# Mode of Delivery:

# a Pilot Cost Analysis

Master of Public Health Integrating Experience Project

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by

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## LIST OF ABBREVATIONS

| | |
|---|---|
| **AMD** | Armenian Dram |
| **CS** | Cesarean Section |
| **MOH** | Ministry of Health |
| **NICU** | Neonatal Intensive Care Unit |
| **OBGYN** | Obstetrician-gynecologist |
| **OCSC** | Obstetric Care State Certificate |
| **RA** | Republic Armenia |
| **UK** | United Kingdom |
| **USA** | United States of America |
| **VD** | Vaginal Delivery |
| **WHO** | World Health Organization |

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## ABSTRACT

**Introduction:** Provision of qualified and affordable obstetric services is considered a high priority for Armenia. The Ministry of Health (MOH) of Armenia implemented the Obstetric Care State Certificate (OCSC) Program in 2008 to provide free obstetric services to pregnant women. The current official reimbursement for Cesarean Section (CS) within a hospital is about 1.6 times higher than the reimbursement for Vaginal Delivery (VD) in Armenia. From 2008 to 2010 the rates of CS in Armenia increased from15.0% to 18.6 which might be either a result of OCSC Program or just a historical trend. The increasing rates of CS in Armenia should alarm the health policy and decision makers, because the current rate already exceeds the World Health Organization recommended level of medically necessary CSs (10-15% of all live births). With the increase of CS rates, the medical risks for both mother and infant health also increase. The study hypothesized that reimbursement for CS was higher than the real cost and the upward CS trend in Armenia could be due to this higher reimbursement. The objective of the study was to estimate the mean direct variable cost of CS and VD from provider perspective and to compare the ratio of these costs with the ratio of the MOH reimbursement.

**Methods**: The study was a hospital based cost accounting cross-sectional pilot study. The study used the bottom-up approach for the cost analysis. For calculating the mean cost the study considered only direct variable costs: costs of medicines, tests, supplies and labor cost. Reimbursement for CS and VD was explored looking at average bonus payments to providers. Two secondary level of specialization maternity hospitals agreed to participate in the pilot study. The study performed retrospective review of mother and child hospital records to derive information about utilized medicines, tests and length of stay, and self-administered questionnaires for providers to collect information about utilized medical supplies/disposables, average time spent per delivery and bonus payments. "PharmInfo" software program price list was used to calculate costs of utilized medicines and medical supplies/disposables. Laboratory-instrumental tests' price list from each maternity hospital provided information for calculating the costs of tests.

**Results:** The mean direct variable cost was 2.3 times higher for performing CS than VD. The ratios of tests (2.1), medical supplies/disposables (2.8), labor cost of all specialists [except obstetrician-gynecologists - OBGYN] (1.4-2.1), length of stay (1.5), bonus payment to all specialists [except OBGYN] (1.3-1.6) were much closer to the reimbursement ratio by the MOH (1.6). However, there were substantial differences in ratios of the cost for utilized medicines (4.4), labor cost for OBGYN (0.7) and bonus payment to OBGYN (11.4) compared to the reimbursement ratio by the MOH.

**Conclusion:** The OBGYNs, who are the main decision makers for the mode of delivery, could have a financial motivation for performing CS. This finding suggests that the increasing rates of CSs in the secondary level of specialization maternity hospitals could be at least partially related to bigger financial incentives for performing CSs.

# 1. INTRODUCTION

## *1.1 Background*

Health of mothers, infants, and children is a reflection of the health status of the general population [1]. High-income countries achieved reduction in maternal and infant mortality rates by providing skilled care during pregnancy and childbirth [2]. Compared with high-income countries infant and maternal mortality rates are very high in Armenia [3]. In 2008, Armenia was among 68 priority countries with highest rates of maternal and child mortality [4]. In 2005, the maternal mortality rate was 76.0 deaths per 100,000 live births and in 2008 - 36.4 per 100,000 live births [4, 5]. In 2005 the infant mortality rate was 23.3 per 1,000 live births, in 2008 - 20.9 and in 2010 - 19.5 per 1,000 live births [6]. To improve reproductive health of population and meet the Millennium Development Goals the government of Armenia developed and approved the "Maternal and child health care 2003-2015 strategy" [5]. The government of Armenia has committed to improving maternal and child health by reducing infant mortality bellow 8 deaths per 1,000 live births and maternal mortality bellow 10 per 100,000 live births by 2015[5]. The maternal and child mortality rates mostly depend on the quality of health care and health related behaviors of pregnant women [5]. Reduced access and poor quality of health care services were among the important reasons leading to poorer maternal and child health in Armenia [7]. The issue of provision of qualified and affordable obstetric services remains a high priority for the country [7].

During the last almost two decades maternal services have been part of the Basic Benefit Package [8]. In July 2008, the Ministry of Health (MOH) of Armenia implemented the Obstetric Care State Certificate (OCSC) Program, which provides free obstetric services to pregnant women [9]. The OCSC Program is an ongoing nationwide initiative, which covers all pregnant

women in the country. This program is different from the previous arrangement in terms of higher level of government funding to the maternity hospitals [8]. Reimbursements to maternity hospitals are regulated by the Minister's orders [10]. MOH reimbursements to hospitals are based on registered cases of birth. The amount paid to hospitals per birth varies based on the type of delivery (delivery through Cesarean section (CS) vs. vaginal delivery (VD)), geographic location and level of specialization of maternity hospitals [11]. The number of CS and VD vary by geographic location and level of specialization of the facility [12]. From 2008 to 2010 there is an obvious increase in CSs provided by secondary and tertiary level maternity hospitals of Yerevan compared with all marzes together [12].

### *1.2 Mode of delivery*

There are two types of delivery: delivery through CS and VD. CS is a surgical procedure [13]. There are two types of CS: elective (planned) and emergency CS [13]. Elective CS is performed prior to labor starts on the basis of an obstetrical or medical indication or at the request of the pregnant patient, and emergency CS is done during labor [13]. In recent years, the rates of elective CS, which do not have a clear medical indication, dramatically increased [14]. The worldwide rates of CS have increased from 5-7% in 1970 to 25-30% in 2003 [15]. The world statistics of CS are alarming, especially in some countries: China-46%, Brasil-44%, USA-31% of all live births [16]. The rates continue to increase and vary by country [14]. The World Health Organization (WHO) is worried about such dramatic increase in CSs and suggests that these operations are medically necessary only in 10-15% of all live births [5, 16].

With increase of the rates of CS, the medical risks increase for both mother and infant health. Many countries consider the high rate of CS as a big international public health problem and are taking measures for reducing it [15].

Although maternal mortality rate globally is less than 0.02%, maternal mortality associated with CS is 4 times higher than that associated with VD [17, 18]. In the UK (years 1994–1996) the mortality rate for VD was 2.1, for elective CS - 5.9, and for emergency CS - 18.2 per 100,000 live births [18]. The risk for developing a deep-vein thrombosis is 3 to 5 times higher in women undergoing CS than VD [17]. The risk of neonatal respiratory distress necessitating oxygen therapy is significantly higher in elective CSs (35.5 per 1,000 live births) and emergency CSs (12.2 per 1,000 live births) than in VD (5.3 per1,000 live births) [18]. The risk of stillbirth in a second pregnancy is higher if the first birth was by CS rather than by VD (1.2 per 1,000 vs. 0.5 per 1,000) [18]. Babies born by CS are 50% more likely to have lower APGAR score than those born vaginally [19]. Low APGAR score could the result of anesthesia and lack of natural stimulation to the baby during the vaginal delivery [19]. According to the WHO, when CSs are not medically necessary women are more likely to be admitted into intensive care units, require blood transfusion, or die [20]. The study from nine Asian nations states that unnecessary CSs are costlier than natural births and raise the risk of mothers' complications [20].

Most CSs take place in case of medical issues and when delivery by CS is a safer choice, especially in case of maternal diabetes, hypertension, genital herpes, malignancies of the genital tract, and preeclampsia (high blood pressure related to pregnancy) [14, 17]. However, in some cases CSs are performed because they are more profitable for facilities and/or providers, quicker, easy and convenient for an obstetrician to perform a surgery at a scheduled time than long lasting VD [21]. Sometimes, CSs are provided for patient's convenience and/or to avoid labor pain [21].

CS has its advantages and disadvantages. The benefits of CS: the risk of urinary incontinence is lower among women who deliver by CS (elective CS - 5%, emergency CS -12%, and spontaneous VD - 22%); the risk of fecal incontinence, affecting about 4% of women giving

birth is higher among woman who deliver vaginally [18]. Among other benefits from CS are averting from labor pain, reduction of fear, and opportunity of being able to plan timing of birth [18]. The risk of an unexpected stillbirth may be reduced by CS in case of complications of labor such as fetal heart rate abnormalities and cord prolapsed [18].

As with any major surgical procedure there are also risks involved [17]. There is a need to evaluate the risks of maternal and infant complications from CS [14]. Complications occur in less than 10% of cases [17]. The major risks for mothers undergoing CS: maternal mortality; infection (among 7% of woman) which occurs at the incision site (risk of infection 3%-15%) or in the urinary tract (risk of infection 2%-16%); hemorrhage or increased blood loss which leads to anemia and blood transfusion; injury of organs (2 per 10,000); surgical injuries to the ureter or bowel (occur in 0.1% of CSs); adhesions which can lead to future pregnancy complication (such as placental abruption); extended hospital stays; extended recovery time; reactions to medication (anesthesia and pain medications); risk of additional surgeries (hysterectomy, bladder repair or another CS) and emotional reactions (negative feelings about birth experience, disappointment and a sense of failure for not experiencing a VD) [17]. Major risks for infants delivered by CS: premature birth (because of not correctly calculated gestational age); breathing problems as a cause of anesthesia; low APGAR score which assesses the baby's physical health (the baby's color, heart rate, reflex, muscle tone and respiratory effort) at one and five minutes after birth; fetal injury (1 to 2 babies per 100 are cut during the surgery) [19]. In 6% to 15% of elective and emergency CSs occur such complications as bleeding and lacerations [18]. There is more blood loss in CS than with a VD and 1-6 women per 100 require blood transfusion [17]. CS increases the risk of bleeding in a subsequent pregnancy because of placenta previa (5.2 per 1,000 live births) and placental abruption (11.5 per 1000 live births) [18]. CS requires longer stay in hospital

(5 days without complications) and longer recovery time (4 to 6 week) than VD requires [17, 18]. The severity and length of pain after a CS is much greater than after a VD [17, 22].

The outcomes of CSs (for both the mother and infant) should assure that changes in the mode of delivery do not put women or their infants at risk [1]. Important factors pushing CS rates upward include policy of subsequent CS, technological monitoring of labor, breech deliveries, less likelihood of forceps deliveries, changes in childbearing patterns (older age of mothers), fear of malpractice suits and criteria for reimbursement [23].

One of the main contributing factors for increasing CS rate is the financial factor [15]. Payment schedules that reimburse more for CS than VD offer hospitals greater incentives for performing CS [24]. Recommendations for obstetrical practices should not automatically assume that CS deliveries are always costlier than VDs [25]. Average total costs for VDs (maternal plus total baby charges that include neonatal intensive care unit (NICU) utilization) may be higher than average total costs for CSs (maternal plus total baby related costs that include NICU utilization) [25].

In Pakistan (Islamabad) the average cost for a VD from the hospital's side was $40 and for a CS was $162 [2]. Normal VD in a hospital in poor countries of Africa and Latin America ranges from $10-$35 and a CS or a complicated VD can cost from $50-$100 [2]. The study conducted in Australian hospital found that VD is by 30% less expensive than elective CS [26]. In 2003, USA hospitals charged an average of $6,239 for a VD without complications, $8,177 for a VD with complications, $11,524 for a CS without complications, and $15,519 for a CS with complications [27]. In England the cost of VD is 1,698£ and CS - 3,200£ [28].

According to the above stated data, the difference between costs of VD and CS is significantly higher (2.8-5.0 times) in low-income countries such as Pakistan, countries in Africa

and Latin America and lower (1.4-1.8 times) in high-income countries such as Australia, the US and England [2,26,27,28]. Moreover, some studies estimated lower costs for CS than for VD: the estimated mean cost of a planned CS in Canada was significantly lower than that of a planned VD ($7,165 vs. $8,042) for women with a singleton fetus in breech presentation at term [25, 29].

### *1.3 CS trends in Armenia*

Armenia is among those countries that have an upward CS trend (Figure 1) [4]. The number of CSs has increased significantly from 7.2% of all births reported in 2000 to 13.9 % in 2007 [30]. According to the official MOH data, the rate of CS increased from 15.0% to 18.6% between 2008 and 2010 [12]. In the same period, the rate of CS in tertiary level maternity hospitals increased by 3% (ranging 0%- 4%), in secondary level maternity hospitals by 6% (ranging 2%-12%) [12]. Among the secondary level maternities, there are two sub-groups: those providing birthing services to more women, where the increase in the CS rates was relatively low (2%-6%) and those providing services to fewer women, where the increase in the CS rate was substantially higher (5%-12%) [12]. This increase could be a result of high level of unnecessary CSs [4]. The increasing rate of CS in Armenia also must be considered as a public health problem because it already exceeds the WHO recommended level.

The reimbursement for CS within the hospitals in Armenia is about 1.6-1.7 times higher than the reimbursement for VD; this difference is similar to the ones observed in high income countries [10]. The difference between reimbursement rates for regional hospitals (conducting VD) and narrowly specialized maternity hospitals in Yerevan (conducting CS) is 330% [10]. There is no obvious understanding whether recent increase in CS rates in Armenia was due to the start of the OCSC Program or just a historical trend. Some obstetrician-gynecologists (OBGYN) claim that this increase is due to a positive change in the attitude towards CSs in the population

and attraction to giving birth without labor pain [31]. However, there is also an indication that more frequently provided CSs could be a result of attraction to significantly higher reimbursement [31]. It is important to perform an economic evaluation of costs of obstetric services.

### *1.4 Aim, research question and hypothesis of the study*

Aim of the study

This project aimed to conduct costing analysis to identify whether the actual costs for CS and VD coincide with the reimbursement rates by the MOH.

Research question

The question under research was whether the increasing rate of CS was due to higher reimbursement for CS than the real cost.

Research hypothesis

We hypothesized that reimbursement for CS was higher than the real cost and the upward CS trend in Armenia was due to this higher reimbursement. Our hypothesis was based on the healthcare system conceptual framework by Roberts et al. which suggests that improvement of financing and payment mechanisms for maternal services will improve efficiency and quality of those services eventually improving maternal and infant health [32].

## 2. METHODS

### *2.1. Study design: cost accounting approach*

To address the research question hospital based cost accounting cross-sectional study was performed. Costing analysis is a powerful device to derive information on really needed costs for hospital services and an effective management tool to guide rationale resource allocation [33]. Resource costing identifies the components of health care activity, type and amount of resources

used to complete the requirements of each component and attaches unit cost for each resource [34]. The total cost of a particular service is determined by the quantity of resources consumed and the unit cost of the resource items. Costing encompasses the following five major distinct steps [35]:

a) Establishment of the objectives of costing

b) Description of the service for costing

c) Identification and classification of resource items and units of resources utilized to deliver a particular service

d) Measuring resource consumption in natural units

e) Placing monetary value on these resource items and calculating the unit costs of a particular service.

The inputs that are usually used to calculate the real costs are the following: cost of personnel time per type of delivery, medicines, supplies, utilities, maintenance, cost of equipment and other capital expenses [36]. Provider costs (total or average) can be divided into direct and indirect costs [36]. Direct costs are those that are attributed to health service provision (cost of employee contact time spent on service delivery, costs of medicines, tests and supplies for a specific service) [36]. Indirect costs include costs for general services which are not directly related to patient care but support the process (e.g., administration, laundry, transport, management, utilities, maintenance, equipment and other capital) [36]. Total cost consists of variable costs and fixed costs. Variable costs are those that change in proportion with an output (medicines, tests and medical supplies). Fixed costs are those that remain unchanged with change in output (personnel, equipment, utilities, maintenance and transport) [37]. For calculating the average cost of VD and CS this study considered direct variable costs only because of

feasibility: costs of medicines, tests, supplies and labor cost. The study also considered length of stay in a hospital (as a proxy for indirect costs) and performance based "bonus" compensation for each case.

There are two main approaches in hospital costing studies: top-down and bottom-up [35]. Top-down costing takes total cost of service and divides by the total number of patients to yield average cost per patient; it frequently uses aggregated secondary data: hospital information system (accounting, statistics) and may not allow detailed analysis. Bottom-up approach requires very detailed study of resource utilization and measures most of the resources used at the service level [35]. This approach identifies and costs the resources that are used by a specific patient and can be used where the accuracy of resource measurement is important. Bottom-up approach collects information about each cost input and adds together to build up the total cost of an output [35]. This study utilized the bottom-up cost accounting from the perspective of providers.

### *2.2 Study setting*

The study targeted maternity hospitals of secondary level of specialization located in Yerevan where the increase in CS rates from 2008 to 2010 was the highest. The study team approached five of the six maternity hospitals; only two maternity hospitals agreed to participate.

### *2.3 Data collection*

The study performed retrospective review of mother and child hospital records and conducted self-administered surveys with providers to collect the necessary information. Data collection continued from April 19 to May 17 2011. First, the study team obtained the consent of two maternity hospitals to participate in the study from the maternity hospital heads. After that study started retrospective review of mother and child hospital records of December

2010, to extract information about mode of delivery, length of stay, and utilized medicines and tests.

At the same time, the student investigator conducted in-depth interviews with providers of different medical services (neonatal, surgical, delivery and post delivery) to come up with information about service process and types of medical supplies/disposables used during CS and VD, based on which the study developed a self -administered questionnaire designed for providers to collect information on quantity of medical supplies/disposables used for performing a service per birth (case), employee contact time spent on service delivery per case, and performance based "bonus" compensation for each case.

***2.4 Sample size (medical records)***

To have a large enough sample to estimate the mean cost, which is close to the real cost, the study used the following formula:

$N=Z^{2}_{\alpha/2}*pq/d^{2}$ [38]

Considering the proportions of CS and VD in secondary level of specialization maternity hospitals in 2010 (p=0.24; q=0.76), Z= 1.96 for 95% confidence interval and desired precision level (margin of error) d= 0.1 the sample size was estimated to be 70 (number of mother/child medical records).

$N=1.96^{2}*0.24*0.76/0.1^{2}=3.8416*0.1824/0.01=70.1$

The following formula was used for making the adjustment by finite population correction factor to obtain the final estimate of the sample size [38]:

Sample size=N/(1+(N/population)) =70.1 / (1+( 70.1 /8239))=69.58

The 24% of estimated sample 70 were CS (16) and 76% of 70 were VD (54).

### *2.5 Study instrument*

The study developed a medical record data extraction form (Appendix 1), a guide for conducting in-depth interviews to identify the types of medical supplies/disposables utilized for CS and VD (Appendix 2). A self-administered questionnaire was developed based on the results of in-depth interviews (Appendix 3); it included questions about utilized medical supplies/disposables, contact time and performance based "bonus" compensation per case. All the study instruments were pretested before starting the data collection.

#### *2.5.1 Mother and child medical records*

The sample size was divided into equal parts between participating hospitals: 35 cases from each maternity hospital. Then 35 were proportionately divided into two parts: 8 CS (24% of 35) and 27 VD (76% of 35). Study used stratified frequency matched random sampling method to select medical records for the review. From medical records of each hospital the study team randomly selected desired quantity of CS records (8) and matched the next three-four VD records (27) and extracted needed information using the data extraction form. During the data extraction from the records the study team noticed some problems with the quality of the records; when the data was missing in the records the hospital providers were helping to get the necessary information.

#### *2.5.2 In-depth interviews: saturation*

In-depth interviews with 10 providers helped to develop a checklist of resource inputs (medical supplies/disposables) used to provide CS and VD services. They were asked to list all medical activities they performed and types of medical supplies/disposables they used to perform activities for one case (separately for VD and CS) from admission to maternity hospital to discharge.

### *2.5.3 Self -administered questionnaires: census*

Fifty five providers of different maternal services (neonatal, surgical, delivery, and post delivery) from two hospitals (29 and 26) who were available and agreed to participate filled the self-administered questionnaire.

### *2.6 Study variables*

The variables of the study were mode of delivery, length of stay, employee contact time spent on service delivery, costs of medicines, medical supplies/consumables, and tests per case, and performance based compensation per case (Table 1).

### *2.7 Data management and analysis*

After data collection the student investigator entered the data into Microsoft Office Excel 2007 software program to calculate the mean direct variable costs of CS and VD. All resource items were classified into groups: medicines, tests, and medical supplies/disposables. Having the list of all resource items and units of resource consumption utilized to deliver a service, the monetary value was placed on these resource items and the unit costs of services were calculated. Pharm-Info automated electronic system of sales for drugstores provided information on the wholesale current prices of medicines and medical supplies/disposables. For each medicine/medical supply/disposable the most recently updated (as of May 3, 2011) cheapest price from the wholesale price lists was derived. Then, according to that price the study calculated the cost for each unit of utilized medicines, medical supplies/disposables to calculate the total costs of medicines and medical supplies/disposables for each birth case (mother and child).

The total cost of utilized medicines was calculated separately for VD and CS. The study team calculated the total cost of medicines utilized per case of birth (mother and child) for each

of the 54 cases of VD and then calculated the mean cost of medicine per VD. Similarly, the study team calculated the mean cost of utilized medicines per SC case, considering the information from all 16 cases of CS deliveries in the sample.

The average quantity of medical supplies/disposables used per case reported by providers was multiplied by the unit costs to yield the mean cost of medical supplies/disposables per case separately for VD and CS.

The study used the laboratory-instrumental analysis price lists from each hospital to calculate the unit cost of each performed test. The unit price of each test was multiplied by the quantity of performed tests for each case (mother and child) to get the average cost of tests per case separately for VD and CS.

The mean performance based "bonus" compensation per case was calculated separately for each specialist providing VD and CS based on providers' reports.

The mean contact time spent on service delivery per case was calculated separately for each specialist providing VD and CS based on their reported time. The study calculated the human resources cost (labor cost) per case (separately for VD and SC) using the contact time on service delivery per case and considering the highest possible base monthly salary scale for each specialist providing VD and CS suggested by the MOH[11]. The amount of monthly salary for each specialist was divided by the average total number of working days in one month (21.667) and by the number of working hours per day (8 hours) to yield the labor cost per hour. The unit cost was multiplied by the contact time per case to yield the labor cost per case. For specialists (anesthesiologist, anesthesiologist nurse, operation room nurse and intensive care nurse) who receive reimbursement only by a bonus payment, the labor cost was not calculated.

Based on the collected information the study estimated the mean direct variable cost of delivery (CS and VD). The study identified the ratios of direct variable cost of VD and CS and compared with the ratio of reimbursement amounts. The study used descriptive statistics (mean, range, ratio and other characteristics) for comparisons.

### *2.8 Ethical considerations*

The Institutional Review Board/Committee on Human Research (IRB) within the College of Health Sciences at the American University of Armenia reviewed and approved the study protocol before starting the data collection. The administration of maternity hospitals received letters from the College of Health Sciences and the Ministry of Health explaining the objectives of the study and methods. Only those maternity hospitals participated in the study, where the administration gave permission to conduct the study. Oral consent was obtained from providers prior to their participation in the study (Appendix 4). The study was anonymous and no identifying information was collected.

## 3. RESULTS

The direct variable cost per case includes the cost of medicines, tests, medical supplies/disposables and labor cost (cost of employee contact time). The mean estimated direct variable cost of VD per case was 35,219AMD (Table 2 and 4). The mean estimated direct variable cost of CS per case was 80,385AMD (Table 2 and 4). The ratio of mean direct variable costs was 2.28.

### *3.1 Medicines*

The mean cost of medicines used per birth (mother and child) through VD was estimated to be 1,559AMD (range between hospitals: 465AMD – 2,653AMD) (Table 2). The mean cost of medicines used per birth (mother and child) through CS was estimated to be 6,903AMD (range

between two hospitals: 6,483AMD - 7,323AMD) (Table 2). The ratio of mean costs of medicines utilized per case for CS vs. VD was 4.42 (Table 3).

### *3.2 Tests*

The mean cost of tests used per birth (mother and child) through VD was estimated to be 9,524AMD (range between two hospitals: 9,029AMD - 10,020AMD) (Table 2). The mean cost of tests used per birth (mother and child) through CS was estimated to be 20,037AMD (range between two hospitals: 18,425AMD - 21,650AMD) (Table 2). The ratio of mean costs of tests utilized per case for CS vs. VD was 2.10 (Table 3).

### *3.3 Medical supplies/disposables*

The mean cost of medical supplies/disposables used per birth (mother and child) through VD was estimated to be 15,654AMD (range between two hospital: 12,876AMD - 18,431AMD) (Table 2). The mean cost of medical supplies/disposables used per birth (mother and child) through CS was estimated to be 43,840AMD (range between two hospitals: 39,548AMD - 48,131AMD) (Table 2). The ratio of mean costs of utilized medical supplies/disposables per case for CS vs. VD was 2.80 (Table 3).

### *3.4 Contact time and labor cost*

The mean contact time for an OBGYN per SC vs. VD case was 290minutes vs. 410 minutes with the ratio of 0.71; for a post delivery room midwife was 900 vs. 426 minutes with the ratio of 2.11; a neonatologist - 204 minutes vs. 138 minutes with the ratio of 1.48 and a neonatal care nurse - 600 vs. 432 minutes with the ratio of 1.39 (Tables 4 and 5).

The mean contact time for a delivery room midwife per VD case was 480 minutes. Anesthesiologist and anesthesiologist-nurse participate in VD by necessity and each spent 30 minutes per case (Table 4).

The mean contact time for an operation room nurse per CS case was 90 minutes, for an assistant was 150 minutes, an intensive care nurse - 1620 minutes, an anesthesiologist-nurse - 150 minutes and an anesthesiologist - 186 minutes (Table 4).

The mean labor cost of an OBGYN providing CS vs. VD was 1,673 AMD vs. 2,365 AMD with the ratio of 0.71; of a post delivery midwife was 3,461AMD vs.1, 638AMD with the ratio of 2.11; of a neonatal care nurse – 2,423AMD vs. 1,744AMD with the ratio of 1.39 and of a neonatologist – 1,182AMD vs. 796AMD with the ratio of 1.48 (Tables 4 and 5). The mean labor cost of delivery room midwife was 1,938AMD. The mean labor cost of assistant was 865AMD (Table 4).

### *3.5 Bonus payment*

The mean bonus payment to an OBGYN providing CS vs. VD was 23,875AMD vs. 2,088 AMD with the ratio of 11.44; to a post delivery midwife was 393AMD vs. 239AMD with the ratio of 1.64; to a neonatal care nurse – 314AMD vs. 239AMD with the ratio of 1.32 and a neonatologist – 2,667AMD vs. 692AMD with the ratio of 3.86 (Tables 4 and 6).

### *3.6 Length of stay*

The mean length of stay per birth through VD was 4.20 (2-11) bed-days. The mean length of stay per birth through CS was 6.37 (3-11) bed-days.

## 4. DISCUSSION

### *4.1 Study limitations and strengths*

One of the major weaknesses of the study was that it considered only direct variable costs; this was done because of feasibility. The choice of the cost items for this cost accounting analysis could also influence the findings.

The generalizablity of this study is limited as it was a pilot study conducted only in maternity hospitals of secondary level of specialization located in Yerevan that agreed to participate. Therefore, the findings cannot be generalized to maternity hospitals of tertiary level of specialization and to maternity hospitals in marzes. Some of the information for the study was collected from providers through self-administered questionnaires instead of direct observations making it a subject for a potential recall bias. The other source of data for this study included medical records, which had issues with quality/accuracy (e.g., variations in the format between hospitals and missing information).

One of the strengths of this study is the methodology it used; the used bottom-up costing approach is more accurate measurement method of most resources used at the service level than the top-down approach. The study team developed the self-administered questionnaires for providers based on the in-depth interviews with providers and pre-tested them before starting data collection.

This is the first cost accounting study of obstetric care services in Armenia and can provide valuable information to policymakers for improving the financing of the Obstetric Care State Certificate Program.

### *4.2 Main findings*

The hospital based cost accounting cross-sectional study investigated the difference between the real direct variable cost ratios and the reimbursement ratio. The mean direct variable cost ratio of CS vs. VD was 2.28 which was higher than the reimbursement ratio of 1.64. The ratio of contact time spent per case and labor cost of delivery by specialists that provide either CS or VD (OBGYN, post delivery room midwife, neonatologist and neonatal care nurse) ranged from 0.71 to 2.11. The per patient contact time and labor cost ratio (CS/VD) spent on service delivery by neonatologists was lower than the reimbursement ratio while the mean

bonus payment ratio was much higher (1.48 vs. 3.86); contact time, labor cost and bonus payment ratios per patient were close to each other (1.39 vs. 1.31) and slightly lower than the reimbursement ratio for neonatal care nurses; post delivery midwifes spent twice more time on CS cases and the bonus ratio was similar to the reimbursement (2.11 vs. 1.64). The labor cost and contact time spent by OBGYNs was substantially less for providing CS than for VD and the ratio was less than the reimbursement (0.70 vs. 1.64), while they received 11.43 times more bonus payments for performing CS than for VD. There was no difference between two hospitals in terms of neonatal care nurse bonus payment ratios. However, the mean bonus ratios of OBGYNs were ranging from 6.90 to 42.70 between hospitals. The mean bonus ratio of neonatologists was twice higher in one hospital than in the other one while the mean contact time and labor cost ratios were almost the same for them in both hospitals.

According to the reported data intensive care nurses spent the most time per case (1,620 minutes) and the operation room nurses spent the least time per case (90 minutes); however, the mean bonus payment to intensive care nurses was less than the mean bonus payment to operation room nurses (1,500AMD vs. 2,250AMD). The lowest bonus payments per case were for post delivery care midwifes and neonatal care nurses providing either VD or CS services (239AMD-393AMD); however, their contact time was substantially higher compared with most other specialists and ranged from 432 to 900 minutes. The highest bonus payment per case was for OBGYNs providing CS (23,875AMD). The mean cost of medicines utilized for VD was ranging from 465AMD to 2,653AMD between two hospitals. However, the mean costs of medicines utilized for CS were very similar for two hospitals and ranged from 6,483AMD to 7,323AMD. The highest direct variable cost was the cost of medical supplies/disposables utilized for CS (43,840AMD). The least direct variable cost was the cost of medicines utilized for VD

(1,559AMD). The mean cost of medicines utilized for CS was 4.42 time higher than the mean cost of medicines utilized for VD. The mean cost ratios of medicines ranged from 2.80 to 13.90 between two hospitals.

High income countries achieved significant reduction in cost ratios of VD and CS (1.4 - 1.8) compared to low and middle income countries [2,26,27,28]; the reimbursement ratio of 1.6 in Armenia is similar to the one reported in high income countries, but the estimated ratio of the direct variable costs is a bit higher than that. By better management of resources and strengthening the quality of obstetric and neonatal care services the cost ratio could be reduced in Armenia.

There was a substantial difference between the two hospitals in terms of bonus allocation for OBGYNs. The amount of bonus payment per birth through VD was positively related to the total number of births in a hospital; this is because the bonus amount is fixed by MOH for CS and not for VD. Therefore, in those hospitals where the total number of births is not high OBGYNs could receive a significantly lower bonus for VD and therefore, have a bigger financial motivation to perform more CS than VD. This could explain bigger increase in CS rates in recent years in those maternity hospitals where the total number of births is not high. Having a broad list of relative indications for CS could be an enabling factor making it easier for providers to find a medical justification for performing an unnecessary CS [40].

Another important finding of the study was the substantial difference between the two hospitals, especially in the cost ratios of utilized medicines (2.8 - 13.9). The study found substantial differences between the two hospitals in types of medicines and anesthesia used, testing and neonatal care patterns. For example, the difference in the mean cost of medicines utilized for VD between the two hospitals was about 5.7 times. Significant variations in medical

practice between health facilities usually indicate about problems with the quality of care [41]: the observed differences between the two maternity hospitals suggest about lack of adherence to standard treatment guidelines for obstetric and neonatal care in the maternity hospitals of secondary specialization.

## 5. RECOMENDATIONS

### *5.1 For future studies*

There is a need to enlarge the scope of participating hospitals, including maternity hospitals of tertiary level of specialization and maternity hospitals in marzes to conduct cost analyses that would apply to all types of maternity hospitals. Future studies would also need to consider indirect fixed costs (costs that are not directly related to patient care: equipment, building, utilities, maintenances, and other) to conduct more precise cost analyses.

### *5.2 For policymakers*

The study makes several recommendations for policy makers' consideration. There is an immediate need for changing the reimbursement mechanisms for OBGYNs (the main decision makers for the mode of delivery) for providing VD or CS delivery services to eliminate the financial motivation for conducting unnecessary CS. For this purpose, the performance based compensation (bonus payments) to OBGYNs should be revised and fixed for both VD and CS cases keeping the ratio between these bonus payments comparable to the overall reimbursement ratio of 1.64.

There is a need for strengthening quality control mechanisms for obstetric and neonatal care services. This would include mechanisms for strengthening adherence to the standard treatment guidelines for VD and CS that would clearly list the medical indications for VD and for CS and other details related to providing quality obstetric and neonatal services.

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**Table 1. Types, measures and sources for basic study**

| Variables | Type | Measure | Source |
|---|---|---|---|
| Mode of delivery | Nominal | CS/VD | Medical records |
| Length of stay | Numeric | Days | Medical records |
| Contact time | Numeric | Time duration for service | Self-administered questionnaires |
| Medicines | Numeric | Names and quantity of used medicine | Medical records |
| Tests | Numeric | Number and types of tests | Medical records |
| Medical supplies/disposables | Numeric | Number of consumables | Self-administered questionnaires |
| Performance based compensation per case | Numeric | Amount of performance based compensation per case | Self-administered questionnaires |

**Table 2. Mean cost of medicines, tests, and medical supplies/disposables utilized per case**

| Resource items | Mean cost (VD) AMD | Range (between two hospitals) AMD | Mean cost (CS) AMD | Range (between two hospitals) AMD |
|---|---|---|---|---|
| Medicines | 1,559 | 465-2,653 | 6,903 | 6,483-7,323 |
| Tests | 9,524 | 9,030-10,020 | 20,037 | 18,425-21,650 |
| Medical supplies/disposables | 15,654 | 12,875-18,430 | 43,840 | 39,550-48,130 |
| **Total** | **26,737** | | **70,780** | |

**Table 3. Mean cost ratios (CS/VD)**

| Resource items | Ratios of mean costs | Range (between two hospitals) | Reimbursement ratio |
|---|---|---|---|
| Medicines | 4.42 | 2.80-13.90 | 1.64 |
| Tests | 2.10 | 1.80-2.40 | 1.64 |
| Medical supplies/disposables | 2.80 | 2.10-3.70 | 1.64 |

**Table 4. Mean contact time, mean labor cost, and mean bonus payment per case for each specialist by mode of delivery**

| | **VAGINAL DELIVERY** | | |
|---|---|---|---|
| Specialist | Mean Time | Mean Cost (AMD) | Mean Bonus (AMD) |
| Obstetrician-gynecologist | 410 min | 2,365 | 2,088 |
| Delivery room midwife | 480 min | 1,638 | 659 |
| Anesthesiologist nurse | 30 min | | 350 |
| Anesthesiologist | 30 min | | 1,300 |
| Post delivery care midwife | 426 min | 1,638 | 239 |
| Neonatal care nurse | 432 min | 1,744 | 239 |
| Neonatologist | 138 min | 796 | 692 |
| **Total** | **1,956 min** | **8,482** | **5,566** |
| | **CESAREAN SECTION** | | |
| Obstetrician-gynecologist | 290 min | 1,673 | 23,875 |
| Anesthesiologist nurse | 150 min | | 2,250 |
| Anesthesiologist | 186 min | | 8,000 |
| Post delivery care midwife | 900 min | 3,461 | 393 |
| Neonatal care nurse | 600 min | 2,423 | 314 |
| Neonatologist | 204 min | 1,182 | 2,667 |
| Operation room nurse | 90 min | | 2,250 |
| Intensive care nurse | 1,620 min | | 1,500 |
| Assistant | 150 min | 865 | 4,285 |
| **Total** | **4,200 min** | **9,605** | **45,533** |

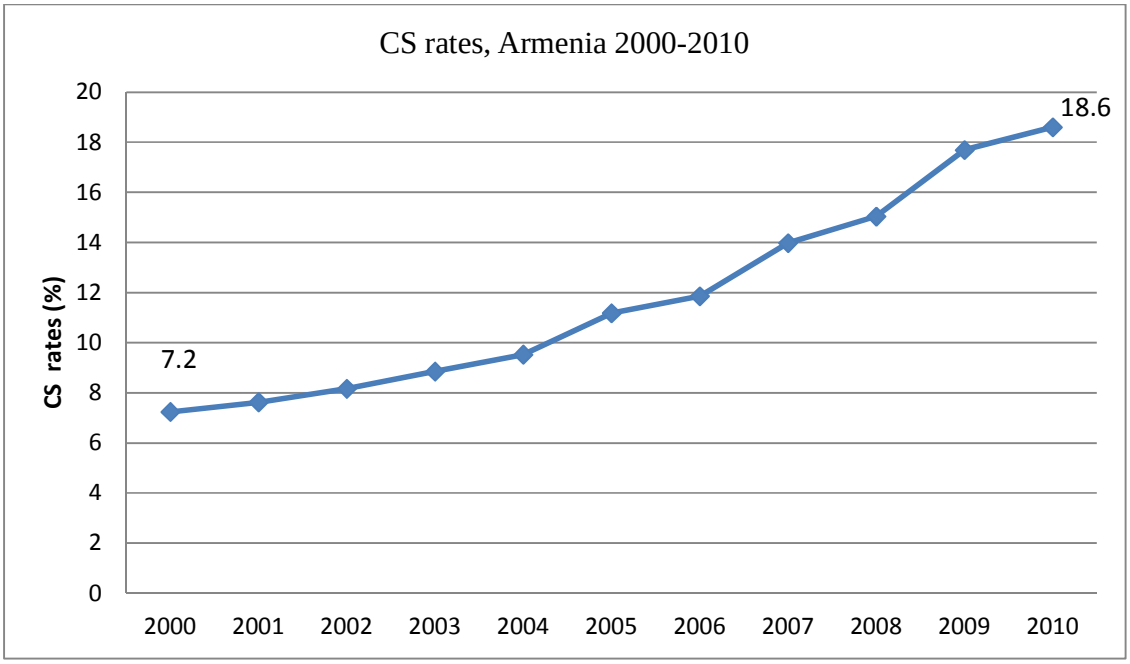
**Table 5. Mean contact time and labor cost ratios (CS/VD)**

| Contact time spent on service delivery | Ratios of mean time and labor cost | Range (between two hospitals) | Reimbursement ratio |
|---|---|---|---|
| Obstetrician-gynecologist | 0.71 | 0.60-0.80 | 1.64 |
| Neonatologist | 1.48 | 1.30-1.60 | 1.64 |
| Neonatal care nurse | 1.39 | 1.30-1.80 | 1.64 |
| Post delivery care midwife | 2.11 | 1.40-2.70 | 1.64 |

**Table 6. Mean bonus ratios (CS/VD)**

| Performance based compensation per case | Ratios of mean bonus | Range (between two hospitals) | Reimbursement ratio |
|---|---|---|---|
| Obstetrician-gynecologist | 11.44 | 6.90-42.70 | 1.64 |
| Neonatologist | 3.86 | 3.00-6.10 | 1.64 |
| Neonatal care nurse | 1.31 | 1.30-1.30 | 1.64 |
| Post delivery care midwife | 1.64 | 1.10-1.80 | 1.64 |

**Figure 1. Cesarean section rates among all births in Armenia (2000-2010)**



**Appendix 1. Data extraction form**

| Item | Medical record information | | |
|---|---|---|---|
| Hospital ID | ---------- | | |
| Medical record ID | ---------- | | |
| Type of delivery : | 1. Vaginal delivery<br>2. Cesarean section | | |
| Date of delivery | ---------- | | |
| $N_0$ of bed/days | ---------- | | |
| **Prescriptions** | **Name** | **Dose** | **Quantity** |
| Tests | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Medicines | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Tests (neonatal) | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Medicines (neonatal) | | | |
| | | | |
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| | | | |

**Appendix 2. Guides**

**Guide for providers of delivery service, operation room and post delivery care service**

**Date _____**

**Place_____**

Specialty _____

1. Your everyday work is related to
   A. women who deliver vaginally (go to Q 2, skip Q3)
   B. women who deliver through CS (go to Q3)
   C. both, women who deliver virginally or through CS.

2. Please tell about all your activities which you usually perform for a naturally delivering woman during her stay in the hospital: from admission to discharge, and what kind of disposables and materials do you use during these activities? Are there activities in which other specialists also participate? If yes, what specialists, what are they doing and what kind of disposables and materials are they using during the mentioned activities?

3. Please tell about all your activities which you usually perform for a woman delivering through CS during her stay in the hospital: from admission to discharge, and what kind of disposables and materials do you use during these activities? Are there activities in which other specialists also participate? If yes, what specialists, what are they doing and what kind of disposables and materials are they using during the mentioned activities?

**Ուղեցույց ծննդաբերության ծառայության, վիրահատարանի, հետծննդյան խնամքի ծառայության բուժաշխատողների համար**

**Ամսաթիվը_____**
**Վայրը_____**

Մասնագիտությունը_____

1. Ձեր աշխատանքային գործունեությունն օրվա ընթացքում կապված է
    A. Միայն բնական ճանապարհով ծննդաբերող/ ծննդաբերած կանանց հետ (անցնել հարց 2-ին և բաց թողնել հարց 3-ը)
    B. Միայն կեսարյան հատման ճանապարհով ծննդաբերող/ ծննդաբերած կանանց հետ( անցնել հարց 3-ին)
    C. Եվ բնական և կեսարյան հատման ճանապարհով ծննդաբերող/ ծննդաբերած կանանց հետ

2. Խնդրում եմ պատմեք Ձեր բոլոր գործողությունները, որ սովորաբար կատարում եք յուրաքանչյուր բնական ճանապարհով ծննդաբերող / ծննդաբերած կնոջ հետ հիվանդանոցում գտնվելու ամբողջ ընթացքում՝ընդունվելուց մինչև դուրս գրվելը, և նշեք թե ի՞նչ միանվագ օգտագործման պարագաներ և նյութեր եք օգտագործում յուրաքանչյուր գործողության ժամանակ: Կա՞ն արդյոք գործողություններ, որոնց մեջ մասնակցում են նաև այլ մասնագետներ: Եթե այո՝ ո՞րոնք են այդ գործողությունները, ի՞նչ մասնագետներ են, ի՞նչ են անում և ի՞նչ միանվագ օգտագործման պարագաներ և նյութեր են օգտագործում:

3. Խնդրում եմ պատմեք Ձեր բոլոր գործողությունները, որ սովորաբար կատարում եք յուրաքանչյուր կեսարյան հատման ճանապարհով ծննդաբերող /ծննդաբերած կնոջ հետ հիվանդանոցում գտնվելու ամբողջ ընթացքում՝ընդունվելուց մինչև դուրս գրվելը, և նշեք թե ի՞նչ միանվագ օգտագործման պարագաներ և նյութեր եք օգտագործում յուրաքանչյուր գործողության ժամանակ: Կա՞ն արդյոք գործողություններ որոնց մեջ մասնակցում են նաև այլ մասնագետներ: Եթե այո՝ ո՞րոնք են այդ գործողությունները, ի՞նչ մասնագետներ են, ի՞նչ են անում և ի՞նչ միանվագ օգտագործման պարագաներ և նյութեր են օգտագործում:

**Guide for providers of neonatal service**

**Date _____**

**Place_____**

Speciality_____

1. Your work activities during the day are associated only
   A. With children born through VD. (go to Q 2, skip Q3)
   B. With children born through CS. (go to Q3)
   C. Both: with children born through VD and CS.

2. Please tell about all your activities which you usually perform for a child born through VD during their stay in hospital: from birth to discharge, and what kind of disposables and materials do you use during these activities? Are there activities in which other specialists also participate? If yes, what specialists, what do they do and what kind of disposables and materials do they use?

3. Please tell about all your activities which you usually perform for a child born through CS during their stay in hospital: from birth to discharge, and what kind of disposables and materials do you use during these activities? Are there activities in which other specialists also participate? If yes, what specialists, what do they do and what kind of disposables and materials do they use?

4. What are the main differences in neonatal care activities between children born at term and child born preterm? If there are, what additional activities do you perform and what additional materials do you use?

**Ուղեցույց նորածնային ծառայության բուժաշխատողների համար**
**Ամսաթիվը_____**
**Վայրը_____**

Մասնագիտությունը _____

1. Ձեր աշխատանքային գործունեությունը օրվա ընթացքում կապված է
   A. Միայն բնական ճանապարհով ծնված երեխաների հետ (անցնել հարց 2-ին և բաց թողնել հարց 3-ը)
   B. Միայն կեսարյան հատման ճանապարհով ծնված երեխաների հետ (անցնել հարց 3-ին)
   C. Եվ բնական և կեսարյան հատման ճանապարհով ծնված երեխաների հետ

2. Խնդրում եմ պատմեք Ձեր բոլոր գործողությունները, որ սովորաբար կատարում եք յուրաքանչյուր բնական ճանապարհով ծնված երեխայի հետ հիվանդանոցում գտնվելու ամբողջ ընթացքում՝ ծնվելու պահից մինչև դուրս գրվելը, և նշեք թե ի՞նչ միանվագ օգտագործման պարագաներ և նյութեր եք օգտագործում յուրաքանչյուր գործողության ժամանակ: Կա՞ն արդյոք գործողություններ, որոնց մեջ մասնակցում են նաև այլ մասնագետներ: Եթե այո՝ ո՞րոնք են այդ գործողությունները, ի՞նչ մասնագետներ են, ի՞նչ են անում և ի՞նչ միանվագ օգտագործման պարագաներ և նյութեր են օգտագործում:

3. Խնդրում եմ պատմեք Ձեր բոլոր գործողությունները, որ կատարում եք յուրաքանչյուր կեսարյան հատման ճանապարհով ծնված երեխաի հետ հիվանդանոցում գտնվելու ամբողջ ընթացքում՝ ծնվելու պահից մինչև դուրս գրվելը, և նշեք թե ի՞նչ միանվագ օգտագործման պարագաներ և նյութեր եք օգտագործում յուրաքանչյուր գործողության ժամանակ: Կա՞ն արդյոք գործողություններ, որոնց մեջ մասնակցում են նաև այլ մասնագետներ: Եթե այո՝ ո՞րոնք են այդ գործողությունները, ի՞նչ մասնագետներ են, ի՞նչ են անում և ի՞նչ միանվագ օգտագործման պարագաներ և նյութեր են օգտագործում:

4. Հիմնականում ի՞նչով են տարբերվում վաղաժամ և ժամկետային ծնված երեխաների խնամքին ուղղված Ձեր գործողությունները: Ի՞նչ լրացուցիչ գործողություններ եք կատարում և ի՞նչ լրացուցիչ նյութեր եք օգտագործում:

## Appendix 3. Self-administered questionnaires

### Guide for completing the questionnaire

(for obstetrician-gynecologists)

If your job responsibilities during the day are related only with women who delivered vaginally, please complete only the left column of the questionnaire **(vaginal birth).**

If your job responsibilities during the day are related only with women who delivered through C-section, please complete only the left column of the questionnaire **(cesarean section).**

If your job responsibilities during the day are related with both women who delivered through VD or CS, please complete both columns of the questionnaire **(**first **vaginal birth** column**, then cesarean section** column**).**

In the **DISPOSABLES AND MATERIALS** section mark all those disposables and materials that you are consuming/using **personally** during your work. In the **QUANTITY** section mark the average amount (ml, meter, cm or pieces) of disposables and materials consumed **by you personally for one case** (one delivering/delivered woman) during her stay in the hospital.

**vaginal birth** **cesarean section**

| **DISPOSABLES AND MATERIALS** | **QUANTITY** |
|---|---|
| Urinary catheter | _____pieces |
| Venous catheter | _____pieces |
| Set (urinary catheter+ urinal) | _____pieces |
| Foley catheter | _____pieces |
| IV set | _____ pieces |
| Syringe<br>1,0ml----------<br>2,0ml----------<br>5,0ml----------<br>10,0ml----------<br>20,0ml---------- | <br>--------- pieces<br>--------- pieces<br>--------- pieces<br>--------- pieces<br>--------- pieces |
| Gauze ball | _____pieces |
| Mask | _____pieces |
| Medical head cover | _____ pieces |
| Gloves<br>sterile<br>non sterile | <br>_____pairs<br>_____ pairs |
| Shoe covers | _____ pairs |
| Cord clip | _____ pieces |
| Gauze | ___m____cm |
| Vicryl suture | _____pack |
| Catgut suture | ----------pack |
| Benzalkonium chloride (katamin) | _____ml |
| Rubbing alcohol | _____ml |
| Betadine 10% solution | _____ml |
| Other | |
| Other | |
| Other | |

| **DISPOSABLES AND MATERIALS** | **QUANTITY** |
|---|---|
| Urinary catheter | _____pieces |
| Venous catheter | _____pieces |
| Set (urinary catheter+ urinal) | _____pieces |
| Foley catheter | _____pieces |
| IV set | _____ pieces |
| Syringe<br>1,0ml----------<br>2,0ml----------<br>5,0ml----------<br>10,0ml----------<br>20,0ml---------- | <br>-------- pieces<br>-------- pieces<br>----- ---pieces<br>-------- pieces<br>----- ---pieces |
| Gauze ball | _____pieces |
| Mask | _____pieces |
| Medical head cover | _____ pieces |
| Gloves<br>sterile<br>non sterile | <br>_____pairs<br>_____ pairs |
| Shoe covers | _____ pairs |
| Cord clip | _____ pieces |
| Gauze | ___m___cm |
| Vicryl suture | _____pack |
| Catgut suture | ----------pack |
| Benzalkonium chloride (katamin) | _____ml |
| Rubbing alcohol | _____ml |
| Betadine 10% solution | _____ml |
| Other | |
| Other | |
| Other | |

Recall all those activities (medical procedures as well as completion of medical records and documents and so on) that you perform for one case (one delivering/delivered woman) during her stay in the hospital. If you try to sum up all minutes/hours that you spend with a delivering/delivered woman performing all medical activities as well as completing medical records and documents, how long would the approximate time (hours/minutes) per case be?

| **vaginal birth** | **cesarean section** | **cesarean section (as an assistant)** |
|---|---|---|
| ____h_____m | ____h_____m | ____h_____m |

How much is the complementary compensation (Bonus) provided to you by your hospital per patient in addition to the salary and other statutory compensations, payments stipulated by the Armenian Labour Law (e.g. payments for night shifts, week-end, holiday shifts and etc).

| **vaginal birth** | **cesarean section** | **cesarean section (as an assistant)** |
|---|---|---|
| _____AMD | _____AMD | _____AMD |

Thank you for participation.

**Guide for completing the questionnaire**

(for delivery service, operation room and post delivery care service providers)

If your job responsibilities during the day are related only with women who delivered vaginally, please complete only the left column of the questionnaire **(vaginal birth).**

If your job responsibilities during the day are related only with women who delivered through C-section, please complete only the left column of the questionnaire **(cesarean section).**

If your job responsibilities during the day are related with both women who delivered through VD or CS, please complete both columns of the questionnaire **(**first **vaginal birth** column**, then cesarean section** column**).**

In the **DISPOSABLES AND MATERIALS** section mark all those disposables and materials that you are consuming/using **personally** during your work. In the **QUANTITY** section mark the average amount (ml, meter, cm or pieces) of disposables and materials consumed **by you personally for one case** (one delivering/delivered woman) during her stay in the hospital.

**vaginal birth** **cesarean section**

| **DISPOSABLES AND MATERIALS** | **QUANTITY** |
|---|---|
| Urinary catheter | _____pieces |
| Venous catheter | _____pieces |
| Set (urinary catheters+ urinal) | _____pieces |
| Foley catheter | _____pieces |
| IV set | _____ pieces |
| Syringe<br>1,0ml----------<br>2,0ml----------<br>5,0ml----------<br>10,0ml----------<br>20,0ml---------- | <br>-------- pieces<br>----- ---pieces<br>----- ---pieces<br>----- ---pieces<br>----- --pieces |
| Gauze ball | _____pieces |
| Mask | _____pieces |
| Medical head cover | _____pieces |
| Gloves<br>sterile<br>non sterile | <br>_____pairs<br>_____ pairs |
| Shoe covers | _____ pairs |
| Enema cap | _____ pieces |
| Cord clip | _____ pieces |
| Gauze | ___m___cm |
| Vicryl suture | _____pack |
| Catgut suture | _____ pack |
| Benzalkonium chloride (katamin) | _____ml |
| Rubbing alcohol | _____ml |
| Betadine 10% solution | _____ml |
| | |

| **DISPOSABLES AND MATERIALS** | **QUANTITY** |
|---|---|
| Urinary catheter | _____pieces |
| Venous catheter | _____pieces |
| Set (urinary catheters+ urinal) | _____pieces |
| Foley catheter | _____pieces |
| IV set | _____ pieces |
| Syringe<br>1,0ml----------<br>2,0ml----------<br>5,0ml----------<br>10,0ml----------<br>20,0ml---------- | <br>------- pieces<br>----- --pieces<br>----- --pieces<br>------- pieces<br>----- --pieces |
| Gauze ball | _____pieces |
| Mask | _____pieces |
| Medical head cover | _____pieces |
| Gloves<br>sterile<br>non sterile | <br>_____pairs<br>_____pairs |
| Shoe covers | _____ pairs |
| Enema cap | _____ pieces |
| Cord clip | _____ pieces |
| Gauze | ___m___cm |
| Vicryl suture | _____pack |
| Catgut suture | _____ pack |
| Benzalkonium chloride (katamin) | _____ml |
| Rubbing alcohol | _____ml |
| Betadine 10% solution | _____ml |
| | |

| | | | | |
|---|---|---|---|---|
| | | | Intubation kit | _____ pieces |
| | | | Spinal anesthesia Syringe | _____ pieces |
| | | | Surgical blade | _____pieces |
| | | | Disposable surgical aspirator tips (abdominal) | ---------pieces |
| | | | Disposable surgical aspirator tips (oral) | ---------pieces |
| Other | | | Other | |
| Other | | | Other | |
| Other | | | Other | |

Recall all those activities (medical procedures as well as completion of medical records and documents and so on) that you perform for one case (one delivering/delivered woman) during her stay in the hospital. If you try to sum up all minutes/hours that you spend with a delivering/delivered woman performing all medical activities as well as completing medical records and documents, how long would the approximate time (hours/minutes) per case be?

**vaginal birth** **cesarean section**

| | |
|---|---|
| ____h_____m | ____h_____m |

How much is the complementary compensation (Bonus) provided to you by your hospital per a patient in addition to the salary and other statutory compensations, payments stipulated by the Armenian Labour Law (e.g. payments for night shifts, week-end, holiday shifts and etc).

**vaginal birth** **cesarean section**

| | |
|---|---|
| _____AMD | _____AMD |

Thank you for participation.

**Guide for completing the questionnaire**

(for neonatal service providers )

If your job responsibilities during the day are related only with children delivered vaginally, please complete only the left column of the questionnaire **(vaginal birth).**

If your job related activities during the day are related only with children delivered through C-section, please complete only the left column of the questionnaire **(cesarean section).**

If your job responsibilities during the day are related with both children delivered through VD or CS, please complete both columns of the questionnaire **(**first **vaginal birth** column**, then cesarean section** column**).**

In the **DISPOSABLES AND MATERIALS** section mark all those disposables and materials that you are consuming/using **personally** during your work. In the **QUANTITY** section mark the average amount (ml, meter, cm or pieces) of disposables and materials consumed **by you personally for one case** (one child) during her/his stay in hospital.

**vaginal delivery** **cesarean section**

| DISPOSABLES AND MATERIALS | QUANTITY |
|---|---|
| Urinary catheter | _____pieces |
| Venous catheter | _____pieces |
| Set (urinary catheters+ urinal) | _____pieces |
| Foley catheter | _____pieces |
| IV set | ___ __pieces |
| Syringe<br>1,0ml----------<br>2,0ml----------<br>5,0ml----------<br>10,0ml----------<br>20,0ml---------- | <br>-------- pieces<br>-------- pieces<br>-------- pieces<br>-------- pieces<br>-------- pieces |
| Gauze ball | _____pieces |
| Mask | _____pieces |
| Medical head cover | _____ pieces |
| Gloves<br>sterile<br>non sterile | <br>_____pairs<br>_____ pairs |
| Shoe covers | _____ pairs |
| Enema cap | _____pieces |
| Cord clip | _____ pieces |
| Gauze | ___m___cm |
| Benzalkonium chloride (katamin) | _____ml |
| Rubbing alcohol | _____ml |
| Betadine 10% solution | _____ml |
| Disposable surgical aspirator tips (oral) | _____pieces |
| Other | |

| DISPOSABLES AND MATERIALS | QUANTITY |
|---|---|
| Urinary catheter | ____pieces |
| Venous catheter | ____pieces |
| Set (urinary catheters+ urinal) | ____pieces |
| Foley catheter | ____pieces |
| IV set | ____ pieces |
| Syringe<br>1,0ml----------<br>2,0ml----------<br>5,0ml----------<br>10,0ml----------<br>20,0ml---------- | <br>------- pieces<br>------- pieces<br>--------pieces<br>--------pieces<br>--------pieces |
| Gauze ball | _____pieces |
| Mask | _____pieces |
| Medical head cover | _____ pieces |
| Gloves<br>sterile<br>non sterile | <br>_____pairs<br>_____ pairs |
| Shoe covers | _____ pairs |
| Enema cap | _____pieces |
| Cord clip | _____ pieces |
| Gauze | ___m___cm |
| Benzalkonium chloride (katamin) | _____ml |
| Rubbing alcohol | _____ml |
| Betadine 10% solution | _____ml |
| Disposable surgical aspirator tips (oral) | _____ pieces |
| Other | |

| | |
|---|---|
| Other | |
| Other | |

| | |
|---|---|
| Other | |
| Other | |

Recall all those activities (medical procedures, care for child as well as completion of medical records and documents and so on) that you perform for one case (one child) during her /his stay in hospital. If you try to sum up all minutes/hours that you spend with a delivering/delivered woman performing all medical activities as well as completing medical records and documents, how long would the approximate time (hours/minutes) per case be?

**vaginal delivery**

____h_____m

**cesarean section**

_____h_____m

How much is the complementary compensation (Bonus) provided to you by your hospital per patient in addition to the salary and other statutory compensations, payments stipulated by the Armenian Labour Law (e.g. payments for night shifts, week-end, holiday shifts and etc).

**vaginal delivery**

----------AMD

**cesarean section**

---------AMD

Thank you for participation.

*Ուղեցույց հարցաթերթիկը լրացնելու համար*

(մանկաբարձ-գինեկոլոգների համար)

Եթե Ձեր աշխատանքային գործունեությունն օրվա ընթացքում կապված է միայն բնական ճանապարհով ծննդաբերող/ ծննդաբերած կանանց հետ, խնդրում եմ լրացրեք միայն ձախ կողմի սյունակը (**բնական ծննդաբերություն**):

Եթե Ձեր աշխատանքային գործունեությունն օրվա ընթացքում կապված է միայն կեսարյան հատման ճանապարհով ծննդաբերող/ ծննդաբերած կանանց հետ, խնդրում եմ լրացրեք միայն աջ կողմի սյունակը (**կեսարյան հատում**):

Եթե Ձեր աշխատանքային գործունեությունն օրվա ընթացքում կապված է և՛ բնական, և՛ կեսարյան հատման ճանապարհով ծննդաբերող/ ծննդաբերած կանանց հետ, խնդրում եմ լրացրեք երկու սյունակները (սկզբից **բնական ծննդաբերություն** սյունակը և հետո **կեսարյան հատում** սյունակը):

**ՄԻԱՆՎԱԳ ՕԳՏԱԳՈՐԾՄԱՆ ՊԱՐԱԳԱՆԵՐ և ՆՅՈՒԹԵՐ** հատվածում նշեք բոլոր այն միանվագ օգտագործման պարագաները և նյութերը, որ օգտագործում եք **Դուք անձամբ** Ձեր աշխատանքային գործունեության ընթացքում: **ՔԱՆԱԿԸ** հատվածում նշեք, թե սովորաբար (միջինում) որքան եք **Դուք անձամբ** օգտագործում այդ պարագաներից և նյութերից (այսինքն քանի մլգ.,մ.,սմ., կամ քանի հատ) **մեկ դեպքի համար** (մեկ ծննդաբերող/ ծննդաբերած կնոջ համար) ծննդատանը իր գտնվելու ամբողջ ժամանակի ընթացքում:

**բնական ծննդաբերություն** **կեսարյան հատում**

| ՄԻԱՆՎԱԳ ՕԳՏԱԳՈՐԾՄԱՆ ՊԱՐԱԳԱՆԵՐ և ՆՅՈՒԹԵՐ | ՔԱՆԱԿԸ |
|---|---|
| Մեզի միանվագ կաթետեր | _____հատ |
| Միանվագ երակային կաթետեր | _____հատ |
| Միզակաթետերային կոմպլեկտ | _____հատ |
| Ֆոլի կաթետեր | _____հատ |
| “Սիստեմա” | _____հատ |
| Ներարկիչ<br>1,0մլ----------<br>2,0մլ----------<br>5,0մլ----------<br>10,0մլ----------<br>20,0մլ---------- | <br>-------հատ<br>-------հատ<br>-------հատ<br>-------հատ<br>-------հատ |
| Թանզիֆե գնդիկ (шарик) | _____հատ |
| Դիմակ | _____հատ |
| Գլխարկ | _____հատ |
| Ձեռնոցներ՝<br>Ստերիլ<br>Ոչ ստերիլ | <br>_____զույգ<br>_____զույգ |
| Բախիլներ | _____զույգ |
| Պորտալարի սեղմակ | _____հատ |
| Թանզիֆ | ___մ___սմ |
| Թել վիկրիլ | _____տուփ |

| ՄԻԱՆՎԱԳ ՕԳՏԱԳՈՐԾՄԱՆ ՊԱՐԱԳԱՆԵՐ և ՆՅՈՒԹԵՐ | ՔԱՆԱԿԸ |
|---|---|
| Մեզի միանվագ կաթետեր | _____հատ |
| Միանվագ երակային կաթետեր | _____հատ |
| Միզակաթետերային կոմպլեկտ | _____հատ |
| Ֆոլի կաթետեր | _____հատ |
| “Սիստեմա” | _____հատ |
| Ներարկիչ<br>1,0մլ----------<br>2,0մլ----------<br>5,0մլ----------<br>10,0մլ----------<br>20,0մլ---------- | <br>-------հատ<br>-------հատ<br>-------հատ<br>-------հատ<br>-------հատ |
| Թանզիֆե գնդիկ (шарик) | _____հատ |
| Դիմակ | _____հատ |
| Գլխարկ | _____հատ |
| Ձեռնոցներ՝<br>Ստերիլ<br>Ոչ ստերիլ | <br>_____զույգ<br>_____զույգ |
| Բախիլներ | _____զույգ |
| Պորտալարի սեղմակ | _____հատ |
| Թանզիֆ | ___մ___սմ |
| Թել վիկրիլ | _____ տուփ |

| | | | | |
|---|---|---|---|---|
| Թել կետգուտ | ____ տուփ | | Թել կետգուտ | _____ տուփ |
| Կատամին | _____մլ | | Կատամին | _____մլ |
| Սպիրտ | _____մլ | | Սպիրտ | _____մլ |
| Բետադին 10% լուծույթ | _____մլ | | Բետադին 10% լուծույթ | _____մլ |
| | | | Սպինալ անեսթեզիայի ասեղ | _____հատ |
| | | | Նշտար (лезвие скальпеля) | _____հատ |
| | | | Միանվագ օգտագործման արտաձծչի խողովակ (որովայնի) (шланг отсоса для брюшной полости ) | _____հատ |
| Այլ՝ | | | Այլ՝ | |
| Այլ՝ | | | Այլ՝ | |
| Այլ՝ | | | Այլ՝ | |

Մտովի վերհիշեք այն բոլոր գործողությունները (բուժական ինչպես նաև պատմագրերի և փաստաթղթերի լրացում և այլն), որ իրականացնում եք մեկ դեպքի (մեկ ծննդաբերող/ ծննդաբերած կնոջ) համար ծննդատանը իր գտնվելու ամբողջ ժամանակի ընթացքում: Եթե գումարեք այն ամբողջ րոպեները և/կամ ժամերը, որ անց եք կացնում մեկ ծննդաբերող/ ծննդաբերած կնոջ կողքին Ձեր վերհիշած բուժական գործողությունները իրականացնելու, ինչպես նաև պատմագրերի և փաստաթղթերի լրացնելու նպատակով, մոտավորապես որքա՞ն ժամ/րոպե այն կկազմի:

| **բնական ծննդաբերություն** | **կեսարյան հատում** | **կեսարյան հատում (որպես օգնական)** |
|---|---|---|
| ____ժ_____ր | ____ժ_____ր | ____ժ_____ր |

Բացի հիմնական աշխատավարձից, ՀՀ աշխատանքային օրենսգրքով սահմանված հավելավճարներից, հավելումներից, հերթապահությունների, գիշերային աշխատաժամանակի, հանգստյան և տոնական օրերի դիմաց վճարումների փաստացի գումարից, որքա՞ն է կազմում կազմակերպության կողմից Ձեզ տրամադրվող լրացուցիչ վարձատրությունը (Բոնուսային վարձատրությունը) մեկ փաստացի ծնունդի դիմաց:

| **բնական ծննդաբերություն** | **կեսարյան հատում** | **կեսարյան հատում (որպես օգնական)** |
|---|---|---|
| _____դրամ | _____դրամ | _____դրամ |

Շնորհակալություն մասնակցության համար

*Ուղեցույց հարցաթերթիկը լրացնելու համար*

(վիրահատարանի, ծննդաբերության և հետծննդյան ծառայությունների բուժաշխատողների համար)

Եթե Ձեր աշխատանքային գործունեությունն օրվա ընթացքում կապված է միայն բնական ճանապարհով ծննդաբերող/ ծննդաբերած կանանց հետ, խնդրում եմ լրացրեք միայն ձախ կողմի սյունակը (**բնական ծննդաբերություն**):

Եթե Ձեր աշխատանքային գործունեությունն օրվա ընթացքում կապված է միայն կեսարյան հատման ճանապարհով ծննդաբերող/ ծննդաբերած կանանց հետ, խնդրում եմ լրացրեք միայն աջ կողմի սյունակը (**կեսարյան հատում**):

Եթե Ձեր աշխատանքային գործունեությունն օրվա ընթացքում կապված է և՛ բնական, և՛ կեսարյան հատման ճանապարհով ծննդաբերող/ ծննդաբերած կանանց հետ, խնդրում եմ լրացրեք երկու սյունակները (սկզբից **բնական ծննդաբերություն** սյունակը և հետո **կեսարյան հատում** սյունակը):

**ՄԻԱՆՎԱԳ ՕԳՏԱԳՈՐԾՄԱՆ ՊԱՐԱԳԱՆԵՐ և ՆՅՈՒԹԵՐ** հատվածում նշեք բոլոր այն միանվագ օգտագործման պարագաները և նյութերը, որ օգտագործում եք **Դուք անձամբ** Ձեր աշխատանքային գործունեության ընթացքում: **ՔԱՆԱԿԸ** հատվածում նշեք, թե սովորաբար (միջինում) որքան եք **Դուք անձամբ** օգտագործում այդ պարագաներից և նյութերից (այսինքն քանի մլգ.,մ.,սմ., կամ քանի հատ) **մեկ դեպքի համար** (մեկ ծննդաբերող/ ծննդաբերած կնոջ համար) ծննդատանը իր գտնվելու ամբողջ ժամանակի ընթացքում:

**բնական ծննդաբերություն** **կեսարյան հատում**

| ՄԻԱՆՎԱԳ ՕԳՏԱԳՈՐԾՄԱՆ ՊԱՐԱԳԱՆԵՐ և ՆՅՈՒԹԵՐ | ՔԱՆԱԿԸ |
|---|---|
| Մեզի միանվագ կաթետեր | _____հատ |
| Միանվագ երակային կաթետեր | _____հատ |
| Միզակաթետերային կոմպլեկտ | _____հատ |
| Ֆոլի կաթետեր | _____հատ |
| “Սիստեմա” | _____հատ |
| Ներարկիչ<br>1,0մլ----------<br>2,0մլ----------<br>5,0մլ----------<br>10,0մլ----------<br>20,0մլ---------- | <br>-------հատ<br>-------հատ<br>-------հատ<br>-------հատ<br>-------հատ |
| Թանզիֆե գնդիկ (шарик) | _____հատ |
| Դիմակ | _____հատ |
| Գլխարկ | _____հատ |
| Ձեռնոցներ՝<br>Ստերիլ<br>Ոչ ստերիլ | <br>_____զույգ<br>_____զույգ |
| Բախիլներ | _____զույգ |
| Հոգնայի ծայրադիր | _____հատ |
| Պորտալարի սեղմակ | _____հատ |
| Թանզիֆ | ___մ___սմ |

| ՄԻԱՆՎԱԳ ՕԳՏԱԳՈՐԾՄԱՆ ՊԱՐԱԳԱՆԵՐ և ՆՅՈՒԹԵՐ | ՔԱՆԱԿԸ |
|---|---|
| Մեզի միանվագ կաթետեր | _____հատ |
| Միանվագ երակային կաթետեր | _____հատ |
| Միզակաթետերային կոմպլեկտ | _____հատ |
| Ֆոլի կաթետեր | _____հատ |
| “Սիստեմա” | _____հատ |
| Ներարկիչ<br>1,0մլ----------<br>2,0մլ----------<br>5,0մլ----------<br>10,0մլ----------<br>20,0մլ---------- | <br>-------հատ<br>-------հատ<br>-------հատ<br>-------հատ<br>-------հատ |
| Թանզիֆե գնդիկ (шарик) | _____հատ |
| Դիմակ | _____հատ |
| Գլխարկ | _____հատ |
| Ձեռնոցներ՝<br>Ստերիլ<br>Ոչ ստերիլ | <br>_____զույգ<br>_____զույգ |
| Բախիլներ | _____զույգ |
| Հոգնայի ծայրադիր | _____հատ |
| Պորտալարի սեղմակ | _____հատ |
| Թանզիֆ | ___մ___սմ |

| | | | | |
|---|---|---|---|---|
| Թել վիկրիլ | _____տուփ | | Թել վիկրիլ | _____տուփ |
| Թել կետգուտ | ____ տուփ | | Թել կետգուտ | _____ տուփ |
| Կատամին | _____մլ | | Կատամին | _____մլ |
| Սպիրտ | _____մլ | | Սպիրտ | _____մլ |
| Բետադին 10% լուծույթ | _____մլ | | Բետադին 10% լուծույթ | _____մլ |
| | | | Ինտուբացիոն խողովակ | _____հատ |
| | | | Սպինալ անեսթեզիայի ասեղ | _____հատ |
| | | | Նշտար (лезвие скальпеля) | _____հատ |
| | | | Միանվագ օգտագործման արտածծչի խողովակ (բերանի խոռոչի) (шланг отсоса для полости рта) | _____հատ |
| | | | Միանվագ օգտագործման արտածծչի խողովակ (որովայնի) (шланг отсоса для брюшной полости ) | _____հատ |
| Այլ՝ | | | Այլ՝ | |
| Այլ՝ | | | Այլ՝ | |
| Այլ՝ | | | Այլ՝ | |

Մտովի վերհիշեք այն բոլոր գործողությունները (բուժական ինչպես նաև պատմագրերի և փաստաթղթերի լրացում և այլն), որ իրականացնում եք մեկ դեպքի (մեկ ծննդաբերող/ ծննդաբերած կնոջ) համար ծննդատանը իր գտնվելու ամբողջ ժամանակի ընթացքում: Եթե գումարեք այն ամբողջ րոպեները և/կամ ժամերը, որ անց եք կացնում մեկ ծննդաբերող/ ծննդաբերած կնոջ կողքին Ձեր վերհիշած բուժական գործողությունները իրականացնելու, ինչպես նաև պատմագրերի և փաստաթղթերի լրացնելու նպատակով, մոտավորապես որքա՞ն ժամ/րոպե այն կկազմի:

**բնական ծննդաբերություն** **կեսարյան հատում**

| | |
|---|---|
| ____ժ_____ր | ____ժ_____ր |

Բացի հիմնական աշխատավարձից, ՀՀ աշխատանքային օրենսգրքով սահմանված հավելավճարներից, հավելումներից, հերթապահությունների, գիշերային աշխատաժամանակի, հանգստյան և տոնական օրերի դիմաց վճարումների փաստացի գումարից, որքա՞ն է կազմում կազմակերպության կողմից Ձեզ տրամադրվող լրացուցիչ վարձատրությունը (Բոնուսային վարձատրությունը) մեկ փաստացի ծնունդի դիմաց:

**բնական ծննդաբերություն** **կեսարյան հատում**

| | |
|---|---|
| _____դրամ | _____դրամ |

Շնորհակալություն մասնակցության համար

*Ուղեցույց հարցաթերթիկը լրացնելու համար*

(նորածնային ծառայության բուժաշխատողների համար)

Եթե Ձեր աշխատանքային գործունեությունն օրվա ընթացքում կապված է միայն բնական ճանապարհով ծնված երեխաների հետ, խնդրում եմ լրացրեք միայն ձախ կողմի սյունակը (**բնական ծննդաբերություն**)

Եթե Ձեր աշխատանքային գործունեությունն օրվա ընթացքում կապված է միայն կեսարյան հատման ճանապարհով ծնված երեխաների հետ, խնդրում եմ լրացրեք միայն աջ կողմի սյունակը (**կեսարյան հատում**)

Եթե Ձեր աշխատանքային գործունեությունն օրվա ընթացքում կապված է և՛ բնական, և՛ կեսարյան հատման ճանապարհով ծնված երեխաների հետ, խնդրում եմ լրացրեք երկու սյունակները (սկզբից **բնական ծննդաբերություն** սյունակը և հետո **կեսարյան հատում** սյունակը):

**ՄԻԱՆՎԱԳ ՕԳՏԱԳՈՐԾՄԱՆ ՊԱՐԱԳԱՆԵՐ և ՆՅՈՒԹԵՐ** հատվածում նշեք բոլոր այն միանվագ օգտագործման պարագաները և նյութերը որ օգտագործում եք **Դուք անձամբ** Ձեր աշխատանքային գործունեության ընթացքում: **ՔԱՆԱԿԸ** հատվածում նշեք թե սովորաբար (միջինում) որքան եք **Դուք անձամբ** օգտագործում այդ պարագաներից և նյութերից (այսինքն քանի մլգ.,մ.,սմ., կամ քանի հատ) **մեկ դեպքի համար** (մեկ երեխայի համար) ծննդատանը իր գտնվելու ամբողջ ժամանակի ընթացքում:

**բնական ծննդաբերություն** **կեսարյան հատում**

| ՄԻԱՆՎԱԳ ՕԳՏԱԳՈՐԾՄԱՆ ՊԱՐԱԳԱՆԵՐ և ՆՅՈՒԹԵՐ | ՔԱՆԱԿԸ |
|---|---|
| Մեզի միանվագ կաթետեր | _____հատ |
| Միանվագ երակային կաթետեր | _____հատ |
| Միզակաթետերային կոմպլեկտ | _____հատ |
| Ֆոլի կաթետեր | _____հատ |
| “Սիստեմա” | _____հատ |
| Ներարկիչ<br>1,0մլ----------<br>2,0մլ----------<br>5,0մլ----------<br>10,0մլ----------<br>20,0մլ---------- | <br>-------հատ<br>-------հատ<br>-------հատ<br>-------հատ<br>-------հատ |
| Թանզիֆե գնդիկ (шарик) | _____հատ |
| Դիմակ | ___հատ |
| Գլխարկ | _____հատ |
| Ձեռնոցներ՝<br>Ստերիլ<br>Ոչ ստերիլ | <br>_____զույգ<br>_____զույգ |
| Բախիլներ | _____զույգ |
| Հոգնայի ծայրադիր | _____հատ |
| Պորտալարի սեղմակ | _____հատ |
| Թանզիֆ | ___մ___սմ |
| Կատամին | _____մլ |
| | |

| ՄԻԱՆՎԱԳ ՕԳՏԱԳՈՐԾՄԱՆ ՊԱՐԱԳԱՆԵՐ և ՆՅՈՒԹԵՐ | ՔԱՆԱԿԸ |
|---|---|
| Մեզի միանվագ կաթետեր | _____հատ |
| Միանվագ երակային կաթետեր | _____հատ |
| Միզակաթետերային կոմպլեկտ | _____հատ |
| Ֆոլի կաթետեր | _____հատ |
| “Սիստեմա” | _____հատ |
| Ներարկիչ<br>1,0մլ----------<br>2,0մլ----------<br>5,0մլ----------<br>10,0մլ----------<br>20,0մլ---------- | <br>-------հատ<br>-------հատ<br>-------հատ<br>-------հատ<br>-------հատ |
| Թանզիֆե գնդիկ (шарик) | _____հատ |
| Դիմակ | _____հատ |
| Գլխարկ | _____հատ |
| Ձեռնոցներ՝<br>Ստերիլ<br>Ոչ ստերիլ | <br>_____զույգ<br>_____զույգ |
| Բախիլներ | _____զույգ |
| Հոգնայի ծայրադիր | _____հատ |
| Պորտալարի սեղմակ | _____հատ |
| Թանզիֆ | ___մ___սմ |
| Կատամին | _____մլ |
| | |

| | | | | |
|---|---|---|---|---|
| Սպիրտ | _____մլ | | Սպիրտ | _____մլ |
| Բետադին 10% լուծույթ | _____մլ | | Բետադին 10% լուծույթ | _____մլ |
| | | | Միանվագ օգտագործման արտածծչի խողովակ (բերանի խոռոչի) (шланг отсоса для полости рта) | _____հատ |
| Այլ՝ | | | Այլ՝ | |
| Այլ՝ | | | Այլ՝ | |
| Այլ՝ | | | Այլ՝ | |

Մտովի վերհիշեք այն բոլոր գործողությունները (բուժական, երեխայի խնամքի հետ կապված, ինչպես նաև պատմագրերի և փաստաթղթերի լրացում և այլն), որ իրականացնում եք մեկ դեպքի (մեկ երեխայի) համար ծննդատանը իր գտնվելու ամբողջ ժամանակի ընթացքում (ծնվելու պահից մինչև ծննդատնից դուրս գրվելը): Եթե գումարեք այն ամբողջ րոպեները և/կամ ժամերը, որ անց եք կացնում մեկ երեխայի կողքին Ձեր վերհիշած գործողություններն իրականացնելու,ինչպես նաև պատմագրերի և փաստաթղթերի լրացման նպատակով, մոտավորապես որքա՞ն ժամ/րոպե այն կկազմի:

**Բնական ծննդաբերություն**

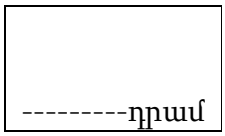
_____ժ_____ր

**կեսարյան հատում**

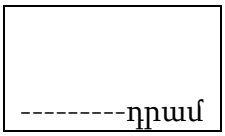
_____ժ_____ր

Բացի հիմնական աշխատավարձից, ՀՀ աշխատանքային օրենսգրքով սահմանված հավելավճարներից, հավելումներից, հերթապահությունների, գիշերային աշխատաժամանակի, հանգստյան և տոնական օրերի դիմաց վճարումների փաստացի գումարից, որքա՞ն է կազմում կազմակերպության կողմից Ձեզ տրամադրվող լրացուցիչ վարձատրությունը (Բոնուսային վարձատրությունը) մեկ փաստացի ծնունդի դիմաց:

**բնական ծննդաբերություն**




**կեսարյան հատում**




Շնորհակալություն մասնակցության համար

**Appendix 4. Consent forms**

**American University of Armenia**
**College of Health Sciences**
**Master's Program in Public Health**
**Cesarean Section versus Vaginal Birth: a Pilot Cost Analysis**
**Consent to Participate in the Study**
**(Maternity care providers)**

My name is Meri Tadevosyan. I am an economist and second year Master of Public Health (MPH) student of American University of Armenia (AUA). The College of Health Sciences of AUA in collaboration with the Ministry of Health conducts a study which aims to improve the system of financial reimbursement for cesarean section (CS) and vaginal delivery (VD). Health providers of maternity services are involved in this study. You are involved in this study since you provide maternity services in this facility and your participation will be very valuable for this study. We just want to understand what your work activities are during the day and what kind of materials you use during each activity. The interview will last approximately 20 minutes, during which I will take notes and, with your permission, audio record the discussion not to lose any information. Your name and the name of the hospital will not be mentioned in the report or presentations. The information you provide will be kept confidential and anonimous and only overall results will be presented in the report/ presentation. All recordings will be destroyed at the end of the study.

There are no risks or direct benefits for you from participating in this study. Your participation will not impact you or your work; however your honest answers will be very valuable for the study. Your participation is completely voluntary and there is no penalty for refusing it. You can refuse to answer any of the questions or stop the interview any time you want.

For more information about the study, please contact Dr. Varduhi Petrosyan, the Associate Dean of the College of Health Sciences at AUA calling (37410) 51 25 92. In case if you feel that participating in the study caused any harm for you, contact Dr. Hripsime Martirosyan, AUA Human Subjects Administrator, calling (37410) 51 25 61. If you agree to participate, could we start?

**Հայաստանի ամերիկյան համալսարանի Հանրային առողջապահության մագիստրոսի ծրագիր**
**Իրազեկ համաձայնության ձև**
**(ծննդօգնության ոլորտի բուժաշխատողներ)**

Իմ անունը Մերի Թաղևոսյան է: Ես Հայաստանի ամերիկյան համալսարանի /ՀԱՀ/ Հանրային առողջապահության մագիստրատուրայի ավարտական կուրսի ուսանող եմ, ինչպես նաև մասնագիտությամբ տնտեսագետ: ՀԱՀ Առողջապահական գիտությունների ֆակուլտետը Առողջապահության նախարարության աջակցությամբ իրականացնում է մի հետազոտություն, որի նպատակն է բարելավել ծննդօգնության ֆինանսական փոխհատուցման համակարգը կեսարյան հատման և հեշտոցային ծննդաբերության համար: Այս հետազոտության մեջ ընդգրկված են ծննդօգնության ոլորտի բուժաշխատողներ: Քանի որ Դուք հանդիսանում եք ծննդօգնության ոլորտի բուժաշխատող Ձեր մասնակցությունը շատ արժեքավոր կլինի այս հետազոտության համար: Մենք պարզապես ցանկանում ենք հասկանալ, թե որոնք են Ձեր աշխատանքային գործունեության ընթացքում կատարվող գործողությունները և որոնք են յուրաքանչյուր գործողության ընթացքում օգտագործվող նյութերը: Հարցազրույցը կտևի մոտավորապես 20 րոպե, որի ընթացքում կկատարենք նշումներ և, Ձեր թույլտվության դեպքում կձայնագրենք զրույցը՝ ոչ մի տեղեկատվություն չկորցնելու նպատակով: Ձեր կամ Ձեր հաստատության անունը չեն նշվի որևէ տեղ: Ձեր տրամադրած տեղեկատվությունը գաղտնի կպահվի և միայն ընդհանրացված արդյունքները կներկայացվեն վերջնական զեկույցում: Բոլոր ձայնագրությունները կոչնչացվեն հետազոտության վերջում: Այս ուսումնասիրությանը մասնակցելու դեպքում Դուք որևէ պարգևատրում չեք ստանա: Ձեր մասնակցությունը ոչ մի բացասական հետևանք չի ունենա Ձեր կամ Ձեր աշխատանքի վրա, սակայն Ձեր անկեղծ պատասխանները շատ արժեքավոր կլինեն այս հետազոտության համար: Ձեր մասնակցությունը միանգամայն կամավոր է և Դուք կարող եք հրաժարվել մասնակցությունից ցանկացած պահի: Դուք կարող եք հրաժարվել պատասխանել ցանկացած հարցի կամ ընդհատել հարցազրույցը ցանկացած պահին: Հետազոտության հետ կապված հետագա հարցերի համար Դուք կարող եք զանգահարել ՀԱՀ Հանրային առողջապահության ֆակուլտետի փոխդեկան Վարդուհի Պետրոսյանին (37410) 51 25 92 հեռախոսահամարով: Եթե գտնում եք , որ Ձեզ հետ անարդարացի են վարվել կամ մտածում եք, որ մասնակցությունը Ձեզ վնաս է հասցրել, կարող եք զանգահարել ՀԱՀ էթիկայի հանձնաժողովի քարտուղար՝ Հռիփսիմե Մարտիրոսյանին (37410) 51 25 61 հեռախոսահամարով: Եթե համաձայն եք մասնակցել, կարո՞ղ ենք շարունակել: