Risk and trust matter: understanding use of maternity care in contemporary Guinean context

PhD Program – Anthropology of health, care and Body

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I. INTRODUCTION

Naamari

The personal name stated in this section is pseudonym.

An early afternoon in October 2020; I meet Naamari, 28, suffering from obstructed labor in one of the rural health centers of the Forécariah district, western Guinea. Naamari should deliver her third child. She is the youngest and most recent of the three wives of a nearby (8 km away from the health center) village's Imam. Her husband made sure that she complied with all the antenatal care (ANC) visits advised to her by the midwives at the health center. Today, she got to the health center as soon as she felt the first labor pains. The midwives, after vain attempts for hours to deliver her, have just noticed a rupture of membrane. Leaning against the wall on the delivery bed, Naamari writhes in visibly unbearable pain. She cries incessantly to the midwives to help her deliver the baby.

The midwives decide that Naamari's two sisters in law, who accompany her, take her urgently to the district hospital, which is 2 hours away by car because of the rough and muddy road in this rainy period. Namaari and her family did not expect, nor were they prepared, to be referred to the hospital. They were sure that the delivery would go well at the health center, especially as Namaari attended all recommended ANC visits, but also because the midwives had assured Naamari of this, at the cost of complying with advice given during these ANC visits. Faced with the unexpected decision to seek care at the district hospital, Naamari's sisters-in-law say they have no money either for transportation or for health expenses, which are higher at the hospital. The health center has an ambulance which has been out of work for three months. Given the risk that Naamari was running with the bleeding, I pay for a taxi that takes Naamari and one of her sisters-in-law to the hospital.

On my bike, I follow the taxi to the hospital. There, the obstetrician gives the diagnosis of 'feto-pelvic disproportion and membrane rupture' and says that the baby is no longer alive. She decides to immediately operate on Naamari. After the pre-operative examinations, Naamari urgently needs two blood bags to compensate her incredibly low hemoglobin rate (0.7 gr/dl versus a normal rate of 12 to 13 gr/dl). Unfortunately, the hospital is running out of blood stock. We look for blood donors for an hour, in vain. This completely discourages Naamari's sister-in-law who starts crying, wondering what we came to the hospital for. Playing against the clock, the obstetrician tells me that she can use another patient's blood bag supply for Naamari, if I guarantee to find a blood bag by next morning for this patient. I accept the deal and Naamari receives the blood, then is operated on around 9 pm. She normally needed two blood bags, but the only option at the moment was to 'bet' on one blood bag to save her. It was risky, but we had to. Unfortunately, we lost. Very early the next day, Naamari decompensates again and gives up the ghost.

Naamari becomes thus one of the 810 women who die every day in the world, during or following childbearing, most of whom reside in sub-Saharan Africa (WHO, 2019a). Beyond Naamari's shocking death, I was struck by the uncertainties that characterize maternity care services in rural Guinea, and which potentially influence users' perception of risk and trust in these services. These uncertainties are fostered by health resource constraints in the country which I will describe in the following. I will also elaborate on the socio-cultural considerations and the epidemic context of Guinea which have implications for risk perception and trust regarding the use of maternity care services.

Health resource constraints

Guinea, ranking among countries with the highest maternal mortality worldwide (576 deaths per 100,000 live births in 2017, compared to five deaths in the Netherlands) (The World Bank, 2019), is also listed among the poorest countries in the world (174th out of 189 countries), with a Human Development Index of 0.466, below the average of 0.541 for countries in Sub-Saharan Africa (UNDP, 2019). The health sector suffers even more from this economic constraint with an allocation of only xx% of the national budget since 200X, which was increased to xx% from 2018 (refs). Maternity care services have therefore been marked for decades by limited health resources, especially with the user fee exemption policy adopted in 2011 by President Alpha Condé, a few months after his accession to power (ref). According to this policy, ANC, delivery care including caesarian section, and postpartum care should be provided free of charge in government health facilities (refs). However, as of 2018, only xx% gave birth in health facility, xx% were checked by a health professional over the 48 hours following delivery (EDS 2018), and 20% received all recommended maternity care services (camara et al). Indeed, in a context of lack of accompanying measures for user fee exemption policies, poor quality of maternity care services have been documented in different sub-Saharan countries including Guinea (Kruger and Schoombee, 2010; Kyaddondo et al., 2017; Lambert et al., 2018; Camara et al., 2020; Kassa, Tsegaye and Abeje, 2020; Ansu-Mensah et al., 2021). As of 2013, half of health facilities in the country were reported to have only one delivery bed, half of maternity care providers affirmed to be not satisfied with the material resources they have for care (Marie-Hatem). Alongside the material resource challenges, several health facilities are understaffed; in 2017, the country had a ratio of 1.4 care providers per 1 000 populations against a target of 4.45 care providers to achieved the global SDGs by 2030 (ref Delphin). Human resource constraints are far more pronounced in rural settings where only 17% of the health workforce serve (ref Delphin), while 63% of the population live there (ref DHS 2018).

I am aware that there are huge health resources shortages that impede provision and use of maternity care services in low income settings (refs Pot, Payment), and Lispky (2010) has written about how this leads to forms of street level bureaucracy, which means that ideal plans are not implemented as intended. However, based on Naamari's story, I argue that to better apprehend

what happens on the ground regarding actual use of maternity care, especially in a context of health resource constraints, it is helpful to use the social science concepts of trust and risk.

In next section, I will further demonstrate how the concepts of trust and risk matter for understanding use of maternity care in a country successively affected by the Ebola virus disease (EVD) epidemic and the 2019 coronavirus disease (COVID-19) pandemic.

Through the waves of EVD and COVID-19

In recent years, Guinea has experienced waves of epidemic crises, notably the Ebola virus disease (EVD) epidemic from 2013 to 2016 and the 2019 coronavirus disease (COVID-19) pandemic since March 2020. The EVD epidemic, so far considered the deadliest ever in Guinea, reportedly infected 3,351 people infected with 2,083 deaths (Ministère de la Santé et Organisation Mondiale de la Santé, 2016). As for the COVID-19 pandemic, the largest and deadliest ever worldwide, reported case were estimated to xxxx in the country, with only xxx deaths, as of xxx 2021 (refs). Both epidemics have been negatively influential on the use of maternity care (Camara *et al.*, 2017; Delamou *et al.*, 2017) (ref Banque Mondiale).

The fall in use of maternity care during the EVD is in places attributed to the influence of the epidemic risk communication on trust and risk perception regarding health services (Anoko, 2014; Camara, 2018). During the EVD epidemic, inappropriate strategic planning to control the epidemic in its early phase, mainly poor communication on the EVD and lack of community involvement in the response activities, led to community members perceiving the epidemic response activities as disruptive and dismissive of traditional values, and as a threat to their lives (Anoko, 2014; Fairhead, 2016), thus leading to distrust in the health system (United Nations Development Group, 2015). For instance, the epidemic response actors recommended community members not to shake hands when they meet, while this culturally symbolizes greetings and sympathy. Furthermore, community burials were prohibited, EVD suspected households were sprayed with 'unknown products' by 'unknown agents', wearing masks, and appearing as 'cosmonauts' (Barry, 2017). Another issue that affected the trust of community members was the unprecedented sudden interest of the health system in their health. Government authorities had been perceived mostly by marginalized social groups as not caring about their basic needs, including health care, over years (Somparé, 2017). As direct consequence, government health services were perceived as risky, since rumors blamed health workers to be accomplices of the ruling party to deliberately infect people with the virus. The same rumors accused government of plotting with the Western to spread and maintain the epidemic in the country, for political and economic purposes (refs). It should be recalled that the EVD epidemic crisis began on the eve of the presidential elections that were scheduled for October 2015.

Besides the perceived risk related to Government and health workers' intention to contaminate people through health services, the poor level of infection prevention in health care settings was another perceived risk of EVD contamination. The use of maternity care services was perceived

riskier since these services often require providers to directly touch patients and handle their blood or other body fluids, while protection measures were inadequate (ref Camara reprod health).

Also, the risk of EVD contamination is not only medical. Social or professional stigma even after recovery from the EVD is an important social risk (refs science sociale) following EVD contamination (refs Delamou- ebola survivors). Stigmatization in relation to the EVD has been reported to expand to EVD victims' and survivors' families in the west African context (ref Camara post-EVD fear). In addition to EVD contamination risk, a risk of maternity complications following poor access to quality care can be attributed to the EVD crisis, as resources were repurposed towards the response to the epidemic at the expense of routine services (refs Diakité, autre). Deterioration in the quality of HIV/AIDS care and malaria care among pregnant women was reported during the EVD epidemic in Guinea (ref Leno et Kolie).

In the aftermath of the EVD epidemic, strengthening the post-EVD health system has become a priority for the government and its international partners (Govindaraj, Herbst and Clark, 2018). For instance, in rural areas the majority of health centers- previously with no physician - were staffed with physicians and more midwives. With the perspective to improve timely access of rural women to emergency obstetric care, some rural health centers were rehabilitated to provide caesarean section.

The COVID-19 response has been marked by a different dynamic based on a monthly presidential statement ordering compliance with a number of public measures, mainly borrowed as a 'travelling model', from Asian and western countries that were the first to respond to the pandemic. The measures ordered include barrier measures, notably wearing nose mask in public spaces and keeping physical distance, and movement restriction measures, i.e. lockdown of Conakry city, curfew, closure of public spaces (Mosques, Churches, School, etc.), ban on gatherings and reducing the number of passengers on board the means of transport (ref). These governmental provisions, beyond an appeal, have been coercive to citizens, on pain of payment of a fine (except for physical distancing) (refs).

However, the application of these measures varied between the capital Conakry (epicenter of the pandemic), and the countryside. In Conakry, the media coverage of the number of deaths caused by the disease in Western countries created great fear among the population in Guinea, leading the inhabitants of Conakry to immediately start wearing masks as soon as the first case was reported in the country, precisely in Conakry. The use of hand hygiene kits, inherited from the Ebola response, was also quickly integrated into behavior in Conakry. Unlike, in the interior of the country, where the disease had not yet been declared, mistrust of the government, activated by the governmentality that characterized the response to the pandemic, and by memories of the Ebola crisis, quickly resurfaced. For instance, an agency against the compulsory wearing of masks has emerged in some countryside cities such as Coyah and Forcariah (Author's field notes, September 2020), following a deadly confrontation in Coyah in May 2020, between the population and the police, who were accused of taking advantage of the pandemic to extort

the inhabitants (refs). Also, relaxation of the surveillance of barrier measures by the State was more noticed during the presidential election period (July-October 2020). The organization of large political gathering by the State with no physical distancing, no systematic wearing of mask, and the absence of police controls for the mask over this period convinced more than one the State engagement in the COVID-19 response was not for health reasons (Author's field notes, January 2021). Consequently, individuals considered the COVID-19 as a 'new plot' - like Ebola – 'sponsored by the government and the Western' for political and economic purposes (Author's field notes, April 2020). Such perception not only led to non-compliance with the pandemic barrier measures, but to decline in use of routine health services, including maternity care (Author's field notes, April 2020). Elsewhere in Africa, the COVID-19 pandemic has been reported to decrease use of maternity care services (refs).

Despite claims that the health system in Guinea, after the EVD experience, has become resilient to epidemics (refs), realities on the ground show that the histories of EVD and the COVID-19 in Guinea are associated with public mistrust in government and the health system, resulting in perceived risk of routine health services. I argue that the best way of building a health system resilient to epidemics is to come up with a people-centered health system; and that, the social science concepts of trust and risk have a potential value to granting understanding and guidance for building such health system.

As building a people-centered health system implies accounting for the socio-cultural norms of these people, in this context, in relation to maternity care.

Sociocultural considerations

Guinea is a country where beliefs in superstition, witchcraft and animism shape interpretation of illness and maternity, (Pool, 1994), thereby influence maternity care seeking behaviors. The strong influence of traditional beliefs in the use of maternity care is also linked to the recent history of exposure of the predominantly rural (63%) and unschooled (51%) population to modern maternity care. In rural Guinea, access to modern maternity care was possible only in 1978 with the adoption of a community health policy enabling the establishment of health centers and health posts and promoting access of pregnant women to basic care in rural areas (ref politique santé com). The introduction of modern maternity care has been accompanied by a global medical discourse discouraging traditional maternity care practices (ref WHO).

However, promoting the replacement of traditional maternity practices with modern ones in a still traditionally embedded society implies a process involving the notions of perceived risk and trust regarding these practices. Hence, despite the medical hegemony in maternal health fostered by global health in Africa over the past decades, contemporary maternity care in the Guinean rural context is shaped by traditional agency. In rural Guinea in 2018, half of women were attended for birth by a traditional birth attendant (TBA) or family members, and seven out of ten postpartum women received no or TBA-provided care (ref DHS 2018). Such a context

therefore implies that socio-cultural considerations should be taken into account in order to increase the use of modern maternity care services. In this respect, I believe that the notions of risk and trust play a key role in understanding the influence that socio-cultural beliefs have on the use of maternity care services.

II. RESEARCH QUESTIONS

2.1. Main question:

How do the lenses of trust and risk help to understand use of maternity care in structural, socio-cultural and epidemic contexts, in rural Guinea?

2.2. Specific questions:

1. What are the gaps in actual use of maternity (continuum of) care in Guinea?
2. What types of interventions can increase use of maternity care in resource constraint settings?
3. How do health resource constraints influence users' trust and perceived risk regarding maternity care services in rural Guinea?
4. How do the EVD and COVID-19 measurements influence users' trust and perceived risk regarding maternity care services in rural Guinea?
5. How do socio-cultural considerations influence users' trust and perceived risk regarding maternity care services in rural Guinea?

III. SITUATING TRUST AND RISK

In this research, I build my discussion on the notion of risk, as defined by Desmond et al (ref): '*the likelihood or possibility of danger*'. This definition fits our study context as it highlights the notion of uncertainty, an important feature of a rapidly changing epidemic and social context (Vigh, 2009), marked by public mistrust in the health system (refs). Risk, as defined by Desmond et al (ref), is therefore meant to be socially constructed through cognitive and affective processes, as judging a possibility of danger stands on either a degree of information (rationality) or emotional judgement developed through social relationships (Zinn, 2008; Barbalet, 2009; Rodrigues, 2016). As such, the process of understanding and interpreting individuals' perceived risk related to maternity care services requires discussions and observation about both formal and informal evidences (Frankel, Davison and Smith, 1991).

Understanding the social perspective of risk also involves understanding how risk is socially dealt with. The social management of risk leads us to the notion of trust, since trusting is known as the way of managing risk (ref Rodriguez). Trust, defined by Offe (1999), is '*the belief that others, through their action or inaction, will contribute to my/our well-being and refrain from inflicting damage upon me/us*. The person who trusts, extrapolates beyond available information

(Fledderus, p429, Rodrigues 388) and holds expectations about something future (Misztal, 1996, p24), something wished, which likelihood of occurrence is more believed than the likelihood of the unexpected or unwished outcome (a risk).

Another important aspect to highlight is that the process of managing risk through trusting involves choosing between risks (Douglas and Wildavsky, 1983; Rodrigues, 2016), that is, the risk of trusting (and taking action) and the risk of not trusting (not taking action). For instance, amidst an EVD crisis with a context of public mistrust in health services and social stigmatization around EVD, a woman in labor may choose to trust health services, thus managing her perceived risk of being stigmatized by her community members when seeking treatment to the health center, rather than not trusting health services at the risk of birth complications by staying at home. Trusting, thus implies weighing and choosing between risks.

To discuss trust as a way of managing risk for the use of maternity care, we also draw attention on two complementary trust dimensions, which Calnan and Rowe (2009) refer to as 'intentional trust' and 'competence trust'. The first relates to individuals' expectation that care provider's intentions align their best interest, whereas the second dimension refers to when individuals expect that the care provider is technically qualified to perform the act (ref Rodriguez). Intentional trust, from Calnan's and Rowe's perspectives, deals with any risk related to the intention, will, mental state or morale of the person to (mis)trust. For instance, in the present research context marked by social uncertainty that portrays care providers as conspiring to spread the Ebola virus or coronavirus within communities (Barry, 2017; Jarolimova *et al.*, 2021), the concept of intentional trust grants better understanding on how individuals deal with their perceived risk of health services to use maternity care. Competent trust, as presented by Calnan and Rowe (2009), deals with risk related to performance; however, this dimension needs to be zoomed in to clarify what (provider's) competence or ability to perform means. As Rodrigues argues, to trust a care provider's competence also means trusting in the health care system of which he/she is part (Rodrigues, 2016, p387). In this view, competence trust goes beyond the skills of the provider, to the effectiveness and harmlessness of care organization and available of material resources in the care setting. As so, I rather refer to such dimension as 'performance trust'. Performance trust, for example, trims woman's decision to trust maternity care services at the health center against the risk of not only missing the qualified midwife once she gets there, but also coinciding to stock-out of essential products and consumables. Beyond tailoring care seeking decisions, performance trust also plays out a role in how the provider decides what care to provide to the woman for better maternity outcome. Indeed, as supplying and maintaining health resources are generally out of the control of the care provider who is at operational level (Lipsky, 2010), his/her trust in and perceived risk of available resources can shape his/her decision about how to better meet the client/woman's care expectations.

In the process of understanding and interpreting how risk regarding health services is socially navigated for use of maternity care, we base our analysis on Rodrigues' framework of trust relationships (Rodrigues, 2016). To explain how different trust relations influence decision-

making processes for medicines consumption in Mozambique - a non-western country, Rodrigues considered a combination of three intertwined layers of trusting relationship. These include trusting relationships with different medical systems, with health facilities and care providers, and trust in individuals 'own personal and socially shared experiences. Trust in the medical systems regards individuals' trust in the systems that produce i) knowledge about health, disease, healing, cure and well-being; behind the medical products; ii) tools to diagnose, monitor and treat; and iii) experts that held and could manipulate these tools (Rodrigues, 2016, p393-94). This layer is relevant to our analysis it will help to understand individuals' trust in the health system, which manages maternity care programs and epidemics in Guinea. The second layer is about trust in health organizations and providers (Rodrigues, 2016, p393-94), referred to by Giddens (1990) as 'access points' and 'street level bureaucrats' by Lipsky (2010). This layer in our analysis will include health facilities, clinics, pharmacies, physicians, midwives, nurses, laboratory agents, pharmacists, matrons, and community health workers (CHWs). The third layer of the trusting relationship refers to trust in personal and socially shared experiences. Rodrigues refers to this layer as more pragmatic and embodied form of trust, as here, trust is built on the perceived results of medicines in individuals' own bodies. This kind of trust relies more on relational and intimate ties, rather than on professional merit; it is constructed thanks to recommendations of family, friends, colleagues or neighbors (Rodrigues, 2016, p399-400). This layer will guide to the understanding of how trust in maternity care services in epidemic context is built through personal experience and social networks.

IV. RESEARCH SETTING AND METHODS

4.1. Guinea's location and general population

Guinea is a relatively small country (245 857 squared kilometers), located in West Africa. As of 2018, Guinea had a population estimated to twelve million inhabitants (Institut National des Statistiques, 2019), the majority being females (xx%), with a fertility rate of five children per woman (The DHS Program, 2019). Life expectancy is estimated to 61 years (ref). With French as official language, the country is characterized by an ethnical diversity, the main spoken local languages being *Maninka*, *Fulbhe*, and *Soso*. About eight out of ten inhabitants belong to the Muslim religion, one to the Christian religion and one to animism (United States Department of State, 2012). However, much of the population from the Muslim and Christian religions also embrace indigenous cultural beliefs into their practices (United States Department of State, 2012; Somparé, 2017). Polygamy is common (42% of married couples in 2018) and has been practiced traditionally in the country since the pre-colonial era (ref). Over the last twenty years of the colonization, the colonial legislator stepped into the family law in Africa (ref Jacqueline Costa ref Diallo), but came up against the resistance of polygamy, which was based on strong local customs (ref Diallo). The post-colonial constitutions, inspired by the modern western model, also attempted in vain to ban polygamy until its adoption in 2018 constitution (ref Diallo, Jeune

Afrique), which allows a man to marry, likewise the Muslim religion, up to four wives, but with consent from the previous wife/wives (Jeune Afrique, 2019).

In Guinea, maternity care seeking is gendered (ref Barry), with the husband as main decision maker. However, women (mostly influencing ones from the husband's family) also influence decision for maternity care seeking, as pregnancy and childbirth are considered purely female issues, especially in rural areas where cultural beliefs are dominant (ref).

4.2. Maternal healthcare system in Guinea

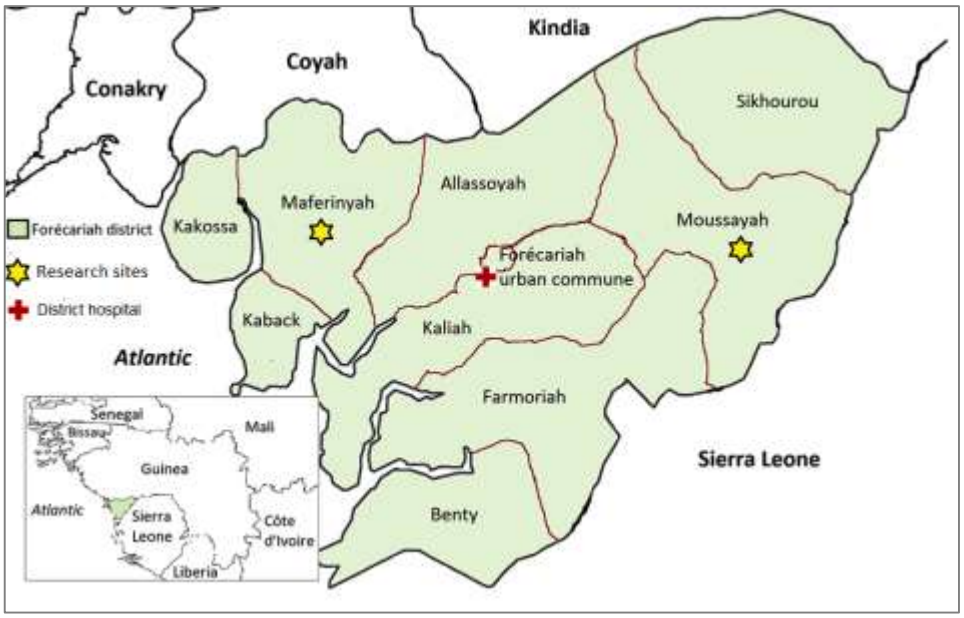
Contemporary maternity care services are organized through the country healthcare system, which is divided into primary (960 health posts and 410 health centers), secondary (38 regional, district or communal hospitals), and tertiary (three national hospitals located in the capital city) care settings (Ministère de la Santé-Guinée, 2018). All hospitals, health centers and some health posts provide antenatal care (ANC) and conduct deliveries. ANC can also be provided at community level during outreach activities. Emergency obstetric care for complicated childbirths (including caesarean section) is offered at hospitals and, since 2018, at some health centers. Maternity care services are also provided in private clinics and informal medical cabinets (mostly owned by individual obstetricians or midwives).

4.3. Research sites

As part of a larger maternal and child project, the present study was conducted in the health district of Forécariah, precisely in the sub-districts of Maferinyah and Moussayah. The district is relatively close (79 km) to the capital city Conakry, with an important land transportation flow as it shares border with Sierra Leone. Forécariah is however a modest district as compared to many in the country, in terms of surface area (4 384 km2), population size (243 000 inhabitants, as of 2014), and business. The population is mainly made up of the *Sousou*, who are the indigenous people. However, other ethnic groups are becoming more and more numerous. The inhabitants are mainly farmers and fishermen, and practice the Muslim religion.

The district is composed of an urban commune where the district hospital is located, and nine sub-districts, each sub-district having a rural health center. The district of Forécariah was one of the most affected by the 2013-2015 EVD outbreak countrywide (484 cases and 336 deaths); it also experienced community resistance to EVD response activities (Anoko, 2014; Ministère de la Santé et Organisation Mondiale de la Santé, 2016). The district also recorded xx COVID-19 cases with no death (ref).

I chose Maferinyah and Moussayah as our ethnography sites because of their representativeness of the variance in their characteristics (population size, accessibility, urbanization, access to health services, epidemic contexts).



Maferinyah is a more populated, accessible, busier and more urbanized than Moussayah. The sub-district had nearly 51 000 inhabitants in 2019 (source: District Health Office of Forécariah). It is closer to the capital city Conakry (50 km) and is located on the national highway connecting Conakry to the neighbouring country Sierra Leone. Maferinyah is also a business connection point between the coastal sub-districts of Kakossa and Kaback, the busy city of Coyah and Forécariah city. Furthermore, it is frequented in recent years by miners who have started to exploit iron ore there. In addition, the main village of Maferinyah is undergoing a pace of urbanization that makes it be considered by many as a city. Maferinyah hosts the national training and research center in rural health (which I belong to), several public and private primary and secondary schools, hotels and urban housings. Moussayah – located at 128 km away from Conakry- is a relatively remote area of 44 000 inhabitants (as of 2019). The sub-district counts one public primary and one public secondary schools. Trade is mainly limited to the weekly market, which brings together merchants from the surrounding villages and some sub-prefectures. Public transport (wheeled vehicles) only reaches the sub-prefecture on market day. Travel outside of Moussayah is therefore generally done by motorbike.

In terms of access to health services, Maferinyah has the largest (space, staff, equipment) health center in the district. It is the only health center in the district providing caesarean section. As of 2019, expected pregnancies in the sub-district were estimated to 2 300, 59% of whom attended at least one ANC visit, and 53% gave birth in government health facility (ref district health office). Maferinyah counts five health posts xxx community health workers (CHWs) who support primary health care including maternity care services. As main roles for maternity care, CHWs sensitize pregnant women to attend ANC visits and give birth at health facility, sometimes refer or accompany them to the health center for maternity care. Maferinyah also has a few private clinics and several informal medical cabinets providing maternity care services. The sub-district of

Moussayah counts one health center, four health posts and xx CHWs. The health center provides only primary health services which mainly include ANC, vaginal deliveries, postpartum care, vaccination, and adult care services. There is no private clinic in Moussayah; however, the senior nurse of the health center provides private care services at his home, including antenatal visits, childbirth, postpartum care. Expected number of pregnancies was estimated to 3 700 in 2019, only 29% of whom attended at least one ANC visit and 15% gave birth in a health facility (ref district health office). Regarding the epidemic context, Maferinyah sub-district was more affected by the 2013-2015 EVD outbreak with reported 36 cases versus fourteen cases in Moussayah (Ministère de la Santé & OMS, 2016). Maferinyah also recorded two COVID-19 cases versus no case in Moussayah (ref).

4.4. Methods

The present research will consist of a three-month ethnography (September to November 2021) in the sub-districts of Maferinyah and Moussayah. Ethnography consists of trying to take part in local life as much as possible, using a variety of specified, formal and information techniques for the collection of data (Eriksen, 2015). Ethnography, if conducted in a health care setting, is called hospital ethnography. Hospital ethnography is important since health care settings reflect the different cultures and societies to which they belong; biomedicine is a domain where the core values and beliefs of a culture come into view (Geest and Finkler, 2004; Gerrits, 2016).

We (my research assistants CTS and MD, and I) will conduct hospital and community ethnography, concomitantly in both sub-districts. CTS is young female medical doctor with experience in qualitative research whereas MD is a young male sociologist. Each assistant will remain constant in one of the sub-districts throughout the three months, while I will alternate weekly between the two localities which are located two hours' drive from each other. Between April 2019 and May 2021, CTS, MD and I, have made at least ten visits and a minimum equivalent of three months' presence in each of these sub-districts. I therefore assume that our presence there for this ethnography will be considered more or less ‘natural’ by permanent residents including informants (Eriksen, 2015).

We will conduct both hospital and community ethnography. At the health facility level, we will focus at the health centers which are the main health care settings at sub-district level; nonetheless, we will visit health posts and the district hospital (to follow up on referral cases). We will observe maternity care practices and interactions between maternity care providers and users, we will conduct individual depth interviews (IDIs) with maternity care providers on their main health resource challenges, their opinions on users’ trust and perceived risk regarding health material and human resources, the influence of the EVD and the COVID-19 on the provision of maternity care, their opinions on how these epidemic crises affected users’ trust and perceived risk regarding maternity care services, their care provision experiences regarding socio-cultural considerations/norms. We will also have informal conversations with maternity

care providers, health facilities' managers, patients, their companions and any possible informant presenting at the health facility.

At the community level, we will hold focus group discussions (FGDs) with mothers on maternity care seeking behaviours with a focus on care seeking options including during the EVD and COVID-19 crises, and decision making processes for these care seeking options. Selection of the groups will account for participants' age and formal education level, as well as the geographical radius from the health center. Further, IDIs will be conducted with some of these women to understand how health material and human resources, epidemic crises (EVD and COVID-19), and socio-cultural consideration influence their perceived risk and trust regarding maternity care services. We will also conduct four to six case studies (two to three in each sub-district) on maternity care seeking behaviours. We will follow up (repeated observations and informal conversations) on a selection of three pregnant women (six in the two sub-districts) through pregnancy, birth and postpartum periods to understand their maternal health behaviours (advice and care seeking pathways, decision making, reasons, etc.). Selection of women will account for their age group, formal education level, and distance from home to the health center. The team will pay informal home visits to each of these pregnant women at least once a month. Where possible, a member of the ethnography team will accompany the woman to the care seeking place to live her experience of care seeking.

IDIs and FGDs will be audio-recorded upon informant's content. Otherwise, notes will be duly taken. Conversations will be in French with care providers and in Sousou with community members.

Data collection and analysis will be concurrent and data will be analysed through an iterative process. Preliminary data collected will be intermittently analysed in the field, and then will follow further research to confirm or refute temporary results until theoretical saturation is reached (Saunders *et al.*, 2017). Interviews will be transcribed verbatim in French and analysed using deductive and inductive coding. Deductive codes based on research questions will first be applied to the data. Then inductive codes will be detected from emergent themes raised by informants. The codes will be classified into main categories and subcategories on the basis of differences and similarities across informant characteristics. Data will be analysed with NVivo 11 Qualitative Data Analysis software (QSR International Pty Ltd. Cardigan UK).

4.5. Reflection on personal assets and limitations

I am aware that various personal factors may influence the collection and interpretation of the data in this research. At the health facility level, being medical doctors (one assistant and I) will be, on the one hand, an asset as we will be easily accepted as 'insiders' to observe ANC, deliveries and postpartum care. However, on the other hand, my professional status as physician with a public health master from overseas, working at the national research center, and now doing a PhD in Europe, will constitute a limitation. Indeed, care providers, who are mainly nurses and

midwives, will seek to improve their image and that of their health facilities in my presence. This desirability could lead them to hide information or their practices that they consider dishonorable. To minimize this influence, I plan to involve myself and my MD assistant in the activities of these health centers, more as health workers than researchers. In practice, I will ask for days during the week when we will come to participate in the services as health workers. So we will stay there for three months, and I think that this period is enough to understand the realities of health care practices as they occur naturally.

At the community level, being a male and culturally grounded, socio-cultural considerations will limit my ability to directly ask certain questions related to childbirth and certain health problems of a woman in the perinatal period, as these problems are generally considered taboo for males, especially in these rural settings. However, I have the advantage of having a female research assistant who will ask questions about such health problems if needed.

4.6. Ethical considerations

The qualitative protocol of this study has been approved by the Institutional Review Board of the Institute of Tropical Medicine of Antwerp (Belgium) (1295/19) and the National Ethics Committee for Health Research of Guinea (039/CNERS/19). We will obtain verbal consent each informant before each IDI or FGD. Verbal consent will also be obtained from health providers and the woman for participant observation at the health facility.

REFERENCES

Anoko, J. (2014) 'Communication with rebellious communities during an outbreak of Ebola virus disease in Guinea: An anthropological approach', *Ebola Response Anthropology Platform*, pp. 1–21. doi: 10.1017/CBO9781107415324.004.

Ansu-Mensah, M. *et al.* (2021) 'Quality of care in the free maternal healthcare era in sub-Saharan Africa: a scoping review of providers' and managers' perceptions', *BMC Pregnancy and Childbirth*, 21(1), pp. 1–9. doi: 10.1186/s12884-021-03701-z.

Balde, M. D. *et al.* (2017) 'Perceptions and experiences of the mistreatment of women during childbirth in health facilities in Guinea: a qualitative study with women and service providers', *Reproductive Health*, 14(1), pp. 1–13. doi: 10.1186/s12978-016-0266-1.

Barbalet, J. (2009) 'A characterization of trust, and its consequences', *Theory and Society*, 38(4), pp. 367–382. doi: 10.1007/s11186-009-9087-3.

Barry, A. A. B. (2017) 'Interpreting the health, social, and political dimensions of the Ebola crisis in Guinea', in Abdullah, I. and Rashid, I. (eds) *Understanding West Africa's Ebola epidemic. Towards a political economy*. Zed Books. London, pp. 70–84.

Bloemertz, L. *et al.* (2012) *Risk and Africa: Multi-disciplinary empirical approaches*. 2012th edn. Berlin: LIT.

Calnan, M. and Rowe, R. (2009) *Trust Matters in Health Care*. Open University Press.

Camara, B. S. *et al.* (2017) 'Effect of the 2014/2015 Ebola outbreak on reproductive health services in a rural district of Guinea: An ecological study', *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 111(1), pp. 22–29. doi: 10.1093/trstmh/trx009.

Camara, B. S. (2018) *Post-Ebola outbreak care-seeking behaviors for other febrile illness in rural Guinea: Case of malaria among children under-five years old*. Nagasaki University.

Camara, B. S. *et al.* (2020) 'What do we know about patient-provider interactions in Sub-Saharan Africa? A scoping review', *Pan African Medical Journal*, In press.

Delamou, Alexandre *et al.* (2015) 'Gratuité des soins obstetricaux: opinions des beneficiaires dans la ville de Conakry (Guinee).[Free obstetric care: Opinions of beneficiaries in the city of Conakry (Guinea)].', *Guinée Medicale*, 87(2), pp. 4–11.

Delamou, A. *et al.* (2015) 'How has the free obstetric care policy impacted unmet obstetric need in a rural health district in guinea?', *PLoS ONE*, 10(6). doi: 10.1371/journal.pone.0129162.

Delamou, A. *et al.* (2017) 'Effect of Ebola virus disease on maternal and child health services in Guinea: a retrospective observational cohort study', *The Lancet*, 5(17), pp. 1–10. doi: 10.1016/S2214-109X(17)30078-5.

Douglas, M. and Wildavsky, A. (1983) *Risk and Culture. An Essay on the Selection of Technological and Environmental Dangers*. 1st edn.

Eriksen, T. H. (2015) 'Fieldwork and Ethnography', in *Small Places, Large Issues*. 4th edn. Pluto Press, pp. 32–51. Available at: https://www.jstor.org/stable/j.ctt183p184.7.

Fairhead, J. (2016) 'Understanding social resistance to Ebola response in Guinea', *African Studies Review*, 59(3), pp. 7–31.

Fledderus, J., Brandsen, T. and Honingh, M. (2014) 'Restoring Trust Through the Co-Production of Public Services: A theoretical elaboration', *Public Management Review*, 16(3), pp. 424–443. doi: 10.1080/14719037.2013.848920.

Frankel, S., Davison, C. and Smith, G. D. (1991) 'Lay epidemiology and the rationality of responses to health education', *British Journal of General Practice*, 41(351), pp. 428–430.

Geest, S. Van Der and Finkler, K. (2004) 'Hospital ethnography : introduction', 59, pp. 1995–2001. doi: 10.1016/j.socscimed.2004.03.004.

Gerrits, T. (2016) *Patient-centred IVF. Bioethics and Care in a Dutch Clinic*. Amsterdam.

Giddens, A. (1990) 'Consequences of modernity', *Cambridge: Polity Press*.

Govindaraj, R., Herbst, C. H. and Clark, J. P. (2018) *Strengthening post-Ebola health systems. From response to resilience in Guinea, Liberia and Sierra Leone.* Washington DC: World Bank Group.

Institut National des Statistiques (2019) *Annuaire statistique 2018*. Available at: http://www.stat-guinee.org/images/Publications/INS/annuelles/Annuaire_INS_Draft_2018.pdf (Accessed: 1 May 2020).

Jarolimova, J. *et al.* (2021) 'Medical Mistrust and Stigma Associated with COVID-19 Among People Living with HIV in South Africa', *AIDS and Behavior*, (0123456789). doi: 10.1007/s10461-021-03307-8.

Jeffery, P. and Jeffery, R. (2010) 'Social Science & Medicine Only when the boat has started sinking : A maternal death in rural north India q', *Social Science & Medicine*, 71(10), pp. 1711–1718. doi: 10.1016/j.socscimed.2010.05.002.

Jeune Afrique (2019) *Guinée : le nouveau Code civil légalise la polygamie, mais sous condition*, *Jeuneafrique.com*. Available at: https://www.jeuneafrique.com/772984/societe/guinee-le-nouveau-code-civil-legalise-la-polygamie-mais-sous-condition/ (Accessed: 10 August 2021).

Kassa, Z. Y., Tsegaye, B. and Abeje, A. (2020) 'Disrespect and abuse of women during the process of childbirth at health facilities in sub-Saharan Africa: A systematic review and meta-analysis', *BMC International Health and Human Rights*, 20(1), pp. 1–9. doi: 10.1186/s12914-020-00242-y.

Korstanje, M. E. (2009) 'The Risk Society: Towards a new modernity', *Jàmbá: Journal of Disaster Risk Studies*, 2(2), pp. 147–150. doi: 10.4102/jamba.v2i2.21.

Kruger, L. M. and Schoombee, C. (2010) 'The other side of caring : abuse in a South African maternity ward', 6838. doi: 10.1080/02646830903294979.

Kyaddondo, D. *et al.* (2017) 'Expectations and needs of Ugandan women for improved quality of childbirth care in health facilities: A qualitative study', *International Journal of Gynecology and Obstetrics*, 139(S1).

Lambert, J. *et al.* (2018) '"I thought they were going to handle me like a queen but they didn't": A qualitative study exploring the quality of care provided to women at the time of birth', *Midwifery*, 62(March), pp. 256–263. doi: 10.1016/j.midw.2018.04.007.

Lipsky, M. (2010) *Street level bureaucracy. Dilemmas of the individual in public services*. Russell Sa. New.

Luhmann, N. (1988) 'Familiarity, Confidence, Trust: Problems and Alternatives', in *Trust: Making and*

Breaking Cooperative Relations. University. Oxford, p. 10.

Ministère de la Santé-Guinée (2018) *Annuaire Statistique Sanitaire 2017*.

Ministère de la Santé & OMS (2016) *Localisation des cas confirmés par préfectures*, *Guinea-EBOV*. Available at: http://guinea-ebov.github.io/index.html (Accessed: 9 May 2020).

Ministère de la Santé et Organisation Mondiale de la Santé (2016) *Rapport de la situation epidémiologique maladie à virus Ebola en Guinée. Rapport du 01 Janvier 2016. [Epidemiological situation report of Ebola virus disease in Guinea. 01 January 2016 Report.]*.

Misztal, B. A. (1996) 'Trust in modern societies: The searches for the bases of social order.', *Cambridge University Press*.

Offe, C. (1999) '"How can we trust our fellow citizens?"', *Cambridge University Press*, pp. 42–87.

Pool, R. (1994) *Dialogue and the interpretation of illness. Conversations in a Cameroon village*. 1st edn. Providence, USA: Berg Publishers.

Rodrigues, C. F. (2016) 'Medicines and therapeutic pluralism in Maputo : exploring modalities of trust and the (un) certainties of everyday users', *Health, Risk & Society*, 18(7–8), pp. 385–406. doi: 10.1080/13698575.2016.1271403.

Saunders, B. *et al.* (2017) 'Saturation in qualitative research: exploring its conceptualization and operationalization', *Quality and Quantity*, pp. 1–15. doi: 10.1007/s11135-017-0574-8.

Somparé, A. W. (2017) 'La politique et les pratiques de santé en Guinée à l' épreuve de l' épidémie d' Ebola : Le cas de la ville de Conakry. [Health policy and practice in Guinea facing the Ebola epidemic: The case of the city of Conakry.]', *Santé et politiques urbaines*, 78. doi: 10.7202/1039345ar.

The DHS Program (2019) *Demoraphic and Health Survey 2018-Guinea*.

The World Bank (2019) *Maternal mortality ratio (modeled estimate, per 100,000 live births)*, *The World Bank*. Available at: https://data.worldbank.org/indicator/SH.STA.MMRT (Accessed: 10 July 2021).

UNDP (2019) *Human Development Report 2019. Inequalities in Human Development in the 21 st Century. Guinea*.

UNICEF (2018) *Maternal and newborn health disparities-Guinea*.

United Nations Development Group (2015) *Socio-Economic Impact of Ebola Virus Disease in West African Countries*.

United States Department of State (2012) *Guinea 2012 International Religious Freedom Report*.

Vigh, H. (2009) 'Motion squared. A second look at the concept of social navigation', *Anthropological Theory*, 9(4), pp. 419–438.

WHO (2019a) *Maternal mortality. Key facts*, *WHO*. Available at: http://www.who.int/en/news-room/fact-sheets/detail/maternal-mortality (Accessed: 11 May 2018).

WHO (2019b) *Maternal mortality - Key facts*, *WHO*. Available at: https://www.who.int/news-room/fact-sheets/detail/maternal-mortality#:~:text=A woman's lifetime risk of,45 in low income countries. (Accessed: 21 July 2021).

Zinn, J. O. (2008) ‘Heading into the unknown: Everyday strategies for managing risk and uncertainty’, *Health, Risk and Society*, 10(5), pp. 439–450. doi: 10.1080/13698570802380891.

INFORMED CONSENT FORM FOR WOMEN

Information on Research

My name is … I work with the Maferinyah research centre, which belongs to the Ministry of Health. We are conducting a study with women and their family members, to understand where they seek care for childbirth and during the first days following childbirth, and what the reasons of their health seeking choices are.

We also want to know what they think about the maternity care services at the health facility, including during the epidemics times.

We hope that the results of this research will help the Ministry of Health to improve the programs for women's and children's health in the district of Forécariah.

As part of this research we are conducting in-depth interviews with women or their care seeking decision makers. The interview will take up to 1 hour of your time. An in-depth interview is an individual conversation about a given topic between the researcher and the respondent (e.g. a community member), during which the researcher asks some questions to the respondent in order to understand in detail what the respondent thinks about the topic.

Risks

There are no risks to participating in the interviews. This study will have no negative effects on you or your family. However, the interview may cause recall of painful moment.

Benefits

There is no direct benefit to you for participating. The information generated could contribute to an improvement in the quality of services offered by health facilities to women, and help women to access care during pregnancy, delivery, and after delivery.

Confidentiality

The information collected during the interview or the group discussion will be kept confidential. We also seek your permission to audio record the interview so that we do not lose any information you tell us. The recording will not be played to anyone outside the team and we will store it in a locked place. Only the Coordinator of the research and his team will have access to this information. Information that can disclose your personal identity will not be audio recorded and will not appear on any transcription of the interview or discussion.

Compensation

There will be no compensation for participating in this interview.

Voluntary Participation

You are being invited to participate in this interview. Your participation is completely voluntary and you have the right to leave the interview. You do not have to answer any questions on any issue that makes you uncomfortable. There are no risks associated with not participating in this interview.

1. Have you understood why we are conducting this research and we request as your participation in this research? Yes ☐ No ☐
2. Do you have questions about the study? If yes, please ask them Yes ☐ No ☐

	Yes	No	N.A
3. Are all your questions clearly answered? *(If no question asked, thick the box 'N.A')*	☐	☐	☐
4. Are you aware that your name will not be recorded and that your identity will not appear in the information you will provide?	☐	☐	
5. Are you aware that you can stop your participation to this study at any time without giving the reasons and without any penalty?	☐	☐	
6. Do you consent to participate in this interview / discussion?	☐	☐	
7. Do you consent for the audio recording of this interview / discussion?	☐	☐	

Signature of the researcher

''According to my judgement, the participant has willingly given his/her informed consent and has the legal capacity to give his/her consent to participate in this study.''

Name and phone contact of the researcher: _____ _____

Signature of the researcher: _____ Date: _____

INFORMED CONSENT FORM FOR CARE PROVIDERS

Information on Research

My name is … I work with the Maferinyah research centre, which belongs to the Ministry of Health. We are conducting a study with community members, community health workers and health providers to understand women's care seeking behaviors for childbirth and during the postpartum period.

We also want to know about health providers' perception and experience of maternity care provision in order to better understand use of maternity care by women.

We hope that the results of this research will help the Ministry of Health to improve the programs for women's and children's health in the district of Forécariah.

As part of this research we are conducting in-depth interviews with maternity care providers of this health facility. The interview will take up to 45 minutes of your time. An in-depth interview is an individual conversation about a given topic between the researcher and the respondent (e.g. a community member), during which the researcher asks some questions to the respondent in order to understand in detail what the respondent thinks about the topic. We will also stay around in your care setting for two to three months, observing the interactions between care providers and women (and their accompanying persons) when they come for antenatal care, childbirth, or postpartum care. We will observe the interactions in the public areas of the facility (waiting room, compound), as well as in the private areas (consultation rooms, delivery ward).

Risks

There are no risks to participating in the interviews. This study will have no negative effects on you. However, the interview may cause recall of painful moment.

Benefits

There is no direct benefit to you for participating. The information generated could contribute to an improvement in the quality of services offered by health facilities to women, and help women to access care during pregnancy, delivery, and after delivery.

Confidentiality

The information collected during the interview or the group discussion will be kept confidential. We also seek your permission to audio record the interview so that we do not lose any information you tell us. The recording will not be played to anyone outside the team and we will store it in a locked place. Only the Coordinator of the research and his team will have access to this information. Information that can disclose your personal identity will not be audio recorded and will not appear on any transcription of the interview or discussion. Your names and phone numbers will be noted for the only purpose of contacting you to attend to subsequent discussion meetings with us.

Compensation

There will be no compensation for participating in this interview. However, reimbursement for transportation costs will be provided by the research team.

Voluntary Participation

You are being invited to participate in this interview. Your participation is completely voluntary and you have the right to leave the interview. You do not have to answer any questions on any issue that makes you uncomfortable. There are no risks associated with not participating in this interview.

1. Have you understood why we are conducting this research and we request as your participation in this research?	Yes ☐	No ☐	
2. Do you have questions about the study? If yes, please ask them	Yes ☐	No ☐	
3. Are all your questions clearly answered? *(If no question asked, thick the box 'N.A')*	Yes ☐	No ☐	N.A ☐
4. Are you aware that your name will not be recorded and that your identity will not appear in the information you will provide?	Yes ☐	No ☐	
5. Are you aware that you can stop your participation to this study at any time without giving the reasons and without any penalty?	Yes ☐	No ☐	
6. Do you consent to participate in this interview / discussion?	Yes ☐	No ☐	
7. Do you consent for the audio recording of this interview / discussion?	Yes ☐	No ☐	

Signature of the researcher

''According to my judgement, the participant has willingly given his/her informed consent and has the legal capacity to give his/her consent to participate in this study.''

Name and phone contact of the researcher: _____ _____

Signature of the researcher: _____ Date: _____

DISCUSSION GUIDE FOR WOMEN

NB: These preliminary questions will be continuously adapted during data collection. Therefore, it is possible not to ask questions in the same order according to the circumstance

Date: ___/___/____ Sub-district :_____ Village:_____

FGD IDI/__/__/

1. During pregnancy, which are the different care options that a pregnant woman resort to?
2. What are the reasons why the woman resort to the health facility during pregnancy? What are the reasons for resorting to the other care options?
   - What are the traditional remedies that a pregnant woman often resorts to for her health? What roles these remedies play in the health of a pregnant woman?
3. What are the reasons why a pregnant woman prefers to resort to all these care seeking options? Why not choose one and leave out the others?
4. For delivery, as for you, what would make a woman to resort to the health facility? What would make her not resort to the health facility?
5. For delivery, what would make a woman to resort to a TBA or stay home?
6. Over the first days following delivery, where/from whom the woman generally seek care for herself? Why does she resort these care options?
   - What are the traditional remedies that a new nanny needs for her health? What are the specific roles played by these remedies for woman's health?
   - When does a new nanny need health services? Why?
7. There is a cultural knowledge here, that it is not good to prepare for childbirth, i.e. save money or buy the baby's stuffs before his/her birth. Can you please elaborate more on this and say why?
8. What roles should husbands play for their wives' maternity care seeking?
9. Is there any behaviour/practices recommended to pregnant women or new nannies by culture, religion or social norms? If yes, please explain.
10. What are your opinions on maternity care services at the health facility (staff availability, attitudes, competence, familiarity with them, cost of care, C-section, availability of medicines, equipment, cleanliness)?
11. Let me have your opinions on the Ebola and Covid-19 as they frightened people regarding health service utilization here in Maferinyah. During the Ebola epidemic, how did you use health facility services for maternity care?
    - What specifically made you refrain from using health facility services for maternity care? Poor infection prevention measures? Providers' intentions?

- What did you think of the Ebola prevention measures recommended by health authorities at that time (washing hands with chlorine/soap, no touch, prohibition of social gathering, etc.)?

12. What about COVID-19, how did you use health facility services for maternity care?
    - What made you refrain from using health facility services? Poor infection prevention measures? Providers' intentions?
    - What do you think of the COVID-19 prevention measures recommended by health authorities (wearing mask, washing hands with chlorine/soap, physical distancing, etc.)?

QUESTIONS GUIDE FOR WOMEN

NB: These preliminary questions will be continuously adapted during data collection. Therefore, it is possible not to ask questions in the same order according to the circumstance

Date: ___/___/____ Sub-district :_____ Village:_____

Woman IDI/__/__/

A. Influence of health resources on trust and perceived risk regarding health services for delivery and postpartum care

1. Where did you give birth for the most recent time (health facility, elsewhere)?
2. What about when you were a new nanny, where did you seek care for yourself?

3. How did provider's availability encourage or discourage you to resort to the health facility?
    a. How sure were you that the provider would be available at the health facility?
    b. What made you believe that the provider was available or not at the health facility?
    c. As care seeker for delivery, how would unavailability of the provider affect your health and your social life (blame, stigma, expenses)?
    d. When it was about seeking care after birth (over the first two months), how would unavailability of the provider affect your health and your social life (blame, stigma, expenses)?

4. How did provider's performance (competence, availability of medicines, consumables, and equipment, medicines efficacy) to help you meet your care needs encourage or discourage you to resort to the health facility?
    a. What were your care needs for delivery? When you were a new nanny?
    b. How sure were you that the provider's performance including his/her competence, availability of medicines, consumables, and equipment, medicines efficacy, could help you meet your care needs for delivery? When you were a new nanny?
    c. What made you believe that the provider's performance could help you meet your care needs?
    d. As care seeker for delivery, how would provider's inability to help you meet your care needs affect your health and your social life (blame, stigma, expenses)?
    e. When it was about seeking care after birth (over the first two months), how would provider's inability to help you meet your care needs affect your health and your social life (blame, stigma, expenses)?

5. How did provider's intention to help you meet your care needs encourage or discourage you to resort to the health facility?
    a. How sure were you that the provider had the intention to help you meet your care needs?
    b. What made you believe that the provider had the intention to help you meet your care needs?
    c. As care seeker for delivery, how would the lack of intention from the provider to help you meet your care needs affect your health and your social life (blame, stigma, expenses)?
    d. When it was about seeking care after birth (over the first two months), how would the lack of intention from the provider to help you meet your care needs affect your health and your social life (blame, stigma, expenses)?

6. How did provider's intention to help you meet your care needs encourage or discourage you to resort to the health facility?
    a. How sure were you that the provider had the intention to help you meet your care needs?
    b. What made you believe that the provider had the intention or not to help you meet your care needs?
    c. As care seeker for delivery, how would the lack of intention from the provider to help you meet your care needs affect your health and your social life (blame, stigma, expenses)?
    d. When it was about seeking care after birth (over the first two months), how would the lack of intention from the provider to help you meet your care needs affect your health and your social life (blame, stigma, expenses)?

7. How did the health facility infrastructure (beds, rooms, space, electricity, water) encourage or discourage you to resort to the health facility?
    a. Which infrastructure elements at the health facility encouraged or discouraged you to seek care there for delivery? Why did they encourage or discourage you?
    b. Was your experience with this infrastructure different when you were a new nanny? How?
    c. What made you believe the reason why the infrastructure encouraged or discouraged you to resort to the health facility?
    d. How not using this infrastructure would affect your health and your social life (blame, stigma, expenses)?

8. How did access to the health facility encourage or discourage you to resort to the health facility?
    a. How sure were you that the access (distance, transportation, road condition) to the health facility was easy?
    b. What made you believe that the access to the health facility was easy or not?

c. As care seeker for delivery, how would not getting easily to the health facility affect your health and your social life (blame, stigma, expenses)?
d. As a new nanny, how would not getting easily to the health facility affect your health and your social life (blame, stigma, expenses)?

9. How did access to the health facility encourage or discourage you to resort to the health facility?
    a. How much did you pay/did you think you would pay approximately in total for delivery (transportation, treatment, food, etc.) at the health facility? How much for your visit after delivery?

    b. How sure were you that you would afford these expenses?
    c. What made you believe that you would afford or not these expenses?
    d. How not affording these expenses would affect your health or your social life (blame, stigma, expenses)?

10. What else on health services influenced your decision to resort or not to the health facility for delivery? Over the first two months after delivery?

Influence of socio-cultural norms on trust and perceived risk regarding health services for delivery and postpartum care

11. For your most recent delivery, which medical care and advice did you receive for good delivery outcomes?
12. Which advantages did you think these medical care and advice had on delivery outcomes? What elements made you believe that these medical care and advice had these advantages?
13. Besides the medical care and advice, which traditional care and advice did you receive for good delivery outcomes?
14. Which advantages did you think these traditional care and advice had on delivery outcomes? What elements made you believe that these traditional care and advice had these advantages?
15. How only using medical care and advice for delivery would affect your (wife's) health or your social life (blame, stigma, expenses)?
16. How only using traditional care and advice for delivery would affect your (wife's) health or your social life (blame, stigma, expenses)?
17. Considering the advantages and limitations of medical and traditional care, what made you prefer to give birth at the place where you gave birth?

18. For your most recent delivery, which medical care and advice did you receive over the first two months following birth?
19. Which advantages did you think these medical care and advice had on your health as a new nanny? What elements made you believe that these medical care and advice had these advantages?

20. Besides the medical care and advice, which traditional care and advice did you receive over the first two months following birth?
21. Which advantages did you think these traditional care and advice had on your health as new nanny? What elements made you believe that these traditional care and advice have these advantages?
22. How only using medical care and advice as a new nanny would affect your (wife's) health or your social life (blame, stigma, expenses)?
23. How only using traditional care and advice as a new nanny would affect your (wife's) health or your social life (blame, stigma, expenses)?
24. Considering the advantages and limitations of medical and traditional care, which elements made you prefer medical care or traditional care, or use both? If you use both, please explain how you proceeded with your care practices.

Influence of Ebola and COVID-19 measurements on trust and perceived risk regarding health services for delivery and postpartum care

Influence of Ebola measurements [ask to women who gave birth during Ebola]

25. Where did you give birth during the Ebola epidemic (health facility, elsewhere)?

26. Over the first two months following birth, where did you seek care for yourself?

27. How did you perceive the risk of Ebola contamination at the health facility?
    - Health facility environment (infrastructure, cleanliness)?
        a. How sure were you that this environment was risky?
        b. What made you believe the environment was risky or not?
    - Ebola barrier measures set at the facility (solution to wash hands, taking temperature, providers covering their whole body)?
        a. How sure were you that these measures were risky?
        b. What made you believe they were risky or not?
    - The crowd attending the health facility?
        a. How sure were you that this crowd was risky?
        b. What made you believe that this crowd was risky?
    - Providers' ability to perform safely?
        a. How sure were you that providers' ability to perform was risky?
        b. What made you believe it was risky or not?
    - Providers' intention to contaminate patients with the virus?
        a. How sure were you that providers had the intention to contaminate patients with the virus?
        b. What made you believe that they had such intention or not?

28. How different was the risk of Ebola contamination at the health facility, when it was bout seeking care after birth (over the first two month)?

29. How did you perceive the risk of being labelled or suspected as an Ebola case once at the health facility for delivery?
    a. How sure were you that you would be labelled or suspected as an Ebola case at the health facility?
    b. What made you believe that you would be labelled/suspected or not as an Ebola case at the health facility?
    c. What would be the consequences of being labelled/suspected as an Ebola case to you?

30. How different was the risk of being labelled/suspected as an Ebola case once at the health facility for your care after birth?

31. As care seeker for delivery, how did you perceive, the risk of finding the health facility closed, care providers absent or medicines and consumables out of stock because of the Ebola crisis?
    a. How sure were you that you would find the facility closed, or providers absent, or medicines/consumables out of stock because of the Ebola crisis?
    b. What made you believe that you would face or not such situation at the health facility?
    c. What would be the consequences of such situation to you?

32. As care seeker after birth, how different was the risk of finding the health facility closed, care providers absent or medicines/consumables out of stock because of the Ebola crisis?

33. How not resorting to the health facility for delivery would affect your health and your social life (blame, stigma, expenses)?

34. How not resorting to the health facility for your care after delivery would affect your health and your social life (blame, stigma, expenses)?

Influence of COVID-19 measurements [ask to women who gave birth during the COVID-19]

35. Where did you give birth during the COVID-19 epidemic (health facility, elsewhere)?

36. Over the first two months following birth, where did you seek care for yourself?

37. How did you perceive the risk of COVID-19 contamination at the health facility?
    - Health facility environment (infrastructure, cleanliness)?
        a. How sure were you that this environment was risky?
        b. What made you believe the environment was risky or not?

- Ebola barrier measures set at the facility (nose mask, solution to wash hands, taking temperature)?
    a. How sure were you that these measures were risky?
    b. What made you believe they were risky or not?
- The crowd attending the health facility?
    a. How sure were you that this crowd was risky?
    b. What made you believe that this crowd was risky?
- Providers' ability to perform safely?
    a. How sure were you that providers' ability to perform was risky?
    b. What made you believe it was risky or not?
- Providers' intention to contaminate patients with the virus?
    a. How sure were you that providers had the intention to contaminate patients with the virus?
    b. What made you believe that they had such intention or not?

38. How different was the risk of COVID-19 contamination at the health facility, when it was bout seeking care after birth (over the first two month)?

39. How did you perceive the risk of being labelled or suspected as a COVID-19 case once at the health facility for delivery?
    a. How sure were you that you would be labelled or suspected as a COVID-19 case at the health facility?
    b. What made you believe that you would be labelled/suspected or not as a COVID-19 case at the health facility?
    c. What would be the consequences of being labelled/suspected as a COVID-19 case to you?

40. How different was the risk of being labelled/suspected as a COVID-19 case once at the health facility for your care after birth?

41. As care seeker for delivery, how did you perceive, the risk of finding the health facility closed, care providers absent or medicines and consumables out of stock because of the COVID-19 crisis?
    a. How sure were you that you would find the facility closed, or providers absent, or medicines/consumables out of stock because of the COVID-19 crisis?
    b. What made you believe that you would face or not such situation at the health facility?
    c. What would be the consequences of such situation to you?

42. As care seeker after birth, how different was the risk of finding the health facility closed, care providers absent or medicines/consumables out of stock because of the COVID-19 crisis?

43. How not resorting to the health facility for delivery would affect your health and your social life (blame, stigma, expenses)?

44. How not resorting to the health facility for your care after delivery would affect your health and your social life (blame, stigma, expenses)?

Background information of respondents

- Age, education level, profession, marital status, education level and profession of the husband, in polygamous marriage or not, if yes, rank as wife, number of children
- Particular reproductive history if any

QUESTIONS GUIDE FOR MATERNITY CARE PROVIDERS

NB: These preliminary questions will be continuously adapted during data collection. Therefore, it is possible not to ask questions in the same order according to the circumstance

Date: ___/___/____ Health facility:_____ Function:_____

Provider IDI/__/__/

Influence of health resources on users' trust and risk regarding maternity care

1. How do you think women perceive the services you provide them with in terms of resources (availability of medicines and consumables, staff availability and attitude, cost of care)?
2. Which challenges do you face in terms of health resources (material and human) to provide maternity care?
3. How do you cope with these challenges?
4. How do these challenges influence users' trust regarding the services you provide them with?
5. How do community members perceive caesarean section since it was introduced in this health center? How does it influence users' trust regarding maternity care services?

Influence of socio-cultural considerations on users' trust and risk regarding maternity care

6. What do you think about traditional medicines for maternity care? What roles can they play for the health of pregnant women, for good delivery outcome, and for the health of a new nanny?
7. How do women's perception of traditional remedies for maternity care affect their trust in health services? What limitations of health services do they perceive for good pregnancy outcomes?
8. How do you cope with such perceptions?
9. How do you cope with the socio-cultural realities for maternity care such as perceived influence of spiritual power on pregnancy and delivery, such as sorcery panties?

Influence of epidemics measurements on users' trust and risk regarding maternity care

10. How did the Ebola epidemic affect use of maternity care at this health center?
11. According to you, what were some women afraid of at the health facility to stop attending maternity care services? What made other women continue to attend maternity care services?
12. Please explain your experience of care provision for delivery or to postpartum women during the epidemic? How did you perceive the risk of Ebola contamination at the health facility?
13. What challenges else did you face in providing maternity care during the Ebola epidemic? How these challenges influenced users' perception of health facility services?
14. How has the COVID-19 pandemic influenced use of maternity care?

15. What were some women afraid of at the health facility to stop attending maternity care services? What made other women continue to attend maternity care services?
16. How did/do you cope with COVID-19 prevention measures at the maternity care setting? How do users cope with these measures?
17. How do you perceive the risk of COVID-19 contamination at the health facility?
18. What challenges else did you face in providing maternity care during the COVID-19 pandemic? How these challenges influenced users' perception of health facility services?

Background information

- Age, sex, ethnical group, religion, educational level, marital status, number of children, how long working at the facility

OBSERVATION AND INFORMAL CONVERSATION POINTS

- At the health facility:
    - how do women accept/refuse services;
    - how they behave for COVDI-19 measures;
    - how traditional medicines interfere with the care provided;
    - rationale for providing a given care to a given woman;
    - how trust and perceived risks play out during patient-provider interaction;
    - how trust and risk play out in patients and providers' navigation for C-section care

- In the community (women, their husbands, other family decision makers):
    - how do they weigh risks and advantages in decision making to resort to health services for delivery or postpartum care;
    - how health resources influence trust and perceived health and social risks;
    - how socio-cultural considerations influence trust and perceived health and social risks;
    - how epidemics measurements influence trust and perceived health and social risks;

ADDITIONAL BACKGROUND INFORMATION

- History of Maferinyah
- Organization/network of TBAs in Maferinyah
- History of Maferinyah health center
- Organization of Ebola response in Maferinyah
- Organization of COVID-19 response in Maferinyah
- Providers: who are the providers working at the health center? Their status? Their sociodemographic profile (age, sex, ethnical group, religion, marital status)? Their political

view? Their availability at the health center? Team work? Wages? Employers (government, NGOs)? Income sources? Familiarity with community?