Navigating with logics: Care for women with hypertensive disorders of pregnancy in a tertiary hospital in Ghana

Vestering, A.; de Kok, B.C.; Browne, J.L.; Adu-Bonsaffoh, K.

[Link to publication](https://doi.org/10.1016/j.socscimed.2021.114402)

Navigating with logics: Care for women with hypertensive disorders of pregnancy in a tertiary hospital in Ghana

Asra Vestering [a,*], Bregje C. de Kok [a], Joyce L. Browne [b], Kwame Adu-Bonsaffoh [b,c]

[a] *University of Amsterdam, Amsterdam, the Netherlands*
[b] *Julius Global Health, Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, University of Utrecht, Utrecht, the Netherlands*
[c] *Department of Obstetrics and Gynaecology, School of Medicine and Dentistry, University of Ghana, Accra, Ghana*

ABSTRACT

This paper explores how care for women with hypertensive disorders of pregnancy (HDP) is practiced in a tertiary hospital in Ghana. Partly in response to the persistently high maternal and neonatal mortality rates in Low- and Middle-income countries, efforts to improve quality of maternity care have increased. Quality improvement initiatives are shaped by the underlying conceptualisation of quality of care, often driven by global (WHO) standards and protocols. However, there are tensions between global standards of care and local clients' and providers' understandings of care practices and quality of care. Implementation of standards is further complicated by structural and organisational restrictions that influence providers' possibilities and priorities. Based on ethnographic fieldwork, we explore how clinical guidelines and professionals' and patients' perspectives converge and, more importantly, diverge. We illuminate local, situated care practices and show how professionals creatively deal with tensions that arise on the ground. In this middle-income setting, caring for women with HDP involves tinkering and navigating in contexts of uncertainty, scarcity, varying responsibilities and conflicting interests. We unravelled a complex web of, at times, contradictory logics, from which various forms of care arise and in which different notions of good care co-exist. While practitioners navigated through and with these varying logics of care, the logic of survival permeated all practices. This study provides important initial insights into how professionals might implement and innovatively adapt the latest quality of maternity care guidelines which seek to marry clinical standards and patients' needs, preferences and experiences.

1. Introduction

Despite global, regional and local initiatives, maternal and perinatal morbidity and mortality remain a major public health issue, especially in low- and middle-income countries (LMICs). In Ghana, the life-time risk of maternal death is one in 82; substantially higher than high-income countries (e.g. one in 11,900 in the Netherlands) (WHO, 2019). Moreover, maternal deaths are just the tip of the iceberg (Filippi et al., 2006). For every maternal death approximately 30 women survive, yet suffer from severe complications (Say et al., 2009). In Ghana, hypertensive disorders of pregnancy (HDP) are among the leading causes of maternal and perinatal morbidity and mortality, and the leading cause of institutional maternal mortality (Adu-Bonsaffoh et al., 2013).

The main focus of maternal and perinatal health campaigns, policies and programs has been to improve access to skilled birth attendance (WHO, 2016). To counter reduced utilisation of healthcare services and increasing inequity due to user fees, the Ghanaian government implemented total coverage of maternal health services for women enrolled in the National Health Insurance Scheme (NHIS) in 2008 (Witter et al., 2013). NHIS is accessible for all residents and pregnant women are exempt from paying premiums (NHIA, 2021). In principle, the NHIS should cover standard care of six antenatal care visits, delivery care (including complications), and two postnatal care visits (at two and six weeks postpartum) (NHIA, 2021). Although the exemption of user fees has resulted in an increase of institutional deliveries, studies have shown that some women still seem to face considerable costs for essential services like laboratory tests, medication and ultrasound scans (Agyepong and Nagai, 2011; Witter et al., 2013). Some of these costs are not covered by insurance, others are introduced by hospital personnel in response to delayed NHIS funding (Agyepong and Nagai, 2011; Witter et al., 2013).

Ghana has made considerable progress and halved its maternal mortality ratio (MMR) over 25 years (740 per 100,000 live births in 1990; 308 in 2017) (WHO, 2019). However, the MMR reduction remained far below MDG 5's target, like most countries (UNDP, 2015), and continues to be a priority in the Sustainable Development Goals (SDGs). Inadequate progress in reducing maternal mortality, combined with mounting evidence of substandard, abusive maternity care practices, and observations that women's perceptions of quality of care influence health service use (e.g. Berry, 2008; d'Ambruoso et al., 2005) contributed to a shift in focus to improving quality of care (e.g. Raven et al., 2012; WHO, 2016).

Quality improvement initiatives are shaped by the underlying conceptualisation of quality care. The influential, latest WHO (2016) quality of maternity care framework (see also Hulton et al., 2000; Raven et al., 2012) defines quality of care as, 'the degree to which maternal and new-born health services (for individuals and populations) increase the likelihood of timely, appropriate care for the purpose of achieving desired outcomes that are both consistent with current professional knowledge *and take into account the preferences and aspirations of individual women and their families*' (WHO, 2016, 14–17; emphasis added). The framework contains seven building blocks or standards (see Fig. 1).

The WHO framework proposes a laudably holistic, multi-dimensional approach to quality of care and seeks to integrate clinical *and* patients' and families' perspectives. However, studies show tensions between internationally defined clinical standards of care, and local clients' and providers' understandings of maternal health care practices and perceived quality of care (e.g. Berry, 2008; de Kok et al., 2020). What if professional knowledge and clients' or relatives' preferences clash? Some care practices may be considered high quality according to recognised biomedical standards, yet unacceptable to women and their families (Berry, 2008; de Kok et al., 2020). Misalignment between clinical protocols and patients' expectations or perceived needs could generate distrust and poor experiences (Berry, 2008). For instance, de Kok et al. (2020) describe how women in Malawi could interpret midwives' advice to ambulate as neglect. Moreover, due to structural and organisational constraints, healthcare providers' priorities may not correspond with global protocols (Housseine et al., 2020; Jaffré and Suh, 2016; Pitchforth et al., 2010). Various studies reported how health system features, like resource shortages, shape care practices (Housseine et al., 2020; Jaffré and Suh, 2016), but they will also shape ideas about what 'counts', or is prioritised, as quality in specific contexts and situations. For instance, Pitchforth et al. (2010) describe how, in Ethiopia, health workers did not consider communication a major priority, for it did not concern a lifesaving practice. In other words, understandings of good care inscribed in global standards and localised practices may differ and (global) standards of care and providers' and patients' priorities and possibilities may clash. This raises important questions about how providers actually implement standards and guidelines, which
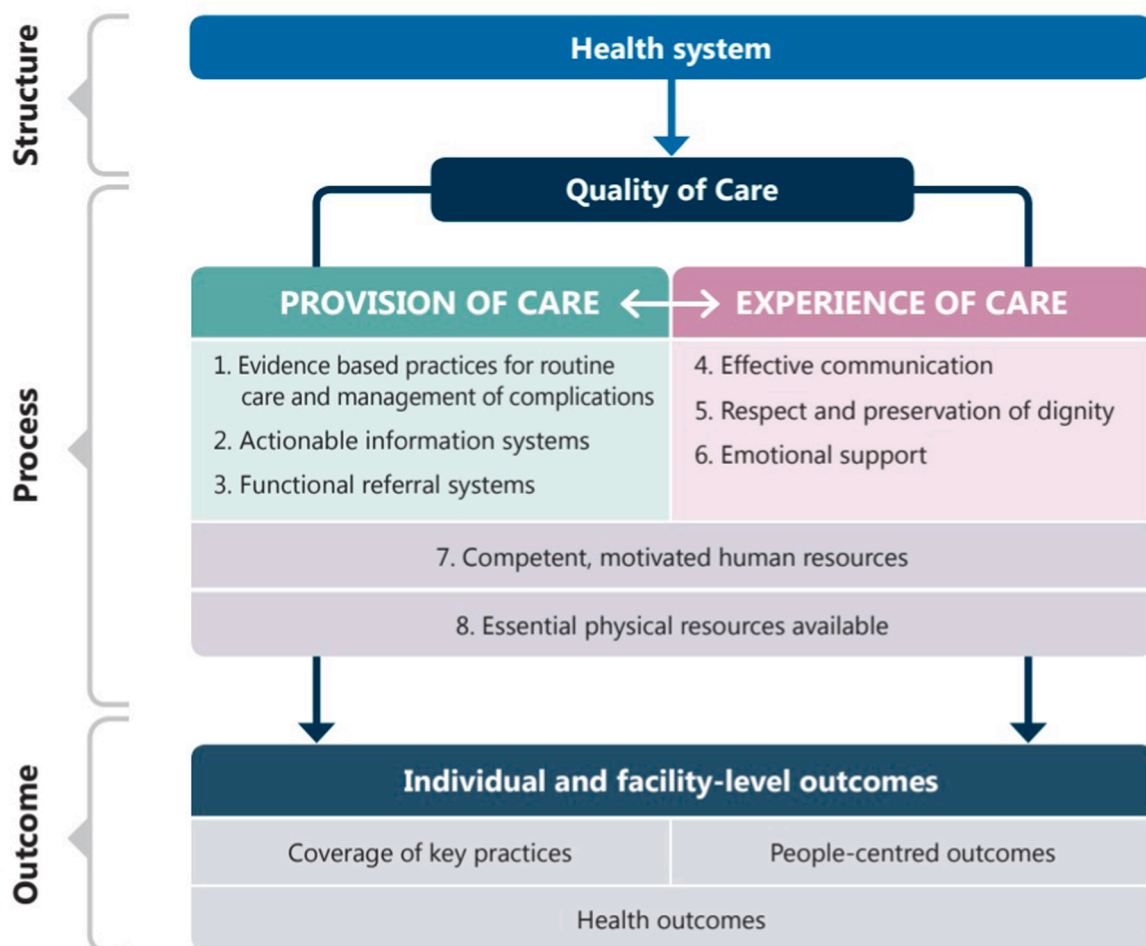

Fig. 1. WHO framework for the quality of maternal and newborn health care.

promote adherence to evidence-based practices *and* patients' preferences, especially when resources are limited? What and whose notions of good care do they pursue and how?

To address these questions, we conducted an ethnographic study of the provision of maternity care to women with hypertensive disorders in a tertiary hospital in Ghana. We analysed care practices through the lens of philosopher Mol's (2008) 'logic of care'. Mol developed this notion in an ethnographic study of diabetes care in the Netherlands. Mol, like other ethnographers (e.g. de Kok, 2019; Livingston, 2012), shows how care practices vary according to context *and* the specific actors, material objects and situations 'at hand'. Care is marked by creativity, tinkering, and improvisation (Mol, 2008), certainly in middle- and low-income settings (Livingston, 2012). Although creativity leads to variability and, potentially, to apparent incoherence between care practices, affinities may be found in terms of the underlying logic, or rationale: 'what is appropriate or logical to do in a certain situation or site, and what is not'? (Mol, 2008, 9–10). Different logics incorporate different normativities and terms for evaluation; what is 'good' and 'bad' differs per logic. For instance, Mol distils a contrast between a (neo-liberal) logic of choice and a logic of care. Whilst the logic of choice foregrounds autonomy and equality as good, and oppression as bad; within the logic of care, attentiveness and specificity are goods to be strived for, whilst neglect is bad (Mol, 2008, 85). Moreover, in the logic of care, what exactly constitutes good care varies per situation and needs to be figured out by providers and patients together, through consultation and 'shared doctoring' (Mol, 2008, 88).

Mol's notion of logic is derived from Foucault's notion of discourse, which treats ways of speaking, thinking and acting as historically and culturally patterned. Hence, a focus on logics directs attention away from individual actors' abstract perspectives or preferences, to socially shared, locally situated rationales and activity styles (Baszanger and Dodier, 2004). It allows us to study practices and ideals as socially structured and locally enacted, as well as informed by frameworks, protocols and evidence (Jaffré and Suh, 2016).

To extend our analysis of logics and providers' tinkering, we employ Vigh's (2009) concept of social navigation. Based on ethnographic work in conflict-ridden Guinea-Bissau, Vigh describes social navigation as the act of moving, or finding a way to move, in a dynamic environment; a process of negotiation, constant adjustment and flexibility, dodging the constant push and pull of different forces. As we will argue, when caring for women with HDP, providers attend to and navigate between competing logics. The notion of navigation helps us see how providers are not merely engaged in ad hoc tinkering, but how their dynamic responses are guided by over-arching, if diffuse, aims or aspirations embedded in certain logics.

In this study then, we sought to articulate logics underpinning maternity care in Ghana, specifically, maternity care for women with hypertensive disorders. Ethnographic fieldwork allowed us to explore tensions that arose in practice (e.g. when logics clashed), and the creativity, tinkering and improvisation health providers employed to navigate these tensions.

2. Methodology

Since actors may not be aware of, or able to verbalise, the logics inscribed in practices (Mol, 2008, 10), articulating those logics requires in-depth ethnographic fieldwork. The first author conducted three months of fieldwork in a tertiary care centre in Ghana in 2018, involving participant observations of antenatal and postpartum maternity care, and semi-structured interviews with health care providers (doctors and nurses) (n = 12) and pregnant women with hypertensive disorders, admitted to the hospital (n = 11).

Participants were recruited at the hospital during the observations and through personal contacts. We used purposive sampling to achieve reasonable variability in the sample (Guest et al., 2006). The 11 women with hypertensive disorders that were interviewed varied in medical history and in terms of socio-economic and religious background. With the exception of two, interviews with women were conducted after discharge, but on the hospital compound. By asking participants about observed events, we elicited accounts of care practices and could analyse underpinning care ideals or logics.

Ethical clearance was granted by the Ethical Committee of the Ghana Health Service and the Ethical and Protocol Review committee of the College of Health Science, University of Ghana. We obtained oral and written informed consent of all participants. We explained the study aims, that participants would not receive any personal benefits, assured anonymity and that withdrawal from the study was possible at any time. All names used are pseudonyms.

Our approach resembles what Baszanger and Dodier (2004) call combinative ethnography (see also de Kok, 2019). Rather than describing an integrated, coherent whole or 'culture' (e.g. Ghanaian hospital culture), this approach seeks to articulate activity types and an assemblage or 'fund' of resources, including professional skills, dispositions, and, we add, care logics (Mol, 2008). Hence, we used observations and interviews to compose an inventory of activity types, that is, different types of care practices and interactions occurring in the hospital. We subsequently explored the logics underpinning these care (inter)actions.

Data were transcribed verbatim and analysed using thematic analysis (Braun and Clarke, 2020). Transcripts were coded inductively and deductively (using pre-existing codes like 'logics'), to capture patterns: how was care practiced, by whom and in what situations? Emerging themes and subthemes were clustered together in different activity types and logics of care. Interviews with patients and providers were included in the analysis, but this paper focuses mainly on providers' accounts. Data were co-analysed by Ghanaian and Dutch medical professionals and social scientists; the Ghanaian professional also worked in the study facility. This interdisciplinary approach added breadth and depth to our analysis and ensured it was grounded in local institutional realities.

3. Findings

Caring for women with hypertensive disorders involved many different practices that, initially, seemed difficult to capture under one umbrella term. Yet, within the various practices of care, different underlying logics could be found, which appeared to be linked to one overarching logic, which we will call the *logic of survival*. All logics were connected to *someone* or *something* surviving: the patient, the family, the ward or the professionals themselves. Below, we discuss the different logics and corresponding practices of care, and illuminate their link to this 'logic of survival'.

3.1. Logic of navigating risks through knowing more

HDP are a collection of disorders, ranging from fairly manageable diseases, such as gestational hypertension, to severe illnesses with considerable risk of maternal and perinatal death, such as preeclampsia, eclampsia, and HELLP syndrome (Mol et al., 2016). The underlying pathophysiology remains incompletely understood, its occurrence and prognosis unpredictable; and there is no real cure other than termination of pregnancy with delivery of the placenta. In an attempt to gain some control over this risky and unpredictable disease, knowing clinical indicators appeared a key priority or 'good' practitioners strived for.

Much of the care for HPD patients evolved around getting the 'right' information to make the 'right' decision at the 'right' time. As a consultant stated during a ward round, when seeing a patient admitted for suspected pre-eclampsia the previous night:

'Is she diagnosed yet? Does she need a diagnosis? What we need to do is labs, anti-hypertensives and foetal monitoring. We need all the data to monitor her so we know what is going on.' (Field note)

All professionals agreed that, 'knowing what is going on now' is pivotal to caring for this specific patient group because the situation could change at any time, and continuously requires new evaluation. Dr Kwasi's response typifies how medical personnel link monitoring and action:

'We monitor them, so when it becomes worse, we intervene, so that is what we do.' (Dr Kwasi, consultant)

As Dr Kwasi said, clinical data were collected to know *when* and *what* to do or *not* to do and 'wait and see'. Doctors explained that the decision when 'to intervene' to end the pregnancy is most critical. However, whilst delivery is the only 'curative' and possibly lifesaving intervention for the mother, carrying to term could be in the foetus' best interest. Especially in cases of prematurity before 32 weeks, with high risks of perinatal mortality and morbidity (Davies et al., 2016; Howson et al., 2013), the decision about whether to deliver or not came down to a careful weighing of risks facing the mother versus those facing the foetus. Timing was crucial here, but complex and contradictory in relation to the needs of the mother and baby. As Dr Akosua said:

'There are times, because the gestation is very low you want to push the pregnancy as far as possible, but then bad outcomes might occur. (…) Because you cannot just look at the patient, and know that if you push further, you may have good and you may have a bad outcome. The risk we all take for some of these situations. It is about weighing the risk.' (Dr Akosua, resident)

Clinical data, generated by laboratory tests, scans or physical examinations like blood pressure measurements, were used to better handle this precarious situation. Laboratory tests including kidney and liver function tests were done to assess how much a woman's vital organs were affected by the disease. Clinical investigations like a cardiotocography[1] and an umbilical arterial Doppler[2] were used to assess the foetus' health. All these different tests were thus used to paint a more accurate picture of the mother's and foetus' medical health status at specific moments, providing a map to help navigate the risks (Vigh, 2009). Insufficient information and absence of tests shifted how providers perceived and navigated, or managed, risks, especially when women presented with severe HDP at an early gestational age:

'If you don't have the labs you have to rely on the clinical (i.e. physical exams, signs & symptoms). It means that we cannot wait further. If someone has severe preeclampsia and the gestational age is about 28 weeks, we can't get the lab, clinically you realise you must terminate the pregnancy. (…) The labs help us buy some time for the sake of the foetus. Without the lab we have very bad outcomes for the foetuses. Because we just terminate the pregnancy and they [the babies] need intensive care and they go and die. But, if the labs are there, we are assured that the situation is not so bad so we can wait some time.' (Dr Kwaku, consultant)

Laboratory findings could reassure doctors that the situation had not deteriorated as much as they feared. When no laboratory findings were available, doctors did not take chances and often terminated the pregnancy, thus minimizing risks for the mother, but not the foetus. Hence, these care practices of monitoring and conducting investigations, could be understood from a logic of navigating risks through knowing more. This linked to a logic of survival. Doctors constantly gauged the foetus' and, mainly, the mother's risk of death. Whilst aiming to increase survival chances for both, the mother's survival appeared to be prioritised.

While these techniques of knowing and control (e.g. laboratory tests and scans) gained a prominent role in caring for patients, in this setting, they were conspicuous in their scarcity. Consequently, uncertainty due to incomplete information became an important risk and stress factor in itself (Brown, 2013).

3.2. Logic of scarcity

Whilst close monitoring was considered essential in caring for women with HDP, remarks about the importance of investigative tests were generally followed by references to difficulties caused by a lack of resources; characterizing the health system but also patients' personal situations. Conversations underscored a contrast between what professionals said they would do 'in a perfect world' and what they were able do in reality, reflecting a different logic of care: a logic of scarcity. In interviews, many health professionals highlighted the time-consuming nature of HDP care (frequent monitoring; long admissions), and lack of resources. Whilst generally a well-known problem for health care in LMIC, observations and conversations with patients and professionals demonstrated how lack of resources particularly affected the management of a disease in which time and timing play such an important role. Not only were institutional resources lacking, patients also lacked resources. For example, some could not afford the tests needed to monitor and navigate risk and uncertainty.

'Most of the patients don't have money [to do tests]. So, you request the lab, and then the labs are not done in the time you would have liked to do it. (…) You don't get the results immediately. You get the labs after hours, sometimes days. Ideally, we should get the results immediately because things are changing. By the time we took the lab, the results speak of a particular time, if you get the results 12 hours later, what the results tell us is not what the patient's situation is now.' (Dr Kwaku, consultant)

Women's domestic responsibilities regularly clashed with what doctors thought was best for them based on their clinical knowledge. As Nana, research assistant, translated for Linda, who was the sole provider for her family because her husband had recently lost his job:

'And if she's in the hospital, she is not going to work … And the last born is now on vacation and they will be going back next term and they will need school fees. If she is here, the money that she will need for the bills she can't pay.'

Professionals described how constraints due to patients' limited finances was part of their daily reality. Within the logic of scarcity, a variety of practices arose which enabled providers to navigate a constrained and constraining environment. Care, in this context, required improvisation, creativity (Livingston, 2012; Wendland, 2010) and skilful navigation. For example, when it came to following protocols, professionals often described these as the 'best care' and 'the most important thing', but they also explained how adhering to standards was, in practice, not always possible.

I: Do protocols then change to the setting?
R: The protocols are not changed in terms of the social background; it stays the same. But we modify them a bit to suit the conditions that prevail here.
I: So, there are instances that you would …
R: Modify to suit the patients you are dealing with, yes. (…) If you stick to the protocol you will give the best care. But like we said, you are circling a middle ground so that you don't harm the patient, but the patient doesn't get the best available care. There is no point in sticking to the protocol when the patient cannot afford it. (Dr Kofi, resident).

This interview excerpt demonstrates how notions of 'good care' depend on the context, situation and actors involved. Even though the standards were still perceived as 'the best care', if a patient could not afford the tests that this standard prescribed, the logical thing to do was

---

[1] Cardiotocography: a medical instrument that continuously records the foetal heartbeat and the uterine contractions.
[2] Umbilical arterial Doppler: measures the blood flow towards the baby through the umbilical cord, in case of poor placental function the blood flow is reduced which forms a risk for the baby.

to divert from the protocol. Within the logic of scarcity, not abiding by the official recommendations could, in fact, be seen as good care by both physicians and patients. As the excerpt above indicates, for the doctor, 'good' or 'the best' care may be following protocols. However, for the patient with limited financial means to pay for expensive laboratory tests, good care may be affordable care. When these different, somewhat contradictory 'goods' come together in the caring relation, they shape each other and co-evolve (Singleton, 2012): doctor and patient care together by finding a middle ground. Thus, we see how care emerges from specific contexts and situations, but also how care is relationally created. As the resident carefully 'tinkers' (Mol, 2008) and navigates through insufficient funds and corresponding unavailability of technologies and tests, their knowledge of standards and protocols and the patient's preferences and abilities, they care for and *with* the patient.

The logic of scarcity underpins care practices that can be understood from a logic of survival: 'good care' means to practice the best care possible, considering all circumstances. This could entail providing 'acceptable' care as long as this is enough 'to survive'. Survival, however, goes beyond hospital walls and beyond one patient with one baby. Mothers have other children to care for, and there are also bills to pay after their hospital stay. As such, both doctors and patients found alternative ways, together, as a form of 'shared doctoring' (Mol, 2008, 88), to practice the best care possible, whilst carefully navigating the risks, as the following vignette displays:

Dr Kwadwo fills Dr Kwasi, in about a patient on the ward: 'Her blood pressure had risen again, so yesterday I asked if she could do the labs again. But now she just told me she cannot do it because of the money.' Dr Kwasi answers: 'We need to think then: do we really need it? Otherwise, we should not do it, hey, I think we can wait until later.'

The context that brings about a logic of survival not only required inventiveness to find tactics to navigate (Vigh, 2009) in this environment (Livingston, 2012; Wendland, 2010). It also required doctors to go beyond professional boundaries, taking up almost a family-like role, for the logic of survival entailed doing everything possible to help a patient survive. As Dr Kwadwo explained:

'Classic scenario, you need a patient to get a scan to make a decision. You always go beyond, you liaise with the doctor at the scan room to ask to reduce the price or to do it for free, or you pay it from your own pocket. At the end of the day, you are the one in charge, you are responsible for your patient. (…) You cannot leave the patient; the system has always been like that. It is not too patient friendly.' (Dr Kwadwo, house officer)

Observations also substantiated that financial contributions from doctors to patients' care were not uncommon and were made by doctors from all ranks, sometimes even by students. Doctors were seen giving money to patients in order to help them with small payments, heard to plead on the phone with radiologists to reduce the price of a scan and they were observed discussing these matters amongst each other. By contributing financially, doctors cared for their patients: caring is paying the bills.

However, even though doctors mentioned that helping someone made them feel fulfilled, they also knew they could not help everybody. The problem was simply too big:

'Even though we try to help we can't keep paying for everybody, so at a point we also get to our limit. (…) I'm not saying it is bad for doctors to be philanthropists, but we can't keep paying for patients just like that. The problem is huge, it goes beyond the hospital setting.' (Dr Adwoa, resident)

In this way, the health system's and patients' lack of resources led to a sense of powerlessness and frustration, for, like this resident, they all knew too well that they were put in this position because of 'the system'. The resident's reference to 'everybody' points to providers' responsibility to more than just one patient; this was an element of another

logic, discussed in the next section.

3.3. Logic of the ward

Quality of care frameworks and studies (e.g. Berry, 2008; d'Ambruoso et al., 2005) tend to focus on the care for individual patients. However, a recurrent theme in the interviews with professionals was their responsibility towards the entire ward. Doctors and nurses, in any hospital, have multiple patients to care for, and need to divide their time and resources between patients. Thus, providers' care was shaped by another logic: 'the logic of the ward'. In order to care for all their patients, the ward as a whole needed to function too.

Care for women with HDP was a time-consuming practice. Women were often admitted for a relatively long time; most had to stay until after delivery. This contributed to overfull wards. Furthermore, closely monitoring women's blood pressure was deemed essential. This was done manually, and sometimes required hourly measurements, taking up a lot of nurses' time; which they did not always have due to the large patient load. As such, nurses explained how they sometimes had to divert to less frequent measurements. When caring for hypertensive patients, care ideals were thus shaped by shortages (of beds; time) and providers were mindful of the impact of care for hypertensive patients on other patients.

'You saw the recovery ward capacity [high care unit where patients recover after surgery], it has four beds. At times there are three hypertensive patients that occupy the bed. So, then you only have one bed to manage the rest of the department. What then happens, we have to close down the department because recovery is full. (…) So, it is a vicious cycle: A severe pre-eclamptic woman comes in, you cannot take her in, she goes away, she goes from one hospital to the other and hears she cannot be helped there either. By the time she comes back, she will have had eclampsia and then your one bed that is there you have to put her on it.' (Dr Akosua, resident)

Full wards will affect all women needing maternity care, but consequences for women suffering from such a volatile condition as pre-eclampsia may quickly spiral out of control.

Another recurring issue was the inevitability of costs involved in care. Professionals argued that to keep the ward running, patient care cannot be free. In addition to the normal hospital bills, nurses and doctors requested money for investigations (e.g. urine protein and haemoglobin-tests) and supplies, in order to stock the ward. Within the logic of the ward, these informal payments were tactics used by staff to navigate a system marked by a logic of scarcity. Staff were like Lipsky's (1980) 'street-level bureaucrats', facing the fundamental dilemma of how to care for a large number of people, while also attending to individuals, when resources are limited (Finlay and Sandall, 2009, 1229).

'It is not like we are charging them; we use the money to buy the things. Last, somebody [a patient] asked me why can't we bill them later? I said no. (…) She asked my why? I told her because it is not for the hospital. The hospital doesn't use their money to buy these things for us. Hospital management asked us to stop these payments. Well, we can put a stop to it, but who cares? It's a question "who is going to suffer?". Because if the doctor asks to get the thing done, but the test strip is not here for them to do [not available], it is the patient who is suffering at that time. That's why, at times we need those things on the ward. It is to help the patient, that's why all these things are in place. But some of them don't understand.' (Nurse Akua)

Within the logic of the ward, charging fees as a response to delays in re-stocking could thus be seen as a form of care. Even though hospital management had ordered a stop to these informal payments, by collecting extra money, care providers ensured they had enough supplies to care for future patients too. In order for the ward to survive, professionals need to anticipate future scarcity; this eventually, will also

enable patients to survive.

3.4. Logic of protocols

As discussed above, references to standards and protocols pervaded the daily practice of care and appeared to reflect a certain common-sense assumption that standards or protocols are 'the best care possible'. Here too we see how multiple logics shape care practices. For instance, the previously discussed logic of scarcity coincides with what we call the logic of protocols. During the interviews, professionals attributed different functions to protocols. They indicated that protocols provide a synthesis of the existing scientific evidence, create uniformity, and make (quality) care less dependent on the specific provider.

I: What place does the protocol have in care for you?

R: The protocol is to standardise care. It makes things uniform. Because, assuming there is no protocol, it becomes like a jungle: people do what they want to do. But with the protocol in place, assuming if the doctor is not there, the nurses will be able to follow the protocol. It makes the care very standard, in respect of who is administrating the care. So, I think that is the main purpose of the protocol. (Dr Adwoa, resident).

I: How do you relate to protocols and standards?

R: Once you go by a certain standard, I think it helps you to know that you're practicing like every other doctor in every other place. And when I'm getting certain results, I can compare my results to somebody somewhere else. (Dr Kofi, resident).

These arguments were not unexpected. World-wide standardisation and evidence-based practice has been at the heart of medical training and medical practice for a long time. Technologies like protocols, based on the best available evidence, are attempts to render medical practice a universally applicable, uniform science. By replacing chaos with order (Berg and Timmermans, 2000, 36) they aim to provide guidance to health practitioners and promote quality of care, as recognised by our respondents. However, new orders do not merely replace disorder. As Berg and Timmermans (2000, 36) note: 'with the production of an order, a corresponding disorder comes into being'. New disorder requires, and comes with, endless tinkering (op cit.) to work around new problems, informed by different and sometimes competing logics. In this case, the protocol aims to support health professionals and provide structure to an otherwise chaotic care process; for instance, by commending daily laboratory tests and four hourly blood pressure measuring. Yet, in a resource-strapped context, this 'new order' creates the disorder in which patients cannot pay for the recommended care; nurses do not have the time to perform the tasks that are prescribed; and doctors and nurses have to think of alternative ways to care for their patients (Housseine et al., 2020). This is when the logic of scarcity and logic of protocols interact with and shape each other.

While many providers referred to protocols as a means to promote uniformity and guidance, another rationale appeared to be behind their use: managing accountability (Strong, 2020). Accountability is about taking and assigning responsibility, and answerability, or justifying actions (Brinkerhoff, 2004; de Kok, 2019). Accountability concerns arise especially when things go wrong. One resident explained how protocols can then be of assistance:

'And on occasions when you're going to get bad outcomes you don't beat yourself too much. Because you know you've done what current evidence and knowledge recommends.' (Dr Kofi, resident)

This resident explained how, by sticking to the protocol, he is accountable to himself, and thus, indirectly to others. As long as he 'goes by the book', he can justify his actions to himself, for he knows that he, personally, has done nothing wrong. As such, no one else can reprimand him for his actions either, as Dr Yaw said:

'It is always good to stick to the standard we have set for ourselves, so when you have a bad outcome, nobody can ask you a question because we were working according to protocol.' (Dr Yaw, consultant)

Protocols are not just in place to improve quality of care for patients. By mobilizing the logic of protocols, healthcare providers also protect, and care for, themselves (Strong, 2020). As this consultant argues, if you work according to protocol nobody can question your actions. From this perspective, protocols provide a safety net for professionals to survive at work. However, as described earlier, in practice professionals often had to divert from protocol due to varying circumstances and in accordance with varying logics. Standards could thus guide, assist and protect professionals, but simultaneously put them in a position where they had to choose whom to care for: themselves or their patients.

4. Discussion: navigating through and with logics

While caring for patients with hypertensive disorders of pregnancy, healthcare professionals did what was 'logical', given the contextual and situational demands and constraints. In doing so, they drew on multiple logics. Mol (2008) argued how 'care is tinkering with bodies, technologies, knowledge and with people'. We would like to add that care is also about tinkering with, and navigating between, different logics. Clinicians had to find their way in different situations, facing a range of contextual constraints, risks to be avoided and multiple responsibilities, at times pulling them in different directions (e.g. saving mother or baby; charging fees to help the ward or institution survive, or not charging to help the individual patient survive financially).

Professionals' tinkering with logics resembles what Vigh (2009) describes as 'social navigation': caring for patients with HDP in this resource constrained setting requires finding a way to move in a dynamic and even volatile environment. As van der Sijpt (2014) noted, the biological environment of the maternal body and its unpredictable changes are part of the moving environment that needs to be navigated. Resource shortages paired with acute, and life-threatening conditions make risk of death palpable while the hospital bill threatens women's economic survival too. Professionals were required to navigate uncertainty (logic of navigating risks by knowing more), scarcity (logic of scarcity), and varying responsibilities and conflicting interests (all logics). Vigh (2009, 25) notes that social navigation is about surviving, in the present and future: 'when we navigate, we act and react to overcome immediate difficulties, yet we also move towards a place that is still to come'. Similarly, health providers were oriented to immediate *and* long term or future physical, economic and social survival of the various actors and entities they cared for: the mother, her baby, the ward and themselves. It thus appears more apt to describe providers' actions as navigation, guided by an over-arching logic of survival, rather than as tinkering. Whilst tinkering conjures up an image of ad-hoc improvisation, navigation requires a vision and a complex set of skills to avoid the various 'rocks and wrecks' and manage the multiple risks encountered in a volatile and erratic environment in which uncertainty, scarcity and the imminent risk of death are ubiquitous.

Compared to Mol's (2008) important yet relatively simple contrast between the logic of choice and logic of care, we articulate a more complex and wide(r) range of logics that shape care practices. The added complexity partly arises from the contextual specifics. Mol analysed individual outpatient care in a high-income setting; our study focuses on hospital care of an acute pregnancy disorder in a middle-income setting. In this situation, constraints, care recipients and competing risks multiply (Strong and White, 2021): providers attend to mothers, babies, families, themselves *and* the ward.

The combined theoretical lens helped us appreciate how providers display a sense of, and navigate, accountability towards these multiple 'stakeholders' and seek to achieve multiple 'goods' in their care practices. Guided by an over-arching vision of survival, we can thus understand care for women with HDP as a practice in which providers navigate different, co-existing notions of good care. Our analysis aligns

with Strong's (2020) analysis of situated, everyday ethics in care practices on a Tanzanian maternity ward. However, the notion of logic underscores the pragmatism needed in hospital care: providers do what is most logical in specific situations. The concept enabled interpretation closely aligned with practitioners' everyday realities further facilitated by the author team composition, which included a gynaecologist who works within this hospital, and allowed us to understand care dynamics beyond the 'foreign gaze' (Abimbola, 2019).

Whilst Mol's notion of the logic of care has rarely been applied to LMICs (but see Brown, 2010), another body of anthropological work, initiated by Daviss (1997), does discuss the notion of different logics in relation to maternity care in both high and LMICs (e.g. Montgomery-Andersen et al., 2013; Obermeyer, 2000). Daviss (1997) identified different types of logics (e.g. clinical; personal; cultural; economic; legal) which lead to different conclusions regarding risks, normalcy and how to manage birth. Like many feminist anthropologists (e.g. Craven, 2005; Jordan, 1997), Daviss critiques biomedicine's tendency to value mainly clinical and legal logics and associated risks, whilst side-lining personal and cultural logics and risks. Daviss pitches biomedicine against 'more holistic forms of birth care', thus creating an overly simplistic dichotomy and homogenizing 'medicine' (e.g. Keating and Fleming, 2009). Ethnographies (Strong, 2020; Wendland, 2010) have shown how 'biomedicine' is not monolithic, and how medicine's guiding values about what it means to be a 'good' doctor, are, to some extent, context specific (Wendland, 2010). Similarly, our findings show how biomedicine is not based on one, singular logic; and professionals do incorporate what Daviss describes as 'personal' logics. Moreover, we demonstrate how logics are not necessarily 'attached' to specific actors (e.g. the logic of doctors vs logic of patients), rather they emerge from specific contexts and situations.

By attending to multiple logics and tailoring care practices to the specific situation and context, one might say that providers practice patient-centred care and shared-decision making; principles nowadays central to quality-of-care frameworks, including the WHO's latest standards for maternity care (WHO, 2016). The WHO (2016) defines patient-centred care as care that *'takes into account the preferences and aspirations of individual women and their families'* (WHO, 2016). In this setting it did not necessarily rest on explicit enquiries about the patients' needs or preferences. Patient-centred care also entails considering the 'goods' patients seek to attain and the risks they seek to avoid, such as the imminent risk of further impoverishment due to high hospital bills.

This brings us to implications for practice and policy. First, our findings can be used to further develop quality of care frameworks and guidelines, which should provide more specific guidance regarding how to implement patient-centred care and shared-decision making. Our rich ethnographic data, including unstructured observations, informal conversations and semi-structured interviews, co-analysed by an interdisciplinary team which included a Ghanaian health practitioner (KA), illuminated how and why professionals may deviate from abstract forms of 'good care' in standards or protocols (e.g. Housseine et al., 2020; Jaffré and Suh, 2016; Pitchforth et al., 2010) and how care ideals depend on the setting but also on the patient's situation. However, tensions between best clinical practice and what local professionals and patients deem feasible and desirable may cause stress and frustration amongst practitioners and patients, which in turn may influence quality of care (de Kok et al., 2020; Maaløe et al., 2021). Thus, whilst the WHO (2016) quality of maternity care framework includes both 'provision of care' and 'experience of care', acknowledgement of potential tensions with and between these arms is needed, as well as guidance regarding how practitioners could manage these tensions. This study offers a starting point, highlighting tensions but also solutions in the way professionals tinker with logics and navigate between multiple responsibilities and (institutions' and patients') lack of resources. These forms of tinkering and navigation can be seen as patients and doctors 'caring together', and thus, as patient-centred care and implicit shared decision making. It is the incorporation of and navigating between and with multiple logics

which help them reconcile the different 'arms' of 'provision of care' and 'experience of care' in the quality of care models. A better understanding of how professionals navigate the complexity of combining evidence-based clinical standards and patient-centred care, and further exploration of local logics could help formulate quality frameworks that are locally embedded and avoid imposing unrealistic standards (Maaløe et al., 2021).

Second, our findings could be used for quality improvement interventions. Rich ethnographic data may offer an important starting point for team reflection. Practitioners are likely unaware of the multiple logics at work, the adaptations, and skills mobilised; people tend to not reflect on their actions in systematic ways and certainly resource strapped facilities do not provide time and space to do so. By distilling the different logics and varying goods, we put practices into words, enabling conversation and reflection: What logic should be prioritised and why? What are the unintended consequences of the different logics? A logics approach enables reflection that goes beyond judgment, and could provide a safe space for joint care evaluation, providing a crucial addition to other approaches to quality assessment like criteria-based audits. The idea that multiple logics and notions of 'the good' co-exist problematises criteria-based audits which expect standardised actions and are focused on fixed (health) outcomes only. Whilst there is definitely a place for these kinds of audits, our analysis shows that there may be good reasons why providers depart from protocols. The variety of logics highlight the ambivalence of good care. As Mol et al. (2010) point out, every good intention may have some bad inside. Our findings show how within different logics a 'bad' (e.g. asking for payments when care is supposed to be free) may become a 'good'. Reducing care to a set of 'goods' and 'bads' forgoes the contextuality and over-simplifies, as other authors have argued (e.g. Brown, 2010; de Kok et al., 2020; Jaffré and Suh, 2016; Strong, 2020).

Third and finally, our ethnographic study contributes to health policy implementation research. Our findings extend earlier work on 'street-level bureaucrats', which argues that frontline workers, working in constrained contexts, develop coping behaviours and modify policies (e.g. user fee exemption policies) (e.g. Agyepong and Nagai, 2011; Pot et al., 2018). In the logic of survival, informal payments, often framed as corruption (e.g. Ensor, 2004) and prohibited by hospital management, could be seen as a form of care and the best or most logical thing to do rather than merely a pragmatic coping strategy. Implementation gaps may occur when frontline worker incentives for (non)adherence to policies are unaccounted for (Agyepong and Nagai, 2011). Incentives and policy adherence also depend on local logics, and unravelling these logics will illuminate how and why 'street-level bureaucrats' operate as they do and could thus help to design policies that also respond to professionals' needs. As Jaffré and Suh (2016) state, 'it is precisely these locally observed practices that, in tandem with "thinking globally", should guide the formulation of reproductive health policies and programs.' Subsequently, when policies, protocols or guidelines are implemented, this kind of ethnographic work and the analytic approach of logics could be used to feedback how they are locally adapted, enabling a reflective and iterative implementation process.

The impact of a resource-strapped environment, specifically patients lacking funds was a recurring theme that influenced all logics. Although the NHIS excepts women from paying health insurance premiums and covers primary maternity care expenses such as antenatal care visits and deliveries, we found that most women suffering from pregnancy complications still face substantial costs that are not covered by insurance. Other studies report similar findings (Agyepong and Nagai, 2011; Witter et al., 2013) and these unbudgeted costs may disincentivise women against institutional maternity care and make them opt for cheaper alternatives like traditional birth attendants (Anafi et al., 2018). Furthermore, our study shows how care may get compromised as practitioners spend valuable time on circumventing patients' limited funds. The contextual and systemic features of a resource constrained environment co-shaped and affected all logics, but especially the logic of

navigating risk through knowing more. In an environment of scarcity with limited access to diagnostic tools, the clinical uncertainty shifted to the forefront, underlining the limited control and imminent risks that constantly influenced professionals' actions and interactions with patients (Strong, 2017). Seemingly, this clinical uncertainty and lack of control sometimes shifted the default of care 'to be better safe than sorry', potentially decreasing the threshold for prematurely terminating the pregnancy, which could have a detrimental impact on the neonatal outcomes (Davies et al., 2016). Although providers skilfully navigated between the various constraints and risks, it caused stress and frustration, related to perceived lack of control. Hence, increased global and national financial investments and contextualised and realistic clinical guidelines remain crucial to achieve high quality care and sustainable and equitable health systems (Maaløe et al., 2021).

To conclude, combining the theoretical lenses of social navigation (Vigh, 2009) and logics in care (Mol, 2008) has enabled us to provide a particularly apt characterisation and understanding of the way in which providers in a tertiary hospital in the resource-poor setting of Ghana care for women with HDP. We distilled a complex web of, at times, contradictory logics in which varying forms of care arise and different notions of good care co-exist. In this specific context and under these circumstances, caring involves navigating logics to survive. We demonstrate how providers' skilful improvisation and navigation between logics lead to a particular, often implicit, form of patient-centred care. By illuminating local, situated care practices, we showed how local logics shape care at least as much as professional frameworks and guidelines. Our study offers a starting point for future policy design and research, as it provides important initial insights into how professionals might implement quality of care emphasising the importance of clinical standards *and* tailoring care to patients' needs, preferences and experiences.

Credit author statement

Asra Vestering: Conceptualisation; Investigation; Writing – original draft, Bregje C. de Kok: Writing – original draft; Supervision, Joyce L. Browne: Writing – review & editing, Kwame Adu-Bonsaffoh: Writing – review & editing.

References

Abimbola, S., 2019. The foreign gaze: authorship in academic global health. BMJ global health 4, e002068.

Adu-Bonsaffoh, K., Oppong, S.A., Binlinla, G., Obed, S.A., 2013. Maternal deaths attributable to hypertensive disorders in a tertiary hospital in Ghana. Int. J. Gynaecol. Obstet. 123, 110–113.

Agyepong, I.A., Nagai, R.A., 2011. "We charge them; otherwise we cannot run the hospital" front line workers, clients and health financing policy implementation gaps in Ghana. Health Pol. 99, 226–233.

Anafi, P., Mprah, W.K., Jackson, A.M., Jacobson, J.J., Torres, C.M., Crow, B.M., et al., 2018. Implementation of fee-free maternal health-care policy in Ghana: perspectives of users of antenatal and delivery care services from public health-care facilities in Accra. Int. Q Community Health Educ. 38, 259–267.

Baszanger, I., Dodier, N., 2004. Ethnography: relating the part to the whole. In: Qualitative Research. Sage Publications, London, pp. 9–35.

Berg, M., Timmermans, S., 2000. Orders and their others: on the constitution of universalities in medical work. Configurations 8, 31–61.

Berry, N.S., 2008. Who's judging the quality of care? Indigenous Maya and the problem of "not being attended". Med. Anthropol. 27, 164–189.

Braun, V., Clarke, V., 2020. One size fits all? What counts as quality practice in (reflexive) thematic analysis? Qual. Res. Psychol. 1–25.

Brinkerhoff, D.W., 2004. Accountability and health systems: toward conceptual clarity and policy relevance. Health Pol. Plann. 19, 371–379.

Brown, H., 2010. If we sympathise with them, they'll relax. *Fear/respect and medical care in a Kenyan hospital*. Med Antropol 22, 125–142.

Brown, P., 2013. Social theories of risk. Routledge Handbook of Social and Cultural Theory. Routledge, Abingdon, pp. 157–174.

Craven, C., 2005. Claiming respectable American motherhood: homebirth mothers, medical officials, and the state. Med. Anthropol. Q. 19, 194–215.

d'Ambruoso, L., Abbey, M., Hussein, J., 2005. Please understand when I cry out in pain: women's accounts of maternity services during labour and delivery in Ghana. BMC Publ. Health 5, 140.

Davies, E.L., Bell, J.S., Bhattacharya, S., 2016. Preeclampsia and preterm delivery: a population-based case–control study. Hypertens. Pregnancy 35, 510–519.

Daviss, B., 1997. Heeding Warnings from the Canary, the Whale, and the Inuit. *Childbirth and Authoritative Knowledge*. Cross-cultural perspectives, p. 441.

de Kok, 2019. Between orchestrated and organic: accountability for loss and the moral landscape of childbearing in Malawi. Soc. Sci. Med. 220, 441–449.

de Kok, B.C., Uny, I., Immamura, M., Bell, J., Geddes, J., Phoya, A., 2020. From global rights to local relationships: exploring disconnects in respectful maternity care in Malawi. Qual. Health Res. 30, 341–355.

Ensor, T., 2004. Informal payments for health care in transition economies. Soc. Sci. Med. 58, 237–246.

Filippi, V., Ronsmans, C., Campbell, O.M., Graham, W.J., Mills, A., Borghi, J., et al., 2006. Maternal health in poor countries: the broader context and a call for action. Lancet 368, 1535–1541.

Finlay, S., Sandall, J., 2009. "Someone's rooting for you": continuity, advocacy and street-level bureaucracy in UK maternal healthcare. Soc. Sci. Med. 69, 1228–1235.

Guest, G., Bunce, A., Johnson, L., 2006. How many interviews are enough? An experiment with data saturation and variability. Field Methods 18, 59–82.

Housseine, N., Punt, M.C., Mohamed, A.G., Said, S.M., Maaløe, N., Zuithoff, N.P., et al., 2020. Quality of intrapartum care: direct observations in a low-resource tertiary hospital. Reprod. Health 17, 1–11.

Howson, C.P., Kinney, M.V., McDougall, L., Lawn, J.E., 2013. Born too soon: preterm birth matters. Reprod. Health 10, S1.

Hulton, L., Matthews, Z., Stones, R.W., 2000. A Framework for the Evaluation of Quality of Care in Maternity Services.

Jaffré, Y., Suh, S., 2016. Where the lay and the technical meet: using an anthropology of interfaces to explain persistent reproductive health disparities in West Africa. Soc. Sci. Med. 156, 175–183.

Jordan, B., 1997. Authoritative knowledge and its construction. In: Childbirth and Authoritative Knowledge: Cross-Cultural Perspectives, pp. 55–79.

Keating, A., Fleming, V.E.M., 2009. Midwives' experiences of facilitating normal birth in an obstetric-led unit: a feminist perspective. Midwifery 25, 518–527.

Lipsky, M., 1980. Street-Level Bureaucracy: Dilemmas of the Individual in Public Services. Russell Sage Foundation, New York.

Livingston, J., 2012. Improvising Medicine: an African Oncology Ward in an Emerging Cancer Epidemic. Duke University Press.

Maaløe, N., Ørtved, A.M.R., Sørensen, J.B., Sequeira Dmello, B., van den Akker, T., Kujabi, M.L., et al., 2021. The injustice of unfit clinical practice guidelines in low-resource realities. Lancet Glob. Health.

Mol, 2008. The Logic of Care: Health and the Problem of Patient Choice. Routledge, Oxon.

Mol, A., Moser, I., Pols, J., 2010. Care in Practice: On Tinkering in Clinics, Homes and Farms, 8. Transcript, Bielefeld.

Mol, B.W.J., Roberts, C.T., Thangaratinam, S., Magee, L.A., de Groot, C.J.M., Hofmeyr, G. J., 2016. Pre-eclampsia. Lancet 387, 999–1011.

Montgomery-Andersen, R., Douglas, V., Borup, I., 2013. Literature review: the 'logics' of birth settings in Arctic Greenland. Midwifery 29, e79–e88.

NHIA, 2021. The national health insurance authority. NHIS Membership.

Obermeyer, C.M., 2000. Risk, uncertainty, and agency: culture and safe motherhood in Morocco. Med. Anthropol. 19, 173–201.

Pitchforth, E., Lilford, R.J., Kebede, Y., Asres, G., Stanford, C., Frost, J., 2010. Assessing and understanding quality of care in a labour ward: a pilot study combining clinical and social science perspectives in Gondar, Ethiopia. Soc. Sci. Med. 71, 1739–1748.

Pot, H., de Kok, B.C., Finyiza, G., 2018. When things fall apart: local responses to the reintroduction of user-fees for maternal health services in rural Malawi. Reprod. Health Matters 26, 126–136.

Raven, J.H., Tolhurst, R.J., Tang, S., Van Den Broek, N., 2012. What is quality in maternal and neonatal health care? Midwifery 28, e676–e683.

Say, L., Souza, J.P., Pattinson, R.C., 2009. Maternal near miss–towards a standard tool for monitoring quality of maternal health care. Best Pract. Res. Clin. Obstet. Gynaecol. 23, 287–296.

Singleton, V., 2012. When contexts meet: feminism and accountability in UK cattle farming. Sci. Technol. Hum. Val. 37, 404–433.

Strong, A., 2020. Documenting Death Maternal Mortality and the Ethics of Care in Tanzania. University of California Press, California.

Strong, A.E., 2017. Working in scarcity: effects on social interactions and biomedical care in a Tanzanian hospital. Soc. Sci. Med. 187, 217–224.

Strong, A.E., White, T.L., 2021. Re-examining norms of disrespect and abuse in the second stage of labor in Tanzanian maternity care. Med. Anthropol. 1–15.

UNDP & NDPC, 2015. Ghana Millennium Development Goals Report. https://www.gh. undp.org/content/ghana/en/home/library/poverty/2015-ghana-millennium-deve lopment-goals-report.html/. (Accessed 3 December 2020).

van der Sijpt, E., 2014. Complexities and contingencies conceptualised: towards a model of reproductive navigation. Sociol. Health Illness 36, 278–290.

Vigh, H., 2009. Motion squared: a second look at the concept of social navigation. Anthropol. Theor. 9, 419–438.

Wendland, C.L., 2010. A Heart for the Work: Journeys through an African Medical School. University of Chicago Press.

WHO, 2016. Standards for Improving Quality of Maternal and Newborn Care in Health Facilities.

WHO, 2019. Trends in Maternal Mortality 2000 to 2017: Estimates by WHO, UNICEF, UNFPA. World Bank Group and the United Nations Population Division.

Witter, S., Garshong, B., Ridde, V., 2013. An exploratory study of the policy process and early implementation of the free NHIS coverage for pregnant women in Ghana. Int. J. Equity Health 12, 16.