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The Shifting Roles of Dai Maas: An Intersection of Healthcare and Female Empowerment in Rural Udaipur

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***Dai Maa* in Madri, Udaipur**

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ABSTRACT

Traditional Birth Attendants (TBAs), known as *dais* in an Indian context, have historically served as women's primary caregivers throughout their pregnancies and during childbirth in rural regions where access to formal healthcare institutions is nearly impossible. With a heavy reliance on traditional knowledge passed down through generations, *dais* have aided with home deliveries for millennia. Approximately 15 years ago, however, groups such as WHO, UNICEF, World Bank, and the UN began addressing India's high maternal mortality rate (MMR), thereby instigating the discouragement of home deliveries in favor of the encouragement of institutional deliveries. Infrastructural changes were established to improve accessibility to formal healthcare institutions, government schemes were introduced to incentivize women for hospital births, and new health worker positions were created to promote this transition. Government-run *dai*-training programs came to a standstill, leaving NGOs to train and support these women, thereby shifting the modern *dai's* role. This study explores the perceptions of *dais*, mothers who have birthed with *dais*, NGO *dai* trainers, and other healthcare professionals to understand the current relevance of trained *dais* and how their roles, responsibilities, and birth outcomes have recently shifted since the governmental push towards higher rates of institutional delivery. Findings – developed through collaboration with local Udaipur NGO Seva Mandir – suggest that although *dais'* roles have shifted from traditions of the past, their current responsibilities of accompanying women to navigate hospital environments, serving as emotional support systems, providing extensive health education, and acting as links to essential healthcare are nonetheless integral contributions to the rural Indian healthcare system and female empowerment.

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GLOSSARY

Anganwadi: Term meaning "courtyard shelter" referring to a public-funded health center providing basic healthcare and preschool activities to marginalized Indian communities

ANC: Antenatal Care

ANM: Auxiliary Nurse Midwife

ASHA: Accredited Social Health Activist

CCT: Conditional Cash Transfer

CHC: Community Health Center

Dai maa: Indian term used to refer to the Traditional Birth Attendant (TBA)

HPS: High Performing State

IMR: Infant Mortality Rate

IUD: Intrauterine Device

JSSK: Janani-Shishu Suraksha Karyakram

JSY: Janani Suraksha Yojana

LPS: Low Performing State

MDG: Millennium Development Goals

MMR: Maternal Mortality Rate

NGO: Non-Governmental Organization

NRHM: National Rural Health Mission

PHC: Primary Health Center

PNC: Postnatal Care

SBA: Skilled Birth Attendant

TBA: Traditional Birth Attendant

UN: United Nations

UNFPA: United Nations Population Fund

UNICEF: United Nation's Children's Fund

WHO: World Health Organization

INTRODUCTION AND OBJECTIVES

For women in rural areas, giving birth at a hospital can often be an unattainable luxury. Quality of roads, distance of medical facilities, education and awareness, availability of transportation, family responsibilities, and medical expenses are just a handful of reasons for high rates of home birth in remote regions. In India, a nation in which over 63% of people have poor access to health care,[S] – one of the most blatantly visible social determinants of health – pregnant women require alternatives to formal health centers such as hospitals, community health centers (CHC), primary health care centers (PHC), and subcenters to provide them with reliable and accessible care. Traditional Birth Attendants (TBAs), known as *dais* in an Indian context, have historically served as this alternative, acting as women's primary caregivers throughout pregnancy and during childbirth in these isolated regions.[1] As women attending to antenatal care (ANC), postnatal care (PNC) and childbirth itself, *dais* commonly have years of experience, relying on traditional knowledge passed down through generations and pulling from strong cultural and religious beliefs.[15] Furthermore, their origins from the same communities or communities similar to the ones they serve allow them to build strong networks of trust among village women.[Q] However, the work *dais* provide has raised several concerns in past years, especially as groups such as WHO, UNICEF, World Bank, and the UN begun addressing India's high maternal mortality rate (MMR), estimated to be at 301 maternal deaths per 100,000 live births in 2003.[3] Along with new government schemes to encourage higher rates of institutional delivery, government-led *dai*-training programs came to a halt, leaving NGOs to train and support these women in safe and clean healthcare practices.[P]

Although this is the data the literature portrays, this study aims to assess the current reality of trained *dais'* relevance and how their roles, responsibilities, and birth outcomes have

recently shifted since the governmental push towards higher rates of institutional delivery. By exploring these changes, this paper strives to discuss the positive impacts *dais* have in providing rural women with quality healthcare and in serving as an emotional support system to help navigate institutions foreign to them.

This field research aims to explore: perceptions of local trained *dais*, the mothers they work with, *dai* trainers, and institutional health workers about the current relevance of these TBAs within the healthcare system; perceptions of the NGO-led *dai*-training program; perceptions of the shifts within birthing healthcare; and the impact quality *dai* care has on village women's empowerment.

METHODOLOGY

This study was conducted over a three-week period in November 2017. The geographical point of interest focused on two regions in rural Udaipur, Rajasthan – Kherwara and Jhadol, respectively 90 kilometers and 50 kilometers from Udaipur City. All *dai maas* – as they are called locally with a name of respect – interviewed for this study have been trained by Seva Mandir, a fifty-year-old NGO based in Udaipur City committed to a multitude of healthcare, education, and wellness projects. All mothers interviewed had received ANC, PNC, and delivery care from a Seva Mandir-trained *dai maa* during at least one of their pregnancies. Interviews followed a semi-structured approach, using the interview questions listed in Appendices A-D as a general guide. This approach enabled fluidity of conversation, allowing additional questions to be asked while others were omitted. By utilizing interviewees' points of interest if they expressed passion for a particular topic, copious data variety was collected. Although verbal consent was provided at the onset of each interview, comfort of participants was also ensured throughout the conversation due to the topic's often sensitive and personal nature. Interview

question sets were prepared for *dai maas,* mothers who had delivered in the hospital with a *dai maa*¸ mothers who had delivered at home with a *dai maa*, *dai maa* trainers, and other healthcare professionals. A total of fourteen interviews were conducted: four with Seva Mandir-trained *dai maas,* five with mothers who had given birth with a Seva Mandir-trained *dai maa* within the past two years, three with Seva Mandir *dai maa* trainers, one with a medical officer in Jhadol, and one with an ANM in Jhadol. The interviews with *dai maas* and mothers were conducted in outside public settings, while those with the trainers, medical officer, and ANM were conducted in offices. All interviews were accompanied by a translator. All names of those interviewed have been changed to uphold promises of confidentiality.

HISTORICAL CONTEXT

Traditional *Dai Maa* Work of the Past

For generations, *dai maas'* primary work concentrated on helping women give birth at home. Until very recently, home deliveries were the only option for some village women, as hospitals were completely inaccessible due to lack of roads and hundreds of kilometers to the nearest facility. Once notified by a family member about the commencement of labor pains, *dai maas* would be present at the mothers' home throughout the birthing process and would aid in cutting the cord, delivering the child, and expelling the placenta, all while ensuring safety of the mother and baby.[1] In addition to these practices, *dai maas* would also provide emotional support to women through labor, using massage and other soothing techniques to ease pain and discomfort.[1] Because *dai maas* are generally non-literate and have gained their knowledge from other community *dai maas* rather than from a formal education setting,[1] they do not compare to health professionals with a biomedical background. Rather than utilizing medicalized procedures and approaches to birthing, *dai maas* have learned their skills via observation and imitation

through countless years of accompanying mothers, mothers-in-law, and other older women in their communities.[Q] This traditional wisdom has seen great success in the absence of modern technology and has enabled *dai maas* to provide an invaluable service to those in rural regions. In 1978, the Alma Ata international conference on primary health care even recognized the work of *dai maas* as an essential component to public health in addressing maternal mortality.[1]

Public Health Response

However, a rapid increase of the Indian government's awareness about several unhygienic and unsafe home-birthing practices stimulated a call for government-run *dai maa* training programs in the 1970s and 1980s.[1] In hopes of decreasing the MMR and IMR, this call pushed to train one *dai maa* per every one thousand people.[1] However, in the years following, improvements were nearly nonexistent. In 1999, WHO, UNFPA, UNICEF, and the World Bank declared a joint statement splitting birthing care providers into two groups: Skilled Birth Attendants (SBA) and Trained Birth Attendants, defined as such: "A skilled attendant is an accredited health professional who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns." [3] Doctors, nurses, and nurse-midwives were acknowledged as SBAs, while *dai maas* were not,[3] delegitimatizing their work as unskilled. Furthermore, in 2000, the UN's creation of the Millennium Development Goals (MDGs) reintroduced India's aim to decrease the MMR,[S] thereby resulting in the abandonment of governmental *dai maa* training programs in favor for a new approach. In 2005, the National Rural Health Mission (NRHM) strove to improve primary health care access in hopes to reach India's 70% living in rural regions,[4] resulting in a sharp increase of institutionalized deliveries and a decrease in traditional deliveries with *dai maas* at

home. NRHM also introduced the Accredited Social Health Activist (ASHA) to act as a link between the community and the public health system.[4] ASHAs gradually absorbed many of the same duties that *dai maas* had been dealing with, creating subtle unspoken competition.

This trend of the move away from traditional *dai maa* work continued within the next six years with the development of Janani Suraksha Yojana (JSY) and Janani-Shishu Suraksha Karyakram (JSSK).[5] JSY incentivized institutional delivery by providing both mothers and ASHAs with a Conditional Cash Transfer (CCT) according to their residence in either a Low Performing State (LPS) – one with low rates of institutional deliveries – or a High Performing State (HPS).[7] In rural areas for example, mothers in an LPS would receive 1400 rupees for delivering at a hospital, and mothers in an HPS would receive 700 rupees. An ASHA bringing a laboring mother to the hospital would receive an incentive of 600 rupees, further encouraging both institutional delivery and the preference of ASHAs over *dai maas*, who would receive no such incentive from the government.[7] After looking at statistics of Indian healthcare expenses, it becomes clear why providing monetary incentives for communities and workers from low-income backgrounds perpetuated the enormous success JSY received.[5] For example, only 10% of Indians have some form of health insurance, causing hospitalized Indians to spend approximately 58% of their total annual expenditures on healthcare.[4] This forces more than 40% of hospitalized Indians to borrow heavily or sell assets to afford medical expenses, causing over 25% of hospitalized Indians to fall below the poverty line.[4] Along similar principles with these expenses in mind, JSSK provided a long list of free entitlements for both pregnant women and sick newborns, including provision of blood, drugs, diagnostics, and transport.[6]

While these programs did successfully meet the original goal of lowering the MMR and IMR in India, the implementation of them with the simultaneous decision to stop *dai maa*

training programs suggests that *dai maas* are at fault for high MMR and IMR and have no valuable contribution to the practice of birthing care. However, because malnutrition, poverty, extensive workload, and the already-compromised health status of women in rural areas will undoubtedly affect a woman's birthing outcomes,[16] the *dai maas* themselves cannot solely be blamed for poor results simply because they attend an overwhelming majority of births in regions where MMR is already high.[16] Therefore, because 42% of people in rural communities rely on *dai maas*, NGOs have taken on the task of training and supporting these women in the face of government disapproval.[P] With the implementation of these training programs, standard measures can be taken to ensure deliverance of safe accessible care to communities most in need.

THE SETTING: UDAIPUR AND ITS *DAI MAAS*

One of the poorest districts in India, Udaipur has a large tribal population and rather high rates of female illiteracy.[8] According to the latest census conducted in 2011, 80.17 % of Udaipur districts live in rural areas of villages.[14] The 2015 National Family Health Survey-4 stated that only 42% of females in these rural regions qualify as literate, with only 46% of females having ever attended school and only 14% having completed 10 years or more of schooling.[18] Another study revealed that while 86% of mothers with more than 12 years of education had institutional deliveries, 82% of illiterate mothers had their children at home.[10] The average per capita household expenditure is approximately Rs 470 – people live on less than Rs 20 ($0.35) a day[17] – with over 40% of people below the poverty line.[8] With regards to healthcare access, this same study calculated absenteeism rates of 45% among medical personnel in local subcenters, and rates of 36% in PHCs and CHCs.[8] Hospitals are commonly one to two hours away, and institutions attending to more critical complications are over three hours away, located in

Udaipur City or Dungarpur.[B] All these factors point to the obstacles rural women face when attempting to attain quality healthcare during pregnancy.

While the four *dai maas* interviewed for this study tend to the needs of women within these demographics, they themselves are also part of the community. None of them attended school or had any formal education – the most they know how to write is their name – and none of them can remember their exact ages. Approximate guesses of 35 years old, 45 years old, 50 years old, and "maybe over 60 years old?" [C] are confirmations, along with their verbal affirmations, that none of them had ever delivered their own children in hospitals. Married young, between the ages of 17 and 21, they all had children quite young as well and began learning their work as *dai maas* quite early on, sometime between the ages of 15 and 35.[ABCD] Bhavya had learned about this work by following her grandmother and mother for years ever since she was little.[B] Drishya also learned most of the basics from her mother, and started her first hands-on experience at 15 when one of her relatives was pregnant and nobody else in the village knew how to take care of her; Drishya did not know all the details, but was inspired to learn more and take on the job as a *dai maa*,[D] Charvi had learned from her aunt, but when her aunt passed away, she was the only woman in the village left to continue this work, and knew she had a responsibility.[C] Aradhya also learned about birthing work from her aunt; though her aunt was not an official *dai maa* of the community, she was inspired to learn all that she could and provide women with good care.[A] These women were chosen by their local village committees, who collectively named the *dai maas* with the most knowledge and potential, wrote proposals, and nominated them to attend the Seva Mandir trainings to become official TBAs.[K] After over 15 years of experience with over hundreds of pregnant women, these *dai maas* feel confident in their abilities and proud to be recognized by their communities.

AN INTRODUCTION TO SEVA MANDIR'S *DAI MAA* TRAINING PROGRAM: TRAINERS' PERCEPTIONS

In order to understand the current role of *dai maas* in rural Udaipur, one must first understand the source from which they gain their knowledge. This section will serve as an introduction to Seva Mandir, the principles they uphold, and the changes they have inspired.

Origins and Organization

Seva Mandir started as an NGO nearly 50 years ago in 1968, dedicated to a variety of betterment programs such as education, child care, and resource sustainability efforts to empower the rural villages of Udaipur. However, concerns about health conditions also soon arose as more awareness was brought to high MMR and IMR across the country. This, stemming largely from the absence of proper roads, lack of communication methods, lack of facilities, and the lack of awareness among village women and local *dai maas* about safety procedures during childbirth, encouraged Seva Mandir to develop a *dai maa* training program in 1989.[K] Though India's government was providing some trainings at this time, the programs were weak.[J] Seva Mandir knew that *dai maas* were rural women's only healthcare option at the time, and considered it essential to aid them in providing village women with the best alternative to hospital-based care. Although the nation's ultimate goal was to encourage institutional birth, Seva Mandir strove to first address the reality before transitioning to the ideal. Once awareness about the importance of *dai maa* training began, most women in the community expressed a preference for trained *dai maas,*[J] so the program continued its work and still holds an essential role in villages today. Though the first training consisted of only 15 *dai maas,* participants slowly increased, with approximately 400 at the program's height.[K]

The initial training session *dai maas* attend lasts for seven days, with each day encompassing a variety of safety procedures and methods to recognize complications. Trainers

spend the first half of each day discussing the training material, while *dai maas* spend the second half providing feedback and follow-up information to display comprehension of the new knowledge.[K] In addition to this seven-day training, *dai maas* attend a four-day refresher training once a year to review all information learned during the primary seven-day session, as well as a two-day review held three times a year, which serves as a platform for *dai maas* to discuss their problems, issues, or questions, and for trainers to teach new information.[K] Because most *dai maas* are illiterate and therefore cannot take notes during trainings or read information from a booklet, these refresher and review sessions allow them to keep the knowledge at the forefront of their practices.[K] Although sessions are initially composed of 25-30 *dai maas,* they break into smaller groups as the day progresses, and then are finally regrouped one-on-one to assess their understanding for the day. Trainers attempt to make the sessions interactive and memorable by including practicals, realistic examples, demonstrations with dummies, roleplays, pictures, stories, games, and case studies, rather than just lectures.[K] Once a year, Seva Mandir holds a Training for Trainers session as well, to ensure staff are relaying the appropriate information.[K]

Although the trainings are mostly headed by Health Unit managers of Seva Mandir's five blocks, the NGO also invites government doctors and pediatricians in order to have professionals with strong medical backgrounds from whom *dai maas* can learn more technical knowledge.[J] The three trainers interviewed for this study have a diverse array of educational background; one woman completed up to the 12th standard,[J] one obtained a Bachelors of Social Work,[K] and another received her Bachelor of Ayurvedic Medicine and Surgery.[L] They all have been working with Seva Mandir for over twenty years, and express extreme gratitude and passion for the work they provide to Udaipur communities.

Training Material

Strong Basis of the Basics

During the initial years of Seva Mandir's training program, access to hospitals from rural Udaipur regions was incredibly poor, resulting in a heavy focus on educating *dai maas* to provide safe and clean environments for home-birthing women. For example, Seva Mandir promotes the "Three Cleans" started by the WHO in 1970, advocating for "handwashing with soap, clean cord care, and a clean surface" [3] by encouraging *dai maas* to take off their bangles and rings and wash their hands very well before tending to pregnant women.[K] NRHM has implemented a similar program – the "5 Cleans" promote clean hands, clean surface, clean new blade, clean cord tie, and clean cord stump – and has also provided *dai maas* with a birthing kit complete with nail clippers, soap, gloves, string, a sheet, and a bowl in which to sterilize instruments.[4] Seva Mandir has modeled these efforts by creating a similar kit refilled at the quarterly training sessions with 21 items such as gloves, nail clippers, a mask, a cord clip, a blade and thread, a plastic sheet, a flashlight, a scale to measure newborn weight, and select medical supplies such as parasitomol against fevers and betadine as an antiseptic.[J K] Seva Mandir trainers work especially hard educating *dai maas* about the ways in which their old habits of conducting deliveries at home can be incredibly harmful, and how to improve their methods. For example, several years ago women commonly gave birth in the family's cattle shed rather than in the house because delivery was considered impure and dirty. Now, *dai maas* are educated to deliver children in a clean room if hospitals are inaccessible, and are provided with a plastic sheet if such a space is unavailable.[J] Furthermore, some *dai maas* in the past would tie umbilical cords with hair bands and cut them with a sharp stone, but are now taught to use the boiled string and blade provided in their kit instead.[L] By teaching TBAs how these practices can

be harmful to women and instead refocusing on how they can improve their methods, Seva Mandir trainings have drastically eradicated unsafe traditions.

Shifting to the Hospital

Approximately 15 years ago, however, institutional delivery was becoming increasingly recommended, and training material adjusted accordingly; the new focus minimized home delivery procedures, instead concentrating on teaching *dai maas* to encourage women for hospital births.[K *] At first, village women refused to leave their villages for ANC checkups, let alone to give birth, saying they would die before going to the hospital.[J] However, because of the education Seva Mandir has provided to the *dai maas,* and the education the *dai maas* have provided to the rural women,[J] this attitude has drastically changed within the past decade. Due to meetings led by the NGO on a larger level and community meetings led by the *dai maas* themselves on a local level, this awareness has spread.[J] The importance of safety is above all, as trainers reiterate during each review meeting: "If it's near or far, go to the hospital!" [J] Because a large component of women choosing not to attend hospitals relies on fear or reluctance as well, Seva Mandir holds specialized training sessions to teach *dai maas* how to convince mothers and families how essential it is. They explain why it is safer, what the benefits are, and ensure that they will always be accompanied by their *dai maa*, even in the case of transfers to other institutions.[K] *Dai maas* are also taught about local transportation information, a major obstacle for hospital delivery. Though local ambulances have been available since the 2005 NRHM provision, women in these communities are unaware about these services. Therefore, *dai maas*

*Nonetheless, because the different blocks Seva Mandir works with vary so greatly in terms of access to institutional healthcare, and because last-minute emergencies sometimes require at-home birth,[J] the NGO continues to train *dai maas* for all possible cases, with slightly different focuses for varying regions.[K]

serve as an invaluable link by teaching women that simply calling 104 can get them an ambulance to the hospital, to any interfacility transfer, and back home again, all completely free of cost.[J6] Lastly, the shift towards encouragement for institutional delivery also requires *dai maas* to be very familiar with hospital procedures, facilities, and personnel since they accompany mothers throughout the entire process. To best aid their community, *dai maas* are trained to know which hospital is appropriate for each situation and how to teach families what documents must be prepared beforehand. Prior to deliveries, *dai maas* are given a tour of hospital facilities to understand where registration, delivery rooms, wards, nurseries, ICUs, and blood banks are. They meet doctors, are given appropriate staff phone numbers so everyone is familiar, and are taught to call doctors prior to arriving so proper preparations can be made.[K] All these measures have greatly aided in improving rates of hospital attendance, because families, as well as *dai maas*, have become more aware, have easier access, and feel more comfortable with leaving their homes in hopes for greater safety.

Ground-Level Education

Although the shift in *dai maas'* responsibilities has seemingly moved away from work at the village level, the increasing awareness of effects that prenatal and postnatal care have on maternal health has in fact increased *dai maas'* relevance, with training sessions teaching them how to provide health education to women during these critical periods.

During the prenatal period, *dai maas* are taught to get in touch with women, teach them how to take care of themselves, how to eat, how to clean themselves, not to lift anything too heavy, not to work in the fields too much, how to prepare for the birthing process, and how to properly care for their arriving baby, for example.[JL] Nutrition education also holds a large portion of the curriculum, because many *dai maas* once neglected to teach mothers about the

value of a healthy and adequate diet.[K] Seva Mandir discourages the belief that women should avoid a full diet in fear that it will result in heavy fetal pressure or a baby too large to deliver, and instead persuades them to teach that a full diet will prevent a low birthweight baby.[K] Beliefs such as these, or that eating curd or bananas during pregnancy results in a difficult labor,[K] for example, are demystified by trainers, and proper eating habits are explained instead. Trainers also teach *dai maas* how to identify anemic women, as nearly 74.8% of pregnant women in rural Udaipur have anemia,[18] one of the primary medical conditions leading to maternal death.[10] Perhaps most critical to battling MMR and IMR, *dai maas* are taught to identify and measure risks and complications present during pregnancy, and to refer women to appropriate facilities when necessary.[K] For example, doctors show *dai maas* how to complete an abdominal exam to determine how many months into the pregnancy a woman is, and whether the baby is in the correct position.[J] If something causes alarm, referrals to hospitals are made. Lastly, *dai maas* are prepared to provide quality ANC by learning about the importance of breastfeeding. In the past, *dai maa* tradition taught mothers to throw out the first milk – colostrum. Its yellow, dirty color caused *dai maas* to believe it would harm newborn babies.[K] However, studies have proven that colostrum is rich in vitamins and antibodies; it serves as full natural immunity to the infant and is most beneficial within the first hour following birth.[1] Seva Mandir disperses this knowledge to *dai maas*, telling them to educate mothers already at seven months of pregnancy to start breastfeeding with mother's milk (not with buffalo milk or water) immediately after labor.[J]

Dai maas also have an important role in helping women navigate the postnatal period. They learn to teach women the necessity of rest following delivery, as some would return to their agricultural work merely two days after giving birth.[L] Additionally, trainers tell *dai maas* to teach other family members about treating the new mother more carefully than usual because of

the difficult process she has been through and the rest she requires.[L] *Dai maas*' care also extends beyond the immediate postnatal period, as Seva Mandir employees teach them how to counsel women on family planning options due to high incidences of pregnancy directly following birth. Taught to recommend some sort of contraception for at least 2-3 years following delivery, *dai maas* often provide village women with the pill or Copper T (an IUD) to give them some time, strength, and stability between pregnancies.[J]

While the curriculum for the training program is quite extensive, it is also quite flexible and ever-changing. Trainers adjust the material as they see appropriate due to new information, technology, recommendations, and assessments of *dai maas'* complaints or community needs. For example, three to four years ago the birthing kit provided *dai maas* with only one reusable plastic sheet and a blade and thread they would boil themselves. Now, however, disposable plastic sheets are provided to ensure a new one is used for each delivery, and pre-sterilized cord clamps and blades are included to ensure complete sanitation.[K] Stemming from medical recommendations and technological advancements that have allowed for more widespread use, these changes exemplify how Seva Mandir willingly adapts their teaching methods to better address issues.

Challenges and Results

As with any community change, there are obstacles and difficulties. Trainers have expressed that it can take years to convince *dai maas* that new protocols are more beneficial for mothers. It can be a slow process to bring about change to the families themselves, because the chain of education and awareness is never direct. Only after *dai maas* accept the knowledge from Seva Mandir can it be passed down to mothers, and mothers then must learn to accept the knowledge from *dai maas.*[K] Because the traditions and practices during pregnancy and

childbirth have been rooted in these societies for generations, it can be difficult to combat resistance from elders.[L] Additionally, trainers found that *dai maas* had some difficulty remembering the content, because their illiteracy prevented them from writing down new information.[L] However, Seva Mandir aims to counter this with the quarterly review sessions, and studies have shown that reliability proportions for information obtained by illiterate health workers on risk pregnancy ranged from 0.78 to 0.96, with an average of 0.86, indicating quite high reliability and accuracy.[9]

Despite these difficulties, Seva Mandir has seen decreases in MMR and IMR due to their training program.[L] Since training has started, trainers have seen hardly any flaws with the care *dai maas* provide,[L] and continue to witness attendance rates of over 90% at all review sessions, with some *dai maas* attending for their hundredth time.[J] Though Seva Mandir employees are very transparent that their work alone has not been the sole purveyor of positive change – they acknowledge that better roads, ambulance services, mobile phones allowing communication, and closer medical facilities have also been huge factors in lowering mortality rates – they indeed have played a large role.

SEVA MANDIR'S *DAI MAA* TRAINING PROGRAM: *DAI MAA*S' PERCEPTIONS

Changing Ways and Resistance

The *dai maas* explained that the most recurrent and essential theme they learned was the importance of encouraging mothers for institutional birth. Many of the TBAs explained that they had never known the hospital was so much safer than home, and were initially reluctant to change their ways.[B] After multiple sessions, however, they felt more willing to embrace the advice, because they valued the mothers' safety above anything else. *Dai maas* confessed that the trainings taught them so many safety precautions they were unaware of, and how the methods

they had been practicing for generations could actually cause harm to the mother or newborn baby.[B] To ensure that safety was provided even in cases when giving birth at a hospital was not a viable option, *dai maas* explained how they were taught to always use new tools, wear gloves and a mask, and how to cut the cord with a clean boiled blade rather than with a stone or scissors.[B D] All *dai maas* mentioned that past practices included helping women give birth in cattle sheds, because they feared that the blood from delivery would ruin the house if done indoors.[B] After learning about how dangerous and unclean these conditions can be, *dai maas* explained that they were taught to always use a clean sheet in a clean environment.[D] They also learned to recognize signs of complications and to know when a woman must be brought into the hospital for appropriate sonographies or x-rays.[A] In addition to this encouragement of safety, cleanliness, and institutional delivery, *dai maas* also experienced large changes in education about nutrition. Tradition of both families and *dai maas* in the past taught pregnant women not to eat too much because of constant vomiting – specifically during first trimesters – and did not want to perpetuate additional issues.[B] Now, *dai maas* say they encourage mothers that it is better to eat too much than not enough; they tell pregnant women to eat 4-5 meals daily, full of green vegetables, milk, curd, and even meat if they would like.[B] Other than this, *dai maas* explained they have also learned how to educate women about vaccines, the importance of rest, and refraining from lifting heavy items or working too hard during pregnancy.[A B]

Luckily, the *dai maas* have not received much backlash or resistance from families since methods have changed.[D] Though at first skeptical and hesitant about delivering in a clean room rather than a dirty room as the habit had been for generations, families accepted changes generally readily, understanding that new methods would protect the birthing mother.[B] Even when *dai maas* started donning gloves and masks, most families did not protest, because they

knew hospitals had similar standards.[A] For cases in which families refused these alterations, Seva Mandir trained *dai maas* how to hold discussions with family members, saying, "this is what we used to do, but it's wrong. This is what we should do and why we should do it." [B] Once explanations were given, *dai maas* expressed that all resistance vanished, for safety was everyone's priority.

Feedback on Progress

The four *dai maas* interviewed for this study found the Seva Mandir training program incredibly helpful. They all explained how much they have learned over the past 15 years, and one woman even shared that she feels more comfortable doing her work because of the training – she feels more prepared when encountering challenging scenarios, and she knows she has the skill set to properly care for the mothers in her village.[A] They describe the changes as a "necessary step" [B] and say, "of course the new way of doing things is better! In this village not one woman has died due to childbirth complications in the past 15 years!" [B] This, in itself, is a magnificent accomplishment.

ANALYZING THE SHIFT FROM HOME TO HOSPITAL: REASONS AND OPINIONS

In the past, countless factors influenced a woman's decision to give birth at home or in a hospital. Fear of a new environment and uncertainty of procedures, the doctor's gender, hospital staff behavior, transportation accessibility, facility distance, family structure without relatives who can stay with a woman at the hospital or take care of children and cattle back home, for example, were all realistic factors preventing hospital deliveries.[K] One study even showed that in rural Indian villages a woman who "delivers while working in the field is applauded and praised as a 'simple soul' displaying commendable self-reliance." [2] This concept of self-reliance and self-strength may be another factor dictating low institutional birth rates in the past. Yet

these factors do not exist solely in the past. One woman interviewed for this study had given birth to all her children at home, because she said the hospital scared her too much – even her husband's convincing did not persuade her.[G] Another woman, although she had planned to have a hospital delivery, gave birth to her most recent baby at home because the ambulance failed to come in time.[H]

Nonetheless, women who give birth at home no longer do so primarily because of accessibility issues, but more so due to a lack of awareness. Mothers' reluctance about hospital deliveries is changing; today, mothers are generally enthusiastic to attend health institutions,[A] with only one out of one-hundred women preferring to give birth at home.[D] Seva Mandir experienced this shift slightly over ten years ago,[B] listing awareness of safety through *dai maa* training and public persuasion as the primary reason.[D] All the *dai maas, dai maa* trainers, and all but one of the five mothers interviewed expressed unhesitating confidence that hospital deliveries are much safer than home deliveries. The most common reasoning explained that in the case of complications during delivery, the hospital, unlike homes, has access to facilities such as an operation room, oxygen, and a blood bank.[A] When asked if they felt scared or safe in a hospital setting, one mother responded exclaiming, "why would I feel scared? There's nothing to be afraid of! If anything happens, all the doctors and equipment is right there!" [E] Although one woman did confess she felt scared before her first hospital delivery, she wanted to prioritize her baby's safety.[H] Even when asked what would happen if a mother refused to go to the hospital, *dai maas* said they would try their best to convince her, and if not possible, warn her that they hold no responsibility for possible complications.[B] The preference for hospitals is clear.

Government schemes such as JSY and JSSK have also played enormous roles in increasing rates of institutional births to the current 70.6%.[18] Monetary assistance in its full

amount is given in cash to women at the institution itself following delivery,[5] widely encouraging village mothers with generally low-income backgrounds. However, although two mothers interviewed said they appreciate the incentive the government provides, they would have gone to the hospital due to safety reasons even without the incentive.[E H] Above all, safety prevails.

THE ROLES OF THE MODERN *DAI MAA*

Responsibilities: Perceptions of *Dai Maas* and Mothers

Amidst the shift of *dai maas* now attending mostly hospital deliveries, roles and responsibilities have adjusted; a larger emphasis is placed on education and awareness-raising, and duties within a hospital context have developed. This section aims to discuss *dai maas'* and mothers' perceptions of the roles these birth attendants play now that the context of care has changed.

According to the *dai maas* interviewed, their current biggest role is to encourage and advise women to give birth in hospitals; the only time home birth is viewed acceptable is in the case of a time-sensitive emergency.[A] When labor pains start, the *dai maa* is responsible for calling an ambulance by dialing 104 and reassuring mothers that all transportation is free of cost.[A] At the hospital, the *dai maa* serves as the laboring mother's physical and emotional support system in an environment unfamiliar to them; she assists them in moving around the room, changing position if they feel uncomfortable, changing their clothes, laying them down, and going to the restroom, for example.[A B F] One *dai maa* described her role as providing emotional and moral support,[D] offering words of encouragement and small comfort measures such as abdominal massages to ensure the mother is at ease. One mother reiterated this, suggesting that because hospital staff generally disregards the mother's comfort because they

focus so intently on the baby's safety, *dai maas* primarily act to bridge this gap.[E] Additionally, *dai maas* occasionally even take on the role of delivering babies in hospitals due to short staffing – particularly at night – or because ANMs may be new to the practice and have not yet learned procedure specifics.[E] Following the delivery, the *dai maa* cleans the baby before returning it to the mother, and stays near the child, providing light massages for stimulation. She encourages breastfeeding immediately after birth, showing women exactly how they should place their newborn and position their nipple for easiest milk supply.[B] One mother said that her first baby was not breastfed likely due to the absence of *dai maa* care, but that the help of a *dai maa* during her second pregnancy encouraged her to breastfeed right away.[G] This is a prime example of the difference their work makes. *Dai maas* are present in the hospital throughout the entirety of a woman's delivery, staying 2-3 hours afterwards to ensure that all is well.[B] Should a complication arise and require interfacility transfer, *dai maas* accompany women throughout the process.[D] Furthermore, if the mother has no family to look after her in the hospital, the *dai maa* takes on this role.[A] One *dai maa* even recalled a case in which she took care of the newborn baby while the mother was unconscious for some time following delivery.[A] This dedication to quality care extends far past the medical scope, encompassing aspects unseen in most allopathic settings.

While this care provided in hospitals is a large portion of a *dai maa'*s responsibilities, equally essential is the educational component she empowers women with prenatally, postnatally, and in their general reproductive lifetime. Two to three times a month, *dai maas* walk around the entire village going door to door to assess who is pregnant and spread valuable information.[B] During the prenatal period, *dai maas* educate mothers about the appropriate precautionary measures, making sure to accompany patients to a health facility for a minimum of four times throughout their pregnancy to receive vaccines, standard tests, and iron and calcium

supplements.[B] Starting with visits once a month, *dai maas* increase their visit frequency as delivery dates approach, seeing expectant mothers every 15 days for the final 2-3 months.[G] As mentioned before, *dai maas* play a large role in educating mothers about proper nutrition, encouraging 4-5 meals daily, telling women to eat green vegetables, drink milk, and eat special foods known to have high nutritional properties, such as khichdi and ladoo.[A F] This education also extends to teaching pregnant women not to lift heavy weights or work too much around the house,[A] and how to prepare for a new baby.[I] Lastly, *dai maas* spend a good portion of the prenatal period stressing the importance of breastfeeding immediately after birth.[D] As for the postnatal period, *dai maas* complete home visits 10 days following delivery in order to check the baby's health; by checking the entire body for signs of illness or complication, the infant's health is maintained.[B] *Dai maas* also spend this time ensuring the mother's health is in good condition and reminding them how to take care of their new baby.[L] If mothers feel they need to return to the hospital for any particular reason during the postnatal period, *dai maas* accompany them at this time as well.[L] Even throughout the span of a woman's reproductive life other than pregnancy specifically, *dai maas* ensure that quality healthcare is available. Most of the mothers interviewed noted that their *dai maas* had provided them with some form of family planning, expressing extreme gratitude. When asked where they would hypothetically choose to have their next delivery, three mothers responded with relief-filled laughter, proclaiming that they would not be getting pregnant again; after being tired and weak from so many years of having children, sterilization is a common option for women in these villages, attributable to education provided by *dai maas.*[E G H] Other popular options include the contraceptive pill or Copper T (IUD), with the recommendation of a three-year gap between children.[D]

Workload

With all these responsibilities and various roles, *dai maas* can be incredibly busy. Although initial workloads encompassed caring for 40 families, today *dai maas* generally care for 100-250 families in one region,[B J] performing approximately three to four deliveries monthly.[A] Although village homes are quite dispersed across the landscape, the *dai maa* to family ratio is quite disproportionate, with four *dai maas* covering the terrain of twelve rural Udaipur villages, for example.[A] These women travel across the villages on foot to spread awareness through home visits, and they constantly require a mindset of flexibility to manage their full-time 24-hour job. Their mobile phones are on them at all times, ready for any call that comes their way: "Even if I'm cooking, eating, sleeping, or even if it's midnight, I have to go! I take my job very seriously."[B] Though these commitments are a huge sacrifice, it pays off. "Women are always happy with my work," one *dai maa* proudly professed.[A]

Payment

For all this quality work, *dai maas* must also be paid. Because most families in these rural regions come from low-income backgrounds, it is not their responsibility to provide the *dai maa'*s salary. Although families do often offer gifts and sweets to the *dai maa* that helped them, the gifts will only be accepted if the *dai maa* is positive that the mother and baby are completely sound.[B] To fully support *dai maas'* work, their main source of income comes from Seva Mandir. The NGO provides work-basis payment, depending on how many appointments and deliveries they aid mothers with. *Dai maas* are paid Rs 70 for each antenatal care appointment, Rs 150 for home births, and Rs 350 for accompanying women to hospital deliveries.[J] When asked whether these payments are adequate for the quality of their work, two of the *dai maas* began laughing: "Of course it's enough! We used to get only 2 rupees per delivery!" [B] *Dai maas* also get Rs 100

for attending training sessions in an effort to prevent loss of wages since women are losing a farming workday. For the same reason, Seva Mandir prevents organization of training sessions during the harvesting season.[B] While all this payment is good, there is some discrepancy in the way *dai maas* are paid compared to other supplementary healthcare providers. For example, as previously mentioned, ASHAs receive financial incentives from the government for bringing women to the hospital, though *dai maas* receive no such governmental incentive.[A] Before ASHAs were present, *dai maas* received Rs 200 for this, but once the government introduced this new health worker, the incentive was removed from the *dai maa* and transferred to the ASHA.[B] This institutionalized preference for the ASHA exemplifies the shifting relevance of *dai maas* in present-day India.

CHANGING RELEVANCE: AN INSIDE VIEW

Government Involvement

Seva Mandir trainers explained that the shift in *dai maa* relevance began in 2005 with the launch of NRHM, which created the position of the ASHA and increased institutional access.[K] Following 2005, the implementation of these changes dictated that government *dai maa* training programs also came to a halt, leaving NGOs to take on the role of training these women to ensure a link between village people and healthcare institutions still existed during this transition period.[K] Trainers and *dai maas* alike have described that even before these official training programs had stopped, the government-trained *dai maas* were not fulfilling their responsibilities or providing quality care, delivering hardly any babies in the villages.[J] Therefore, especially after the discontinuation of even this low-quality work, Seva Mandir felt they had an even stronger responsibility to aid the community. When asked how they felt about the government's current opinion about *dai maas'* work, the TBAs rolled their eyes, saying, "it's not the

government's business to decide what work we're doing, because Seva Mandir is doing their work for them; they are doing nothing." [B]

The Threat of ASHAs

Although the government-trained *dai maas* that still sparsely exist present no threat to the work opportunities of Seva Mandir-trained *dai maas*, government-trained ASHAs do present a threat. According to trainers, ASHAs have become widely more common in the past 4-5 years,[L] taking over many of the same responsibilities as *dai maas*, such as educating women about vaccinations, accompanying them to hospitals for deliveries, and teaching them how to care for themselves during pregnancy. When asked why they thought the government had developed a new healthcare worker with the same responsibilities as *dai maas*, trainers professed that "the government was clear from the start that there is no need for TBAs in villages, because they think they're not safe. They aren't very fond of the *dai maa*s' work processes, so they created the ASHA instead." [L] However, *dai maas* argue that although their responsibilities are similar, ASHAs are not adequately managing their duties. When asked how her work compared to that of the ASHAs, one *dai maa* became very quiet with a sad look in her eyes, taking a few moments to answer. Her response shared that *dai maas* visit mothers door to door and spread awareness, while ASHAs generally stay in local Anganwadi centers waiting for mothers to come to them.[D] Additionally, ASHAs do not have any formal training on how to deliver a baby, and due to their lack of experience, would not be as helpful in emergency situations.[L] Furthermore, because ASHAs are employed by the government, their daily duties terminate at 6pm, although *dai maas* attend to mothers 24 hours a day, whenever necessary.[L] Even in formal settings, incidences of disagreements over who is in charge have been reported between ASHAs and *dai maas.*[L] Essentially, even though these additional local healthcare providers were established to increase

access and quality care for village women, tensions and lack of full-spectrum knowledge exist, preventing optimum healthcare quality.

Infrastructural Influences

In addition to the growing presence of ASHAs, trainers say, the prevalence of *dai maas* is shifting due to better hospital access. For example, 15-20 years ago, people in these villages either gave birth at home or carried laboring women to the hospital on their shoulders. However, increasingly better roads in some regions of rural Udaipur have eliminated the need for this.[L] Nonetheless, regions with different infrastructural obstacles have different *dai maa* prevalence rates. For example, Kotra – one of the blocks Seva Mandir works with – requires the help of many *dai maas* because most women lack easy access and do not trust hospitals. Badgaon, on the other hand – another block Seva Mandir works with – has an 85% institutional delivery rate, with therefore far fewer *dai maas* in the area.[K] Yet even in regions where TBAs have been removed, trainers strongly believe there are gaps in care. For example, after one village's only *dai maa* passed away and no one was able to replace her, solely one woman in the entire area received the appropriate prenatal vaccinations.[J]

PERCEPTIONS OF HEALTHCARE PROFESSIONALS

The first healthcare professional interviewed for this study is a medical officer who earned his MBBS and has been working at a local government hospital in rural Jhadol for over two years. As the only medical officer of the institution, he has many responsibilities; he works on management, attends meetings, and provides medical checkups. A population of over 40,000 seeks aid at this hospital, and it is the only one in the village, which he describes as a hilly, tribal area with low economic and educational levels.[M] From his perception, these two factors most influence a woman's ability to deliver in a hospital: "Though it is slowly beginning to change,

many people are not educated enough to know what the hospital's benefits are, and they have this idea that they have to pay a lot. But everything is 100% free!" [M] Though all previous interviews suggested that *dai maas* play a large role in helping women understand the importance of institutional delivery and opportunities for financial assistance, he feels that ASHAs and ANMs more commonly claim this responsibility.[M] He described that ASHAs share the same duties as *dai maas* in terms of prenatal and postnatal care, and that they tend to accompany women to the hospital more commonly than *dai maas*. When asked about *dai maas'* work, he responded quite negatively, expressing that their trainings must be more specific because it is difficult to change their mentalities and revert their old methods. He suggested this may be possible by hiring new *dai maas* younger in age and more open to change. Other criticisms included that *dai maas* wait too long to bring patients into the hospitals and must allot more time in case of emergency. Lastly, he felt that *dai maas* are often reluctant to accompany women to higher-end institutions during transfers, due to far distances and unwillingness to leave the region.[M] Nonetheless, he also acknowledged the benefit of their presence in rural communities. He stated that *dai maas* are available 24 hours a day and are a true part of the community because they themselves live in the village and can go door to door, while ASHAs and ANMs cannot play the same role due to their positions as government workers.

The second healthcare professional interviewed for this study is an ANM with an education up to the 12th standard working in her profession for the past 18 years. Compared to that of the medical officer, the ANM's feedback regarding *dai maas'* work was much more positive. Although she acknowledged that *dai maas* played more of a role 15 years ago when there were no ASHAs, she said they still add immense value to the rural healthcare system,[N] most notably in aiding with understaffing issues. As the medical officer had also stated, the

hospitals and healthcare centers in the region are severely understaffed. A recent survey of public health facilities across Indian states indicates absenteeism rates of 43% in primary healthcare centers,[8] while another study shows that approximately 50% of CHCs do not have anesthetists or obstetricians.[10] This can be seen in rural regions of Udaipur as well. For example, out of 5 Anganwadi centers, 3 posts are vacant. Out of two available ANM posts, only one is taken. There is only one ANM per 8,000 village people, and 30 ASHAs for Madri – a zone with a population of 37,000. On the other hand, there are 48 *dai maas* for this same demographic.[M] The ANM interviewed explained that because of *dai maas'* contributions in having been oriented towards similar goals, she has been able to focus more on her field work and work directly with patients, whereas previously she acted as a fill-in staff member to aid with deliveries. Now, she says, *dai maas* aid to combat issues of understaffing by helping with deliveries in the hospitals when necessary, compensating for the ASHAs' lack of knowledge in this field and allowing ANMs to focus on other essential health work.[N] In addition to this benefit, the ANM said that because they live in the villages, *dai maas* have a special personal connection with the women they aid, allowing them leverage over other healthcare providers when attempting to convince mothers about certain measures. She provides emotional support as well, and even aids in translating between different dialects in institutional settings.[N] In conclusion, although healthcare providers perceive a decrease in *dai maas'* responsibilities due to an increase in ASHAs, they clearly recognize the value of their work and the nuances in the level of care they provide.

THE END OF AN ERA: CONCERNS AND AFFIRMATIONS

Despite the irreplaceable work trained *dai maas* have been providing these rural communities with over the last 30 years, Seva Mandir has decided to phase out the training program beginning March 31, 2018. One of the trainers hesitatingly said, "We've thought about how now the government recruits ASHAs that have similar work responsibilities as *dai maas* in every village. Now everything is available. Government facilities, communication has improved, transportation is available, and people are more aware, so we are changing our work methodology." [K] Trainings will now only be held twice a year instead of quarterly, and *dai maas* will no longer receive incentives for home deliveries or hospital deliveries.[K] In two years, the progress of this plan will be reevaluated. When asked how *dai maas'* work will continue in the absence of the training, one trainer said:

> Seva Mandir has been giving *dai maas* trainings for 30 years, and some have been attending for over 25 years. We have given women the opportunity and responsibility now to teach their own communities. There's no need for us anymore. They're already trained and just because Seva Mandir isn't there doesn't mean they can't help women. There are communities who have been doing this kind of work for generations even before we started, and they can also continue this work, along with the *dai maas* we've trained.[K]

This phasing out process started already 6 months ago as Seva Mandir began telling communities and *dai maas* the news.[K] Seva Mandir employees noted that almost everyone has responded with sadness, for the NGO has been working with these village people for decades. Trainers too, are upset about the change. One trainer said, "Of course my heart hurts. I see these people all the time and have been working with them for the past 20 years. I love them." [K]

While only time can tell how the phasing out of this program will ensue, some concerns have been voiced. The ANM interviewed for this study expressed her hope that Seva Mandir considers holding places for *dai maas* at least a little bit longer in regions lacking ASHAs or ANMs, for they greatly contribute to women's quality of health.[N] On another spectrum, two *dai maas* expressed concern over their source of income.[B C] Nonetheless, communities are also confident that their work will continue. Pregnancy care is essential in every locality, and ceasing the training will never cease the care. One *dai maa* proudly said, "Not everyone knows about Seva Mandir, but everyone knows about *me*. I am doing my job, and nothing is going to change that. Things won't change drastically, because I will continue to pass on my knowledge, and so will everybody else." [D]

A RESPONSE TO THE END OF AN ERA: THE VALUE OF *DAI MAAS*

Although *dai maas* will likely continue their work out of necessity, questions arise about whether they will exist in the same frequency and with the same level of skill decades from now. Only one other NGO in the area – Kalyani Vikas Sansthan Ajmer in Jhadol – has a *dai maa* training program, and it can only accommodate 15-30 *dai maas* at one time, hardly enough for an entire region.[L] If the halting of Seva Mandir's involvement and the lack of other training programs in rural Udaipur creates a dearth of trained *dai maas*, village women will be at a severe disadvantage. Studies have demonstrated that trained TBAs increase ANC checkup rates and knowledge about risk factors, and increase referrals for immunization, complications, and family planning. TBAs who are trained are also twice as likely as untrained TBAs to perform clean and safe deliveries.[1]

Straight from the Mouth: Personal Opinions

Although these facts stand for themselves depicting the importance of trained birth attendant work, the many opinions of *dai maas*, village mothers, and Seva Mandir trainers also speak volumes. One *dai maa* expressed how essential it is to have a *dai maa,* especially for the first delivery.[B] Another said that their close relationships with the mothers allow them to teach about personal subjects otherwise not discussed in the same depth. For example, she said that while *dai maas* show women exactly how to breastfeed their newborn and place the infant at the right height of the nipple, doctors simply say "make sure you breastfeed," and stop there.[A] When asked whether things would be different without *dai maas,* one of the TBAs responded with laughter saying, "how should I know if things would be different if there were no *dai maas*?" [D] *Dai maas* have been around for generations, and village people know no life without them. One mother said that if they were not around, nobody would go to the hospital. She said:

> It's better to have them around because they're very helpful. They give advice and suggestions and if they weren't around when complications might happen, what happens if an ambulance can't get here? The *dai maa* is the link. Even if someone isn't aware about what to eat or what to do or not do, she helps them. Even if women do know all the knowledge already, they might not know about how to get an ambulance or about the money they can get from the hospital, and the *dai maa* helps teach them about this.[E]

Another mother said her *dai maa* was incredibly helpful in the hospital, serving most valuably as a translator for the doctor, who did not speak her dialect.[F] One mother expressed that although she feared the hospital initially, her *dai maa* encouraged and motivated her to eliminate her fears, making her much more comfortable in the hospital setting.[H] Lastly, several mothers expressed that *dai maas* are the only ones who teach them the educational components about pregnancy

and childbirth; no doctors take time to explain how mothers should care for themselves or their babies, and family members often avoid topics of this nature.[G H] Trainers too, have said "it's better if they stick around," [J] emphasizing that each village must have at least one *dai maa* for successful maternal and child health.[L]

Combatting Hospital Chaos

Furthermore, *dai maas* hold value in that their addition to understaffed hospitals can ease the burden of other healthcare workers while providing comfort measures to mothers unfamiliar with formal health centers. Hospital's overcrowding often compromises quality of care because doctors and nurses are overwhelmed and in a rush, preventing meaningful relationships and the ability to attend to patients with undivided attention.[K L P] One mother even described it by saying, "Women may be laying side by side while giving birth, and the one gynecologist might be working in a row, attending to each patient only just as the baby is about to be born. It's so mechanical." [Q] Oftentimes a doctor may not be adequately experienced or even present to help a woman deliver, causing *dai maas* to step in and guide the mother through labor.[K] Some women may also feel uncomfortable with a male gynecologist because they feel as if he cannot relate well with them and because vulnerable and private parts of their bodies are up for examination.[Q] Another mother explained that the medicalized terminology is often impossible for patients to comprehend, and that diagnoses, treatments, and procedures are rarely explained.[R E H] The hectic and stressful environment may also manifest in staff mistreatment of the patients themselves.[Q] Even at smaller, more localized healthcare centers, such as PHCs, conditions may not be ideal for a woman in labor. For example, an inside view of a typical birthing room upon a visit to a Bahraich PHC displayed an incredibly bare room with a hard plastic slab for a bed, where a woman might labor for hours.[T] Upon speaking with a nurse there, it was clear that not only was

pain medication not offered, but it was expected for women to go through the birthing process naturally without even screaming; culture prescribes that women were constructed to birth children, and that to scream would be a sign of weakness, a sign of inability to fulfill her duty as a woman.[T] This philosophy in this type of uncomfortable and foreign setting is by no means a desirable one. Amidst all these downfalls to hospital care, *dai maas* can serve invaluably as a female companion to lean on for comfort.[H]

Culture and Tradition: A Gradual Loss

Additionally, one cannot understand the culture and tradition of rural Indian villages without understanding the value that *dai maas* bring to women in these regions. Even prior to trainings, these TBAs played enormous roles in aiding women with no other alternatives, using healing knowledge passed down to them through countless generations. Rooted in traditional practices, these beliefs may hold little value and a lot of skepticism in western medical systems despite that some are proven to have tremendously positive effects. For example, women birthing with *dai maas* rarely deliver while laying on their backs, but instead embrace the squatting position, which studies have noted is the most effective position for women to push downwards from the birth canal.[1] Oftentimes, women are supported in this position with a hanging sling to hold themselves up while pushing their force down. Furthermore, they have the freedom to walk and move about during labor in accordance to their comfort measures.[Q] These practices have proven to promote "less fetal stress, less labor pain, shorter delivery time, less perineal trauma, less discomfort and difficulty when bearing down, and overall women were more satisfied with the birthing experience." [1] This is compared to the supine birthing position adopted in most institutional medical settings, in which pain is amplified due to increased pressure and blood flow, and women are uncomfortably exposed simply because this position

benefits the doctor the most.[1] Diet as recommended by *dai maas* just prior to, during, and following childbirth also incorporates traditional knowledge such as Ayurvedic practices. For example, *dai maas* advise against the consumption of chilies and cauliflower in the postnatal period, for their properties will disrupt the balance of doshas within both the mother and the baby via breastmilk.[Q] Additionally, if labor is prolonged, *dai maas* are able to counsel women on which appropriate traditional foods or herbs they can consume in order to maintain their energy.[15] Other examples of traditional practices include correcting a baby's position within the uterus, helping to expel the placenta via massage,[15] rubbing the stomach as a precaution against stretch marks,[R] and utilizing a warm brick to calm muscle cramps and pains.[16] While these practices have been recorded in the literature, none of the *dai maas*, mothers, or trainers interviewed spoke about traditional healing methods such as those described above. When asked if they practiced any such traditions, *dai maas* answered with looks of confusion, saying that they did not give women massages, practice oil treatments or utilize Ayurvedic methods. Furthermore, not a single interviewee shared an opinion about beneficial birthing positions. Although the trainings aim to incorporate known traditional knowledge into their curriculum by asking *dai maas* to share practices,[K] it is clear that this form of knowledge is fading away.

A Personal Relationship

Lastly, the value of *dai maa* work can be seen in the emotional relationships they have with village women. Because *dai maas* generally come from the same communities as the women they serve, their patients tend to trust them and open up to this social support.[Q] Several studies display "growing evidence that appropriate social support during pregnancy, childbirth, and the post-partum period yields benefits in purely biomedical terms." [2] This suggests that when conducted properly and in low-risk cases, traditional approaches to childbirth result in

fewer medical interventions. All mothers interviewed said they trusted their *dai maa* and almost felt as if she was a friend, which could be seen in the fact that they contacted the same woman for each delivery. One mother said, "My *dai maa* was around for the whole time I was pregnant, so I felt that she was my biggest support system from the beginning, even more than my family because I could tell her all my problems." [H] *Dai maas* feel similarly about the women they help, saying, "it feels more like an emotional support relationship than a professional relationship, because we want everything to go well for the sake of the women and the family, not for the sake of our reputation." [D] Because of this close connection, women often feel very comfortable going back to their *dai maas* for advice about their own health or their children's health even after their pregnancy.[B] Even in urban regions of India where emergency obstetric case is easily accessible, 20% of women still seek the assistance of *dai maas*, perhaps attributable to the emotional support they provide.[1] These strong relationships grow out of the extreme passion and gratitude *dai maas* possess for their work, and can be seen nearly nowhere else in the modern Indian healthcare system. One *dai maa* described it as such: "It's a tough job and I have to be very careful, but it's good work. I'm helping people who need it, and I'm helping to bring a new life in this world. I love every part of it." [A]

EMPOWERMENT OF *DAI MAAS*: CURRENT AND FUTURE

Although Seva Mandir originally established the training program to benefit rural mothers, it has had significant positive effects for *dai maas* as well. One *dai maa* deeply thanked the NGO, saying, "I am so thankful to them for giving me some sort of education, because it was not possible in any other way. I learned Hindi and started to get my own money – I can pay for my own things and don't have to rely on anyone for help." [B] Another *dai maa* echoed this by saying how thankful she is to learn a new skill set and to have work that helps her community.[D]

In supporting this work, NGOs such as Seva Mandir hold great importance, not only by empowering rural women in providing them with access to essential healthcare, but also by empowering the *dai maas* themselves. While Seva Mandir's decision to phase out the training program is in ways unfortunate, the choice to remove their influence and allow *dai maas* to take on their own responsibilities is also empowering. After 30 years of guidance, these villages now have the tools and abilities to take on new roles, learning to become self-sufficient without the help of an outside power.

To ensure that *dai maas*' positions in this shifting context continue to be supported and that rural women continue to be provided with the quality and accessibility of healthcare best suited for them, collaboration among healthcare workers at all levels is essential. Collaboration enables some professionals to fill the gaps of others, simultaneously promoting knowledge sharing. Although doctors in earlier times sometimes forced *dai maas* to leave hospitals due to work tensions, current power dynamics have somewhat mellowed out.[A] Today, *dai maas* experience no problems when working with doctors at the hospitals. Because Seva Mandir has provided *dai maas* with uniforms, doctors and ANMs can recognize them as properly trained and therefore award them with respect.[A] Some hospitals have even hired *dai maas* to live on premises, ensuring their availability during emergency cases.[K] A prime example of positive collaboration, this establishes a cohesive team of respectful professionals focused on aiding the patient. Nonetheless, collaboration must be an effort on all sides, with an avoidance of the notion that allopathic and institutional knowledge is "authoritative knowledge."[13] For example, studies have shown that allopathically-inclined TBA training programs have resulted in an increase of babies delivered in the supine position, an increase of vaginal examinations, and an increase in labor duration,[7] supporting the notion that there is an authority of biomedical knowledge over

traditional knowledge.[11] This sense of superiority may be perpetuated by biomedical practitioners' lack of understanding about traditional methods and can be combatted with effort to learn about their benefits. For example, the medical officer interviewed in this study viewed *dai maas*' work more negatively than the ANM did, likely because his position prevents him from seeing the brunt of *dai maas'* work in practice. The ANM, on the other hand, spends more time in the field than in the hospital and therefore possess an additional lens through which to view *dai maas'* value. As this exemplifies, immense efforts towards collaboration can be made by ensuring all healthcare providers understand each individual's potential contribution in reaching their common goal. Not only does this benefit the patient, but it prevents the further intellectual and positional oppression of those at the margins.

CONCLUSION

Although *dai maas* have served as birth attendants aiding women deliver at home for generations, data collection quickly revealed that their roles have shifted in the last 10-15 years. Due to widespread education initiatives from governmental programs, health-based and human-rights organizations, and NGOs themselves, institutional delivery is now commonly acknowledged to be safer and superior to home delivery, with even *dai maas* themselves forgoing their old practices and convincing women to go to hospitals. This change has caused the extinction of age-old cultural tradition and altered the role of *dai maas* from hands-on healthcare providers rich in their generational knowledge to educational providers accompanying women to institutions, acting as guides and support systems. Though this shift may be seen by some as unfortunate, perhaps it is a necessary change in a nation where such high MMR and IMR are still prevalent today. From a western perspective, the near-elimination of a woman's choice regarding where to give birth, along with the eradication of *dai maas*' cultural tradition, can be thought of

as oppressive. However, the differing contexts must be considered. Modern western thought has recently revitalized the notion of homebirth to promote a more natural, organic, less intrusive process, though this exists within a context where homebirth is a personal choice of comfort and empowerment, and not one of necessity. If home deliveries were to be encouraged more than hospital deliveries in an Indian context, the dearth of literate and trained birth attendants, along with generations of practices potentially harmful to maternal safety, make it difficult to ensure quality care equivalent to that received from a formal healthcare institution. Furthermore, hospital transfers in a western context take minutes, though rural Indian infrastructural barriers prolong this process by hours. This is not to disvalue *dai maas*' knowledge or capabilities, but when it comes to life or death circumstances, priorities must be made to ensure the overall safety of nearly 40% a nation's population.

Nonetheless, this shift towards greater encouragement of institutionalized birth does not minimize the value of *dai maas'* work – the content has changed as the context has changed, but its importance is consistent. By guiding and supporting women in an institutional setting and playing a larger role in ground-level education, *dai maas* contribute immensely to the reduction of MMR and IMR while still linking vulnerable populations to more formal healthcare systems even amidst the lack of convention and ease. Even with restrictions to their work now in place as doctors and other healthcare professionals have taken on most of their roles, *dai maas* can still be seen as empowering feminist figures. They allow women to navigate new environments, serve as emotional support systems especially in an Indian context lacking male involvement and open conversation among family, provide extensive education women would not receive elsewhere due to understaffing and inaccessibility, and act as links to essential healthcare. Healthcare is a human right, and without *dai maas*' assistance in the delivery of services to rural women,

systematic barriers and gender motivated prejudices will continue to effect women and their access to proper care. By ensuring *dai maas* can continue their work in one way or another, these vulnerable populations can be empowered.

LIMITATIONS AND RECOMMENDATIONS

Given the limited number of respondents, the lack of additional healthcare providers, the study's time restriction, and the geographical restriction, the results of this study are by no means representative of all the villages examined or of rural Udaipur, let alone all of India. The results are merely representative of the people interviewed. Furthermore, the only *dai maas* interviewed were those who were trained, more specifically those who were trained by Seva Mandir, limiting the range of varying perceptions. Future studies could widen this scope of *dai maas* to understand how different backgrounds impact healthcare and mothers' perceptions. Lastly, it would be beneficial to understand rural regions in Udaipur other than Kherwara and Jhadol, as regions even within kilometers of each other can vary immensely. For example, though most mothers and *dai maas* in this study strongly preferred institutional birth, rates of homebirth and delivery complications in Kotra – just 105 kilometers away from the city center – are much higher. To demonstrate this, one source reported that a newborn in Kotra died last week as a mother in labor was being brought to the hospital on the back of a bicycle because poor road conditions left few transportation options.[U] Understanding the prevalence and roles of *dai maas* in regions such as these would greatly contribute to a more comprehensive study of rural Indian birthing care.

APPENDIX

Introduction and Consent

Hello! To introduce myself, I am Julie Morel. I come from Vassar College in New York, America, where I study Science, Technology, and Society, and I am interested in learning about women's healthcare.

This interview will cover your opinions and perceptions about the work of traditional birth attendants/TBAs/*dai maas* and the work that Seva Mandir does to aid in training *dai maas*. This interview is for an academic project, and after talking with a variety people, I will write up what I learned into a paper, and it will be shared with my study program. Your confidentiality is ensured throughout this interview, and you have the right to stop the interview at any time, which will in no way have any consequences.

Do you consent to this interview, the recording of this interview, and the use of the information provided for educational purposes?

Appendix A: Interview for Seva Mandir *Dai Maa* Trainers

1. Can you please begin by introducing yourself with your name and a little bit about yourself or your background?
    a. Name, age, where are you from?
    b. What kind of educational background do you have? How many years?
    c. How many years have you worked with *dai maas* and/or with pregnancy care or maternal and child health?
2. Can you tell me a little bit about Seva Mandir, the work that Seva Mandir does in general, and what work they do with *dai maas* specifically?
3. **How long ago did this training program start? When did Seva Mandir begin training *dai maa*s, and what was the historical context at that time? Was the government still supporting *dai maa* training programs, or had they stopped at this point?
4. **What were the reasons for Seva Mandir wanting to begin training *dai maa*s?
    a. What kinds of things did Seva Mandir think needed to be addressed and why?
5. How is the training organized?
6. **Who leads the training and what kind of a background do they have?
7. How long of a time period is training for? How many hours a day?
8. Do most of the *dai maa*s help mothers in hospitals, or at home?
9. **What kinds of things are taught? Focus on delivery techniques or more education?
    a. Cutting of umbilical cord
    b. Placenta
    c. Washing baby after birth
    d. Breastfeeding

    e. Emotional/ mental health components
    f. Nutrition
10. Are women all taught together, individually, in small groups or workshops?
11. Are there any hands-on/practical/video/diagram components?
12. **How are *dai maa*s recruited to participate?
13. **Is the training mandatory or optional?
14. **Do *dai maa*s receive any sort of financial compensation upon completion of the program?
15. **Are traditional practices, rituals and behaviors addressed and incorporated into the trainings? Examples?
    a. Birthing positions
    b. Herbal medicines
    c. Ayurvedic approaches to nutrition
    d. Massage
16. What kind of feedback have you received from *dai maa*s following trainings?
17. **What is your perception of the relevance of *dai maas* in the community? Are they present or not? What is their current position within the healthcare?
18. **Do you think these trainings will affect the prevalence of *dai maa*s
19. **Have you see decreases in MMR or IMR, or birth outcomes in general, since the implementation of the training program? Why do you think this is?
20. **Do you think there should be even more of a push towards achieving higher rates of institutional birth to have lower MMR and IMR?
21. Is there any way you think the training program at Seva Mandir could improve? How has it improved in the past?
22. What is your perception of giving birth at home with a *dai maa* versus giving birth at an institution?
23. **What do you think influences a woman's choice to deliver in an institution versus at home with a *dai maa*?
24. **A lot of the mothers I have been talking to say that they know hospitals are much more safe. Where do you think they learned this from?
25. **Do you see any flaws in the practices of institutional birthing?
26. **Do you see any flaws in the care that *dai maas* deliver to women?
27. **How does the government view *dai maa* work currently? Do you agree or disagree?

Appendix B: Interview for *Dai Maas*

1. Can you please begin by introducing yourself with your name and a little bit about yourself or your background?
    a. Name, age, where are you from?
    b. Are you married, how old were you when you got married?
    c. What does your husband do? Where is the main income from?
    d. Do you have children and how old were you when you had each child?
    e. Where did you deliver your own children? Home or hospital?
    f. Who lives with you in your house?
    g. Did you go to school? Until when?
2. How old were you when you began to learn about birthing and care during pregnancy?
3. **From who did you learn how to become a *dai maa*?
4. Are other women in your family *dai maa*s?
    a. Did you want to become a *dai maa* or did you just do it because your family has done it?
5. How old were you when you first helped a woman during her delivery?
6. **Do you help woman deliver in the hospital, or at home? Was it always like this? If you saw a change, how many years had you been working when you saw a change? What do you think caused the change?
7. How do you like your job? Yes: What do you like the most about it? No: why not?
8. **Did you get any formal training from the government or an NGO?
    a. Yes:
        i. How many years after you became a *dai maa* did you get this training?
        ii. Did you want to do this training or were you somehow forced?
        iii. How did you learn about the availability of this training?
        iv. **What kinds of things did you learn?
        v. **What did you teach before and how did training change what you taught?
        vi. Is there anything you wish would've been included but wasn't?
        vii. **What was your opinion on the training?
        viii. Do you use things you learned at training in your practices now?
        ix. **Did the training also teach about traditional knowledge and practices? (like massage or Ayurveda?)
        x. Were any of the things you taught different from/contradict your previous knowledge? Like what? How did you deal with this?
        xi. Are there certain things you learned that cannot be applied in the situations you work in?
        xii. Is there any hesitance from mothers or families with these new practices you learned from the training? How do you respond to this?

xiii. **Has the training changed the way you feel about your work? Do you feel more empowered with this knowledge and ability to provide safe practices, or do you feel devalued as if your old way of doing this was better?
xiv. Do you think the trainings help the government or public view your work as more valid and safe?
xv. Do you think these trainings will affect the prevalence of *dai maa*s? // Do you think having trainings will help preserve your job because people may be more likely to utilize *dai maa*s if they are officially trained?

b. No:
i. Did you choose not to attend a training, or was it not offered?
ii. Why? // would you go if it was offered?
iii. Do you think a training would it be helpful?

9. How many years have you been a *dai maa*, and how many deliveries do you think you have done until now?
10. Approximately how many families do you work with at one time?
11. How do you learn about women that might need the help of a *dai maa*? Do you go door to door or do they come to you?
12. Do you provide prenatal care? What kind? How often? At their house or the hospital?
13. **During pregnancy, how would you advise women to eat? physical activity? Housework?
14. How would find out when a woman started having labor pains?
15. How long does it generally take you to get to a woman's house when you hear they're having labor pains?
16. What would you bring to their house? (only for home delivery)
17. How would you prepare for the delivery, and how would you do the delivery? (only for home delivery)
18. **Generally, is the focus of safety and health on the mother or baby, if there were one to be saved?
19. **Do you do anything to help the women's pain and make sure they're comfortable during delivery?
20. **Are any specific birthing positions recommended more than others? Do you use any Herbal remedies? Massaging techniques? Rituals?
21. How would you cut the umbilical cord? Was this tool cleaned? (only for home delivery)
22. Once the baby has been delivered, what would you do?
23. Would you wash the baby before giving it to the mother?
24. **Do you inform women about breastfeeding? What do you tell women? When should they start breastfeeding? Do you tell them to keep or throw out the first milk?
    a. **If you wouldn't inform them about this, who would?
25. Do you provide women with any postnatal care? What types? At home or in hospitals?
26. **Do you provide women with contraception? How commonly do people ask about this?

27. How are you paid? Do families pay you or NGOs? How much? Do you feel this is enough?
28. **How do you perceive *dai maa*s relevance in the community currently? Do people still use them? How many are in the area?
29. **What is their current position within the healthcare system? Is there a hierarchy or a power dynamic between *dai maa*s and health workers in hospitals? How does the staff at the hospital treat you? What about ASHAs??
30. **What is your role at the hospital, what do you do?
31. How long do you stay with women in hospital?
32. **Do you feel an emotional connection with patients or is it more of a professional relation?
33. **How would you compare your relationship to patient compared to that with GYN?
34. **Do you think patients feel more comfortable with you there in hospital?
35. **Would most women you work with rather give birth at home or in a hospital? What do you prefer for them?
36. How far is the nearest hospital, sub center, CHC, PHC from where you generally deliver?
37. How often do you refer women to the hospital to give birth? (only for home delivery)
38. What do consider a complication during birth or an at-risk pregnancy? (only for home delivery)
39. Have you ever encountered any complications while delivering a baby? What were the complications and how did you deal with them? (only for home delivery)
40. **What do you do in the case of a woman who very strongly wants to give birth at home with a *dai maa* at home – do you follow the wishes of the women or somehow try to get them to a hospital?
41. Do women feel comfortable in asking you if they had a question about their health or their child's health after delivery?
42. Are you aware of the government scheme (JSY) that provides mothers with a monetary incentive if they deliver in a hospital? Do you feel this scheme (has decreased the amount of mothers you help because there are)/(made more women going to the hospitals now?
43. If you were to attend a hospital birth with a woman, do you receive any incentive?
44. **Do you have ASHAs and Anganwadi workers here? What work do they do? How does their work compare to your work?
45. Do you feel as if you job is in danger sometimes, or as if you don't have enough work?

Appendix C: Interview for Mothers

1. Can you please begin by introducing yourself with your name and a little bit about yourself or your background?
    a. Name, age, where are you from?
    b. Are you married, how old were you when you got married?
    c. What does your husband do? Where is the main income from?
    d. Do you have children and how old were you when you had each child?
    e. Who lives with you in your house?
    f. Did you go to school? Until when?
2. Where did you go to give birth, at the hospital or at home? (According to question, go to appropriate set)

<u>If at a hospital:</u>

1. What did you do when you found out you were pregnant? Did you have any prenatal checkups? Did you go to a health center for them or did the *dai maa* come do checkups? At what point in your pregnancy? And how often?
2. **What type of care did you receive during your pregnancy? Any educational components? What did you learn that was most helpful?
3. **What did she (if with *dai maa*)// anyone (if without *dai maa*) teach you about nutrition? Physical activity, etc?
4. (If went to hospital regularly in pregnancy) Did you see the same doctor at each checkup? Did you find them helpful?
5. How far was the hospital and how did you get there? Did the *dai maa* call?
6. Once you got to the hospital, how much time passed until you saw the doctor?
7. What did the doctor do during your delivery?
8. **How did you feel in the hospital? (scared/safe?)
9. Was the doctor male or female, did this have any importance to you?
10. **Did having the *dai maa* there get rid of any discomfort/make it more comfortable for you?
11. **Was the doctor there the whole time? Was the *dai maa* there the whole time?
12. Were you allowed to move around or had to lay down? Eat/drink?
13. **Did anyone explain to you what was going on while you were giving birth?
14. Who was in the room with you as you were giving birth?
15. Was it a quick labor or long labor?
16. Once your baby was born, what did the doctor do? What did the *dai maa* do?
17. Was the baby washed before you were able to hold the baby?
18. **Were you informed about breastfeeding? By the doctor or the *dai maa*? What did they tell you about breastfeeding? When did your baby first start to breastfeed? Did you keep or throw out the first milk?

19. Did you receive postnatal care at the hospital? Or from the *dai maa*? What kind?
20. Overall, how was your birthing experience? What did you like or not like?
21. Did you practice any traditions or rituals before, during, or after birth? If so, what were they and where did you learn these practices? Was the hospital respectful of these practices?
22. Did anyone (husband, mother, mother in law) have any input on how or where you gave birth? How involved were they during pregnancy and birth?
    a. What role did your husband play during your pregnancy/birth?
23. If you were to have another delivery, where would you do it? At home or in a hospital?
24. **Did the monetary incentive have any role in making you want to give birth in the hospital versus at home? How did you learn about this monetary incentive?
25. What is your opinion of birthing at home?
26. **What is your perception of *dai maas* – are they relevant in the community? Do people still use them even though most people are going to the hospitals these days?
27. Do you think *dai maa*s should be supported in any way?
28. **Do you think *dai maa*s are appropriately trained? Do you think *dai maa*s should receive delivery-related health training, or does the knowledge passed down among their own communities suffice?
29. **Who did you think was your biggest support system during pregnancy - did your mother, sister, mother in law, friends give any education tips, or was this mostly from *dai maa*s? If family didn't give you this advice, why do you think not?
30. Did you use the same *dai maa* for all your children?
31. Did you ever go to a *dai maa* for information or advice about contraceptives?
32. **How do you think it would be different if *dai maa*s weren't around?
33. **Do you have ASHAs in this village? What do they do? Would you prefer her or a *dai maa*?

<u>If at home with a *dai maa*:</u>

1. What did you do when you found out you were pregnant? Did you have any prenatal checkups? Did you go to a health center for them or did the *dai maa* come do checkups? At what point in your pregnancy? And how often?
2. **What type of care did you receive during your pregnancy? Any educational components? What did you learn about that was most helpful?
3. What did she teach you about nutrition, physical activity, etc?
4. Did you find the *dai maa* helpful? Do you remember her name? do you know if she was trained?
5. When you began labor, how was the *dai maa* informed your labor was beginning?
6. How long did it take for her to get to your house?
7. What did she bring with her?
8. Were you scared of anything during labor?

9. Who was in the room with you as you were giving birth?
10. **What did the *dai maa* do to help you during delivery?
11. What birthing position were you in?
12. **Did the *dai maa* use any herbal remedies? Massaging techniques or rituals?
13. Once your baby was born, what did she do?
14. How did she cut the umbilical cord?
15. Did she wash your baby before giving it to you?
16. **Were you informed about breastfeeding? What did the *dai maa* tell you about breastfeeding? When did your baby first start to breastfeed? Colostrum?
17. Did the *dai maa* provide you with any postnatal care? What kind? If not, did you receive postnatal care elsewhere? Where, and what kind?
18. Overall, how was your birthing experience? What did you like or not like?
19. Did you practice any traditions or rituals before, during, or after birth? If so, what were they and where did you learn these practices?
20. Did anyone (husband, mother, mother in law) have any input on how or where you gave birth? How involved were they during pregnancy and birth?
    a. What role did your husband play during your pregnancy/birth?
21. **Do you and your friends talk about what to do during pregnancy, how to have healthy nutrition for you and your baby, if you should get vaccines, etc?
22. **When you were pregnant, did you have any thoughts about possibly delivering in a hospital? What are your opinions/feelings about delivering in a hospital? Why did you decide not to deliver in a hospital?
23. How far away is the closest hospital and how would you get there?
24. **If you were to have another delivery, where would you do it? At home or in a hospital?
25. **Are you aware that if you were to deliver at a hospital, you would receive money? Does this influence your decision at all?
26. **What is your perception of *dai maas* – are they relevant in the community? Do you think *dai maa*s are appropriately trained? Do you think *dai maa*s should receive delivery-related health training, or does the knowledge passed down among their own communities suffice?
27. **Would you be comfortable in asking the *dai maa* who helped you if you had a question about your health or your child's health in the future?
28. **Who did you think was your biggest support system during pregnancy - did your mother, sister, mother in law, friends give any education tips, or was this mostly from *dai maa*s? If your family didn't give you this advice, why do you think not?
29. Did you use the same *dai maa* for all your children?
30. Did you ever go to a *dai maa* for information or advice about contraceptives?
31. **How do you think it would be different if *dai maa*s weren't around?
32. **Do you have ASHAs in this village? What do they do? Would you prefer her or a *dai maa*?

Appendix D: Interview for Health Professionals in Allopathic Setting

1. Can you please begin by introducing yourself with your name and a little bit about yourself or your background?
    a. Name, age, where are you from?
    b. What kind of educational background do you have? How many years?
    c. How many years have you worked with pregnancy care or maternal and child health?
2. Can you tell me about your role here in the hospital?
3. Do women from the villages come here for antenatal and postnatal check ups, or just for deliveries? What do they mostly come for?
4. What kind of antenatal and postnatal care do you provide here?
5. Can you tell me a little bit about what the birthing process is like in a hospital or formal health center?
6. Who else do you generally work with while helping a woman deliver?
    a. What are each of their responsibilities?
7. How many male and how many female doctors are there to help deliver babies?
8. Do most of the women you help to deliver come with a *dai maa*? How many don't?
9. What is the *dai maa*s role in the hospital?
10. What do you know about the work *dai maa*s do outside of an institutional setting? (prenatal, postnatal care)
11. What is your perception of the relevance of *dai maas* in the community? Are they still present or not? What is their current position within the healthcare system?
12. In your opinion, how does the government view *dai maa* healthcare provision?
13. Do you see any flaws in the care that *dai maas* deliver to women?
14. Do you think *dai maa*s should receive delivery-related health training, or does the knowledge passed down among their own communities suffice?
15. If so, who should be responsible for providing them with this training? Why?
16. What things do you think are most important to train *dai maa*s about?
17. What do you think influences a woman's choice to deliver in an institution versus at home with a *dai maa*?
18. Do you think there should be a push towards achieving higher rates of institutional birth?
19. Do you feel that institutional births are always necessary, even when the pregnancy and past history show low-risk outcomes? What if a woman comes to hospital for care during pregnancy but wishes to deliver at home – how is this dealt with?
20. Do you see any flaws in the practices of institutional birthing?
21. From who do women receive information about breastfeeding, nutrition, physical, etc?
22. How do you see that you or health professionals interact with *dai maa*s that accompany women during labor? Is there any tension/competition, or is it collaborative?
23. Do you think things would be different if there were no *dai maa*s?

BIBLIOGRAPHY

Primary Sources

A. Interview with *dai maa* A (2017, November 15). Personal Interview
B. Interview with *dai maa* B (2017, November 16). Personal Interview
C. Interview with *dai maa* C (2017, November 16). Personal Interview
D. Interview with *dai maa* D (2017, November 21). Personal Interview
E. Interview with mother E (2017, November 15). Personal Interview
F. Interview with mother F (2017, November 15). Personal Interview
G. Interview with mother G (2017, November 16). Personal Interview
H. Interview with mother H (2017, November 16). Personal Interview
I. Interview with mother I (2017, November 21). Personal Interview
J. Interview with *dai maa* trainer J (2017, November 16). Personal Interview
K. Interview with *dai maa* trainer K (2017, November 17). Personal Interview
L. Interview with *dai maa* trainer L (2017, November 17). Personal Interview
M. Interview with medical officer M (2017, November 21). Personal Interview
N. Interview with ANM N (2017, November 21). Personal Interview
O. Interview with *dai maa* trainer J (2017, November 16). Personal Interview
P. Interview with prior doctor A(1) (2017, October 27). Personal Interview
Q. Interview with mother B(1) (2017, October 30). Personal Interview
R. Interview with mother C(1) (2017, October 30). Personal Interview
S. Lecture on MDG to Sustainable Development Goals by Abid Siraj, School of International Training Program Center in New Delhi, 25 September 2017. E(1)
T. Excursion to Primary Health Care Center in Bahraich District, Uttar Pradesh with School of International Training Study Abroad India Public Health, Policy Advocacy, and Community, 18 September 2017. F(1)
U. Newspaper clipping in Dainik Bhaskar newspaper. 2017, November 18.

Secondary Sources

1. Saravanan, Sheela, et al. "Social Roles and Birthing Practices of Traditional Birth Attendants in India with Reference to Other Developing Countries." *Asian Journal of Women's Studies*, 2009, Vol. 15, no. 4, pp. 57–89.

2. Patel, Tulsi and Sharma, Ursula. "The Silent Subject: Childbirth and the Sociology of Emotion." *Sociological Bulletin.* Sep 2000, Vol. 49 Issue 2, pp. 179-192.

3. World Health Organization (2004). *Making Pregnancy safer: the critical role of the skilled birth attendant.* A joint statement by WHO, ICM and FIGO. Geneva: WHO. Web.

4. Ministry of Health and Family Welfare. *National Rural Health Mission. Framework for implementation.* Government of India. New Delhi. 2005. Web.

5. “Janani Suraksha Yojana (JSY) .” *India National Health Portal*, NHP CC DC, 29 Sept. 2015. Web.

6. “Janani Shishu Suraksha Karyakaram (JSSK) .” *India National Health Portal*, NHP CC DC, 6 April. Web.

7. Saravanan, Sheela, et al. “Traditional Birth Attendant Training and Local Birthing Practices in India.” *Evaluation and Program Planning*, vol. 34, no. 3, 2011, pp. 254–265.

8. Banerjee, Abhijit, et al. “Health Care Delivery in Rural Rajasthan.” *Economic and Political Weekly*, vol. 39, no. 9, 28 Feb. 2004, pp. 944–949.

9. BK, DAS, et al. “Reliability of Information Obtained by Illiterate Health Workers Regarding Pregnancy: *Indian Journal of Medical Sciences*, vol 54, no. 11, pp. 495-498.

10. Vora, Kranti S, et al. “Maternal Health Situation in India: A Case Study.” *Journal of Health, Population and Nutrition*, vol. 27, no. 2, 2009

11. Saravanan, Sheela, et al. “Re-Examining Authoritative Knowledge in the Design and Content of a TBA Training in India.” *Midwifery*, vol. 28, no. 1, Feb. 2012, pp. 120–130

12. Singh, Anuradha. “Her One Foot is in This World and One in the Other: Ayurveda, Dais and Maternity.” Published in Chawla J (ed.), Birth and Birth givers: Power of Shame, Shakti Series, Har-Anand Publishers: New Delhi, 2005, pp. 136-171

13. Saravanan, Sheela. “Training of Traditional Birth Attendants: An Examination of the Influence of Biomedical Frameworks of Knowledge on Local Birthing Practices in India.” *School of Public Health Queensland University of Technology, Kelvin Grove, Brisbane, Australia*, 2008.

14. “Udaipur District: Census 2011 Data.” *Udaipur District Population Census 2011, Rajasthan Literacy Sex Ratio and Density*, www.census2011.co.in/census/district/455-udaipur.html.

15. Capila, Anjali. (2004). Traditional Health Practices of Kumaoni Women: Continuity and Change. New Delhi: Concept Publishing Company.

16. *MATRIKA. Hearing Dais' Voices*: Learning About Traditional Birth Knowledge and Practice, *PLA International*, 2000 Book. New Delhi.

17. “Our Work.” *Seva Mandir: Transforming Lives through Democratic and Participatory Development*, www.sevamandir.org/about-us. 2017

18. Government of India Ministry of Health and Family Welfare. *National Family Health Survey 4 2015-2016: District Fact Sheet Udaipur Rajasthan*. International Institute for Population Sciences.