

APPENDIX 5. EXAMPLE OF A GUIDE

Focus group discussion guide Pediatric hospital care providers

1. You are involved in this study since you are a physician/ nurse working in the pediatric hospital care. If you do not mind we would ask you several questions related to Child Health State Certificate Program.
2. In your opinion was it rational to implement Child Health State Certificate Program in Armenia. In your opinion what were the reasons for implementing the Child Health State Certificate Program?
3. To what extent the opinion of the health care providers was considered during the development of the Child Health State Certificate Program? In general what was their reaction on the implementation of such a program? Are the doctors/ nurses informed enough about the activities and functions defined in the Program, about their expected changes, their new roles and responsibilities?
4. Is the population informed enough about the implementation of the Program, about their rights and opportunities in the framework of this Program? If the population is not very well informed about it, what problems could this lead to?
5. What are the benefits and loses of the Program from the perspectives of a) patients b) physicians c) middle medical personnel d) administration e) state?
6. How the implementation of this Program impacted the patients' visits to the primary and visits/referrals to the secondary level facilities?
7. Were there any unexpected situations (i.e. negative impacts) that you observed after the implementation of the Program, which the authors could not anticipate during the development of the Program?

Probe 1: Are there any situations when the patients apply directly to the hospital to receive primary health care services instead of visiting their polyclinic? .

Probe 2: Did the number of “unnecessary” referrals increased from the primary level to the secondary? :

Probe 3: Is there a flow of patients from marzes to Yerevan. What would you suggest to solve this problem?

8. How would you assess the number of the health care providers involved in the pediatric hospital care?

Probe: Is there over- or understaff? What problems could the staffing lead to after the implementation of this Program?

9. What are the payment mechanisms for medical personnel planned by the Program?

Probe: Do you know how your salary is formulated? Are you satisfied with your salary? After the implementation of the Program do you receive the salary equal to the income you had before? Do you completely receive the salary set for doctors/ nurses by the State within the framework of this Program?

10. Are you aware about MOH standard for calculating the hospital health care providers salary?
(show the copy)

It is mentioned there that the salary is calculated by the mechanisms set by the hospital head. Do you agree with this approach? In your opinion how this reimbursement mechanism could be improved? :

11. As a summary, what are the strengths and weaknesses of this Program? What would you suggest to improve this Program?