Strengthening Midwifery in Mexico: Evaluation of Progress 2015-2018

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TABLE OF CONTENTS

GLOSSARY

AFASPE	Agreement to Strengthen Public Health Actions in the States
AMP	Mexican Midwifery Association
APP	Association of Professional Midwives
CASA	Center for Adolescents of San Miguel de Allende
CAUSES	Universal Catalogue of Health Services of the Popular Health Insurance System
CIFRHS	Committee for Formation of Human Resources in Health, a joint commission of the Ministries of Education and of Health
CIMIgen	The Center for Maternal and Child Research, a private maternity clinic and training site
CNEGySR	National Center of Gender Equity and Reproductive Health, Ministry of Health
CNDH	National Human Rights Commission
COMLE	Mexican College of Nurse Practitioners
COMPECER, S.C.	Association for Competence and Certification
CONASA	National Health Council
CONACyT	National Science and Technology Council
CPE	Permanent Commission on Nursing, Ministry of Health
CPMS-M	Safe Motherhood Committee of Mexico
CSO	Civil society organization
DE	Directorate of Nursing, Ministry of Health
DGCES	Directorate General for Quality and Education in Health, Ministry of Health
DGPLADES	Directorate General for Planning and Development, Ministry of Health
EAC	Evaluation Advisory Committee
EBP or EBM	Evidence-based practices or Evidence-based medicine
EEP	Perinatal specialist nurse
EmONC	Emergency obstetric and neonatal care
ENDIREH	National Survey on Household Relationships Dynamics
ENEO	National School of Obstetric Nursing of the National Autonomous University of Mexico
ESEO	School of Obstetric Nursing of the National Polytechnic Institute
FEMCE	Mexican Federation of Nursing Colleges
GIIP	Inter-institutional Working Group
ICM	International Confederation of Midwives
IIE	Institute for International Education
INEGI	National Institute for Statistics and Geography
INI	National Indigenous Institute
INSAD	Research in Health and Demography, A.C.
INSP	National Public Health Institute
IPN	National Polytechnic Institute
LEO	Obstetric Nurse
LOME	Virtual mapping software
MDG	Millennium Development Goals
MTDI	Office of Traditional Medicine and Intercultural Development, DGPLADES, Ministry of Health

MMR	Maternal mortality ratio
OECD	Organization of Economic Cooperation and Development
PAHO	Pan American Health Organization
RVOE	Registration of Official Validation of Studies of the Education Secretariat
SDG	Sustainable Development Goals
Seguro Popular	Popular Health Insurance System
SEP	Ministry of Education
SRHMN	Sexual and Reproductive, Maternal and Neonatal Health
UNAM	National Autonomous University of Mexico
UNFPA	United Nations Population Fund
UNICEF	United National Children's Fund
WHO	World Health Organization

KEY CONCEPTS

Midwives—The term *midwives* or *professional midwives* refers to non-medical personnel who attend births, often in addition to services in other phases of the continuum of care. It encompasses technical and nurse midwives.[1]

Nurse Midwives—This term refers to nurses who attend births, even if they themselves do not identify as midwives. While this terminology is not widely accepted in Mexico, it is the most appropriate way to encompass all nurses (general, obstetric and perinatal specialists) who attend births and who, in many cases but not always, use midwifery practices in the obstetric care they provide.

Policy and Normative Framework—Norms, laws, policies and regulations that influence how professional midwifery is defined and practiced in the public health system, and the underlying attitudes and actions of decision-makers at the national and state levels who are responsible for design and implementation of maternal health policy.

Recognition and Demand—This section of the report looks at the actors and institutions working to influence the policy agenda, as well as levels of knowledge and factors that influence decision-makers' perceptions of professional midwifery.

Educational Programs—Formal programs that train personnel to attend births in public healthcare institutions, including programs for obstetric nursing, perinatal specialist nursing, technical midwives, undergraduate university programs, and at baseline, autonomous midwifery training. Programs were excluded if, at the time of data collection, they did not require students to attend a minimum number of births in order to graduate.

Deployment and Quality of Care—The assessment looks at all public health care sites (clinics and hospitals) serving low- and mid-income women that employ professional midwives, as well as two private non-profit clinics that help to promote midwifery in the public system. Quality of care refers to technical and interpersonal competencies as well as organizational conditions of health service sites.

[1] A technical midwife is a graduate of a midwifery training school whose studies are recognized by the educational authorities and correspond to a technical (or post-secondary) degree.

Evidence-Based Practices—A list of 20 evidence-based practices was developed and used throughout the study. Seventeen of the 20 practices are recognized by WHO[2] as essential components of women-centered care that contribute to higher quality health outcomes for both mother and child. Two of the remaining three practices consider respect for cultural differences, and the third reflects respect for women's autonomy and decision-making during labor and childbirth.

Levels of Care—*Primary level* refers to primary health centers or clinics as well as maternity clinics with no surgical facilities. *Intermediate level* includes basic community level hospitals and specialized maternity clinics with operating facilities. *Secondary level* refers to general hospitals, and *tertiary level* corresponds to specialty hospitals.

Midwifery Model Sites—At baseline, the deployment sites that had an explicit focus on midwives providing evidence-based women-centered practices were defined as *integrated midwifery sites*. In 2018, such sites were called *midwifery model sites*.

Midwife Employment Sites—At baseline, a number of sites employed midwives without an explicit commitment to integrated midwifery as above. These sites were referred to as *isolated employment sites*. By 2018, there were sites that were intentionally focused on employing midwives, sometimes quite enthusiastically, but without a vision or model of care based on evidence-based women-centered practices. These sites are referred to as *midwife employment sites* because the emphasis is on employing midwives as a type of personnel who will be more sensitive to the women but may not actually provide a midwifery model of care.

Continuum of Care—The study used a working definition that includes prenatal, labor and delivery, and postpartum and newborn care. This differs from the ICM's seven basic midwifery competencies, which are more comprehensive and include community and pre-gestational family health; prenatal, labor and delivery, postpartum, newborn, and infant care up to two months of age; as well as abortion care.[3]

EXECUTIVE SUMMARY

INTRODUCTION: In 2015, the MacArthur Foundation's Population and Reproductive Health Program (PRH) launched a three-year Initiative to Promote Professional Midwifery in Mexico. Guided by a detailed Theory of Change and extensive consultation with diverse institutional partners, the Initiative invested $17 million through 50 grants to promote a more favorable legal and normative environment, strengthen recognition and demand, expand educational options, and promote integration of high-quality models of professional midwifery deployment in the public health system. The Initiative sought to create momentum toward a tipping point in which professional midwifery would eventually become a permanent feature of the maternal health care system to help reduce the burden of over-hospitalization for normal low-risk births, enhance quality of care, and contribute in the long run to

[2] This list of evidence-based practices promoted and avoided was developed from Sachse, M., Sesia, P. et al. 2012. Calidad de la atención obstétrica, desde la perspectiva de derechos, equidad e interculturalidad en centros de salud en Oaxaca. Revista CONAMED 17 (Supl.1): S4-S15, originally developed from WHO, 1985. Appropriate technology for birth. The Lancet 326(8452): 436-7; Chalmers, I. et al. 1989. Effective care in pregnancy and childbirth, Oxford University Press; and Enkin, M. et al. 2000. A guide to effective care in pregnancy and childbirth, Oxford University Press.

[3] ICM Essential competencies for midwifery practice. 2018 Update. (https://www.internationalmidwives.org/assets/files/general-files/2018/10/icm-competencies—english-document_final_oct-2018.pdf).

reducing high cesarean rates and improve health outcomes. Foundation grantmaking ended in 2018, though some projects will continue through mid-2019.

An external evaluation team worked closely with Foundation staff from the outset, employing a developmental evaluation approach to inform the Initiative as it unfolded. In 2015 and early 2016, initial data collection explored the landscape and gathered baseline information in four thematic areas: legal and normative framework; recognition and demand; education; deployment and quality of care. Seventeen indicators were later defined, providing a framework for evaluating progress in 2018. The assessment focuses on professional midwives (obstetric nurses, perinatal specialists, and technical midwives) who attend labor and delivery—often in addition to services in other phases of the continuum of care—in the public health care system. A list of 20 evidence-based practices was used to describe midwifery training and the quality of care provided by midwives and physicians. The following progress report looks at advances during the Initiative's first two and a half years.

SUMMARY OF FINDINGS: Important advances have taken place since baseline to expand the presence of professional midwives providing high-quality obstetric and neonatal care as part of Mexico's public health system. The potential for midwifery to become a permanent feature in the country's public health system seems greater today because of the growing number of students, midwives and midwifery sites throughout the country; a larger and more influential community of midwifery proponents or champions; multiple collaborative efforts to disseminate information and sensitize health personnel to midwifery models of care; increased awareness and action by public authorities; and an emerging dialogue among innovative state-level actors about what works. These advances contribute to momentum around the country, with the most significant progress seen in locations where the Initiative's four thematic areas, and the corresponding efforts of its partners, have converged.

In addition to confirming the importance of synergy among the four areas of support, as envisioned in the Theory of Change, the findings point to several factors or elements that may enhance success:

- A few states invested significant effort in **preparing the terrain** through sensitization of health care officials and medical personnel to foster greater acceptance of their midwifery programs. As a result, they encountered fewer difficulties related to referrals and collaboration with other providers. The Initiative recognized the importance of sensitization and supported numerous efforts to enhance acceptance among public officials and health system personnel in targeted states.

- The best maternal health outcomes are seen in **integrated models** where midwives are part of a larger team of practice with clear and complementary roles, and they are also best **in primary and intermediate levels of care**. In addition, the data show that quality of care is highest in midwifery sites where there is an **enabling clinical setting**, meaning committed leadership, commitment to evidence-based practices, good training, supportive staff, and continuing education. The Initiative did not prioritize a particular model of practice or health care level. Rather, it encouraged emerging models through support for learning, information exchange, and recognition of best practices.

- Mexico is a highly diverse nation both culturally and geographically. This diversity is marked, however, by extreme inequality of income and education linked to ethnicity, gender, and geography. In order for midwifery to be accepted in regions that need it most, this asset of diversity—in the context of inequality—needs to be honored by training **diverse midwives** who

are prepared to work where they are most needed. The Initiative recognized the importance of diversity and fostered this through grants to organizations representing multiple approaches and voices.

Extensive information is now available—more than in 2015—to inform or guide ongoing efforts to advance professional midwifery, and to encourage incoming state and national leaders to embrace midwifery as a key component of strategies to solve the country's maternal health needs. In addition to generating enthusiasm, the information offers roadmaps and lessons learned about what does or does not work in the highly diverse contexts that characterize Mexico.

Midwifery proponents now have evidence that professional midwives are capable of providing high quality, woman-centered obstetric services throughout the continuum of care—including labor and delivery—when they are employed in supportive settings that embrace a midwifery model of practice and ensure prompt and fluid referrals in case of complications. This evidence is critical for overcoming the information gap that, at baseline, was slowing progress.

Professional midwifery is more likely to be viewed today as a potential solution to help satisfy Mexico's need for high-quality obstetric care—especially in remote and impoverished settings. It appears most promising when certain elements are in place. If political will is lacking or inconsistent, if there are not enough qualified midwives, if physicians and other personnel are unsupportive, or women are unaware of midwifery services as an option, midwifery models of care may not realize their full potential. A few states provide examples of what can be accomplished when these components come together successfully.

Momentum is apparent, with state-level advances and expressed interest from the incoming government, marking progress toward broader integration of professional midwifery in official maternal health strategy. The Initiative contributed in important ways to this momentum by bringing professional midwifery into the conversation around maternal health in Mexico.

FINDINGS BY THEMATIC AREA:

Legal and Normative Framework—In three years, champions succeeded in moving professional midwifery from the fringes of maternal health strategy into the purview of key national policy-makers. Four health system agencies now acknowledge or have taken steps to advance professional midwifery in their programmatic frameworks or have introduced guidelines for maternal and neonatal care in which midwifery is implicit. This expanded interest has yet to produce new norms or policies around professional midwifery, and there is still much room to expand knowledge and understanding about models of practice and their potential contributions to improving maternal health outcomes. The advances are important, however, because they signal to other public officials and service providers that professional midwifery can be an effective and viable approach, setting the stage for more comprehensive policy-level change.

In addition to progress at the national level, 14 states—three more than in 2015—are implementing professional midwifery models of care. Their experiences feature distinct approaches and provide lessons for advancing midwifery in diverse contexts. Access to resources continues to be a concern for those trying to maintain or expand midwifery models of care.

For many actors, a national commitment or mandate accompanied by appropriate policies and budget resources is seen as highly advantageous to leverage the advances that have been made—new

knowledge and interest, unique methods, and documented impact—toward broader and more permanent integration of professional midwifery in Mexico's public health system.

Recognition and Demand—Civil society midwifery proponents or champions, many of whom are Foundation grantees, play an important role in shaping the public agenda by expanding knowledge and information about professional midwifery. This network of actors is comprised of diverse interests often working collaboratively to document best practices, create and disseminate information, sensitize personnel, strengthen curriculum, and inform norms and regulations to facilitate midwifery practice.

At baseline, policymakers had very limited knowledge of midwives and what they could contribute to maternal and neonatal care, and less than half were familiar with the idea of professional midwifery. In 2018, largely as a result of the work of midwifery champions, the concept is more familiar to the maternal health policy makers who were interviewed, and in some cases is now part of their programmatic strategy. While differences of vision have made it difficult for midwifery proponents to articulate a common policy agenda, the sum total of information and technical resources they provide has changed the way that professional midwifery is understood today and may shape the policy choices of incoming health ministry officials nationally and in some states.

Educational Programs—Mexico has a greater number of accredited programs that train midwives to attend births in 2018, including new training opportunities in all four educational models: obstetric nursing, perinatal specialist nursing, technical midwives, and undergraduate university programs. With additional programs under development, the numbers are poised to grow further. While it will take several years before there are enough professional midwives to meet estimated demand in Mexico, progress since baseline has been considerable.

The number of midwifery students has increased three-fold, largely due to expanded training of obstetric nurses. The additional students present a challenge for programs as they compete for access to clinical practicum sites. This problem may diminish if new midwifery insertion sites are developed and health authorities begin to recognize the potential contributions of midwives to their statewide goals.

Deployment and Quality of Care—In just over two years, there are more midwives attending low risk births in more sites and more states than at baseline. Work and employment conditions for these midwives improved slightly but continue to be deficient and under-resourced. In addition, some sites continue to struggle with low productivity and difficulties related to referral of patients who develop complications.

Assessment of quality of care shows that a higher percentage of sites subscribe to a midwifery model, meaning they are supportive of evidence-based practices. The challenge is that almost half of the midwives who work in the public health system say they are not able to provide care according to those standards. Even fewer are able to do so in sites where they were hired without a comprehensive midwifery vision, especially at secondary and tertiary level institutions. Different kinds of midwives performed equally well in their use of evidence-based practices that conform to Mexican normativity and/or EBM throughout the continuum of care. There is room for improvement for midwives' knowledge in basic emergency obstetric and neonatal care. Women who received midwifery care expressed great satisfaction with the attention they received.

INTRODUCTION

1. SETTING THE STAGE FOR THE INITIATIVE

1.1 Background and Purpose

In 2015, when the Population and Reproductive Health Program (PRH) launched the Initiative to Promote Professional Midwifery, 96 percent of births in Mexico took place in hospitals, many of which were overburdened and underfunded. Doctors attended large numbers of uncomplicated deliveries using over-medicalized practices, contributing to cesarean section rates that were fourth highest in the world and second in Latin America.[4] Mexico had lowered maternal mortality by 52% between 1990 and 2014 to a maternal mortality ratio (MMR) of 39 per 100,000 live births, but had not achieved its Millennium Development Goal of MMR 22. The MMR was even higher in poor states such as Durango, Chiapas, Hidalgo, Guerrero and Oaxaca.[5]

A 2014 State of the World's Midwifery report by the United Nations Population Fund (UNFPA) and the International Confederation of Midwives (ICM) estimated that Mexico met only 61 percent of workforce demand for maternal health professionals. The report found 78 professional midwives in Mexico and recommended greater investment in this area.[6]

Midwifery is not new to Mexico, having originated in a centuries-old practice of "traditional" midwifery that is widespread still today in some parts of the country. Professional midwifery has had a more sporadic presence. Obstetric nurse and midwife training programs emerged in the 1940s but, by 1968, most of these specialized programs had been replaced by undergraduate programs in general nursing.

A risk-assessment approach to maternal health became prevalent in 1987 with the Safe Motherhood Initiative's focus on reducing maternal mortality, and, by the late 1990s, emergency obstetric care became the preferred approach to reducing maternal mortality. In the early 2000s, Mexico mandated that all babies be delivered in hospitals where emergency care was supposedly available as a strategy to achieve the country's Millennium Development Goal of MMR 22 by 2015.

While this shift was taking place, a new option for professional midwifery began to emerge as a potential alternative in maternal care. In 1994, a private post-secondary school midwifery program known as CASA[7] opened in Guanajuato to train young women from rural, indigenous communities in women-centered birthing practices. CASA became the first accredited technical midwifery school in Mexico in 1997. Technical midwives were recognized in the public health system with a specific job code in 2011, although their acceptance by other personnel was inconsistent at best.

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[4] Lazcano Ponce, E. et al., 2013. Cobertura de atención del parto en México. Su interpretación en el contexto de la mortalidad materna. Salud Pública Mex: 55 (Supl. 2): S214-S224.

[5] Freyermuth, G. et al. 2016. Indicadores 2014. Mortalidad Materna en México. México: Observatorio de Mortalidad Materna en México/ Centro de investigaciones y Estudios Superiores en Antropología Social. Note. The other states with above average ratios are Tabasco, Mexico City, Yucatán, Veracruz, Michoacán, Tlaxcala. Morelos has a low rate of 9.1.

[6] UNFPA, ICM, WHO. 2014. The State of the World's Midwifery [https://www.unfpa.org/sowmy].

[7] Centro de Atención para la Salud de la Adolescente [http://casa.org.mx/en/].

In the years to follow, maternal health advocates turned their attention to eliminating obstetric violence"[8] and the need for a "humanized" or "respectful birth" approach, along with greater emphasis on quality throughout the entire continuum of obstetric care. This more comprehensive approach is considered incompatible with attending normal births in hospitals, signaling the need for new strategies to achieve quality maternal health care for all Mexican women.

With these challenges in mind, the Foundation's PRH team, in concert with a wide array of allies, perceived that the time was ripe for expanding the role of skilled midwives and returning to a focus on primary healthcare for uncomplicated births, with swift and reliable backup care close at hand. A transition of this nature would be reinforced by global efforts to advance professional midwifery as a means to ensure high quality obstetric care for all women, as promoted by the World Health Organization (WHO), the Pan American Health Organization (PAHO) and the United Nations Population Fund (UNFPA), the last two of which have an important presence in Mexico.

In 2015, the Foundation launched a capstone Initiative to Promote Professional Midwifery, the culmination of more than 20 years of grant making in the field of population, reproductive health and maternal health. A baseline evaluation provided information to orient strategic grant making over the next three years. The present report captures changes that occurred as the Initiative unfolded up until 2018. Grant activities will continue into mid-2019.

1.2 Contextual Developments since Baseline

The rate of hospital births continued to rise in 2016 to a national average of 98%[9], intensifying the burden on underfunded public hospitals. After several years of growth, the Popular Insurance (*Seguro Popular*) program received less funding in 2017 and 2018 as a result of overall cuts in national government spending. These reductions, coupled with problems of corruption and inefficiencies, exacerbated shortages in human and material resources in health facilities.

At the completion of the Millennium Development Goals (MDG) in 2015, the only goal that Mexico had not achieved was the reduction of the maternal mortality ratio to 22 per 100,000 live births. The new Sustainable Development Goals (SDG) do not include a specific maternal mortality reduction target and, as a result, vigilance from national health authorities seems to have diminished.

The concept of obstetric violence—a broad category that includes mistreatment at birth as well as overly medicalized care, medical negligence and/or denial of obstetric care—has been a growing concern for human rights oversight bodies, organizations promoting women's sexual and reproductive rights, state legislatures, and some federal agencies in Mexico. For the first time, in 2016, an official national survey on household dynamics (ENDIREH) included questions on obstetric care. The results showed that one of every three women who had given birth in the previous five years reported having suffered one or more forms of mistreatment during birth care; the figure was even higher for women who had given birth in public hospitals (INEGI, 2017).[10] In July 2017, the National Commission on Human Rights (CNDH) recognized the magnitude of the problem and issued a General Recommendation to the entire Mexican health sector to eradicate obstetric violence from institutional birth care. Increased

[8] WHO, FIGO and other agencies recognize this as "mistreatment and lack of respect". In Latin America, the concept of obstetric violence has become prevalent in the last decade.

[9] See the official MDG/Mexican government webpage for the latest figures (2016) on percentages of births attended by skilled health personnel [http://www.objetivosdedesarrollodelmilenio.org.mx].

[10] See the INEGI webpage for the ENDIREH results: [http://www.inegi.org.mx/saladeprensa/boletines/2017/endireh/endireh2017_08.pdf].

awareness of this problem has been accompanied by concern about substandard quality of obstetric care services more generally.

Quality of care remains one of the major problems affecting the Mexican health system. In 2016, the Organization of Economic Cooperation and Development (OECD) called for a major overhaul of the system to achieve greater investment and spending in health, enhance regulatory and oversight functions within the system, develop national standards and guidelines for care, shift focus to patient-centered care, strengthen primary health care, and overcome the fragmented nature of service delivery.[11] These recommendations are all pertinent for improving maternal and newborn health and are consistent with a midwifery model of care.

In July 2018, just after data capture, Mexico elected a new president, national legislature, and governors in nine states. In addition to unknown challenges, this changing political context offers an opportunity for structural change in the public health system to improve the quality of maternal and newborn health and, possibly, to promote the midwifery model.

THEORY OF CHANGE

2. CONTRIBUTING TO THE SOLUTION: INITIATIVE TO PROMOTE PROFESSIONAL MIDWIFERY

2.1 Evolution of the Theory of Change 2015-2018

a. The original vision

The Initiative to Promote Professional Midwifery in Mexico's public health system is guided by a multi-dimensional Theory of Change developed in consultation with external partners and informed by the Foundation's decades-long experience working on population and reproductive health in Mexico.

The long-term goals of the Theory of Change include maternal care that is higher quality, more women-centered, and lower cost. The Foundation expected that, over the long run, such enhanced services would contribute to reducing maternal mortality and morbidity. Given the long-term nature of such a process, PRH staff hoped the Initiative's efforts between 2015 and 2019 would create momentum toward a "tipping point" where progress is unlikely to be reversed and the efforts of diverse actors to ensure long-term institutionalization of high-quality professional midwifery become sustainable.

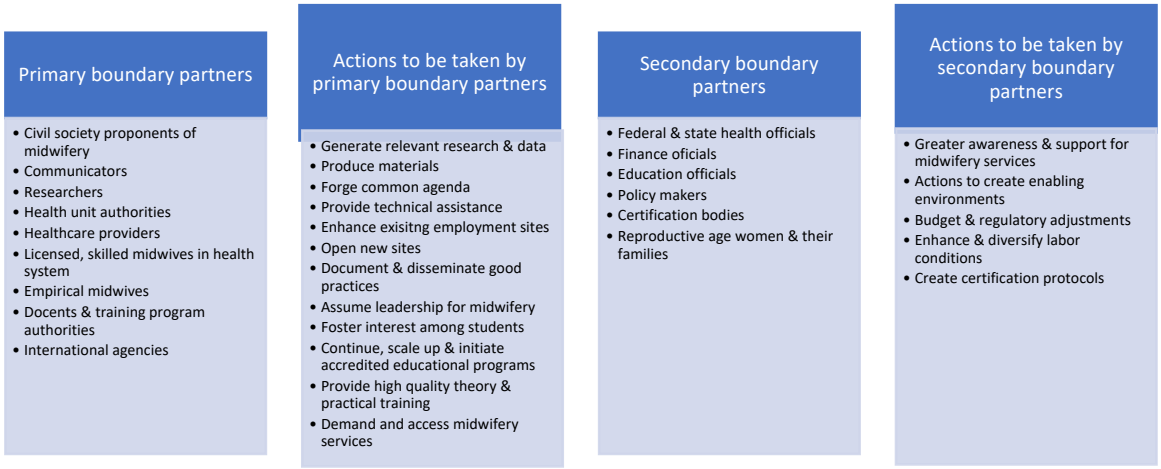
The following objectives were proposed as necessary for professional midwifery to be institutionalized in Mexico's public health system:

- A favorable **policy and legal framework** and funding for midwifery as well as demand from policymakers and women
- Collaborative and effective midwifery champions to help generate and sustain **recognition and demand** among decision-makers and women and their families for midwifery services
- More diverse **educational options** through training schools and programs with sufficient public funding, where needed, to supply the kind and number of midwives necessary to meet the country's needs

[11] OECD Reviews of Health Systems: Mexico. Assessment and Recommendations, 2016. [http://www.oecd.org/health/health-systems/OECD-Reviews-of-Health-Systems-Mexico-2016-Assessment-and-recommendations-English.pdf].

- More **employment sites** that allow midwives to practice high-quality women-centered midwifery practices.

Grants awarded between 2015 and 2018 in each of these four areas sought to enable primary boundary partners (stakeholders directly influenced or targeted by grant making activities) to take necessary steps to influence secondary boundary partners (policymakers and other key actors) to take action toward the desired outcomes.[12]



In general terms, the Theory of Change states that by promoting enhanced training of professional midwives, together with fostering a more favorable policy environment, it would be possible to achieve greater availability of professional midwifery services in the health system. The vision hypothesizes that if relevant national and state officials learn about and understand the virtues of professional midwifery, they would become motivated to promote changes in policy, norms and mandates that are favorable to midwifery. (A complete diagram of the Theory of Change can be found in Exhibit 1 Appendix A, along with a list of the underlying assumptions in Exhibit 1a.)

Since policymakers at times need nudging from civil society advocates, the Theory of Change proposed to strengthen the capacities of these champions to influence the policy agenda, working in tandem with public decision-makers where possible.

Another central thesis of the Theory of Change was that well-documented examples of successful midwifery practice, once disseminated, could support efforts to replicate those experiences. These experiences would feature high-quality, women-centered evidence-based care by professional midwives. It was expected that health care planners and authorities would realize the potential for professional midwifery as a high-quality, cost-effective way to meet the country's pressing obstetric and neonatal care needs.

b. Baseline analysis of Theory of Change

The Theory of Change was found, in 2015, to be comprehensive and well-conceived, with a focus on four large dimensions that allowed the Initiative to take advantage of emerging opportunities and channel support toward clusters of activity in diverse contexts. Baseline findings suggested a need to clarify the concept of institutionalization, however, to better understand how to establish enabling conditions for

[12] Earl, S. et al. 2001. Outcome Mapping. International Development Research Centre.

high quality women-centered care provided by midwives, overcome resistance by other health care providers, and resolve bureaucratic bottlenecks in the health system.

Changes in the structure and orientation of the healthcare system were needed to achieve institutionalization of professional midwifery. While fundamental changes of this nature would be unlikely in 2017 and 2018, just prior to a major national election, midwifery advocates would have opportunities to position their priorities or agendas with incoming officials. In order to do so effectively, efforts were needed to overcome tensions and encourage collaboration among diverse types of professional midwives to help them have a clearer message and unified voice in advocating for systemic change.

The data further showed that poor labor conditions for midwives were widespread and might be a deterrent to stimulating interest among potential students, a key component of expanding the supply of trained midwives. Greater attention to employment conditions would be needed to address this challenge.

Finally, the fact that pregnant women have little choice on where to deliver their babies contradicted the idea of client demand that the Theory of Change had posited as important for expanding midwifery services.

c. Strategic adjustments after baseline

Baseline results thus supported the overall Theory of Change and suggested the need to increase enrollments, strengthen labor conditions, and improve insertion settings through state-level work and scholarships for midwifery students. Accordingly, the Initiative placed greater emphasis on state-level policy makers who are able to improve enabling conditions for institutionalized midwifery.

> *[After the baseline report] we provided funds for scholarships and funds for the states (having learned) that it is important that midwives be incorporated in a supportive setting.*

Discourse around midwifery at baseline highlighted the distinction between supporting midwives as a type of personnel and an alternative approach that encourages a "midwifery model" of care that is woman-centered and grounded in evidence-based practices. The Theory of Change initially made the assumption that competent midwives would provide high-quality care. But as grant making was rolled out between 2016 and 2018, PRH staff and their partners increasingly saw the need for emphasis on women and the kind of care they receive, rather than on the midwife as the main protagonist.

> *…we started trying to take the emphasis off the individual midwife. Talking about the midwifery model of care allowed (us) to bring the woman back into the picture… talking about a kind of care during pregnancy and delivery that is attractive to (women) and that (they) would like others to have access to.*

A third strategy modification emerged as the Foundation looked for ways to support a diverse but inclusive community of actors capable of advancing common objectives. With the country's leading organization of midwives still working to overcome internal tensions, the Initiative broadened its approach to include additional groups or coalitions of midwives with the hope that they would find ways to collaborate around shared interests.

> *Now we have a different strategy of organizing smaller coalitions and see how they can coordinate.*

Given the short time period planned for the Initiative, PRH staff made additional grants to help partners become financially sustainable, while reaching out to enhance the interest of potential new donors.

d. How the Theory of Change played out in 2018

As will be seen in the results section, the Initiative fostered change in all four thematic areas, and it is expected that the sum of these efforts will create momentum toward a tipping point in the coming years. The evaluation results, detailed in Section 5, show many of the Theory of Change's underlying assumptions to be totally or partially correct:

The explicit assumption that **reliance on highly qualified midwives will lead to higher quality, more women-centered, lower cost maternal and neonatal care (i)** is partially true. Midwives are most able to provide high quality, women-centered care when they are employed in settings that prioritize "midwifery practices" and allow midwives autonomy, ideally within a team of professional midwives and supportive medical personnel. Data generated by a parallel but independent study supported by the Foundation confirms that midwifery care is less expensive than care provided by physicians.[13]

It is too early to know whether another explicit assumption, that **improved access to quality of care will contribute to sustained decrease in maternal mortality and morbidity in Mexico (ii),** will indeed prove correct. However, in order to make a visible difference in terms of state-level or national-level MMRs, the country would need a large number of midwives trained and optimally deployed. In 2018, there are more midwives trained and deployed, but they are attending fewer low risk births than they say they can attend and certainly fewer than the 175 births that the WHO estimates a professional midwife can attend per year.[14]

Four interrelated assumptions that are central to the Theory of Change were partially confirmed:

- **Decision and policy makers lack information and that by providing such information they will be able to make the needed changes (iii)**
- **Collaboration and/or pressure from civil society will encourage politicians to fulfill their promises (iv)**
- **Champions will provide the kind of data and messages that are relevant and needed to change the attitudes of their target audiences, provide input and technical guidance and generally help move those actors into action (vi)**
- **Midwifery advocates can work together or in support of each other promote midwifery in coordinated and coherent ways (vii)**

The data confirm that–despite persistent internal tensions among different types of midwives and their advocates–champions provided information that raised awareness among federal and state decision makers, influencing many of those individuals to become more favorably disposed to professional midwifery. In states where there was a convergence of advocates focused on promoting professional midwifery, the data showed deeper levels of political commitment and action.

The assumption that **newly informed government officials, specifically in the Ministries of Health and Finance, would make necessary budget adjustments to hire midwives (v)** did not prove correct. This is

[13] Garrido, F. *et al*. Análisis de costo-efectividad. En Formación, Mercado Laboral y Costo Efectividad de la Partería en México. Resultados del Impulso al Modelo de Partería en México: Análisis y recomendaciones desde el Instituto Nacional de Salud Pública, presentación 28 septiembre 2018.

[14] World Health Organization. 2005. Make every mother and child count. WHO, Geneva. [https://www.who.int/whr/2005/en/]

likely due to decreasing maternal health budgets and tepid or uneven commitment within the agencies that could push for such allocations. Some discretionary funding was available, but significant and sustained allocations are unlikely without a broader public policy commitment to advance professional midwifery.

There continues to be disagreement around whether or not **a competency-based certification system is needed to demonstrate and ensure the proficiency of skilled midwives (ix).** There were more education programs and more midwives being employed in 2018 even without a widely-accepted certification mechanism. But, given ongoing skepticism among some observers and health care providers, it is likely that a certification system–acceptable to a wide range of actors–would contribute to expanding legitimacy and support for midwives who can demonstrate their skills once on the job.

For **an increase in the number of licensed midwives deployed in the health system to fill the gap of human resources for health and improve the availability and quality of maternal and reproductive health care** (x), a key assumption of the Theory of Change, midwives need to work in settings that are designed to support them and avoid unnecessary risks to the women and children they attend. Persistent problems continue to plague even some of the best employment sites, thus limiting the potential of professional midwives to address and fill the gap as proposed and desired by midwifery champions within and outside of the Health Ministry.

Informal conversations with traditional midwives suggest that they have concerns about the rise of professional midwifery in Mexico. However, formal data were not collected on this issue. Some grants were directed at smoothing the interface between traditional and professional midwives and are expected to support the assumption that **traditional midwives will not oppose, but will learn to work together with, professional or licensed midwives (xi).**

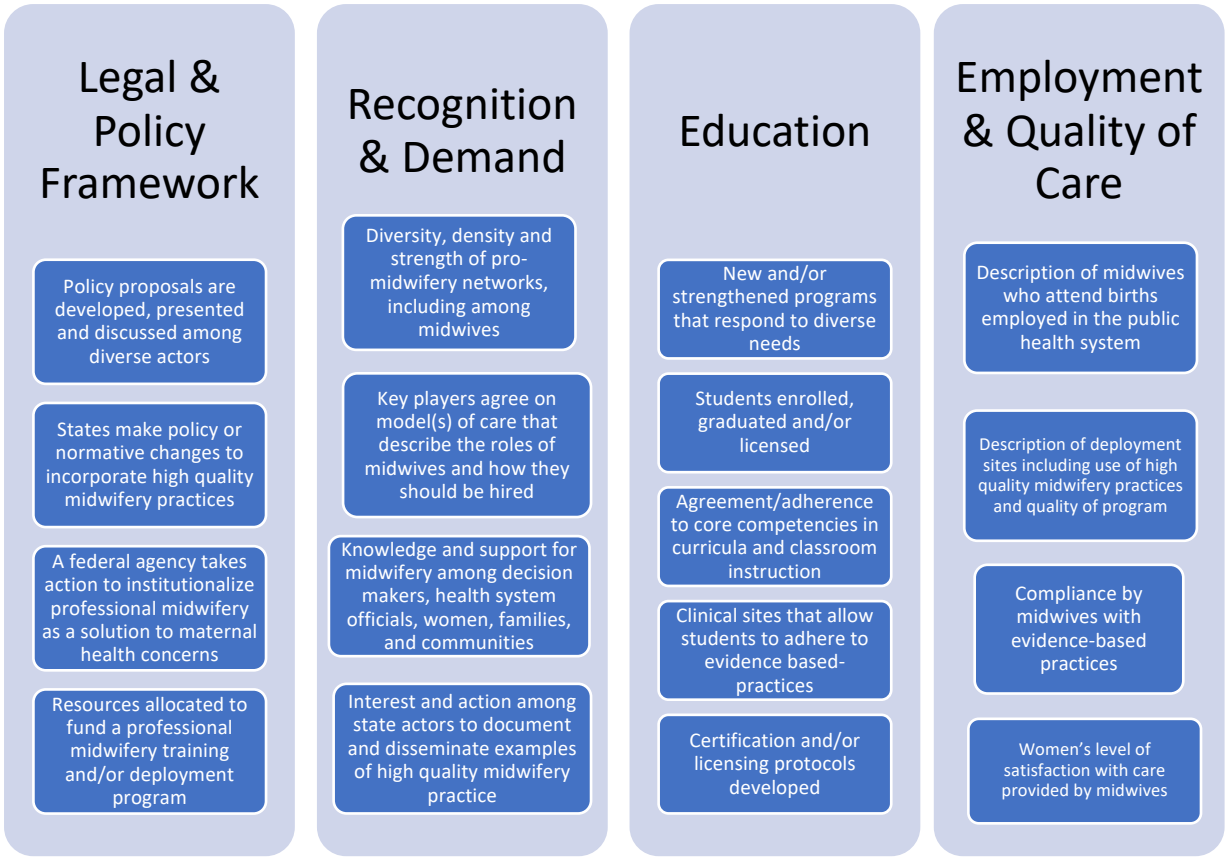
In 2018, there appears to be an increasing predominance of obstetric nurses who will become professional midwives, and fewer technical midwives. Nevertheless, data show that state-level officials confirm the assumption that **greater diversity in the training programs is needed to meet the multiple and differential needs of the country in maternal healthcare (xii).** Those officials claim they cannot find enough midwives in their states or who are willing to work in their states and thus, in many cases, are trying to initiate state-level educational programs.

Finally, the assumption that **reproductive age women and their families will learn about and demand midwifery services (xiii)** has yet to be confirmed. Evidence shows that women do prefer care by midwives. Most report that they hope to use the same midwife again in the future, and it can be expected that they will spread the word among friends. However, it is too soon to know whether broader groups of women will learn about the option of professional midwifery in public health care services and will demand or actively seek such services in the future.

2.2 Indicators

In October 2017, the complete evaluation team, including the external evaluators and representatives of the Foundation's PRH and Evaluation teams in Mexico and Chicago, met to define indicators for measuring the Initiative's progress and success. A total of 17 objective-specific indicators and three cross-cutting dimensions were agreed upon, providing a framework for the 2018 evaluation and the presentation of findings in this report.

INDICATORS:



CROSS-CUTTING DIMENSIONS

Momentum—Has the pace of progress towards institutionalization increased?

Sustainability—Are resources and support adequate to ensure continuation?

Tipping point—Have the advances reached a point of no return with reversal unlikely?

THE INITIATIVE

3. IMPLEMENTING THE VISION

3.1 Grant Making Portfolio

	Number of grants:	Total investment:
Grants awarded as of 7/16	23	$8,830,000
Grants awarded between 10/16 and 7/18)	27	$8,290,000
Total investment	**50**	**$17,120,000**

The Foundation's grant making portfolio (Exhibit 2, Appendix A) to advance professional midwifery in Mexico surpassed 17 million dollars with fifty grants (including renewals) awarded. Sixty-four percent of the grants were awarded in 2016 and 2017 (with equal numbers in each of those years). Of those, 38% continue until mid-2019 and the rest end before or in December 2018. The grants reflect four areas of concern and their corresponding objectives, as defined in the Theory of Change.

During the period covered in this report, the Initiative's largest area of investment was recognition and demand, with $5,928,200 in total spending and 25 grants, reflecting a commitment to fostering broader understanding and more informed dialogue around professional midwifery. This was followed by $4,268,800 (13 grants) for deployment of midwives in diverse and innovative practical settings with an emphasis on ensuring quality of care. The Initiative dedicated $3,862,000 (13 grants) to strengthening educational options for midwives, intent on expanding the availability of highly qualified professional birth attendants. Finally, $3,061,000 was invested through 10 grants to strengthen the policy and regulatory environment for professional midwifery by enabling champions to document success, propose solutions, and more effectively engage with decision-makers. (Specific objectives in each of these four areas are described in the Findings sections of this report.)

3.2 Networking Strategies

In addition to the grant portfolio, a working group—the GIIP—was formed of institutions interested in advancing various aspects of midwifery, including representatives of Health Ministry agencies as well as international and national organizations and networks.[15] Participants envisioned the GIIP as a mechanism to foster collaboration, undertake advocacy and political dialogue, generate information and build capacity. GIIP members identified the states of Oaxaca, Morelos, Hidalgo and Tlaxcala as the foci of their collaboration and information-sharing efforts. The working group's vision and strategic objectives complemented those of the Initiative.

Grants to three working group member organizations (UNFPA, PAHO, and CPMSM) supported activities that reflected the value of the often-intense strategy discussions and broad inter-sectorial collaboration. In 2018, the CNEGySR, a key Health Ministry agency in charge of maternal health, took over coordination of the GIIP, a demonstration of its strategic importance for promoting governmental acceptance of professional midwifery.

In addition to sustained outreach and networking with grantees, the Foundation held five grantee

[15] Members include the CNEGySR (also referred to as the Center)—the National Center for Gender Equity and Reproductive Health of the Ministry of Health, UNFPA, PAHO, MacArthur Foundation, Kellogg Foundation, and the National Safe Motherhood Committee.

meetings between 2014 and 2018 for the purpose of fostering networking while gaining guidance and insights from partners. The 2014 meeting helped the Foundation define the four pillars of its strategy as well as three and five-year goals. Participants emphasized the importance of having a strong communication strategy and provided ideas for coordinating activities by circulating grant summaries and creating a collective calendar. The 2015 grantee meeting focused discussion on pathways to certification. Ideas for how to improve networking were also presented, leading to development of an Internet-based networking platform the following year. In 2016, the annual meeting allowed grantees to share their advances, giving everyone a sense of their collective progress. The 2017 meeting, co-convened with the Safe Motherhood Committee and the Maternal Mortality Observatory, again provided a forum for grantees to share their work and deepen their networking. In 2018, the grantee meeting was held in conjunction with a technical secretariat meeting of the Safe Motherhood Committee of Mexico. This joint meeting created important new channels for dialogue and interaction among grantees and state policy makers promoting or interested in integrating professional midwifery models in their states.

METHODS

4. MEASURING CHANGES SINCE BASELINE

This report of changes since baseline begins with a description of methodology, followed by findings in the four areas of legal and policy framework, recognition and demand, education, and employment and quality of care. In each area, major findings are first summarized and then presented for each indicator.

4.1 Methodology

Employing a developmental evaluation approach, the methodology evolved as the Initiative unfolded. In August 2015, the evaluators conducted preliminary open-ended interviews with 20 key informants. The interviews covered each of the thematic areas prioritized by the Initiative. An Evaluation Advisory Committee (EAC) comprised of 17 experts in maternal and neonatal care and midwifery in Mexico provided thoughtful feedback on specific evaluation questions. (See Exhibit 3 in Appendix A for the evaluation questions, Exhibit 4 for the names of EAC committee members.)

Based on this input and extensive research to identify schools, employment sites, policies and activist organizations, the evaluators designed semi-structured questionnaires and survey instruments to collect quantitative and qualitative data from each type of actor. A data collection sheet and a checklist of infrastructure, material and human resources were developed to capture institutional statistics at each educational and employment site. Between August 2015 and February 2016, data were collected from 356 people in 12 states including Mexico City.

Over a year after the baseline data collection, on April 24, 2017, the Evaluation Advisory Committee was convened to review progress since baseline, including new schools and deployment sites as well as political developments. By the time 2018 data collection began, 10 sites had been awarded sub-grants through a competition supported by the Foundation. The evaluators visited each of the sites that had initiated project activities even though in some cases the activities were incipient.

Data collection in 2018 emphasized assessment of progress towards the specific indicators. As with baseline, interviews were designed for each type of boundary partner. The exception were physicians,

who were interviewed only in 2015. The same data collection sheet was used for capturing institutional statistics at employment sites and a checklist of each institution's infrastructure and material and human resources. Between February 1 and June 30, 2018, data were collected from 399 people in 18 states (Table 1, Appendix B).

Evidence-based practices were assessed at both data collection points. For the 2018 data collection, two practices were eliminated from the list that were no longer significantly practiced anywhere in the country, and two others were added at the suggestion of the evaluation advisors. Thus, while in 2018 data report on the complete list of practices used in 2018, the comparison between baseline and in 2018 includes only those that are the same in 2015 and 2018.

Evidence-based practices (EBPs) used during baseline and in 2018	
• Choice of person to accompany • Avoid routine use of IV • Woman uses her own clothes • Avoid oxytocin during labor • Autonomous decision-making • Avoid routine external rupture of membranes • Freedom to walk and move about • Consumption of liquids • Consumption of foods • Woman decides in what position to give birth • Avoid routine episiotomy • Avoid Kristeller maneuver • Immediate skin-to-skin contact • Delayed cutting of umbilical cord • Avoid manual exploration of uterine cavity without anesthesia • Avoid routine or prophylactic use of antibiotics in newborn • Avoid nose and mouth aspiration of newborn • Respect for cultural practices (use of amulets, handling of the placenta, etc.)	
EBPs added in 2018	**EBPs eliminated in 2018**
Check placenta for completeness Use partograph	Avoid enema Avoid pubic shaving

At baseline and in 2018, informants were assured that their comments would be kept confidential. All informants consented to being included in the list of collaborators (Exhibit 5, Appendix A).

Between February and May 2016, all baseline data were entered into Excel® databases and quantitative data were transferred to SPSS®. The 2018 data from directors of employment sites, midwives and women service users were captured directly in Qualtrics® survey software during the months of February and July. Frequency distributions and cross tabulation analyses were carried out in SPSS® for the quantitative data. Data from interviews with national and state officials, at baseline and in 2018, were recorded (with prior permission) and some were transcribed verbatim, and where possible entered into Qualtrics®. Longer texts were coded into basic response categories. Quotes from these transcripts and from open-ended questions in the semi-structured interviews illustrate key points in the report.

4.2 Methodological Limitations

Governmental Actors—Interviews with national and state-level officials focused, among other topics, on their perceptions of midwifery and various types of midwives. In 2018, it was apparent that many officials had read the baseline report and therefore knew the pro-midwifery perspective of the Initiative. It was difficult to discern whether or how this affected their responses but may have influenced some to speak more positively about midwifery than they might have otherwise.

Midwifery Champions—The universe of actors interviewed at baseline and in 2018 overlaps significantly with the Foundation's circle of grantees and collaborators, meaning these individuals are at the same time protagonists and informants. This self-referential loop was unavoidable because the PRH program was a principal source of support in the field. To the extent possible, midwifery proponents outside the Foundation's circle of relationships were included and their perspectives taken into account.

Education—Some data was not available at the time of the 2018 data collection, for example, for some 19 affiliates of the National Autonomous University's obstetric nursing program (ENEO) who may or may not be currently training in birth attendance. In addition, the information presented is based on the practices and characteristics reported by educational program directors without independently confirming them through student interviews or curriculum analyses.

Employment and Quality of Care—Data on quality of care are based on self-reporting by midwives or women clients, not on actual observation of practices, possibly resulting in over-reporting of evidence-based practices performed and underreporting of practices that should be avoided. In addition, due to time constraints, it was not always possible to interview midwives who worked weekend or night shifts. Follow-up phone calls were attempted after some site visits with mixed results. Five women service users were interviewed per site wherever possible, a number deemed adequate and more realistic given difficulties encountered at baseline.

RESULTS

5. CHANGES SINCE BASELINE

5.1. Legal and Normative Framework

The Theory of Change recognizes that in order to achieve "lasting institutionalization of professional midwifery in the health care system, a favorable policy environment is needed, along with increasing availability of and demand for midwifery services, midwifery champions, and resources from the state to support training programs and schools."[16] The Initiative's guiding objective was to support diverse actors as they promote favorable norms and policies and their application. During implementation, the strategy prioritized actions to create an enabling policy environment for professional midwifery with support for research, information sharing and advocacy.

[16] Population and Reproductive Health Program/Mexico Plan for Capstone Grant making 2015-2019, October 2014.

Objective: Promote favorable norms and policies and their application

Total spent: $3,061,000[17]
Grants at baseline (6): $1,786,000
Grants since baseline (4): $1,275,000
Grant support:

- *To help midwifery proponents gain or strengthen technical skills in leadership and advocacy*
- *To showcase work being done in Mexico through participation of midwifery champions at international forums*
- For research to inform policymakers of women's perceptions about the quality of maternal care they have received by different types of providers
- For efforts to describe potential midwifery models of care
- For efforts to coalesce the movement of key actors in forums such as the GIIP

Italics indicate new since baseline

Specific methodology

At baseline, the evaluation team documented the framework that governs midwifery—from international agreements and norms to Mexico's Constitution and National Health Law, specific norms and codes of practice, and state-specific initiatives. Forty-seven national and state public officials were asked what laws and norms support or hinder the institutionalization of midwifery in the public health system and what is needed to move forward. The 2018 evaluation looked for changes in the legal, normative and policy framework as it pertains to midwifery, speaking with 86 informants, including an expanded number of state-level authorities.

# public officials interviewed		
	Baseline	2018
National	14	18
State	33	68
Total	**47**	**86**

Summary of findings

In 2015, the baseline assessment found that Mexico's legal framework allowed midwives (obstetric nurses, technical midwives and trained traditional midwives) to work in the public health system but said nothing about where they should work or what role they should play vis-à-vis other health care providers. The Health Ministry had employment codes for obstetric nurses and technical midwives, making it possible to employ those with professional credentials in the public health system. In April 2016, the newly published Official Norm 007—the country's most important standard relating to maternal and perinatal health—mentioned midwives for the first time as qualified providers for low-risk births. Limited resources were available to states, particularly those with high maternal mortality rates, to hire midwives, although only a few states requested funds.

Notwithstanding these advances, midwives had difficulty finding a place in the health system due to commonly held misperceptions about their ability to provide quality care and a lack of guidelines for implementing midwifery models of care. Midwives depended on the support or initiative of a few key leaders or directors in order to practice, making them vulnerable to changes in policy or leadership. Health officials interested in promoting midwifery had to find their own way to operationalize the

[17] Grant totals shown here include number of grants whose primary objective was in this area, although total amounts expended include grants whose secondary objectives were in the specific area.

practice of midwifery, usually fighting rigid regulatory requirements or resistance from unconvinced personnel.

The baseline evaluation found that the normative framework supported many evidence-based practices that characterize a midwifery model of care but inconsistencies with regard to standard practice left room for interpretation and resulted in much variation at the clinical level. Consistency and clarity around evidence-based practices is important for quality of care in general but is particularly important for legitimizing certain aspects of midwifery practice. Oversight and implementation of the norms posed a related challenge, contributing to discrepancy between often favorable opinions of high level policy-makers and a less favorable reality on the ground (see Exhibit 6, Appendix A).

These baseline findings highlighted the need for a high-level policy mandate to reframe midwifery as a key component of an evidence-based model of care, not merely a type of service provider—and operational guidelines for incorporating professional midwives into diverse care settings. At the same time, actions were needed to build understanding and confidence by showcasing successful experiences already underway.

In 2018, proponents have succeeded in moving professional midwifery from the fringes of maternal health strategy into the purview of national policy-makers. Four health system agencies acknowledge or have taken steps to advance midwifery in their programmatic frameworks, or have introduced guidelines for maternal and neonatal care in which midwifery is implicit. This expanded interest has yet to produce new norms or policies around professional midwifery, and there is still much room to expand knowledge and understanding about models of practice and their potential contributions to improving maternal health outcomes. The advances are important, however, because they signal to other public officials and service providers that midwifery can be an effective and viable approach, setting the stage for more comprehensive policy-level change.

In addition to progress at the national level, 14 states—three more than in 2015—are implementing professional midwifery models of care. Their experiences feature distinct approaches and provide important lessons for advancing professional midwifery in diverse contexts.

Access to public resources continues to be a concern for those trying to maintain or expand midwifery experiences, as is a desire for greater leadership from the federal level. For many national and state actors, a national commitment or mandate, accompanied by appropriate policies and budget resources, is now needed to leverage the advances that have been made–new knowledge and interest, unique methods, and documented impact–toward broader and more permanent integration of professional midwifery in Mexico's public health system.

Indicator 1: Policy proposals are developed, presented and discussed among diverse actors	*Finding:* Midwifery proponents or champions are providing information and technical support in ways that are helping to define policy priorities, although they have not yet presented concrete policy proposals.

The July 2018 national elections in Mexico shaped the political context during the last year of the Midwifery Initiative by limiting possibilities for significant change with the outgoing government but offering opportunity to position a robust and well-developed midwifery agenda with incoming national and state government leaders. In this context, while midwifery champions did not develop or present

policy reform proposals, data show multiple contributions to improving current policy and practice, as well as dialogue and convergence intended to inform the emerging health policy agenda. Efforts mentioned by various sources include:

- In the area of midwifery education, champions outside of government worked closely with Health Ministry officials in two agencies to build understanding of professional midwives' competencies, improve curriculum and open spaces for midwifery at state universities. Their work was aimed at creating a virtual toolbox for midwifery educators and a core curriculum based on ICM competencies, both potentially important resources for policy makers, regulatory authorities and educators.

- Several groups worked to raise awareness among medical personnel and state health authorities. For example, one organization launched a 10-hour e-learning course, available on the PAHO virtual campus, as a way to sensitize medical personnel to the values and basic principles of midwifery. The group worked closely with the Health Ministry's education agency to gain their endorsement and was invited to present the course to their training directors for use with all health professionals. In Veracruz, the state Health Ministry required all personnel to take the course, resulting in more than 2,200 participants from that state alone. Similar sensitization and training efforts by other organizations reached hundreds of medical personnel and health authorities in other states, including Morelos and Guerrero.

- Efforts to prepare for the presidential transition and shape the emerging policy agenda included:
  - A forum entitled "*¿Lo que les preocupa los ocupa*?" (Do your concerns guide your actions?) brought together representatives of presidential candidates to discuss midwifery and other maternal health priorities. Following the forum, senior staff representing the new president requested and received from midwifery champions a document explaining why and how to incorporate professional midwifery in the public health system.
  - The 2018 annual meeting of a key maternal health coalition, which convened diverse actors to discuss the challenges of securing resources for midwifery models of care. Participants were concerned that resources from Seguro Popular's Anexo 4, available to all states, do not include professional midwifery services as an allowable expense, and that the important AFASPE mechanism (resources allocated by the CNEGySR for maternal health initiatives) was limited in size and scope. The meeting drew unprecedented participation from state and national health ministry officials, other federal agencies, national and state civil society organizations, and multilateral institutions. As a result of the dialogue, participants agreed to position the topic as a priority before presidential candidates and their advisors with concrete recommendations for moving forward.[18]

Indicator 2:	*Finding:*
At least one federal health agency commits to, and takes action toward, institutionalizing professional midwifery as a solution to maternal health concerns	Three federal agencies have shown expanded interest in or taken action to strengthen professional midwifery, and a fourth introduced a new model of care in which midwifery practice is implicit.

[18] Acuerdos de CPMSM, 6ta Reunión Técnica Nacional de Salud Materna y Neonatal (Agreement of the Sixth National Maternal and Neonatal Health Meeting, Safe Motherhood Committee).

CNEGySR—Mexico's most important normative agency for maternal health participated in the GIIP and contributed to discussions of a midwifery agenda even before baseline, and since 2015 has expanded efforts to encourage and enable state Health Ministries to contract professional midwives. CNEGySR played a leading role in the development of professional midwifery programs in states like Tlaxcala and gave technical and financial support to multiple states.[19]

In 2017, the CNEGySR took a first step toward incorporating midwifery into its formal commitments by developing a Model for Professional Midwifery Services. An executive summary of the model, presented to midwifery and public health system allies in draft form, acknowledges the legal underpinnings and body of research that supports professional midwifery with emphasis on the potential contributions of midwifery services in the continuum of care. The model was lauded for expanding understanding of professional midwifery services as a concept and for incorporating nurses as key providers. It was not published before the pre-electoral moratorium began in April, but may represent an important conceptual body of work for future Health Ministry officials.

The Model for Professional Midwifery Services, with its emphasis on obstetric and perinatal nurses, who they view as qualified, existing providers, and on the concept of midwifery services rather than a new category of provider, was welcomed by other Health Ministry actors who were previously uneasy with the idea of creating a new profession.

We need to get away from talking about midwifery as a profession and move toward talking about midwife services. (federal official)

Actors within and outside the Health Ministry recognize the significance of the model, although several believe it does not go far enough in terms of operational specificity, defining appropriate labor codes, or recognizing birth care and women's autonomy as central aspects of midwifery services.

The operationalization is what I would have liked to see… something more detailed; it is very general. (federal official)

It is very conceptual, but that may be okay for a first step so that [we know] what we're talking about when we speak of professional midwifery. (federal official)

Their model doesn't have any legal standing… it is a public administration document that is not grounded in law. It is linked to a norm but, in order to modify infrastructure, the norm isn't enough. This is more an agreement to work on the topic. (civil society actor)

The conceptual model is good, but they need an operational model. (federal official)

The model doesn't describe continuum of attention or speak of autonomy. It talks about teams of providers without saying how. It doesn't propose changes… there is no innovation. (civil society actor)

CONASA—The National Health Council is a cabinet-level platform that establishes priorities for the health sector and convenes state health officials quarterly to monitor progress in areas where agreements have been made. The CNEGySR was instrumental in locating professional midwifery as a topic of discussion in CONASA's *Arranque Parejo en la Vida*[20] committee in November 2016. The discussion resulted in a unanimous agreement to promote midwifery in all public health institutions and an intention to present the topic to CONASA.[21] The action has symbolic importance but must be taken

[19] Because the agency does not distinguish between birth care and other midwifery services along the continuum of care, not all states or sites that they support fit the criterion for inclusion in the evaluation.

[20] Fair Start in Life program.

[21] Acta de la Segunda Reunión Ordinaria 2016 del Comité Nacional de Arranque Parejo en la Vida, 9 de noviembre de 2016 (Agreement of the Second Meeting of the National Equal Start in Life Committee).

up by CONASA in order to become an agreement that holds state and health institutions accountable. One federal official explained it is unlikely that midwifery will be deemed a priority by CONASA without direct political support from the sub-secretarial or higher level.

DGCES—The Health Ministry's Directorate General for Quality and Education in Health (DGCES) is now directly involved in advancing midwifery in the context of CNEGySR's emphasis on professional midwifery services provided by specialized nurses and technical midwives. Expanded coordination between the two agencies, facilitated by the GIIP, is a significant advance that has shaped how midwifery is positioned in the Ministry of Health, giving the topic broader relevance. In addition to supporting the virtual course mentioned above, DGCES launched its own virtual campus in 2017 to facilitate continuing education for public and private health personnel (http://educads.salud.gov.mx). The curriculum includes a course on evidence-based care for women and newborns that is oriented around midwifery principles. With more than 130,000 health personnel enrolled in courses in the first year, the platform offers significant potential for expanding knowledge and acceptance of midwifery concepts throughout the sector. Agency officials recognize that midwifery is not included in the platform as such but are exploring the possibility of bringing a more explicit reference to midwifery to the platform in the future by incorporating aspects of the virtual midwifery course.

DGCES' Nursing Directorate (DE) similarly supports the advancement of a midwifery agenda. This division reports directly to the Director General and is charged with proposing policies, creating norms, guidelines and recommendations, and coordinating actions in all 32 states. Linked directly to the Permanent Commission on Nursing (CPE), which advises the Minister of Health on topics related to nursing, the DE makes recommendations and develops strategic programs to improve nursing education. Together the DE and the CPE coordinate the entire nursing sector.

The DE's interest in professional midwifery was awakened by the CNEGySR's repositioning of the concept to focus more on existing personnel, namely obstetric and perinatal nurses, as professional midwives. After baseline, the DE and DGCES participated in the GIIP alongside their Education counterparts, provided leadership in development of the COMLE certification program, and played an active role on the evaluation committee of a national competition for innovative midwifery models of care sponsored by PAHO and the MacArthur Foundation.

> *There have been big advances in two years in visibility of (professional midwives). We are now trying to convince other political actors that obstetric and perinatal nurses have the competencies…. It is an important challenge to convince physicians that we're not competing, we don't want to take away their job, rather to complement.* (federal official)

The DE played a leading role, alongside CNEGySR and PAHO, in updating Official Norm 020 (NOM020-SSA3), which regulates the practice of obstetric and perinatal nursing in the National Health System, including standards of practice for attending births. While NOM007 (2016) states that obstetric nurses, technical midwives and trained "traditional" midwives can attend low-risk births, a proposal for NOM020, that will regulate obstetric nurses, was in a second stage of legal review in 2018. This norm faces some resistance due to concern that the expanded role of nurses would displace other medical personnel. Once published, the revision to NOM020 will represent a significant normative advance, although only for nurse midwives.

DGPLADES—The Directorate General for Planning and Development (DGPLADES) is the Health Ministry agency charged with developing models of care for the whole health sector. Their Office of Traditional Medicine and Intercultural Development (MTDI) has been a committed proponent of humanized, women-centered models of care that contemplate diverse providers engaging in midwifery-style forms

of practice. While their commitment to this type of care is not new, DGPLADES made an important advance in June 2018 by publishing specific guidelines for implementation of its Model of Care for Women in Pregnancy, Birth and Postpartum.[22] While DGPLADES has historically worked to support indigenous "traditional" midwives, the model and the new guidelines are applicable to all health system personnel in the country. The agency is not charged with operationalizing the model but provides initial training and support to states and health agencies upon request.

The DGPLADES model reflects years of prior work but took on new urgency in July 2017 following the National Human Rights Commission's General Recommendation 31-2017, calling for accountability and concrete actions to reduce obstetric violence.[23] The Recommendation was the product of two years' effort by the Commission with numerous interviews and contributions by external experts, with support from the MacArthur Foundation and the Kellogg Foundation. The Recommendation's intention is not to punish those who commit obstetric violence, rather to show the correct way to provide obstetric and neonatal care using the DGPLADES model. DGPLADES presented its model before the National Human Rights Commission and later in a Supreme Court forum and to more than 100 obstetricians representing various health sector institutions nationwide. In September 2018, DGPLADES was invited to present the model directly to the Minister of Health.

While DGPLADES and CNEGySR historically worked closely to forge a unified vision and discourse in the Health Ministry, this collaboration has diminished in recent years. This is evident in the very different models introduced by the two agencies in the last year, each designed with little or no input from the other agency and very different perspectives on what is needed to advance.

Indicator 3:	*Finding:*
States make policy or normative changes to incorporate high quality midwifery practices	Two states have incorporated midwifery concepts into maternal health policy, providing important examples of state initiative and leadership.

The 2018 evaluation identified 14 states that have on-going, new or incipient efforts to incorporate professional midwifery in their health systems as a strategy to improve the quality of maternal and neonatal health care. These experiences offer rich diversity and important lessons about what might work in different contexts. In two cases, however, state governments have integrated the concept of midwifery or midwifery models of care into their Health Ministry's policy framework.

- The **Veracruz** Health Ministry defined a two-year *Strategic Plan for Maternal and Perinatal Health 2017-2018*, to provide maternal and perinatal health services grounded in evidence-based practices and respect for the rights of women and newborns. The model, which includes a *parto amigable* (friendly birth) approach to combat obstetric violence, has broad support from the health minister, division directors, technical committees, department heads and various other officials. To ensure compliance with the Mexican normative framework, the Plan specifies actions to train personnel, including "non-medical hospital professionals" in accompaniment of normal births.[24] While the plan does not refer specifically to midwifery, the state health ministry in place before the 2018 elections

[22] DGPLADES-SSA 2014. Modelo de Atención a las Mujeres durante el Embarazo, Parto y Puerperio. Enfoque Humanizado, Intercultural y Seguro. Guía de Implantación. Secretaría de Salud. (Model for Attention to Women during Pregnancy, Birth and Postpartum).

[23] Recomendación General No. 31/2017 Sobre la Violencia Obstétrica en el Sistema Nacional de Salud. See: http://www.cndh.org.mx/sites/all/doc/Recomendaciones/generales/RecGral_031.pdf.

[24] Plan Estratégico para la Salud Materna y Perinatal en Veracruz 2017-2018. (Strategic Plan for Maternal and Perinatal Health 2017-2018), section 2.1.4.

was fully committed to integrating the services of professional midwives in attending normal births as part of multidisciplinary teams of practice. The initiative stressed the importance of connecting with national and international leaders in maternal and perinatal health and evidence-based practices, and provides training opportunities for health system personnel via the PAHO virtual campus and the health ministry's own online platform. It remains to be seen whether this program will continue under the new state government.

- The **Guerrero** state government and Health Ministry officials have received national and international recognition for leadership in the integration of professional midwifery as a strategy for providing high-quality and culturally relevant maternal and perinatal health care grounded in evidence-based practices. The state's health minister was invited to present their model at the 71st Global Health Assembly of the World Health Organization held in Switzerland in May 2018. Guerrero has the only public technical midwifery school (Tlapa) in Mexico. The school receives support from the state government for a program that is uniquely focused on indigenous students who are committed to working in the health system and in their communities. In addition to providing resources and broad political support, the health ministry signed an agreement of access to clinical practice at all hospitals in the mountain region where the school is located, thus resolving a problem that has hampered midwifery education elsewhere. The state's midwifery initiative also extends to empirical indigenous midwifery practice and a perinatal nurse training program. State government actors interact frequently with a broad and well-coordinated group of civil society organizations promoting midwifery in Guerrero, as well as national and international actors, other state agencies, and other state governments, in an ongoing effort to enhance its midwifery models of care.

Other state governments have supported the design of midwifery experiences or models of care, although not at the level of state policy. These include **Tabasco**, which was piloting a successful midwifery experience in one Basic Community Hospital with significant success, including a high (and growing) proportion of births attended by midwives, documented reduction in cesareans, and a reduced number of women referred to hospitals. **Tlaxcala** developed a midwifery model of care at the initiative of obstetric nurses who wanted to specialize in perinatal care. They received support from the state's Ministry of Health and the national CNEGySR in development of the model. In **Morelos**, the state government and Health Ministry developed a Sentinel Health Center model of care and opened the first-ever undergraduate degree program in professional midwifery.

In three states, officials commented that they would like to expand their midwifery commitments but are limited in their ability to do so by human resource constraints. At least six states (including Veracruz) mentioned they were considering opening midwifery schools in their states in response to the shortage, although they recognize this would not be a short-term solution.

Indicator 4: Resources are allocated by federal agencies, states and/or private institutions to fund professional midwifery training or deployment programs	*Finding:* Federal budget resources for midwifery training and deployment continue to be limited, and only one state provides significant and sustained support for midwifery training. Private agencies such as the MacArthur Foundation have been a key source of support for state actors looking to initiate or strengthen midwifery programs.

Since baseline, reductions in federal health budgets have impacted maternal health programs at all levels. Not only have these funds not grown, one source documented a substantial decrease in the Health Ministry budget for maternal and perinatal health between 2013 and 2018.[25]

At baseline and again in 2018, the same three funding mechanisms were available to state health ministries for health care initiatives. Two of the three have dedicated funds for maternal health; only one prioritizes midwifery:

- Ramo 12 funds are allocated annually through AFASPE agreements for maternal health priorities defined by state health officials in consultation with CNEGySR. AFASPE resources are intended to strengthen training and help states contract professional midwives rather than providing comprehensive or long-term program support. In 2017, the CNEGySR distributed almost nine million pesos (over $500,000 US dollars) to 10 states to contract 11 perinatal nurses, 9 obstetric nurse midwives, 9 general nurse midwives, and 17 technical midwives, in addition to training and sensitization workshops for improving obstetric care.[26] National officials say the funds are flexible and respect state sovereignty, while some state officials and national actors reported that the agency has a significant say in defining concepts and allocations. The funds are widely recognized as the most important source of national support to initiate or seed state midwifery efforts.

- Seguro Popular is a vast public health insurance system that provides health coverage to almost half of Mexicans who are not enrolled in other health care programs. The system decentralizes maternal health funds to the states through Annex 4, an agreement that defines spending concepts in the areas of service delivery, preventive actions and maternal health promotion. A Universal Catalogue of Health Interventions (CAUSES) lists all interventions eligible for coverage and the allowable amounts. Seguro Popular officials recognize states' autonomy in determining the destination of these decentralized resources, although the funds can only be used for procedures listed in the CAUSES and performed by recognized personnel at an accredited facility. In 2018, interview data found differing opinions about whether Seguro Popular could be used to pay for professional midwifery services. It appears to be rare, at best, and can only happen if the midwife does not appear as the provider since professional midwives are not recognized as authorized personnel.

- Ramo 33 is not focused on maternal health, rather it is a budgetary mechanism that transfers national resources to states and municipalities for expenditures in education, health, infrastructure, public security, food programs and social security, and educational infrastructure. The health component alone includes broad concepts such as medical attention, hospitals, maintenance, personnel, supplies, medicine, and equipment. While these resources are available to all states and can be broadly applied, this breadth also means that there is significant competition for the funds making it difficult for state maternal health programs to compete.

Guerrero has given significant and sustained support for the state's technical midwifery training program, which is also the only program to be created as a decentralized public entity. More recently, pro-midwifery groups successfully negotiated with state authorities to get a budget line item for hiring professional midwives in Michoacán.

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[25] Díaz Echeverría, Daniela. 2017. El presupuesto en salud para las mujeres: recorte sobre recorte. (The health budget for women: cuts and more cuts). CIMAC Noticias, December 11, 2017. See: https://cimacnoticias.com.mx/noticia/el-presupuesto-en-salud-para-las-mujeres-recorte-sobre-recorte.

[26] "Partería Profesional en México (Professional Midwifery in México)". PowerPoint® presentation by the Director General for Maternal and Perinatal Health, CNEGySR, February 2018.

Because resources from national agencies have decreased since baseline, and state contributions are only beginning to expand, private institutions such as the MacArthur Foundation, international agencies and some organizations continue to be critical sources of support for professional midwifery in Mexico. Seven of 23 new midwifery insertion sites identified in 2018 received support from PAHO and the MacArthur Foundation as part of a national competition (the sites are indicated on Table 12, Appendix B). CASA similarly provides financial and technical support to emerging midwifery initiatives of states whose officials participate in its introduction to midwifery online course.

Additional finding:
While states are successfully advancing midwifery models of care without a national-level mandate, state-level officials claim the lack of a mandate makes the road more difficult and leaves the sustainability of their programs in question.

At baseline, employment codes and changes to NOM007 had opened the door for states to incorporate midwives into their public health services, but it was not easy for them to do so without federal guidelines indicating where midwives should work or what role they should play vis-à-vis other health care providers. State health officials interested in midwifery had to find their own way, often fighting rigid regulatory requirements or resistance from unconvinced personnel. The lack of a national mandate also meant that once they were operating, midwifery programs were dependent on the interest or initiative of a few people and thus vulnerable to changes in government or leadership.

In 2018, states show even more innovation and leadership in promoting professional midwifery, but many state-level proponents worry that their experiences might not survive a change in leadership. For example, state health officials in Veracruz worked quickly to develop and launch a state-of-the-art maternal health strategy that includes a professional midwifery component. Their work prioritized sensitization of public health officials from the highest levels of government down to the operational level and required personnel to receive training to ensure broad adherence to norms and guidelines that reinforce evidence-based practice and a humanized or midwifery model of care. Their efforts were an attempt to stack the deck, so to speak, in favor of the model's continuation after the 2019 change of government.

> *This is why it is so important that changes occur at the federal level. They are the only ones that can make normative changes that are harder to reverse.* (state official)
>
> *A mandate is needed so that models don't depend on administrative decision.* (state official)

Officials in Veracruz and other states that faced re-election (Chiapas, Morelos, Puebla, Tabasco, and Mexico City) called for leadership from the national Health Ministry to ensure the advances they have made are sustainable.

Three national officials said a high-level mandate with new laws or guidelines is not needed, saying progress will happen at the local level without such a decree. But for state actors who wrestle with regulatory and budgetary obstacles that only the federation can resolve, this argument is not convincing.

> *[Our state] is working without (guidelines)… nothing was written, no law was changed. It is easier to do small pilot projects than something large and national.* (federal official)
>
> *It is not true that the states are sovereign. The federation has significant weight (authority). If the federation says x or y, it would be rare for a state not to follow.* (state official)

We have to abide by norms, and those are defined by the federation. (state official)

We cannot include professional midwives in the public health system until federal legislation changes the National Health Law. The law needs to state that professional midwives exist and are legitimate health caregivers in order to promote professional midwifery in Mexico. (state official)

Seven federal officials and four nongovernmental actors echoed state officials' call for greater national government leadership to consolidate the gains that have been made, and to lay out a path forward for all health sector institution.

With a change of government coming in (state), who knows what will happen to their program? Without a national public policy, a program depends on whether a person likes the topic. This doesn't serve the national interest. We need a national policy that all institutions can fall in line with. (federal official)

I think the Health Ministry should take the lead and promote this agenda permanently… create working groups and models that have budgets. First there has to be political will and then the rest will flow more easily. (federal official)

This is the time to look at the normative framework and laws to see what is there and what is missing or needed…we need a normative and regulatory map to pinpoint needs. (federal official)

Progress has taken place in reverse…. Now it is clear that to sustain this progress professional midwifery needs to be integrated into the system. This means putting the figure in the National Health Law… to enable alignment in oversight of establishments. (federal official)

5.2 Recognition and Demand

The Theory of Change recognizes the important role of midwifery champions in shaping the public agenda by advocating for legal, normative and policy changes needed to successfully integrate high-quality professional midwifery into Mexico's public health system, as well as for expanding knowledge and support for professional midwifery more generally. This was the Initiative's largest area of investment, with almost all grants contributing in some way to expanding recognition and creating demand.

Throughout the Initiative, program efforts supported the vision outlined in the Theory of Change, with expanded focus in the final two years on encouraging dialogue and cross-sector collaboration among diverse midwifery proponents to forge common agendas that would lead to policy-relevant proposals and initiatives.

Objective: Strengthen networks and leadership, promote legitimacy and demand

Total spent: $5,928,200
Grants at baseline (11): $2,628,800
Grants since baseline (14): $3,300,000
Grant support for:

- *Media productions and creation of messages to foster greater understanding of professional midwifery and expand demand*
- *Encouraging information sharing among midwifery proponents*
- *Helping professional midwives gain professional acceptance*
- *Launching a certification program*
- *Augmenting sustainability by improving fundraising capabilities of pro-midwifery organizations*
- *Continued (since baseline) support for innovative state-level work in Chiapas, Guerrero and Michoacán*
- Encouraging networking of pro-midwifery champions with other local, national and international actors in the nongovernmental and policy arenas
- Disseminating pro-midwifery messages to raise awareness among reproductive age women and the general public

Italics indicate new since baseline

Specific methodology

The evaluation looked at individuals, organizations and institutions working to build understanding and create a more favorable environment for midwifery practice. These champions include midwives, civil society organizations (CSOs), academia, multilateral agencies, private foundations, as well as some public officials who are leading change in their agencies. Some of these individuals support midwives through efforts to strengthen the profession, amplify their voices, or expand employment options in the public health system. Others employ broader strategies to advance evidence-based, women-centered models of maternal and neonatal care in which midwifery is an important alternative for low risk pregnancies.[27]

At baseline, semi-structured interviews were conducted with 22 nongovernmental actors in Mexico City and six states. The purpose of the interviews was to identify the actors who were shaping the midwifery agenda and understand their achievements and challenges. In 2018, 15 interviews were conducted in Mexico City and three states, speaking with many of the same individuals. Interviews in 2018 looked for changes in size and composition of the pro-midwifery networks, new efforts to inform or shape public policy, and levels of recognition and demand among the audiences they seek to influence.

In addition to individual interviews, LOME, an electronic mapping application[28] provided complementary data to document changes in the depth and nature of the pro-midwifery network during the 2015-2018 period. Foundation grantees and members of the Evaluation Advisory Committee in 2015 were invited to initiate the mapping process and again in 2018 to include new grantees and EAC members. The

[27] Various terms are used to describe this alternative paradigm, including "*parto humanizado*" (humanized birth), "*parto digno*" (dignified birth), "*atención centrada en la mujer*" (woman-centered care), "*parto libre*" (free birth), "*parto respetado*" (respectful birth) and "*parto amigable*" (friendly birth), each with its own set of protagonists and detractors. For evaluation purposes, we use the terms "humanized birth" and "woman-centered care" because these are the terms used most frequently by practitioners on the ground, although we recognized that it is not universally accepted.

[28] The LOME platform (www.es.lome.io).

network map is intended to grow in an organic manner over time to register changes or deepening relationships in the midwifery field.

Finally, the evaluation commissioned reviews of national and state media outlets in 2015 and again in 2018, to understand how midwifery is portrayed in print and virtual media, as a factor that shapes, and to a certain extent reflects, acceptance and demand.

Summary of findings

At baseline, the midwifery ecosystem consisted of multiple actors whose perspectives brought diversity to the field, but who often could not agree on fundamental questions of identity or agenda. Midwives—an important part of the ecosystem—had opened schools and developed midwifery practice sites despite very limited political support and outright skepticism from the medical establishment. Their potential to influence policy-level change was constrained by internal disagreement around the question of who is or is not a midwife and their consequent inability to project a unified message or agenda.

The absence of a more inclusive definition of midwifery reinforced then-prevalent thinking among decision makers and health system officials that the term "midwife" referred only to "traditional" indigenous midwives, and the widespread lack of knowledge about the concept of professional midwifery. Large numbers professionals who are an important part of midwifery practice in other countries—namely obstetric and perinatal nurses who wanted to distinguish themselves as university-level nurses—were reluctant to identify as midwives because of similar assumptions.

In addition to midwives and their organizations, the 2015 mapping of midwifery champions looked at civil society organizations providing advocacy and programmatic support in related areas of work; academic researchers working in close collaboration with CSOs and advocates to situate the field and inform public debate; multilateral agencies such as UNFPA, PAHO and the UNICEF, and private foundations that were helping to establish dialogue with other high level actors while financing studies, advocacy and pilot experiences.

Government agencies, CNEGySR and the MTDI, both in the federal Ministry of Health, in 2015 were promoting specific aspects of midwifery in their own programs and in collaboration with some civil society actors. They were considered important potential allies because of their ability to support initiatives and models of care that could seed change in the larger health system. The data showed that even in these agencies, perceptions about midwifery varied wildly and not everyone was convinced it should be part of the model of care.

The baseline inquiry found that champions were making contributions and advances, but their efforts were often isolated. The barrier to progress at that time was not an organized opposition, rather a pervasive lack of information that enabled myths and misconceptions to persist. With elections just two and a half years away, informants expressed a need for more active cross-sector collaboration and multi-stakeholder alliances to more effectively inform opinions and define policy agendas and proposals.

After baseline, the Initiative redoubled efforts to support dialogue and encourage cross-sector collaboration among diverse midwifery proponents to forge common agendas that lead to policy-relevant proposals and initiatives. Strategic grant making was reoriented around the indicators with the objective of strengthening networks and leadership to build legitimacy, promote recognition and stimulate demand.

Three years later, in 2018, civil society midwifery proponents or champions, many of whom are Foundation grantees, play an important role in shaping the public agenda by expanding knowledge and information about professional midwifery. This growing network actors is comprised of diverse interests working collaboratively to document best practice, create and disseminate information, sensitize personnel, strengthen schools and curriculum, and inform norms and regulations to facilitate midwifery practice. Despite the relatively short period of time between baseline and 2018 data collection, there is an increase in the size and diversity of pro-midwifery networks and in levels of dialogue and collaboration around efforts to advance specific areas of work.

At baseline, policymakers had limited knowledge of midwives and what they could contribute to maternal and neonatal care, and less than half were familiar with the idea of professional midwifery. In 2018, largely as a result of the work of midwifery champions, it is now a familiar concept for the many maternal health policy makers interviewed and, in some cases, is now part of their programmatic strategies. While differences of strategy and vision have made it difficult for midwifery champions to project a common agenda, the sum total of information and technical resources they are providing has fundamentally changed the way that professional midwifery is understood today and may well shape the policy choices of incoming health ministry officials nationally and in some states.

Indicator 5: Diversity, density and strength of pro-midwifery networks, including among midwives	*Finding:* The community of pro-midwifery actors is larger, more diverse and more collaborative in 2018 than at baseline.

In 2018, Mexico's community of midwifery champions is larger and more diverse, in part because many obstetric and especially perinatal nurses now identify more readily with professional midwifery. Several factors set the stage for this change, among them: more explicit reference to birth care in the curriculum of the country's two largest nursing educational programs; efforts of the Health Ministry's CNEGySR to encourage states to contract specialized nurse midwives; attention to emerging nurse-centered midwifery models of care in states like Tlaxcala; and the 2018 creation of the Association of Professional Midwives, led by prominent perinatal nurses who are also midwifery champions.

> *Two years ago, we (nurses) didn't identify as professional midwives. That has changed, in part because of the work of the CNEGySR, and with Tlaxcala as an example. It is now clear that technical midwives, LEOs, EEPS and other actors can be trained as professional midwives and receive validation with a diploma (título) and professional license (cédula).* (national policymaker)

As the profile of midwifery in Mexico broadened, Initiative partners built bridges among diverse groups of midwives through dialogue, information exchange, leadership development, and joint participation in national and international forums. These efforts enabled some midwives to see themselves as social leaders and part of a larger movement.

> *(We saw) tension and division among midwives… but a shared interest in strengthening leadership and dialogue with others*. (nongovernmental organization actor)

In addition to a larger and more diverse network of midwives, Mexico's pro-midwifery movement has grown as organizations previously working on maternal health or related fields turned their attention to midwifery. The Initiative expanded its grant portfolio to include more than a dozen organizations, many new to midwifery, that brought experience and innovative methods to strengthen leadership, facilitate

dialogue and information sharing, improve messaging and communication, or otherwise enhance the work of the larger pro-midwifery community. It remains to be seen whether these organizations will continue to work on midwifery after the Initiative closes.

A 2017 Midwifery Community Mapping carried out by a Foundation grantee documented 19 organizations working to promote professional midwifery at the national level. A simultaneous mapping of eight states showed 15 of the 19 national actors were also working in one or more states in collaboration with local groups. Guerrero and Chiapas had the largest number of pro-midwifery organizations, and the highest local representation in the networks and the most alliances.[29]

Organizations working to promote professional midwifery 2017 (national and 8 states)			
	Total number of organizations	**Number of local organizations**	**Number of alliances**
National level	19	—	15
Guerrero	14	3	7
Chiapas	12	7	9
Morelos	11	1	5
Oaxaca	10	1	3
Michoacán	7	1	4
Hidalgo	7	0	5
San Luis Potosí	7	0	0
Veracruz	7	0	0
Source: Comunidad de Partería en México: Mapeo de Resultados 2017, INSAD			

The mapping documented 15 alliances or collaborations among national champions, and a total of 33 in the eight states studied. An additional eight organizations began their midwifery work after the 2017 mapping was complete or were not identified at that time.

The collaborations among midwifery proponents feature efforts to document best practice, share knowledge, train personnel, strengthen schools and curriculum, and improve norms and regulations to facilitate midwifery practice. Examples include:

- A national campaign, launched in 2017, that unites more than 20 organizations committed to expanding recognition and demand for professional midwifery, promoting normative and regulatory reform, training medical personnel, and fostering the integration of midwives into health care teams;

- A network of 15 institutions that joined forces to strengthen the technical and pedagogical needs of midwifery faculty and training programs; and

- A statewide campaign in Guerrero to encourage expanded policy-level commitments.

The LOME electronic mapping provides additional information about the nature and density of the midwifery community. At baseline, 85 organizations and institutions (and some individuals) registered as members of the network. At that time, the mapping showed two constellations of actors with fairly

[29] Comunidad de Partería en México: Mapeo de Resultados 2017 (Community of Midwifery in Mexico: Results Mapping 2017). PowerPoint® presentation by Gabriela Díaz, INSAD.

separate relationships: on the one side, activists and international organizations and, on the other, institutions representing nurse- and technical midwives. In 2018, the number of network members increased to 93 and showed greater connectivity among types of members, indicating progress in networking and collaboration. (See Exhibit 7 Appendix A for illustrations of the connectivity in 2015 and 2018.)

Indicator 6: Key players agree on model(s) of care that describe the roles of midwives and how they should be hired	***Finding:*** Midwifery champions have not reached formal agreement on the models of care they are promoting and continue to have differing priorities around strategy. However, many are working together to improve specific components of the enabling environment.

In 2018, collaboration was far more common than at baseline, although midwifery champions still lack a strong collective voice or consensus around common objectives to advance policy-level change. The community of midwives, in particular, continues to be constrained by disagreement around fundamental issues like certification, skepticism about the skills or legitimacy of others, and concerns by some (including perinatal nurses) that the large number of obstetric nurses would eclipse other smaller (technical) or non-professional (autonomous and traditional) form of practice.

We can't say that the perinatal and LEOs are midwives because the government decided that… or because there are more of them. (civil society actor, midwife)

We have more definition and more communication, but (nothing has improved), we just know each other better…. not much changed beyond that. (civil society actor)

The midwifery field is fragmented…. There is a power struggle. (civil society actor)

On the issue of certification, for example, midwifery champions disagree about whether it is a priority or even necessary. Professional midwives who complete their studies at an accredited school earn a diploma and can then apply for a professional license at the technical or university level depending on their program of study. For these individuals, certification is seen as unnecessary, but many believe it could add another layer of validation and quality control as it would demonstrate their level of excellence on the job. For practicing midwives who do not have a diploma or professional credentials—namely autonomous midwives trained in other countries, and empirical or "traditional" midwives trained in their communities—certification is a subject of ongoing debate. "Traditional" midwives have an existing certification option through the Health Ministry's DGPLADES, and do not agree on whether a peer-based certification would benefit or threaten their practice. Despite these disagreements, many respondents believe certification in some form would demonstrate the quality of midwifery education and practice, thus expanding acceptance and legitimacy.

A women-centered model implies a reorganization of roles within healthcare teams, including shifts, personnel, physical areas… (multilateral agency representative)

(Midwifery is) not just the work of a single professional but the shared exercise between diverse health professionals, including nurses, technical staff, and also medical staff… focused on obstetric attention. (federal official)

Beyond single issues, as midwifery work has advanced, two distinct strategies or movements have emerged: the midwife as ideal provider for situations of normal birth versus promotion of evidence-based, women-centered maternal and neonatal care by all providers. The two approaches may ultimately be compatible but, at this early stage, they point to

different priorities making it difficult for advocates to build consensus around a single strategy or agenda.

This strategic disjuncture extends into Ministry of Health agencies that work alongside nongovernmental actors to promote midwifery. One agency, the Ministry's main policy vector for maternal health, has provided resources and guidance to states interested in hiring professional midwives. Meanwhile, another Health Ministry directorate charged with designing and piloting innovations in models of care has introduced (with specific guidelines that states are obliged to follow) a new model of evidence-based, women-centered obstetric and neonatal care in which skilled midwives (professional and traditional) could have a role to play alongside other providers.

Indicator 7: Knowledge and support for midwifery among decision makers, health system officials, women, families, and communities	***Finding:*** Public officials charged with maternal health policy have more knowledge of professional midwifery than at baseline. Acceptance is also somewhat more evident among officials who do not have responsibility for this area of work or whose agencies do not work with professional midwives. Most informants knew little about the midwifery initiatives that are emerging in Mexico but are interested in learning more.

At baseline, policy makers had very limited knowledge of different types of midwives and what they could contribute to maternal and neonatal care. Those who spoke positively about midwifery often associated the term with empirical or "traditional" midwifery. Less than half of informants were familiar with the concept of professional midwifery. An independent media analysis provided insight into the information deficit by showing that midwifery barely registered in the media. Messages that were transmitted about midwifery often reinforced the association with "traditional" midwives or the important, but more polemical at that moment, topic of obstetric violence.[30]

> *(Obstetric and perinatal nurses) had been at the margin of the discussion due to confusion as to whether midwifery was a separate profession. …. (With the incorporation of nurses) this can move much faster instead of trying to create a new profession with all of the obstacles that this implies, from regulatory, educational, professional, even social and labor. We can help strengthen them (to) take on greater leadership in the midwifery agenda*. (federal official)
>
> *Midwives should be LEOs and EEPs [obstetric nurses and perinatal specialists] because creating a new profession is very complicated.* (federal official)
>
> *(Technical midwives) have good experience and have demonstrated results in the ability of graduates to work in rural hospitals or intermediate setting… but the number of graduates is small.* (federal official)

In 2018, as dialogue and collaboration in the pro-midwifery field has increased, so too has the participation of public sector agencies and officials in spaces where midwifery initiatives are designed and discussed. The efforts of CNEGySR to promote professional midwifery through technical and financial assistance to states focused new attention on obstetric nurses and perinatal specialists as existing personnel able to satisfy rising demand for midwifery services, as well as technical midwives in states like Guerrero, Tabasco and Veracruz where interest was strong. In the same period of time, Health Ministry officials and high-level nongovernmental proponents have worked together in the context of the GIIP to define professional midwifery, further contributing to this shift. For several

[30] Comunicación e Información de la Mujer (CIMAC), Monitoreo y análisis de la partería en los medios de comunicación, Comparativo 2015-2017

officials, the incorporation of nurses into the midwifery paradigm satisfied their prior concerns, making it easier for them to get on board.

The 2018 media study found no growth in coverage of midwifery as a topic nor expanded visibility of midwifery champions, an indication that expanded efforts had not yet reached the level of broader public discourse. Indeed, officials in health system institutions that do not use professional midwives continue to have very little knowledge of midwifery initiatives in the Health Ministry or at the state level. But almost all expressed curiosity or interest upon learning that professional midwifery includes technical midwives as well as specialized nurses.

Only two officials (of 18) had no knowledge at all of professional midwifery, one expressing certainty that professional midwives or midwifery models of care do not exist in Mexico in any form.

Despite having limited knowledge of existing midwifery experiences, six officials (four of whom do not work on or promote midwifery) described "ideal scenarios" that are consistent with the objectives of midwifery advocates: midwives working at the primary and intermediate levels attending low risk births with autonomy, clear roles, decent pay, support, and good referral systems.

Interviews with these public officials highlighted the importance of inspirational experiences for igniting interest and expanding understanding of midwifery models of care. Most of the officials interviewed (14 out of 18) had heard about or visited one or two midwifery models of care. The impressions they shared were largely positive but uninformed about the details of the experiences or their potential to serve as models for replication.

> *We have nurses, although not all are trained or experienced in attending births. It would be fabulous to have these nurses attend (normal) births instead of doctors or residents…* (federal official)
>
> *For me (midwifery is compelling), not in terms of reducing maternal mortality—that is no longer our big problem—but rather to improve maternal and perinatal health, which is fundamental. Quality of care is an enormous challenge that requires resources and time to address*. (federal official)
>
> *Midwifery is a good option for improving access to quality care with a humanized approach.... As an electoral year, it is a strategic moment to position the topic in the public agenda information with ideas and proposals*. (federal official)
>
> *The ideal model would be to place professional midwives in locations with high productivity [number of births], where they are the primary provider, not dependent on others but also not alone… focused on obstetric care, not just births.* (federal official)

State level actors perceive greater acceptance of professional midwifery among federal officials but recognize that their experiences are still dependent on the good will of individuals.

> *We see a change in attitudes from local (state and jurisdictional) health authorities. For example, instead of sending everyone to the hospitals, they are more open to other ideas.* (state-level proponent)

In various states, health ministry officials and medical personnel have responded positively to training programs offered by midwifery proponents (CASA, INSP, Gynuity, UNFPA and PAHO, among others), resulting in expanded knowledge of professional midwifery at the state level. Michoacán, one of the only states to create a budget line item for midwifery, similarly had a high number of health officials and service providers participate in the introductory programs.

Indicator 8: Interest and action among state actors to document and disseminate examples of high-quality midwifery practice	*Finding:* Efforts to document and disseminate examples of high quality midwifery practice are incipient, reflecting the early stage of many midwifery experiences. But state officials are seeking guidance from midwifery proponents and other states through technical assistance exchanges, social media and video, e-learning programs, and other formats.

In 2018 data collection, few informants reported having received information or materials showcasing successful experiences from other states, reflecting the fact that many of the newer experiences are still developing and products may be forthcoming. Health Ministry officials in three states—Quintana Roo, Tabasco, and Guerrero—are planning, or have completed and circulated, videos to document and disseminate their experiences.

While authorities are not yet documenting actively, many are discussing best practices and challenges through exchanges with other states, often with the help of midwifery champions. Health officials in Michoacán, for example, met with Guerrero officials and several Foundation grantees to inform their planning. CNEGySR, PAHO and UNFPA have encouraged the exchange of information and convened meetings of state officials and midwives in October 2017 and again in August 2018 for this purpose.

5.3 Educational Programs

The Foundation's Theory of Change recognizes that in order to increase the number of midwives available to work in the public health system, the number, diversity and capacity of midwifery education programs must increase. The programs should agree on core competencies and evidence-based practices to include in their curricula. The strategy also proposes that certification protocols are necessary to verify that practicing midwives have the competencies required to provide safe and high-quality maternal and neonatal care.

Program strategy in this area prioritized actions to enhance the number and quality of midwifery education options. After baseline, expanded emphasis was placed on strengthening program content and ensuring access—availability of clinical practicum sites that allow students to adhere to evidence-based practices.

Objective: Expand and build on education options

Total spent: $3,862,000
Grants at baseline (8): $1,647,000
Grants since baseline (5): $2,215,000
Grant support for:

- *Scholarships for midwifery students*
- *Efforts to strengthen curricula of existing programs*
- *Technical assistance and dialogue among diverse programs*
- Availability of training materials
- Expanding technical, nurse and perinatal midwifery programs
- Promoting alternative university-level midwifery programs
- Encouraging indigenous women to apply to professional midwifery programs
- Consensus-building around certification options

Italics indicates new since baseline

Specific methodology

Methods and data reflect the indicators defined for midwifery training programs. The baseline assessment looked at different program models that train midwives qualified to work in Mexico's public health system.[31] Evaluators talked with 17 program directors, sub-directors, and clinical coordinators who provided information about 11 programs (including the four autonomous midwives or apprenticeship programs that were not included in the analysis in 2018). In addition, the evaluation team interviewed five directors at hospitals that host students and state officials who coordinate or support training programs, for a total of 22 interviews.

In 2018, evaluators interviewed 25 program directors, sub-directors, and clinical coordinators, most of whom are also faculty, in 12 programs. Additional data was provided by researchers, representatives of international organizations, national and state level technological program directors, and directors of a new program opening in August 2018, for a total of 29 collaborators.

Instruments for 2018 data collection were adjusted to add questions that arose from baseline—about clinical practice sites and networks, among other things. The 2018 data set does not include autonomous programs because they do not train midwives to enter the public health sector, in spite of important contributions to maternal health, education and enriching knowledge about best practices.

Summary of findings

Programs that train professional midwives in Mexico are greater in number, and all of the programs report high levels of adherence to evidence-based practices. The number of midwifery students has also increased three-fold, largely due to expanded training of obstetric nurses. It will take several years before there are enough professional midwives to meet estimated demand in Mexico, but progress since baseline has been significant.

The additional students present a challenge for programs as they compete for access to clinical practicum sites, although the problem may diminish as new midwifery insertion sites are developed and health authorities begin to recognize the potential contributions of midwives to their statewide goals.

The Foundation, through its grantees, supported the trend of promoting more diverse educational options by enabling conversations among training models, supporting groups setting up new programs, providing scholarships, facilitating conversation about core competencies, and helping midwifery advocates develop certification options.

Indicator 9: New and/or strengthened programs that respond to diverse needs	*Finding:* The number of accredited programs that train midwives to attend births in public health institutions increased by 57% in 2018, offering new training opportunities in all four educational models. With additional programs under development, the number of midwifery programs is poised to grow even further.

[31] Instituto Nacional de Salud Pública (INSP), a grantee, presented somewhat different data in Formación, Mercado Laboral y Costo Efectividad de la Partería en México, in their webinar presenting their results: "Resultados del Impulso al Modelo de Partería en México: Análisis y Recomendaciones desde el INSP" 28 September 2018. Discrepancies were primarily due to the fact that their research included many private institutions, as well as programs that do not currently train in labor and delivery *per se*.

The baseline evaluation identified seven professional midwifery education programs that were training midwives qualified for employment in public health institutions: two technical midwife programs, one obstetric nursing program, one undergraduate reproductive health & midwifery program and three perinatal nurse specialist programs. All were accredited educational programs, meaning they had been issued a RVOE (Registration of Official Validation of Studies)[32] by the *Comité para la Formación de Recursos Humanos en Salud* (CIFRHS), a joint commission of the Ministries of Education and of Health.[33] Of these, nursing programs were the most stable based on our data on their fiscal security, dedicated infrastructure, and high enrollments. Most of programs had faculty and students with little ethnic diversity, and most faculty were female. Most students and programs were in Mexico City, with less availability in the states and regions with the highest maternal mortality rates.

By the time of the 2018 assessment, Mexico had 12 sites that train professional midwives, an 83% increase in just over two years, with new programs in each of the four models (Table 2, Appendix B). Data show little change in the relative stability of the programs, with those located in large publicly-supported institutions having greater stability due to their infrastructure and equipment, secure public funding, and high enrollments. Obstetric nursing programs continue to rank as the most stable, with little need for outside funding (Table 3, Appendix B).

Scholarship support, a new factor considered in 2018, is important for the stability of most of the technical and undergraduate programs, and less so for the nursing programs. Despite the fact that tuition is low at state institutions, many students—across programs—receive scholarship support from Mexico's National Science Council (CONACyT), or in the form of tuition waivers, paid time off or work schedule flexibility. The Guerrero Secretariat of Indigenous and Community Affairs offers scholarships to midwifery students, the only state that reported doing so. Scholarships from the International Institute of Education (IIE)—supported by the MacArthur Foundation—are critical for most (two out of three) of the technical and undergraduate degree programs, providing support to one in five current students (Table 4, Appendix B).

In the programs for which data was available, about 22% of teaching staff[34] are physicians, and 90% of those programs have directors with the same degree as the program they direct. Technical, autonomous and empirical midwives make up a smaller proportion of the staff in almost all programs. The socio-demographic composition of the teaching staff is half female (58%), and only 11% are indigenous (most in Tlapa, Guerrero)—lower than the national percentage, and much lower than the proportion in a number of the states most served by midwives (See Table 5, Appendix B).

The proportion of technical midwifery compared to nurse midwifery programs has stayed the same from baseline to 2018. Technical midwife programs make up one fourth of the programs at both time periods, and the nursing programs and undergraduate reproductive health programs have identical percentages (17%). The perinatal nurse specialist programs are by far the most numerous, though, as graduate

[32] The UNAM as an autonomous (independent of the Education Secretariat) public university, as well as those under the Education Secretariat, have additional, internal, processes for accrediting programs.

[33] See Ministry of Education (Secretaría de Educación Pública, SEP) [http://www.sirvoes.sep.gob.mx/sirvoes/], and [http://www.sirvoes.sep.gob.mx/sirvoes/jspMarcoNormativo.jsp]. In order to meet RVOE criteria, schools must have teaching staff with degrees in appropriate fields; adequate installations or infrastructure, and sound curriculum, among other things.

[34] The 2018 analysis looked at teaching staff from the technical, undergraduate and perinatal programs. Data were unavailable from the larger universities because hundreds of faculty teach in multiple programs or teach only part-time. With one or two exceptions, each program has only one full-time staff. In most of the programs, staffing changes from semester to semester.

residencies, they produce lower numbers of students than the obstetric nursing programs (50% and 47%, respectively).

Nueve Lunas: A Unique Model

The Nueve Lunas introduction to midwifery workshop in Oaxaca does not seek to prepare midwives for insertion into the public health system, and so is not included in the evaluation, but merits attention as a special case because it offers a strong and unique model of midwifery education with evidence-based training and community ties, which have given it a strong voice in the national conversation. A MacArthur Foundation grantee, Nueve Lunas prepares midwives "*en la tradición"* (following tradition) by blending community knowledge with evidence-based practices. Students are immersed in a comprehensive program of 18 workshops (45 hours) and community practice with empirical or "traditional" midwives, with the support of community authorities. The curriculum emphasizes culture and is committed to a vision that removes midwifery from the medical domain. Unlike other programs, Nueve Lunas' tutors or teachers include empirical, technical and autonomous midwives, as well as medical personnel. The student body is similarly diverse, from indigenous to foreign students. Nueve Lunas had 15 students in 2018, down from 20 in 2015. The program has not sought accreditation but follows the ICM list of competencies and meets the evaluators' list of 22 practices almost completely, the only exception to this list is that they do not use oxytocin in the third stage of labor to deliver the placenta.

Future programs—In the months following 2018 data collection, two additional midwifery education programs were poised to begin operation, and one may close:

- Perinatal Nursing Specialty at the Women's Hospital in Yautepec, Morelos will re-open in 2018.
- An undergraduate degree in Reproductive Health and Midwifery at the Technological University of Tulancingo in Hidalgo is set to open in August 2018.
- Mexico's founding midwifery program, CASA, will close its doors as the organization's new leaders contemplate future directions.

Several additional education programs were detected in 2018, at various stages of discussion, design or development. These possibilities include:

- Three undergraduate degree programs at the intercultural universities in Hidalgo, Mexico State and Veracruz
- Three post graduate perinatal specialist programs at the Autonomous University of Hidalgo, General Hospital in Mexico City, and National Institute of Perinatology in Mexico City, and a planned reopened program in Morelos.
- One maternal health program at the Polytechnic University of the Huasteca, in Hidalgo
- Multiple (1 to 20) new or expanded obstetric nursing programs at autonomous universities in Guerrero and Quintana Roo, and multiple affiliates in several states of the ENEO-UNAM's obstetric nursing school

Reflecting on the significant—and potentially ongoing—increase in midwifery education programs since baseline, the change that has most impacted the numbers of professional midwives in training is the ENEO-UNAM decision to modify its curriculum to include more women-centered and evidence-based practices and prepare obstetric nurses for labor and delivery care. While this change adds just one educational site to the total for 2018, it represents a major change in the panorama for nurse midwives because of its stability, numbers, and potentially broad geographic reach. The other five new sites are

among the least stable programs, as may be typical of new schools: two are the least stable (score of 2.5/5) and the others only somewhat better (3.5/5) (Table 3, Appendix B).

In sum, there are more accredited programs with varying degrees of fiscal stability, property ownership, equipment, and scholarships.

Indicator 10: Students enrolled, graduated and/or licensed	*Finding:* The number of midwifery students enrolled at the beginning of the 2017-2018 academic year increased over three times compared to baseline, with the largest increase coming from expanded training of obstetric nurses.

Baseline research identified 651 midwifery students.[35] In 2018, there are 2,148 students enrolled in midwifery training programs, an increase of over 300%. Of these, most (90%) are in undergraduate obstetric nursing programs; the rest are in technical midwifery (4%), undergraduate reproductive health (2%), and perinatal nurse specialist programs (3%) (Table 6, Appendix B). The largest contribution to the increased number of students (1,400) comes from ENEO-UNAM obstetric nursing students who entered after the obstetric nursing curriculum was revised in 2015 to include a more woman-centered approach and evidence-based medicine with training in attending births.

If the goal were for midwives to attend 389,364 births, or 20% of Mexico's 1.9 million normal births,[36] at the WHO estimated rate of 175 births per midwife per year,[37] Mexico needs over 2,000 midwives. Given current enrollments, and an estimated yearly production of just under 600 midwives per year, Mexico could have 2000 midwives within four years (see Table 7, Appendix B). The timeline could be even shorter if new accredited programs began operation. Many more midwives are needed if a higher percentage of midwife-attended births were desired, like the 60% to 70% in Chile and Peru, countries that have successfully institutionalized midwifery.

However, this timeframe is contingent on a number of necessary conditions: sufficient enrollments and graduation rates from programs with adequate clinical training, midwives interested in this career, and sufficient, adequately remunerated jobs, in sites where enough women give birth and accept or demand a midwife, and where midwives can attend births using the midwifery model. To date, these criteria are not being met on a consistent basis.

These trends show that a much larger proportion of midwives will be obstetric nurses in the future, followed by much smaller percentages of undergraduate degree professionals and perinatal nurse specialists. While fewer technical midwives may be trained in the future, they may still be highly sought after in certain areas of the country, such as Guerrero, Puebla and Veracruz, where isolated geography and low salary mean it is difficult to recruit doctors and nurses.

Indicator 11: Agreement/adherence to core competencies in curricula and classroom instruction	*Finding:* Educational programs around the country report a high level of adherence to evidence-based midwifery practices, in most cases higher than at baseline.

[35] Note, this is a correction over baseline that calculated only one class, not all enrolled students, for the ESEO.
[36] Of 2,290,375 births per year in 2018 (World Population Review [http://worldpopulationreview.com/countries/mexico-population/] (accessed 9 December 2018), we estimate that 80%, or 1,832,300, are normal births.
[37] World Health Organization. 2005. Make every mother and child count. WHO, Geneva [https://www.who.int/whr/2005/en/].

At baseline, according to interviews with school directors, technical midwifery programs taught 100% of the evidence-based practices, undergraduate reproductive health and obstetric nursing programs each taught 91%, and perinatal nurse specialist programs 87% of the practices (see Table 8, Appendix B).

In terms of compliance with evidence-based practices in training programs, directors' reports in 2018 indicate that undergraduate reproductive health degree programs increased compliance to 95%, as did the obstetric nursing programs and the perinatal nurse specialist programs to 96%. The reported adherence for technical midwifery schools went down slightly but remained at a high level of 95%. Several informants expressed concern, however, about qualitative differences in training among different types of midwives.

> *If you look at technical midwifery graduates, the perinatal nurse specialists, and obstetric nurses, you see a difference in the mystique of their vocation (calling): technical midwives clearly want to be midwives… they are building on the midwifery model; (perinatal nurse) specialists, some of them want to be midwives… but the (obstetric nurses from) ENEO, not so much. (national actor)*
>
> *There are two groups that are defining the profession…although they are obstetric nurses they are not the group that really has the vision of midwifery…it's a very strict vision from the nursing point of view…midwifery and nursing are two different things…without separating nursing from midwifery it's a big bottleneck. (national actor)*

Indicator 12: Clinical sites that allow students to adhere to evidence based practices	*Finding:* Educational programs face ongoing challenges in guaranteeing access to clinical practicum sites that allow students to attend births and apply evidence-based practices, an indication that not all students graduate with the practical experience required to ensure competence.

At baseline, interviews with school directors brought to light a major obstacle for training more midwives: far too often, students cannot be placed in clinical practicum sites where they can practice attending births or apply the evidence-based practices they had been taught. This was due to a range of factors including the limited number of sites where midwives are allowed to attend births using midwifery or humanized practices, skepticism by directors at clinical sites about the competence of the students they were receiving, and, in some cases, a preference for giving medical residents and other trainees priority in attending labor and delivery.

In 2018, this challenge came to the fore even more starkly as the ENEO-UNAM program seeks clinical practicum sites for 350 students every year. Located in Mexico City, the program competes with many medical schools to find sites where its students can attend low risk births before graduating, or as *pasantes* doing their social service. With this reality in mind, the ENEO reports requiring 24 births for graduation. As a result of the lack of clinical practice sites during their training or in their social service period, interview data show examples of some obstetric nurses doing their obligatory social service in sites on the other side of the country where they were able to attend births with less competition from medical residents.

> *The directors of the available sites don't think that midwives in training have sufficient clinical skills to attend births. The doctors don't want (to let them).* (director, obstetric nursing program]
>
> *We have (barely enough), but less all the time, as private schools have more access (to clinical sites), because they pay.* (program director)

Of the 12 education sites identified in 2018, only five directors report having sufficient access to practicum sites. The other seven report insufficient or partial access due to lack of space or lack of

medical personnel willing to allow students to attend births (Table 9, Appendix B). Given that the latter programs are the larger ones, this obstacle affects 2,075 students or 96.6% of all the students enrolled in 2018.

As a result, across programs, the variance in the number of births required for graduation is dramatic, ranging from 0 to 90.[38] Technical and undergraduate programs fall in the mid to high range (30-80), as does the Polytechnic University's obstetric nursing program (90). The ENEO-UNAM is at the low end (24). Perinatal nursing program requirements vary more than any other type of programs, ranging from 0 to 60 (see Table 10, Appendix B).

Indicator 13: Certification and/or licensing protocols are developed	*Finding:* Certification for obstetric and perinatal nurse midwives is now available in the Mexico City area with possibilities for future expansion. Broad-scale, competency-based certification that recognizes distinct types of practice remain elusive, however, and is the subject of ongoing debate.

At baseline, there were no midwifery certification options available in Mexico, although the Mexican Association of Midwifery (AMP) had begun an initiative to develop an inclusive, skills-based certification protocol with input from diverse types of midwives. The debate around certification was polarized, with tension surrounding questions of whether certification would be useful, for whom, who should certify, and with what criteria. In 2018, many of these questions are still being debated.

Certification is a bottleneck but who really needs it is the AMP because most of them are autonomous midwives. They did not include the technical midwives or the nurses, who asked why the AMP should certify them when they have their own professional association. In reality, there was a conflict there. (national actor)

Certification is a moral, not a legal, act. But it is important to them. (national actor)

To certify without testing competencies is unethical. (national actor)

In 2017, amidst the debate, a group of midwifery specialists developed a certification program focused on obstetric care under the auspices of the Mexican College of Nurse Practitioners (COMLE). The program ran its first certification with 82 participants, all obstetric and perinatal nurses from Mexico City and the surrounding area. Program directors expressed an interest in extending the program to include technical midwives in the future. The program currently has limited geographic reach because COMLE has only four locations (Mexico City, Monterrey, Puebla, Veracruz). The Mexican Federation of Nursing Colleges (FEMCE), with a larger number of affiliated schools, was also recognized by the Education Secretariat (SEP) in 2018 as a certifying body and might eventually expand the scope of nurse certification significantly. This process was criticized by some informants who work outside the obstetric nursing field because it currently only applies to obstetric nurses and does not rely on competency-based training.

For other professional midwives, certification is still not an option. The Mexican Association of Midwives (AMP) convened diverse midwives to establish agreement around core competencies but has been unable to gain Health Ministry support for its inclusive, peer-led, competency-based certification proposal. The AMP-led certification proposal was not accepted by the Health Ministry because the

[38] The European Union requires that student midwives conduct at least 40 deliveries, in addition to exams and supervision (WHO. 2009. European Union Standards for Nursing and Midwifery: Information for Accession Countries, Second edition, revised by Thomas Keighley) [www.euro.who.int/__data/assets/pdf_file/0005/102200/E92852.pdf] (accessed 9 December 2018.)

proposed certifying body is not recognized in Mexico, but the efforts contributed to development of a continuing education program as a step toward certification.

In the education realm, 10 of 12 program directors believe certification is necessary. (Some directors understood certification to refer to internal curricular oversight, such as tracking courses completed, but for the purposes of this evaluation, certification refers to external processes that test knowledge or competencies once on the job, rather than internal oversight.) Outside of the education setting, many midwifery proponents—including the Foundation—believe that certification is a goal worthy of their attention because it would offer ongoing validation of midwives' competencies, which in turn could help overcome widespread misunderstanding and doubt (as was documented by the baseline evaluation) among medical personnel and policy makers.

Additional finding:
Directors of educational programs interact more frequently in 2018 than at baseline.

In addition to these five indicators, directors of programs were asked about their interaction with other programs. The extent to which program directors interact with, or have knowledge of, other programs is a measure that speaks to the creation and existence of a community. At baseline, schisms between programs and models ranged from lack of information to skepticism or overt hostility to other approaches to midwifery. Program directors were often unaware of whether other programs taught evidence-based practices or had adequate clinical training.

In 2018**,** 11 directors said they were familiar with the curricula of other midwifery training programs, and four reported knowing at least something about other models. Foundation grants have supported this progress: one grantee created the Midwifery Community (Comunidad de Partería[39]) that provided an online platform of information, webinars and workshops in which at least four program directors participated. UNFPA convened professional midwifery schools—including a perinatal specialist program, two undergraduate programs, and one autonomous program—to share advances and challenges in 2018.[40]

5.4 Employment and Quality of Care

The Theory of Change posits that the institutionalization of professional midwifery in public health services in Mexico will enhance the quality of care women and newborns receive. It proposed that during the Initiative's operation, the number of sites that employ midwives and the number of midwives deployed in those settings would increase. It was expected that midwives would provide high-quality care and that women would be satisfied with the care they received from midwives.

A major thrust of grant making was to help the development of model sites and enhance the quality of existing ones. This culminated in a large competition program that provided sub grants to ten/ midwifery deployment sites around the country.

[39] Comunidad de partería webinar [http://sitio.comunidadparteriamexico.org/].
[40] Memoria. Encuentro de intercambio de experiencias entre Escuelas Formadores de Parteras Profesionales. 23-24 April, 2018, Cuernavaca, Morelos. (Exchange of Experiences between Professional Midwifery Schools).

Objective: Integrate models into health care systems

Total spent: $4,268,800
Grants at baseline (6): $2,768,800
Grants since baseline (3): $1,500,000
Grant support for:

- *Implementation of midwifery services in one hospital in Mexico City*
- *Strengthening educational opportunities for professional midwives in Michoacán*
- *Enhancing midwifery services in ten sites around the country through sub grant awards*
- Strengthening existing deployment sites
- Promoting task sharing & evidence-based practices
- Mapping of midwifery services in the private sector
- Promoting perinatal nurse midwifery at primary level in Tlaxcala
- Helping the CNEGySR Center define and incorporate a midwifery model
- Demonstrating the effectiveness of the midwifery model in Chiapas

Italics indicate new since baseline

Specific methodology

# Employment site interviews	
Baseline:	**2018:**
30 directors	36 directors
40 midwives	117 midwives
127 women	110 women

Information provided by EAC advisors and "snowball sampling" were used to identify sites in which non-medical service providers are employed to attend labor and delivery of women with low risk pregnancies. At each employment site identified, one or more directors was interviewed, at times the head of nursing and/or education as well as the overall director. The evaluators interviewed midwives in as many shifts as possible and women service users (seven per site at baseline, five in 2018) who had delivered vaginally in the prior year. (See Table 1, Appendix B, for distribution by state of people interviewed and Table 11, Appendix B, for general characteristics of the women service users.)

To assess the quality of care provided by midwives and physicians (at baseline) and received by women service users, the interviews asked about the evidence-based practices used during labor and delivery, as described earlier in this report, as well as practices included in Mexican Official Norms and WHO guidelines for prenatal, postpartum and neonatal care.

Summary of findings

In just over two years, there are more midwives attending low risk births in more sites and more states than at baseline. Labor conditions for these midwives have improved slightly but continue to be deficient and under-resourced. In addition, some sites continue to struggle with low productivity and difficulties related to referral of patients who develop complications.

Assessment of quality of care shows that a higher percentage of sites subscribe to a midwifery model, meaning they are supportive of evidence-based practices. Quality of care is highest in those settings. The challenge is that almost half of the midwives employed in the public health system say they are not able to provide care according to those standards. Even fewer are able to do so in sites where they were hired without a comprehensive midwifery vision, especially at secondary and tertiary level institutions.

Finally, in contrast to baseline when nurse perinatal specialists reported more frequent use of evidence-based practices and techniques that conform to Mexican normativity through the continuum of care, different kinds of midwives performed equally well in 2018. Knowledge of emergency obstetric and neonatal care practices is one area in which all types midwives have room for improvement. Women service users continue to show high levels of satisfaction with the care they received from midwives.

Indicator 14: Description of midwives who attend births employed in the public health system	*Finding:* In just over two years, Mexico has 45% more midwives attending low-risk pregnancies and almost twice as many sites where midwives are employed. Labor conditions for midwives have improved only slightly.

At baseline**,** there were 174 midwives attending births in 19 sites[41] in the public health system[42] in 11 states. Labor conditions were poor. Almost half the midwives at baseline had short-term contracts or no contract at all. Midwives received salaries lower than those stipulated by law, and over half received incomplete or no benefits.

The 2018 data collection found 255 professional midwives attending births at 36 sites in 14 states. (Table 12, Appendix B.) Of the 81 additional midwives found in 2018, only 4 are technical midwives.

Among the 117[43] midwives interviewed in 2018, most of the nurse midwives are employed in midwifery model sites (see below).[44] It was more common to find technical midwives in midwife employment settings than nurse midwives (Table 16, Appendix B).

Over half of the midwives interviewed work at the primary level. Nurse midwives are the most common type of midwife working at the primary care level while technical midwives are most often employed at the intermediate level and higher. (Table 17 Appendix B).

Over half of the midwives in 2018 reported having a job category below their professional level (Table 19, Appendix B). Adequate employment levels or codes are far more common among midwives in "midwifery model" programs than in "midwife employment" sites. Those hired below their professional category were most often working at the primary care level.

Being hired below category, usually as general nurses, is more frequent among nurse midwives than among technical midwives, most likely because there is an official code for technical midwives and none, as yet, for perinatal specialist nurses (Tables 16 and 17, Appendix B). Midwives working in programs that began before baseline are also more likely to have been hired below their level as compared to those working in new programs, which suggests there has been a slight improvement in labor conditions (Table 18, Appendix B).

[41] At the time of Baseline in 2015, only 15 sites were visited, in 2018, four additional sites were found that had existed in 2015. Little data are available on those sites but they are included in the baseline total.
[42] Two of these sites are private but work closely with the public health system.
[43] 111 attend births in public institutions while six attend births in CIMIgen, which is a private clinic closely networked with public institutions.
[44] The sample of midwives had a larger percentage of technical midwives than found in the total population of 255 midwives. (See Table 13, Appendix B for the sites where these 117 midwives are employed, Table 14 for the type of midwife by site, and Table 15 for their general characteristics).

Indicator 15: Description of deployment sites including use of high-quality midwifery practices and quality of program	*Finding:* A larger proportion of the current sites employs midwives in integrated midwifery model settings that emphasize evidence-based practices than at baseline. Setting (determined by model and level of care) is an important determinant of the kinds of practices that midwives use with their patients, with primary and intermediate levels favoring better midwifery practices.

Among the 19 sites at baseline, the evaluators classified ten as institutionalized midwifery programs that emphasized and supported evidence-based practices of a "midwifery model." The remaining sites were institutions in which midwives had been hired in an isolated manner without a midwifery-friendly created intentionally by the institution. In the midwifery model sites, three quarters of the midwives were nurse midwives. By contrast, in isolated midwife employment sites, almost half of the midwives were technical midwives and a similar proportion were "*pasantes*" (Table 20, Appendix B).

The baseline findings showed that the setting in which midwives are employed determines to a large extent whether or not they can provide high quality care using practices based on evidence, human rights and cultural sensitivity. A supportive, midwifery-friendly context encourages evidence-based practices even if one's training did not, and vice versa, in the case of isolated settings that limit their utilization, as Figure 1 (Appendix B) shows. Accordingly, reliance on highly skilled midwives will only be associated with high quality, women-focused care where enabling environments are available.

Further, findings at baseline showed that the clinical environment at different levels of care – another key determinant of setting - had enormous influence on whether service providers could apply evidence-based practices during labor and delivery. Both physicians and midwives who worked at the primary level consistently provided more evidence-based obstetric care than those who worked at intermediate level facilities; and even more so than those who worked in general hospitals.

Women's experience corroborated these differences at baseline: Women who received care at the primary level from midwives and doctors more often experienced evidence-based practices than did women who were cared for at intermediate or general hospital levels.

Of the 36 sites found in 2018, one-third had been operative at baseline and two-thirds are new, while a few of the original baseline sites no longer employ midwives (Table 12, Appendix B). There is a higher percentage of midwifery model sites in 2018 than at baseline. In the midwifery model sites, over half of the midwives are nurse midwives with few technical midwives. In contrast, in the midwife employment sites, more than half of midwives are technical midwives (Table 22, Appendix B).

In 2018, a slightly higher proportion of sites are at the primary level than at baseline (Table 21, Appendix B) and over half of the midwives work at the primary level, with specialized nurses being the largest proportion of them. The proportion of technical midwives, while small, is higher at secondary and tertiary levels of care, i.e., in hospitals.

Midwifery employment sites by level of care		
	Baseline	**2018**
Primary	7 (37%)	17 (47%)
Intermediate	4 (21%)	6 (17%)
Secondary	7 (37%)	10 (28%)
Tertiary	1 (5%)	3 (8%)
Total sites:	19	36

# midwives employed 2018	Type of midwives employed 2018
160 (63%)	119 (74%) specialized nurses 27 (17%) general nurses & *pasantes* 14 (9%) technical midwives
53 (21%)	29 (55%) specialized nurses 21 (40%) general nurses & *pasantes* 3 (6%) technical midwives
42 (16%)	19 (45%) specialized nurses 13 (31%) general nurses 10 (24%) technical midwives
255	

The same relationship between setting and the use of evidence-based practices was found in 2018 as had been found in 2015. More of the midwives interviewed (60%), who work in midwifery model sites reported using recommended practices as compared to colleagues working in midwife employment sites (Table 23, Appendix B). Higher proportions of midwives used recommended practices at the primary level, slightly fewer did at the intermediate level and even lower proportions in hospitals in all stages of the continuum of care.[45] It is still important to note that between 30 and 40% of midwives in midwifery model and primary level care services did not report consistent use of evidence-based practices during labor and delivery.

With care of newborns, at all levels of care a majority of midwives reported high levels of compliance with evidence-based practices. The exceptions are two interventions that midwives should avoid (nose and mouth aspiration and prophylactic use of antibiotics), but that half or more of them continue performing at all levels of care.

In general, women who received midwifery care at the primary level report higher levels of evidence-based practices in comparison with those attended at basic community hospitals (intermediate) and secondary level hospitals (see Table 30 and Table 31, Appendix B). These results confirm that primary and sometimes intermediate levels of care are better suited for high-quality, evidence-based midwifery practice, provided they guarantee immediate access to transport and quality emergency care when required.

Additional finding:
Employment sites continue to be plagued by low productivity and challenges related to referral when patients develop complications.

At baseline, institutionalized midwifery programs existed that could serve as models worthy of replication, but preferably after a set of challenges had been confronted and rectified. Even the more established sites had low productivity, poor systems for referring women who develop complications, and inconsistent adherence to evidence-based practices. Referral rates of women during pregnancy and in labor were much higher than expected in more than half the sites. Even in institutionalized midwifery programs, midwives often confronted lack of awareness, distrust, and hostility from physicians and some general nurses, who lacked clarity about the role of midwives, whether they can attend normal deliveries at the primary level or whether they can officially refer patients out in case of need.

[45] See details in Table 24 for prenatal care, Table 25 for labor and delivery, and Table 26 for postpartum and neonatal care. For individual practices see Table 27 Prenatal, Table 28 Labor & Delivery; Table 29 Postnatal and Neonatal Practices, Appendix B.

In 2018, productivity and referral problems continued in many sites. The proportion of sites that refer a high percentage of cases is only slightly better than it was in 2015 (Table 32, Appendix B), but nevertheless half of women who are pregnant or in labor are still referred to a higher level with more medicalized care. This is far higher than the 15% of complications that the World Health Organization suggests as typical, pointing to significant loss of opportunity for midwifery models of care.
Even among midwifery model sites, referrals were higher than they should be and most midwives believe they could attend more births. Explanations given were: few women come to the institution, we refer out too many patients, and we do not have midwives in every shift. In several cases, medical personnel and some midwives expressed concerns and even fear that the midwives were not able to deal with complications given either the distance to adequate backup services or lack of confidence in their abilities. In these cases, they tended to refer patients out, unless they were "very, very low risk."

I would ask you [addressing the interviewer], if the perinatal specialists or professional nurse midwives, based on their studies and whatever training they have …, really are able to attend a birth by themselves? I am just not sure. (Primary level employment site director)

There is more rejection with regard to their ability to resolve complications…in terms of prevention there is more acceptance. [Members of the health team] consider that the midwives are not totally trained to attend births. We have our reservations, not exactly fear but caution. …pregnancy is something that can become complicated at any moment…and we are far away from our referral hospital. (Primary level employment site)

In other cases, the risk assessment check-list being used (at baseline and in 2018) required referrals in cases that had no developed pathology but fulfilled some relative demographic characteristic, such as age under 20 years, unplanned pregnancy, etc. In several sites, these risk assessment tools are being revised to enhance their sensitivity, specificity and accuracy.

The risk checklist is controversial. For example, the age criterion of 17 years old, I don't think that is a risk. But by law, we have to refer all the women who have any risk factor and we only get them back again if the doctors make a counter referral…which they never do. (Director deployment site)

Staff from one of the oldest public midwifery model sites in the country and the one most often referred to as a model to follow reported they had had visitors from many states as well as several other countries. Officials who visited and were interviewed mentioned the negative repercussions of the low productivity they observed at that site.

(In our site) we have low staff and high births, but they have the opposite, lots of midwives and very few births. What can we learn from them? (state-level official)

Most midwives worked in an institution without surgical facilities, making referrals more likely. Only one-third of them reported having total support from the referral institution; almost half reported partial support and the rest perceived partial or absolute rejection. The reasons given for lack of support include oversaturation of the referral hospitals and lack of understanding of midwifery care:

The first reaction we get is always rejection—they think we didn't do the diagnosis well….

It can be difficult to refer a patient (because) the hospitals don't have space or the ambulance doesn't have gasoline….

They don't believe in the model so they blame us for complications. It seems like they think we are just creating more work. They don't answer our phone calls or they question us a lot.

When the woman arrives already stabilized they deny that she is experiencing complications. They don't think nurses have the ability to care for pregnant women.

Among directors interviewed, half spoke of challenges related to referrals such as rejection by the referral institution due to lack of space, equipment, and human resources. Inadequate transportation and long distances were additional impediments. Directors mentioned rejection and lack of knowledge of the midwifery model, as well as triage that results in too many women being sent to the referral institutions.

Indicator 16: Compliance by midwives with evidence-based practices	*Finding:* Most professional midwives of all types report using high levels of evidence-based practices and practices that conform to Mexican normativity throughout the continuum of care, with the persistence of a few practices that should be avoided. Important deficiencies persist in terms of their knowledge of obstetric and neonatal emergency care and in some newborn care practices.

At baseline, professional midwives reported engaging in more evidence-based practices during labor and delivery than medical personnel. Differences were found among the types of professional midwives, with perinatal specialist midwives reporting more evidence-based practices than technical midwives.

Midwives provided services throughout the continuum of care at baseline. The majority of professional midwives followed standard normative procedures during care,[46] even more so than physicians. Nevertheless, there was room for improvement, especially in the area of prenatal practices (Tables 33a and 33b, Appendix B). Many midwives had little experience with the management of obstetric and/or neonatal emergencies.

In 2018, more midwives attended patients throughout the continuum of care than at baseline (Table 35a, Appendix B), except that fewer midwives interviewed in 2018 provided prenatal consultation than at baseline (Table 33a, Appendix B). While midwives are working throughout the continuum of care, attention is needed to ensure their services begin during pregnancy, as recommended by the WHO.

Regardless of their original training, in 2018, all types of midwives reported higher levels of many evidence-based practices during labor and delivery. [47] However, some practices that should be avoided are still being used especially in hospital settings. Midwives have slightly lower levels of compliance in three practices: routine use of IV during labor; electronic fetal monitoring; and nose and mouth suction of newborns. Other non-recommended practices continue, although with less frequently than at baseline: 13% of midwives reported that they do not allow a woman to choose her birth position; 5% that they use the Kristeller maneuver; and 7% that they carry out manual exploration of the uterine cavity without anesthesia. This is an indication of how deeply rooted these practices are in institutionalized obstetric care in Mexico (Table 34a).

Overall, during labor and delivery, 55% of professional midwives in 2018 reported they use at least 20 of the 22 evidence-based practices (Table 39). This indicates that the remaining 45% of professional midwives do not consistently use evidence-based practices during labor and delivery.

In other stages of the continuum, midwives of all types are providing high-quality care that is consistent with recommended evidence-based practice and Mexican norms. The proportion of midwives who report using recommended practices during prenatal and postpartum consultations is markedly higher

[46] See Tables 33a, 33b, 34a, 34b, 35a and 35b in Appendix B.
[47] In 2018, the evaluators did not interview physicians so were unable to compare practices of midwives and physicians.

than at baseline (Tables 33b and 35b). In neonatal care, there is a window of opportunity to continue improving the quality of attention provided by midwives by discontinuing the routine use of nose and mouth suction and prophylactic use of antibiotics on newborns (Tables 35a and 40).

In 2018, there were fewer differences among type of midwives than at baseline. Performance around evidence-based practices was high and fairly consistent for all types of professional midwives along the continuum of care.[48]

One exception is that midwives demonstrated low levels of understanding of how to manage situations of severe preeclampsia, obstetric hemorrhage, or neonatal hypoxia. These deficiencies were noted at all levels of care (Table 49) and among all types of midwives (Table 48). While midwives are dedicated first and foremost to attending normal births, they must be able to detect, stabilize and refer women and/or their babies when complications arise.

Women who receive midwifery services in labor and delivery generally reported having received care in accordance with evidence-based practices at relatively high levels, although consistently lower than what was reported by the midwives (Table 43 and 46). However, women reported that they were subjected by their attending midwives to four common hospital birth procedures that are not supported by EBM (Table 43), indicating there is still important work to be done to ensure that professional midwives are fully applying evidence-based practices.

At the other stages on the continuum of care, women confirm high levels of evidence based and normative practices at prenatal, postpartum and neonatal care (Tables 42 and 44), and across all types of midwives (45 and 47).

Indicator 17: Women's level of satisfaction with care provided by midwives	*Finding:* Women service users continue to express high levels of satisfaction with the care they receive from midwives, especially compared to care received from physicians

At baseline, women attended by midwives were consistently more satisfied than women who were attended by physicians with the care they received during pregnancy, childbirth and postpartum. But again, context matters, this time influencing women's perceptions of good care: three quarters of the women cared for at primary care rated their care as excellent, compared to 59% of the women cared for at intermediate level and 28% at secondary level.

Women recognized the difference between women-centered midwifery care and highly medicalized hospital care. They preferred the former, citing advantages such as better care in all aspects such as good treatment, instilling greater trust and security, and better explanations.

At baseline, women service users reported having received clear and friendly responses to their questions or concerns, and two thirds having received excellent treatment. Among those who had given birth more than once and had been attended by medical personnel as well as midwives, 63% said

[48] See Tables 36, 38, and 40 for practices reported by different types of midwives during prenatal, labor and delivery, postpartum and newborn care and Tables 37, 39 and 41 for the proportion of midwives by type who reported high percentages of compliance in prenatal, obstetric and postnatal care. See Tables 45, 46 and 47 for practices during the continuum of care that women service users reported they received by different types of midwives.

midwives offer no disadvantages compared to doctors. Only 5% said they saw no advantage to midwifery care.

In 2018, eight of 11 questions posed to women service users about the quality of the care received during labor and birth elicited positive answers with percentages above 90% (Table 50). A greater number described the care as excellent than at baseline, and almost all said they would give birth again with the same midwife. There were no significant differences among types of midwife (Table 51), nor in level of care where the women received attention (Table 52).

In 2018, three quarters of women who had given birth more than once, said the care given by midwives had no disadvantages (Table 53), and almost all saw advantages to receiving care from a midwife. Of the same women, the majority said doctors offer no advantage over midwives and most mentioned a number of disadvantages (Table 54).

More generally, while high percentages of women service users reported having received care during labor and birth that was consistent with evidence-based practices, these percentages were consistently lower than those reported by midwives. It is important to reiterate that the women interviewed were not necessarily attended by those midwives who were interviewed. Nonetheless, the systematic difference may point to a methodological weakness inherent in a "self-reporting" instrument. That is to say, the midwives may have over-reported their use of evidence-based practices, focusing more on what they should be doing rather than what they were actually doing.

5.5 Theory of Change at the State Level

Given the variation in conditions, needs and opportunities in the country, it is no surprise that the Theory of Change played out differently in each location. The evaluation documented states' midwifery experiences using five variables that correspond to the Initiative's Theory of Change and thematic priorities:

- ***Commitment or political will among state officials*** – State experiences support the hypothesis that broad support or buy-in for professional midwifery among state officials can be a key factor in the quality and sustainability of an initiative, the ability to secure state funding, and overcoming opposition from medical providers. Three states (Guerrero, Morelos, Veracruz) illustrate the benefits of strong buy-in from state health officials. While variations are always present, commitment in these states stemmed from the highest levels of authority. As a result, women-centered or midwifery approaches are featured in state maternal health policy (Guerrero and Veracruz) and, in one case, budget (Guerrero).

  In other states (Mexico City, Mexico State, Tlaxcala, Chiapas, Tabasco), midwifery initiatives were initiated by committed and well-placed officials within state government, in some cases with support from national-level actors or multilateral agencies, but broad political commitment is not yet evident. Mexico State has one very well-established but neglected program, two existing programs that seem comprehensive but have very few patients, and several new deployment sites that face significant challenges to attract sufficient pregnant women. The state has given less attention to building acceptance for midwifery models of care among the broader medical establishment, resulting in uneven support, low volume, and deficient referral mechanisms. Tabasco is a relatively new program that has benefitted from careful planning, research and documentation.

It remains to be seen whether the level of political support will be sufficient to help this pilot project survive the 2019 state government transition.

- ***Role of civil society champions –*** While civil society support is not needed for professional midwifery experiences to emerge, the state analysis shows that these actors can play a critical role by encouraging officials toward more women-centered models of care and providing information or sensitization that enhances acceptance or legitimacy. In many states, national CSOs were playing this role, although three states (Guerrero, Morelos, Chiapas) also had a strong presence of state-level CSO actors. The effectiveness or influence of civil society champions was most apparent in two states (Guerrero and Morelos) where collaborative actions with local leadership were prioritized.

  In Mexico City, civil society actors are numerous but have focused their efforts at the national level rather than promoting professional midwifery in this state. Other states have launched successful midwifery initiatives without civil society partnerships but might arguably benefit from having additional voices of support to survive political transition (Tabasco), or to generate demand and ensure continued emphasis on women-centered models of care (Mexico State).

- ***Availability of trained midwives in state***– The presence of in-state education programs proved to be an important variable for states that do not have adequate access to the type of midwives they need. Several states with high levels of commitment or enthusiasm commented, for example, that they would like to expand on their experiences but simply cannot find enough midwives. This is particularly the case in states that have a preference for technical midwives (Puebla, Tabasco, Veracruz), or where diverse midwives are needed.

- ***Deployment sites that enable women-centered, evidence-based practices –*** States with one or more midwifery model sites that describe their programs as emphasizing women-centered care include Chiapas, Chihuahua, Colima, Guerrero, Mexico City, Mexico State, Morelos, Queretaro, Quintana Roo (one hospital), Tabasco, Tlaxcala and Veracruz. Some of these sites are relatively new, however, and show moderate or low levels of quality of care. States in which employment of midwives has been prioritized over model of care include Puebla, Quintana Roo (one hospital), and San Luis Potosi where practices are more highly medicalized.

- ***Strong quality of care –*** The state-level experiences show that quality of care is best in places where midwifery models have broad and informed supporters with a clear vision of midwifery care as being evidence-based women-centered care. Three states with midwifery model sites (Guerrero, Mexico City, Mexico State) showed high quality of care as determined by consistent use of evidence-based practices. Another four states with midwifery model sites (Chiapas, Tlaxcala, Tabasco, Morelos) showed moderate levels of EBPs and thus have some ways to go to fulfill the vision they profess. The remaining midwifery model sites have farther to go since the midwives there reported uneven use of recommended EBPs. These cases suggest the need for consistent visionary support and on-going education and encouragement to create truly enabling conditions.

One state (Guerrero) has shown advances in all five areas. This state is one of the country's poorest rural indigenous states with enormous cultural, geographic and economic challenges. The combination of support from state government officials, active and coordinated pressure from civil society, and educational programs for different types of midwives has led to important advances that include high quality care provided by technical and nurse midwives in the state. A convergence of factors is less

complete but also apparent in two other states (Mexico City and Morelos) that are wealthier and more developed, demonstrating that midwifery can thrive in markedly different contexts.

In six states (Chihuahua, Colima, Puebla, Queretaro, Quintana Roo and San Luis Potosí), professional midwifery experiences are incipient and, in most cases, inspired by national Health Ministry or multilateral agency initiatives. These efforts are more isolated from the broader national midwifery movement and have little or no civil society involvement. There are few midwives in these states, often one per institution. It is too early to know whether the experiences will take root by stimulating local enthusiasm and commitment to continue or build upon the experiences. In 2018, the quality of care reported in these states is lower and more medicalized than that in the more well-established programs in other states.

One final state (Oaxaca) with significant maternal health challenges has two small but innovative educational programs but did not make progress between baseline and 2018, despite being a state with which several key actors had hoped to collaborate. The Health Ministry, busy with many other crises, did not take up the theme of professional midwifery within its agenda, nor has civil society taken up the mantle. To date there are no sites that employ professional midwives in the state. Without leadership from the state Health Ministry it appears that very little can happen, especially without a federal directive that might tip the balance towards more active engagement by state-level officials.

REFLECTIONS

6. INTEGRATING THE FINDINGS

6.1 Elements of Success

Important advances have taken place since baseline to expand the presence of professional midwives providing high-quality obstetric and neonatal care in Mexico's public health system. The potential for midwifery to be institutionalized seems greater today because of the growing number of training programs, midwives and midwifery sites throughout the country; a larger and more influential community of midwifery champions; multiple collaborative efforts to disseminate information and sensitize health personnel to midwifery models of care; increased awareness and action by public authorities; and an emerging dialogue among state-level actors about what works. These advances contribute to momentum around the country, with the most significant progress seen in locations where the Initiative's four thematic areas, and the corresponding efforts of its partners, have converged.

In addition to confirming the importance of synergy among the four areas of support, as envisioned in the Theory of Change, the findings point to several factors or elements that may enhance success:

PREPARATION OF TERRAIN—In the words a key expert, it "is important to prepare the soil before planting the tree." Indeed, there were several examples where states invested significant effort in tilling the soil to foster greater acceptance of their midwifery programs. For Veracruz, this meant mandatory sensitization courses for all health system personnel, from the top political tiers down to the operational level. Multiple actors helped prepare the terrain in Guerrero, including numerous local, national and international civil society organizations working in concert with state government leaders to expand acceptance and integration of not one but all types of midwives. On the other hand, Mexico State has the largest number of midwifery model sites but did little to foster cultural change or overcome

resistance by other health system personnel, or to disseminate information about midwifery services and attract more women, thus limiting the potential of their midwifery sites. The Initiative recognized the importance of sensitization and supported multiple efforts to enhance acceptance among public officials and health system personnel in targeted states.

INTEGRATED MODELS AND ENABLING CLINICAL SETTING—The data show that the best maternal health outcomes are seen in places where midwives are integrated into teams of practice with clear and complementary roles. For this reason, preparing the terrain must include efforts to demonstrate how midwives can enhance the effectiveness of the larger team without displacing other personnel. The results also confirm the importance of setting or environment for achieving quality of care. Improved quality of care does not happen automatically; it requires enabling environments, good training, supportive staff, and continuing education. In order to be effective, midwives need to work in a supportive system. The Theory of Change did not focus on the clinical level or promote a particular model of practice, but the Initiative did help strengthen existing and emerging models indirectly through extensive support for learning, information exchange, and recognition of best practices.

POLITICAL COMMITMENT—State level mandates can go a long way by establishing midwifery as part of state maternal and neonatal health strategy, defining a roadmap for implementation and establishing an expectation of compliance. But consensus suggests that the long-term goal of institutionalizing professional midwifery in Mexico's public health system will ultimately require a federal mandate that situates midwifery as a priority, with corresponding legal support or norms; incorporation of the concept in Health Ministry strategies; policies and programs that reflect best practices; adequate budget allocations; and modification of regulatory requirements that currently impede progress.

DIVERSE MIDWIVES FOR DIVERSE SETTINGS—Mexico is a highly diverse nation both culturally and geographically. This diversity is marked, however, by extreme inequality of income and education linked to ethnicity, gender, and geography. Mexico's diversity—in the context of inequality—must be honored if midwifery is to be accepted in the regions that need it the most. In the Initiative, the importance of diversity was recognized and fostered through grants to organizations representing the voices of multiple types of midwives.

6.2 Advances on Cross-Cutting Concepts: Momentum, Sustainability, Tipping Point

6.2.1 To what extent is there momentum toward broad institutionalization of midwifery in Mexico?

The work of numerous midwifery champions described above has indeed created momentum in specific settings where the efforts of multiple actors have converged. At the national level, the number of programs is still growing, more students are being trained, and insertion sites are expanding in number and geographic reach. Health care practitioners and decision makers are learning about midwifery care and, in some cases, seeing what that looks like in practice, leading them to be more supportive.

The limits of the momentum are related to scale. Pro-midwifery efforts are still relatively isolated on a national scale and in the health system, where professional midwifery is not yet widely understood or recognized as a viable or desirable strategy for improving maternal and neonatal healthcare. Maintaining and expanding the momentum going forward will require even broader communication of current experiences to continue igniting interest, enthusiasm and experimentation. Multilateral agencies such as UNFPA and PAHO, who continue to be committed to pro-midwifery objectives, can play a key role.

6.2.2 How sustainable are these advances?

Important advances have been made in Mexico in integrating professional midwifery into the public health system, but the sustainability of these experiences is by no means assured. In almost all states, midwifery champions or public officials voiced concerns about upcoming political transitions and the challenges or opportunities they will bring. Ensuring the longer-term sustainability of these experiences, and continuation of the commitment to exploring midwifery models of care at the state and local levels, would benefit from a federal mandate, even broader state level buy-in, and the inclusion of midwifery in maternal health care budgets.

6.2.3 Has a tipping point been reached?

Some states seem to be approaching tipping points where progress is less likely to be reversed at the cultural level through broad scale shifts in the opinions, expectations, behaviors of health care officials and practitioners. At a national level, the National Human Rights Commission recently moved the issue of obstetric violence to center stage in legal and human rights discourse and practice in Mexico. This shift could provide a motor that leads to actions to improve quality of maternity and neonatal care, as is happening in other countries. At minimum, it seems likely that there will be less tolerance for non-compliance with evidence-based practices and official norms that are consistent with midwifery practice. Looking forward, a federal mandate would go a long way to consolidate these advances, moving the country toward a tipping point in which professional midwifery could become a permanent feature of the maternal health care system.

6.3 Conclusions

Important advances have been made since baseline in all areas of the Theory of Change, with encouraging momentum towards broader acceptance of professional midwifery, new employment opportunities, greater familiarity among policy makers, increased collaboration among advocates, and growing potential for training highly qualified professional midwives.

Extensive information is now available—far more than in 2015—to inform or guide ongoing efforts to advance professional midwifery throughout the country, and to encourage incoming state and federal leaders to embrace midwifery as a key component of strategies to solve the country's maternal health needs. In addition to generating enthusiasm for professional midwifery, this information offers roadmaps and lessons learned about what does or does not work in the highly diverse contexts that characterize Mexico.

All interested parties hoping to promote midwifery now have clear evidence that professional midwives are capable of providing high quality, woman-centered obstetric services throughout the continuum of care—including labor and delivery—when they are employed in supportive settings that embrace a midwifery model of practice and that ensure prompt and fluid referrals in case of complications. This evidence is critical for overcoming the information gap and misperceptions that hampered progress just three years ago.

Professional midwifery is more likely to be viewed today as a promising solution to help satisfy Mexico's need for high-quality obstetric care—especially in remote and impoverished settings—but it is most promising when certain elements are in place. If political will is lacking or inconsistent, if there are not

enough qualified midwives, if physicians and other personnel are unsupportive, or women are unaware of midwifery services as an option, midwifery models of care may be unable to realize their full potential. A few states are providing examples of what can be accomplished when these components come together successfully. Significant momentum is apparent, with impressive progress in some states and expressed interest from the incoming government, marking progress toward broader integration of professional midwifery into official maternal health strategy. The Initiative is contributing in important ways to this momentum by bringing professional midwifery into the conversation around maternal health strategies in Mexico.

Appendix A: Background Documents

Exhibit 1: Original Theory of Change in Diagram

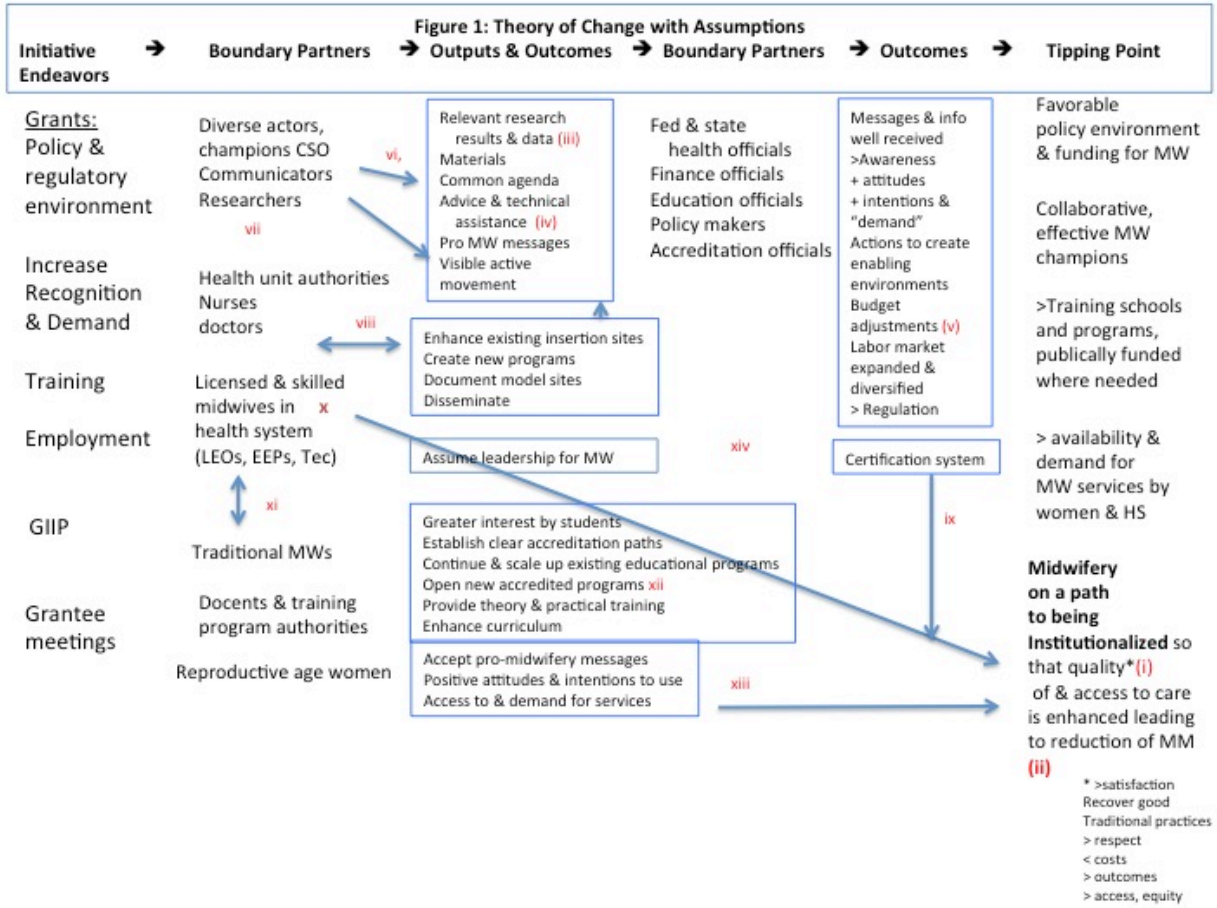

Exhibit 1a: Assumptions underlying the Theory of Change

i. Reliance on highly qualified midwives will lead to higher quality, more women-centered, lower cost maternal and neonatal care.
ii. Improved access to quality of care will contribute to sustained decrease in maternal mortality and morbidity in Mexico.
iii. Decision- and policy-makers lack information; upon receiving such information they will make the needed changes.
iv. Collaboration, monitoring, and pressure from civil society will helpful encourage politicians to fulfill their promises.
v. Ministries of Health and Finance will make necessary budget adjustments in order to hire midwives.
vi. Midwifery champions can and will provide the kind of data and messages that are relevant and needed to change the attitudes of their target audiences; they will provide technical guidance to help move these actors into action.
vii. Champions can work together or in support of each other to promote midwifery in coordinated and coherent ways.
viii. Once health authorities, nurses, doctors and OBGYNs witness the effectiveness of midwifery, they will be more open to and supportive of it.
ix. A competency-based certification system is needed to demonstrate and ensure the proficiency of skilled midwives.
x. An increase in the number of licensed midwives deployed in the health system can fill the gap of human resources for health and improve the availability and quality of maternal and reproductive health care.
xi. Traditional midwives will not oppose, but will learn to work together with, professional or licensed midwives.
xii. Greater diversity in the training programs is needed to meet the multiple and differential needs of the country in maternal healthcare.
xiii. Reproductive age women and their families will learn about and demand midwifery services.

Exhibit 2: Grant Portfolio Analysis

(post-baseline grants listed in red)

Organization	Amount	Dates	Project/objective	Strategies	Boundary Partners	Outcomes	States
Strengthen policy and regulatory environment—Total $3,061,000							
UNFPA Mexico	225k	10/17—12/18	Design a sustainability strategy to support the Mexican states participating in the project during 2018	Horizontal technical cooperation, i.e., exchange of experiences, methodologies and results Generation of evidence and arguments aimed at fostering sustainability of achievements and results as well as resource mobilization Comprehensive strengthening of midwifery in the state of San Luis Potosi, where good practices and lessons developed in Morelos and Hidalgo will be leveraged.	State-level actors Selected Foundation grantees	Proposed outcomes: Advocacy actions and follow-up of documented agreements Good practices documented and disseminated. Strong positioning of Mexico in the global agenda. South-south cooperation strategies implemented Successful experiences shared and systematized Sustainability strategy designed and implemented in selected Mexican states. Mobilization of political, social and financial resources in favor of midwifery Comprehensive strengthening of professional midwifery in the state of San Luis Potosí systematized. Strategic dissemination plan designed and implemented.	San Luis Potosí, Morelos, Hidalgo
Family Care International/ Management Sciences for Health	$450k	11/16—12/18	Strengthen the advocacy skills of midwives and their allies to promote full acceptance of the model of midwifery care	Development of tools and messages to promote professional midwifery based on international and Mexican research including the baseline report Disseminate the tools at national and 6 state level complementing work of GIIP members	Actors who could promote professional midwifery		National and Hidalgo, Tlaxcala, Morelos, Guerrero, Chiapas, Oaxaca
International Confederation of Midwives (ICM)	$200k	10/17—12/18	Deepen Mexico's interaction with and participation in the global midwifery movement Enable Mexican midwives to better advocate for improved policies and regulations, and familiarize them with international standards that	Support the participation of up to 30 midwife participants and state-level stakeholders in the regional ICM conference in Paraguay in 2018 Pre-conference convenings and calls, and time to allow ICM leaders and regional representatives to be more engaged with Mexico, providing input about global tools that could bring Mexico into cross-country efforts, and also giving greater visibility to the Mexico work in global	Midwives State-level stakeholders	Participants will present papers or posters, give workshops, meet with representatives from other associations to discuss particular topics, write blogs or reports Enhanced advocacy for policies	Not specified

			need to be used in their practice and advocacy.	networks and meetings in which ICM participates.		and regulations in support of professional midwifery.	
International Confederation of Midwives (ICM)	$250k	11/16—10/17	Support the active participation of Mexico in the ICM Congress in Toronto, Canada	Scholarships to 30 professional midwives, 10 state level health care or education officials to attend the Toronto ICM Congress in June 2017 Pre-congress training sessions, on-site meetings, and then events to share their experiences when they return to Mexico.		Strengthen linkages among people who work in pro of professional midwifery Strengthen support for professional midwifery in the national health care system Cohort of strong, informed and cohesive midwives in Mexico with enhanced communication Greater awareness of how their efforts fit with worldwide efforts to promote professional midwifery.	
CCC	162k—100%	1/16—12/17	Strengthen key actors to advance midwifery in Mexico	Facilitate multi-actor dialogue toward common agenda (National Strategy to Promote midwifery) Facilitate GIIP Specific by-need technical assistance & annual meeting of civil society organizations.	Diverse midwifery champions	Stronger communication and collaboration among actors Common agenda GIIP functioning well	NA
ACASAC	210k—80%	9/15—8/17	Study about the extent to which midwifery services fulfill the needs of women	Study of women cared for under different models: midwives, doctors, public and private) Reports will provide: -Description of the different models of care -Summary with positive and negative aspects -Recommendations Recommendations given to policy makers in each entity Agreements with help of CNEGySR with state and fed government.	Policymakers at local levels, state and federal	Agreements with policy makers i.e., presumably enhancements in quality of care	
INSP	1,288k—100%	11/15—11/18	Create a comprehensive model for midwifery in Mexico	INSP's comprehensive model of midwifery consists of three projects: 1.research to provide decision makers based on scientific evidence 2) a course in evidence-based practices in three care networks 3) feasibility of group prenatal care.	Decision- makers Service providers	Greater awareness among decision-makers Improved attitudes among service providers Greater demand among women for humanized care.	Morelos and Hidalgo, National
Mujeres Aliadas	120k—20%	7/15—6/17	Advance certification and regulation of midwives, strengthen organization as advocate in AMP	Continue consciousness raising with clinic personnel and authorities New guidelines for opening schools	State-level authorities	Certification of graduates New schools can open using guidelines Greater acceptance of midwifery in the state.	Michoacán

AMP	300k—20%	9/14—8/17	Strengthen AMP as a key actor in promoting midwifery in Mexico	Three-year plan to position both the organization and midwifery more squarely on the public agenda, enable more schools to open, provide guidelines for certification, and increase public understanding of what midwifery can offer. Awareness raising campaign -Increase number and activities of members -Joint messages and press coverage -Basic competencies of MWs approved by AMP -Website with data and experiences for students and women - Plan for certification -Map of training opportunities i.e. -Own vision, values and ethics clarified -Research findings presented to decision makers	Public Midwifery Schools, students and docents Advocates policymakers Min of Health and Education for certification program of autonomous midwives (or for whole range of midwives?) Women who seek midwifery services Stakeholders within AMP	More widespread awareness, less stigmatized understanding of midwifery Cultural change that enables midwives to become integrated Greater consensus among stakeholders with conflicting positions Acceptance & implementation of regulation standards in line with ICM Potential students have easier access to know where options are Certification process culminating in College of Midwifery	National
Nueve Lunas	210k—40%	1/16—12/18	Strengthen training and recognition of midwifery in Mexico	Materials in Spanish on MW with inter-cultural and comprehensive focus "Diplomado" program Exploration of legal and political strategies for effective and respectful collaboration of Traditional MWs and Technical MWs.	Midwives, and MW students, docents, schools Medical students, Ob-gyns	Greater understanding of MW Enhanced relations with other health care personnel Common base of knowledge among training programs Better service options for women Enhanced quality of care Strengthened primary care options.	NA
Increase recognition and demand Total $5,928,200							
Edumundo360	200k	9 months: 4/18—12/18	To undertake post-production and distribution of its full-length documentary on midwifery in Mexico Creation of an additional set of shorter videos and a portrait book that represents the diversity of voices promoting midwifery today.	Would support post-production (correcting, sound design, music, and graphics) and distribution (film festival output, representation at festivals, posters, and other marketing materials). In addition to the final work on the documentary, Production of a series of some 30 interviews in video and print formats.		Broader understanding of the history and current situation of midwifery in Mexico, including efforts to rebuild professional midwifery as part of the public health system.	National
Asociación Nacional de Enfermeras Obstetricas y Perinatales	157k	10 months: 3/18—12/18		Will reach out to the 450 Perinatal Nurses who are not yet attending births Develop an institutional image and outreach materials. Work with the Ministry of Health and the College of	Obstetric and perinatal nurse midwives	Position midwifery more solidly before MacArthur exits the field Design a certification process Design of membership dues and	National

(ANEOP)				Nurses to develop and launch a certification process Promote midwifery.	Ministry of Health and College of Nurses officials	other income venues.	
ACASAC	115k	10/17—12/18	Encourage greater interest and demand by women and health professionals for midwifery model of care	Develop an educational and communications campaign in selected states with rural communities about the broader concepts of respectful care and normal childbirth Lay the groundwork for increasing women's and health professionals' interest in the paradigm shift toward the midwifery model of care Coordinate with other communications efforts by Metropolitan Group and GIRE, and share with other Foundation grantees.	Reproductive age women Health professionals	Findings showed that the vast majority of women, in practice, do not have a choice of provider: they use available services and rarely seek additional opinions or options, despite being more satisfied with the care of midwives.	Various states Rural communities
Hispanics in Philanthropy (HIP)	$150k	1/18—12/18	Support the strengthening of midwifery organizations to enhance their fundraising and to acquire innovative tools that help them diversify their sources of funding.	Ad hoc capacity-building training in fundraising via webinars and personal assistance Mapping of international donors, promotion of connections among donors and organizations when relevant.		Increase the investment in midwifery, maternal health and sexual and reproductive health.	National
Hispanics in Philanthropy	50k	7/18—4/19	Exploring New Allies and Partners for the Midwifery Field in Mexico	Conducting a model market study that could be used to determine the feasibility of opening midwife-led maternal health clinics Hispanics in Philanthropy will hire New Ventures to conduct the market study, and then work with key players to disseminate the tools for opening new health centers with the midwifery model of care for low income communities New Ventures will design a market study methodology for use by small to medium organizations interested in incorporating the midwifery model of care. The methodology will be applied to at least two sites, likely in interested clinics in Michoacán and Mexico State.		Demonstrate the cost effectiveness of the midwifery model of care, support the expansion of services, and bring in another sector not necessarily related to health issues (e.g., private sector, impact investing, entrepreneurs, etc.) Greater awareness about the virtues of the midwifery model within a broader public Measure will include: greater knowledge, engagement and interest in the midwifery model as evidenced by having nontraditional actors interested in the model, seeing midwifery organizations using data-based arguments in their advocacy, about midwifery and by increased acceptance of midwifery as a business strategy in the private sector.	Michoacán Mexico State
White Ribbon Alliance for Safe Motherhood, Global Secretariat (Secondary marco legal)	$153k	7/17—9/18	Facilitate sharing of information and lessons learned among pro-midwifery actors and between these actors and maternal health. institutions at the national and global levels	Provide technical assistance to advocates to strengthen their projects and sustainability Translate into Spanish two WHO and ICM documents and hold a workshop Support actors to generate a campaign to promote	Pro midwifery advocates		National

				midwifery through CS and governmental collaboration Facilitate information sharing between Mexico and the global community Position the work in Mexico for global audiences by coordinating participation in national and global events.			
Education and Training (FOCA) (Secondary Integration) continuation	$100k	8/17—12/18	Contribute to improving maternal health care for indigenous and rural women in Chiapas	Consolidate a platform for traditional and technical midwives in Chiapas to foster good practices Strengthen practices of traditional and technical midwives in Las Margaritas, Revolución Mexicana and SJ Chamula Enhance a gender and intercultural perspective in Casa Materna in Chiapas Achieve a written agreement and work plan with the Ministry of Health and recognition of traditional midwives in Casas Materna and home deliveries.			Chiapas
Metropolitan Group	$1,000,000	1/17—12/18	Create political will for professional midwifery in Mexico	Support the GIIP in developing a strategy of effective communication, including communication messages and tools for the GIIP and key groups Consultation with other actors to identify what communication efforts are underway and assess utility of joining forces.			National and key priority states TBD
Kinal Antzetik	$225k	10/16—12/18	Strengthening of traditional and technical midwives in Guerrero	Strengthen skills of midwives who work in 4 CAMI (Casa de la Mujer Indígena) Networking to develop joint strategies to enhance understanding of midwifery among key decision makers and advocate for payment and formal employment Leadership training for 40 students and practicing midwives Develop messages to encourage payment of midwives and carry out events to inform a wide range of key actors Video about good midwifery practices in the state Together with Raíz Zubia and Fundar, develop and disseminate messages about public funds for midwifery and incorporate this topic in the leadership training.			Guerrero
FUNDAR	$300k	7/16—12/18	Enhance women's sexual and reproductive health through effective and adequate incorporation of midwives in health care services	Collect and analyze information on budget allocation and benefits of midwifery to state officials in Guerrero and Michoacán in close collaboration with local CSO. Collaborating CSOs will receive training in budget analysis.	CSO midwifery advocates	Ensure the progressive increase in public resources for midwifery and the transparent use of public funds for midwifery within the public health system Increase in public expenditures for hiring and training of midwives in the two states Enhanced access to clinic practice sites, enhance insertion	

						conditions, greater visibility for the Tlapa school and its financial needs, better representation of those needs in public forums, and greater support for midwifery in both states.	
Community Raíz Zubia	$100k	10/16—09/17	Position the importance of midwifery as a model of alternative care for women living in rural and socially vulnerable contexts in the state of Guerrero	Consolidate alliances to promote professional midwifery within context of the Guerrero state-level Safe Motherhood Committee Plan and implement a joint 8-month campaign about the importance of professional and traditional midwifery Learning trip to another state or country.	Professional midwives		Guerrero
Birthing Center of San Cristobal (BCSC)	$300k	1/17—12/18	Develop manuals and educational courses to guide the opening of birthing centers in Mexico in which professional midwives provide the care	Luna Maya will develop indicators and protocols, a manual for opening a birthing center, training guide for midwives and administrators Train 20 midwives and/or administrators with these tools Create a normative proposal for regulating private birthing centers so as to avoid them being clandestine Provide the MOH with a clear framework on how to create real physical spaces where midwifery can be exercised in a safe, regulated and accessible manner.	Autonomous midwives Administrators of birthing centers Health sector officials and regulators	Presumably: Enhanced functioning of birthing centers Acceptance of birthing centers	Chiapas and other states
INSAD	240k—100%	7/16—12/18	Create a platform for information sharing among groups and to strengthen their organizational capacities	Analytical mapping of grant activities Internet-based platform for information sharing Technical assistance to strengthen M&E, report writing, etc.	Mac grantees and other pro-midwifery collaborators	Greater awareness among grantees of each others' activities Collaborations, communication	NA
UNFPA-LACRO	432k—80%	1/16—12/18	Linking with LACRO and ICM to promote professional midwifery	Monitoring tool for state government Advocacy tool kit Core competencies for training Train ten docents Networking Support AMP	High level policy makers Docents Advocates AMP Young midwives	Mexico more connected into Latin American regional midwifery field AMP strengthened Curricula strengthened Greater leadership among ten young midwives Guidelines for better practices and cultural sensitivity Denser network Greater awareness among policymakers Mexico more visible in international efforts to promote midwifery Midwives more effective	NA

						informing public policies.	
GIRE	500k—100%	8/15—7/17	Communication strategy designed to elevate the profile of MW in Mexico, advisors are CSO	Coordinate communication strategy, select & deploy ambassadors.	General population Policymakers (targets not specifically defined a priori)	Promote one or two objectives of public policy that are considered fundamental to advance MW at primary level Midwifery profile raised.	NA
GIRE	200K 100%	10/17—12/18		Work with state-level groups to enable them to take over and disseminate the materials, and develop a second part of the campaign that will outline specific asks relevant to each particular state Strengthen understanding about the legal framework for midwifery practice, carry out advocacy work to strengthen the legal framework for midwifery, with the goal that midwives will be able to carry out their profession freely Research results and analysis will be shared in public forums nationally and possibly internationally.	State-level actors International and national public forums attendees	Materials in selected states to promote professional midwifery Greater awareness of the framework for midwifery.	??
Sakil Nichim Antsetik	265k—80%	8/15—7/17	Promote insertion of indigenous professional midwives in services	Identify viable channels and necessary strategies to promote insertion of Indigenous professional midwives in health services Motivate young indigenous women to study professional midwifery.	Local authorities and key people in the communities	Greater insertion of professional midwives in primary level in the ten municipalities Greater interest in studying professional midwifery on part of young indigenous women Requests from authorities for professional midwives Agreements between state and municipal authorities.	10 municipalities in Chiapas
Sakil Nichim Antsetik	100k	10 months: 10/17—12/18		In training, Sakil will help integrate traditional and professional midwives into three public maternal health centers in Chiapas through negotiating with local authorities and providing spaces for discussing maternal healthcare models with clinic staff and management; promoting services in the communities; and serving as a liaison between the midwives, health centers, and communities To advance deployment, Sakil will gather midwifery students from five states to discuss intercultural maternal healthcare models and concepts and to provide theoretical and practical training. Sakil will also explore interest among larger university programs and national associations in learning more about culturally appropriate healthcare. Local advocacy with health authorities and other decision makers will focus on calling attention to the need for public health budgets to include funds for hiring professional and traditional midwives.		With its last project, Sakil documented and disseminated research results showing traditional midwives who support professionalization, supported midwifery students in their studies, and produced outreach materials in indigenous languages.	Chiapas and other states with indigenous populations

FOCA	120k—80%	1/16—12/17	Strengthen leadership of midwives and promote their services in Chiapas	Network of traditional midwives and ten technical midwives in Chiapas meet with local actors and authorities to promote healthier practices Empowerment training for midwives.	Traditional and Technical midwives Local actors and authorities.	Women educated in reproductive rights i.e., greater demand Common interests identified among traditional & technical midwives, greater collaboration & complementarity Midwives more articulate in meetings Support for healthier practices by local authorities.	Chiapas
Edumundo	350k—100%	9/15—8/17	Raise profile of midwives through a documentary and series of shorts	Film and shorts to be presented in conventional venues, social media and strategic venues	General public Advocates	General public will have a better understanding of midwifery	Chiapas, Guerrero, National
Ambulante	150k—100%	8/15-7/16	Itinerant Documentary Film Festival 2016	Film festivals in three cities, discussion forums	General public	Greater demand for services	National
AMP	300k—80%	9/14—8/17	Strengthen AMP as a key actor in promoting midwifery in Mexico	Three-year plan to position both the organization and midwifery more squarely on the public agenda, enable more schools to open, provide guidelines for certification, and increase public understanding of what midwifery can offer. Awareness raising campaign Increase number and activities of members Joint messages and press coverage Basic competencies of MWs approved by AMP Website with data and experiences for students and women Plan for certification Map of training opportunities i.e. Own vision, values and ethics clarified Research findings presented to decision makers.	Public Midwifery Schools, students and docents Advocates Policymakers Ministries of Health and Education for certification program of autonomous midwives (or for whole range of midwives?) Women who seek midwifery services Stakeholders within AMP.	More widespread awareness, less stigmatized understanding of midwifery Cultural change that enables midwives to become integrated Greater consensus among stakeholders with conflicting positions Acceptance & implementation of regulation standards in line w ICM Potential students have easier access to know where options are Certification process culminating in College of Midwifery.	National
Mujeres Aliadas	120k—80%	7/15—6/17	Advance certification and regulation of midwives, strengthen organization as advocate in AMP	Continue consciousness raising with clinic personnel and authorities New guidelines for opening school.s	State-level authorities	Certification of graduates New schools can open using guidelines Greater acceptance of midwifery in the state.	Michoacán
ILSB	300k—100%	2/16—12/17	Strengthen leadership of midwives and the movement for	Leadership and human rights training	Midwives (students, practicing, professional &	Increased number of midwives who are leaders in promoting	NA

			midwifery in Mexico	Networking National 69Forum Promote sharing & collaboration.	traditional)	midwifery and humanized birth Greater collaboration & recognition of self-worth among midwives.	
ILSB	150k	15 months	Strengthen leadership of midwives and the movement for midwifery in Mexico, with enhanced focus on young midwives	Build upon this momentum and provide new impetus around building leadership and networking, now with additional focus on young midwives. Provide technical assistance to the Mexican Association of Midwives as it moves forward with establishing its own leadership in Mexico, in the region, and with the International Confederation of Midwives (ICM) and other global players.			
CPMS-M	493k—20%	6/16—12/18	Strengthen existing models that integrate/employ midwives and help foster new insertion spaces within the health system.	5 state hubs that engage in dialogue, exchange of experiences, etc.	Mid-level health policymakers Service providers	Enhanced political will in five states.	Guerrero Veracruz Chiapas Oaxaca Jalisco
Integrate models into health care systems $4,268,800							
Corporación Miles	$350k	10/17—12/18	Encourage implementation of midwifery services in one major public hospital, building off the Chilean model and adapting it to Mexico	Work with the Mexico City Health Ministry to introduce midwifery services in Inguarán Maternal Health hospital in Mexico City Learning exchanges for teams of health professionals and authorities from the participating hospital Supervisory visits by Chilean midwives who will spend time in Mexico City working with health teams first to understand and analyze how they work, and then to recommend changes and supervise their implementation.	Staff in the Inguarán Maternal Health Hospital	New information and know-how about integrating midwives into hospitals and clinics High-impact leadership on the topic Changes in service provision.	Mexico City
Mujeres Aliadas, AC (2dry-education)	$150k	10/17—12/18	Promote Access to rights and services through strengthening educational opportunities for professional midwives in Michoacán and Mexico	Educate professional midwives Work with key actors towards the recognitions of autonomous midwifery and achieve the integration of the midwifery model into primary and secondary levels of care Generate evidence and demand for midwifery services Foster collaboration and integration of evidence to help consolidate and sustain professional midwifery.	Students in MA educational program Key social actors, midwifery advocates IMSS-Prospera AMP, CPMSM Media		Michoacán
Pan American Health Organization	$1,000k	1/17—12/18	Launch a competition in the public health sector that contributes to implementing a model of midwifery care at state level	Provide technical and financial support for health districts to implement plans and share their experiences of integrating midwifery as a solution appropriate to improving quality of maternal health care. Sharing the experiences among the winners.			National
CPMS-M	493k—80%	6/16—12/18	Strengthen existing models that integrate/employ midwives and help foster new insertion spaces within the health system	Enhance functioning of existing midwifery programs MW promotion hubs in five states Incentives for PMW models.	Mid-level health policymakers Service providers.	Enhanced Models to share Core group of spokespeople	Where sites exist, Guerrero Veracruz Chiapas Oaxaca

							Jalisco
Gynuity Health Projects	750k—100%	7/16—12/18	Promote the current evidence-based norms and the concept of task sharing as a strategy to open spaces for midwives in the Mexican health system	Training of Trainers and development of materials on evidence-based practice in Mexican norms, guidelines, protocols, etc. Compendium of scientific lit & int'l guidelines, in Spanish Final forum to share results and lessons learned, success & challenges shared with media.	State-level health system decision makers and administrators- – Ob-gyns, nurses Five medicine and nursing schools	Greater awareness of EBP Greater acceptance of task-sharing More favorable attitudes re MW Greater implementation of norms, protocols and guidelines for attending births at primary level More enabling environments for MWs.	Six—eight states TBD
Population Council	50k—80%	7/16—10/16	Mapping midwifery services and training in the private sector	Exploratory study of midwifery services in the private sector Interviews with: - key informants - reproductive age women who seek private services - administrative & academic directors higher education institutions Review of Job Descriptions and conditions of midwives in private institutions.	Specialized personnel General public	Knowledge about private sector options for training & insertion.	NA
CIMIgen	500k—80%	1/16—12/18	Formation & incorporation of perinatal nurses with midwifery model competencies in multidisciplinary health teams at primary level in Tlaxcala	Strengthen CIMIgen's own model Train 33 perinatal specialists (EEPS) Follow-up support for them once in health centers Some EEPS followed in other states INSP will document & evaluate.	Obstetric nurses Personnel in CIMIgen State health officials to allow attention of births at 1r level Health care team members in health centers Authorities and others who might replicate model in other states	Enhanced practices in CIMIgen Successful insertion of perinatal nurses in 25% of health centers in Tlaxcala Successful insertion of other perinatal nurses in other states Health care teams supportive of the perinatal nurse midwives Local authorities support professional midwives attending births.	Tlaxcala
PAHO	390k—80%	7/15—12/18	Comprehensive midwifery model to strengthen public policies, contribute to help CNEGySR reduce maternal mortality by defining and incorporating a midwifery model	Position by CNEGySR through a comprehensive model of professional midwifery Pilot or case example of perinatal nurse midwives in Tlaxcala and later two other states Document and share experiences,—three local forums and one national forum.	**Policymakers** LEOs and EEPs	Political support for the Initiative	Tlaxcala and two other states

PIH (Compañeros en Salud)	600k—100%	9/15—8/18	Demonstrate the effectiveness of the MW model in the Maternity Clinic in Revolución Mexicana & enhance humanized delivery in hospital.	Insert a midwife in a health center Document success and challenges Promote humanized birth more widely & in hospital	Health unit & hospital personnel including Technical midwife Local authorities especially in local health district.	enhanced quality of care greater acceptance of midwives hiring of midwives of diverse types by health system.	Chiapas
FOCA	120k—20%	1/16—12/17	Strengthen leadership of midwives and promote their services in Chiapas	Network of traditional midwives and ten technical midwives in Chiapas meet with local actors and authorities to promote healthier practices Empowerment training for midwives	Traditional and technical midwives Local actors and authorities	Women educated in reproductive rights i.e., greater demand Common interests identified among traditional & technical midwives, greater collaboration & complementarity Midwives more articulate in meetings Support for healthier practices by local authorities.	Chiapas
ACASAC	210k—20%	9/15—8/17	Study about the extent to which midwifery services fulfill the needs of women	Study of women cared for under different models: midwives, doctors, public and private) Reports will provide: Description of the different models of care Summary with positive and negative aspects Recommendations Recommendations given to policy makers in each entity Agreements with help of CNEGySR with state and fed government	Policymakers at local levels, state and federal	Agreements with policy makers i.e., presumably enhancements in quality of care	Chiapas, other states TBD
UNFPA-LACRO	432k—20%	1/16—12/18	Linking with LACRO and ICM to promote professional midwifery	Monitoring tool for state government Advocacy tool kit Core competencies for training Train ten docents Networking Support AMP	High level policy makers Docents Advocates AMP Young midwives	Mexico more connected into Latin American regional midwifery field AMP strengthened Curricula strengthened Greater leadership among ten young midwives Guidelines for better practices and cultural sensitivity Denser network Greater awareness among policymakers Mexico more visible in international efforts to promote midwifery midwives more effective	NA

						informing public policies.	
UNFPA	600k—20%	09/15—8/18	Comprehensive strategy to strengthen midwifery in coordination with GIIP	Training of resources, human resources for midwifery, access to services, quality of care	State level policy makers	Expanded: Training options Availability of services Demand (by whom?) Enhanced quality of care.	Oaxaca, Morelos, Tlaxcala, Hidalgo
Expand and build on education options $3,862,000							
CISC	$400K	4/17—12/18	Contribute to new educational programs based on educational materials for professional midwifery in Mexico and contribute strategies to encourage the rollout of professional midwifery in Chiapas	Create curriculum for educating professional midwives, support schools in using the curriculum and validating it with health sector authorities (with support from UNFPA) Develop a Digital Toolkit aimed at students and teachers to reinforce knowledge and fundamental capacities coordinating with PAHO, UNFPA, SCO, schools, INSP and AMP Document, analyze and publish the government and private sector's efforts to strengthen professional midwifery in Chiapas (2015 to 2018).			Oaxaca, Michoacán, Morelos, Guerrero, Guanajuato, México City, Chiapas
IIE	$1,100k	1/17—12/18	Create a scholarship and capacity-building grant program for professional midwifery education	Scholarships for 120 -160 students for social service or studies Technical assistance through institutional supports so that 5 – 15 schools can strengthen their abilities in financial management, fund raising, administration of scholarships and positioning their graduates in the labor market.	School directors and administrators	Graduates get diplomas and licenses and students remain in programs Schools and programs become more sustainable Schools strengthen their educational programs, improve their financial capacities to support more students and help them gain better access to labor market.	National, priority states with Educational programs TBD
IPAS Mexico, A.C.	$350k	7/16—12/18	Promote inclusion of professional midwives and obstetric nurses in sexual, reproductive, maternal and adolescent care in Mexico	Task-sharing education events with health care professionals and policy makers, and medical, nursing and midwifery students Exchange visits to successful program sites Strengthen the quality and content of education focusing on the continuum of care for midwives and obstetric nurses Collaborate with ENEO, ESEO, Tlapa school, 2 schools in SLP to develop educational tools.		Midwifery students are prepared to participate in task sharing Better trained teachers Enhanced support for health care teams that include midwives More solid networks among students and maternal health care professionals.	
UNFPA LACRO	$290k		1/17 to 12/18	Technical support to 3-5 additional midwifery schools	Midwifery schools		

				Study visit to Peru/Ecuador and Costa Rica to learn from their extensive experience in midwifery education and services provided by midwives with an intercultural approach Preparation of national and international technical advisors/consultants for work with Mexico Enhanced technical support for policy, regulation, advocacy and organization of services.	Midwifery associations Secretaries and Departments of Health at Federal and State levels, Safe Motherhood Committee, GIIP		
Nueve Lunas	210k—60%	1/16—12/18	Strengthen training and recognition of midwifery in Mexico	Materials in Spanish related to midwifery with inter-cultural and comprehensive focus "Diplomado" program Exploration of legal and political strategies for effective and respectful collaboration of traditional midwives and technical midwives.	Midwives, and midwifery students, docents, schools Medical students, Ob-gyns	Greater understanding of midwifery Enhanced relations with other health care personnel Common base of knowledge among training programs Better service options for women Enhanced quality of care Strengthened primary care options.	NA
CASA	500k—100%	5/14—4/17	Widen the available high quality training options through information technology	Exchanges with authorities TA for opening schools 10 midwife leaders as trainers Help develop training programs in Guerrero, San Luis Potosí.	Doctors and MWs in primary level Medical students	80% midwives with dignified salaries and working conditions Additional CASA-style training programs.	
CASA	75k	10 months: 3/18—12/18	Reach out to states that have begun to create training programs and integrate midwives into their services, and to advance advocacy work to establish up to eight centers of excellence for pre-service training.	Cultivating 100 new champions from seven states who will participate in short workshops about information technologies, women's health and rights, midwifery, and leadership and health systems, and they will work with CASA to promote midwifery locally More general information will be provided to an additional 2,000 public healthcare professionals and students through a one-day in-person session and a 10-hour online introductory course about midwifery and its potential for improving maternal health. A communications campaign from April to December that will encourage women, families, and communities to seek midwifery care in the public health system.	Pro-midwifery advocates Healthcare professionals Women, families % communities	Previous grant: allowed CASA to share its model with several states, develop and implement the virtual course, and strengthen contacts with Veracruz which seems ready to begin a university-level program and plan for deployment.	Guerrero, Morelos, Oaxaca, Veracruz and others
CISC	300k—100%	4/14—3/17	Promote the development of a university level midwifery training program with a focus on human rights of women.	Negotiations to develop the program and inform the content Sensitivity raising campaign	UNICH authorities State health and education authorities	New university-based midwifery program Greater awareness of need for MWs.	Chiapas

UNFPA	600k—80%	10/15—8/18	Comprehensive strategy to strengthen midwifery in coordination with GIIP	Training of resources, human resources for midwifery, access to services, quality of care	State level policy makers	Expanded: Training options Availability of services Demand (by whom?) Enhanced quality of care.	Oaxaca, Morelos, Tlaxcala, Hidalgo
CIMIgen	500k—20%	1/16—12/18	Formation & incorporation of perinatal nurses with midwifery model competencies in multidisciplinary health teams at primary level in Tlaxcala	Strengthen CIMIgen's own model Train 33 perinatal specialists (EEPS) Follow-up support for them once in health centers Some EEPS followed in other states INSP will document & evaluate	Obstetric nurses Personnel in CIMIgen State health officials to allow attention of births at 1r level Health care team members in health centers Authorities and others who might replicate model in other states.	Enhanced practices in CIMIgen Successful insertion of perinatal nurses in 25% of health centers in Tlaxcala Successful insertion of other perinatal nurses in other states Health care teams supportive of the perinatal nurse midwives Local authorities support professional midwives attending births.	Tlaxcala
Sakil Nichim Antsetik	265k—20%	8/15-7/17	Promote insertion of indigenous professional midwives in services	Identify viable channels and necessary strategies to promote insertion of Indigenous professional midwives in health services Motivate young indigenous women to study professional midwifery	Local authorities and key people in the communities	Greater insertion of professional midwives in primary level in the ten municipalities Greater interest in studying professional midwifery on part of young indigenous women Requests from authorities for professional midwives Agreements between state and municipal authorities.	10 municipalities in Chiapas
Pop Council	50k—20%	7/16—10/16	Mapping midwifery services and training in the private sector	Exploratory study of midwifery services in the private sector Interviews with: - key informants - reproductive age women who seek private services - administrative & academic directors of higher education institutions Review of job descriptions and conditions of midwives in private institutions.	Specialized personnel General public	Knowledge about private sector options for training & insertion	NA
OPS	390k—20%	7/15—12/18	Comprehensive midwifery model to strengthen public policies, contribute to help	Position by CNEGySR through a comprehensive model of professional midwifery	Policymakers LEOs and EEPs	Political support for the Initiative	Tlaxcala and two other states

			CNEGySR reduce maternal mortality by defining and incorporating a midwifery model.	Pilot or case example of perinatal nurse midwives in Tlaxcala and later two other states Document and share experiences, three local forums and one national forum.			

Exhibit 3: Evaluation Questions

ACTORS AND EFFORTS TO PROMOTE MIDWIFERY	
Description	• What are the characteristics of the efforts to promote midwifery at the state and national levels (number, composition, diversity)? ➢ Who are its leaders and opponents, and what are their strengths and weaknesses? ➢ What groups or voices are absent in these efforts' leadership?
Efficacy	• How effective are the efforts in advancing the practice of midwifery? ➢ How many initiatives have been championed, either successfully or unsuccessfully? ➢ What are the main accomplishments (campaigns, consensus-building, visibility, strength and clarity of message, influence over decision-makers or gatekeepers)?
Obstacles	• What challenges or obstacles (including tensions or lines of fracture) must these efforts overcome to be more effective?
Legitimacy	• How does the target population (women, families, health service providers, policy makers) view midwifery in contrast to current medical model? • What knowledge, attitudes, and/or prejudices do they hold with regard to different types of midwives?
Demand	• To what extent do women from diverse socioeconomic and cultural backgrounds seek or desire midwife services, and of what type? • What are the factors that influence that demand? • What information or options would make them more likely to request midwife care?
Theories of Change	• What do key actors think is needed to enhance the effectiveness of the efforts to promote midwifery?
POLICY AND NORMATIVE ENVIRONMENT	
Description	• What policies, norms and practices (federal, state and health district levels) currently influence access to a midwifery model of care? ➢ What aspects of the policy and normative environment support midwifery practice? ➢ What policies, norms or practices hinder full implementation of the midwifery model? ➢ What is missing?
Perceptions	• What knowledge, attitudes or perceptions do policy and decision-makers have about different forms of midwifery? • What factors (e.g., data, research, assumptions, prejudice) influence these perceptions? • What data or research is needed to influence decision-makers to be more supportive of a midwifery model of care?
Needs	• What do key actors think is needed to create a more facilitating policy and normative environment?
Theories of Change	
EDUCATION, ACCREDITATION AND CERTIFICATION	
Description	• What training/education models and schools exist in Mexico? ➢ How are knowledge and skills taught in each? ➢ What is the make-up of teaching staff across different training models/schools (training, gender, ethnicity, work load, etc.)? ➢ What is the make-up of attending students across different training models/schools? ➢ What are financial, recruitment, completion, and enrollment structures? • What procedures or approaches exist for accreditation of training schools or programs? ➢ What are the steps in accreditation of programs? ➢ Which of these steps are regularly fulfilled?

Availability Quality Needs Theories of Change	• What procedures or approaches exist for certification of midwives? ➢ What are the steps in certification of midwives? ➢ Which of these steps are regularly fulfilled? • What continuing education pathways exist? • What is the current training capacity and ability to meet the need for midwives (staff, infrastructure, etc.)? • How many and which of the ICM-WHO standards for midwifery knowledge and skills does each school or program meet? • What is needed to expand training capacity in the future (space, recruitment, etc.)? • What do training programs need in order to meet the criteria they don't meet? • What is needed to expand or improve accreditation and certification processes? • What continuing education pathways are needed? • What do key actors think is needed to expand high quality training, accreditation and certification?
EMPLOYMENT AND INTERFACE	
Description Quality of interaction Needs Potential for expansion Theories of change	• How many and what kinds of midwives are presently employed or interfacing with the health system, and in what settings? • What are their employment conditions (e.g. salary, benefits, contracts, structure of medical staff) and in what kinds of activities do different types of midwives engage? • How do traditional midwives interface with the health system? • What is the quality of the interaction between medical personnel and various kinds of midwives? ➢ How do the interactions differ between various kinds of medical personnel and various kinds of midwives? • What obstacles or challenges exist to high quality insertion and interface between midwives and the medical system? How can they be overcome? • What factors lead to successful insertion and interface? • How could successful insertion and interface be expanded? • What do key actors think is needed to ensure sufficient high quality insertion and interfacing of midwives and health care services?
QUALITY OF MATERNAL / NEONATAL CARE	
Description Quality of standards of care	• To what extent does the bio-medical model of care meet WHO standards of obstetric care? • To what extent does the bio-medical model of care meet women's needs? • What costs (for women and the health system) are associated with each option? • What is the quality of the continuum of care provided by different kinds of midwives and medical personnel? • What are the obstacles to higher quality of care?
MATERNAL AND NEONATAL HEALTH OUTCOMES	
Comparative outcomes	• How do maternal and neonatal health outcomes vary among different models of care that include midwifery and medical-based options? Outcomes include: numbers of cesareans/total births, neonatal mortality and morbidity (asphyxia, etc.) maternal mortality and morbidity (pre-eclampsia/eclampsia, hemorrhage, sepsis, dystocia), etc.

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Exhibit 6: Comparison of normative documents

	NOM-007-SSA2-2016 Attention to Women and Newborns during Pregnancy, Birth and Puerperium, DOF 07-04-2016	Clinical Practice Guide: Attention and Management of Low Risk Birth, Master Catalogue of Clinical Practice Guides: IMSS-052-08 (2014)	Integration Guide: Model of Attention to Women in Pregnancy, Birth and Puerperal with Focus on Humanized Care, Interculturalism and Safety (MTyDI)	Program for Specific Action for Maternal and Perinatal Health (PAE-SMP) 2013-2018 (CNEGySR)
	Establishes mandatory standards applicable to all health personnel in public, private and social sectors	*Guidelines based in scientific evidence to inform clinical and management decision making; recognized by the National Health System but not mandatory or enforced*	*A model grounded in WHO recommendations, scientific evidence, human rights and the Mexican normative framework, intended to inform practice throughout the health system; not mandatory*	*The Health Ministry's principle instrument of national policy on maternal and perinatal health*
EVIDENCE-BASED PRACTICES:				
Continuous accompaniment of woman by person of her choice		Procure continual accompaniment during the entire process of labor and birth in accordance with the conditions, be it hospital personnel (including those in training), non-hospital professionals and a family member if at all possible. (p 23)	Respect the **woman's decision** about who will accompany her in birth (p. 26). Encourage the presence of a person that the woman chooses to accompany her during labor and birth... this will provide security, lessen the period of labor and increase satisfaction. (p. 71)	
Freedom to walk during labor	5.5.5. Promote walking alternated with bed rest... to improve labor ... provided there is no medical counter indication.	Walking during the first stage of labor (active phase) reduces the duration of labor and does not appear to be associated with adverse effects in the mother or the newborn. (p. 9)	Walking and use of various positions will facilitate the process.... use cloth shoes to prevent woman's feet from getting cold... always under the attentive watch of the responsible person. (p. 73)	
Ability to select positions	5.1.12. The woman should have the option of giving birth in a vertical position, provided trained personnel and sufficient infrastructure is available for that purpose.	It is recommended that during birth, women adopt the position that they find most comfortable provided there is no medical counter indication (p. 9) ….A vertical position can be appropriate when requested by the patient... Because not all units have the required infrastructure, it is important to promote adaptation and offer the option of vertical birth in a gradual manner (p. 12)	Explain to the woman the different positions she can choose during labor and birth, and how to use (tables and obstetric benches) (p. 72)	
Immediate skin-to-skin contact *	5.6.1.3 Initiate lactation on demand within the first 30 minutes of birth when the health conditions of the mother and newborn allow.	Early skin-to-skin contact between mother and healthy newborns is recommended... given that it stabilizes the cardio-respiratory function and increases glucose in newborns (p. 63)	Provide immediate attention to the newborn, ensuring immediate skin-to-skin contact…putting the newborn on the chest or abdomen of the mother... (p. 76)	

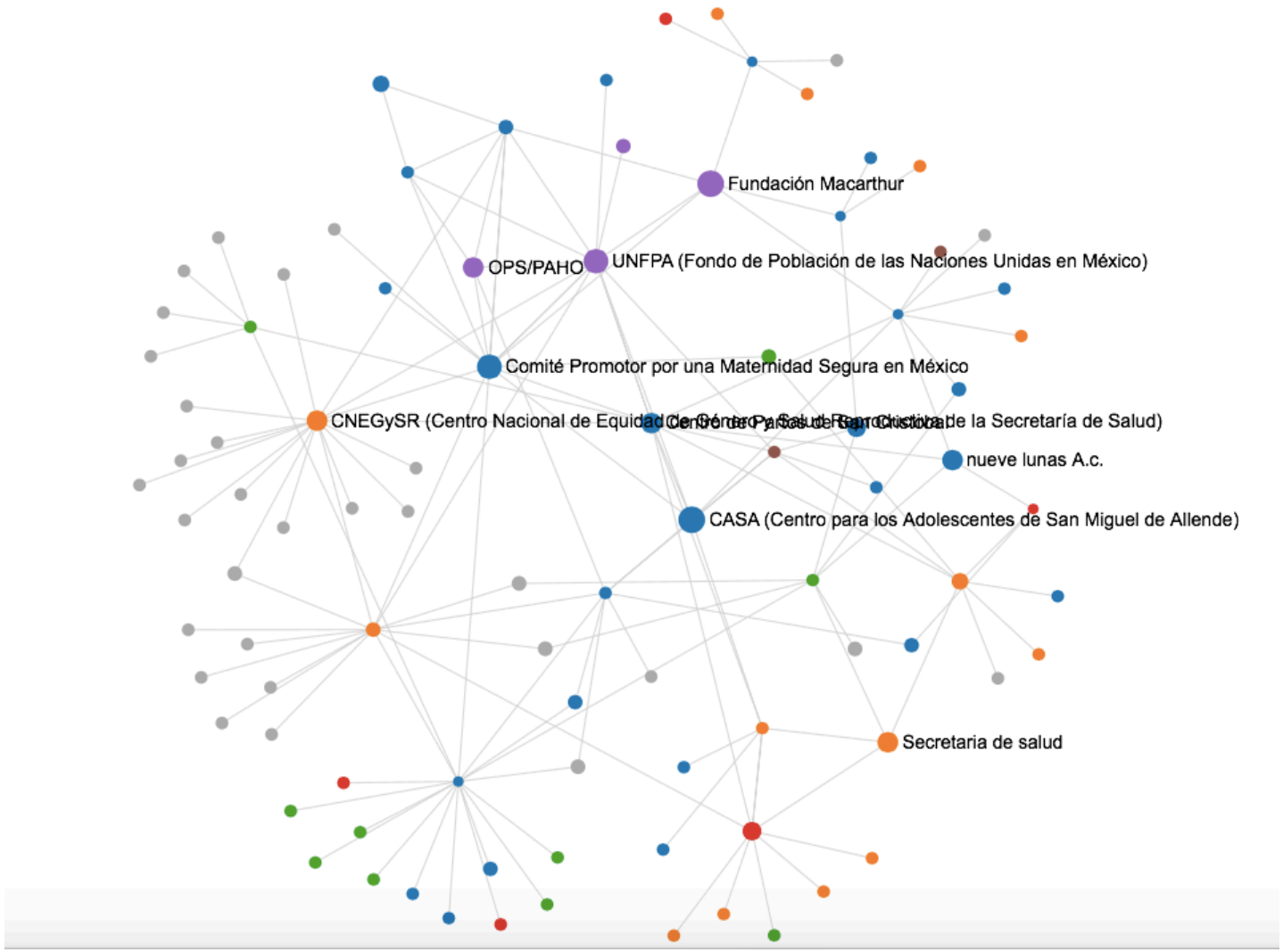
Delayed cutting of umbilical cord	5.5.16 The umbilical cord should be cut 30 to 60 seconds after birth…	It is recommended the delayed cutting of the umbilical cord … (1-3 minutes after birth) or when the pulse has stopped (p. 47)	Do not rush to cut the umbilical cord ... wait 1-3 minutes until the pulse has stopped, or until the breathing has normalized, while the baby is with its mother (p. 77)	
Non-routine use of IV *		The routine use of IV solutions is not recommended during labor in low risk patients given the lack of strong evidence to show that it is beneficial. (p. 25)	Avoid use of routine and mandatory IV to enable the woman to move freely. Apply the IV only when risk factors are identified (p. 73)	
Non-use of Oxytocin during labor *		In cases of normal birth… avoid unnecessary interventions (unnecessary C-section, use of oxytocin...), if there is no medical indication (p. 19)	The use of synthetic oxytocin and epidural inhibit the production of natural oxytocin. ... it has been shown that immediate lactation produces oxytocin and promotes the delivery of the placenta (p. 51)	
Non-routine rupture of membranes	5.5.7 Induction of labor and artificial rupture of membranes should be used according to physical recommendation...	Artificial amniotomy should not be performed routinely (p. 38-39)	Induction of labor should only be performed in case of potential complications (p. 72)	
No pubic shaving	5.5.9 Public shaving… should not be mandatory, except in cases of physician recommendation.	Avoid pubic shaving given that it has no benefit and is shown to cause irritation…. (p.28)	Pubic shaving ... will be done only under medical indication in preparation for surgery and not in a routine manner... (p. 72)	
Non-use of enema	5.5.9 Application of enema…should not be mandatory, except in cases of physician recommendation.	Do not use enema in a **routine** manner during birth…. It should only be used by medical indication and i**nforming** the patient (p. 27)	The application of enemas will be done only under medical indication in preparation for surgery and not in a routine manner... (p. 72)	
Non-routine episiotomy, favoring other forms of perineal preparation*	5.5.9 Episiotomy should be done selectively based on clinical evaluation.	The use of hot compresses and perineal massage is recommended during the second period of labor, given that it reduces the risk of third and fourth degree tears, and the frequency of use of episiotomy. (p. 27)	Evaluate the perinea and vagina to determine the need for episiotomy instead of using it routinely (p 76)	
Non-routine exam of uterine cavity without anesthetic	5.5.18 Manual review of the uterine cavity or with an instrument will not be performed routinely…	Clinical studies have shown no difference in complication levels of patients with or without review of cavity, thus it should not be done in a routine manner... (p. 58-59)	… should only be performed when necessary if there are signs of retention of placenta, always under anesthesia and never routinely (p. 78)	
Midwives recognized	5.1.11 Full term low-risk births can be attended by **obstetric nurses**, **technical midwives** and **trained traditional midwives**.	Potential users (of GPC): General physician, gynecologist and obstetrician, urgent care personnel, nurses, **midwives** and health personnel in training... (p. 10 Evidence and Recommendations)	These obstetric competencies are applicable to **personnel who attend birth,** including physicians, nurses or **midwives** (p. 65)	The strategy speaks of "madrinas comunitarias" and the need for training by health personnel to ensure effective accompaniment. (p. 45) Mentions equipment and supplies needed for the preconception, prenatal, perinatal care as well as for **traditional midwives** (p. 46)

Exhibit 7: Lome Connectivity Maps

2015

Exhibit 7: Lome Connectivity Maps contd

2018



APPENDIX B: FIGURES AND TABLES

Table 1: People Interviewed in 2015 and 2018 by State
(Includes a number of exploratory interviews excluded from quantitative analyses)

State	Year	Total	Federal Officials	State Officials	Education Program Directors	Employment site Directors	Doctors (only in 2015)	Midwives	Women service users	Actors (civil society, academics, transnational agencies)
Baja California		—	—	—	—	—	—	—	—	—
	2018	1	—	—	1	—	—	—	—	—
Chiapas	**2015**	**15**	—	3	1	3	1	5		2
	2018	**18**	—	5	1	3	—	4	1	4
Chihuahua	**2015**	—	—	—	—	—	—	—	—	—
	2018	**24**	—	6	0	1	—	10	6	—
Colima	**2015**	**1**	—	—	—	—	—	1	—	—
	2018	**1**	—	—	—	—	—	1	—	—
Guanajuato	**2015**	**69**	—	2	3	2	9	11	41	1
	2018	**1**	—	—	1	—	—	—	—	—
Guerrero	**2015**	**43**	—	6	3	6	5	9	12	2
	2018	**39**	—	8	6	4	—	9	11	—
Mexico City	**2015**	**75**	14	1	6	3	9	15	14	13
	2018	**63**	18	1	5	2	—	15	11	10
Mexico State	**2015**	**46**	—	3	1	3	6	13	20	
	2018	**75**	—	13	1	11	—	33	17	—
Michoacán	**2015**	**1**	—	—	—	—	—	—	—	1
	2018	**1**	—	—	1	—	—	—	—	—
Morelos	**2015**	**9**	—	4	1	1	—	1		2
	2018	**23**	—	2	4	2	—	8	6	1
Oaxaca	**2015**	**9**	—	5	2	—	1	—	—	1
	2018	**4**	—	2	2	—	—	—	—	—
Puebla	**2015**	**16**	—	1		4	3	4	4	
	2018	**19**	—	7	—	2	—	3	7	—
Queretaro	**2015**	—	—	—	—	—	—	—	—	—
	2018	**9**	—	4	—	1	—	2	2	—
Quintana Roo	**2015**	—	—	—	—	—	—	—	—	—
	2018	**19**	—	4	1	2	—	7	4	—

Table 1: People Interviewed in 2015 and 2018

State	Year	Total	Federal Officials	State Officials	Education Program Directors	Employment site Directors	Doctors (only in 2015)	Midwives	Women service users	Actors (civil society, academics, transnational agencies)
San Luis Potosi	**2015**	—	—	—	—	—	—	—	—	—
	2018	**24**	—	3	1	4	—	4	12	—
Tabasco	**2015**	—	—	—	—	—	—	—	—	—
	2018	**23**	—	7	—	1	—	9	8	—
Tlaxcala	**2015**	**23**	—	8		4	6	5		
	2018	**20**	—	3	—	2	—	9	7	—
Veracruz	**2015**	**20**	—	—	—	4	6	2	8	
	2018	**37**	—	4	—	4	—	10	18	—
Totals	**2015**	**356**	**14**	**33**	**17**	**30**	**46**	**66**	**128***	**22**
	2018	**399**	**18**	**69**	**24**	**39**	0	**124**	**110**	**15**
*29 additional women users were interviewed but data is not available on what state they were from. They are included in the totals.										

Table 2: Midwifery Schools and Programs, 2015 and 2018			
	2015-2018	**2015**	**2018**
TOTAL PROGRAMS	**83%**	**7**	**12**
TECHNICAL PROGRAMS	**50%**	**2**	**3**
CASA: Adolescent Center in San Miguel de Allende Midwifery School		Accredited	Accredited
Tlapa: Guerrero State Professional Midwifery School		Accredited	Accredited
Río Petate: Professional Midwifery School, Sta. María Petapa, Oaxaca		N/A	Accredited
UNDERGRADUATE REPRODUCTIVE HEALTH PROGRAMS	**100%**	**1**	**2**
Red Cross: Undergraduate Degree in Reproductive Health and Midwifery		Accredited	Accredited
Mujeres Aliadas: Professional Midwifery School		N/A	Accredited
OBSTETRIC NURSES	**100%**	**1**	**2**
ESEO: School of Obstetric Nursing, National Polytechnic Institute		Accredited	Accredited
ENEO: National School of Obstetric Nursing, National University of México		N/A	Accredited
PERINATAL NURSE SPECIALISTS	**67%**	**3**	**5**
Guerrero EEP: Perinatal Nurse Specialist Program, Health Center Normal Birth, Chilpancingo, Guerrero		Accredited	Accredited
CIMIGen EEP: Perinatal Nurse Specialist Program, Centro de Investigación Materno Infantil, Mexico City		Accredited	Accredited
Mexicali EEP: Perinatal Nurse Specialist Program, Maternal-Child Hospital of Mexicali, Baja California		N/A	Accredited
Atlacomulco EEP: Perinatal Nurse Specialist Program, Maternal Hospital of Atlacomulco, México State		N/A	Accredited
Morelos EEP: Perinatal Nurse Specialist Program, Women's Hospital, Yautepec, Morelos	E	Accredited	N/A
Tuxtla EEP: Perinatal Nurse Specialist Program, Institute of Higher Studies of Nursing, Chiapas		N/A	Accredited
TOTAL		**7**	**12**

Table 3: Program Stability 2018										
		Enrollments	**Fiscal**	**Accreditation**	**Property**	**Equipment / resources**	**% Scholarships**	**Source of Scholarships**	**Effect of Scholar-ships**	**TOTAL**
	KEY*	*1= Above median*	*1=Year-to-year*	*all*	*1= Owned or stable*	*1= Computer and internet for students*			0= high effect, 1= no effect	
Technical										**3.2**
	CASA	0	0	1	1	1				**3**
	Rio Petapa	0	0	1	0.5	1	100%	IIE	0	**2.5**
	Tlapa	1	0.5	1	0.5	0.5	60%	State and IIE	0.5	**4**
Undergraduate Reproductive Health & Midwifery										**3.25**
	Red Cross	0.5	0	1	1	1	70%	IIE	0	**3.5**
	Mujeres Aliadas	0	0	1	1	1	90%	IIE	0	**3**
Obstetric Nursing										**6**
	ENEO	1	1	1	1	1	80%	internal source = stable	1	**6**
	ESEO	1	1	1	1	1	90%	internal source = stable	1	**6**
Perinatal specialist								Some salary		**3.7**
	Guerrero	0	0.5	1	1	1	88%		0.5	**4**
	CIMIgen	0	0.5	1	1	0.5	100%		0.5	**3.5**
	Atlacomulco	0	0.5	1	1	0	57%		0	**2.5**
	Mexicali	0	0.5	1	1	0.5	40%		0.5	**3.5**
	Tuxtla	0.5	0.5	1	1	1	25%		1	**5**

** Each item was coded enrollments above or below the median, secure building tenure, year-to-year funding, and internet/computer resources for students. In addition, the number of scholarships and the dependence on scholarships affect program stability.*

Table 4: Scholarships 2018					
		# Students	**# with scholarships**	**# with IIE Scholarships**	**% Students with IIE scholarships**
Technical					
	CASA	10	0	—	
	Rio Petapa	12	12	12	100%
	Tlapa	68	63	61	90%
Undergraduate Reproductive Health & Midwifery					
	Red Cross	36	25	25	70%
	Mujeres Aliadas	15	14	12	84%
Obstetric Nursing					
	ENEO	1400	1120	0	0%
	ESEO	543	489	0	0%
Perinatal specialist					
	Guerrero	16	14	0	0%
	CIMIgen	12	12	12	100%
	Atlacomulco	7	4	4	57%
	Mexicali	15	6	6	40%
	Tuxtla	14	0	0	0%
TOTAL		**2148**	**1759**	**132**	
% of Total			**82%**	**6%**	

Table 5: Teaching Staff								
	TOTAL STAFF reporting	**MDs**	**Nurses**	**Technical Midwives**	**Empirical Midwives**	**Director with Same degree**	**Indigenous**	**Women**
TECHNICAL								
CASA						1		
Tlapa	**11**	3	2	3	1	1	7	6
Rio Petapa	**10**	6	1	1		1	1	8
UNDERGRADUATE REPRODUCTIVE HEALTH AND MIDWIFERY								
Red Cross	**21**	1	9			1	0	15
Mujeres Aliadas	**15**	10	2	2		0	2	8
OBSTETRIC NURSES								
ESEO IPN	***100s****					1		
ENEO UNAM	***120****					1		
PERINATAL EEP								
Guerrero	**9**	4	5			1	1	6
CIMIGEN	**5**	2	2			1		4
Mexicali	**7**	3	3			1		5
Atlacomulco	**8**	2	2			1		8
Tuxtla						1		
	96	**22**						**56**

*Directors were unable to supply numbers or give access to the vast personnel files.

Table 6: Enrollments 2015-2018						
	2015	**% of total**		**2018**	**% of total**	**Growth**
Technical	**80**	**12%**		**90**	**4%**	**13%**
CASA	20			10		
Tlapa	60			68		
Río Petate				12		
Undergraduate Reproductive Health & Midwifery	**21**	**3%**		**51**	**2%**	**143%**
Cruz Roja	21			36		
Mujeres Aliadas				15		
Obstetric Nurses	**500**	**77%**		**1943**	**90%**	**389%**
ESEO	500			543		
ENEO				1400		
Perinatal Nurse Specialists	**50**	**8%**		**64**	**3%**	**100%**
Guerrero	19			16		
CIMIGen	13			12		
Mexicali				15		
Atlacomulco				7		
Morelos	18			0		
Tuxtla				14		
TOTAL	**651**	**100%**		**2148**	**100%**	**330%**

Table 7. Meeting Demand						
Total births	**Normal births (=85%)**	**20% of Normal Births Attended by Midwives**	**Number of births attended / year**	**Demand for midwives**	**Annual production of midwives**	**Years to meet demand**
2,290,375[49]	1,946,819	389,364	175[50]	2225	598[51]	3.7

[49] World Population Review [http://worldpopulationreview.com/countries/mexico-population/] (accessed 9December 2018).
[50] World Health Organization. 2005. Make every mother and child count. WHO, Geneva [https://www.who.int/whr/2005/en/].
[51] Source: Interview and survey data, annual production based on total enrollments divided by length of program.

Table 8: Evidence-based Practices in Training 2015-2018		
Adherence to 20 out of 22 practices Source: interviews with directors of educational programs, 2015, 2018		
	2015	**2018**
TECHNICAL MIDWIFERY	**100%**	**98%**
CASA	100%	100%
Tlapa	100%	100%
Rio Petate		95%
UNDERGRADUATE REPRODUCTIVE HEALTH & MIDWIFERY	**87%**	**95%**
Red Cross	87%	91%
Mujeres Aliadas		100%
OBSTETRIC NURSES	**91%**	**95%**
ESEO	91%	91%
ENEO		100%
PERINATAL NURSE SPECIALISTS (EEP)	**87%**	**96%**
Guerrero	87%	100%
CIMIGen	87%	100%
Mexicali		100%
Atlacomulco		91%
Tuxtla		91%

Table 9: Clinical Practice Sites	
	Sufficient
TECHNICAL	
CASA	—
Escuela Parteria Tlapa	No
Rio Petate	Yes
UNDERGRADUATE REPRODUCTIVE HEALTH	
Red Cross	Some
Mujeres Aliadas	Yes
OBSTETRIC NURSING	
ESEO IPN	Some
UNAM ENEO	No
PERINATAL SPECIALISTS	
GRO EEP	Yes
CIMIGEN EEP	No
Mexicali	Yes
Atlacomulco	Yes
Tuxtla	No
(**Yes** = sufficient clinical practice sites, **Some** = some sites permit students to practice evidence-based medicine, others don't, **No**= no they do not have sufficient clinical practice sites)	

Table 10: Births Required 2015-2018		
	BIRTHS REQUIRED 2015	**BIRTHS REQUIRED 2018**
TECHNICAL		
CASA	80	80
Tlapa	30	30
Rio Petate		80
UNDERGRADUATE REPRODUCTIVE HEALTH AND MIDWIFERY		
Red Cross	0	40
Mujeres Aliadas		80
OBSTETRIC NURSES (LEO)		
ESEO	90	90
ENEO	NA	24
PERINATAL NURSE SPECIALISTS (EEP)		
Guerrero	60	20
CIMIGen	0	0
Mexicali		60
Atlacomulco		30
Morelos	60	
Tuxtla		0

Table 11: Characteristics of Women Users of Health Services Source: User Survey – Results: Characteristics of Women Users		
	2015	**2018**
Median age	25	24
7 to 9 years of schooling	39%	37%
High School education	28%	34%
Speaks an indigenous language	8%	17%
Has basic health coverage (Seguro Popular)	88%	86%
Lacked prenatal care	3 women	8 women
Median of prenatal visits	Median of over 6 visits	Median of over 5 visits
Primiparous	47%	43%
Had a second child	20%	36%
Vaginal birth	93%	100%
% vaginal deliveries with some obstetric complications	8%	7%
% vaginal deliveries with some neonatal complications	9%	9%
% who gave birth in a public health establishment	81%	95%

Table 12: Sites that Employ Midwives 2015 and 2018 (*=midwifery model sites, ♦= PAHO Competition sites)										
Name of Institution	Type of Institution	Year	General Nurses	Obstetric Nurses	Perinatal Specialist Nurses	Students (Social Service)	Specialist Nurses (other)	Technical Midwives	Traditional Midwives	Total
CHIAPAS										
Maternity House, San Juan Chamula *	Primary Level - Public - Maternity Clinic	2015	4	2	0	2	0	4	1	13
		2018	0	2	0	0	0	0	0	2
Hospital Angel Albino Corzo *	Intermediate Level – Public - Basic Hospital	2018	0	0	1	6	0	1	0	8
CHIHUAHUA										
Obstetric and Gynecological Hospital of Parral * ♦	Tertiary Level - Public -Specialized Hospital	2015	-	-	-	-	-	-	-	-
		2018	10	3	0	0	0	1	0	14
Advanced Center for Primary Health Care, Guauchochi *	Primary Level – Public -Basic Health Center	2018	0	0	0	0	0	1	0	1
General Hospital, Guadalupe y Calvo *	Secondary level – Public - General Hospital	2018	0	0	0	0	0	1	0	1
COLIMA										
Regional University Hospital	Secondary Level – Public – Teaching Hospital	2015	0	0	0	0	0	1	0	1
Maternal - Child Hospital "Villa de Álvarez" *	Secondary Level – Public – Maternal Hospital	2018	0	0	0	0	0	1	0	1

Name of Institution	Type of Institution	Year	General Nurses	Obstetric Nurses	Perinatal Specialist Nurses	Students (Social Service)	Specialist Nurses (other)	Technical Midwives	Traditional Midwives	Total
GUANAJUATO										
CASA*	Primary Level - Private – Maternal Clinic	2015	0	0	0	0	0	8	1	9
San Luís de la Paz Hospital	Secondary Level – Public – Maternal Hospital	2015	0	0	0	1	0	0	0	1
San Felipe Basic Community Hospital	Intermediate Level - Public - Basic Community Hospital	2015	0	0	0	3	0	0	0	3
GUERRERO										
General Hospital of Tlapa de Comonfort *	Secondary Level - Public- General Hospital	2015	0	0	0	0	0	4	0	4
		2018	0	0	0	0	0	3	0	3
Health Center for the Care of Low Risk Births, Alameda, Chilpancingo * ♦	Primary Level- Public- Primary Health Center	2018	0	0	10	0	0	3	0	13
MEXICO CITY										
CimiGen *	Intermediate level - Private- Maternity Clinic	2015	0	25	3	5	0	0	0	33
		2018	0	18	7	12	0	0	0	37
Community Clinic Santa Catarina * (data for 2015 corrected)	Primary Level- Public- Maternity Clinic within a Health Center	2015	0	4	7	0	0	0	0	11
		2018	0	4	7	0	0	0	0	11
General Hospital, Tlahuac	Secondary Level - - Public- General Hospital	2015	0	0	2	0	0	0	0	2

Name of Institution	Type of Institution	Year	General Nurses	Obstetric Nurses	Perinatal Specialist Nurses	Students (Social Service)	Specialist Nurses (other)	Technical Midwives	Traditional Midwives	Total
MEXICO STATE										
Maternal-child Hospital "Josefa Ortíz de Domínguez", Chalco *	Tertiary Level - Public- Maternal-child Hospital	2018	1	0	2	0	0	0	0	3
Maternity Clinic, Atlacomulco *	Primary Level - Publi - Maternity Clinic	2015	6	14	6	0	0	0	0	26
		2018	14	8	9	0	1	0	0	32
Maternity Clinic, Cuautitlán *	Primary Level - Publi - Maternity Clinic	2015	0	27	16	0	0	0	0	43
		2018	0	24	13	0	0	0	0	37
Maternity Clinic, Huixquilucan *	Primary Level - Publi - Maternity Clinic	2018	1	3	12					16
Maternity Clinic, Ocuilan *	Primary Level - Publi - Maternity Clinic	2018	10	5	1	0	0	0	0	16
MORELOS										
Sentinel Health Center of Tlayacapan *	Primary Level - Public- Basic Health Center	2018	0	1	0	0	0	0	0	1
Sentinal Health Center of Yautepec * ♦	Primary Level - Public- Basic Health Center	2018	0	3	3	0	0	0	0	6
Women's Hospital, Yautepec	Tertiary Level - Public- Women's Hospital	2018	0	0	4	0	0	0	0	6

Name of Institution	Type of Institution	Year	General Nurses	Obstetric Nurses	Perinatal Specialist Nurses	Students (Social Service)	Specialist Nurses (other)	Technical Midwives	Traditional Midwives	Total
PUEBLA										
General Hospital of Cuetzalan	Secondary Level - Public- General Hospital	2015	0	0	0	0	0	1	0	1
Integral Hospital San Martín Texmelucan	Secondary Level - Public – Integral Community Hospital	2015	0	0	0	0	0	1	0	1
		2018	0	0	0	0	0	1	0	1
Integral Hospital Zacapoaxtla	Secondary Level - Public – Integral Community Hospital	2018	0	0	0	0	0	1	0	1
QUERETARO										
General Hospital Cadereyta *	Secondary Level - Public- General Hospital	2018	0	5	0	0	0	0	0	5
QUINTANA ROO										
General Hospital Felipe Carrillo Puerto * ♦	Secondary Level - Public- General Hospital	2018	0	0	5	0	0	0	0	5
Integral Hospital "José María Morelos"	Intermediary Level - Public- Integral Community Hospital	2018	0	0	1	0	0	0	0	1

Name of Institution	Type of Institution	Year	General Nurses	Obstetric Nurses	Perinatal Specialist Nurses	Students (Social Service)	Specialist Nurses (other)	Technical Midwives	Traditional Midwives	Total
SAN LUIS POTOSÍ										
Basic Community Hospital of Aquismón ♦	Primary Level - Public -Basic Community Hospital	2015	0	0	0	2	0	2	0	4
		2018	0	0	0	0	0	2	0	2
Basic Community Hospital for Children and Women "Dr. Alberto López Hermosa"	Secondary Level - Public - Basic Community Hospital	2015	0	0	0	0	0	1	0	1
		2018	0	0	0	0	0	1	0	1
General Hospital Ciudad Valles	Secondary Level - Public- General Hospital	2015	0	0	0	0	0	1	0	1
		2018	0	0	0	0	0	1	0	1
TABASCO										
Community Hospital of Nacajuca * ♦	Primary Level - Public - Community Hospital	2018	0	0	0	0	0	5	0	5
TLAXCALA										
State of Tlaxcala *	12 primary level Health Centers, 2 Basic Community Hospitals, all public	2015	0	0	15	0	0	0	0	15
Health Center of Hueyotlipan *	Primary Level - Public- Basic Health Center	2018	0	0	1	0	0	0	0	1
Health Center of Ixtlacuixtla *	Primary Level - Public- Basic Health Center	2018	0	0	8	0	0	0	0	8
Health Center of Teolocholco * ♦	Primary Level - Public- Basic Health Center	2018	0	2	2	2	0	0	0	6

Name of Institution	Type of Institution	Year	General Nurses	Obstetric Nurses	Perinatal Specialist Nurses	Students (Social Service)	Specialist Nurses (other)	Technical Midwives	Traditional Midwives	Total
VERACRUZ										
Community Hospital of Llano de Enmedio *	Intermediate Level - Public- Community Hospital	2018	0	0	0	0	0	1	0	1
Community Hospital of Tlaquilpa * ♦	Primary Level - Public- Basic Community Hospital	2018	0	0	0	0	0	1	0	1
General Hospital of Altotonga "Eufrosina Camacho" * ♦	Secondary Level - Public- General Hospital	2018	0	0	0	2	0	1	0	3
Community Hospital of Teocelo * ♦	Intermediate Level - Public – Community Hospital	2015	2	0	3	0	0	0	0	5
		2018	3	0	2	0	0	0	0	5
Basic Community Hospital "Pedro Coronel" (Las Choapas) *	Primary Level - Public- Basic Community Hospital	2018	0	0	0	0	0	1	0	1
Basic Community Hospital of Tonalapan*	Intermediate Level – Public – Basic Community Hospital	2018	0	0	0	0	0	1	0	1

Totals									
Year	**General Nurses**	**Obstetric Nurses**	Perinatal Specialist Nurses	Students (Social Service)	Specialist Nurses (other)	Technical Midwives	Traditional Midwives	Total Midwives	**Total Sites**
2015	12 (7%)	72 (41%)	52 (30%)	13 (8%)	0	23 (13%)	2 (1%)	174	19
2018	39 (15%)	81 (32%)	85 (33%)	22 (9%)	1 (.4%)	27 (11%)	0	255	36

Table 13: Medical Institutions for Quality of Care Data, 2018				
Name of the medical institution	**Level of care**	**Sector**	**Interviews with providers**	**Interviews with women users**
Chiapas				
Ángel Albino Corzo Basic Community Hospital	Intermediate	Public	2	1
San Juan Chamula Specialized Maternity Clinic	Primary	Public	2	0
Chihuahua				
Advanced Center of Primary Health Care, Guachochi	Primary	Public	2	1
Parral Obstetrics Gynecology Hospital	Tertiary	Public	8	5
Guadalupe y Calvo General Hospital	Secondary	Public	1	0
Colima				
Villa de Álvarez Maternal and Child Hospital	Secondary	Public	1	0
Guerrero				
Tlapa de Comonfort General Hospital	Secondary	Public	3	6
Clinic for Normal Birth Care Alameda, Chilpancingo	Primary	Public	6	5
Mexico City				
CIMIgen Private Maternity Clinic	Intermediate	Private	6	6
Community Clinic, Santa Catarina	Primary	Public	8	5
Mexico State				
Atlacomulco Maternity Clinic	Primary	Public	7	5
Cuautitlán Maternity Clinic	Primary	Public	8	5
Ocuilan Maternity Clinic	Primary	Public	7	2
Huixquilucan Maternity Clinic	Primary	Public	7	5
Josefa Ortíz de Domínguez Maternal and Child Hospital, Chalco	Tertiary	Public	2	0
Morelos				
Yautepec Women's Hospital	Tertiary	Public	2	0
Sentinel Clinic of Tlayacapan	Primary	Public	1	5
Sentinel Clinic of Yautepec	Primary	Public	3	1
Puebla				
San Martín Texmelucan Integral Community Hospital	Intermediate	Public	1	5
Zacapoaxtla Integral Community Hospital	Intermediate	Public	1	1
Querétaro				

Cadereyta General Hospital	Secondary	Public	2	2
Quintana Roo				
José Maria Morelos Integral Community Hospital	Intermediate	Public	1	0
Felipe Carrillo Puerto General Hospital	Secondary	Public	7	4
San Luis Potosi				
Hospital del Niño y la Mujer Dr. Alberto López Hermosa	Secondary	Public	1	5
Aquismon Basic Community Hospital	Intermediate	Public	2	5
Ciudad Valles General Hospital	Secondary	Public	1	2
Tabasco				
Nacajuca Basic Community Hospital	Intermediate	Public	6	7
Tlaxcala				
Hueyotlipan Clinic	Primary	Public	1	0
Ixtacuixtla Clinic	Primary	Public	6	5
Teolocholco Clinic	Primary	Public	2	2
Veracruz				
Llano de En Medio Community Hospital	Intermediate	Public	1	0
Teocelo Community Hospital	Intermediate	Public	5	5
Tlaquilpa Community Hospital	Intermediate	Public	1	4
Dr. Pedro Coronel Basic Community Hospital (Las Choapas)	Intermediate	Public	1	5
Altotonga Basic Community Hospital "Eufrosina Camacho"	Secondary	Public	2	5
TOTAL			**117**	**110**

Table 14: Professional Midwives Who Were Interviewed by Medical Institution, 2018 Source: Professional Midwives´ survey – Results: General Characteristics of Professional Midwives, 2018						
Name of the medical institution	**Perinatal Specialists (EEP)**	**Nurse Midwives (LEO)**	**General Nurses**	**Technical Midwives**	**Other Specialized Nurses**	**Total**
Chiapas						
Ángel Albino Corzo Basic Community Hospital	1	0	0	1	0	**2**
San Juan Chamula Specialized Maternity Clinic	0	2	0	0	0	**2**
Chihuahua						
Advanced Center of Primary Health Care	0	0	0	2	0	**2**
Parral Obstetrics Gynecology Hospital	0	2	5	1	0	**8**
Guadalupe y Calvo General Hospital	0	0	0	1	0	**1**
Colima						
Villa de Álvarez Maternal and Child Hospital	0	0	0	1	0	**1**
Guerrero						
Tlapa de Comonfort General Hospital	0	0	0	3	0	**3**
Clinic for Normal Birth Care	4	0	0	2	0	**6**
Mexico City						
CIMIgen Private Maternity Clinic	2	4	0	0	0	**6**
Community Clinic, Santa Catarina	6	2	0	0	0	**8**
Mexico State						
Atlacomulco Maternity Clinic	3	1	3	0	0	**7**
Cuautitlán Maternity Clinic	6	2	0	0	0	**8**
Ocuilan Maternity Clinic	2	4	1	0	0	**7**
Huixquilucan Maternity Clinic	3	4	0	0	0	**7**
Josefa Ortíz de Domínguez Maternal and Child Hospital, Chalco	1	0	1	0	0	**2**
Morelos						
Yautepec Women Hospital	2	0	0	0	0	**2**
Sentinel Clinic of Tlayacapan	0	1	0	0	0	**1**
Sentinel Clinic of Yautepec	2	1	0	0	0	**3**
Puebla						
San Martín Texmelucan Integral Community Hospital	0	0	0	1	0	**1**

Zacapoaxtla Integral Community Hospital	0	0	0	1	0	**1**
Querétaro						
Cadereyta General Hospital	0	2	0	0	0	**2**
Quintana Roo						
José Maria Morelos Integral Community Hospital	1	0	0	0	0	**1**
Felipe Carrillo Puerto General Hospital	5	2	0	0	0	**7**
San Luis Potosi						
Maternal and Child Hospital Mujer Dr. Alberto López Hermosa	0	0	0	1	0	**1**
Aquismon Basic Community Hospital	0	0	0	2	0	**2**
Ciudad Valles General Hospital	0	0	0	1	0	**1**
Tabasco						
Nacajuca Basic Community Hospital	0	2	0	4	0	**6**
Tlaxcala						
Hueyotlipan Clinic	0	1	0	0	0	**1**
Ixtacuixtla Clinic	5	1	0	0	0	**6**
Teolocholco Clinic	1	1	0	0	0	**2**
Veracruz						
Llano de En Medio Community Hospital	0	0	0	1	0	**1**
Teocelo Community Hospital	2	0	1	0	2	**5**
Tlaquilpa Community Hospital	0	0	0	1	0	**1**
Dr. Pedro Coronel Basic Community Hospital	0	0	0	1	0	**1**
Altotonga Basic Community Hospital	0	0	0	1	1	**2**
TOTAL	**46**	**32**	**11**	**25**	**3**	**117**

Table 15: General Characteristics of the 117 Professional Midwives Interviewed in 2018 Source: Professional midwives' Survey—Results: General Characteristics of Professional Midwives, 2018				
	Perinatal and other specialties	**Obstetric and general nurse**	**Technical Midwife**	**Total**
Women	47	42	25	114
Men	2	1	0	3
Works at primary level	32	24	4	60
Works in intermediate level	8	7	12	27
Works in secondary level	6	4	8	18
Works in tertiary level	3	8	1	12
Has worked less than 1 year in profession	7	7	2	16
2-3 years work in profession	12	18	10	40
4-5 years work in profession	11	3	2	16
6-10 years' work in profession	13	6	9	28
More than 10 years' work in profession	6	9	2	17
Less than 1 year work at this site	12	12	12	36
2-3 years work at this site	16	16	6	38
4-5 years work at this site	11	3	3	17
6-10 years work at this site	5	2	4	11
More than 10 years at this site	5	10	0	15
Morning Shift	20	8	11	39
Afternoon Shift	9	11	4	24
Night Shift	9	11	4	24
Variable Shift	11	13	6	30
Public sector	47	39	25	111
Private sector	2	4	0	6

Table 16: Insertion of Midwives by type and model, 2018			
Type of Midwife	**Midwife Employment**	**Midwifery Model**	**Total**
Technical Midwives	6 (67%)	19 (18%)	25 (21%)
Obstetric Nurse Midwives	0 (0%)	32 (30%)	32 (27%)
Perinatal and other specialist nurses	3 (33%)	46 (43%)	49 (42%)
Other nurse midwives	0 (0%)	11 (10%)	11 (9%)
Total	9 (100%)	108 (100%)	117 (100%)

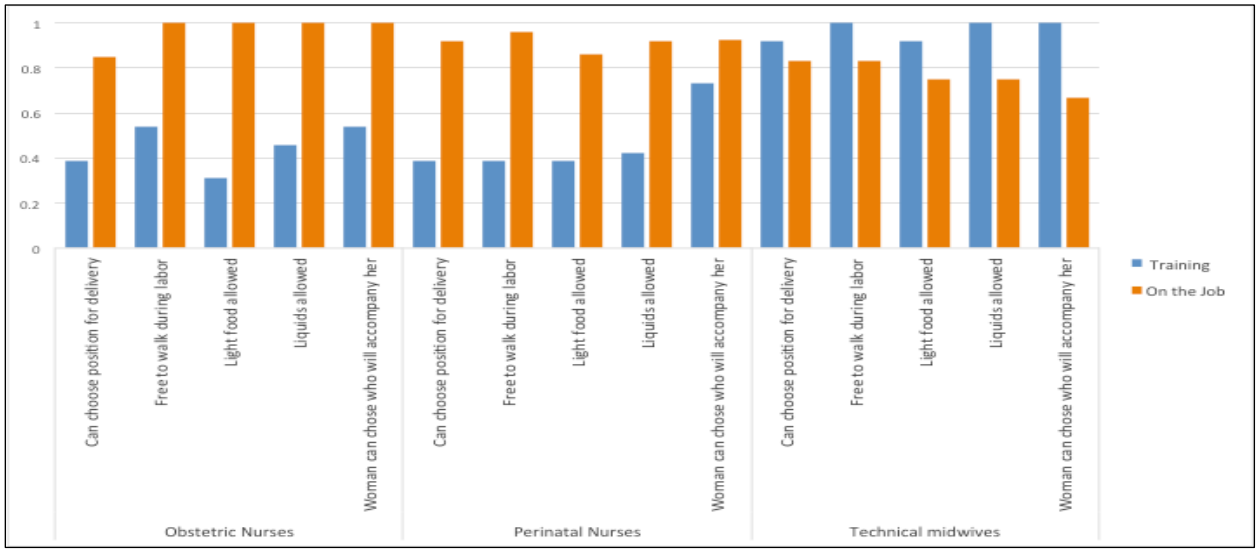
Table 17: Type of Midwives by Level of Care, 2018				
Type of Midwife	**Primary level**	**Intermediate level**	**Secondary/tertiary levels**	**Total**
Technical Midwives	4 (16%)	12 (48%)	9 (36%)	25 (100%)
Obstetric Nurse Midwives	20 (62%)	6 (19%)	6 (19%)	32 (100%)
Perinatal and other specialist nurses	32 (65%)	8 (16%)	9 (18%)	49 (100%)
Other nurse midwives	4 (36%)	1 (9%)	6 (55%)	11 (100%)
Total	60 (51%)	27 (23%)	30 (26%)	117 (100%)

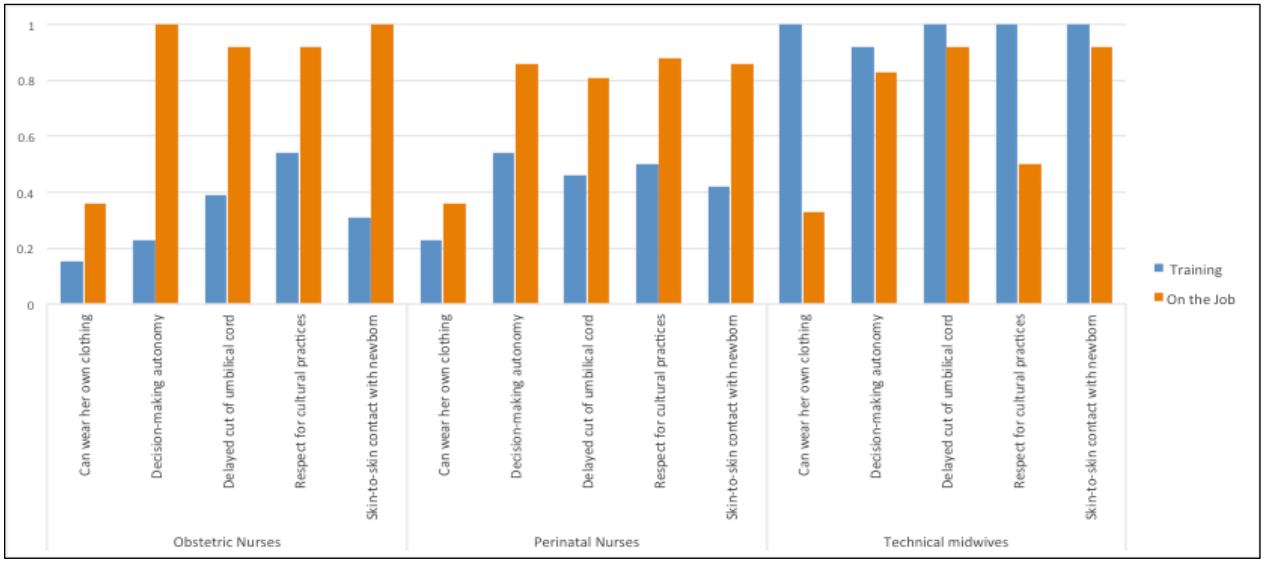
Table 18: Comparison of Adequacy of Labor conditions (hiring category) among midwives, older programs vs new programs, 2015 vs 2018				
Category		**Programs in 2015 that continue in 2018**	**New programs in 2018**	**Total**
	At or above professional category	17 (39%)	27 (61%)	44 (100%)
	Below professional category	37 (62%)	23 (38%)	60 (100%)
Total		54 (52%)	50 (48%)	104 (100%)

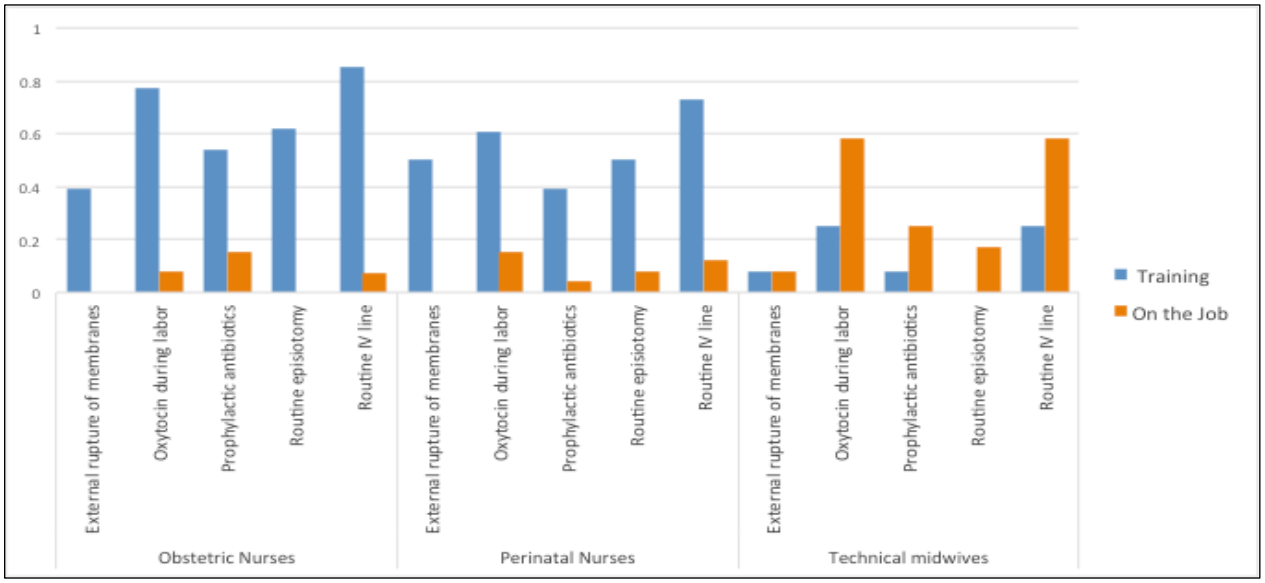
Table 19: Comparison of Adequacy of Labor Conditions, 2015 vs 2018		
Hiring Category	**Baseline (according to statistical information provided)**	**2018 (according to midwives' question)**
At or above professional category	24 (24%)	44 (42%)
Below professional category	75 (76%)	60 (58%)
Total	99 (100%)	104 (100%)

Table 20: Type of Midwives by Type of Insertion, 2015			
Type of Midwife	**Isolated Midwife Employment 9 sites**	**Integrated Midwifery Model 10 sites**	**Total 19 sites**
Technical Midwives	7 (47%)	16 (10%)	23 (13%)
Obstetric Nurse Midwives	0 (0%) .	72 (45%)	72 (41%)
Perinatal and other specialist nurses	2 (13%)	50 (31%)	52 (30%)
Other nurse midwives	0 (0%)	12 (0%)	12 (7%)
"Pasantes"	6 (40%)	7 (4%)	13 (8%)
Traditional Midwives	0 (0%)	2 (1%)	2 (1%)
Total	15 (100%)	159 (100%)	174 (100%)

FIGURE 1: Evidence-Based Practices Taught vs. Used on-the-Job, in 2015






1
0.8
0.6
0.4
0.2
0
External rupture of membranes
Oxytocin during labor
Prophylactic antibiotics
Routine episiotomy
Routine IV line
External rupture of membranes
Oxytocin during labor
Prophylactic antibiotics
Routine episiotomy
Routine IV line
External rupture of membranes
Oxytocin during labor
Prophylactic antibiotics
Routine episiotomy
Routine IV line
Obstetric Nurses
Perinatal Nurses
Technical midwives
Training
On the Job

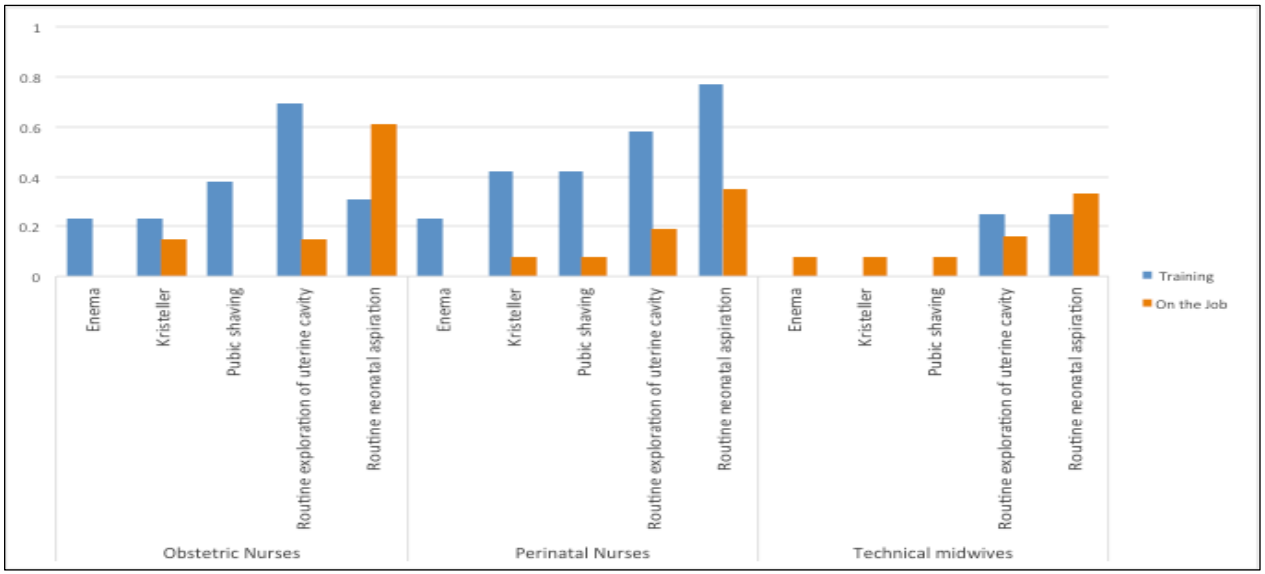

1
0.8
0.6
0.4
0.2
0
Enema
Kristeller
Pubic shaving
Routine exploration of uterine cavity
Routine neonatal aspiration
Enema
Kristeller
Pubic shaving
Routine exploration of uterine cavity
Routine neonatal aspiration
Enema
Kristeller
Pubic shaving
Routine exploration of uterine cavity
Routine neonatal aspiration
Obstetric Nurses
Perinatal Nurses
Technical midwives
Training
On the Job

Table 21: Comparison of Level of Care of Employment Sites, 2015 vs 2018		
Level of Care	**2015**	**2018**
Primary	7 (37%)	17 (47%)
Intermediate	3 (16%)	6 (17%)
2dary/tertiary	9 (47%	13 (36%)
Total	19 (100%)	36 (100%)

Table 22: Type of Midwives by Type of Insertion, 2018			
Type of Midwife	**Midwife Employment (7 sites)**	**Midwifery Model (29 sites)**	**Total (36 sites)**
Technical Midwives	6 (55%)	21 (9%)	27 (11%)
Obstetric Nurse Midwives	0 (0%)	81 (33%)	81 (32%)
Perinatal and other specialist nurses	5 (45%)	81 (33%)	86 (33%)
Other nurse midwives	0 (0%)	39 (17%)	39 (15%)
"Pasantes"	0 (0%)	22 (8%)	22 (9%)
Total	11 (100%)	244 (100%)	255 (100%)

Table 23: Midwives' Compliance with EBP by Type of Insertion, 2018			
Compliance with Evidence Based Practices	**Midwife Employment**	**Midwifery Model**	**Total**
≥90%	2 (22%)	65 (60%)	67 (57%)
<90%	7 (78%)	43 (40%)	50 (43%)
Total	14 (100%)	103 (100%)	117 (100%)

Table 24: Compliance Index, Prenatal Care, 2018
Proportion of midwives who provided prenatal care practices according to Mexican norms by level of care
Source: Professional midwives Survey – Results: Prenatal care, 2018

		Level of care			Total
		Primary	**Intermediate**	**Secondary and Tertiary**	
Compliance Index (85% or more = 11/13 practices according to Mexican norms)	85% or more	49	19	5	73
		98%	86%	71%	92%
	<85%	1	3	2	6
		2%	14%	29%	8%
Total		50	22	7	79
		100%	100%	100%	100%

Table 25: Compliance Index, Labor and Delivery Care, 2018
Proportion of midwives who used evidence-based practices by level of care
Source: Professional Midwives Survey – Results: Care during Labor and Delivery, 2018

		Level of care			Total
		Primary	**Intermediate**	**Secondary and Tertiary**	
Compliance Index (90% or more = 20/22 evidence-based practices)	90% or more	41	15	8	64
		68%	56%	27%	55%
	<90%	19	12	22	53
		32%	44%	73%	45%
Total		60	27	30	117
		100%	100%	100%	100%

Table 26: Compliance Index, Postpartum and Newborn Care, 2018
Proportion of midwives who provided care according to Mexican norms and EBM by level of care
Source: Professional midwives' Survey– Results: Postpartum and Newborn care, 2018

Postpartum		**Level of care**			**Total**
		Primary	**Intermediate**	**Secondary and Tertiary**	
Compliance Index (80% or more = 6/8 evidence-based practices)	80% or more	60	23	17	100
		100%	92%	81%	94%
	<80%	0	2	4	6
		0%	8%	19%	6%
Total		60	25	21	106
		100%	100%	100%	100%
Newborn		**Level of care**			**Total**
		Primary	**Intermediate**	**Secondary and Tertiary**	
Compliance Index (80% or more = 9/11 evidence-based practices)	80% or more	60	21	23	104
		100%	78%	77%	89%
	<80%	0	6	7	13
		0.0%	22%	13%	11%
Total		60	27	30	117
		100%	100%	100%	100%

Table 27: Prenatal Care Practices by Level of Care, 2018
Source: Professional midwives´ Survey – Results: Prenatal care, 2018

	Level of care					
	Primary		Intermediate		Secondary and Tertiary	
Prenatal care practices	**#**	**Proportion**	**#**	**Proportion**	**#**	**Proportion**
Prescribes Iron	50	100%	21	96%	6	86%
Prescribes Folic Acid	50	100%	21	96%	5	71%
Applies Tetanus Toxoid	44	88%	17	77%	4	57%
Requests blood tests	49	98%	20	91%	5	71%
Requests urine analysis	49	98%	20	91%	6	86%
Requests or performs ultrasound	47	94%	20	91%	7	100%
Requests HIV test	48	98%	19	86%	6	86%
Requests ETS (VDRL) test	47	94%	19	86%	6	86%
During consultation						
Takes blood pressure	50	100%	21	96%	7	100%
Weighs the pregnant woman	50	100%	21	96%	7	100%
Measures height of pregnant woman	50	100%	21	96%	7	100%
Measures uterine growth	50	100%	22	100%	7	100%
Measures fetal heart rate	50	100%	22	100%	7	100%

Table 28: Obstetric Care Practices by Level of Care, 2018 Source: Professional Midwives Survey – Results: Care Practices during Labor and Delivery, 2018						
	Level of care					
	Primary		Intermediate		Secondary and Tertiary	
Obstetric care practices	**#**	**%**	**#**	**%**	**#**	**%**
Women can choose who accompanies her	60	100%	27	1.00%	23	77%
Avoid routine IV application	58	97%	14	.52%	8	27%
Periodic blood pressure check	58	97%	27	1.00%	29	97%
Avoid continuous electronic fetal monitoring during labor	37	62%	14	.52%	16	53%
Liquids allowed	57	95%	27	100%	27	90%
Light food allowed	59	98%	24	89%	17	57%
Woman free to walk during labor	60	100%	27	100%	26	87%
Avoid oxytocin during labor	58	97%	26	96%	11	37%
Avoid breaking membrane	57	95%	26	96%	25	83%
Woman decides birthing position	58	97%	25	93%	19	63%
Avoid routine episiotomy	59	98%	26	96%	23	77%
Avoid Kristeller maneuver	57	95%	26	96%	28	93%
Avoid routine cleaning of baby's secretions	33	55%	16	59%	20	67%
Immediate mother-baby contact	58	97%	27	100%	30	100%
Encourage immediate breast-feeding	57	95%	24	89%	30	100%
Delay cutting cord	60	100%	26	96%	28	93%
Maintain newborn's body temperature	58	97%	27	100%	30	100%
Active management of 3rd stage of labor (oxytocin before expulsion of placenta)	56	93%	25	93%	29	97%
Check placenta for completeness	60	100%	27	100%	30	100%
Avoid manual revision of uterus	57	95%	25	93%	27	.90
Use of partogram	56	93%	27	100%	30	1.00
Avoid prophylactic use of antibiotics in newborn	20	33%	13	48%	14	.47

Table 29: Postpartum and Newborn Care Practices by Level of Care, 2018 Source: Professional midwives' Survey– Results: Postpartum and Newborn care, 2018						
	Level of care					
	Primary		Intermediate		Secondary and Tertiary	
	#	%	#	%	#	%
Total number of midwives who provided postpartum care	60		25		21	
Postpartum care practices						
Check bleeding	60	100%	25	100%	20	95%
Check size and tone of uterus	60	100%	24	96%	21	100%
Monitor heart rate	58	97%	23	92%	18	86%
Monitor blood pressure	60	100%	24	96%	20	95%
Monitor temperature	60	100%	23	92%	18	86%
Ensure that the woman can urinate	60	100%	25	100%	18	86%
Ensure that the woman can walk	60	100%	25	100%	20	95%
Ensure that the woman can tolerate oral intake	60	100%	25	100%	20	95%
Total number of midwives who provided newborn care	60		27		29	
Newborn care practices						
Check color, breathing, movement	60	100%	24	89%	27	93%
Check Apgar score	60	100%	27	100%	27	93%
Check sucking reflex of the newborn	56	93%	27	100%	25	86%
Delayed cutting of umbilical cord	60	100%	25	93%	27	93%
Encourage immediate breastfeeding	60	100%	27	100%	23	79%
Ensure Immediate skin to skin contact	60	100%	26	96%	28	97%
Measure weight and length of newborn	60	100%	22	82%	25	86%
Measure cephalic size	60	100%	22	82%	25	86%
Avoid routine aspiration of nose and mouth in newborn	41	68%	14	52%	13	45%
Avoid prophylactic use of antibiotics in newborn	22	37%	15	56%	10	34%
Maintain newborn's body temperature	60	100%	27	100%	27	93%

Table 30: Obstetric Care Practices Reported by Women Service Users by Level of Care, 2018
Practices reported by women who received midwifery care during birth
Source: Users' Survey – Results: Care Practices during Labor and Delivery, 2018

	Level of care					
	Primary		Intermediate		Secondary and Tertiary	
	#	%	#	%	#	%
Total number of women who received midwifery care during birth	43	100%	37	100%	29	100%
Obstetric care practices						
Woman can choose who will accompany her	37	86%	28	76%	11	38%
Avoid routine IV application	28	65%	3	8%	3	10%
Periodic fetal monitoring during labor	37	86%	36	97%	29	100%
Avoid continuous electronic fetal monitoring during labor	33	77%	23	64%	14	50%
Liquids allowed	32	74%	24	65%	19	66%
Light food allowed	23	54%	15	41%	12	41%
Free to walk during labor	35	81%	25	68%	20	69%
Allowed to make decisions	41	95%	26	70%	23	79%
Avoid routine application of oxytocin during labor	40	93%	25	68%	14	48%
Avoid external rupture of membranes	31	72%	22	60%	15	52%
Position chosen by the woman at the expulsion	40	93%	25	68%	18	62%
Avoid routine episiotomy	36	84%	23	62%	16	55%
Avoid Kristeller maneuver	39	91%	28	76%	19	66%
Immediate skin-to-skin contact with newborn	37	86%	29	78%	23	79%
Immediate encouragement of breastfeeding	38	88%	26	70%	17	59%
Delayed cut of umbilical cord	9	21%	15	41%	10	35%
Maintain newborn's body temperature	40*	98%	33*	97%	21*	84%
Avoid routine manual exploration of uterine cavity	23	54%	19	51%	11	38%
Use of analgesia/anesthesia during manual exploration of uterine cavity	4**	24%	7**	41%	2**	15%
Other practices according to Mexican norms						
Family planning method offered after obstetric event and accepted by the woman voluntarily	43	100%	36	97%	27	93%
Explanations provided about self-care in postpartum	38	88%	26	70%	15	52%
Explanations provided about neonatal care	39	91%	29	78%	17	59%

* In these cases, 100% is equal to n= 41 in primary level; n=34 in intermediate level; and n=25 in secondary level

** Calculated on total number of women whose uterus was manually explored: n=17 in primary level, n=17 in intermediate level and n= 13 in secondary level

Table 31: Postpartum and Newborn Care Practices Reported by Women Service Users by Level of Care, 2018

Practices reported by women who received midwifery care during postpartum

Source: Users' Survey – Results: Postpartum and newborn care, 2018

	Level of care					
	Primary		Intermediate		Secondary and Tertiary	
	#	%	#	%	#	%
Postpartum care practices						
Total number of women who received midwifery postpartum care	43	100%	37	100%	29	100%
Vaginal exploration	42	98%	31	84%	21	72%
Revision of bleeding	42	98%	36	97%	21	72%
External revision to assess reduction in size of uterus	40	93%	30	81%	20	69%
In case of perineal tear, revision of wound and sutures	31	72%	23	62%	15	52%
Blood pressure monitored	41	95%	35	95%	25	86%
Temperature measured	42	98%	35	95%	23	79%
Contraceptive method offered	43	100%	36	97%	27	93%
Newborn care practices						
Total number of women whose newborns received midwifery care	40	100%	29	100%	25*	100%
Revision of general state of health (color, breathing, heart, movements, body temperature)	39	98%	29-34*	93%	16*	76%
Height and weight	37	93%	30	94%	19	79%
Check umbilical stump	39	98%	30	94%	16	64%
Maintain body heat	40	98%	33	97%	21	84%
Neonatal screening	11	26%	10	29%	11	39%

* The variability corresponds to total number of useful cases by variables

Table 32: Comparison of percentages of obstetric events referred to higher facility 2015 and 2018				
		2015 N=9 sites	**2018 N=13 sites**	**Total**
% Cases referred to higher level facility	0 to 15%	3 (33%)	3 (23%)	6 (27%)
	16 to 39%	1 (11%)	4 (31%)	5 (23%)
	40 to 89%	5 (56%)	6 (46%)	11 (50%)
	Total	9 (100%)	13 (100%)	22 (100%)

Table 33a: Prenatal Care Practices by Professional Midwives 2015 vs 2018 Source: Providers´ 2015 and Professional Midwives 2018 Survey – Results: Prenatal Care					
		2015		**2018**	
		#	**%**	**#**	**%**
Total number of midwives who provide prenatal care		32	80%	79	68%
Prenatal care practices					
Prescribes Iron		20	63%	77	97%
Prescribes Folic Acid		19	59%	76	96%
Applies Tetanus Toxoid		9	28%	65	82%
Requests blood tests		21	66%	74	94%
Requests urine analysis		16	50%	75	95%
Requests or performs ultrasound		18	56%	74	94%
Requests HIV test		16	50%	73	92%
Requests ETS (VDRL) test		16	50%	72	91%
During consultation					
Takes blood pressure		22	69%	78	99%
Weighs the pregnant woman		22	69%	78	99%
Measures the pregnant woman's height		22	69%	78	99%
Measures uterine growth		23	72%	79	100%
Measures fetal heart rate		23	72%	79	100%
Table 33b: Compliance Index, Prenatal Care, 2015 vs 2018 **Proportion of midwives who provided prenatal care practices according to Mexican norms** Source: Providers´ 2015 and Professional Midwives 2018 Survey – Results: Prenatal Care					
Compliance Index (85% or more = 11/13 practices according to Mexican norms)	85% or more	25	78%	73	92%
	<85%	7	22%	6	8%
Total		32	100%	79	100%

Table 34a: Obstetric Care Practices by Professional Midwives, 2015 vs 2018
Source: Professional Midwives Survey 2015 and 2018 – Results: Care Practices during Labor and Delivery

	2015		2018	
Evidence-based Practices	**#**	**%**	**#**	**%**
Women can choose who accompanies her	33	83%	110	94%
Avoid routine IV application	32	80%	79	68%
Periodic blood pressure check	40	100%	114	97%
Periodic fetal monitoring during labor	40	100%	Na	Na
Avoid continuous electronic fetal monitoring during labor	Na	Na	67	57%
Liquids allowed	38	95%	111	95%
Light food allowed	Na	Na	100	86%
Avoid pubic shaving	38	95%	Na	Na
Avoid enemas application	39	98%	Na	Na
Woman free to walk during labor	38	95%	113	97%
Avoid oxytocin during labor	37	93%	106	91%
Avoid breaking membrane	39	98%	108	92%
Woman decides birthing position	31	78%	102	87%
Gynecological birth position preferred by provider**	9	23%	Na	Na
Avoid routine episiotomy	38	95%	108	92%
Use of analgesia for episiotomy	2	5%	Na	Na
Avoid Kristeller maneuver	36	90%	111	95%
Avoid routine cleaning of baby's secretions*	28	70%	68*	59%
Immediate mother-baby contact	38	95%	114*	98%
Encourage immediate breast-feeding	39	98%	110*	95%
Delay cutting cord	38	95%	114	97%
Maintain newborn's body temperature	39	98%	114*	98%
Active management of 3rd stage of labor (oxytocin before expulsion of placenta)	29	73%	110	94%
Check placenta for completeness	40	100%	117	100%
Avoid manual revision of uterus	33	83%	109	93%
Use of anesthesia/analgesia in uterine revision	1	14%	Na	Na
Use of partograph	Na	Na	113	97%
Avoid prophylactic use of antibiotics in newborn	Na	Na	97	83%

NA means not asked
* In newborn practices, 116 equals 100%.
** Negative practice that is not based on scientific evidence.

Table 34b: Compliance Index, Labor and Delivery Care, 2015 vs 2018 **Proportion of midwives who used evidence-based practices** Source: Providers' Survey 2015 and Professional Midwives 2018 – Results: Care during Labor and Delivery			
		2015	**2018**
Compliance Index (90% or more = 20/22 evidence-based practices)	90% or more	28	64
		70%	55%
	<90%	12	53
		30%	45%
Total		40	117
		100%	100%

Table 35a: Postpartum and Newborn Care Practices by Professional Midwives, 2015 vs 2018
Source: Providers´ 2015 and Professional Midwives 2018 Survey – Results: Postpartum and Newborn care

	2015		2018	
	#	%	#	%
Postpartum care practices				
Total number of midwives providing postpartum care	24	**60%**	106	**91%**
Check bleeding	24	100%	105	99%
Check size and tone of uterus	24	100%	105	99%
Monitor heart rate	22	92%	99	93%
Monitor blood pressure	24	100%	104	98%
Monitor temperature	23	96%	101	95%
Ensure that the woman can urinate	14	58%	103	97%
Ensure that the woman can walk	14	58%	105	99%
Ensure that the woman can tolerate oral intake	16	67%	105	99%
Newborn care practices				
Total number of midwives providing newborn care	24	**60%**	117	**100%**
Check color, breathing, movement	18	75%	112	96%
Take temperature	18	75%	Na	Na
Check Apgar score	Na **	Na	115	98%
Check the sucking reflex of the newborn	Na	Na	109	93%
Delayed cutting of the umbilical cord	38*	95%	113	97%
Encourage Immediate breastfeeding	39*	98%	111	95%
Ensure immediate skin to skin contact	38*	95%	115	98%
Ensure adequate breastfeeding	21	88%	Na	Na
Measure weight	13	54%	107	91%
Measure length	12	50%		
Measure cephalic size	9	38%	107	91%
Check umbilical stump	20	83%	Na	Na
Give instructions for newborn care	24	100%	Na	Na
Avoid routine aspiration of nose and mouth in newborn	28	70%	69	59%
Avoid prophylactic use of antibiotics in newborn	Na	Na	48	41%
Maintain newborn's body temperature	39	98%	115	98%

* In these cases, 40 midwives are equal to 100%
** “Na” means "not asked"

Table 35b: Compliance Index, Postpartum and Newborn Care, 2015 vs 2018 Proportion of midwives who provided care according to Mexican norms and EBM Source: Providers 2015 and Professional midwives 2018 Survey– Results: Postpartum and newborn care			
Postpartum care practices		**2015**	**2018**
Compliance Index (80% or more= 6/8 evidence-based practices)	80% or more	14	100
		58%	94%
	<80%	10	6
		42%	6%
Total		24	107
		100%	100%
Newborn care practices		**2015**	**2018**
Compliance Index (80% or more= 9/11 evidence-based practices)	80% or more	14	104
		58%	89%
	<80%	10	13
		42%	11%
Total		24	117
		100%	100%

Table 36: Prenatal Care Practices According to Mexican Norms by Professional Midwives by Type
Source: Professional Midwives´ Survey – Results: Prenatal Care, 2018

	Perinatal and other specialist nurses		Obstetric and general nurses		Technical midwives	
Prenatal care practices	**#**	**%**	**#**	**%**	**#**	**%**
Prescribes Iron	35	100%	29	100%	13	87%
Prescribes Folic Acid	34	97%	29	100%	13	87%
Applies Tetanus Toxoid	34	97%	23	79%	8	53%
Requests blood tests	35	100%	28	97%	11	73%
Requests urine analysis	35	100%	28	97%	12	80%
Requests or performs ultrasound	35	100%	26	90%	13.	87%
Requests HIV test	34	97%	26	90%	13	87%
Requests STI (VDRL) test	34	97%	25	86%	13	87%
During consultation						
Takes blood pressure	35	100%	29	100%	14	93%
Weighs the pregnant woman	35	100%	29	100%	14	93%
Measures the pregnant woman's height	35	100%	29	100%	14	93%
Measures uterine growth	35	100%	29	100%	15	100%
Measures fetal heart rate	35	100%	29	100%	15	100%

Table 37: Compliance Index, Prenatal Care, 2018
Proportion of midwives by type who provided prenatal care practices according to Mexican norms
Source: Professional midwives – Results Prenatal Care, 2018

		Perinatal and other specialist nurses	Obstetric and general nurses	Technical midwives	Total
Compliance Index (85% or more = 11/13 evidence-based practices)	85% or more	34	27	12	73
		97%	93%	80%	92%
	<85%	1	2	3	6
		3%	7%	20%	8%
Total		35	29	15	79
		100%	100%	100%	100%

Table 38: Obstetric Care Evidence-Based Practices by Professional Midwife by Type
Source: Professional Midwives Survey – Results: Care Practices during Labor and Delivery, 2018

	EEP and other specialties		LEO and general nurse		Technical midwife	
Evidence-based practices	**#**	**%**	**#**	**%**	**#**	**%**
Women can choose who accompanies her	46	94%	39	91%	25	100%
Avoid routine IV application	36	73%	31	72%	12	48%
Periodic blood pressure check	47	96%	42	98	25	100%
Avoid continuous electronic fetal monitoring during labor	32	65%	23	53%	12	48%
Liquids allowed	45	92%	41	95%	25	100%
Light food allowed	40	82%	38	88%	22	88%
Woman free to walk during labor	47	96%	42	98%	24	96%
Avoid oxytocin during labor	48	99%	39	91%	19	76%
Avoid breaking membrane	44	90%	40	93%	24	96%
Woman decides birthing position	42	86%	39	91%	21	84%
Avoid routine episiotomy	47	96%	38	88%	23	92%
Avoid Kristeller maneuver	47	96%	40	93%	24	96%
Avoid routine cleaning of baby's secretions	33	67%	22	51%	13*	54%
Immediate mother-baby contact	47	96%	43	100%	24*	100%
Encourage immediate breast-feeding	46	94%	40	93%	24*	100%
Delay cutting cord	46	94%	43	100%	25	100%
Maintain newborn's body temperature	48	98%	43	100%	23*	96%
Active management of 3rd stage of labor (oxytocin before expulsion placenta)	45	92%	41	95%	24	96%
Check placenta for completeness	49	100%	43	100%	25	100%
Avoid manual revision of uterus	47	96%	39	91%	23	92%
Use of partograph	47	96%	41	95%	25	100%
Avoid prophylactic use of antibiotics in newborn	45	92%	36	84%	16*	64%

* In Neonatal Practices, 24 equals 100%.

Table 39: Compliance Index, Obstetric Care, 2018
Proportion of midwives by type who used evidence-based obstetric practices
Source: Professional Midwives Survey – Results: Care during Labor and Delivery, 2018

		Perinatal and other specialist nurses	Obstetric and general nurses	Technical midwives	Total
Compliance Index (90% or more = 20/22 evidence-based practices)	90% or more	27	23	14	64
		55%	54%	56%	55%
	<90%	22	20	11	53
		45%	46%	44%	45%
Total		49	43	25	117
		100%	100%	100%	100%

Table 40: Postpartum and Newborn Practices according to Mexican Norms and EBM by Type of Professional Midwife, 2018
Source: Professional Midwives Survey – Results: Care Practices during Labor and Delivery, 2018

	Perinatal and other specialist nurses		Obstetric and general nurse		Technical Midwife	
Postpartum care practices	**#**	**%**	**#**	**%**	**#**	**%**
Total number of midwives who provided postpartum care	49	100%	37	100%	20	100%
Check bleeding	48	98%	37	100%	20	100%
Check size and tone of uterus	48	98%	37	100%	20	100%
Monitor heart rate	47	96%	34	92%	18	90%
Monitor blood pressure	49	100%	36	97%	19	95%
Monitor temperature	47	96%	36	97%	18	90%
Ensure that the woman can urinate	48	98%	35	95%	20	100%
Ensure that the woman can walk	49	100%	36	97%	20	100%
Ensure that the woman can tolerate oral intake	49	100%	36	97%	20	100%
Newborn care practices	**#**	**%**	**#**	**%**	**#**	**%**
Total number of midwives who provided newborn care	49	100%	43	100%	25	100%
Check color, breathing, movement	47	96%	42	98%	23	92%
Check Apgar score	49	100%	42	98%	24	96%
Check the sucking reflex of the newborn	48	98%	38	88%	23	92%
Delayed cut of umbilical cord	46	94%	42	98%	25	100%
Encourage immediate breastfeeding	46	94%	40	93%	25	100%
Ensure immediate skin to skin contact	47	96%	43	100%	25	100%
Measure the weight and length of the newborn	47	96%	42	98%	18	72%
Measure cephalic size	47	96%	42	98%	18	72%
Avoid routine aspiration of nose and mouth in newborn	33	77%	22	51%	14	56%
Avoid prophylactic use of antibiotics in newborn	20	41%	17	40%	11	44%
Maintain newborn's body temperature	48	98%	43	100%	24	96%

Table 41: Compliance Index, Postpartum and Newborn Care, 2018 Proportion of midwives who provided care according to Mexican norms and EBM, by type Source: Professional Midwives´ Survey – Results: Postpartum and Newborn care, 2018					
Postpartum care practices		**Perinatal and other specialist nurses**	**Obstetric and general nurses**	**Technical midwives**	**Total**
Compliance Index (80% or more= 6/8 evidence-based practices)	80% or more	47	35	18	100
		96%	95%	91%	94%
	<80%	2	2	2	6
		4%	5%	10%	6%
Total		49	37	20	106
		100%	100%	100%	100%
Newborn care practices		**Perinatal and other specialist nurses**	**Obstetric and general nurses**	**Technical midwives**	**Total**
Compliance Index (80% or more= 9/11 evidence-based practices)	80% or more	45	40	19	104
		92%	93%	76%	89%
	<80%	4	3	6	13
		6%	7%	24%	11%
Total		49	43	25	117
		100%	100%	100%	100%

Table 42: Prenatal Care Practices Reported by Women Service Users, 2015 vs 2018
Practices reported by women who received prenatal midwifery care
Source: Users' Survey 2015 and 2018 – Results: Prenatal Care

	2015		2018	
	#	%	#	%
Total number of women who received midwifery prenatal care	56		36	
Prenatal care practices				
Prescribes Iron	43	77%	31	86%
Prescribes Folic Acid	48	86%	29	81%
Requests blood tests	51	91%	32	89%
Requests urine analysis	51	91%	32	89%
Requests or performs ultrasound	50	89%	33	92%
Requests STI (VDRL) test	31	55%	24	67%
Requests HIV test	44	79%	28	78%
During consultation				
Blood pressure taken	56	100%	36	100%
Weight registered	55	98%	36	100%
Height registered	55	98%	35	97%
Womb measured	56	100%	36	100%
Fetal heart beat listened	56	100%	36	100%
Adjusted fetal position	15	27%	14	39%
Recommended teas	4	7%	3	8%
Asked how you feel	52	93%	34	94%

Table 43: Obstetric Care Practices Reported by Women Service Users, 2015 vs 2018
Practices reported by women who received midwifery care during birth
Source: Users´ survey– Results: Care during Labor and Delivery 2015 and 2018

	2015		2018	
	#	%	#	%
Total number of women who received midwifery care	74		110	
Evidence-based practices				
Woman can choose who will accompany her	58	78%	77	70%
Avoid routine IV application	40	54%	74	67%
Periodic fetal monitoring during labor	70	95%	103	94%
Avoid continuous electronic fetal monitoring during labor	Na	Na	70	65%
Liquids allowed	45	61%	76	69%
Light food allowed	Na	Na	51	46%
Avoid pubic shaving	70	95%	Na	Na
Avoid application of enema	71	96%	Na	Na
Free to walk during labor	59	80%	81	74%
They allowed her to make decisions	Na	Na	91	83%
Avoid routine application of oxytocin during labor	40	54%	79	24%
Avoid external rupture of membranes	42	57%	69	63%
Position chosen by the woman at the expulsion	51	69%	84	76%
Avoid routine episiotomy	59	80%	75	68%
Use of analgesia before episiotomy	18	67%	Na	Na
Avoid Kristeller maneuver	65	88%	87	79%
Immediate skin-to-skin contact with newborn	56	82%	90	82%
Immediate encouragement of breastfeeding	54	80%	82	75%
Delayed cut of umbilical cord	34	50%	34	31%
Avoid routine manual exploration of uterine cavity	36	49%	54	49%
Use of analgesia/anesthesia during manual exploration of uterine cavity	3	9%	13*	28%
Other practices according to Mexican norms				
Family planning method offered after obstetric event and accepted by the woman voluntarily	40	5%	107	97%
Explanations provided about self-care in postpartum	56	76%	80	73%
Explanations provided about neonatal care	53	72%	86	78%

* Calculated on cases who had a manual exploration, with a total of responses n=47.

Table 44: Pospartum and Newborn Care Practices Reported by Women Service Users, 2015 vs 2018

Practices reported by women who received midwifery care postpartum

Source: Users´ Survey 2015 and 2018 – Results: Postpartum and Newborn care

	Midwives 2015		Midwives 2018	
	#	%	#	%
Postpartum care practices				
Total number of women who received midwifery care postpartum	**47**		**110**	**100%**
Vaginal exploration	37	80%	95	86%
Revision of bleeding	39	91%	100	91%
External revision to assess reduction in size of uterus	43	90%	91	83%
In case of perineal tear, revision of wound and sutures	30	86%	70	64%
Blood pressure monitored	46	98%	102	93%
Temperature measured	45	94%	101	92%
Contraceptive method offered	27	61%	107	97%
Newborn care practices				
Total number of women whose newborns were attended by midwives	**35**		**91-105***	**83%-95%**
Revision of general state of health (color, breathing, heart, movements, body temperature)	34	97%	83	91%
Height and weight	33	94%	87	90%
Check umbilical stump	35	100%	86	88%
Maintain body heat	28	82%	95	94%
Neonatal screening	33	94%	32	30%

*Calculations were made according to total number of useful cases in each variable

Table 45: Prenatal Care Practices Reported by Women Service Users by Type of Professional Midwives, 2018*

Practices reported by women who received prenatal midwifery care

Source: Users´ Survey – Results: Prenatal Care, 2018

	Perinatal and other specialist nurses		Obstetric and general nurses		Unable to distinguish the type of midwife	
	#	%	#	%	#	%
Total number of women who received midwifery prenatal care	11		11		14	
Prenatal care practices						
Prescribes Iron	10	91%	7	64%	14	100%
Prescribes Folic Acid	9	82%	7	64%	13	93%
Requests blood tests	11	100%	8	73%	13	93%
Requests urine analysis	11	100%	8	73%	13	93%
Requests or performs ultrasound	11	100%	8	73%	14	100%
Requests STI (VDRL) test	8	73%	4	46%	11	79%
Requests HIV test	11	100%	8	73%	9	64%
During consultation						
Blood pressure taken	11	100%	11	100%	14	100%
Weight registered	11	100%	11	100%	14	100%
Height registered	11	100%	11	100%	13	93%
Womb measured	11	100%	11	100%	14	100%
Fetal heart beat listened	11	100%	11	100%	14	100%
Adjusted fetal position	3	27%	3	27%	8	57%
Recommended teas	1	9%	1	9%	1	7%
Asked how you feel	10	91%	10	91%	14	100%

* None of the women interviewed was able to recognize technical midwives as their actual providers

Table 46: Obstetric Care Practices Reported by Women Service Users by Type of Professional Midwives, 2018

Practices reported by women who received midwifery care during birth by type of midwife

Source: User Survey—Results: Results: Care during Labor and Delivery, 2018

	Perinatal Specialist Nurses		Obstetric Nurses		Technical Midwives		Unable to distinguish the type of midwife	
	#	%	#	%	#	%	#	%
Total number of women who received midwifery care	20		23		44		23	
Evidence-based practices								
Woman can choose who will accompany her	20	100%	15	65%	26	59%	16	70%
Avoid routine IV application	12	60%	10	44%	5	11%	7	30%
Periodic fetal monitoring during labor	19	95%	20	87%	43	98%	21	91%
Avoid continuous electronic fetal monitoring during labor	18	90%	13	57%	23*	55%	16	70%
Liquids allowed	17	85%	18	78%	29	66%	12	52%
Light food allowed	13	65%	14	61%	18	41%	6	26%
Free to walk during labor	18	90%	20	87%	29	66%	14	61%
They allowed her to make decisions	20	100%	21	91%	33	75%	17	74%
Avoid routine application of oxytocin during labor	16	80%	18	78%	29	66%	16	70%
Avoid external rupture of membranes	11	55%	16	70%	26	59%	16	70%
Position chosen by the woman at the expulsion	20	100%	20	87%	29	66%	15	65%
Avoid routine episiotomy	14	70%	17	74%	29	66%	15	65%
Avoid Kristeller maneuver	16	80%	23	100%	30	68%	18	78%
Immediate skin-to-skin contact with newborn	14	70%	21	91%	35	80%	20	87%
Immediate encouragement of breastfeeding	17	85%	18	78%	32	73%	15	65%
Delayed cut of umbilical cord	8	40%	4	17%	14	32%	8	35%
Avoid routine manual exploration of uterine cavity	8	40%	14	61%	23	52%	9	39%
Use of analgesia/anesthesia during manual exploration of uterine cavity	2**	20%	1**	11%	5**	31%	5**	42%
Other practices according to Mexican norms								
Family planning method offered after obstetric event and accepted by the woman voluntarily	20	100%	21	91%	43	98%	23	100%
Explanations provided about self-care in postpartum	15	75%	16	70%	30	68%	19	83%
Explanations provided about neonatal care	18	90%	18	78%	31	71%	19	83%

* The calculation excludes lost cases

** Calculated on cases that had a manual review: EEP, 10 cases; LEO, 9 cases; PT, 16 cases; unable to distinguish which type of midwife, 12 cases

Table 47: Pospartum and Newborn Practices Reported by Women Service Users by Type of Professional Midwives, 2018 Practices reported by women who received postpartum midwifery care Source: Users' Survey – Results: Postpartum and newborn care, 2018								
	Perinatal and other specialist nurses		**Obstetric and general nurses**		**Technical midwives**		**Unable to distinguish type of midwife**	
Postpartum care practices	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**
Vaginal exploration	18	90%	19	83%	39	89%	19	83%
Revision of bleeding	19	95%	20	87%	40	91%	21	91%
External revision to assess reduction in size of uterus	18	90%	17	74%	37	84%	19	83%
In case of perineal tear, revision of wound and sutures	16	80%	16	70%	20	46%	18	78%
Blood pressure monitored	20	100%	19	83%	41	93%	22	96%
Temperature measured	19	95%	20	87%	40	91%	22	96%
Contraceptive method offered	20	100%	21	91%	43	98%	23	100%
Newborn care practices								
Revision of general state of health (color, breathing, heartbeat, movements, body temperature)	10	100%	25	96%	18	100%	30	97%
Height and weight	10	91%	27	100%	21	9%	29	94%
Check umbilical stump	9	90%	28	100%	22	100%	27	84%
Maintain body heat	10	100%	31	100%	22	100%	32	97%
Neonatal screening	0	0%	18	67%	1	9%	12	41%

Table 48: Proportion of Midwives by Type with Knowledge in the Management of EmON: Preeclampsia, Hemorrhage and Neonatal Hypoxia/Asphyxia, 2018

Source: Professional Midwives´ Survey – Results: Knowledge for the Management of EmON, 2018

Preeclampsia		**Perinatal and other specialist nurses**	**Obstetric and general nurses**	**Technical midwives**	**Total**
Compliance Index (85% or more=10/12) evidence-based practices)	85% or more	16	13	3	32
		33%	30%	12%	27%
	<85%	33	30	22	85
		67%	70%	88%	73%
Total		49	43	25	117
		100%	100%	100%	100%
Hemorrhage		**Perinatal and other specialist nurses**	**Obstetric and general nurses**	**Technical midwives**	**Total**
Compliance Index (85% or more =10/12) evidence-based practices)	85% or more	25	16	9	50
		51%	37%	36%	43%
	<85%	24	27	16	67
		49%	63%	64%	57%
Total		49	43	25	117
		100%	100%	100%	100%
Neonatal hypoxia/asphyxia		**Perinatal and other specialist nurses**	**Obstetric and general nurses**	**Technical midwives**	**Total**
Compliance Index (85% or more =10/12) evidence-based practices)	85% or more	10	9	1	20
		20%	21%	4%	17%
	<85%	39	34	24	97
		80%	79%	96%	83%
Total		49	43	25	117
		100%	100%	100%	100%

Table 49: Proportion of Midwives by Level of Care with Knowledge In the Management of EmON: Preeclampsia, Hemorrhage, and Neonatal Hypoxia/Asphyxia, 2018

Source: Professional Midwives´ Survey – Results: Knowledge for the Management of EmON, 2018

		Level of care		
Preeclampsia		**Primary**	**Intermediate**	**Secondary and Tertiary**
Compliance Index (85% or more = 10/12) evidence-based practices)	85% or more	20	4	8
		33%	15%	27%
	<85%	40	23	22
		67%	85%	73%
Total		60	27	30
		100%	100%	100%
		Level of care		
Hemorrhage		**Primary**	**Intermediate**	**Secondary and Tertiary**
Compliance Index (85% or more = 10/12) evidence-based practices)	85% or more	27	12	11
		45%	44%	37%
	<85%	33	15	19
		55%	56%	63%
Total		60	27	30
		100%	100%	100%
		Level of care		
Neonatal hypoxia/asphyxia		**Primary**	**Intermediate**	**Secondary and Tertiary**
Compliance Index (85% or more = 10/12) evidence-based practices)	85% or more	12	5	3
		20%	19%	10%
	<85%	48	22	27
		80%	81%	90%
Total		60	27	30
		100%	100%	100%

Table 50: Women´s Level of Satisfaction
Source: Users´ Survey 2015 and 2018 - Results: Treatment and User Satisfaction

	Baseline		End-line	
	#	%	#	%
Total number of women	79		110	
Midwife spoke to you with respect at all times	78	99%	108	98%
Respected your privacy without making you feel embarrassed at any time	72	92%	103	94%
Informed you about each maneuver / intervention before doing it	72	91%	104	95%
Asked permission before doing each maneuver	72	91%	98	89%
Avoided using offensive phrases or making you feel bad	48	61%	102	93%
Always answered your questions	63	80%	105	96%
Paid attention to you when you needed something or asked for something	74	94%	103	94%
Was kind and understanding in her gestures and attitudes toward you	76	96%	106	96%
Was on the lookout and did not leave you alone	66	84%	107	97%
Allowed your chosen companion to participate at all times	54	68%	75	68%
Offered a planning method with courtesy, giving information on advantages and disadvantages, without undue pressure or insistence	59	75%	88	80%
If you had a question or concern, you got a clear and friendly response	60	98%	97	88%
You liked the space where my baby was born	76	97%	108	98%
You were treated excellently	52	66%	79	72%
You would give birth with the same person again	77	98%	106	96%

Table 51: Women´s Level of Satisfaction by Type of Midwife
Source: Users´ Survey - Results: Treatment and User Satisfaction, 2018

	Perinatal Specialist Nurses		Obstetric and general nurses		Technical Midwives		Could not distinguish the type of midwife	
	#	%	#	%	#	%	#	%
Midwife spoke to you with respect at all times	19	95%	23	100%	43	98%	23	100%
Respected your privacy without making you feel embarrassed at any time	17	85%	23	100%	41	93%	22	96%
Informed you about each maneuver / intervention before doing it	18	90%	21	91%	42	96%	23	100%
Asked permission before doing each maneuver	19	95%	20	87%	37	84%	22	96%
Avoided using offensive phrases or making you feel bad	19	95%	22	96%	41	93%	20	87%
Always answered your questions	18	90%	23	100%	43	98%	21	91%
Paid attention to you when you needed something or asked for something	17	85%	22	96%	42	96%	22	96%
Was kind and understanding in her gestures and attitudes toward you	19	95%	22	96%	43	98%	22	96%
Was on the lookout and did not leave you alone	20	100%	23	100%	42	96%	22	96%
Allowed your chosen companion to participate at all times	17	85%	12	52%	35	80%	11	48%
Offered a planning method with courtesy, giving information on advantages and disadvantages, without undue pressure or insistence	17	85%	19	83%	34	77%	18	78%
If you had a question or concern, you got a clear and friendly response	18	90%	18	78%	40	91%	21	91%
You liked the space where my baby was born	19	95%	23	100%	44	100%	22	96%
You were treated excellently	15	75%	17	74%	33	75%	14	61%
You would give birth with the same person again	19	95%	21	91%	44	100%	22	96%

Table 52: Women´s Satisfaction by Level of Care
Source: Users´ Survey - Results: Treatment and User Satisfaction, 2018

	Level of care					
	Primary		Intermediate		Secondary	
	#	%	#	%	#	%
Midwife spoke to you with respect at all times	42	98%	37	100%	28	97%
Respected your privacy without making you feel embarrassed at any time	39	91%	36	97%	27	93%
Informed you about each maneuver / intervention before doing it	40	93%	36	97%	27	93%
Asked permission before doing each maneuver	40	93%	30	81%	27	93%
Avoided using offensive phrases or making you feel bad	39	91%	34	92%	28	97%
Always answered your questions	40	93%	36	97%	28	97%
Paid attention to you when you needed something or asked for something	38	88%	36	97%	28	97%
Was kind and understanding in her gestures and attitudes toward you	40	93%	37	100%	28	97%
Was on the lookout and did not leave you alone	42	98%	35	95%	29	100%
Allowed your chosen companion to participate at all times	26	61%	29	78%	19	66%
Offered a planning method with courtesy, giving information on advantages and disadvantages, without undue pressure or insistence	34	79%	28	76%	25	86%
If you had a question or concern, you got a clear and friendly response	39	91%	32	87%	35	86%
You liked the space where my baby was born	41	95%	37	100%	29	100%
You were treated excellently	33	77%	26	70%	19	66%
You would give birth with the same person again	41	95%	37	100%	29	100%

Table 53: Advantages and Disadvantages of Midwives
Source: Users´ Survey - Results: Treatment and User Satisfaction, 2018

Advantages of Midwives		**Disadvantages of Midwives**	
Response	**#**	**Response**	**#**
No information	4	No information	4
None	4	None	40
More and better explanations	4	Training limitations	3
Good/Better attention	11	They need specialist back-up in case of complications	4
Greater presence, support and help	4	They don't give anesthesia	1
Respectful, good treatment—friendly and understanding.	9	They don´t treat you well	1
Confidence (for being women)	9		
They are patients	1		
They allow companion	9		
Total	**53**		**53**

Table 54: Advantages and Disadvantages of Physicians
Source: Users´ Survey - Results: Treatment and User Satisfaction, 2018

Advantages of Physicians		**Disadvantages of Physicians**	
Response	**#**	**Response**	**#**
No information	3	No information	2
None	33	None	10
They treat you well	2	They don't attend you, they leave you alone	9
They know how to provide better care/ They know what they are doing	7	They treat you badly, they get angry, violent, rude, offensive, etc.	11
Structural advantages – availability of pediatricians, better infrastructure, free care	5	Unfavorable practices (Cesareans, no companion allowed, force to give birth in an horizontal position, they break your membranes, many vaginal exams, etc.)	8
There are physicians on hand to attend emergencies	3	They make you feel uncomfortable and don't make you feel confident	5
		They don't give you information, they don't talk to you, they don't introduce themselves, and they don't ask permission.	3
		Mechanized care	2
		The hospital is cold and over-saturated.	2
		Lost in the system	1
Total	**53**		**53**