



The Demand and Supply Side Determinants of Access to Maternal, Newborn and Child Health Services in Malawi

Anne Matthews¹ · Aisling Walsh² · Ruairi Brugha² · Lucinda Manda-Taylor³ · Daniel Mwale³ · Tamara Phiri⁴ · Victor Mwapasa³ · Elaine Byrne²

Published online: 25 June 2019

© Springer Science+Business Media, LLC, part of Springer Nature 2019

Abstract

Objectives In order to improve maternal and neonatal outcomes, it is important to understand how to maximise the utilisation of MNCH services. The supply side (service-driven) factors affecting access to MNCH services are more commonly studied and are better understood than the demand side (community led) factors. The aim of this study was to identify demand and supply determinants of access to MNCH services in Malawi. **Methods** Research was conducted in two districts of the Central Region of Malawi (Nkhotakota & Mchinji). Qualitative interviews (n = 85) and focus group discussions (n = 20) were conducted with a range of community members, leaders and health workers. Data were managed in NVivo (v10) and analysed using framework analysis, using Levesque et al. (2013) access framework. **Results** Community members clearly recognise their need for and seek out MNCH care from the formal health system. Women experience difficulties reaching health services and when reached find them limited, characterised by many indirect costs. There are many technical and interpersonal deficits, which results in poor satisfaction and reportedly poor outcomes for women. **Conclusions for practice** Women are seeking and utilising MNCH services which they find under-resourced and unwelcoming. Utilising the Levesque et al. (2013) framework, a granular analysis of demand and supply factors has identified the many challenges that remain to achieving equitable access to MNCH services in Malawi. Community members experience lack of availability, acceptability and appropriateness of these essential services.

Keywords Maternal, Newborn and Child Health (MNCH) · Access · Malawi · Community systems

Significance

An analysis of the demand and supply determinants of access to MNCH services—as perceived by community members, traditional and religious leaders and health workers and administrators—is a prerequisite to the introduction and implementation of a national policy of health facility deliveries. These findings highlight the need for greater integration of community and health systems and for better

resourced health facilities if greater service uptake and successful policy implementation is to be achieved.

Introduction

Concerns about access to Maternal, Newborn and Child Health (MNCH) services, needed to improve outcomes, must take account of both demand and supply side determinants. As Levesque et al. (2013) point out, there is usually greater focus on supply, or service provision, as remedies for addressing those are often more amenable to policy responses (though often difficult to resource and implement in practice). The Levesque et al. (2013) framework is useful in considering ways to understand access to services as a pathway from perceived need to benefiting from care, from both a demand (population) as well as supply (services) side. Levesque et al. (2013) developed this framework based on a synthesis of published literature on the conceptualisation

✉ Anne Matthews
anne.matthews@dcu.ie

¹ School of Nursing & Human Sciences, Dublin City University, Dublin, Ireland

² Royal College of Surgeons in Ireland, Dublin, Ireland

³ College of Medicine, University of Malawi, Blantyre, Malawi

⁴ Mzuzu University, Mzuzu, Malawi

of access. They highlighted the abilities/capabilities (to perceive, seek, reach, pay, engage) of populations which correspond with the dimensions of accessibility from the supply side (approachability, acceptability, availability and accommodation, affordability, appropriateness). Levesque et al. (2013) suggest that this framework enables the examination of the determinants of access for different social groups, in practice, on the pathway from healthcare needs to healthcare consequences. The framework has been used for evaluating chronic disease service access (Baillie et al. 2015).

In Malawi, Maternal, Newborn and Child Health (MNCH) outcomes have improved over the past two decades. However, huge challenges remain, including a 2015 Maternal Mortality Ratio (MMR) of 634 per 100,000 live births in 2015, with an annual reduction rate averaging 2% 1990–2015 (UNICEF 2016). Malawi's neonatal mortality rate was 22 per 1000 live births in 2015, mainly due to prematurity and birth trauma/asphyxia (UNICEF 2016). In recent years, in order to improve MNCH outcomes, there has been a concerted movement towards facility deliveries, away from home and community births with Traditional Birth Attendants (TBAs) (Campbell et al. 2016), including in Malawi. The difficulties that women in rural settings in Malawi face in accessing facility-based antenatal, childbirth and post-natal care have been well documented (Chanza et al. 2012; Kumbani et al. 2012; Kumbani et al. 2013). Recent estimates of the proportion of women giving birth at a facility at 96% for urban mothers and 91% for rural women (NSO & ICF 2017). By-laws, sanctions and incentives are in place in Malawi to encourage facility-based birth. Godlonton and Okeke (2016) attributed an estimated 15% reduction in TBA births to the ban, with about three-quarters of the 15% shifting to formal care, and the rest towards family/relative birth assistance. The authors suggest that supply side factors (health facility constraints) may be undermining expected improvements in outcomes such as neonatal mortality. This study explores the demand and supply determinants of equitable access to MNCH services, in two districts in the Central Region of Malawi.

Methods

An Irish Aid and Higher Education Authority of Ireland project *Community Systems Strengthening for Equitable Access to MNCH Services in Malawi* (COSYST-MNCH 2012–2015) explored the community systems' obstacles and enabling factors underpinning MNCH service utilisation within the first 1000 days of life, with a focus on mothers and children who were and were not accessing, utilising and benefiting from the available health services. Through focusing on community systems, our attention moves beyond the individual factors/barriers to accessing

MNCH services. Community systems are community led structures and mechanisms through which community members and organisations interact. Primary research was carried out in rural areas of selected Traditional Authorities of Nkhhotakota and Mchinji districts, where a project partner was implementing projects.

Qualitative semi-structured interviews (n = 85) were conducted with TBAs (n = 6), community health workers (n = 12), traditional leaders (n = 17) and religious leaders (n = 14), NGO representatives (n = 16), government officials (n = 10); and with health workers (n = 10), including nurses, doctors and medical assistants. All of these stakeholders were interviewed as they were considered to part of the community systems in place, with some role to play in MNCH. Focus groups were conducted with husbands (5 groups), grandmothers/mothers-in-law (7 groups) and non-users of health facilities (5 groups). The qualitative data were collected in 2014/15. The main focus of the interviews and the focus groups was to further our understanding of the community systems' obstacles and enabling factors underpinning MNCH service utilisation. Data were managed in NVivo (v10). Relevant themes identified in the first phase of analysis were reorganised according to the demand and supply dimensions of the Levesque et al. (2013) framework. Examining these domains of access more fully assisted in identifying the challenges along the pathway from needs to achieving better MNCH outcomes.

Illustrative quotes are provided from participants in Nkhhotakota (denoted by N, followed by unique identifying number) and Mchinji (M); FGD denotes a focus group discussion. There was often broad consensus among the different stakeholders—community representatives as well as health workers, traditional and religious leaders and government officials. Where there were differences by participant groups, these are highlighted under each domain.

Findings

The findings are presented using the domains of access of the Levesque et al. (2013) framework (Fig. 1).

Perception of Needs and Desire for Care

Under this theme, the perceptions of needs and desire for care depend on the ability to perceive and desire care by the community and the approachability of providers.

Ability to Perceive

Community members conveyed their clear understanding of the benefits of attending health facilities during pregnancy and for and after birth. There was almost unanimous

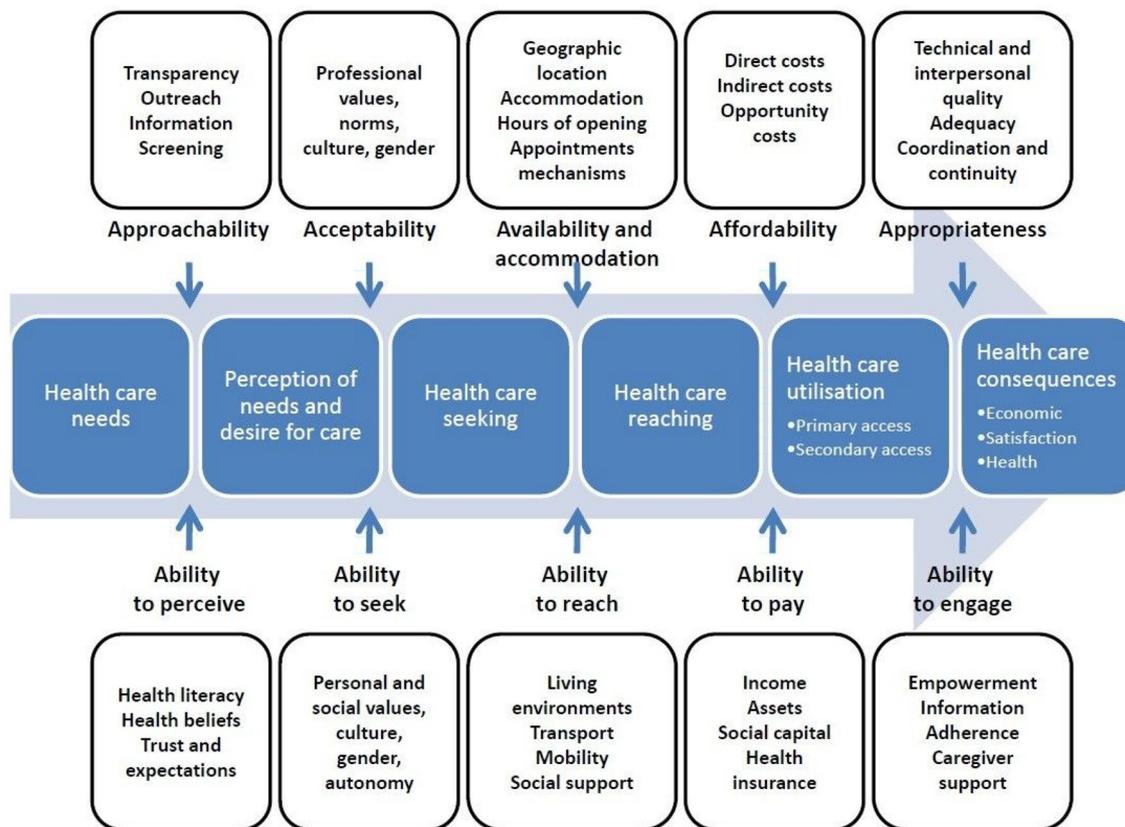


Fig. 1 Conceptual framework of access to health care (Reproduced from Levesque et al. (2013))

agreement among all participants that health facilities were the safest place to give birth, citing complications including haemorrhage, obstructed labour and blood borne infections. Stakeholders also recognised that maternal deaths had reduced with the move to facility based births:

... if they say not here, go to the hospital, then this has helped because the government told us that a pregnant woman should not deliver at the midwives and for me death has decreased but in the past graves for pregnant women were many. (N18, male traditional leader)

However, some participants advocated for traditional home deliveries. One TBA (with 45 years' experience) defended her own safety record:

I have been helping them. Nobody has died in my hand. I helped them in a professional way (N16, female TBA).

Approachability

In the study, communication of information on maternal services was found to be primarily conveyed via traditional leaders, religious leaders and others within the community.

There was little evidence of direct outreach from facility to community. This was linked with the workforce shortages at the facility, and instead the onus was on community health workers (Health Surveillance Assistants) and TBAs to 'push' women towards the facility.

TBAs described previously working effectively with the formal health system in their role of directly assisting women to give birth and that when needed ambulances were available to bring women to the facility. They described being busy and responsible, when it was legal for them to assist in childbirth. Communication and facility-community linkage had deteriorated since then, pointing to: "(the) need to bring the medical practitioners and the retired midwifery practitioners together to communicate" (M31, female TBA), and that "since the prohibition [on TBAs delivering babies] there is no linkage system" (N27, female TBA). Being no longer involved in births, TBAs were omitted from meetings between communities and health workers. Previously they helped with family planning, working with local and international NGOs, weighing babies etc. TBAs reported that they no longer took part in health activities (except referring women to facilities):

we were not given the chance... although I stopped working they are supposed to recognise me as someone [laughs] (N16, female TBA)

TBAs described themselves as being ‘pillars for the hospital’ (N6, female TBA), ‘pointers’ and ‘signposts’ (M31). However, they felt bypassed and often irrelevant in their communities: “we cannot do anything since we are retired TBAs” (N6, female TBA). Furthermore, participants reported that when TBAs were banned, other related supports also disappeared, such as community transport/referral systems to facilities; and even MNCH health promotion dramas in the community. The potential contribution of TBAs (as experienced, respected women) had been lost; this was the view of the TBAs themselves and community members.

Healthcare Seeking

Ability to Seek

Culture, values and gender clearly affected how community members sought care. Male involvement in accessing MNCH services was supported by traditional leaders. Whilst chiefs enforced punishment (on women and TBAs) for home deliveries, they could also be fined. The culture of obeying the chief, while perhaps challenging individual autonomy, is based on traditional authority and structures. Chiefs also supported maternal health care in practical terms, such as writing letters that women needed to access care.

However, participants, especially community representatives and TBAs, also cited cultural and spiritual beliefs about the causes of difficulties in labour as reasons for still preferring giving birth in the community, in contrast to the facility. For example:

P1: “Some opt for TBAs because they believe to be spelled”

Interviewer: “What kind of a spell?”

P1: “Maybe the birth canal has been sealed by charms” (MFGD8, female community members)

TBAs were seen to play a spiritual role in assisting women from conception, through pregnancy and birth:

TBAs is another group that goes deep in traditional medicine... They tell us you should beg the spirits and we go to the veranda and beg the spirits to let the child deliver her baby and this baby will be the chief in future or this baby will be the elder in Nyau. So, we beg the spirits and it doesn’t take long, we hear the baby crying inside. Those were the elders delivering babies, but nowadays you talk about your English ways and technology, but we have people we depend on (N15, male traditional leader).

Despite the ban on TBAs delivering babies, TBAs were still respected by community members: “People still look up to me as a midwife” (M31, female TBA) and “we lead because I took a good time doing training when the government took us” (M31, female TBA). They spoke of the need for love, comfort and respect for women, which they had previously received from TBAs. Based on this contrast, TBAs and chiefs offered examples of trying to advocate for improvements in facility services, and that sometimes this brought about change.

Acceptability

All of the facets of acceptability of services (professional values, norms, culture and gender) were described by community participants, mostly in negative terms. Community members spoke about the gender of health professionals, such as nurses. There were different views about male and female nurses. Some husbands did not like their wives to be seen by male nurses, while some preferences for male nurses were expressed by women interviewed. This seemed to relate to specific comparisons between individual male and female nurses, where specific male nurses were experienced as being very supportive. Younger health workers were described as “children” (N26, male traditional leader); and the motivations of some staff were questioned. Whether delivering poor care is a trait of the profession or the system was also considered:

Sometimes it happens because of recklessness from the health workers at health facility, we are not sure whether they do that because of workload (M17, male religious leader)

One participant in a focus group discussion in Mchinji summarised the problem as follows:

It is absurd that the government forces people to give birth at health facility while their health workers don’t assist women in labour at all; women are disrespected while in labour pains...and some give birth at home and cheat them that they have delivered on the way... this happens because they think of how disrespectful treatment they get at health facility” (MFGD6, female community members).

However, it was also highlighted that women communicated negative rather than positive experiences more frequently, when a nurse or doctor is not available:

not very often but to those involved in that situation it seems like they do happen daily, for bad things are more publicized than good” (N11, male community health worker (Health Surveillance Assistant)).

Healthcare Reaching

Ability to Reach

Community participants' accounts of their experiences highlight considerable practical difficulties in accessing services due to living environments, distance and transport associated costs. Women also reported continuing to opt for community births due to lack of resources, difficulties accessing health facilities, and the negative experiences at health facilities. Health professionals acknowledged the practical difficulties for women in accessing facilities; and some described linking with community leaders including TBAs for outreach and health promotion campaigns. The role of the Health Surveillance Assistant (HSA) in this outreach and referral process was described as follows:

we are like the middle men between the community and the health centre. We do listen to their health problems and refer them to where they can get help (N1, male Health Surveillance Assistant).

Informal social arrangements to cover transport costs and share bicycles or taxi fares were described as a means to overcome the practical barriers, described vividly here:

But there are some other problems like one is sick and you are of the same community, so you will discuss that can we go to the hospital. Other one will say that ah we should first wait; then you discuss and take the bike if you see that he can sit on the bike. You will go with maybe four people. You can't go all of you so we chose you and you. One will push the bike and other ones should hold the patient and other following you up to the hospital (N28, male religious leader).

Availability and Accommodation

The geographic location of services was problematic for rural women without access to transport. Linked with the inadequate services and staff, overall availability was poor. Waiting homes (a place beside the hospital where women could stay for a month away from the household and family) were mentioned as a strategy adopted to make facility based delivery more feasible, but waiting homes were seen to be impractical for the women delivering due to the long distances involved and women's other family responsibilities that prevented them in staying in these facilities for a month preceding their expected delivery date.

Healthcare Utilisation

Ability to Pay

Community members reported difficulties raising money needed for example the need to bring candles for electricity blackouts, chitenjes [cloth used for sheets, wrapping the baby etc.], thread or razor for birth (umbilical cord), or even food, as described here:

when someone is sick and admitted at hospital, we prepare food to be carried by those people going to the hospital...everyone contributes a little bit of maize flour that goes to the hospital (M19, male traditional leader).

The access domains of reaching and utilising services (through difficulties reaching and covering the costs) were inextricably linked, due to the practical challenges facing rural women. This is summed up in the words of an Nkhokotakota focus group participant:

With our poverty, we accept anything that might happen when delivering at home (NFGD6, female community members).

Affordability

Direct charges for care were mostly not in place in public or Christian Health Association of Malawi (CHAM) facilities. However many indirect costs arose, such as the requirement to bring birthing packages and to pay for transport. The opportunity costs, driven by the long distances, and time not spent tending to family needs and farming were also cited and were seen to be considerable.

Healthcare Consequences

Ability to Engage

While participants evaluated the advantages of facility and community births, there was clear consensus that women had responded to the government policy against women giving birth in the community and were adhering to that. Generally all participants in this study were aware that the motivation for communities to deliver in health facilities was a direct result of avoiding fines and other sanctions for non-facility deliveries, as fines were imposed on traditional leaders, the women and TBAs. This could not be seen as empowering the community, though as described, some efforts were made by chiefs and health committee members to advocate for better services.

Appropriateness

Regarding quality, adequacy and coordination, there were seen to be considerable deficits from the service side. Generally services were seen to be inadequate, and communities campaigned up to district level, usually via chiefs and established area level committees, for greater staff numbers and adequate care. There were many reported instances of drugs, equipment and staff shortages at health facilities, especially at night. Doctors and nurses/midwives were reported as sleeping or having meals, whilst women awaited them. Both women and men questioned making the long journey to the health facility, if care was not available there. Instances of corruption in service delivery were raised, for example related to the mal-distribution of mosquito nets, and this was reported to undermine confidence in the health services.

Regarding interpersonal quality (which overlaps with acceptability), there were also many examples of staff shouting, being harsh, rude, insulting, angry and scornful towards women, and instances of physical violence, resulting in the following typical view:

that is why some deliver at home to avoid mistreatment that people experience at health facilities (NFGD6, female community members).

Women described being shouted at for delaying in coming to the facility, for walking instead of taking a bicycle, though they had no other option. A woman (in MFGD1, female community members) described the birth being forced by staff, whereby the body is ‘completely disturbed’. Commonly women were ignored and so ended up giving birth alone at the facility, as one woman described:

I helped myself since it wasn't the first time to deliver...Lucky enough she dropped at a good place. We complain but it's not their duty to kill people (MFGD1, female community members).

Regarding technical quality, there were some instances of tragic outcomes such as neonatal deaths cited as resulting from absence of care at the facility, obviously further undermining trust in the facility. Particular characteristics of staff were seen to contribute towards poor treatment, including younger staff and those who had worked at the facility a long time. One FGD participant explained that professionals shouting at women:

is a result when the health worker has stayed longer at a place...they develop impunity...they cease to care for the patient (MFGD6, female community members).

The health professionals interviewed did not themselves criticise the services they themselves provided; but did describe staff shortages and challenges in meeting community needs,

including shortages of ambulances, drugs, transport, fuel and other resources to enable women attend facilities.

Discussion and Conclusions

Our findings suggest the community members' ability to perceive their needs and desire for care was strong. There was good health literacy (in terms of information and understanding) amongst community members (TBAs, community health workers, and religious and traditional leaders) especially about the rationale for facility based births. However, community members felt there was a major gap between the level of care desired and the care that was available in health facilities; and they also lamented the loss of culturally and emotionally sensitive care that they associated with community settings. While the policy and potential benefits of facility deliveries were generally welcomed, at each step of the process from healthcare seeking through to healthcare consequences, as outlined in the Levesque framework, community experiences fell short.

Regarding community members' ability to seek services, based on values and culture, the reports of the attitudes and behaviour of facility staff (doctors, nurses and midwives) in this study was sharply contrasted with the reportedly sensitive, spiritual care experienced from TBAs, even if this was not acknowledged by health professionals. Kindness, respect and spiritually sensitive care are key elements of good quality facility care, as highlighted by Koblinsky et al. (2016). Poor behaviour in Malawi may be partly attributed to shortages of staff, as reported by women and their families attending facilities, resulting in women giving birth alone. There have been similar findings reported in Ghana (Rishworth et al. 2016) and Zambia (Sialubanje et al. 2015). Malawi's new community midwife cadre (Butrick et al. 2014) comprises younger and less experienced skilled birth attendants and so will only partially meet the human resource needs, due to lack of experienced midwives and also the cultural difficulties for women in accepting care from younger women.

There has been a disruption of the previous linkages between the formal health system and TBAs and other senior women in communities, which also undermined the latter's status and functions in communities. Rishworth et al. (2016) has identified worsening tensions and relations between TBAs and health workers, whereas our study shows a communication breakdown and exclusion rather than overt tension. Kerr et al. (2008) identified the important role that older women, including grandmothers, have within Malawi, which the national policy undermines. The “retired” TBAs in this study believed they could make an important contribution to their communities, and to the health system, but were now overlooked. Yuan et al.

(2017) explored potential for greater collaboration with TBAs in rural Uganda, supported by training, in a similar policy context. Failure to address the ‘loss’ of the TBAs from the health system is likely to undermine efforts to promote facility attendance in Malawi. The punitive nature of the facility-birth-only policy has resulted in equity challenges, with fines and sanctions compounding the poverty of rural women, who may not be able to access facilities, as also highlighted by Uny (2017). In resource-poor contexts such as Malawi, moreover, there are particular challenges in caring for vulnerable populations such as preterm infants (Koenraads et al. 2017), as was also acknowledged by health professionals

Regarding healthcare utilisation, our findings suggest increased utilisation, based on policy and leadership practices. Bisika (2008) and Kumbani et al. (2013), in earlier studies, reported lack of compliance with facility births by women and TBAs, whereas, our findings from 2014 to 15, show that the policy of banning TBA-deliveries has been effective, partly through imposing punishments on traditional leaders where communities are non-compliant (Walsh et al. 2018). This contrasts with Demographic and Health Survey (DHS) based findings from Nigeria and Ethiopia (Yaya et al. 2018), where most women who did not give birth in facilities reported that it was ‘not necessary’ or ‘not customary’.

Regarding appropriateness of services, our study shows that a successful policy implementation in Malawi has revealed serious capacity and quality issues, including reports of poor staff behaviour. Bisika (2008) previously highlighted the capacity shortfalls of the formal health system; although Brenner et al. (2017) describe some recent positive benefits due to results-based financing initiatives at facility level. These challenges have been recognised in Malawian policy documents (Ministry of Health 2011). Nonetheless human resource shortages endure, with very low physician (<0.1) and nurse/midwife (0.3) density rates per 1000 population in Malawi (UNICEF 2016, WHO 2018), far lower than the recommended 4.1/1000 (ILO 2014). Service improvements are impossible unless these are addressed.

Women have increasingly sought and utilised under-resourced and unwelcoming services, lacking in the comfort and even love felt in community settings. The Levesque et al. (2013) framework has enabled a more granular analysis of demand and supply determinants of access. This analysis has identified the main challenges that remain to achieve successful implementation of the national policy of health facility delivery. Critical to its success will an investment in resources to ensure equitable access to MNCH services in Malawi, especially in relation to the availability, acceptability and appropriateness of services which are being sought and utilised by community members.

References

- Bailie, J., Schierhout, G., Laycock, A., et al. (2015). Determinants of access to chronic illness care: A mixed-methods evaluation of a national multifaceted chronic disease package for Indigenous Australians. *British Medical Journal Open*, 5, e008103. <https://doi.org/10.1136/bmjopen-2015-008103>.
- Bisika, T. (2008). The effectiveness of the TBA programme in reducing maternal mortality and morbidity in Malawi. *East African Journal of Public Health*, 5(2), 103–110.
- Brenner, S., Wilhelm, D., Lohmann, J., Kambala, C., Chinkhumba, J., Muula, A. S., et al. (2017). Implementation research to improve quality of maternal and newborn health care, Malawi. *Bulletin of the World Health Organization*, 95(7), 491–502.
- Butrick, E., Diamond-Smith, N., Beyeler, N., Montagu, D., Sudhinaraset, M. (2014). Strategies to increase health facility deliveries: Three case studies. Global Health Group, Global Health Sciences, University of California, San Francisco. Retrieved June 17, 2019 from <https://globalhealthsciences.ucsf.edu/sites/globalhealthsciences.ucsf.edu/files/pub/pshi-strategies-to-increase-health-facility-deliveries.pdf>.
- Campbell, Oona, M. R., et al. (2016). The scale, scope, coverage, and capability of childbirth care. *The Lancet*, 388(10056), 2193–2208.
- Chanza, D., Chirwa, E., Maluwa, A., Malata, A., & Masache, G. (2012). Factors affecting the choice for home deliveries in Malawi. *African Journal of Midwifery and Women's Health*, 6(3), 125–130.
- Godlonton, S., & Okeke, E. N. (2016). Does a ban on informal health providers save lives? Evidence from Malawi. *Journal of Development Economics*, 118, 112–132.
- ILO. (2014). World Social Protection Report 2014/15. Retrieved June 17, 2019 from https://www.ilo.org/wcmsp5/groups/public/-dgreports/-dcomm/documents/publication/wcms_245201.pdf.
- Kerr, R. B., Dakishoni, L., Shumba, L., Msachi, R., & Chiwa, M. (2008). “We grandmothers know plenty”: Breastfeeding, complementary feeding and the multifaceted role of grandmothers in Malawi. *Social Science and Medicine*, 66(5), 1095–1105.
- Koblinsky, M., et al. (2016). Quality maternity care for every woman, everywhere: A call to action. *The Lancet*, 388, 2307–2320.
- Koenraads, M., Phuka, J., Maleta, K., et al. (2017). Understanding the challenges to caring for low birthweight babies in rural southern Malawi: A qualitative study exploring caregiver and health worker perceptions and experiences. *BMJ Global Health*, 2, e000301.
- Kumbani, L., Bjune, G., Chirwa, E., Malata, A., & Odland, J. O. (2013). Why some women fail to give birth at health facilities: A qualitative study of women's perceptions of perinatal care in rural South Malawi. *Reproductive Health*, 10(1), 1. <https://doi.org/10.1186/1742-4755-10-9>.
- Kumbani, L. C., Chirwa, E., Malata, A., Odland, J. Ø., & Bjune, G. (2012). Do Malawian women critically assess the quality of care? A qualitative study on women's perceptions of perinatal care at a district hospital in Malawi. *Reproductive Health*, 9(1), 30.
- Levesque, J., Harris, M., & Russell, G. (2013). Patient-centred access to healthcare: Conceptualising access at the interface of health systems and populations. *International Journal of Equity in Health*, 12, 18. <https://doi.org/10.1186/1475-9276-12-18>.
- Ministry of Health of Malawi. (2011). Malawi Health Sector Strategic Plan (HSSP, 2011–2016). Retrieved June 17, 2019 from http://www.nationalplanningcycles.org/sites/default/files/country_docs/Malawi2_malawi_hssp_2011_-2016_final_document_1.pdf.
- National Statistical Office (NSO) [Malawi] and ICF. (2017). Malawi Demographic and Health Survey 2015–16. Zomba, Malawi, and Rockville, Maryland, USA. NSO and ICF. Retrieved April 1, 2019 from <https://dhsprogram.com/pubs/pdf/FR319/FR319.pdf>.

- Rishworth, A., Dixon, J., Luginaah, I., Mkandawire, P., & Prince, C. T. (2016). 'I was on the way to the hospital but delivered in the bush': Maternal health in Ghana's upper west region in the context of a traditional birth attendants' ban. *Social Science and Medicine*, *148*, 8–17. <https://doi.org/10.1016/j.socscimed.2015.11.018>.
- Sialubanje, C., Massar, K., Hamer, D. H., & Ruiters, R. A. C. (2015). Reasons for home delivery and use of traditional birth attendants in rural Zambia: A qualitative study. *BMC Pregnancy and Childbirth*, *15*, 216.
- UNICEF. (2016). *Maternal and Newborn Health Disparities*. Retrieved June 17, 2019 from https://data.unicef.org/wp-content/uploads/country_profiles/Malawi/country%20profile_MWI.pdf
- Uny, I. (2017). *Weighing the options for delivery care in rural Malawi: Community actors' perceptions of the 2007 policy guidelines and redefined Traditional Birth Attendants' roles*. PhD thesis. Queen Margaret University. Retrieved June 17, 2019 from <https://erease.arch.qmu.ac.uk/bitstream/handle/20.500.12289/7469/2618.pdf?sequence=1&isAllowed=y>.
- Walsh, A., Matthews, A., Manda-Taylor, L., Brugha, R., Mwale, D., Phiri, T., Phiri, T., & Byrne, E. (2018). The role of the traditional leader in implementing maternal, newborn and child health policy in Malawi. *Health Policy and Planning*, *33*(8), 879–887.
- WHO. (2018). Global Health Observatory data repository. Retrieved June 17, 2019 from <http://apps.who.int/gho/data>.
- Yaya, S., Bishwajit, G., Uthman, O. A., & Amouzou, A. (2018). Why some women fail to give birth at health facilities: A comparative study between Ethiopia and Nigeria. *PLoS ONE*, *13*(5), e0196896. <https://doi.org/10.1371/journal.pone.0196896>.
- Yuan, E. D., Cherukuri, A. R., Ssematya, R., Naylor, M. R., & DeStigter, K. K. (2017). An open conversation with traditional birth attendants in rural Uganda: The potential for collaborative care. *Journal of Global Radiology*, *3*(1), 3.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.