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Access to Information and Services Regarding Maternal Health and Healthcare Within Tribal Communities Around Udaipur, Rajasthan

Arista Jhanjee
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ACCESS TO INFORMATION AND SERVICES REGARDING MATERNAL HEALTH AND HEALTHCARE WITHIN TRIBAL COMMUNITIES AROUND UDAIPUR, RAJASTHAN

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Abstract

The following study seeks to investigate access to antenatal and delivery-related services and information among women residing in rural, tribal communities around Udaipur, Rajasthan, and to analyze determinants that affect such access. More specifically, it seeks to evaluate one determinant in particular: that of association with and use of the services provided by the non-profit organization Seva Mandir, which works with rural communities throughout southern Rajasthan in order to facilitate the improvement of health and development activities and outcomes. Methods used for the collection of the data upon which the study draws were qualitative: interviews were conducted with 27 women in communities with which Seva Mandir does and does not work, as well as with 5 frontline health workers who serve within those areas. Interview questions consisted of both direct, concrete inquiries regarding use or completion of particular aspects of antenatal or delivery-related care, as well as more open-ended questions concerning purpose of care and the types of information provided by frontline health workers. Thus, this study seeks to contribute to the existing body of literature regarding maternal health outcomes in Rajasthan by analyzing accessibility of both information and awareness of best practices in maternal health and of high-quality services during the antenatal and intranatal periods. Findings indicate that such awareness remains limited, even among women who experience high-quality care before and during delivery. Thus, the results of the study suggest that greater efforts must be made to transform the role of women from service beneficiaries to health agents.

I. Introduction

a. Seva Mandir

Seva Mandir is a non-profit, development organization that works within southern Rajasthan (Seva Mandir, “Our Work”). Its activities, which extend to 700 villages, fall within the fields of health, education, women's empowerment, social entrepreneurship, and others (Seva Mandir, “Our Work”). Its work includes specific maternal and newborn health initiatives, such as the deployment of traditional birth attendants (TBAs) to 152 villages (Seva Mandir, "Healthy Mothers"). TBAs both facilitate home deliveries and help women who give birth in medical facilities to navigate the complexities and challenges associated with the state’s public healthcare system (Seva Mandir, "Healthy Mothers"). Seva Mandir also operates an obstetric insurance program, which allows women to receive antenatal care at specific hospitals after payment of a one-time fee (Seva Mandir, "Healthy Mothers"). In addition to TBAs, Seva Mandir also trains and deploys balsakhis, or infant health workers (Seva Mandir, "Healthy Mothers"). Balsakhis track the health and growth of children, facilitate hospitalization of infants and children who are severely ill, and provide guidance regarding newborn care (Seva Mandir, "Healthy Children"). Access to Balsakhi services requires payment of a monthly fee. (Seva Mandir, “Healthy Children”).

b. Study Objectives and Research Questions

The first line of inquiry seeks to address the state of knowledge and access to information and services related to the specific maternal health components of pre-natal and delivery-focused care. More specifically, the study will evaluate the degree to which knowledge and service access corresponds to national and international guidelines and frameworks for prenatal care and

delivery-related indicators; and assess the effectiveness of such governmental maternal health programs as the Janani Suraksha Yojana Program and the Accredited Social Health Activist or ASHA program in providing information and selected interventions for antenatal care and delivery.

Specific questions and hypotheses that fall within this line of inquiry include those that are both descriptive and interpretive. In the descriptive category, questions and topics of investigation will include the following: Who is responsible for the provision of antenatal and delivery-related information and services in the villages of focus? On average, how many antenatal check-ups do women receive? What kind of information is provided to women regarding appropriate nutrition during pregnancy and the health risks associated with anemia? Are women given iron tablets, calcium supplements, and/or tetanus injections as part of the recommended package of antenatal care? On a broad level, it is hypothesized that the antenatal and delivery-focused information and services that women within tribal communities access fall short, albeit to varying degrees, of national and international clinical guidelines.

Other questions relevant to the overall research inquiry are more interpretive or evaluative in scope. For example, in what ways does identification with a tribal community affect accessibility and use of healthcare services during the periods of pregnancy and delivery? Based on field visits and targeted health excursions completed under the guidance of the Public Health, Policy Advocacy, and Community study abroad program managed by the School for International Training, it is hypothesized that tribal status is associated with certain barriers in healthcare access, including those associated with the behavior of health professionals. Such barriers may include lack of cultural sensitivity and appropriate language skills, prejudices regarding the ability and willingness of individuals from tribal communities to comply with

health-related recommendations, and impatience on the part of doctors and other health professionals. In fact, women may face both internal and external barriers to healthcare access. Thus, the following question will also be investigated: To what extent do women function as health agents in their own right within their own communities? For example, are women empowered to make independent decisions regarding their reproductive health? Here, it is hypothesized that women's maternal health and healthcare-related choices are at least partially shaped, if not fully appropriated, by other family and community members, including spouses and their families.

The second line of inquiry specifically aims to evaluate the effectiveness of Seva Mandir as a non-profit organization that seeks to reach vulnerable populations and communities in rural areas of Rajasthan with health awareness and services. The distinction between descriptive and interpretive inquiries can also be made in this case. Descriptive questions may take the following forms: In what ways do organizational and governmental primary-level healthcare providers (ASHAs, Traditional Birth Attendants, and government Angwanwadi workers) overlap, complement, or compete with one another in terms of their respective roles and functions? What are the specific responsibilities of ASHAs and/or Traditional Birth Attendant (TBAs) in the villages of focus? How do specific antenatal care and delivery-related indicators—such as number and quality of antenatal check-ups, anti-tetanus vaccination, and the provision of guidance on breastfeeding and childcare prior to delivery—differ between women residing with villages that Seva Mandir does not serve and those residing in villages with which it works? In the context of the above questions, women's experience with and the overall function and effectiveness of TBAs—primary-level and community-based healthcare providers who provide antenatal services, perform home-based deliveries, and assist women in navigating the process of

institutional delivery—will constitute a specific subject of evaluation. It is hypothesized that access to antenatal and delivery-related care and information will be more robust among women who have accessed Seva Mandir's programs.

In terms of interpretive inquiries, potential questions might include the following: in what ways do the long-term patterns of health seeking-behavior of women and/or decision-making capabilities of women who have and have not made use of Seva Mandir's services differ? It is hypothesized that evidence of improvement in healthcare and health outcomes will prove less ambiguous and emerge more readily than information regarding health agency, as the latter may be more highly influenced by social, cultural, and familial factors. Health agency and empowerment are closely related to the concept of sustainability. Thus, an additional question may address whether and to what extent the implementation and provision of healthcare services and information by Seva Mandir facilitates more effective service delivery by the government, as well as community ownership of health processes and mobilization in the long term. Here, the organization's role in providing support for and improving the efficacy of the government-managed ASHA program is particularly relevant. It is hypothesized that while community mobilization and empowerment may, to a limited extent, develop naturally from the presence and work of the organization, government capacity-building and replacement of Seva Mandir's services with government health services may prove to be more long-term and less apparent processes.

c. Study Rationale

Certain studies have explored effectiveness, access to, and impact of maternal healthcare services in rural areas of Rajasthan. However, due to the specificity of the topics and the regions under investigation, such studies are few in number. Moreover, many of the maternal health-

focused literature and research articles specific to rural communities within Rajasthan overlap in their authorship, organizational affiliation, and/or study location and area. Such an overlap raises the possibility (no matter how small) of lack of representativeness, as well as lack of accuracy and possible biases, associated with the data collected. Additionally, the time of publication and/or data collection of several previously conducted studies suggest that the data upon which such studies rely falls within an age range of seven to ten years. Such data may not take into account recent trends in maternal health outcomes and service provision, and thus may not provide an accurate representation of the state of maternal healthcare within Rajasthan today.

The study sought to at least partially address the above limitations while incorporating the data and information provided by previously conducted studies. While somewhat dated, the data provided by such studies give insight into maternal healthcare trends within rural Rajasthan, especially when supplemented with an investigation of recent policy and field developments regarding maternal healthcare services within the state. Geographical or regional limitations remained, as the study aimed to work with only a few communities in an area of southern Rajasthan within which Seva Mandir operates. However, as mentioned above, the study consisted of an in-depth inquiry into and exploration of specific maternal health practices, and sought to balance concrete healthcare outcomes and indicators with qualitative inquiries that addressed the overall experiences of individual women. Thus, it is hoped that the proposed research will generate useful, if not entirely generalizable, insight into the components of maternal health that it seeks to evaluate, and may thus inform the design, scope, and topical focus of future studies.

d. Field Study Methods

Interviews and data collection took place from mid-April to early May, during the time period allotted for the Independent Study Project (ISP) course component of the Public Health, Policy Advocacy, and Community study abroad program. Though the time given for research and construction of an analytical paper was approximately one month, data collection occurred during the time period between April 21 and May 5. Study participants were selected from 2 to 3 hamlets associated with 1 of 2 towns. Both towns are located approximately one and a half hours' drive from the Seva Mandir campus in Udaipur. The area associated with one town is characterized by heavy involvement with Seva Mandir: the organization works closely with both of the hamlets from which interview participants were selected. In contrast, Seva Mandir does not work in the area associated with the other town, around which 2 to 3 hamlets were chosen for the selection of interview participants. Collaboration with Seva Mandir regarding the recruitment of study participants allowed for a clear distinction between areas in which women had received guidance regarding maternal health practices and services from an independent organization and areas in which such guidance was absent.

Study participants included both women and health workers residing within the hamlets under investigation. Inclusion criteria for women included residence within tribal communities in relatively close proximity to the areas around Udaipur, Rajasthan in which Seva Mandir operates; experience of childbirth at least once; and having a child between 0 and 2 years of age. Inclusion criteria for health workers involved provision of services within town areas and hamlets under investigation; designation as a Balasakhi, TBA, or ASHA within hamlets with which Seva Mandir works; and designation as an ASHA within hamlets with which Seva Mandir does not work. Ultimately, 32 participants were recruited, 27 of whom were women and 5 of

whom were health workers. A total of 14 women were recruited in hamlets with which Seva Mandir works, while a total of 13 women were recruited in hamlets with which Seva Mandir does not work. Of the 27 interviews conducted with women, only 23 were fully completed: 1 interview remained incomplete in hamlets affiliated with Seva Mandir, while 4 interviews remained incomplete within hamlets that are not associated with Seva Mandir. Interviewees who did not complete the interview process were either unable or unwilling to do so. Additionally, 31 of 32 study participants, whether women or health workers, fulfilled all of the appropriate inclusion criteria; the interview participant who did not fulfill all criteria had a child who was 3 years of age and did not complete the interview.

Study participants, whether women or health workers, were approached and invited to participate in a qualitative study regarding the health of pregnant women. An informed consent procedure was followed for all interviews. Potential interview participants were given information regarding the background of the interviewer, purpose of the study, and use of the study results. Potential participants were subsequently asked to sign an informed consent form stating that sufficient information had been provided for free and voluntary participation in the study. Some study participants signed the informed consent document in Hindi, Mewari, or English; others placed a thumbprint on the document. Study participants were also asked if audio recording of the interview was acceptable. 29 of 32 participants agreed to the recording of interviews, while the remaining 3 participants did not. Only those interviews for which participants had given clear consent were audio recorded.

Women who agreed to participate in the study were interviewed in a variety of locations, including their homes, the homes of other community members, and Balwadi facilities. Health workers who agreed to participate in the study were also interviewed each of the above

locations, as well as on the campus of a training facility affiliated with Seva Mandir. All interviews included the interviewer, the interviewee, and one or more health workers who provided services within the hamlet in question. The majority, or 23, of interviews also included a translator who had previously conducted work for Seva Mandir and had been contacted to provide translation services. On 2 separate occasions, or days on which interviews were to be conducted in 1 of the 2 selected town areas for the first time, staff members from Seva Mandir accompanied the interviewer to the field area and were present for one or more interviews conducted on that day. On all other occasions, the interviewer travelled to field areas in the company of a translator or alone. Thus, staff members associated with Seva Mandir were present for at least 7 interviews. Community and family members were often present at interviews, and occasionally offered input during the interview period.

Interviews were conducted in Mewari and Hindi, though the principle investigator occasionally asked questions in English. The guidance of translators was required for interviews conducted principally in Mewari, and, to a limited extent, in Hindi. Interview questionnaires for both women and health workers included questions regarding personal and family background, state schemes for institutional delivery, antenatal care, and delivery. The interview questionnaire used during interviews with women also included questions about the work of ASHAs and TBAs. Initial questionnaires for both women and health workers were revised after completion of the first 5 interviews, and the revised questionnaires were used for all subsequent interviews.

Audio-recorded information for each interview was copied from the recording device to the principle investigator's laptop computer (Mac) at the end of each interview day. Handwritten notes from each of the interviews were typed, and notes for the majority interviews were supplemented by the principle investigator's observations regarding the interview context and

behavior of interview participants. A total of 6 interviews were fully transcribed, while an additional 11 interviews were partially transcribed. The remaining 15 interviews were not transcribed during the ISP period. Transcriptions for all interviews will be completed by the principle investigator over the course of the next 3 months.

e. Study Limitations

This study was characterized by several limitations, including logistical and procedural constraints. Within the logistical category, the short time span of the study allowed for relatively few interviews to be conducted. Only 28 complete interviews – 13 in areas in which Seva Mandir works and 10 in areas in which Seva Mandir does not work – were conducted with women residing in rural communities; therefore, the experiences of these women may not represent or parallel those of both other women living in the same areas and those of women living in rural communities in other parts of Rajasthan. The collection of a greater number of interviews would have allowed for clearer identification of patterns and trends, as well as a more robust comparison between the areas with which Seva Mandir is and is not associated. Likewise, additional interviews with such frontline health workers as ASHAs, Balasakhis, and TBAs would have allowed for the information collected through interviews with women themselves to be supplemented more comprehensively. Time constraints were compounded by limitations related to transportation. Seva Mandir vehicles were not available for use by the interviewer; therefore, public transportation was used to travel to interview locations. This was often associated with unexpected delays and schedule constraints related to transportation timings. Therefore, the collection of interviews was further constrained.

Within the procedural category, only male translators were available for assistance during the interview period. This may have hindered the collection of data to some extent: women

would likely have felt more comfortable in the presence of a female translator, particularly when discussing topics related to pregnancy and childbirth. Additionally, the interview process was often complicated by the presence of individuals other than the interviewee, the interviewer, and the translator. In areas with which Seva Mandir is affiliated, for example, either the TBA or the Balasakhi were present during all interviews. In several cases, both attended interviews. In areas with which Seva Mandir is not affiliated, an ASHA was present throughout each of the interviews. Moreover, female relatives, including the mothers-in-law of interviewees, often attended interviews in both Seva Mandir and non-Seva Mandir areas. Both health workers and relatives were often able to facilitate the interview process by reframing questions and encouraging women to answer freely; in fact, it is likely that women would have refrained from participating altogether had they not been encouraged by health workers and relatives to complete interviews. However, such individuals also often answered on behalf of woman or scolded women for refraining from answering certain questions. These interventions often obscured the experiences and perspectives of women themselves, and may thus have led to biased responses.

Furthermore, the informed consent process posed an additional challenge. Through the process of conducting initial interviews, it became apparent that the length and detail-oriented nature of the consent form that had been drafted rendered it unsuitable to data collection. Therefore, in subsequent interviews, aspects of the informed consent form that were deemed most appropriate by the interviewer – such as the purpose of the study, the background of the interviewer, and the ways in which data would be used – were highlighted, while other aspects were not specifically mentioned. Thus, interviewees may not have been informed about all

possible details of the study, a situation that may have limited their ability to provide full informed consent.

Finally, the research process was also limited by the biases of the interviewer, who harbored certain expectations, based on prior secondary research, regarding responses. Thus, the framing of questions by the interviewer, particularly during interviews conducted during the initial week, may have prevented the collection of accurate and comprehensive responses. Moreover, interviewees often appeared more reluctant to answer open-ended questions related to the purpose of a particular aspect of antenatal and delivery-related care or to describe such care in their own words. In such cases, attempts by the interviewer—as well as by such other interview attendees as relatives, Balasakhis, TBAs, and ASHAs—to prompt or encourage answers may also have led to responses that were biased towards the preconceptions and expectations of the interviewer.

The following study seeks to investigate access to antenatal and delivery-related services and information among women residing in rural, tribal communities around Udaipur, Rajasthan, and to analyze determinants that affect such access. More specifically, it seeks to evaluate one determinant in particular: that of association with and use of the services provided by the non-profit organization Seva Mandir, which works with rural communities throughout southern Rajasthan in order to facilitate the improvement of health and development activities and outcomes. Methods used for the collection of the data upon which the study draws were qualitative: interviews were conducted with 27 women in communities with which Seva Mandir does and does not work, as well as with 5 frontline health workers who serve within those areas. Interview questions consisted of both direct, concrete inquiries regarding use or completion of particular aspects of antenatal or delivery-related care, as well as more open-ended questions

concerning purpose of care and the types of information provided by frontline health workers. Thus, this study seeks to contribute to the existing body of literature regarding maternal health outcomes in Rajasthan by analyzing accessibility of both information and awareness of best practices in maternal health and of high-quality services during the antenatal and intranatal periods. Findings indicate that such awareness remains limited, even among women who experience high-quality care before and during delivery. Thus, the results of the study suggest that greater efforts must be made to transform the role of women from service beneficiaries to health agents.

II. Background and Context

a. Maternal and Reproductive Health Within India

Several national-level governmental publications and actions have shaped the history and evolution of policy on maternal and reproductive health and healthcare within India. For much of the first three decades of the country's independence, such policy centered on population control and family planning. In fact, one of the first documents to allude to family planning was a report prepared by the pre-independence-era Health Survey and Development Committee, led by colonial official Joseph Bhore (Narayanan 6-7; National Health Portal Admin, "Bhore Committee, 1946"). The report emphasized such components and principles of healthcare provision as participatory decision-making through decentralization, free-of-cost health services provided by the government, and the integration of primary care with more specialized services (Narayanan 6; National Health Portal Admin, "Bhore Committee, 1946"). It also suggested the development of a network of primary and secondary health centers and units managed by teams of health professionals, and advanced recommendations regarding the content of medical school curricula (National Health Portal Admin, "Bhore Committee, 1946"). With reference to women's health issues, the report promoted a patient-centered, choice-oriented approach to family planning (Narayanan 6-7). More specifically, it emphasized citizen participation in governmental policymaking regarding family planning initiatives, promoted "self-restraint" as a form of birth control, and pointed to changes in marriage age practices and social and economic development as methods of achieving population control (Narayanan 6-7).

The Bhore Committee report shaped the newly independent country's policies on family planning and reproductive health over the course of the next decade (Narayanan 6-7). In 1951, India became the first country in the world to enact a government-led National Family Planning

Program, the design of which fell to the 1950 Planning Commission (Visaria and Ved 16). Its responsibilities, as mandated by the country's First Five-Year Plan (1951 to 1956), included the gathering of information regarding family planning methods and causes of rapid population growth, as well the formulation of recommendations for the incorporation of family planning into institutional healthcare provision (Visaria and Ved 16). The only concrete action taken by the government within the realm of family planning was the creation of a network of family planning service clinics (Visaria and Ved 16). The number of clinics was expanded during the implementation of the Second Five –Year Plan from 1956 to 1961 (Visaria and Ved 16).

The implementation of the Third and Fourth Five-year Plans (1961 to 1966 and 1969 to 1974 respectively) reflected an increasing emphasis on the rapid reduction of population growth (Visaria and Ved 17-19; Narayanan 7). Such an emphasis was prompted by large-scale food shortages and importation during the 1960s, as well as concern over the 2% annual rate of population growth reported by the 1961 national census (Visaria and Ved 17-18; Narayanan 7). Thus, the period covered by the Third and Fourth Five-Year plans saw the promulgation of a target-oriented approach to the implementation of the National Family Planning Program: time-sensitive quotas were set for the uptake of different forms of birth control in order to achieve the overall objective of reducing the country's birth rate to 25 per 1000 population by 1973 (Visaria and Ved 19). The achievement of goals for the prevalence of specific contraceptive methods was made the responsibility of various healthcare providers (Visaria and Ved 19). Such methods—including intra-uterine devices, condoms, and vasectomy procedures— were often promoted through monetary incentives and other forms of coercion by health motivators, administrators, and professionals (Visaria and Ved 19-22). Such individuals were driven by the need to meet targets, and, in some cases, financial compensation (Visaria and Ved 21). Ultimately, the

government's tactic of promoting specific types of birth control – a tactic that ran counter to its claim that it sought to augment the agency of individuals by increasing access to a range of contraceptive options—did little to improve uptake of contraceptive methods in the long-term (Visaria and Ved 22).

The first years of the 1970s saw a decline in allocation of funding by the government to family planning programs due to economic difficulty (Visaria and Ved 22, 25). The period was marked by the integration of family planning services with those related to maternal and child health and infectious diseases (Visaria and Ved 25). Integrated service delivery was reinforced by the 1978 Kartar Singh Committee Report, which sought to increase the scope of primary healthcare by creating “a cadre of multi-purpose health workers” and taking measures to increase the ranks of Auxiliary Nurse-Midwives (ANMs) (Visaria and Ved 25).

The advent of the Fifth Five Year Plan (1974 to 1979), which advanced a goal of reducing the national birth rate to 25 per 1000 population by 1983 to 1984, marked both the beginning of a period of political and economic turmoil and a major shift in approaches to family planning (Visaria and Ved 25-26). On 25 June, 1975, Prime Minister Indira Gandhi instituted a National Emergency in response to both economic adversity and judicial threats to her power (Visaria and Ved 25-26).. Soon afterward, Indira Gandhi’s son, Sanjay Gandhi, sought to introduce a program on family planning as a complement to the Prime Minister’s previously announced economic program, stating that a family planning initiative was key to achieving economic progress within India (Visaria and Ved 26-27). On 16 April, 1976, the National Population Policy Statement was revealed (Mitra 297). The policy linked family planning to broader development indicators, and included several recommendations for changes or interventions within the social and economic sphere (Visaria and Ved 28; "National

Population"). These included, among others, a raise in the minimum marriage age of girls and boys from 15 to 18 and 18 to 21 respectively; an emphasis on girls' education and on the integration of information related to population within educational curricula; promotion of family planning through media outlets; and provision of financial incentives for sterilization (Visaria and Ved 28; "National Population"). The policy also permitted states to enact legislation to make sterilization compulsory for couples with three or more children. (Visaria and Ved 28).

Though the goals and suggested actions set forth in the National Population Policy were comprehensive in nature, the government appeared to prioritize male sterilization in order to achieve family planning objectives (Narayanan 7). The Minister of Health and Family Welfare assigned each state a sterilization target and exhorted states to engage in "stupendous efforts" in order aid in achieving an overall goal of 4.3 million sterilizations for the 1976 to 1977 period (Visaria and Ved 27). Vigorous execution of the initiative by states, many of which sought to exceed allotted sterilization quotas, led to the completion of 8.4 million sterilizations during 1976 and 1977 and a concurrent stagnation or decrease in the use of other methods of contraception (Visaria and Ved 27-28). Moreover, the use of punitive threats related to employment compensation against government employees—including those within the health, education, security, and other sectors—who did not fulfill sterilization quotas allegedly led to coercion (Visaria and Ved 29-30). While the extent of coercion remains unclear, adverse outcomes of the sterilization program included approximately 1770 deaths due to sterilization (Visaria and Ved 29).

The lack of autonomy and negative consequences associated with the sterilization program carried out during the Fifth Five Year Plan led the Janata Party, which came to power in 1977, to adopt a different approach to family planning (Visaria and Ved 29-30; Mitra 297). The

name of the centrally-sponsored initiative on family planning was changed from the National Family Planning Program to the National Family Welfare Program in order to avoid negative associations with mass sterilization (Visaria and Ved 30; "National Family"). Similarly, the Ministry of Health and Family Planning became the Ministry of Health and Family Welfare (Visaria and Ved 30). Though the goal of achieving a birth rate of 25 per 1000 population remained a national target, the number of sterilizations decreased drastically to 1 million in 1977 and 1978 (Visaria and Ved 30). At the same time, the burden of contraceptive uptake appeared to shift to women, and health workers promoted such family planning methods as contraceptive pills and intrauterine devices (Narayanan 8).

The emphasis on contraceptive methods specific to women, such as female sterilization through laparoscopy, continued during the early 1980s, when Indira Gandhi and the Congress Party returned to power (Visaria and Ved 30-31). Within the framework of the Sixth Five Year Plan (1980 to 1985), the government strove to emphasize its support for voluntary rather than compulsory methods of family planning, and to advance family planning as a component and promoter of overall economic development (Visaria and Ved 30-31). Birth rate targets were replaced by net reproductive rate objectives (Visaria and Ved 31). However, limiting the number of children born to each family remained an underlying focus of governmental initiatives, which included the promulgation of family planning targets for various sectors of government; the offering of financial incentives for the promotion and uptake of contraceptive methods; and an emphasis on birth spacing (Visaria and Ved 31).

In 1983, the Congress government enacted the National Health Policy, which included a comprehensive list of recommendations and components for the strengthening of the Indian healthcare system. These included the development of a "well-dispersed network of

comprehensive primary healthcare services”; the provision of health awareness and basic services through the work of health volunteers; the advancement of an organized referral system in order to ensure that the provision of healthcare services was properly distributed among different levels of healthcare institutions; and the creation of a system of private and public specialty institutions (Government of India, *National health Policy – 2002*). The policy also addressed such topical issues as water and sanitation, the medical industry, health education and medical research, nutrition, traditional systems of medicine, and others (Government of India, *National Health Policy*, 1983, 9-14). Within the realm of maternal and child health, it emphasized the need for decentralized health service provision in order to broaden the scope of service coverage, as well as the integration of high –quality, skilled care before, during, and after pregnancy (Government of India, *National Health Policy*, 1983, 11-12).. The policy also aimed to increase the coverage of antenatal care, delivery by skilled attendants, and TT vaccinations for pregnant women to 100% , , as well as to achieve a Net Reproduction Rate of 1 by 2000 (Government of India, *National Health Policy*, 1983, 16-17).

Following the announcement of the 1983 National Health Policy, a revised National Population Policy was formulated in the year 1986 within the scope of the Seventh Five Year Plan (*Shodhganga* 199). The latter, which covered the period from 1985 to 1990, emphasized the social and economic determinants of high fertility rates and set several family planning targets in order to lower such rates (*Shodhganga* 199). The new National Health Policy reflected such an emphasis in its focus on both traditional family planning topics, such as marriage and contraception, and broader development issues, such as female literacy rate, promotion of child survival, and governmental anti-poverty initiatives (*Shodhganga* 199-200).

The Seventh Five Year Plan also encompassed an initiative called the Universal Immunization Program, promulgated in 1985. The program aimed to “provide universal coverage of infant and pregnant women against vaccine preventable diseases” (“National Family”). Moreover, in the period between the Seventh and Eighth Five Year Plans, an initiative that centered on the formation of community-based health stakeholder groups was introduced in order to facilitate the evolution of a participatory health framework for women’s health (“National Family”). Called Mahila Swasthya Sangha, these groups consisted of community representatives, as well as community workers responsible for promoting women's health and welfare. Such workers included, among others, the Anganwadi Worker, the Traditional Birth Attendant (TBA), and the ANM (“National Family”).

The Eighth Five Year Plan (1992 to 1997) incorporated the focus of the Seventh Year Plan on social and economic development (*Shodhganga 200-201*). It included a goal to achieve a birth rate of 20 per 1000 population by 2000, and framed a decrease in the birth rate as a means of “render[ing] social and economic justice to the millions of masses” (*Shodhganga 200-201*). It also advanced the participation of marginalized communities in the health policy process, the involvement of NGOs in health service delivery, and a restructuring of the national health system (*Shodhganga 200-201*; “National Family”). Additionally, the Plan saw the transformation of the Universal Immunization Program into the Child Survival and Safe Motherhood Project, which aimed to decrease maternal and child mortality rates (“National Family”). The revised initiative incorporated such maternal health goals as continued expansion of immunization coverage, provision of high-quality emergency obstetric care through improvement of institutions, provision of delivery resources and training to TBAs, and an increase in the scope of antenatal care coverage (“National Family”).

In 1997, the first year of the Ninth Five Year Plan (1997 to 2002), the government shifted from a target-oriented to a target-free family planning strategy. 1997 also marked the year in which the Child Survival and Safe Mother Programme was integrated with other maternal, child, and reproductive health services to create the Reproductive and Child Health (RCH) initiative (Government of India, *Child Health Programme in India*). Like its predecessor, the new initiative aimed to decrease rates of maternal, child, and infant mortality (Description of the RCH-I). The RCH programme incorporated the following principles and priorities: participatory policymaking to improve project rollout; efficient use of health resources through systems strengthening; provision of high-quality family welfare services to marginalized groups; improvement of existing reproductive and child health services; and enhancement of such services to achieve coverage of a basic service package (Description of the RCH-I). Within such a framework, goals regarding reproductive health included promotion of essential and emergency obstetric care; increased access to emergency and other contraception; the provision of high quality abortion and delivery services; the strengthening of referral facilities for pregnancy-related complications; the advancement of adolescent reproductive health; the expansion of antenatal care; and the incorporation of care for reproductive tract infections (RTIs) and sexually transmitted diseases (STIs) (*Reproductive and Child 1*). The program covered a more comprehensive range of reproductive, maternal, and child health services than preceding initiatives, and reflected the government's commitment to a target-free family planning strategy (Naryanan 14). However, according to one study, the program's underlying consistency with a historical emphasis on population control did not change: it demonstrated "a slightly increased flexibility in terms of the methods of fertility regulation on offer, and not a relaxation of population-control goal-setting itself" (Narayanan 14).

The period of the Ninth Five Year Plan also included the enactment of a revised National Population Policy, which reaffirmed the government's newly-adopted, target-free approach to family planning (Narayanan 15). It also emphasized the voluntary nature of contraceptive uptake (Narayanan 14). Overall, the policy sought to integrate issues and services within the maternal and child health, reproductive health, and family planning sectors (National Health Portal Admin, *National Population Policy (2000)*). Its two overarching objectives included achievement of the population replacement level and a stable population by 2010 and 2014 respectively (Government of India, *Report of the Working Group 2*). Specific goals included advancement of a small family norm; enhanced provision of information and services regarding contraception; promotion of a minimum marriage age of 18 for girls; expansion of reproductive health services; and advancement of a decrease in the maternal mortality ratio to less than 100 per 100,000 live births (Government of India, *Report of the Working Group 2-3*). Emphasis on the linkages between family planning and broader social and economic development was manifested in goals regarding compulsory education for children and the streamlining of the implementation of diverse sectoral initiatives (Government of India, *Report of the Working Group 2-3*).

The end of the Ninth Five Year Plan was marked by the promulgation of a new National Health Policy in 2002 (Government of India, *National Health Policy - 2002*). It did not explicitly or exclusively address women's health issues; however, its status as a key national policy document on health ensured that its implementation would impact the health of women. The policy's overarching goal was to "achieve an acceptable standard of good health amongst the general population of the country," and it aimed to do so through interventions and achievements in various specific health sectors and areas (Government of India, *National Health Policy – 2002*

20). Such interventions included, among others, an increase in GDP allocation for public health spending to 2% and in allocation for primary health spending to 55% of total public healthcare expenditure; reduction of health inequities through greater investment in primary health; integration of the RCH initiative with vertical programs for TB, HIV, and malaria; improvement of public health infrastructure through human resource training and more comprehensive provision of essential drugs; involvement of local political institutions in the implementation of health initiatives; promulgation and revision of norms and educational curricula for medical professionals; encouragement of specialization in the sectors of public health and family medicine; decentralization of mental health services; increased investment in medical research; organization of in-service training for different types of health personnel; and others (Government of India, *National Health Policy - 2002*). With regard to women's health, the policy document stated that women were marginalized in terms of access to healthcare, and resolved to increase the access of women to basic services in the primary health sector. In terms of concrete objectives related to maternal and reproductive health, the policy sought to reduce the maternal mortality ratio to 100 per 100,000 live births by 2010 (Government of India, *National Health Policy – 2002*, 21, 32).

Finally, 2002 also saw the enactment of the Pre-Natal Diagnostic Techniques Act, which prohibited the determination of the sex of an unborn fetus through sonography methods (Narayanan 11). The passage of the act followed intensive lobbying and advocacy by women's rights and health activists and non-governmental organizations (Narayanan 10-11). Prior to the act's passage, such groups had expressed concern over the increasing frequency of the practice of pre-birth sex determination through technological tools and methods, the national prevalence of which had increased following economic liberalization in the 1980s (Narayanan 10-11).

Backed by 2001 census data, which showed a significant decline in the sex ratio between 1961 and 2001, activists maintained that sex determination procedures compounded the effect of a preference for male children in allowing for female foeticide to occur. The new act sought to resolve this issue (Narayanan 11).

The Tenth Five Year Plan saw the advent of the second phase of the Reproductive and Child Health Program, or RCH II. The initiative sought to bring about a reduction in the fertility rate, the infant mortality rate, and the maternal mortality rate (National Health Mission, *Reproductive, Maternal, Newborn, Child, and Adolescent Health*). Maternal health services advanced and covered by the program included registration of pregnant women; provision of at least three antenatal check-ups to pregnant women, including such essential components as TT injections and distribution of iron tablets; and emergency hospital care before, during, or after pregnancy ("RCH-II (Reproductive)"). RCH II was characterized by its emphasis on state- and district-level ownership and capacity building in program planning, implementation, financing, and monitoring ("RCH-II (Reproductive)"). It was also unique in its emphasis on the integration of various sector-specific initiatives and resources, performance-based financial allocation, and the streamlining of funds provided by external partners and donors ("RCH-II (Reproductive)").

The period of the Tenth Five Year Plan also covered the implementation of the National Rural Health Mission (NHRM), which “seeks to provide equitable, affordable, and quality health care to the rural population” (“NHRM: National”). It aims to do so by allowing for community-based interventions in a range of sectors and areas that encompass social determinants of health: water and sanitation, education, and gender equality (“NHRM: National”). In other words, the scheme seeks to improve healthcare quality and coverage by institutionalizing decentralized service delivery (“NHRM: National”). Aspects of the NHRM that are directly relevant to

maternal health are described in further detail in the sub-section entitled “Maternal Health Schemes Within Rajasthan.” Mission strategies, as outline by the NHRM Framework for Implementation 2005-2012, include the promotion of preventative health care practices and health behavior change; the building of the capacity of Panchayati Raj institutions to address healthcare issues and challenges; the training and deployment of community health workers in order to facilitate access to high-quality information and services; the development of health data collection capabilities; the advancement of the activities of non-profit health stakeholders, as well as the regulation of private sector healthcare providers; the empowerment of Village Health Committees in terms of the creation of health plans; and the formulation of comprehensive District Health Plans that incorporate social determinants of health (Government of India, *National Rural Health Mission* 17-18). Other strategies concern the strengthening of sub center, Primary Health Center (PHC), and Community Health Center (CHC) institutions through the training of medical personnel, quality control, increased investment, and decentralized management (Government of India, *National Rural Health Mission*, 17). Among other goals, the Mission seeks to address and improve such maternal and reproductive healthcare components as support for delivery, antenatal and postnatal care at Anganwadi facilities, and a referral system for obstetric conditions (Government of India, *National Rural Health Mission*, 15-18).

The Eleventh Five Year Plan (2007 to 2012) was marked by the introduction of the Janani Shishu Suraksha Karyakaram, which “is estimated to benefit more than 12 million pregnant women who access government health facilities for their delivery” (“Janani Shishu”). Launched on 1 June 2011, the initiative provides certain entitlements or free-of-cost services to women who deliver in government institutions, as well as to newborns and infants who are ill (“Janani Shishu”). The rationale for such a program is detailed in the national policy guideline

for the scheme, which states that over one quarter of women are unwilling to undergo institutional delivery (Government of India, *Guidelines for Janani-Shishu* 1). Those who do opt for institutional delivery are often unwilling to remain in the hospital for 48 hours after the delivery is completed. Reluctance stems from out-of-pocket payments associated with such aspects of the delivery process as user charges for tests and services, the purchase of appropriate medicines, caesarean procedures, and transportation to and from various health facilities (Government of India, *Guidelines for Janani-Shishu* 1-2). These expenses often originate from the charges levied by health professionals, who may, for example, include the cost of materials and resources used during delivery within the price of medical prescriptions (Government of India, *Guidelines for Janani-Shishu* 2). Ultimately, then, the JSSK scheme seeks to expand upon and complement the Janani Suraksha Yojana program in encouraging and increasing institutional deliveries by reducing the abovementioned out-of-pocket expenses (Ministry of Health and Family Welfare, “Janani Shishu”). Details of the program are provided below within the subsection entitled “Maternal Health Schemes Within Rajasthan.”

The current Twelfth Five Year Plan (2012 to 2017) has been characterized by two final initiatives related to maternal health. One such initiative is the Reproductive, Maternal, Newborn, Child, and Adolescent (RMNCH+A) program, which, by the year 2017, seeks to decrease the infant mortality rate, the maternal mortality ratio, and the total fertility rate to 25 per 1000 live births, 100 per 100,000 live births and 2.1 respectively (National Health Mission, *Reproductive, Maternal, Newborn, Child, and Adolescent Health*). The RMNCH+ initiative aims to emphasize the health of marginalized communities, and to bolster relevant services in districts that have been classified as low performers in reproductive health (National Health Mission, *Reproductive, Maternal, Newborn, Child, and Adolescent Health*). It also incorporates a feature

that distinguishes it from its predecessor programs, the RCH I and RCH II: namely, a continuum-of-care approach, in which interventions and objectives are divided into and listed according to the specific life stages of adolescence/pre-pregnancy, pregnancy, birth, newborn/postnatal, and child (National Health Mission, *Reproductive, Maternal, Newborn, Child, and Adolescent Health*; Government of India, *A Strategic Approach* 12). Areas of intervention within the adolescent life stage, for example, include nutrition, iron supplementation, preventive and primary healthcare, the advancement of awareness and services regarding sexual and reproductive health, menstrual hygiene, and the management of RTIs and STIs (Government of India, *A Strategic Approach* 14). Likewise, interventions related to pregnancy and delivery include provision of services within a comprehensive antenatal package, birth preparedness and counseling on breastfeeding, skilled and emergency obstetric care, newborn resuscitation and care, postpartum care, and sterilization (Government of India, *A Strategic Approach* 19). The RMNCH+A program also incorporates several coverage targets that address various aspects of maternal and reproductive health— exclusive breastfeeding, use of family planning methods, proportion of skilled deliveries, and scope of antenatal care – and that are to be achieved by 2017 (Government of India, *A Strategic Approach* 10-11).

The most recently-enacted governmental health policy initiative relevant to maternal and reproductive health on a national level is the 2017 National Health Policy. Introduced in March of this year, the policy seeks to secure health and well-being “for all at all ages through a preventive and promotive healthcare reorientation in all developmental policies and universal access to good quality health services without anyone having to face financial hardship as a consequence” (Government of India, *National Health Policy 2017* 1). One of its overarching goals includes the facilitation of progress towards universal health coverage, which incorporates

access to an essential package of primary health services (including RMNCH) and reduction of out-of-pocket health costs (Government of India, *National Health Policy 2017* 3). Other goals include the strengthening of health systems and ensuring that private-sector health service delivery conforms to public health goals and standards (Government of India, *National Health Policy 2017* 3). Priority issue areas for policy intervention include, among others, communicable and non-communicable diseases, primary and secondary care, preventive health, health investment, mental health, and RMNCH services (Government of India, *National Health Policy 2017*, Table of Contents). Additional issue areas – such as traditional health systems, human resources for health, medical technologies, health research, and others – are also briefly addressed (Government of India, *National Health Policy 2017*, Table of Contents,). Moreover, the policy advances specific quantitative objectives related to increase in life expectancy, reduction of mortality rates, decrease in disease prevalence, increase in health service coverage, social determinants of health, health financing, human resources for health, and health information and infrastructure (Government of India, *National Health Policy 2017* 4-5). With regard to RMNCH issue areas specifically, the policy aims to foster intersectoral collaboration in the strengthening of health systems and services related to the mitigation of maternal health complications and emergencies, as well as to address social determinants of maternal and reproductive health (Government of India, *National Health Policy 2017* 11).

b. International and National Guidelines on Antenatal and Delivery-Related Care

The most recent guidelines put forth by the World Health Organization (WHO) on appropriate components of antenatal care implicitly operationalize the right to reproductive healthcare by detailing the information, services, and medical resources that pregnant women

should be able to access (WHO et al). The guideline organizes such components into five categories: nutrition, determination of maternal and fetal health, prevention, treatment of physiological conditions, and health systems (WHO et al xi-xvi). Moreover, each specific guideline is designated as either a general or context-specific intervention in order to clarify the circumstances in which it should be used (WHO et al xi-xvi). Because such recommendations will serve as a standard of assessment for specific healthcare outcomes in Rajasthan, components relevant to the inquires included within the interview questionnaire for the current study are listed below. Ways in which national maternal health guidelines in India—as detailed in the document entitled “Guidelines for Antenatal Care and Skilled Attendance at Birth by ANMs/LHVs/SNs”—echo and diverge from WHO recommendations with regard to normal pregnancies (pregnancies without complications) are also noted below.

Significant general recommendations put forth by the WHO within the nutritional category include information dissemination regarding healthy eating and exercise during pregnancy, as well as the daily intake of both 30 to 60 milligrams of iron and 0.4 milligrams of folic acid for the purpose of preventing anemia and other adverse health conditions affecting the mother and fetus (Department of Reproductive Health and Research (WHO et al. xi). Context-specific WHO recommendations refer to the need to emphasize the importance of consuming food high in energy and protein, as well as to provide for recommended nutritional supplementation that includes such foods, within communities in which undernourishment is prevalent (Department of Reproductive Health and Research (WHO) et al. xi). Additionally, in communities in which calcium consumption is low, it is suggested that pregnant women ingest 1.5 to 2 grams of calcium supplement each day (Department of Reproductive Health and Research (WHO et al. xi). Similarly, policy guidelines within India stipulate that health workers advise women to

consume more food during pregnancy, and to eat foods high in protein and essential micronutrient content (Government of India 30). Specific foods are listed as examples (Government of India 31). National guidelines also state that women should be advised to rest sufficiently and avoid work that involves heavy physical exertion (Government of India 31). Additionally, health workers are required to “provide at least 100 tablets of IFA [iron folic acid]” to pregnant women (Government of India 8).

General WHO recommendations within the second category, that of maternal and fetal health determination, include the completion of one ultrasound early in the antenatal period (Department of Reproductive Health and Research (WHO) et al. xiii, xiv). Relevant context-specific WHO recommendation within the same category involve diagnosis of anemia through full blood count testing or on-site hemoglobin testing; and the use of context-appropriate measures for ascertaining fetal growth (Department of Reproductive Health and Research (WHO) et al. xii-xiv). Within the scope of maternal and fetal health assessment, national policy guidelines within India overlap with WHO recommendations in that health workers are expected to test the hemoglobin levels and urinary sugar content of pregnant women in order to diagnose anemia and gestational diabetes respectively. (Government of India 7, 8, 24).

Here, it is relevant to briefly describe the process and content of antenatal examinations, as such information closely informed the construction of interview questionnaires for the current study. In general, health workers presiding over antenatal care and check-ups in India are expected to both gather information from the patient and conduct a physical examination with specific components (Government of India 13-23). Aspects of the physical examination include a general examination, which involves identification of symptoms of anemia and jaundice, pulse, respiratory rate, blood pressure, edema or swelling, and weight; a breast examination; and an

abdominal examination to examine fetal growth, position, heart rate, and movements (Government of India 17-23). Information-taking incorporates inquiries regarding menstrual history; pregnancy-related discomfort; symptoms of complications, such as fever, breathlessness, headache, and others; obstetric history, including information on previous pregnancies, abortions, and pregnancy-related complications; personal and family history of current and past illnesses, such as malaria, diabetes, renal disease, and others; and drug, alcohol, and substance use (Government of India 13-17). Thus, antenatal check-ups by such health workers as Auxiliary Nurse Midwives (ANMs) are meant to be rigorous and comprehensive in nature.

A relevant general recommendation included by the WHO within the category of preventative guidelines involves the provision of tetanus toxoid (TT) vaccinations to all pregnant women (Department of Reproductive Health and Research (WHO et al. xiv). Similarly, national guidelines require that health workers “administer at least two doses of TT [tetanus toxoid] injection” (Government of India 8). Women who have received 2 TT injections during a previous pregnancy only require 1 dose during a subsequent pregnancy (Government of India 26). Additionally, health workers are expected to counsel woman as to the benefit of ingesting IFA tablets in spite of the associated side effects (Government of India 25). The WHO’s category on physiological conditions includes only general recommendations, such as the use various natural remedies for the alleviation of nausea and dietary advice to mitigate heartburn. (WHO et al. xv).

Pertinent general recommendations within the final WHO maternal health category, health systems measures, include the task shifting of maternal healthcare, the provision of nutritional supplements, and malaria prevention measures to workers at different levels of health service delivery (Department of Reproductive Health and Research (WHO et al. xv-xvi). Meanwhile,

context-specific WHO recommendations involve the training of midwives to provide maternal health information and services before, during, and after delivery; empowerment of participatory women's groups, community mobilization, and institution of home visits to provide maternal health support in low-resource areas; and the creation of policy measures to encourage health professionals to remain and work in rural areas (Department of Reproductive Health and Research (WHO) et al. xv-xvi). The maternal health policy framework within India puts forth more specific monitoring guidelines that fall within the health systems category. For example, health workers are expected to formally register pregnancies within the first 12 weeks of the antenatal period and to track each pregnancy to ensure provision of quality antenatal, delivery, and postnatal services (Government of India 7). Moreover, national guidelines diverge from international recommendations in a significant way with regard to health system measures: pregnant women are advised to complete only 4 rather than 8 antenatal visits or check-ups before delivery (Government of India 7). A specific schedule for antenatal check-ups is also included within national health guidelines (Government of India 10).

III. Body

a. Maternal Health Within Rajasthan: Governmental Schemes

Several national-level maternal schemes for maternal health have been and continue to be implemented within Rajasthan. Two such schemes fall within the framework of the National Rural Health Mission (NHRM). The first seeks to empower community health workers, called Accredited Social Health Activists (ASHAs), to provide information and a range of services regarding health and its social determinants (Shashank and Angadi 78; "India's ASHA"). According to the national guidelines for the scheme, ASHAs are to be residents of the community in which they work and are to be selected by community members themselves (Fathima et al.). They are also to receive 23 days of initial training and 12 days of annual follow-up training (Saprii et al.). Ideally, they are to be trained to fulfill three types of functions or roles (Fathima et al.; Saprii et al.). These include link worker, a role that involves improving the access of community members, particularly women and children, to health services and facilities; frontline health worker, in which capacity ASHAs provide basic health services and consumables (including contraceptives, essential medicines, and delivery resources); and activist, which involves the imparting of knowledge regarding health issues and promotion of health agency within the community (Fathima et al.; Saprii et al.). Areas in which ASHAs are expected to provide assistance, services, and information include overall health and sanitation, as well as care before, after, and during delivery (Shashank and Angadi 78).

Though ASHAs are classified as volunteers, they receive 200 rupees for attendance at training sessions as a form of compensation for lost salary ("India's ASHA"). Moreover, a performance-based incentive system stipulates that ASHAs are to be remunerated for performing certain tasks related to such health activities as immunization, family planning, and treatment for

tuberculosis ("India's ASHA"). The value of incentives is decided by states and approved by the central government. ASHAs are meant to be accountable to village-level facilitators, who are responsible for advancing the selection and training of ASHAs, engaging in skill-building and the provision of guidance, assessing and reporting on ASHAs' performance, and helping to formulate policy regarding ASHAs' work ("India's ASHA"). Additionally, the national government established a framework for the monitoring of the overall ASHA scheme in 2007 ("India's ASHA"). Under this framework, non-governmental organizations facilitate the creation of community-based monitoring committees (CBMs) at the village level ("India's ASHA"). Such committees evaluate the performance of ASHAs using report cards, which are then sent to state-level CBM committees for further evaluation and completion ("India's ASHA"). Finally, report cards are sent to the National Rural Health Mission, which displays the performance evaluation of ASHAs at the village, state, and national level online ("India's ASHA").

In Rajasthan, ASHAs have been designated as ASHA Sahayoginis by the government (National Health Mission, Government of Rajasthan, "Programme"). Prior to the implementation of the ASHA scheme, the state government had planned to facilitate the association of a frontline health worker, called a Sahayogini, with each Anganwadi (National Health Mission, Government of Rajasthan, "Programme"). The stated function of the Sahayogini was related to the provision of "door-to-door services of Nutrition, Health, preschool education" (National Health Mission, Government of Rajasthan, "Programme"). The convergence between the envisaged duties of the Sahayoginis and those of the ASHA prompted a governmental decision to combine the two roles, leading to the appointment ASHA Sahayogini workers (National Health Mission, Government of Rajasthan, "Programme"). Though selected by gram panchayats, or village-level self-governance institutions, ASHA are responsible for liaising with both the Directorate of of Medical and

Health Services (DMHS) and the Department of Women and Child Development (DWCD) within Rajasthan (National Health Mission, Government of Rajasthan, "Programme"). Eligibility requirements for the selection of ASHAs state that they must be between 21 and 45 years of age; must have completed at least the eighth standard of education; must display qualities of leadership and community engagement; must reside within the community that they serve; and must currently be married or have been married in the past (National Health Mission, Government of Rajasthan, "Programme"). The education requirement may partially be waived with the approval of the state government (National Health Mission, Government of Rajasthan, "Programme"). Additionally, the ASHA program as a whole should include an appropriate numbers of workers form marginalized communities (National Health Mission, Government of Rajasthan, "Programme").

According to state regulations for the implementation of the ASHA program, ASHAs are responsible for performing the following duties and functions: dissemination of knowledge regarding health, sanitation and hygiene, nutrition, available health services and facilities, and family welfare; provision of guidance regarding nutrition, breastfeeding, family planning and birth control, birth and institutional delivery, and STIs or RTIs; provision of assistance to community members in accessing healthcare services at various types of government institutions, as well as accompaniment of community members to such institutions for delivery and other services; contribution to village health and development plans; promotion of toilet construction within villages; and treatment of minor illnesses and injuries through use of a provided drug kit (National Health Mission, Government of Rajasthan, "Programme"). Specific health service areas and resources that fall within the scope of the ASHA's role as a frontline health provider include treatment for tuberculosis through the directly-observed treatment, short-course, or

DOTs, program; contraception; oral rehydration; iron folic acid tablets; and malaria treatment. Drug kits provided to ASHAs may be refilled at primary health centers or sub centers (National Health Mission, Government of Rajasthan, "Programme"). State guidelines also clarify that ASHAs may be requested to travel outside of the state or to different areas within the state as part of their work (National Health Mission, Government of Rajasthan, "Programme").

Regarding compensation, the state of Rajasthan adheres to national guidelines for the ASHA program by offering performance-based compensation (National Health Mission, Government of Rajasthan, "Programme"). State regulations specify that ASHAs should receive approximately 1067 rupees per month if standard performance goals are met (National Health Mission, Government of Rajasthan, "Programme"). Additionally, ASHAs may receive further compensation, whether monetary or otherwise, for “extraordinary performance” (National Health Mission, Government of Rajasthan, "Programme"). Both compensation and supplies of medicines for drug kits are to be received at monthly meetings, which are convened at primary health centers and include the DMHS, DWCD, and ASHA workers (National Health Mission, Government of Rajasthan, "Programme"). Finally, state guidelines provide for and recommend the establishment of a State Level Mentoring Group, the function of which is to evaluate and advance policy suggestions for improvement of the ASHA program (National Health Mission, Government of Rajasthan, "Programme"). Such guidelines also recommend the institution of an ASHA Resources Monitoring Center, meant to provide technical resources, training, supplies, and support to the ASHAs, as well as to strengthen and facilitate the function of the program as a whole (National Health Mission, Government of Rajasthan, "Programme").

The second scheme that falls within the scope of the NRHM and that is relevant to maternal health outcomes and services in Rajasthan is the Janani Suraksha Yojana initiative, enacted on

12 April, 2005 (Government of India, *Janani Suraksha Yojana*, 1). The scheme seeks to encourage pregnant women, particularly those who fall within low-income groups, to deliver in governmental or accredited private facilities by offering financial incentives for institutional delivery (Government of India, *Janani Suraksha Yojana*, 1; "JSY: Background"). The JSY represents a modification of its predecessor, the National Social Assistance Program, which stipulated that women aged 19 and above would be eligible to receive 500 rupees for the birth of their first two children if they were classified as living below the poverty line (BPL) ("JSY: Background"). Under JSY, the universal payment scheme was replaced by a system in which pregnant mothers were provided with varying levels of financial assistance for delivering in an institution, with amount of assistance determined by state and residence in a rural or urban area ("JSY: Background"). At the time of introduction of the scheme, states in which over 25% of deliveries were occurring in institutions were classified as High-Performing, while states in which less than 25% of deliveries were institutional were classified as Low-Performing ("JSY: Background"). In Low-Performing states, women of all backgrounds are given a financial incentive to deliver in a public or approved private facility (Randive et al.). In contrast, eligibility for cash incentives is more restricted in High-Performing states: only women who are classified as possessing BPL status, as well as women identified with Scheduled Castes or Scheduled Tribes, are eligible for assistance (Randive et al.). Moreover, incentives are only provided for the first two pregnancies, and are substantially less in value than those provided in Low-Performing States (Randive et al.). Theoretically, cash incentives are to be transferred directly into women's bank accounts after they give birth: all states have been mandated to implement online payment in all districts under the Direct Benefit Transfer Initiative (Ministry of Health and Family Welfare, "Janani Suraksha Yojana"). As of 7 January, 2013 onward, direct payment had been

initiated in 78 districts across the country (Ministry of Health and Family Welfare, “Janani Suraksha Yojana”).

It is important to note the linkages between the JSY scheme and the ASHA program. Financial incentives provided under the JSY initiatives form part of a broader strategy to ensure the access of all pregnant women to appropriate maternal health care before, during, and after delivery (State Institute, *Janani Suraksha Yojana (JSY)*). Such a strategy encompasses registration for antenatal care as soon as possible after discovery of pregnancy; achievement of three antenatal care and postnatal care visits; completion of JSY and MCH cards; identification and management of pregnancy and delivery-related complications; the provision of around-the-clock delivery services at primary health centers; capacity building of first referral units; and the arrangement of transportation upon referral (State Institute, *Janani Suraksha Yojana (JSY)*). ASHAs are responsible for the operationalization of several components of this strategy, including registration, the completion of three antenatal care visits, identification of appropriate institutions for delivery and referral, and accompaniment of women to institutions at the time of delivery (Government of India, *Janani Suraksha Yojana*, 1). Additionally, ASHAs are expected to assist women in obtaining appropriate paperwork or certification, prepare a micro-birth plan for pregnant women, advise women to undergo an institutional delivery, report maternal or infant deaths to the ANM, conduct post-natal visits within seven days of delivery, facilitate vaccination of newborns, advance family planning, and provide guidance to women regarding appropriate breastfeeding practices (Government of India, *Janani Suraksha Yojana*, 1).

In Rajasthan, governmental institutions at which women are eligible to receive the JSY incentive encompass all levels of healthcare provision: sub centers, primary health centers, community health centers, first referral units, and general wards of state district hospitals (State

Institute, *Janani Suraksha Yojana (JSY)*, 13). Rajasthan has been classified as a Low-Performing state under the JSY scheme ("JSY: Background"). Thus, all women who deliver in a government or accredited private facility are eligible to receive 1400 or 1000 rupees in a rural or urban area respectively (State Institute, *Janani Suraksha Yojana (JSY)*, 16; Ministry of Health and Family Welfare, "Janani Suraksha Yojana"). Women who are classified as living below the poverty line receive 50 rupees 8 to 12 weeks before the delivery period, and the remainder of the incentive after delivery (State Institute, *Janani Suraksha Yojana (JSY)*, 19). Women with BPL status, regardless of age or number of children, are also eligible to receive 500 rupees for a home delivery (State Institute, *Janani Suraksha Yojana (JSY)*, 19). A unique feature of the implementation of the JSY scheme in Rajasthan is the Desi Ghee Program, as part of which women who possess BPL status or who belong to the Sahriya and Kathodi tribes are given a coupon for ghee after an institutional delivery (State Institute, *Janani Suraksha Yojana (JSY)*, 25-26). They later receive five liters of ghee within a month of delivery (State Institute, *Janani Suraksha Yojana (JSY)*, 25). Other eligibility requirements for involvement in the program include first delivery, presentation of BPL and antenatal care cards, and an institutional stay of twenty-four hours after the delivery period (State Institute, *Janani Suraksha Yojana (JSY)*, 26-27).

The JSY scheme appears to be most commonly associated with demand-side incentives for delivery; however, as implied by the role of ASHAs in facilitating its implementation, it also incorporates supply-side compensation during both the antenatal and delivery periods (State Institute, *Janani Suraksha Yojana (JSY)*, 11, 17). For example, in Low-Performing States such as Rajasthan, ASHAs who assist women in accessing appropriate antenatal care, accompany a pregnant woman to a public facility to deliver, and stay with the woman throughout the delivery

receive a total of 600 rupees (State Institute, *Janani Suraksha Yojana (JSY)*, 14-16). One installment, comprising a total of 100 rupees and received when the woman is discharged from an institution after delivery, corresponds to facilitation of the following antenatal services: registration of the woman for antenatal care, the reception of two tetanus toxoid injections, the completion of three antenatal visits, and the ingestion of iron folic acid tablets (State Institute, *Janani Suraksha Yojana (JSY)*, 17). Another installment, comprising a total of 100 rupees and received on the forty-second day after delivery, corresponds to advancement by the ASHA of the full immunization of the newborn and the completion of five post-natal care visits (State Institute, *Janani Suraksha Yojana (JSY)*, 17). ASHAs are also eligible to receive 400 rupees for transportation expenses associated with institutional delivery (State Institute, *Janani Suraksha Yojana (JSY)*, 14). Additionally, beginning in 2009, TBAs began to receive 200 rupees for traveling with women to an institution for delivery (State Institute, *Janani Suraksha Yojana (JSY)*, 18).

Overall, the JSY scheme appears to have contributed to a substantial increase in the ratio of deliveries within Rajasthan that occur in institutions: in 2005-2006 and 2011-2012, institutional deliveries accounted for 28% and 77.34% of all deliveries respectively (State Institute, *Janani Suraksha Yojana (JSY)*, 22). Nevertheless, implementation challenges remain: both demand and supply-side payments are often delayed, and many women lack the assistance of ASHAs (State Institute, *Janani Suraksha Yojana (JSY)*, 24). Additionally, facilities often lack specialized care providers and options for transportation after referral, and premature discharge of women from institutions is common (State Institute, *Janani Suraksha Yojana (JSY)*, 24).

The national-level Janani Shishu Suraksha Karyakaram (JSSK) program has also been implemented in Rajasthan. As mentioned above, the scheme seeks to promote institutional

deliveries by mitigating or eliminating out-of-pocket expenses associated with delivery and newborn care at a government institution (Government of India, *Guidelines for Janani Shishu*, 3). Beneficiaries of the scheme thus include women who deliver at a government facility, as well as newborns and infants who are ill and for whom care is sought within thirty days of delivery ("Janani Shishu"). As stipulated within the national policy document entitled *Guidelines for the Janani Shishu Suraksha Karyakaram*, delivery-related services that women are entitled to access free of cost include both vaginal deliveries and caesarean operations; medicines and other consumables, such as iron folic acid tablets; essential diagnostic tests, such as blood examinations and ultra-sonographies; transport to health institutions, as well as between different institutions if referral occurs; return transport after a period of 48 hours; blood transfusion; and meals for three and seven days of a woman's stay in the case of a normal delivery and caesarean operation respectively (Government of India, *Guidelines for Janani Shishu*, 4-6). Additionally, women are entitled to remain free of any user charges associated with the delivery process (Government of India, *Guidelines for Janani Shishu*, 4, 6). In the case of consumables and diagnostic tests, women may not be charged for such components of maternal healthcare during the antenatal period, delivery timeframe, or six weeks of the postnatal period (Government of India, *Guidelines for Janani Shishu*, 5).

The state government of Rajasthan has also promulgated several original initiatives related to the provision of maternal and reproductive healthcare services. One such initiative is the Shubhalakshmi Yojana, introduced on 1 April, 2013 (Bijwe). The scheme aims to reduce the rate of female feticide and improve the state's sex ratio through the provision of compensation for the delivery of girl children within government institutions (Bijwe). Such compensation complements and is provided in addition to that received under the JSY initiative, a centrally-

sponsored scheme. Under the regulations associated with the original Shubhalakshmi Yojana program, women were eligible to receive compensation for the achievement of various health milestones in a the life of a female child (Bijwe). 2100 rupees were to be received for delivery in a government institution, while another 2100 rupees were to be provided on the first birthday of the child if all appropriate vaccinations had been completed (Bijwe; Sharma; NHP Admin, “Rajasthan”). An additional 3100 rupees were to be received five years after delivery and upon enrollment of the child in school (Bijwe; Sharma, NHP Admin, “Rajasthan”). All funds were to accrue to the mother of the child, who was required to provide such documents as proof of permanent residence in Rajasthan, identity proof, income and birth certificates, and bank account details in order to receive compensation (Bijwe).

On 1 June, 2016, the Shubhalakshmi Yojana initiative became the CM Rajashree program, which offers a much larger sum of compensation to families of girl children, but focuses on educational rather than health milestones (Sharma). Families receive a total of 50,000 rupees, with 2500 rupees provided upon delivery and the first birthday of the child; 4000 rupees provided upon enrollment of the child in Standard or Class 1; 5000 rupees provided upon enrollment in Class 6; 11,000 rupees provided for Class 11 enrollment; and 25,000 rupees provided for completion by the child of Class 12 (Sharma). The objective of the newly revised initiative remains the same: to decrease the prevalence of female feticide and infanticide, and to achieve a more favorable sex ratio (Sharma).

It is important to note that on 1 August, 2015, the state government Rajasthan launched the Online JSY and Shubhalakshmi System (OJAS) ("OJAS: Online"). This web-based software system allows payments under the abovementioned schemes to be delivered directly to recipients' bank accounts rather than received in the form of checks ("OJAS: Online"). The

scheme was originally introduced for deliveries occurring at CHCs or higher tiers of government institutions; however, the state government aims to expand it to PHCs as well ("OJAS: Online"). In addition to reducing delays and facilitating transparency in the payment process, the system allows for the monitoring of such health indicators and services as institutional delivery, the birth of girl children, referral transport, and post-delivery hospital stays ("OJAS: Online").

Another state-led initiative that significantly impacts maternal healthcare, particularly as related to delivery, centers on the provision of an ambulance service (State Institute, *Schemes of Government of Rajasthan*, 24-25, 49-50). Introduced as the Dhanwantari scheme in 2008, the initiative seeks to promote around-the-clock, free-of-cost emergency ambulance services that can be accessed by a toll-free number (108) (State Institute, *Schemes of Government of Rajasthan*, 49). Ambulances, which are expected to reach beneficiaries in approximately eighteen minutes, are equipped to address fire, police, and medical emergencies, including transportation for delivery (State Institute, *Schemes of Government of Rajasthan*, 49-50). A similar initiative, and one that is more specific to maternal health, was introduced on 12 October, 2012 (State Institute, *Schemes of Government of Rajasthan*, 24). Entitled the Janani Express, it seeks to encourage institutional deliveries and to reduce maternal mortality by providing around-the-clock, free-of-cost transportation for delivery (State Institute, *Schemes of Government of Rajasthan*, 24-25). Janani Express ambulances are accessible through a toll-free number (104) (State Institute, *Schemes of Government of Rajasthan*, 25). They may also be used in certain pre and post-delivery contexts, and provide transportation to primary health centers at which no alternative ambulance services may be available (State Institute, *Schemes of Government of Rajasthan*, 25).

Overall, then, the government of Rajasthan has made significant efforts to improve maternal health outcomes and access to maternal health services through the implementation of both state-

level and centrally-sponsored schemes. It is beyond the scope of this paper to analyze the effect of each particular scheme and the degree to which each has fulfilled its purpose. However, data on the state of maternal health within Rajasthan suggests that the above-mentioned programs and initiatives may have facilitated significant improvement in health outcomes and services for pregnant women. At the same time, however, gaps in service coverage and certain suboptimal maternal health indicators remain. Statistics that support these conclusions are summarized and analyzed in the subsequent section.

b. Maternal Health Within Rajasthan: Current Data

i. Current Data

Statistics drawn from Round 3 of the National Family and Health Survey (NFHS-3), conducted in 2005-2006, and its fourth round (NFHS-4), conducted in 2015-2016, suggest that certain maternal health indicators, particularly those related to antenatal care and delivery, have improved substantially in Rajasthan over the course of the past decade. The percentage of women who completed at least 4 antenatal care visits in 2005-2006 was 23.4% total (State Institute, *National Family Health Survey-4, 2015-2016*, 3). By 2015-2016, the prevalence of the completion of four antenatal care visits had risen to 38.5% total (State Institute, *National Family Health Survey-4, 2015-2016*, 3). Likewise, the percentages of women who received their first antenatal check-up within the first 4 months of pregnancy (first trimester) in 2005-2006 were 33.8% total, 58.8% for urban areas, and 27.4% for rural areas (International Institute for Population Sciences, *National Family Health Survey (NFHS-3)*, 61, 65). Such percentages rose to 63.0% total, 74.9% for urban areas, and 59.6% for rural areas 2015-2016 (State Institute, *National Family Health Survey-4, 2015-2016*, 3). With regard to components of antenatal care, the percentages of women who received two or more TT injections in 2005-2006 was 65.2%

total, 85.3% in urban areas, and 59.5% in rural areas (International Institute for Population Sciences, *National Family Health Survey (NFHS-3)*, 61). Percentages in 2015-2016 for the comparable indicator of protection of birth against neonatal tetanus were 89.7% total, 93.5% in urban areas, and 88.6% in rural areas (State Institute, *National Family Health Survey-4, 2015-2016*, 3). Similarly, the total percentage of women who took iron folic acid tablets for 100 days or more during pregnancy almost doubled from 8.7% total in 2005-2006 to 17.3% total in 2015-2016 (State Institute, *National Family Health Survey-4, 2015-2016*, 3). Rural-urban percentages for the two survey years are not comparable in this case, as the parallel indicator in the NFHS-3 was consumption of iron folic acid tablets for at least 90 days (International Institute for Population Sciences, *National Family Health Survey (NFHS-3)*, 61). Though there is no comparable data for 2005-2006, the percentage of registered pregnancies for which mothers received the Mother and Child Protection Card in 2015-2016 is high in terms total percentage (92.3%), as well as urban percentage (91.3%) and rural percentage (92.6%) (State Institute, *National Family Health Survey-4, 2015-2016*, 3).

Regarding delivery-related indicators, the percentages of births that took place in a health facility in 2005-2006 were 32.3% total, 67.7% in urban areas, and 23.3% in rural areas (International Institute for Population Sciences, *National Family Health Survey (NFHS-3)*, 63-65). Percentages for the comparable indicator of institutional deliveries rose to 84.0% total, 90.3% for urban areas, and 82.3% for rural areas in the 2015-2016 period (State Institute, *National Family Health Survey-4, 2015-2016*, 3). The total percentage of births assisted by a doctor, nurse, ANM, LHW, or other health personnel also showed significant improvement from 2005-2006 to 2015-2016, rising from 41.0% to 86.6% in total; from 74.2% to 92.8% in urban areas; and from 32.3% to 84.9% in rural areas (International Institute for Population Sciences, *National*

Family Health Survey (NFHS-3), 63-65; State Institute, *National Family Health Survey-4, 2015-2016*, 3). For many of the above indicators – including completion of at least four antenatal care visits, completion of first antenatal care visit within the first trimester, protection against neonatal tetanus, institutional delivery, and number of births assisted by the abovementioned health personnel—rural areas demonstrated greater improvement than urban areas.

It is important to note that in spite of improvements in maternal health service indicators over the past ten years, several indicators demonstrate values that are far from ideal. For example, the total percentage of mothers who received full antenatal care during their first pregnancy rose by only 3.4% from 2005-2006 to 2015-2016; coverage in 2015-2016 remained quite low at just 9.7% (State Institute, *National Family Health Survey-4, 2015-2016*, 3). Likewise, substantially less than half of mothers completed 4 antenatal care visits in 2015-2016 (State Institute, *National Family Health Survey-4, 2015-2016*, 3). Similarly, both in rural areas and in total, less than two thirds of women completed their first antenatal check-up in the first trimester during the 2015-2016 period (State Institute, *National Family Health Survey-4, 2015-2016*, 3). At less than 30% in total, as well as in rural and urban areas, consumption rates of 100 iron folic acid tablets also remained unacceptably low in 2015-2016 (State Institute, *National Family Health Survey-4, 2015-2016*, 3). Percentages of mothers whose last birth was protected against neonatal tetanus in 2015-2016 were relatively high in total, as well as in both urban and rural areas; however, universal coverage had not yet been achieved (State Institute, *National Family Health Survey-4, 2015-2016*, 3). The same was true of reception of the Mother and Child Protection card, institutional births, and births assisted by skilled health personnel (State Institute, *National Family Health Survey-4, 2015-2016*, 3).

Additionally, ten years of implementation of the JSY scheme has left many behind: in 2015-2016, the percentage of those who receive financial assistance under the initiative was less than 60% in total (56.1%), as well as in urban (46.6%) and rural (59.1%) areas (State Institute, *National Family Health Survey-4, 2015-2016*, 3). Moreover, statistics suggest that children born at home may not receive appropriate post-natal care: the total percentage of children who were born at home and who were taken to a health facility for check-up within 24 hours of birth remained extremely low at 1.2% in 2015-2016 (State Institute, *National Family Health Survey-4, 2015-2016*, 3). The total percentage has increased by only 1.1% since 2005-2006. Finally, out-of-project expenditure for deliveries within public institutions remained significant at 3052 rupees total, 2287 rupees in urban areas, and 2969 rupees in rural areas during the 2015-2016 period (State Institute, *National Family Health Survey-4, 2015-2016*, 3). This may point to the limited effectiveness of the JSSK schemes, which seeks to reduce out-of-pocket costs related to institutional delivery.

Furthermore, the rural-urban gap in coverage remains significant for several maternal services and maternal health indicators (State Institute, *National Family Health Survey-4, 2015-2016*, 3). Such gaps amount to 19.7% for completion of antenatal care visits (53.8% in urban areas and 34.1% in rural areas); 15.3% for completion of the first antenatal check-up in the first trimester (59.6% in rural areas and 74.9% in urban areas); 10.8% for consumption of iron folic acid tablets for 100 days or more (25.6% in urban areas and 14.8% in rural areas); 10.1% for reception of full antenatal care (17.5% in urban areas and 7.4% in rural areas); 8% for institutional births (90.3% in urban areas and 82.3% in rural areas); and 7.9% for births assisted by medical personnel (92.8% for urban areas and 84.9% for rural areas) (State Institute, *National Family Health Survey-4, 2015-2016*, 3). The only indicators for which rural areas show

significantly better outcomes than urban areas are reception of financial assistance under the JSY schemes (46.6% in urban areas and 59.1% in rural areas) and average out of pocket expenditures for deliveries at public health institutions (3387 rupees in urban areas and 2969 rupees in rural areas) (State Institute, *National Family Health Survey-4, 2015-2016*, 3).

Overall, the above statistics indicate that several aspects of maternal health service delivery and resource provision, including those related specifically to antenatal and delivery-related care, remain deficient within Rajasthan. Such a conclusion is further reinforced by the findings of several secondary studies on maternal health outcomes within Rajasthan. These findings are detailed and evaluated in terms of their implications for the state of maternal health during the antenatal and intranatal periods within the subsequent sub-section.

ii. Maternal Health Within Rajasthan: Literature Review

Certain secondary studies highlight the specific maternal health challenges faced by women within the state, particularly those who reside in rural and tribal communities. Two such studies focus specifically on the causes of and demographic patterns associated with maternal mortality within Rajasthan. The first analyzes causes of maternal deaths occurring among women aged 19 to 45 years in a specific block of southern Rajasthan (Iyenagar et al. 293). Interviews were conducted with families of women who has passed away between June 2002 and May 2003 (Iyenagar et al. 294). Ultimately, 156 maternal deaths were investigated through family interviews (Iyenagar et al. 295). Pregnancy factors accounted for 20% of total deaths among women, while maternal factors accounted for 17.3% of deaths (Iyenagar et al. 295). The most common causes of death among the 31 women who passed away due to pregnancy-related causes were postpartum hemorrhage, sepsis, TB, and anemia, which accounted for 9, 6, 3, and 3 deaths respectively (Iyenagar et al. 295-296). Moreover, 74% of the 31 women belonged to

scheduled caste and scheduled tribe communities (Iyenagar et al. 295). This statistic suggests inequity in access to adequate antenatal and delivery-related care for marginalized communities. Specific data on antenatal services further highlights gaps in service access and quality. Only 18 of the 31 women mentioned above (58%) had received antenatal care; of these women, less than half had completed an abdominal examination, and less than one fifth had received urine, blood, and blood pressure examinations (Iyenagar et al. 296). Low quality of antenatal care is further implied by two of the six narrative case studies included in the study report. Both women passed away from anemia that was not adequately detected or addressed during antenatal care visits (Iyenagar et al. 298, 299).

Regarding delivery, 79% of the 31 women who passed away after delivery (24) underwent home deliveries (Iyenagar et al. 296). Such a statistic suggests lack of access to skilled services and care during home deliveries, a conclusion corroborated by the fact that only two of these deliveries involved a medical professional (Iyenagar et al. 296). Finally, care-seeking behaviors point to gaps in the accessibility of emergency or complication-related maternal health services. Families of 35% of the 31 women who passed away due to pregnancy-related causes chose not to seek care for maternal complications due, among other reasons, to perception of the health issue as non-severe or high cost of treatment (Iyenagar et al. 296). The former rationale points to deficiencies in the provision of health awareness and information among community members. The latter is corroborated by the fact that the median cost of care for those women who did seek treatment was 1300 rupees, and that 60% of families who sought care for women were forced to borrow money in order to do so (Iyenagar et al. 300). Families who sought care faced additional obstacles, including high cost of inpatient treatment and the length of distance to medical facilities (Iyenagar et al. 297). Overall, the study highlights the fact

that both availability and accessibility of high-quality care—whether during the antenatal period, during delivery, or for complication-related treatment—are lacking in certain areas of Rajasthan.

Another study, conducted in 2003 and 2004, sought to identify and evaluate causes of maternal deaths in the districts of Bikaner, Barmer, Jaisalmer, and Jodhpur in Rajasthan (Gupta et al. 81). The study included both a household survey component and a case-control component (Gupta et al. 81). The household survey component incorporated 25, 296 households located within 411 villages corresponding to the above districts, and identified both births and maternal deaths that took place within these households over the course of the previous year (Gupta et al. [Page 81]). 32 total maternal deaths were recorded (Gupta et al. 81). The case control component included interviews with the heads of households in which women who had given birth in the previous year resided (Gupta et al. 81). Cases referred to maternal deaths, while controls referred to births after which the mother had survived (Gupta et al. 81).

The study found that “nearly 78% of the deceased women experienced at least one medical problem during pregnancy,” with 25% of women experiencing antepartum hemorrhage, edema, and/or high fever (Gupta et al. 82). The most common pregnancy-related complication was severe anemia, which was experienced by 34.4% of women (Gupta et al. 82). Moreover, complications during pregnancy were found to be strongly and positively associated with maternal mortality (Gupta et al. 82). Lack of access to antenatal care visits was also significantly associated with maternal mortality, particularly after controlling for other variables (Gupta et al. 82). Only 37.5% of women who had passed away had accessed antenatal care services, while 51.6% of those who had survived had accessed such services (Gupta et al. 82). More specifically, the risk of maternal death was twice as high among those who did not access antenatal care as among those who did, and was significantly lower among those who completed three or more

antenatal care visits (Gupta et al. 82). Thus, the results of this study demonstrate that poor health during the antenatal period and lack of access to antenatal services both continue to constitute a significant challenge in certain regions of Rajasthan and contribute to such adverse maternal health outcomes as maternal death.

Other research that highlights the state of maternal health within Rajasthan focuses specifically on complications and morbidities. One such study addresses adverse maternal health outcomes and their implications for both postpartum and antenatal care by drawing upon the experiences of women residing within the areas in which the non-profit organization Action Research Training Health (ARTH) works within southern Rajasthan (Iyengar et al. 227). The study aimed to assess the effect of complications during delivery on social, economic, and mental well-being after delivery (Iyengar et al. 226). 1542 women, or 90.8% of all of those who delivered in area under study between May 2008 and July 2009, were listed, examined, and asked questions about complications by nurse-midwives affiliated with ARTH (Iyengar et al. 227). Women were subsequently assigned to one of three categories: no complications, less-severe complications, and severe complications (Iyengar et al. 227). Severe complications refer to those that are life threatening (Iyengar et al. 227). Subsequently, 430 women were interviewed in depth 6 to 8 weeks after the delivery period; 87.2% of these women (375) were interviewed again at 12 months (Iyengar et al. 228-229). Survival outcomes of all 1542 women were recorded throughout the 12 month period (Iyengar et al. 228).

The study found that the presence of severe maternal complications was associated with adverse psychological, economic, and social consequences. 6 to 8 weeks after delivery, women with severe maternal complications possessed a greater risk of developing depression (Iyengar et al. 232). With regard to economic impact, significantly more women with severe complications

than those with no complications had spent greater than 10% of their income on treatment, a standard definition of catastrophic expenditure, at both 6 to 8 weeks and 12 months (Iyengar et al. 232). The rate of indebtedness at 6 to 8 weeks was also higher for women with severe complications (16.7%) than for women with no complication (2.2%), as the former were also “significantly more likely to have borrowed money to receive...treatment” for such complications (Iyengar et al. 232). Additionally, at 6 to 8 weeks, women with severe complications reported with greater frequency than did women with no complications that household income and the jobs of their husbands had been adversely affected after delivery (Iyengar et al. 232). In terms of social consequences, women with severe complications were significantly more likely to report an inability to perform routine tasks at 12 months than were women with no complications (Iyengar et al. 233). In fact, 17% of women with severe complications indicated, at 12 months, that they were not able to perform household work as before; the percentage was 4% for those without complications (Iyengar et al. 233). According to the authors of the study, all of the above adverse consequences together indicate that women who have been diagnosed with severe maternal complications do not receive appropriate post-partum care in rural areas of Rajasthan (Iyengar et al. 226, 235-236). More specifically, they lack access to post-partum services and interventions that meet their economic, psychological, and physical needs (Iyengar et al. 226, 235-236). Thus, the study corroborates the notion that maternal health indicators in Rajasthan remain far from ideal, and that significant challenges related to adequate maternal health service provision and delivery remain.

Additional aspects of the study point to the prevalence of anemia and the wide range of negative consequences associated with the condition. Of the 84 women who were interviewed 6 to 8 weeks after delivery and who had experienced a severe maternal complication of some kind,

71.4% had been diagnosed with severe anemia (Iyengar et al. 230). Moderate anemia accounted for 53% of women who were interviewed at 6 to 8 weeks and who had experienced a less severe complication (Iyengar et al. 230). Moreover, out of a total of 5 deaths recorded among the 1542 women included in the study, severe anemia accounted for two such deaths (Iyengar et al. 230). Women diagnosed with severe complications also reported adverse health outcomes—such as fever, swelling, cough, pain, and weakness— significantly more frequently at both 6 to 8 weeks and 12 months than did women with no complications (Iyengar et al. 233). According to the authors of the study, such symptoms likely indicate severe anemia, which can also lead to fatigue and a subsequent inability to perform essential daily and household tasks (Iyengar et al. 236). The authors also cite secondary literature that connects depression among women who have given birth to low hemoglobin and diagnosis with anemia (Iyengar et al. 236). Given the wide-ranging negative effects of anemia detailed in the study, its prevalence among the study participants and within the state as whole constitutes a concern in and of itself. Moreover, such prevalence may point to deficiencies in antenatal as well as postpartum care, as anemia is to be actively managed during the antenatal period through consumption of iron tablets. Thus, the impact of anemia may reflect the broader state of Rajasthan's maternal health infrastructure.

A different study conducted within the field area of ARTH examines direct causes of post-partum morbidity, and further reveals the way in which data related to anemia provides insight into flaw in maternal health service provision (Iyengar 213-214). The project relied upon ASHAs and Village Health Workers (VHWs) to record and report recent deliveries (Iyengar 214). Subsequently, nurse-midwives associated with ARTH visited women who had recently delivered in order to conduct interviews regarding their health and perform physical examinations (Iyengar 214-215). Ultimately, nurse-midwives were able to interview 4,975 women (Iyengar

217). Data collection began in 2007, and the study itself includes data collected between January 2007 and December 2010 (Iyengar 217). 75% of the women interviewed were found to experience post-partum morbidity (Iyengar 218). Anemia was found to be one of the most common morbidities, as 94.6% of the 3,838 women who received a hemoglobin test during the data collection period were diagnosed with some form of anemia (Iyengar 219). 7.4% of women tested for hemoglobin were found to have severe anemia, while 45.8% and 41.4% were diagnosed with moderate and mild anemia respectively (Iyengar 218-219).

The widespread prevalence of anemia among the study population suggests that the condition was not solely the result of blood loss during delivery or inadequate post-partum management and services; rather, high prevalence within the population of Rajasthan itself and lack of appropriate management during the antenatal period likely also contributed to high anemia rates among study participants. Such a conclusion might appear to be contradicted by the fact that differences in anemia prevalence between those who had accessed antenatal care and those who had not was not found to be significant (Iyengar 220-221). The authors of the study, however, suggest otherwise, stating that the abovementioned lack of correlation likely stems from the fact that the uptake of iron folic acid supplements during pregnancy is low (Iyengar 222). Thus, antenatal care in Rajasthan does, in fact, appear to be partly characterized by lack of consistent and widespread provision of iron tablets to pregnant women.

Severe anemia was also found to be significantly associated with membership within scheduled caste and scheduled tribe communities, as well as with home delivery (Iyengar 220). Such findings also point to the link between deficiency in maternal health services in the antenatal, delivery, and postnatal period and anemia. Members of marginalized communities are often disadvantaged in terms of accessibility of health services, while those who opt for home

deliveries may not be able to access the same kinds of delivery and post-partum services available to those who deliver in an institution. Thus, individuals belonging to scheduled caste and scheduled tribe communities, as well as those who deliver at home, may face adverse maternal health consequence relative to other demographic groups.

The prevalence of perineal tears, pain, and infection among the study population also points to deficiencies in maternal care (Iyengar 218-220). In this case, however, such deficiencies appear to be associated with the delivery process. 4.5% of all women who participated in the study were diagnosed with perineal conditions of some kind, and the prevalence of such conditions was significantly higher for those who underwent institutional deliveries (6%) than for those who underwent home deliveries (1.1%) (Iyengar 218-220). Such data suggests that delivery procedures employed in institutions within Rajasthan may possess deficiencies or adverse features that lead to perineal issues. Additionally, data collected on episiotomies for a one-year period between January and December 2009 revealed that perineal conditions were much more common among those who underwent an episiotomy procedure (28%) than among those who did not (3%) (Iyengar 218, 220). Statistics such as these raise the question of whether episiotomies procedures are overused within Rajasthan, as “the avoidance of unnecessary episiotomies can reduce perianal pain and infection,” and thus suggest poor quality of delivery-related care (Iyengar 222).

A third study that drew upon the work of ARTH corroborates the types of complications that women within Rajasthan may experience during the antenatal and delivery period, as well as the implications of such information for the quality of antenatal care provided (Iyengar and Iyengar 9-11). The study sought to assess the role of skilled nurse-midwives in providing direct care and referral support for complications at the organization's two health centers in southern

Rajasthan (Iyengar and Iyengar 10-11). The centers provide around-the-clock maternal health services (Iyengar and Iyengar 10). The nurse-midwives who provided services at the time of the study both possessed either an auxiliary nurse midwife (ANM) certificate or a general midwife and nursing certificate, and received further intensive practical training upon recruitment (Iyengar and Iyengar 10). Training centered on “evidence-based labor and delivery care practices,” and enabled midwives to assess complications, provide emergency services when appropriate, and refer individuals facilities to in Udaipur for emergency obstetric care when necessary (Iyengar and Iyengar 10). Decision-making regarding management of complications was facilitated by adherence to WHO guidelines and virtual consultation with doctors (Iyengar and Iyengar 10 -11).

The study analyzed data drawn from the experiences of women who availed of the two centers’ services between 2000 and 2008 (Iyengar and Iyengar 11). A total of 2271 women sought care at the facilities during this time (Iyengar and Iyengar 11). Nurse-midwives were the primary care providers and decision makers for 517 women detected to have maternal complications; 193 of these women arrived in the antenatal or postpartum period, while 324 arrived during labor (Iyengar and Iyengar 11-12). 53 of the 517 women (10.3%) were found to have severe anemia, while 69 (13.3%) were diagnosed with pregnancy-induced hypertension (Iyengar and Iyengar 14). 62 women (12.0%) and 6 women (1.2%) presented with antepartum hemorrhage and puerperal fever respectively (Iyengar and Iyengar 14). All women diagnosed with antepartum hemorrhage and severe anemia were referred for further care, while 60 women (88%) and 2 women (33%) women diagnosed with hypertension and puerperal fever respectively were referred (Iyengar and Iyengar 14).

The high rate of referral for the complications listed above speaks to their severity. It also highlights the problematic nature of their prevalence, which may indicate poor quality of antenatal care. According to WHO and national health guidelines, each of the conditions above are to be addressed through provision of appropriate antenatal services. Tablets are to be taken for anemia, and symptoms associated with puerperal fever and antepartum hemorrhage are to be inquired about during antenatal check-ups. Check-ups should also include regular blood pressure examinations in order to detect such conditions as hypertension. The combined prevalence of these four conditions—along with their detection in relatively upper-tier health facilities rather than at the primary care or Anganwadi level—point to deficiencies in the provision of standard antenatal services in the area of southern Rajasthan in which the study was conducted.

The study also indicated that family members' preferences and perceptions sometimes hindered the effective management of pregnancy-related complications (Iyengar and Iyengar 15-16). For example only 52 of the 62 women (83%) referred for antepartum hemorrhage were taken to other facilities for additional care (Iyengar and Iyengar 14, 16). Likewise, 39 of 53 women (69%) referred for severe anemia accessed referral care (Iyengar and Iyengar 14, 16). The reluctance of family members to comply with referral advice in the case of these two complications stemmed from unwillingness to donate blood in referral facilities (Iyengar and Iyengar 16). Additionally, family members often did not consider severe anemia to be a condition necessitating referral, perhaps because "relatives had become used to seeing symptoms like breathlessness and effort intolerance" in pregnant women (Iyengar and Iyengar 16). The above perceptions and attitudes not only pose threats to maternal health, but may also speak to lack of access to knowledge and awareness regarding complications that might affect women during pregnancy. Such a deficiency in turn points to the failure of Rajasthan's maternal health

institutions, care providers, and policymakers to develop or effectively implement an appropriate mechanism for the dissemination of information regarding women's health during the antenatal period.

Just as the above research reflects flaws associated with service delivery during the antenatal period, additional studies highlight challenges associated with the provision of quality delivery care during the delivery period. Two such studies demonstrate the prevalence of practices that restrict the ability of mothers and newborns to achieve optimal health during and after delivery. A 2008 study, conducted in two rural regions with differential access to the city of Udaipur, drew upon informant interviews; interviews with women who had recently given birth; focus group discussions with such community stakeholders as grandmothers and TBAs; and direct observations of labor within both the home and medical facilities in order to demonstrate barriers to optimal maternal health (Iyenagar et al., S23-S24). 8 total observations of delivery took place, including 5 institutional births and three home deliveries; 3 of the women who delivered in facilities had originally wanted to deliver in the home (Iyenagar et al. S25). The findings of the study are corroborated by a large-scale survey, undertaken by several of the same authors, in two specific districts of Rajasthan (Iyengar and Iyengar 303, 304). In one district, a block that contained a high proportion of individuals belonging to scheduled castes and scheduled tribes and that was located relatively far from the headquarters of the district was selected (Iyengar and Iyengar [Page #]). In the other district, a block that contained a relatively low proportion of individuals belonging to scheduled caste and scheduled tribe communities and that was located near district headquarters was elected (Iyengar and Iyengar 304). In both blocks, case interviews on delivery practices and experiences were conducted with women who had delivered between June to August or between August and October of the year 2006 (Iyengar and

Iyengar 204). Case studies were conducted for 1947 of 2031 of identified deliveries (Iyengar and Iyengar 304).

The findings of the 2008 study indicate that potentially unfavorable delivery practices and trends that may adversely affect the health of mothers and children exist and remain prevalent within some areas of Rajasthan (Iyenagar et al.). For example, the study indicated that the attendance of a skilled health provider at birth did not necessarily translate into high quality delivery care (Iyenagar et al. S25-S26; S29). Both the home and institutional deliveries observed involved teams of individuals who assisted in the birth (Iyenagar et al. S25-S26). In the case of institutional deliveries, such teams were led by health professionals (doctors and midwives) and included traditional birth attendants and family members (Iyenagar et al. S26). In the home, relatives and traditional birth attendants led the delivery process; however, modern providers were often called to assist and attend (Iyenagar et al. S26). Survey data corroborates such findings: 74% of all deliveries analyzed in the 2006 survey involved multiple birth attendants or care providers (Iyengar and Iyengar 306). Additionally, one fifth of institutional deliveries were characterized by participation of traditional providers, while modern care providers (defined as those “trained in western medical techniques”) assisted in 25% of home deliveries (Iyengar and Iyengar 306). In both home and institutional settings, the influence of skilled providers was diluted by the presence of various birth attendants (Iyenagar et al. S25-S26, S29). Both health professionals, as well as relatives and traditional birth attendants, were observed to engage in unfavorable delivery procedures (Iyenagar et al. S26-S27, S29).

Additionally, the authors of the 2008 study found, from labor observations, that vaginal examinations were often conducted during the delivery process in order to “assess the progress of labor and/or open up the birth passage,” particularly when birth attendants harbored concerns

regarding the completion of vaginal birth (Iyenagar et al. S26). Examinations in both the home and the facility frequently deviated from appropriate hygiene practices: many were carried out with bare fingers that had not been sanitized prior to the examination (Iyenagar et al. S26). The authors of the study suggest that such lack of appropriate hygiene could lead to genital and neonatal infections (Iyenagar et al. S29).

Moreover, the direct observations of labor revealed the use of different techniques to hasten delivery (Iyenagar et al. S26-S27). One such technique constituted the application of fundal pressure to the abdomen by birth attendants, and appeared to be common in both institutional and home delivery settings (Iyenagar et al. S26-S27). Fundal pressure was perceived as essential to delivery by several interviewees and focus group participants, and secondary literature cited in the study suggest that its application is common in Rajasthan (Iyenagar et al. S27, S29). Data from the 2006 survey suggests that fundal pressure is more commonly employed during home than during institutional deliveries (Iyengar and Iyengar 306-307). According to the survey, the percentage of deliveries that involved the application of fundal pressure was 94% in the home, 89% in small clinics, 71% in health centers, and 56% in hospitals (Iyengar and Iyengar 306). In the case of 88% of all home deliveries, fundal pressure was exerted by traditional birth attendants or female relatives (Iyengar and Iyengar 306). Pressure was exerted by doctors and nurses in 62% of all institutional deliveries (Iyengar and Iyengar 306). The negative implications of the use of fundal pressure in a variety of delivery settings and by different types of care providers are significant: consequences of the use of fundal pressure for the health of the newborn can be severe, and may include fetal distress, asphyxia, and trauma.

The 2008 study revealed that home deliveries were also characterized by the administration of intramuscular injections, such as oxytocin and valethemate bromide, in order to

hasten the labor process (Iyenagar et al. S27). Interviews and focus group discussions demonstrated that the stated purpose of administering both injections and fundal pressure was to provide external strength to women of the current generation – who were perceived as weak due to changes in work and eating habits relative to previous generations –for the completion of delivery (Iyenagar et al. S27). The authors of the study also cite literature that indicates the high prevalence of the use of intramuscular injections, a finding corroborated by statistics given in the 2006 survey (Iyenagar et al. S29). Survey data indicates that intramuscular injections were provided in 29%, 97%, 93%, and 93% of all deliveries conducted in the home, small clinics, health centers, and hospitals respectively (Iyengar and Iyengar 306). In the home, 23% of all injections were administered by male and female nurses, as well as by untrained practitioners. In institutions, 93% of all injections were administered by doctors or nurse (Iyengar and Iyengar, 306).

According to the authors of the 2008 study, injections can lead to hyper stimulation of the uterus and cause such adverse health consequences as fetal oxygenation and asphyxia, a ruptured uterus, and blood pressure changes (Iyenagar et al. S29). Therefore, the widespread use of such methods to speed the delivery process appears to be a matter of serious concern, including and especially in delivery settings characterized by institutional procedures and providers (Iyengar and Iyengar 306 - 307). Interestingly, the prevalence of intramuscular injections in the home increased significantly in the presence of modern care providers: 3% of home deliveries involving only traditional care providers incorporated intramuscular injections, while 91% of home deliveries in which modern providers were involved incorporated such injections (Iyengar and Iyengar 307). The fact that a delivery practice associated with such significant and negative

health effects is endorsed and frequently used by modern care providers calls into question the quality of delivery care provided in both home and institutional settings throughout Rajasthan.

According to the authors of the 2006 survey, the widespread use of practices to hasten delivery may stem from circumstances that incentivize different stakeholders to hurry the delivery process (Iyengar and Iyengar 310). The implementation of the JSY scheme has placed a large burden of delivery care on health facilities and staff (Iyengar and Iyengar 310). Thus, medical professionals may be motivated to facilitate rapid delivery in order to cope with the pace of service provision and decrease the burden on facility resources and personnel (Iyengar and Iyengar 310). Additionally, care providers are often exhorted by family members to speed up the delivery process (Iyengar and Iyengar 310). Transportation-related factors also influence care providers and families in the hastening of delivery (Iyengar and Iyengar 310). For example, drivers of vehicles that transport women to institutions for delivery may offer to complete the return journey for a relatively low fee shortly after delivery is complete (Iyengar and Iyengar 310). Thus, ulterior incentives may assist in increasing the frequency of methods used to speed delivery, and thus contribute to adverse maternal and fetal health outcomes (Iyengar and Iyengar 310).

Observations of and interviews regarding post-delivery practices also suggested cause for concern in the 2008 study (Iyengar et al. S28-S29). In 7 of the 8 directly-observed cases of delivery, breastfeeding was not initiated in the first 1 to 2 hours after birth (Iyengar et al. S28). Lack of early initiation also stemmed from the beliefs, harbored by many women and some traditional birth attendants (TBAs), that breast milk does not become available within the body until three days after birth (Iyengar et al. S28). In institutions, unfavorable breastfeeding practices were compounded by early discharge after delivery: 4 of the 5 women who were

observed to give birth in a facility were discharged within 2 hours of delivery (Iyenagar et al. S29). Medical personnel did not make attempts to counsel women on early initiation of breastfeeding (Iyenagar et al. S29). Evidence on early discharge is backed by data from the 2006 survey: 66% of all women who participated in the survey and 70% of women who underwent a vaginal delivery were discharged less than 24 hours after delivery (Iyengar and Iyengar 308). In fact, the time that women remained in the hospital before discharge was found to be lower for lower-tier health institutions (Iyengar and Iyengar 308). Over 70% of women who delivered in public and private hospitals were discharged after 24 hours, while only around 30% were kept within primary or community health centers for at least 24 hours (Iyengar and Iyengar 308). 70% of women who delivered in government subcenters or small rural health facilities were sent home within 6 hours of delivery (Iyengar and Iyengar 308).

Survey data also indicates that out-of-pocket charges for delivery-related services remain a challenge in government facilities (Iyengar and Iyengar 308-309). The average cost of a vaginal delivery increased steadily through the different tiers of healthcare, from 700 rupees and 1030 rupees in a government sub center and government primary healthcare center respectively to 1035 rupees and 2539 rupees in a government community healthcare center and district hospital respectively (Iyengar and Iyengar 308). Meanwhile, caesarean operations elicited average out-of-pocket payments of 9075 rupees in government district hospitals (Iyengar and Iyengar 309). The ubiquity of delivery-related expenses prompted 70% of the families of women surveyed to borrow to finance the cost; 72% of the families paid a monthly interest rate of over 2% to local moneylenders (Iyengar and Iyengar 309). The prevalence of delivery expenses speaks to the failure of the public health system to provide free-of-cost services for both vaginal

and caesarean deliveries, and raises concerns as to the accessibility of such services, particularly for marginalized communities.

The above studies highlight challenges to maternal health service delivery and access, particularly during the antenatal and intranatal periods, within rural areas of Rajasthan. Such challenges are compounded by lack of information and knowledge among women regarding government schemes that aim to improve access to services (Santhya et al.). For example, as mentioned above, the JSY scheme, aims to “encourage institutional delivery, and provide access to care during pregnancy and in the postpartum period, and thereby reduce maternal and infant mortality” (Santhya et al.). The scheme operates across several states within India. However, a report published by the Population Council and based upon data collected from 4,770 interviews conducted in the years 2009 and 2010 indicates that knowledge of the scheme remains limited within Rajasthan (Santhya et al.). While a majority of the women interviewed for the study knew of the JSY program, very few knew of the specific benefits and services to which they were entitled under the scheme or of the conditions of entitlement (Santhya et al.). For example, less than 1% of women were aware that they were entitled to the guidance of Accredited Social Health Activists (ASHAs) before, during, and after delivery (Santhya et al.). In fact, less than half of the women interviewed had knowledge of the ASHA program. Limited awareness appears to have translated into limitations in access to services: the reach of both the overall JSY scheme and the ASHA initiative remains inequitable and restricted (Santhya et al.). According to the report, those most in need of the financial and other assistance provided by the JSY scheme—such as very young women, women in rural areas, and women belonging to marginalized groups—are unable to access it, and less than 25% of women receive support from ASHAs during and after delivery (Santhya et al.).

In summary, the above data indicates that the state of maternal health remains far from optimal within Rajasthan. Moreover, women residing within rural areas appear to be disproportionately affected by challenges related to maternal health. Such conclusions form the context for the present investigation, the results of which are detailed in the subsequent subsections.

c. Research Results

i. The Janani Suraksha Yojana and Shubhalakshmi Yojana: Schemes for Institutional Delivery

Data on schemes for institutional delivery is available for 14 women in Seva Mandir areas. 11 women had heard of the JSY scheme. Of the 11 women specifically asked about the SY schemes, 3 had heard of the initiative. All 14 women had availed of one or more scheme. The amount of time in which money was received under these schemes ranged from 2 days to 1.5 months. 9 women confirmed that they themselves (rather than their families or husbands), received the money. A common uses for the money that was received included the purchase of foodstuffs for the home,

Data on schemes for institutional delivery is available for 13 women in non Seva Mandir areas. 10 and 6 women had heard of the JSY and SY schemes respectively. 11 women (out of 12 who had delivered at least once in an institution) availed of one or more scheme. The amount of time in which money was received ranged form immediately after delivery to 2 to 3 months. 10 women said they themselves (rather than their families or husbands, received the money. Common uses for the money that was received included the purchase of food and household goods.

ii. ASHA Sahayogini and TBA Workers

Data on antenatal visits is available for 14 women in Seva Mandir areas. 11 women received care from a TBA during pregnancy; 4 of these women confirmed that such care was received in the home. . Additionally, the TBA accompanied 8 women to the hospital for one or more deliveries. 3 women clarified that the TBA did not come to the area in which they resided at all. Data on antenatal visits is available for 12 women in non Seva Mandir areas. 11 women confirmed that they had not received care in the home during pregnancy, Though one woman stated that the ASHA had once come to her home to provide care.

iii. Antenatal Care.

1. Essential Antenatal Services

Data on essential antenatal services is available for 13 women in Seva Mandir areas. 11 women consumed iron tablets. The number of tablets consumed by women in such areas ranged from 30 to 90 and above. One woman claimed to have consumed iron tablets from the fourth month of pregnancy onward. Meanwhile, 9 out of the 11 women asked about calcium tablets consumption consumed calcium tablets. The number of tablets consumed ranged from 20 to 100. Additionally, 10 women in Seva Mandir areas received TT vaccinations. With regard to non-Seva Mandir areas, data on essential antenatal services is available for 12 women. 11 women consumed iron tablets. Most women consumed between 30 and 60 tablets. Meanwhile, 5 to 7 women consumed calcium tablets; 2 to 3 of these women did not remember whether they had received such tablets or not. None of the women remembered how many tablets were given. Additionally, at least 11 women in non-Seva Mandir areas received at least 2 TT vaccinations.

2. Antenatal Check-Ups and Examinations

Data on antenatal check-ups is available for 13 women in Seva Mandir areas. An examination of the nails, tongue, and palms for pallor occurred for 6 women in the Anganwadi and 6 women in the home. A pulse check occurred for 8 and 2 women in the Anganwadi and home respectively, while a blood pressure examination occurred for 7 and 0 women in each of these locations. Meanwhile, the weight of 13 and 0 women was examined in the Anganwadi and home. Respiratory rate was examined for 3 and 5 women in such locations. Swelling of the hands, face, and feet was checked for 5 women in the Anganwadi and 4 women in the home. Stomach and urine exams were conducted for 7 and 6 women in the Anganwadi and 3 and 2 women in the home. Hb was checked for 10 women in the Anganwadi and 0 women in the home.

Data on antenatal check-ups is available for 11 women in non-Seva Mandir areas. An examination of the nails, tongue, and palms for pallor occurred for 7 and 2 women in the Anganwadi and hospital (whether public or private) respectively. A pulse check occurred for 1 and 5 women in the Anganwadi and hospital respectively, while a blood pressure examination occurred for 8 and 4 women in each of these two locations. Meanwhile, the weight of 9 and 5 women was examined in the Anganwadi, hospital, and home. Respiratory rate was examined for 2 and 2 women in such locations. Swelling of the hands, face, and feet was checked for 1 women in the Anganwadi and 5 women in the hospital. Stomach and urine exams were conducted for 5 and 2 women in the Anganwadi and 7 and 8 women in the hospital. Hb was checked for 6 women in the Anganwadi and 7 women in the hospital.

iv. Delivery

Data on delivery information was available for 13 women in Seva Mandir areas. All 13 women had had at least one institutional delivery, while 11 women had undergone only institutional deliveries. 2 women had given birth in the home. Additionally, 11 women reported that the behavior of the care provider who conducted the delivery in an institution in the institution was good, while 12 women who delivered in public hospitals reported that money was given to one or more individuals in the hospital. 5 women gave money to either a nurse or doctor, while 11 women gave money to cleaning staff within the hospital. Additionally, 9 women travelled to the hospital via a government ambulance.

Data on delivery information was available for 11 women in non Seva Mandir areas. 10 women had had at least one institutional delivery, while 6 women had undergone only institutional deliveries. 5 women had given birth in the home. Additionally, 8 women who had delivered in an institution at least once reported that the behavior of the care provider who conducted the delivery in the institution was good. One interviewee was unable to complete the remainder of the delivery section. 5 women of the remaining 9 women who had delivered in public hospitals reported that money was given to one or more individuals in the hospital. 2 women gave money to either a nurse or doctor, while 2 women gave money to cleaning staff within the hospital. Additionally, 4 to 5 women travelled to the hospital via a government ambulance.

IV. Conclusions

It appears that the area in which Seva Mandir has had the most impact is that of provision of antenatal care and information in the home. In other words, the Balasakhi and TBA, both of whom are recruited by Seva Mandir, play a significant role in increasing and facilitating the access of women to antenatal services and knowledge. Such a role is particularly critical in light of gaps in service and information delivery within the Anganwadi by the ANM. As a health worker who visits a given area a limited number of times and for very specific purposes—such as the execution of certain antenatal examinations, distribution of iron and calcium tablets, and provision of TT vaccinations—the ANM appears to be constrained in her scope. In Seva Mandir areas, for example, the ANM was found to provide information on diet, rest, and breastfeeding; however, the primary point of contact for such knowledge appeared to be the TBA. Similarly, in areas affiliated with Seva Mandir, the TBA reinforced and strengthened check-ups conducted in the Anganwadi by the ANM with check-ups conducted in the home, thus augmenting the accessibility of care for women. Women in areas in which Seva Mandir does not work do not have access to comparable services and information: the ASHA Sahayogini workers who serve in such areas did not appear to visit homes for check-ups. Rather, the function of such health workers appeared to be limited to encouraging women to travel to the Anganwadi for vaccinations and accompanying women to the hospital for delivery. Thus, women in Seva Mandir areas appeared to be better off in terms of greater access to a range of antenatal care services and information providers.

Notwithstanding the benefit associated with the functions of the Balasakhis and TBAs, however, gaps in service provision appeared to exist in Seva Mandir areas. For example, for both Seva Mandir and non-Seva Mandir areas, respiratory rate and urine were not commonly checked

in either the Anganwadi or (in the case of Seva Mandir areas) the home. Such examinations are crucial. Respiratory rate may be used to diagnose anemia, which is associated with breathlessness and fatigue. Urine examinations, meanwhile, may serve as an indicator of the presence of diabetes. Thus, the low prevalence of such examinations in both Seva Mandir and non-Seva Mandir areas reflects poorly on the quality of antenatal care and indicates that there are ways in which service provision by Seva Mandir can be improved. Additionally, knowledge regarding certain aspects of antenatal and delivery-related care also appeared to be limited in both areas. For example, not all women in either type of area were aware of the Shubhalakshmi Yojana scheme, or the fact that a greater sum of money is received when girl children are delivered within an institution. Each of the healthcare providers interviewed, however, had knowledge of the scheme. Such a situation indicates that the mechanisms for the provision of information regarding the initiative is flawed: women are not provided with the same kinds of information that health workers appear to possess. Overall, then, the findings of the current study indicate that the impact of Seva Mandir, while significant in some ways, could be extended and strengthened in others.

V. Recommendations for Further Study

The following comprises a brief list of suggestions and recommendations for further study regarding maternal health outcomes within India. Such recommendations include specific topics and general study locations, and follow directly from the research process and findings of the present study.

ASHA Sahayogini Workers

Topic: Comparison of the quality of work of, as well as the provision of financial and other incentives to, ASHA Sahayogini workers residing and working within areas with which Seva Mandir is and is not associated. Subtopics may include the qualifications and training of ASHAs in Seva Mandir-affiliated and non-Seva Mandir-affiliated areas, as well as the way in which ASHA Sahayogini workers interact with other frontline health providers in both types of areas.

Location: Southern Rajasthan. Ideally, variables other than the presence of Seva Mandir should be controlled in areas in which the organization does and does not work in order to allow for accurate comparison.

Balasakhis and Traditional Birth Attendants (TBAs)

Topic: Evaluation of the impact and effectiveness of both Balasakhis and TBAs in providing antenatal information and services in different geographical areas in which Seva Mandir programs exist. More specifically, the study might focus on analysis of the factors that affect

differential service provision in various geographical areas. Subtopics may include differences in the training of Balasakhis and TBAs in distinct areas and the contextual challenges that such health providers face in carrying out their responsibilities

Location: Southern Rajasthan. Ideally, villages in blocks that fall in opposite directions relative to the city of Udaipur should be chosen as study sites.

Antenatal Check-ups

Topic: An evaluation of the provision of information related to the maintenance of good health during pregnancy, as well as of the completion of various types of examinations during antenatal check-ups that occur in the Anganwadis, with national standards. Subtopics may include a comparison of norms for the types and number of examinations conducted with national standards; an analysis of the quality of care provided by Auxiliary Nurse Midwives (ANMs) according to governmental guidelines; and the extent to which women are informed about and told the purpose of best health practices during pregnancy. While similar in scope and content to the present study, such an investigation would focus specifically on the effectiveness of the Anganwadi and ANM as a facility for service provision and comprehensive maternal healthcare provider respectively.

Location: Not specified. While completion of such a study in southern Rajasthan would make it most relevant to the present study, Anganwadi facilities and ANMs function across the country; thus, the study could be conducted in a location of the researcher's choice.

Delivery Care

Topic: A rigorous exploration of delivery-related experiences of women in different types of health institutions, including subcenters, primary health centers, community health centers, district hospitals, private hospitals, and smaller private facilities. Subtopics may include reasons for which women and their families elect to undergo deliveries in particular types of institutions; the quality of care and behavior of care providers in different types of institutions; and variance in institutional best practices regarding delivery in different facilities. Ideally, a range of stakeholders—including care providers who regularly conduct institutional deliveries, women, and members of women’s families—should be interviewed.

Location: Southern Rajasthan. More specifically, villages and facilities in which deliveries occur both within and outside of the city of Udaipur.

Post-Natal Care

Topic: An analysis of the types of information and services that are provided to women and that women are actively encouraged to access during a specified period (for example, six months or one year) following childbirth. Subtopics may include vaccinations for infants; locations, frequency, and content of post-natal check-ups for both women and newborns; and the provision of knowledge regarding newborn care and appropriate breastfeeding practices to mothers.

Location: Not specified. Execution of the study in southern Rajasthan would supplement and extend the scope of the present study, which focuses on care during the antenatal and intranatal periods. However, postnatal services constitute an essential aspect of maternal care regardless of the location under investigation, and likely vary across and within states; therefore, it might be more appropriate for researchers to choose the location of study.

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