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The Medicalization of Birth and Cesarean Sections in Oaxaca and Mexico States

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The Medicalization of Birth and Cesarean Sections in Oaxaca and Mexico States

By

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2003

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An abstract of
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Abstract

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By María Teresa Domínguez

Background: Medicalized birth and cesarean sections are the most common method of childbirth in Mexico in both public and private facilities. The current rates of cesarean sections in public institutions are three to four times higher than the 10–15% recommended by the World Health Organization; they are also higher than the 20% rate suggested by the Official Mexican Standard NOM-007-SSA2-1993.

Objective: To understand how and why medicalized birth and cesarean sections have continued despite the development of NOM-007-SSA2-1993, and to provide recommendations on how to diminish these practices.

Methods: This study is a secondary analysis of qualitative data collected through a partnership between the National Institute of Public Health (INSP) and the National Institute for Women (INMUJERES) in 2012. Data was collected through 11 semi-structured interviews with health care providers in *Maternal and Perinatal Care* in three public health institutions in Mexico State and Oaxaca State. Data was analyzed thematically with MAXQDA by coding the textual data for key themes and systematically reviewing and summarizing the coded data.

Results: Medicalized childbirth includes the use of artificial oxytocin, amniotomy, and epidural analgesia, with associated high rates of cesarean sections. Although most of the providers interviewed know the NOM-007-SSA2-1993, they continue to regularly perform procedures that are not recommended by the norm. They do not follow a humanized birth model that involves the pregnant woman as a protagonist and takes her decisions into account, without using unnecessary medical procedures. They also do not allow a companion during labor or childbirth. The SSA institution located in Oaxaca is the only institution where the Humanized Birth Model has been implemented. The main reason why the other institutions do not have this program in place was because the environment lacks an adequate infrastructure and human resources.

Discussion: Intervention strategies to reduce the medicalization of birth and the cesarean section rate in Mexico State and Oaxaca State should seek to improve hospital infrastructure, human resources, norm/guidelines adherence, and social support during labor. Shifting from a medicalized to a humanized birth model, could favor the reduction of these common practices among health care providers.

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Chapter 1: Introduction

Problem statement

For pregnant women who have access to a health care facility, there are many factors that contribute to the decision to deliver either vaginally or through a cesarean section. These include individual socio-demographic and cultural characteristics of the woman, her obstetric and prenatal care history, her preferences, and the circumstances at the time of admission and throughout the delivery process. Factors within the facility include staff member training and general facility infrastructure (Heredia-Pi, Servan-Mori, Wirtz, Avila-Burgos, & Lozano, 2014). However, in much of the world, medicalized birth and cesarean sections are the norm. Women feel that they cannot give birth vaginally; they are frightened of the pain of birth. The humanization of birth may reduce this fear (Page, 2001).

In recent decades, the number of deliveries within health care facilities in Mexico has increased from 78.7% in 1990 to 95.1% in 2012. During the same time period, the percentage of pregnancies ending in a cesarean section delivery has risen markedly. This trend is present in both private and public health facilities across the country. Mexico has one of the highest cesarean delivery rates internationally. According to the Organization for Economic Co-operation and Development (OECD), Mexico was the member country with the highest rate of cesarean sections in 2011 (Heredia-Pi et al.). UNICEF estimations for 2012 confirmed that, from 2006 to 2010, Mexico had the second highest rate of cesarean sections within the Americas, with 43 cesarean sections per 100 deliveries. This rate was only exceeded by Brazil with a rate of 50/100 deliveries'' (Heredia-Pi et al., 2014).

Purpose statement and research questions

The purpose of this study was to understand how and why medicalized birth and cesarean section practices have continued, despite the development of *Norma Oficial Mexicana NOM-007-SSA2-1993*, or Official Mexican Standard that sought to discourage these practices, in order to make recommendations on how to diminish medicalized birth practices and therefore, increase humanized birth.

Research questions

1. How does the decision-making process work around medicalized birth practices and cesarean sections in public hospitals in Mexico?
2. What are the main barriers that lead to the continued high levels of medicalized birth practices including cesarean sections in public hospitals in Mexico?

Significance statement

Cesarean sections were introduced in clinical practice as a life saving procedure both for the mother and the baby (Luz Gibbons & Merialdi, 2010). When cesarean sections are performed safely and for an appropriate obstetrical or medical indication, they are potentially life-saving procedures for women and their babies. However, if women undergo a cesarean section without obstetric or medical indications—e.g. women with low-risk, uncomplicated pregnancies—they are more likely than those who undergo normal vaginal birth to die, be admitted into intensive care units, require blood transfusions, or encounter complications that might lead to a hysterectomy (Colomar et al., 2014). Latin America is the region with the highest cesarean birth rates, with country rates ranging from 25% to 30% of all births. Additionally, in the public hospitals in Mexico, each cesarean section costs to the state 21,600 pesos (about US$1,600), according to the 2012 National Health and Nutrition Survey, and a normal vaginal delivery costs

to the health sector 5000 pesos (about US$330) (Melendez, 2014), and it is free for those women affiliated to a government health institution. In Mexico, the Secretariat of Health instituted a policy of *parto humanizado* (‘‘humanization of childbirth’’) in 1993 to improve care during labor and childbirth and reduce unnecessary medical interventions and cesarean sections birth rates. To help address the root causes of high cesarean rates in Mexico, it would be useful to better understand health care providers’ perceptions of the determinants of cesarean births, particularly in the case of a low-risk, uncomplicated pregnancy.

Chapter 2: Literature Review

Mode of childbirth in Latin America

Cesarean sections were introduced in clinical practice as a life saving procedure both for the mother and the baby, especially in high-risk pregnancies (Luz Gibbons & Merialdi, 2010).

Cesarean sections are the most common childbirth delivery method in Latin America, especially in Paraguay, Ecuador, Brazil and Mexico. The *Global Survey* done by the *World Health Organization* (WHO) 2004-2005 was conducted initially in Latin American countries including Argentina, Brazil, Cuba, Ecuador, Mexico, Nicaragua, Paraguay and Peru. A key finding was that the overall cesarean section rate was 35.4% in all these countries; in Mexico it was in fact higher at 37.8%. Socioeconomic factors also appeared to be important, as higher rates were observed in private hospitals (Heredia-Pi et al., 2014). According to Caughey et al. women who delivered in private hospitals were more likely to have an elective cesarean section; on the other hand, women who were single, young, and less educated were more likely to deliver vaginally. Additionally, delivery by cesarean section may be independently associated with additional risk of maternal morbidity and mortality (Caughey, Cahill, Guise, & Rouse, 2014). Compared with women who delivered vaginally, women who delivered by elective cesarean section or intrapartum cesarean section were at greater risk of death, or of developing a severe complication requiring admission to the intensive care unit, a hysterectomy and/or a blood transfusion (Colomar et al., 2014). These women also had longer hospital stays and received more postpartum antibiotics than those who delivered vaginally.

In a qualitative study conducted by Colomar et al. in Nicaragua, physicians and decision makers attributed high cesarean rates to factors related to health care providers, patients, and the health care system. Health care provider factors included fear of litigation, perceptions that

cesareans are beneficial, a lack of confidence in managing vaginal birth complications, and high physician workload. Patient factors included a poor relationship with the health care system and providers, lack of preparation for labor and childbirth, and a demand or preference for cesarean section. For the health system factors, the authors described a lack of or ignorance of guidelines for performing a cesarean section, inadequate infrastructure and resources including human and material infrastructure, and too few staff to adequately monitor women in labor. A qualitative study on labor and birth in Rio de Janeiro, Brazil with similar findings concluded that there should be efforts to shift deliveries of low risk and/or normal pregnancies toward vaginal births rather than cesarean sections (Malheiros, Alves, Rangel, & Vargens, 2012)

Medicalized childbirth

Medicalized childbirth is characterized by a highly interventionist model of care that includes labor induction with artificial oxytocin, amniotomy or artificial rupture of membranes, epidural analgesia, episiotomy, continuous electronic fetal monitoring, use of forceps or vacuum delivery, and the use of cesarean sections. The model has taken away the natural course of labor and has removed women's decisions on how to labor and deliver a baby (Shaw, 2013). Labor and birth methods have been transformed throughout history. Since the time of midwife deliveries, many things have changed with the introduction of new technologies in the field of medicine. Childbirth acquired a new meaning and began to be considered a surgical procedure which must be performed by physicians within a hospital setting (Malheiros et al., 2012).

A medicalized approach to childbirth that is commonly used is the induction of labor with Pitocin, a synthetic drug that simulates oxytocin and causes uterine contractions, with the aim of speeding up labor and delivery (Budden, Chen, & Henry, 2014). However, contractions are generally longer and stronger when Pitocin is used than natural contractions are. Women who

have Pitocin are less likely to be able cope with the pain of their contractions and often request pain medication through epidural analgesia (Shaw, 2013). When pain medication is used and the ability to feel contractions diminishes, women may be unable to birth their babies vaginally. As a result, a cesarean section is performed as a necessary intervention. In addition to technological interventions, restrictions on eating, drinking, movement, and positioning are often imposed on women under the medical model. These restrictions may compromise the safety of mother and baby (Shaw, 2013).

WHO supports minimizing Pitocin use during labor stating, “the induction of labor should be reserved only for specific medical indications. No region should have rates of induced labor higher than 10%.” However, few health care providers follow this standard. Research done with OB-GYN physicians in Mexico City has shown that Pitocin is given to the majority of women who come into the hospital to speed up labor and regulate delivery (Campero et al.).

Humanized labor and delivery

As an alternative to unnecessary medical interventions and cesarean sections, humanized birth is an option for women with low-risk or uncomplicated pregnancies. This model empowers women to decide how they want to deliver their babies. There are several defining factors in humanized birth: take care, listen, and observe the physiological process of labor and birth, as well as respect for maternal decisions. It is a strongly non-medicalized model of care based on a rejection of unnecessary interventions and a respect for female physiology (Malheiros et al., 2012). According to Japanese midwifery, it is a safe and satisfied birthing experience that fulfills and empowers pregnant women and their care providers, and promotes women’s active participation and decision making in all aspects of their own care.

In the USA and in Europe, one focus of women’s care has been the circumstance of

childbirth in medical institutions, based on three main criticisms: 1. the relationship between doctors and women in a power relationship, 2. birth as a physiological event that is medically controlled, and medicalization often implies medical error or iatrogenic risks, and 3. the cost of birth in hospitals is high and the results do not always justify the expense (Romito, 1986). Further, the Society of Obstetricians and Gynecologists of Canada states that normal childbirth does not include elective induction, epidural analgesia, general anesthetic, forceps or vacuum delivery, cesarean section, episiotomy, or continuous electronic fetal monitoring (Society of Obstetricians and Gynecologists of Canada et al., 2008).

In Brazil, a mixed methods study examined changes from dehumanized childbirth to childbirth as a transformative experience. This study found that pregnant women valued the quiet ambience, relaxing music, air conditioning and curtains that separated each bed. Comments such as "normal vaginal delivery is the best for women and babies" were frequently heard in the community and favorable comments for cesarean section were rare (Misago et al., 2001). Another study in Sao Paulo, Brazil showed that over half of the participants considered that having the freedom for movement and walking during labor are beneficial, because these activities provided pain relief. Additionally, having the opportunity to take a shower or bath provides additional benefits to accelerate labor in a natural way (Wei, Gualda, & Santos Junior, 2011 2011). Similarly, a randomized controlled trial in Taipei City found that participants who received a warm shower intervention reported significantly lower pain when they were in active labor and better birth experiences than the control group (Lee, Liu, Lu, & Gau, 2013; Wei et al., 2011).

The humanized birth model advocates for a satisfying birth experience for all women, where health care providers, pregnant women and family member(s) work as equals, women's

autonomy plays a leading role, and respect is the key to pursuing a happy birth experience (Misago, Umenai, Noguchi, Mori, & Mori, 2000). Additionally, with the avoidance of unnecessary medical or surgical procedures in women with low-risk or normal pregnancies, the humanized birth model can be successfully implemented in many low-to-middle income developing countries with the aim of providing a satisfying birthing experience.

Mexican Health System, Health Workforce and Official Mexican Standard (Norma Oficial Mexicana, NOM-007-SSA2-1993)

The Mexican health system is comprised of two sectors: public and private. Within the public sector, there are social security institutions such as the Mexican Social Security Institute (IMSS), Institute for Security and Social Services for State Workers (ISSSTE), Mexican Petroleum (PEMEX), Secretary of Defense (SEDENA), Secretary of the Navy (Mander) and other institutions. There are also public sector institutions and programs designed to serve the population without social security. These include the Secretariat of Health (SSA), State Health Services (SESA), IMSS-Opportunities Program (IMSS-O), and the “Seguro Popular de Salud” (SPS), a public program for those who do not have access to these public institutions. The private sector includes insurance companies and service providers working in private offices, clinics and private hospitals (Dantés et al., 2011).

Human resources have increased over the past ten years, however the Mexican health system still faces a shortage of doctors and nurses (Dantés et al., 2011). According to the OECD 2013 Health at a Glance report, in 2011, Mexico, Chile, Turkey and Korea had the lowest number of doctors per capita among OECD countries, with around two doctors per 1000 inhabitants. In Mexico specifically, the number of doctors and nurses is one of the lowest among OECD countries, with 2.2 doctors and 2.7 nurses per 1000 inhabitants. This compares with an

OECD average of just over three doctors per 1000 population. In addition, the number of nurses per doctor was also relatively low in Mexico, with 1.5 nurses per doctor or less compared to the average across OECD countries of three nurses per doctor (OECD, 2013).

In countries with a medicalized approach to pregnancy and childbirth, obstetricians provide the majority of care. Where a less medicalized approach exists, trained midwives are the lead professional, often working in collaboration with general practitioners, although obstetricians may be called in if complications arise. Since 2000, the number of gynecologists and obstetricians per 100,000 women has increased in most countries; in Mexico, it was highest, with 33.8 OB-GYN physicians per 100000 women and an average annual growth rate of 4.5%.

In 1993, the SSA created the Official Mexican Standard (Norma Oficial Mexicana), NOM-007-SSA2-1993) for the *Care of women during pregnancy, childbirth, postpartum period and newborns*. This Norma established standardized procedures for service delivery and aimed to establish criteria for the care of women during pregnancy, childbirth and the postpartum period, as well as newborn care. It is mandatory for all national health personnel working in public and private sectors. As a general provision, the Norma stresses the importance of excellent attention and quality. It highlights that most obstetric mistakes and risks to the health of the mother and child can be prevented by applying regulated care procedures. It specifically calls for the elimination of routine practices that may increase health risks (e.g. labor with oxytocin, amniotomy, performing a cesarean without medical indication). Throughout the content of the Norma, a clear emphasis is placed on decreasing the use of unnecessary medical and surgical practices across Mexico and promoting a more humanized birth model. Although this Norma was created in 1993, it is well established that the medicalized birth model remains the most common approach in public and private institutions.

Chapter 3: Methods

Research Design

The qualitative data used for this study was collected as part of an effort of the National Institute for Women (INMUJERES) to externally evaluate the existing sexual and reproductive health services for women. Monitoring programs began in 2010 in collaboration with the National Institute of Public Health (INSP), and in 2012 a qualitative study component was added to improve data collection instruments. These monitoring efforts aimed to describe the operation of women's sexual and reproductive health programs by identifying the availability and provision of *Maternal and Perinatal Care* services established in the Norma, with an emphasis on three public health institutions: Mexican Social Security Institute (IMSS), Institute for Social Security, and Services for State Workers (ISSSTE), and the Secretariat of Health (SSA). These evaluations were conducted in two separate sites with different socioeconomic status; data collection in Mexico State sought to capture high socioeconomic status, while data collected from medical units in Oaxaca State aimed to capture low socioeconomic status.

Setting

Mexico City (D.F.) is the country's capital. It is geographically located at the center of Mexico in the Valley of Mexico and is where the federal entities operate. In 2014, the population of the city itself was approximately 8.9 million; with the surrounding areas Mexico City's total population is around 20.4 million making it one the most populated cities worldwide. The state of Oaxaca is located in the southeastern portion of the country; the state's mostly rural population was about four million in 2014. Oaxaca is the state with greatest ethnic and linguistic diversity with 18 ethnic groups of Mexico's 65 ethnic groups represented there (CONAPO, 2015).

Instruments

Early versions of the data collection instruments were designed based on a national and international scientific literature review on maternal and child health, and in consultation with national and international experts in the field. The interview guide was piloted with health care providers working in maternal and child health programs that would not be included in the final study, after which the guide was refined and finalized. In total, 11 semi-structured interviews were conducted at three public institutions in Mexico and Oaxaca states (see Table 1).

Table 1: **Interviews at Each Public Health Institution**

Federal Entity	SSA	IMSS	ISSSTE
Mexico State	2 nurses	1 physician 1 nurse	1 nurse
Oaxaca State	2 nurses	2 nurses	1 physician 1 nurse
	4	4	3
Total			**11**

The interviews were conducted with providers in person at their place of work. One standard interview guide was developed for use with all of the types of providers across all areas of interest (Appendix 1). Two interviewers experienced with qualitative methodology conducted the semi-structured interviews in a quiet, private location.

Data Preparation and Analysis

With the permission of participants, the interviews were digitally recorded and then transcribed verbatim. The transcripts were de-identified in order to protect the confidentiality of all the participants by deleting personal names or geographic locations. Researchers at the National Institute of Public Health (INSP) developed a codebook and coded all of the interviews. This analysis focused on the eight codes presented in Table 2.

Table 2: Final Codebook

Name of Code	Code Definition
Cesarean Section	Any activity related with or that mention cesarean section.
Artificial Rupture of Membranes	Any activity related with or that mention artificial rupture of membranes or amniotomy.
Oxytocin	Any activity related with or that mention oxytocin use
Anesthesia	Any activity related with or that mention anesthesia use during vaginal delivery
Gender/Maternal Health	Any mentions of gender, or equity (without including the world gender) or the rights if it seems to refer to gender equity or women rights when the interviewee (h/she) is taking about of maternal health service provide. Also any mentions of men in regards to maternal health service provide.
Attitudes/Norms	Attitudes (opinions, ways to see, approval, judgment) toward the norms, guidelines, specific scientific evidence about the kind of attention in the place where interviewees work.
Infrastructure/ Supplies	Any mention of infrastructure available or not available, or the supplies that exist or not exist, that need, that arrive late or in an insufficient way, and supplies expiration date. It includes furniture, technical equipment, consumable supplies as condoms, gloves, anesthesia, medications for HIV prophylaxis, etc.
Mechanists or ways to know norms/ evidence	Any way interviewees knew the rules, guidelines, procedures or manuals, or that they knew about scientific evidence such as how to care and why to care, including courses, meetings, Internet, an individual handed, boss or a colleague mentioned something or gave to the interviewee the document, learning by practice or through what others do too.

Finalized coding was transferred to MAXQDA software version 11 (Verbi software GMBH, Berlin), where the transcripts were examined for major and/or prominent themes. Qualitative

analysis began by reviewing the transcripts and applying memos in MAXQDA, which were then reviewed alongside coded segments for each prominent theme. After the textual data and memos for each code were reviewed, we developed summaries for each theme and its properties and dimensions. The thematic summaries were then brought together conceptually to develop a description of patterns related to the research questions.

Ethical considerations

Before data collection, the INSP's Research Ethics Committee approved the study protocol. The present analysis used de-identified secondary data, and as such, no further IRB approval was needed.

Chapter 4: Results

The Regular Labor and Childbirth Experience in a Public Health Institutions

Health care providers shared common opinions on how the typical delivery proceeds in Public Health Institutions in Mexico. Interviewees noted that pregnant women come to the hospital and are first evaluated by a primary physician in the Emergency Room to verify whether the patient is in labor. If so, the physician takes a complete medical history with an emphasis on the current pregnancy, as well as previous obstetric history, which can aid in estimating the duration of labor for the current pregnancy. S/he then performs a pelvic exam in order to determine if the patient has regular uterine activity, how many centimeters the cervix has dilated, and if the amniotic membranes are whole/intact or broken.

If the patient is in active labor, she is admitted to the Maternity Ward; from there, she is taken to the labor room. Once the patient is there, nurses said that they follow the physician's indications as to when to start medications after placing intravenous lines. They noted that oxytocin is started when women have irregular uterine activity. If the membranes have not ruptured spontaneously, the physician performs an amniotomy to rupture the membranes and accelerate labor. Epidural analgesia is not typically provided to women in labor; this procedure was only used in women giving birth by cesarean section. Nurses also monitor women's vital signs and start to fill in the *partograph,* a printed graph that represents the stages of labor and records details about the condition of both mother and fetus. From here on, if any part of the labor process becomes abnormal, the patient would be moved to an operating room in order to perform a cesarean section.

Once the patient's cervix has completely dilated, she is taken to the delivery room. Here, the nurses help the woman move to the delivery table and adopt the lithothomy position, lying on

her back with their knees up and thighs apart. Nurses clean the perineal area and assist the physicians during childbirth. Women are not allowed to have a family companion during labor and childbirth. The obstetrician, pediatrician, and nurse are the health personnel present during childbirth; nurses also provide guidance and support to help women with breathing and pushing techniques. The obstetrician usually does an episiotomy in order to expand the birth canal without tearing the perineum and surrounding tissue.

After childbirth, the newborn is given to the pediatrician for further evaluation, and the obstetrician waits for the delivery of the placenta. This usually includes instructing nurses to start intravenous oxytocin to ensure that the uterus continues to contract and that post-partum bleeding is not excessive. If needed, the perineum is repaired with stitches.

Medicalized interventions in obstetrics hospitals

Medicalization refers to the overuse or misuse of biomedical interventions on women's bodies and reproductive health. Among these interventions, the amniotomy and artificial oxytocin are the most commonly reported methods used for augmenting labor. When providers were asked who decides to perform these procedures, all interviewees answered that it was the primary physician, which was usually the gynecologist/obstetrician (OB/GYN). In addition to amniotomy and artificial oxytocin, the OB/GYN decided when to use epidural anesthesia, episiotomy, and/or cesarean sections. Interviewees said that these decisions were based on a combination of medical criteria, other physician's input, and governmental documents. Three nurses commented that these decisions were made as a team when more than one physician or nurse was available. Physicians commonly reported following the *Norma Oficial Mexicana* NOM-007-SSA2-1993 or *Official Mexican Standard*, however contrary to what is indicated in the Norma, they frequently performed amniotomy and used artificial oxytocin.

The OB/GYN physicians decide when is the appropriate time to perform the amniotomy, regularly it applies to all patients because it is the norm (IMSS, Nurse 2, Mexico State)

So, we use oxytocin very much. It is necessary to be careful, because we use oxytocin to induce and conduct labor (inaudible), but in low doses, five units per thousand. Do not use twenty because you can cause tachycardia in the baby or a premature detachment of the placenta. [...] Because at the end, she will finish with 20 units; those units will be administered after birth, after delivery of the placenta you administer your additional 15 units of oxytocin. (IMSS, Nurse 1, Mexico State)

Nurses reported often administering Oxytocin to women experiencing normal labor, with no signs of obstructed labor. Its intravenous use to augment labor was commonly described by interviewees. With respect to epidural analgesia, interviewees noted that it is rarely used in the hospital, except in the operating room in order to perform a cesarean.

Regularly, here, the epidural analgesia is not administered. That is more in the operating room. Here no, from the time I've been here, no. (IMSS, Nurse 1, Oaxaca)

Perceptions about cesarean use among healthcare workers

In the eleven interviews with healthcare professionals, six nurses and two physicians commented that the cesarean section rate in the hospitals where they work is high and the number of vaginal births is low. One nurse said that sometimes there are only one or two vaginal deliveries per month, but many cesareans. Another nurse noted that despite the official limit of 20%, in the IMSS institution in Mexico where she works, 80% of pregnant women have a cesarean. All interviewees agreed that it is the OB/GYN who makes the decision to perform a cesarean. Healthcare providers described that the main medical indications for cesarean sections included fetal distress, cephalopelvic disproportion, previous uterine surgery, malpresentation, and failure to progress to vaginal birth.

Indications for cesarean sections? For instance, if our patient has two previous cesareans, it has to be a cesarean. If our baby is suffering, it has to be a cesarean. If there is a placenta previa, well, it has to be a cesarean. I mean there are absolute and relative indications. A relative indication for example is if our patient has a long labor, and an absolute indication is when our patient does not have an adequate pelvis size for

> *delivery, or that a baby is macrosomic, that the baby is too big; it is a cesarean as well. (IMSS, Nurse 1, Mexico State)*

The institutions where the interviews were done have different levels of care; the ISSSTE hospital in Mexico State is a regional hospital (*Hospital de Alta Especialidad)* opened in 2010 with 21 medical specialties, highly specialized staff and highly technical equipment. Because this hospital receives high-risk obstetrics patients the goal to decrease the cesarean rate 20% is not appropriate for this institution.

> *There are not so many patients in labor, why?[...] precisely because this is a highly specialized hospital, almost all the patients that come into the hospital have pregnancy associated diseases, it can be gestational diabetes, it can be gestational hypertension, or well, sometimes there are high risk pregnancies, high risk because they are older mothers. (ISSSTE, Nurse 2, Tultiplan, Mexico State)*

Red Bracelet Prevention System

One interesting finding related to high-risk patients was described at the IMSS hospital in Mexico State, where physicians developed a *Red Bracelet preventive system* to identify women with high-risk pregnancies. The system includes 16 criteria that would interfere with a vaginal birth; some of these include being under age 16 or over age 35, having arterial hypertension, rheumatoid arthritis, or mild to severe preeclampsia or eclampsia. The red bracelet preventive system was created with the objective to reduce maternal mortality and improve quality of service among IMSS users, by alerting staff that a patient has pregnancy-associated diseases.

Healthcare providers perceptions related to essential equipment, supplies and personnel

Among the healthcare providers interviewed at different institutions and locations in Mexico and Oaxaca States, there was a universal view that they do have the essential things to provide the service.

> *Me, I am in the delivery area. There, we have the room ready, there is a little room with a delivery table, an anesthesia machine and we have a thermal crib, suction equipment, everything essential for the delivery area. (ISSTE, Nurse 1, Tehuantepec, Oaxaca)*

There was similar consensus when asked what resources they would like to have in order to improve the quality of service at the maternity ward; providers focused their answers on equipment and supplies, physical areas, and personnel.

Equipment and supplies

In terms of equipment and supplies, six of the eleven providers interviewed mentioned furniture for labor and delivery such as: more beds, comfortable arm chairs, floor pillows to allow the mothers to labor comfortably, furniture for the mother's companion, delivery beds with comfortable mattresses and pillows.

The nurse interviewed at SSA institution in Salina Cruz, Oaxaca expressed a desire to provide all the requirements for a Humanized Childbirth Model Program. If she had money to improve the service, she would buy *Vertical* delivery tables to offer maximum freedom of movement to the expectant mother during the first stage of labor and delivery. Additionally, she would buy tubs so women could give birth in water and individual rooms to provide privacy to the expectant mother and her family.

In regards to technology supplies they would buy enough fetal monitors, obstetric ultrasounds, and Doppler ultrasounds to meet the demand at these public health institutions. In an interview with a physician at ISSTE in Mexico, the physician stated that healthcare providers do not have the essential equipment to provide quality services to pregnant women.

> *There is a lack of monitoring devices here in the clinic, we have to bring our own devices. It's not possible that the hospital doesn't give us what we need to provide services. We can't monitor the baby's heart, why? Because the device was stolen, and four months have passed already and it has not been recovered yet, so, what do we need to do? For our protection, we need to bring our own devices, it should not be that way… The*

> *Doppler, the fetal monitor, we need those as well, we only have two for the 60 patients we have.* (*ISSTE, Physician, Tultiplan, Mexican State)*

Physical areas

In terms of physical space, the interviewees would improve different areas in the maternity ward, building more labor, delivery and exclusive OB/GYN operating rooms.

> *Now, we only have two operating rooms for different specialties, sometimes there is an oncology surgery that last hours, and in the other side there is a surgery… another surgery. And then I have an emergency (…) and I have to wait. (IMSS, Physician, Salina Cruz, Oaxaca)*

They also noted that the labor room should be close to the delivery room and both should provide comfort and privacy for the mother. In order to maintain patient privacy, a nurse interviewed mentioned that she would also build exam rooms:

> *I think that the patient in delivery, delivery, delivery, not the cesarean patient… if we really did it like they do in other places...where the patient goes to an area, I don't know, in an exam room, right? I mean, just to start from there, because it is really annoying that they are doing an exam, examinations, that everybody is looking at you, your genitals, your abdomen […] I think that if I had all the money in the world (laughter), I would like to build exam rooms. (ISSSTE, Nurse 2, Tultiplan, Mexico State)*

One nurse commented that although the hospital was built recently, it was built incorrectly. She explained that the door to the maternity ward unit where she works is close to where infectious patients are hospitalized *(ISSTE, Nurse 2, Tultiplan, Mexico State).* The obstetrics area does not have enough room to wash surgical instruments or place cribs. She also noted that there are times when they do not have enough space in the labor room and it is therefore necessary to have patients labor in chairs temporarily:

> *Sometimes, when we have many patients, it is sad that we have to sit our patients in chairs, with the risk that they may fall, because sometimes we do not have enough beds. (ISSTE, Nurse 2, Tultiplan, Mexico State)*

Similarly, at ISSTE in Oaxaca, the nurse said that the building was built incorrectly. There is one general area for all pregnant women who are hospitalized for different reasons, so

there is not a specific area to accommodate patients exclusively during labor. Women labor in this common area until they are ready for childbirth; then they are taken to the delivery room.

Providers interviewed at IMSS in Mexico State mentioned temporal limitations, especially in terms of the physical space needed to provide care to pregnant woman. In this institution, the general emergency room was being remodeled, which affected the maternity ward unit as well, and providers were not able to provide adequate care to pregnant women. The nurse interviewed at this institution stated that the recovery room was very small, and they are unable to meet the high demand from August to November, for babies conceived over the holiday months.

Human Resources

Health care providers interviewed would like to have more resources bringing more health care providers to their institutions because the personnel are not enough; therefore they dedicated less time per each pregnant woman diminishing the quality of care.

> *In the hospital's structural improvements, human resources, we need physicians because we are still at 80%; we have not yet reached 100% in terms of personnel, so, yeah, there are gaps; that reduces care for pregnant women, and this leads to a patient who can have a vaginal delivery ends up with a cesarean section, and in that situation, the goals have not been met because of that. (ISSSTE, Physician, Tultiplan, Mexico State)*

> *What we would need is personnel, I think personnel, yes, that's what we need. For example, right now we had two deliveries and there is only one nurse in that area, so she has to be in one delivery and then in the other. (IMSS Nurse, Mexico State)*

Male involvement during prenatal visits, delivery and post partum care

In regards to male partner involvement generally, there were commonalities across institutions and variations by location.

Prenatal visits

In Mexico State, institutions encouraged male partner involvement in prenatal care. The nurses who work in the IMSS, Mexico State stated that pregnant women and their partners can access services at the Family Medicine Units, where there is a maternal-child nurse who provides information related to delivery, care for the newborn and mother, family planning, and breastfeeding, among others. Similarly, at SSA in Mexico State, there is a childbirth education course that the male partner can attend, however interviewees noted that male participation was usually high at the beginning, but quickly tapered off over time.

> *I think that men do not get involved basically because, here in Mexico, there is still a lot of machismo, because, if there is no machismo, men will make time, they will ask for permission at their jobs, I don't know, they will make specific changes in their schedules to be able to be with their partners during the class or prenatal visits. We have men who come to two or three sessions, and then, they say: I can't continue but my mother, or my mother-in-law will stay with her, but I will be in touch, everything that you teach to her during the morning, she will teach it to me in the afternoon, and I will be with her", it is to get involved, and to see the pregnancy in a different way, as a couple. (SSA, Nurse 2, Hospital Gustavo Baez, Mexico State)*

Similarly, at ISSTTE in Mexico, male partners can attend prenatal care visits with pregnant women. The physician interviewed said that they try to involve men in the pregnancy process when pregnant woman comes with her partner. A nurse at the same institution noted that women usually attend prenatal care visits alone; perhaps because male partners usually work. She also said that she disagrees with that because the child belongs to the couple.

In contrast, institutions in Oaxaca do not involve male partners during prenatal visits. At the IMSS institutions, there was no prenatal visit program that sought to involve male partners. Physicians stated that it is very common for pregnant women to attend prenatal visits without their partners, but if they did come with their partners they were welcome to come into the office. Efforts to involve male partners in prenatal care were said to be absent in the SSA and ISSTTE as well.

Labor and delivery/operating room

Male involvement in labor and childbirth was described similarly by the majority of interviewees. With the exception of SSA and ISSSTE in Oaxaca, the institutions included in this study do not allow companions during labor and delivery – not the woman's partner nor any other family member. Interviewees said that labor and delivery rooms are restricted to authorized personnel only in order to provide a sterile delivery environment; compliance with surgically acceptable procedures are critical in preventing postpartum infections. They mentioned that these areas are also restricted because of the room sizes and the lack of resources:

> *- Can the male partner be present during childbirth? No, here no.*
> *- Why not?*
> *- It is supposed to be a sterile area where the fewer people you have the better in order to avoid infections, and, well, I don't know, the space, the personnel that have to be there, that's all. (IMSS, Nurse, Mexico State)*
>
> *During childbirth no […], because it is a restricted area, because of the lack of equipment, and there are barely enough supplies, no?. (SSA, Nurse, Hospital Gustavo Baez, Mexico state)*

According to a physician at IMSS in Oaxaca, male partners are not allowed during the delivery process because he may restrict the way that the physician works. She stated that delivery can become complicated unexpectedly, and while she is able to understand the severity of the problem, the family member may not, and may add more stress to an already stressful situation. For instance, the family member may insist that the physician perform a cesarean because he observes his partner suffering. At the ISSTE in Oaxaca, the nurse said that it is uncommon for a family member to ask to accompany the pregnant women, however when it happens, they can stay with her in the labor and delivery rooms.

> *- But, so if the husband comes in and he asks to stay with his partner during childbirth, is this allowed?*
> *- I say yes, yes, it's possible, yes, it's possible. Well, there have been cases where they ask for permission, and the permission has been given, but what happens? Sometimes they*

> *got ill, so in that moment, who do we serve, right? But it is very few, almost no one asks for that, but yes, there have been specific cases, and I remember that once, a male partner got ill. (ISSSTE, Nurse 1, Tehuantepec, Oaxaca)*

Postpartum care

Across all interviews, there was consensus that male partners were not involved in postpartum care. The information provided after childbirth was usually only given to the woman. It included how to breastfeed the newborn, how to be effective as a new mother and avoid fatigue, how to recognize normal bleeding after childbirth, when to return for the next check up for her and the newborn.

Healthcare providers' perceptions about norms and guidelines

Healthcare providers stated that they followed the national norms and guidelines as well as those that were provided by their institutions. They said that the guidelines provide statements to help them determine appropriate recommendations to follow in clinical practice with the objective of improving the quality of care. The guidelines provided support and reassurance to the practitioners about the appropriateness of their treatment policies.

> *There are guidelines, norms, here at the Seguro Social we manage everything by norms, guidelines, all that. I believe that this is the strictest, most normative institute there is. Yes, everything is with norms, guidelines, programs, I mean, everything is very structured. (IMSS, Nurse, Mexico State)*

The nurse at IMSS in Mexico stated that they try to follow the norms, protocols and guidelines as healthcare providers, however sometimes in order to follow them appropriately there is a need for patient compliance:

> *Sometimes, for example, the patient influences very much, she does not cooperate. I believe that two days ago, the lady was closing her legs, a colleague and I had to open her legs because she was crushing the baby, so, well, no, no, a norm does not say that you have to open her legs, right? She even bathed us in amniotic fluid. (IMSS, Nurse, Mexico State)*

The providers stated that the guidelines are available at each unit, are updated frequently, and are sometimes discussed, when time permits.

Humanized Childbirth Model program in Oaxaca State

Oaxaca became the first state in Mexico to implement the Humanized Childbirth Model; since establishing the model in the General Hospital Dr. Aurelio Valdivieso in April 2009, the hospital has attended over 120 births. Similarly, this model has been implemented at the SSA Salina Cruz institution in Oaxaca. It allows specific benefits for pregnant women, such as being able to decide who will be present at the birth - usually her partner. Nurses interviewed at this institution said that this model is working well and described some of the changes the program facilitates.

> *- The patient has the right to have a family member, she has the right to drink liquids if she wants to, she has the right to choose the position for delivery that she wants, if she wants to lie down, if she wants to stand…. If she wants to go to the bathroom, she can go to the bathroom, I mean, she has the right to move freely; we do not keep her in only one position. At the time of childbirth, she decides which position she wants to deliver her baby in, there are some women who want to have their baby in bed or to be transported to the delivery table, there are others who come from the community where they are used to being in a kneeling position, and they have the baby that way.*
> *- And they are allowed to have the baby that way?*
> *- Yes, it is allowed, and we support them. The same way if the husband comes in, we allow him to come in, then, they tell him, hold me here…The position that they feel most confortable with, so yes, until now it has worked. (SSA, Nurse 2, Salina Cruz, Oaxaca)*

> *Who makes the decision to perform an amniotomy? The physician, but that is precisely what friendly services are about – avoiding all these actions that for example accelerate labor with oxytocin or amniotomy. That's what the program is about, avoiding those procedures. (SSA, Nurse 1, Oaxaca)*

Of all the institutions where interviews were conducted, this is the only institution that allows the male partner to be present during childbirth in order to give practical and emotional support to women in labor. Unfortunately, the benefits of the Humanized Childbirth Model

program are sometimes compromised because they do not have sufficient personnel to adhere to the protocol.

Chapter 5: Discussion

The healthcare providers interviewed for this study reported following the Norma Oficial Mexicana, NOM-007-SSA2-1993, yet there is a need to follow the NOM more firmly with the purpose to eliminate unnecessary procedures and de-medicalize birth. In order to follow the NOM more closely, it is necessary to provide supporting medical evidence about how the NOM improves maternal and childbirth outcomes. These practices use medications and other technologies that in most cases increase the risk to mothers and babies; it is essential to address the disadvantages of medicalized birth and the unnecessary cesarean sections. It is also important for health care providers to balance the risks and benefits between cesarean surgeries and vaginal delivery. Safe and appropriate opportunities to prevent the overuse of cesarean sections must also be identified. Physicians must give pregnant women the opportunity to make an autonomous decision regarding their method of delivery in order to achieve a better humanized birth approach.

Knowing that medicalized birth is the standard of care in Mexico's public health institutions, the process of reducing the rates of medicalized birth and the cesarean sections will be difficult to achieve in a short-term period. It will be necessary to provide effective interventions for Mexico's public health institutions to improve the vaginal birth experience through the model of humanized birth. To reach this objective, it is essential to consider not only the healthcare providers' opinions, but also the pregnant women and their families' opinions and wishes, in addition to the modifications of institutional infrastructure and policies.

Recommendations

Compliance with legislation

Continuing education for health care providers

Interviewees follow clinical practice guidelines, and the existing norms at national and institutional level NOM-007-SSA2-1993, however; they did not follow the NOM 007 in its entirety. In order for the policies in place to be effective, they need to be adhered to on a daily basis. Research has shown that guidelines have only been moderately effective in changing the care process (Lugtenberg, Burgers, & Westert, 2009). In a study conducted in Netherlands, one of the perceived barriers to guideline adherence among health care providers included communication, lack of education or skills among practice assistants, lack of time, and lack of resources at the time of service provision (Lugtenberg, Zegers-van Schaick, Westert, & Burgers, 2009). In Mexico and Oaxaca States, the lack of health care personnel and infrastructure were important barriers to following the norms appropriately.

The policies in place are meant to protect women, and for this to occur, providers must receive institutional training sessions. These training sessions should aim to facilitate the providers' decision-making process while conducting deliveries. Although clinical practice guidelines are useful tools for quality improvement, their impact on clinical practice is not optimal (Grimshaw et al., 2004). In efforts to improve professional practice, the evidence shows that the provision of continuing medical education through interactive workshops works better than lectures alone (Bellolio & Stead, 2009), therefore, to improve knowledge on guidelines/norms, it may be useful to conduct regular sessions with health care providers (Thomson O'Brien et al., 2001).

Team decision making

Among interviewees there was a consensus that the primary physician is the provider who makes the decision to perform medical procedures and cesarean sections. When time

permitted, the health care physicians said they were open to discussing future decisions to be made in specific medical cases. This shows a positive initiative to work in teams. The feasibility of a team-based approach to reducing the rate of cesarean delivery across medical indications and across community and academic settings has been demonstrated. A 2007 review found that the cesarean rate was reduced by 13% when audit and feedback were used exclusively but decreased by 27% when audit and feedback were used as part of a multifaceted intervention, which included second opinions and culture change (Chaillet & Dumont, 2007). Furthermore, the second opinion approach has also been useful in cases of medical uncertainty or hesitation, and in complicated childbirth situations (Althabe & Belizan, 2006). With the support of the Ministry of Health, adopting a new policy of physician's obtaining a second opinion is feasible in the short-term. This is a low resource intervention that has the ability to result in high quality services and safety to the patients.

Improving birth outcomes

Preventing unnecessary medical interventions and cesarean sections

In developing countries, the use of artificial intravenous oxytocin remains the main method to induce and augment labor; its use may also increase the rate of other interventions in labor (Alfirevic, Kelly, & Dowswell, 2009). In low risk pregnancies and during normal labor, the evidence suggests that oxytocin, vaginal examinations, amniotomy and episiotomy should only be used when indicated (Hassan et al., 2013). A recent Cochrane review found that the use of oxytocin shortened labor by only two hours, and did not increase or decrease the cesarean section rate. The authors concluded that although artificial use of oxytocin has been used for 40 years to reduce the need for cesarean section, it is not at all effective in doing so (Bugg, Siddiqui, & Thornton, 2013). If its use to accelerate labor only decreases the length of labor by two hours,

there is little support to continue to this practice.

The research on the use of amniotomy to induce labor is inconclusive, however it is known to cause pain, discomfort, bleeding and a possible uterus infection in the mother as well as a decrease in the baby's heart rate (Howarth & Botha, 2001). There is no evidence that cesarean sections improve outcomes for the mother or neonate. In addition, for most pregnancies, which are low risk, cesarean sections increase the chance of maternal morbidity and mortality (Clark et al., 2008).

Promoting the humanized birth model in order to de-medicalize births

The humanized birth model is a well-articulated approach to natural childbirth with widespread international support. Promoting this model provides a framework and explicit language for the de-medicalization of birth. There is evidence that various aspects of the model provide benefits for mothers and babies as well as health care providers.

Family Member Company benefits for pregnant women

One potential barrier to the humanization of childbirth practices in medical institutions is the restriction on having a companion present during labor and delivery (Behruzi et al., 2010). All of the institutions in this study, except the SSA in Salina Cruz, did not allow a family member to accompany laboring women. Changing this institutional policy would allow a woman's family member to provide the psychological support that she needs (Behruzi et al., 2010). A supportive labor environment has been demonstrated to increase the sense of personal achievement experienced by women during childbirth, to increase their confidence as mothers, and to decrease the likelihood of postpartum depression (Gupta, Hofmeyr, & Shehmar, 2012). It is also beneficial for the family member present, which is usually the father of the baby (Johansson, Rubertsson, Radestad, & Hildingsson, 2012). Further, allowing companionship for

the laboring mother is beneficial for providers, as the family member takes on the role of supporting the women in labor and can seek medical help if woman needs it.

Allowing a family member to accompany the woman in labor is an intervention that can feasibly be extended to the public sector in Mexico. Doing so successfully, however, will require some preparation for the companions (husbands/partners and female relatives), who may have little or no experience in providing labor support (Hodnett, Gates, Hofmeyr, & Sakala, 2012). We discuss this in the following section on continuity of care. In addition, it may require modifications of the physical environment of labor and delivery areas to allow laboring women more privacy; this is discussed below in the section on infrastructure.

Continuity of pregnancy care

Continuity of care has been recognized as one of the key elements of patient-centered care (Bergeson & Dean, 2006) and is related with patients satisfaction (Tuominen, Kaljonen, Ahonen, & Rautava, 2014). In our study, family members were only allowed to accompany pregnant women during prenatal visits, not during labor/childbirth or immediately postpartum. Providers complained that male involvement in prenatal care also waned quickly after initial prenatal visits and childbirth education. Allowing male partners to accompany women during labor and delivery may increase his motivation to remain involved in prenatal visits and classes as well. These will also help prepare him to provide effective support during labor and delivery.

When continuity of care is lacking, it can hinder women's understanding of the information they receive from doctors, which poorly prepares them for vaginal birth (Goldenberg, 2011). Institutional policies on these restrictions must be changed in order to provide a continuity of care and therefore a continuity of family involvement during this process. To accomplish this, it would be necessary to involve family members at each stage of pregnancy to prepare them to

act as a childbirth companion. It would also be useful to implement policies that promote the ability for women to be served by a continuous team of providers within each institution in order to increase patients' sense of safety and trust with their providers at those institutions.

Birth Plan Intervention

Another intervention that may encourage active participation of pregnant women and their partners or family members can take place during prenatal care. Birth plans encourage women to think about birth practices, communicate with the health care provider, and ultimately make informed decisions (Lothian, 2000). Developing a birth plan requires women to learn about pregnancy and childbirth during the prenatal period. Requiring women to develop a birth plan will reinforce efforts to provide prenatal and childbirth education, which also help to build women's self-confidence that they have the ability to birth their babies and confidence in the process itself. Better education for pregnant women and their partners or family members around birth practices will help them decide what kind of birth they would like to have, and advocate for themselves during labor and delivery. The birth plan enhances communication between women and providers around medical procedures, potentially increasing the motivation of both parties to avoid unnecessary interventions if possible.

Natural methods for relieving pain

Epidural analgesia is rarely used in the different institutions where the interviews took place, except in the operating room to perform a cesarean. Reducing the use of artificial oxytocin and amniotomy, which may increase labor pain, will help women better tolerate natural labor. Promoting the use of natural methods for relieving pain during labor as part of the humanization of birth model is also desirable (Behruzi et al., 2010). Allowing a birth companion will increase the availability of some natural pain relief techniques, including massage, breathing techniques,

or a warm blanket. Institutions may also consider investing in other techniques, such as providing aromatherapy, warm blankets, thermo therapy, and birth pools,

Modification of Physical Infrastructure

The physical infrastructure of the labor and delivery spaces at public institutions in Mexico was perceived as an important barrier to implementing a humanized birth model. Interviewees commonly said that the lack of beds in labor wards, limited areas in delivery rooms, and in the common spaces shared by women after delivery does not allow providers to provide high quality service. Because of the lack of physical space, women had no privacy during labor, and women had a limited space for walking and changing position. As reported during these interviews, interventions such as oxytocin and amniotomy are used to speed up labor in part due to the high demand for services and limitations of the current physical infrastructure. A humanized approach to birth may require changes in the physical environment including expanding areas where they can walk freely, have privacy, be accompanied by a family member, and also allow the health care provider adequate room to provide effective care during labor and delivery.

Adequate allocation of human resources

Interviewees stated that they generally have an overwhelming amount of work and the lack of time is a barrier to providing high quality care. This results in poor communication and continuity of care, as well as reducing the time spent with each patient and increasing the risk of medical mistakes. One approach to diminishing the overload of work on health care personnel is to involve skilled attendants - professional midwives and obstetric nurses – to manage safe vaginal deliveries (Lotfi et al., 2014). In 2009, the Mexican Ministry of Health highlighted role that these two non-physician providers can play in reducing maternal mortality (Demaria,

Campero, Vidler, & Walker, 2012). Researchers concluded that incorporating these providers at the primary health center level to provide care for low risk pregnancies and normal deliveries would help reduce the obstetric overload, especially at institutions with a high volume of patients (Demaria et al., 2012). There is a need for research to assess the use of these two models of non-physician care in Mexico to inform the implementation process for this policy at operative level.

Humanized Childbirth Model program in place at SSA Salina Cruz Institution in Oaxaca

A key finding of this study is that the humanization of birth model program is in place at SSA located in Oaxaca State, despite the fact that this public health facility faces similar problems of inadequate infrastructure and personnel as the other institutions in this study. The successful implementation of humanized care in Oaxaca can serve as a model for disseminating this practice to other public facilities in Mexico.

Oaxaca became the first state in Mexico to implement this model in the General Hospital Dr. Aurelio Valdivieso in April 2009, perhaps because Oaxaca has a large indigenous population, representing 34.2% of the population of the state, a great majority of whom live in the poverty as Oaxaca is one of the poorest states in Mexico. Indigenous communities have preserved their traditional medicine practices especially in terms of ancestral childbirth care with traditional midwives. The humanization of birth program in Oaxaca represents a synergy between traditional medicine, evidence-based medicine, and a gender perspective that involves pregnant women as the protagonist of the birth experience. The federal government, in collaboration with the medical and intercultural development division at the Ministry of Health, published a document to motivate the use of this program: *An intercultural approach to labor in an upright position in the health services* (Secretaria de Salud, 2008). The model program serves women with a low risk pregnancy and clear medical indication for vaginal delivery. It is encouraging to

see that the program has been successfully implemented despite limitations in infrastructure and human resources. Further research at this institution in Oaxaca may provide guidance on how to implement the program elsewhere in the public healthcare system in Mexico.

Limitations

The limitations of the study are related to the number of interviews and institutions involved in the study; saturation was not reached for all study themes. In addition, the sample showed relatively little variation across institutions. One institution was clearly different from the others, however it is not possible to know if other institutions elsewhere in Mexico have seen changes similar to that of the "outlier" in this study. Because the study focused on health care providers, it does not provide insight into the perceptions of pregnant women and their families.

References

Alfirevic, Z., Kelly, A. J., & Dowswell, T. (2009). Intravenous oxytocin alone for cervical ripening and induction of labour. *Cochrane Database Syst Rev*(4), Cd003246. doi: 10.1002/14651858.CD003246.pub2

Althabe, F., & Belizan, J. M. (2006). Caesarean section: the paradox. *Lancet, 368*(9546), 1472-1473. doi: 10.1016/s0140-6736(06)69616-5

Behruzi, R., Hatem, M., Fraser, W., Goulet, L., Ii, M., & Misago, C. (2010). Facilitators and barriers in the humanization of childbirth practice in Japan. *BMC Pregnancy Childbirth, 10*, 25. doi: 10.1186/1471-2393-10-25

Bellolio, M. F., & Stead, L. G. (2009). Evidence-based emergency medicine/systematic review abstract. Continuing education meetings and workshops: effects on professional practice and health care outcomes. *Ann Emerg Med, 53*(5), 685-687. doi: 10.1016/j.annemergmed.2008.05.034

Bergeson, S. C., & Dean, J. D. (2006). A systems approach to patient-centered care. *Jama, 296*(23), 2848-2851.

Budden, A., Chen, L. J., & Henry, A. (2014). High-dose versus low-dose oxytocin infusion regimens for induction of labour at term. *Cochrane Database Syst Rev, 10*, Cd009701. doi: 10.1002/14651858.CD009701.pub2

Bugg, G. J., Siddiqui, F., & Thornton, J. G. (2013). Oxytocin versus no treatment or delayed treatment for slow progress in the first stage of spontaneous labour. *Cochrane Database Syst Rev, 6*, Cd007123. doi: 10.1002/14651858.CD007123.pub3

Campero, L., Hernández, B., Osborne, J., Morales, S., Ludlow, T., & Muñoz, C. Support from a prenatal instructor during childbirth is associated with reduced rates of caesarean section in a Mexican study. *Midwifery, 20*(4), 312-323. doi: 10.1016/j.midw.2004.04.002

Caughey, A. B., Cahill, A. G., Guise, J. M., & Rouse, D. J. (2014). Safe prevention of the primary cesarean delivery. *Am J Obstet Gynecol, 210*(3), 179-193. doi: 10.1016/j.ajog.2014.01.026

Chaillet, N., & Dumont, A. (2007). Evidence-based strategies for reducing cesarean section rates: a meta-analysis. *Birth, 34*(1), 53-64. doi: 10.1111/j.1523-536X.2006.00146.x

Clark, S. L., Belfort, M. A., Dildy, G. A., Herbst, M. A., Meyers, J. A., & Hankins, G. D. (2008). Maternal death in the 21st century: causes, prevention, and relationship to cesarean delivery. *Am J Obstet Gynecol, 199*(1), 36.e31-35; discussion 91-32. e37-11. doi: 10.1016/j.ajog.2008.03.007

Colomar, M., Cafferata, M. L., Aleman, A., Castellano, G., Elorrio, E. G., Althabe, F., & Engelbrecht, S. (2014). Mode of Childbirth in Low-Risk Pregnancies: Nicaraguan Physicians' Viewpoints. *Matern Child Health J*. doi: 10.1007/s10995-014-1478-z

CONAPO, C. N. d. P. (2015). Estimaciones y Proyecciones de la Poblacion por Entidad Federativa Retrieved April 9, 2015, 2015, from http://www.conapo.gob.mx/es/CONAPO/Proyecciones_Datos

Dantés, O. G., Sesma, S., Becerril, V. M., Knaul, F. M., Arreola, H., & Frenk, J. (2011). Sistema de salud de México. (Spanish). *The health system of Mexico. (English), 53*, S220-S232.

Demaria, L. M., Campero, L., Vidler, M., & Walker, D. (2012). Non-physician providers of obstetric care in Mexico: Perspectives of physicians, obstetric nurses and professional midwives. *Hum Resour Health, 10*, 6. doi: 10.1186/1478-4491-10-6

Goldenberg, T. (2011). ***Cesarean Sections and the Medicalization of Birth in Gran Asunción, Paraguay***. (MPH), Emory Atlanta. Retrieved from http://pid.emory.edu/ark:/25593/93m1h

Grimshaw, J. M., Thomas, R. E., MacLennan, G., Fraser, C., Ramsay, C. R., Vale, L., . . . Donaldson, C. (2004). Effectiveness and efficiency of guideline dissemination and implementation strategies. *Health Technol Assess, 8*(6), iii-iv, 1-72.

Gupta, J. K., Hofmeyr, G. J., & Shehmar, M. (2012). Position in the second stage of labour for women without epidural anaesthesia. *Cochrane Database Syst Rev, 5*, Cd002006. doi: 10.1002/14651858.CD002006.pub3

Hassan, S. J., Sundby, J., Husseini, A., & Bjertness, E. (2013). Translating evidence into practice in childbirth: a case from the Occupied Palestinian Territory. *Women Birth, 26*(2), e82-89. doi: 10.1016/j.wombi.2012.12.002

Heredia-Pi, I., Servan-Mori, E. E., Wirtz, V. J., Avila-Burgos, L., & Lozano, R. (2014). Obstetric care and method of delivery in Mexico: results from the 2012 National Health and Nutrition Survey. *PLoS One, 9*(8), e104166. doi: 10.1371/journal.pone.0104166

Hodnett, E. D., Gates, S., Hofmeyr, G. J., & Sakala, C. (2012). Continuous support for women during childbirth. *Cochrane Database Syst Rev, 10*, Cd003766. doi: 10.1002/14651858.CD003766.pub4

Howarth, G. R., & Botha, D. J. (2001). Amniotomy plus intravenous oxytocin for induction of labour. *Cochrane Database Syst Rev*(3), Cd003250. doi: 10.1002/14651858.cd003250

Johansson, M., Rubertsson, C., Radestad, I., & Hildingsson, I. (2012). Childbirth - an emotionally demanding experience for fathers. *Sex Reprod Healthc, 3*(1), 11-20. doi: 10.1016/j.srhc.2011.12.003

Lee, S. L., Liu, C. Y., Lu, Y. Y., & Gau, M. L. (2013). Efficacy of warm showers on labor pain and birth experiences during the first labor stage. *J Obstet Gynecol Neonatal Nurs, 42*(1), 19-28. doi: 10.1111/j.1552-6909.2012.01424.x

Lotfi, R., Tehrani, F. R., Dovom, M. R., Torkestani, F., Abedini, M., & Sajedinejad, S. (2014). Development of strategies to reduce cesarean delivery rates in iran 2012-2014: a mixed methods study. *Int J Prev Med, 5*(12), 1552-1566.

Lothian, J. A. (2000). The birth plan revisited. *J Perinat Educ, 9*(2), viii-xi. doi: 10.1624/105812400x87581

Lugtenberg, M., Burgers, J. S., & Westert, G. P. (2009). Effects of evidence-based clinical practice guidelines on quality of care: a systematic review. *Qual Saf Health Care, 18*(5), 385-392. doi: 10.1136/qshc.2008.028043

Lugtenberg, M., Zegers-van Schaick, J. M., Westert, G. P., & Burgers, J. S. (2009). Why don't physicians adhere to guideline recommendations in practice? An analysis of barriers among Dutch general practitioners. *Implement Sci, 4*, 54. doi: 10.1186/1748-5908-4-54

Luz Gibbons, J. M. B., Jeremy A Lauer, Ana P Betrán, Mario, & Merialdi, F. A. (2010). The Global Numbers and Costs of Additionally Needed and Unnecessary Caesarean Sections Performed per Year: Overuse as a Barrier to Universal Coverage *World Health Report (2010) Background Paper, No 30* (pp. 32): WHO.

Malheiros, P. A., Alves, V. H., Rangel, T. S. A., & Vargens, O. M. d. C. (2012). Parto e nascimento: saberes e práticas humanizadas. *Texto & Contexto - Enfermagem, 21*, 329-337.

Mander, R. (2004). *Men and Maternity* (pp. 216). Retrieved from https://books.google.com/books?id=eMSAAgAAQBAJ&dq=entwistle+and+doering&hl=es

Melendez, V. (2014). Cesáreas aumentan riesgos de salud y costos al sector [Press release]. Retrieved from http://www.informador.com.mx/jalisco/2014/542033/6/cesareas-aumentan-riesgos-de-salud-y-costos-al-sector.htm

Misago, C., Kendall, C., Freitas, P., Haneda, K., Silveira, D., Onuki, D., . . . Umenai, T. (2001). From 'culture of dehumanization of childbirth' to 'childbirth as a transformative experience': changes in five municipalities in north-east Brazil. *Int J Gynaecol Obstet, 75 Suppl 1*, S67-72.

Misago, C., Umenai, T., Noguchi, M., Mori, T., & Mori, T. (2000). Satisfying birthing experiences in Japan. *Lancet, 355*(9222), 2256. doi: 10.1016/s0140-6736(05)72759-8

OECD. (2013). Health at a Glance 2013: OECD Indicators. [http://www.oecd.org/els/health-systems/Health-at-a-Glance-2013.pdf%5D. http://dx.doi.org/10.1787/health_glance-2013-en ...

Page, L. (2001). The humanization of birth. *Int J Gynaecol Obstet, 75 Suppl 1*, S55-58.

Romito, P. (1986). The humanizing of childbirth: the response of medical institutions to women's demand for change. *Midwifery, 2*(3), 135-140. doi: http://dx.doi.org/10.1016/S0266-6138(86)80004-3

Secretaria de Salud, S. d. I. y. C., Direccion General de Planeacion y Desarrollo en Salud (2008). La Atencion Intercultural del Trabajo de Parto en Posicion Vertical en los Servicios de Salud. Retrieved April 10, 2015, 2015, from http://maternidadsinriesgos.org.mx/documentos/parteria/articulos/Mexico_2008.pdf

Shaw, J. C. (2013). The medicalization of birth and midwifery as resistance. *Health Care Women Int, 34*(6), 522-536. doi: 10.1080/07399332.2012.736569

Thomson O'Brien, M. A., Freemantle, N., Oxman, A. D., Wolf, F., Davis, D. A., & Herrin, J. (2001). Continuing education meetings and workshops: effects on professional practice and health care outcomes. *Cochrane Database Syst Rev*(2), Cd003030. doi: 10.1002/14651858.cd003030

Tuominen, M., Kaljonen, A., Ahonen, P., & Rautava, P. (2014). Relational continuity of care in integrated maternity and child health clinics improve parents' service experiences. *Int J Integr Care, 14*, e029.

Wei, C. Y., Gualda, D. M. R., & Santos Junior, H. P. d. O. (2011). Movimentação e dieta durante o trabalho de parto: a percepção de um grupo de puerpéras. *Texto & Contexto - Enfermagem, 20*, 717-725.

Appendix 1: Qualitative interview guide for health are providers [Spanish version]

Guía de entrevista cualitativa para prestadores de atención

Aplicar consentimiento informado y posteriormente realizar la entrevista en un lugar con privacidad y comodidad para el/la entrevistado/a. Plantear cada pregunta con referencia al tipo de atención estudiado (haya o no programa específico con relación a esa atención; por ejemplo, si no hay un programa específico para violencia de pareja, pero sí se ofrece atención al respecto): salud reproductiva para adolescentes, violencia de género/de pareja o salud materna.

1. ¿**Me puede describir de manera resumida cómo funciona el programa de [salud reproductiva para adolescentes, violencia de pareja o salud materna*], o la atención que se ofrece en esta área*?** *Dejarlo hablar y luego indagar sobre lo que no mencionó:*

   1.1. ¿Qué actividades se llevan a cabo dentro del programa/la atención [*de salud reproductiva para adolescentes/violencia de pareja/salud materna*]?
   1.2. ¿Cuáles son las metas del programa/en cuanto a este tipo de atención?
   1.3. En su opinión, ¿qué resultados logra el programa/la atención?
   1.4. ¿Cuántas personas trabajan en el programa o en la atención [*de salud reproductiva para adolescentes/violencia de pareja/salud materna*] y cuál es su formación?
   1.5. ¿Diría que se trabaja en equipo dentro del programa/la atención [*de salud reproductiva para adolescentes/violencia de pareja/salud materna*]?
      1.5.1. Si la respuesta es sí:
         1.5.1.1. *Primero:* ¿cómo funciona ese trabajo en equipo? ¿quién hace qué o cómo interactúan (colaboran)?
         1.5.1.2. *Segundo:* ¿cómo diría que se logra este trabajo en equipo en el programa? ¿qué aspectos o condiciones que existen aquí facilitan que se dé este trabajo en equipo?
      1.5.2. Si la respuesta es no:
         1.5.2.1. *Primero, explorar en general si sugerir/inducir respuestas:* ¿por qué no? ¿en qué sentido no hay trabajo en equipo?
         1.5.2.2. *Segundo:* ¿qué diría que impide el trabajo en equipo?

2. **Usted que trabaja aquí y conoce el ambiente, ¿qué diría que piensan el personal que labora específicamente dando atención [*de salud reproductiva para adolescentes/violencia de pareja/salud materna*]:**

   2.1. sobre cómo se debe de dar la atención dentro del programa/la atención que se ofrece?
   2.2. sobre qué actividades debe de incluir el programa/la atención que se ofrece? Es decir, qué piensan los demás sobre qué se debe de hacer dentro del programa/la atención [*de salud reproductiva para adolescentes/violencia de pareja/salud materna*]?
   2.3. En general, ¿usted cree que están de acuerdo las personas que trabajan en este programa/ofreciendo este tipo de atención, sobre *cómo* se debe de dar la atención [*de salud reproductiva para adolescentes/violencia de pareja/salud materna*]?
   2.4. ¿O hay diferencias de opinión sobre cómo dar la atención?

3. **Aquí en esta unidad médica, ¿qué piensan las personas que trabajan aquí sobre la importancia que tiene la atención [*de salud reproductiva para adolescentes/violencia de pareja/salud materna*]?**

4. **En su opinión, a nivel estatal y jurisdiccional, los directivos, ¿qué piensan sobre el programa/la atención [*de salud reproductiva para adolescentes/violencia de pareja/salud materna*]?**

   4.1¿qué piensan los directivos a nivel jurisdiccional y estatal sobre cómo funciona el programa/la atención [*de salud reproductiva para adolescentes/violencia de pareja/salud materna*]?

   4.2 ¿qué opinan los directivos a nivel jurisdiccional y estatal su importancia?

5. **En su opinión, ¿cómo podría funcionar mejor la atención para la *violencia de género/la atención para la salud reproductiva de adolescentes/la salud materna*?**

6. **En su concepción, ¿qué debe de incluir (que ahora no incluye) la atención para *la violencia de género/la atención para la salud reproductiva de adolescentes/la salud materna*?**

7. **¿Cuál debería ser el enfoque desde el cual se presta la atención para *la violencia de género/la atención para la salud reproductiva de adolescentes/la salud materna*?**

8. **En su opinión, aquí donde usted trabaja las demás personas:**

   8.1. ¿están de acuerdo con esta manera suya de concebir la atención?
   8.2. ¿En qué difieren las opiniones de las demás personas que trabajan aquí?

9. **Aquí en esta unidad médica, dentro del programa/la atención [*de salud reproductiva para adolescentes/violencia de pareja/salud materna*]?:**

   9.1. ¿cuáles son las normas, protocolos de funcionamiento, planes de acción, lineamientos o manuales que diría que le dan forma al programa? [*Dejarlo hablar y luego explorar cada uno: normas, programas de acción o lineamientos, cuáles manuales usan y qué tanto le sirven*.]
   9.2. ¿qué tanto diría que el personal de esta unidad médica conoce el protocolo de funcionamiento del programa/este tipo de atención, las indicaciones sobre cómo debe funcionar el programa/este tipo de atención?
   9.3. ¿qué opinión se tiene sobre el protocolo, los procedimientos o los lineamientos?
   9.4. ¿qué diría usted que hace falta, en cuanto a manuales, documentos o materiales para el personal de salud que trabaja en este tipo de atención? ¿qué le gustaría que hubiera en cuanto a manuales?

10. **¿Cómo conoció los lineamientos/procedimientos del programa?**

    10.1.1. ¿Cómo aprendió sobre ellos?

10.1.2. ¿Existen oportunidades para que usted y las demás personas que trabajan en el programa conozcan y discutan los lineamientos/procedimientos?

11. ¿Existen estrategias claramente definidas en los lineamientos del programa?

11.1.1. ¿Me puede mencionar algunas estrategias, las más centrales o importantes del programa/la atención [*de salud reproductiva para adolescentes/violencia de pareja/salud materna*]?

12. ¿Está claro qué actividades deben de realizarse dentro del programa?

12.1.1. ¿Los lineamientos especifican claramente las actividades que se deben realizar dentro del programa?
12.1.2. [Sino lo menciona por nombre:] ¿Los lineamientos especifican claramente el protocolo que se debe seguir dentro del programa? En cuanto a pasos específicos, técnicas específicas, etc.

13. ¿Cómo se implementan aquí los lineamientos del programa? ¿Varía la manera en que los llevan a cabo, de lo que viene especificado en los lineamientos escritos? ¿Por qué varía?

14. En su opinión, aquí donde usted trabaja, ¿A usted lo/la apoyan para que pueda llevar a cabo el programa según los lineamientos? Y en general, ¿se le apoya para que pueda llevar a cabo el programa (aunque sea de manera un poco diferente de los lineamientos?

15. ¿Aquí se da algún tipo de reconocimiento del hecho de que usted lleva a cabo el programa?

15.1.1. ¿Se le reconoce por el trabajo que hace relacionado a este programa?
15.1.2. Y específicamente en cuanto al cumplimiento de los lineamientos, ¿se le da algún tipo de reconocimiento?

16. ¿Se monitorea el programa internamente?

16.1.1. ¿Cómo se monitorean las actividades del programa?
16.1.2. ¿Cómo se determina si el programa logró sus metas?
16.1.3. ¿Qué se monitorea del programa y cómo?
16.1.4. ¿A usted le devuelven información sobre los aspectos que se monitorean?

17. En su opinión, ¿existe lo necesario para que lleve a cabo el programa?

18. En su opinión, ¿realmente existe la posibilidad de llevar a cabo el programa con apego a la norma y el plan de acción o protocolo de atención?

19. ¿Qué es lo que lo/la motiva a usted para llevar a cabo el programa?

19.1.1. ¿Se siente motivado/a a seguir el plan de acción o norma de atención?
19.1.2. ¿Qué lo/la motiva en ese sentido?

20. ¿Cuál es su formación y qué capacitación específica ha recibido?

20.1.1. ¿Cuáles cursos, talleres o programas de capacitación ha recibido con relación a su trabajo en el programa?
20.1.2. ¿Le ofrecen y le facilitan la capacitación que usted necesita o quiere?
20.1.3. ¿Siente que tiene la capacitación que necesita para llevar a cabo el programa? ¿Qué capacitación adicional quisiera? ¿Sobre qué temas, cuáles habilidades necesitaría capacitación?

21. ¿Qué infraestructura tienen para llevar a cabo este programa?

21.1.1. ¿Es suficiente? ¿Qué más haría falta?
21.1.2. Si tuviera todo el dinero del mundo para este programa, ¿qué compraría, qué le asignaría al programa en cuanto a espacios, equipo, personal?

22. Para resumir, en su opinión, aquí en este centro de salud/hospital:

22.1.1. ¿qué cosas impiden o hacen difícil llevar a cabo el programa?
22.1.2. ¿Qué cosas hacen falta para poder llevar a cabo el programa como se debe?

23. En su opinión, , aquí en este centro de salud/hospital:

23.1.1. ¿qué cosas facilitan llevar a cabo el programa?
23.1.2. ¿Qué es lo que posibilita llevar a cabo el programa como se debe?

Appendix 2: Qualitative interview guide for health care providers [English Version]

Obtain informed consent and then conduct the interview in a private and comfortable place for the interviewee. Ask each question with reference to the type of service studied (whether or not there is a specific program in relation to that service; for example, it may be that there is not a specific program for intimate partner violence, but care is offered): sexual and reproductive health for adolescents, domestic violence or maternal health.

1. **Can you briefly describe how the program works [sexual and reproductive health for adolescents, domestic violence or maternal health] or the services that are offered in that area?** *Let them talk and then inquire about what was not mentioned*

    1.1. What activities are conducted within the program/service [of sexual and reproductive health for adolescents/domestic violence/maternal health]?
    1.2. What are the goals of the program in regards to that type of service?
    1.3. In your opinion, what results are achieved by the program/service?
    1.4. How many people work in the program or service [of sexual and reproductive health for adolescents/domestic violence/maternal health] and what is their training?
    1.5. Would you say that there is team work within the program/service [of sexual and reproductive health for adolescents/domestic violence/maternal health]?
    1.5.1. *If the answer is yes:*
    1.5.1.1. *First*, how does the team work function? Who does what or how they interact (collaborate)?
    1.5.1.2. *Second*, how would you say that this teamwork is achieved within the program? What aspects or conditions facilitate this teamwork?
    1.5.2. *If the answer is no:*
    1.5.2.1. *First, explore in general whether to suggest responses*: why not? In what sense is teamwork lacking?
    1.5.2.2. *Second,* what would you say prevents teamwork?

2. **Given that you work here and are familiar with the environment, what would you say the staff working specifically providing service [of sexual and reproductive health for adolescents/domestic violence/maternal health] thinks:**

    2.1. About how service should be provided within the program/service offered?
    2.2. About which activities should be included in the program/service offered? That is, what others think about what should be done within the program/service [of sexual and reproductive health for adolescents/domestic violence/maternal health]?
    2.3. In general, do you think there is agreement among people working in this program/offering this type of service, on how to provide care [of sexual and reproductive health for adolescents/domestic violence/maternal health]?
    2.4. Or are there differences of opinion on how to provide services?

3. **Here in this medical unit, what do people who work here think about the importance [*of sexual and reproductive health for adolescents/domestic violence/maternal health*]?**

4. **In your opinion, the managers at a state and jurisdictional level, what do they think about the program/service [*of sexual and reproductive health for adolescents/domestic violence/maternal health*]?**

    4.1. What do the managers at the jurisdictional and state level think about how the program/service [*of sexual and reproductive health for adolescents/domestic violence/maternal health*] functions?
    4.2. What do managers at a jurisdictional and state level think about its importance?

5. **In your opinion, how could care for [*of sexual and reproductive health for adolescents/domestic violence/maternal health*] work better?**

6. In your view, what should be included (that is not included now) in the service [*of sexual and reproductive health for adolescents/domestic violence/maternal health*]?

7. What should be the approach to provide service [*of sexual and reproductive health for adolescents/domestic violence/maternal health*]?

8. In your opinion, here at your workplace the people:

8.1. Agree with your way of thinking about providing service?
8.2. How do their opinions differ among the other people working here?

9. Here in this medical unit, within the program/service [of sexual and reproductive health for adolescents/domestic violence/maternal health]?:

9.1. What are the standards, operating protocols, action plans, guidelines or manuals that shape the program? *[Let them speak and then explore each: standards, action programs or guidelines, manuals used and their usefulness*].
9.2. How familiar would you say the staff of this medical unit is with the protocol for running the program/this type of service, guidelines on how the program/service should operate?
9.3. What is your opinion on the protocol, procedures or guidelines?
9.4. What would you say is missing in terms of the manuals, documents or materials for health personnel working in this type of service? What would you like to have in the manuals?

10. How did you learn about the guidelines/procedures of the program?

10.1.1 How did you learn about them?
10.1.2. Are there opportunities for you and others working in the program to learn and discuss the guidelines/procedures?

11. Are there clearly defined strategies in the program guidelines?

11.1. Can you mention some strategies, the one that is the most central and important of the program/service [of sexual and reproductive health for adolescents/domestic violence/maternal health]?

12. Is it clear which activities must be performed within the program?

12.1. Do the guidelines clearly specify the activities to be performed within the program?
12.2. [If not mentioned by name]: Do the guidelines clearly specify the protocol to be followed within the program? In regards to specific steps, specific techniques, etc.

13. To what extent are the program guidelines implemented? Is there variation in the way they are carried out, from what is specified in the written guidelines? Why does it vary?

14. In your opinion, at your workplace, do you receive support to help you carry out the program according to the guidelines? And in general, do you receive support to help you carry out the program (even if a bit differently from the guidelines)?

15. Is there some type of recognition of the fact that you follow the program?

15.1. Is there recognition for the work done related to this program?
15.2. And specifically for the guidelines fulfillment, do you receive some type of recognition?

16. Is the program monitored internally?

16.1. How are the program activities monitored?
16.2. How is it determined whether the program achieved its goals?
16.3. What is monitored about the program and how?
16.4. Do you receive feedback about the monitoring evaluation?

17. In your opinion, is there what is needed to carry out the program?

18. In your opinion, is there really the possibility of carrying out the program with adherence to the rules and the action plan or service protocol?

19. What motivates you to carry out the program?

19.1. Do you feel motivated to follow the plan of action or service rules?
19.2. What is your motivation in this regard?

20. What is your background and what specific training have you received?

20.1. What courses, workshops and training programs have you received in relation to your work in the program?
20.2. Do they offer and facilitate the training you need or want?
20.3. Do you feel you have the training needed to carry out the program? What additional training would you like? What topics, what skills need training on?

21. What infrastructure is available to carry out this program?

21.1. Is it enough? What else is needed?
21.2. If you had all the money in the world for this program, what would you buy, what would you assign to the program in terms of space, equipment, personnel?

22. To summarize, in your opinion, here in this health center/hospital:

22.1. What things prevent or make it difficult to carry out the program?
22.2. What things are needed to carry out the program appropriately?

23. In your opinion, here in this health center/hospital:

23.1. What things make easier to accomplish the program?
23.2. What enables to run the program appropriately?