Tracing shadows: How gendered power relations shape the impacts of maternal death on living children in Sub-Saharan Africa

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Abstract

Driven by the need to better understand the full and intergenerational toll of maternal mortality (MM), a mixed-methods study was conducted in four countries in sub-Saharan Africa to investigate the impacts of maternal death on families and children. The present analysis identifies gender as a fundamental driver not only of maternal, but also child health, through manifestations of gender inequity in household decision making, labor and caregiving, and social norms dictating the status of women. Focus group discussions were conducted with community members, and in depth qualitative interviews with key- informants and stakeholders, in Tanzania, Ethiopia, Malawi, and South Africa between April 2012 and October 2013. Findings highlight that socially constructed gender roles, which define mothers as care- givers and fathers as wage earners, and which limit women's agency regarding childcare decisions, among other things, create considerable gaps when it comes to meeting child nutrition, education, and health care needs following a maternal death. Additionally, our findings show that maternal deaths have differential effects on boy and girl children, and exacerbate specific risks for girl children, including early marriage, early pregnancy, and school drop-out. To combat both MM, and to mitigate impacts on children, investment in health services interventions should be complemented by broader interventions regarding social protection, as well as aimed at shifting social norms and opportunity structures regarding gendered divisions of labor and power at household, community, and society levels.

1. Introduction

Globally, an estimated 289,000 women died in 2013 during and following pregnancy and childbirth (World Health Organization [WHO], United Nations Children's Fund [UNICEF], United Nations Population Fund [UNFPA], The World Bank & United Nations Population Division, 2014). The vast majority of these deaths, 99 percent, occurred in low and middle income countries; sub- Saharan Africa accounted for 62 percent of the global burden of maternal deaths in 2013, the highest comparative regional maternal mortality ratio (MMR). The differential burden of maternal death within and between countries is in no way random; high rates of preventable maternal mortality (MM) and morbidity reflect deep social and gender inequalities at household and societal levels, which are then refracted in institutional failures to prioritize women's sexual and reproductive health needs within health systems (Freedman, 2005; The Partnership for Maternal Newborn and Child Health & The University of Aberdeen (2010)). Efforts to achieve Millennium Development Goals (MDGs) 4 and 5 (child health and maternal health, respectively) led to greater

investments in maternal and child health (MCH) programming (Hsu et al., 2012). Nevertheless, the narrow outcome indicators adopted in the MDGs both reflected and exacerbated technocratic approaches to policymaking and programming in sexual and reproductive health (SRH), as well as other arenas (Fukuda-Parr et al., 2014; Sen and Mukherjee, 2014; Unterhalter, 2014; Yamin and Boulanger, 2013). Measuring achievement of MM reduction in accordance with MDG 5 largely displaced broader questions relating to the social and political changes necessary to achieve gender equality, which had been raised in the 1990s' UN conferences as critical to SRH, as well as development more generally. (Fukuda-Parr et al., 2014; UNFPA, 1995; United Nations, 1996).

The cadavers that persistently high levels of MM leave in their wake, coupled with the continuing undervaluation of women's SRH needs in health systems, are perhaps the ultimate example of the embodiment of gendered power relations within and across societies, and are invariably the result of what Connell refers to as “institutional control of women's reproductive capacities by men” (Connell, 2012, 1677; de Barbieri, 1992). However, we argue here that the gendered construction of the causes of MM also has intergenerational impacts after the mother is deceased, on her surviving children. Although the link between the death of a mother and survival of her children is well established (Katz et al., 2003; Ronsmans et al., 2010), the far-reaching impact of MM and mechanisms through which these deaths affect older children re- mains less documented.

Driven by the need to better understand the full toll of MM, including its intergenerational impacts, and the mechanisms through which adverse effects are experienced by maternal or- phans and families, we conducted a multi-country, mixed-methods study in four countries in sub-Saharan Africae Tanzania, Ethiopia, Malawi, and South Africa (The Impacts of Maternal Death on Living Children Study). Preliminary results from the quantitative arm of this study show dramatic effects of maternal mortality on infant and child survival in sub-Saharan Africa (Finlay et al., under review; Houle et al., 2015; Moucheraud et al., 2015). For example, in South Africa, children whose mothers died from maternal causes had 15 times the risk of dying ($p < 0.001$) compared to children whose mothers survived; and in Ethiopia, 30% of children whose mothers died from maternal causes died as well, compared to only 4.4% of children whose mothers died non-maternal deaths ($p < 0.001$) (Houle et al., 2015; Moucheraud et al., 2015). Recognizing that the four countries are very diverse, we produced country-specific qualitative papers to better understand some of the context- specific drivers of outcomes for maternal orphans (Bazile et al., 2015; Knight and Yamin, 2015; Molla et al., 2015; Yamin et al., 2013). Specific analyses of findings from each country, both qualitative and quantitative, and a detailed account of the research protocol for each country, are published or under review elsewhere (Bazile et al., 2015; Finlay et al., under review; Houle et al., 2015; Knight and Yamin, 2015; Molla et al., 2015; Moucheraud et al., 2015; Yamin et al., 2013).

Despite the diversity in social and cultural contexts, gender norms and relations were identified as a consistent theme across the four countries. The following paper presents a discussion of key qualitative findings from all four countries -literally tracing the shadows of deceased mothers– in order to provide comparative information on the gendered effects of maternal deaths on children. Drawing on Connell (1987), as well as other relational theories of gender, we argue here that the sexual divisions of labor and decision-making power between men and women, together with social norms that rigidly assign women exclusive responsibility for nurturing maternal roles, lead to poor outcomes for maternal or- phans. Further, the mitigating effect mothers have on intra- household resource distribution is lost to orphans upon a maternal death, as is the protective role mothers generally play in mediating sexual mores, which in turn affects girl children more profoundly.

We conclude that evidence of the extensive impacts that women's deaths exert within children's lives should (1) counter tendencies to discount the prioritization of MM reduction due to relatively low deaths, and ostensible success achieved over the last decade; and (2) complement a focus on health and social protections systems-strengthening initiatives with approaches that address gendered determinants that structure risks for children, as well as women.

2. Materials and methods

2.1 Ethics statement

Ethical approval for study protocols was granted by the Harvard T.H Chan School of Public Health Institutional Review Board, the National Institute of Medical Research in Tanzania, the National Health Sciences Research Committee in Malawi, the Addis Ababa University Medical Faculty Institutional Review Board in Ethiopia, and the Human Sciences Research Council Research Ethics Committee in South Africa. At all research sites, informed consent was read verbatim by the research coordinators and all participants indicated consent through either a written signature or thumb print.

2.2. Study design and sample

Qualitative data was collected between April 2012 and October 2013 in Butajira, Ethiopia, Neno, Malawi, Kilombero, Rufiji, and Ulanga, Tanzania, and Vulindlela, South Africa. All country sites were selected because of the long-standing demographic surveillance sites (DSS) located within them, which provided the data used in the country-specific quantitative analyses, except for Malawi, in which a quantitative analysis was not performed, due to lack of a long-running DSS site. All within-country sites were rural, except for South Africa which was peri-urban; and in both Tanzania and Ethiopia, qualitative research was performed in the same catchment areas of the DSS sites. Despite being peri-urban, Vulin- dlela, South Africa was chosen for its similarities to the Agincourt DSS catchment area in terms of demographics, migration, poverty, access to health services, and HIV status. Across sites, in depth interviews with family member key informants and stakeholders were

conducted, as were sex-stratified focus groups. All participants received a small, locally appropriate stipend for their participation, ranging from 3 to 10 USD.

Inclusion criteria for adult family member key informants was defined as being related to a woman who had died during pregnancy, childbirth, or within 42 days of the termination of pregnancy, from any cause related to being pregnant, per the WHO definition of a maternal death (WHO, 2014). Research teams led by The Harvard T.H. Chan school of Public Health, Addis Ababa University, Ifakara Health Institute, Partners in Health Malawi, and Human Sciences Research Council worked with local facilities, organizations, and community leaders, and used snowball sampling to identify key informants. Local research staff cross-checked the names of all women identified as dying from maternal causes against health facility-based medical records and/or death certificates to confirm recruitment of their family members. The average time interval between maternal deaths captured and qualitative interviews was: 6 years 3 months (Malawi), 5 years 6 months (South Africa), 3 years 8 months (Tanzania), and 5 years 5 months (Ethiopia). Key informant interviews focused on the circumstances of the maternal death, family dynamics and relationships before and after the death, and impacts of the death on individual household members over time. To recruit stakeholders, study teams worked with local liaisons in each country, to identify people and institutions that provided services or were engaged in programming in relation to families with maternal orphans; and used snowball sampling, where necessary, to ensure that lists were comprehensive. Stakeholders were then approached in person or by telephone by community liaisons. Stakeholder interview topics included availability and use of services for orphans, and challenges for implementing relevant programs and policies. Sex-stratified focus groups discussed community values and norms, as well as challenges faced by orphans and guardians. Snowball sampling and community contacts were also used to recruit focus group participants across sites, who lived and/or worked in the communities studied and represented their age (adults 18þ), social, and professional distributions.

The Harvard T.H. Chan School of Public Health Principal Investigator reviewed the back translations of all survey instruments and trained all data collectors personally, observing interviews and focus group discussions over a period of multiple days in each country. In total, 115 key informants and 83 stakeholders were interviewed, and 290 people participated in focus group discussions, across settings. Supplemental file A provides detailed information on study participants from each country [INSERT LINK TO ONLINE FILE A].

2.3. Data analysis

All interviews and focus group discussions were transcribed from digital recordings and translated into English by research coordinators. The transcripts were de-identified by the research team before any coding activity took place. The Harvard-based research team provided training for all country PIs in the use of NVivo 10,

which was used for all analyses, and consistency of coding in November, 2013. Utilizing an inductive approach to coding, Harvard research staff collaborated with research staff at each site to develop codebooks, discussing and editing themes as they emerged, and to code transcripts. Through iterative discussions about the data, and as country-specific qualitative papers developed out of the analyses, the research team found substantial continuity of themes related to gender across contexts, and developed this cross-country analysis as a result.

3. Results

3.1. Mothers [use] scarce resources to benefit children's wellbeing

Although the levels of social development vary substantially across countries, the households captured in this study, in Tanzania, Ethiopia, Malawi, and South Africa, all operate under extremely precarious socio-economic circumstances. Further, it is not only lack of access to formal employment and wages, but also norms regarding control of household resources, which give women little agency in decisions. As explained by a stakeholder from an orphanage in Tanzania:

For our culture, the father is always responsible for controlling the money and deciding how it is used. Sometimes the woman may have her own business and income, but she has to give any money to her husband to plan how it should be used. She does not have control of it.

Despite the low financial capital of women across the contexts studied, however, we found that the gendered construction of mothers as caretakers resulted in their budgeting scarce resources for their families. In this way, mothers attempt to influence the household budget to accommodate children's needs. As one key informant widower stated in Ethiopia, “The main purpose of marriage is having a woman to cook, but also a mother who can nourish and take care of the children, and anchor the family”. However, when a mother dies, the intra-household divisions of labor and power often mean that there is no one left to budget in ways that mitigate the impact that male control over finances can have on maternal orphans. For example, one female focus group participant in Ethiopia noted:

My husband makes the money, but I will collect and manage it, according to each of our needs. If I die, it is obvious that the family will have a problem as there is no one to manage the money.

Without a mother to divert financial resources towards these costs, orphaned children are often unable to obtain adequate care. In Tanzania for example, a female focus group participant explained:

Children may have poor access to health care because they may go to the health facility and then they may be required to pay for some services or drugs. So if the mother is not there, the father may be nowhere to be found or unwilling to give such

money for treating his child.

Similarly, in Ethiopia a female focus group participant noted that nutrition can suffer following a maternal death, “A father will not buy formula milk for his newborn. Instead the neonate will be fed a very thin gruel made of cereal which will affect the newborn's health and survival”.

Nutrition is indeed perhaps the most significant pathway for adverse health effects on infants, after a maternal death. As this Tanzanian father explained of his infant daughter who he began to care for, with help from his mother, following his wife's death, “She is now on cow milk. She had formula for 6 months only and I couldn't afford anymore thus we had to change her into cow milk”. Female caregivers of orphans expressed feelings of being trapped, constrained in gendered roles and social norms that affected their ability to generate income and make decisions about the intra-household allocation of income, including those that would benefit orphans. Among the communities in our study, it was often impossible for women to take on paid work in order to supplement their income and provide for the household, as explained by this maternal grandmother interviewed in Malawi, “You can see my situation; I can no longer go to farm in the gardens to get some money because I have to pay close attention to the child. There is nothing that I can do to support myself”.

At the same time, low personal and social expectations of fathers regarding allocation of income were found across study sites. For example, in South Africa, fathers were generally portrayed as unwilling or incapable of using income to provide adequate care for their children, as noted by the niece of one widower:

He needs [to make] money, so that his kids can grow, but that money should not be given to him. Maybe the money can be given to granny and she has control over it because he won't manage it well. He will take the money and buy something to drink and get drunk. He won't even know [the children's] issues

Maternal orphans interviewed, now in adulthood, reflected upon the change in financial status and trajectory of their lives that had resulted from the loss of their mother. As one adult male child from Ethiopia stated:

I worried much when my mother died. When my mother and father were together, we had everything. But after her death we lost everything. He (Father) planned to remarry and he denied giving us food. Then we dropped out of school and had to start working … I also got married after a while.

3.2. Mothers as facilitators of access to health care and education

Mothers appear to act as buffers for adverse impacts on children, not just by saving and channeling resources towards children but also exerting what little agency they

have in providing care and accessing health care and education for them. Thus, following a maternal death, the quite rigidly prescribed roles for mothers and fathers can leave children without someone to divert energy to- wards caring for them. In Malawi, one male NGO stakeholder explained, “When the mother is there, she manages to take care of the children and once these children lack care … maybe even breakfast becomes a problem and then their daily lives …”

In the same vein, we found that, without a mother, it is less likely that a child will be taken to a health facility by a caregiver, as doing so presents substantial opportunity as well as financial costs for them: taking away from time spent working, for men, or caring for additional children, for women. A female focus group member in Ethiopia noted: “It is the mother who would take the children for vaccination. When the mother dies, child health care including child feeding will be affected”. As explained by this female focus group participant in Malawi, distance further compounds this issue:

Distance from a health facility is a problem. If the mother was there she would make efforts to go to the hospital [for the child], however [if the mother has died] this depends on the willing- ness of the care taker/guardian.

As children grow, the same seems to apply to education. Mothers tend to advocate for resources towards school fees, uniforms, etc., as well as encouraging attendance. Following a maternal death, in many cases, that emotional support and prioritization of children's education is lost. In Malawi, a male stake- holder from the local health center noted:

On the education point of view the mother is the engineer of child's education so if the mother is no more definitely the education of the child will be affected. A mother would be able to escort a child to school while a father will just say [to] go to school.

Even in contexts of relatively high drop-out rates, elevated early drop-out rates and poor performance of maternal orphans, as compared with other children, were repeatedly cited by informants and stakeholders across settings. Moreover, while all women and children in the communities studied are affected by the sexual divisions of power and labor, participants across the four countries confirmed that the aforementioned exposures more acutely affect orphan children because female caregivers who are not biological mothers do not face the same social expectations regarding investing time and energy into caregiving for someone else's children. As articulated by the brother of a deceased mother in Malawi:

Whoever plants a crop takes the trouble of weeding so as to end up with better results, likewise both parents remind each other on growth monitoring as well as vaccines unlike and when one is unable to take the child to the health center, the other will do, whilst a single parent and being the father who usually is not motivated

to do that and might be occupied with other activities being that he is alone, again if the child is with other family members the guardians might feel that they are busy with other things to take the child to the hospital as a result this leaves these children without accessing these services and might feel can't do better than what they are doing.

Stereotypes of different female caretakers appear to not only reflect but also to reinforce certain traditional expectations regarding the care of orphans as unchangeable. For example, in focus group discussions across the four settings, stepmothers were often demonized as treating orphans as “another woman's left-overs”, as were “other wives” in polygamous households, and in our study we found no cases where stepmothers and other wives had acted in ways to access health care and education, or otherwise mitigate effects on orphans in the ways that biological mothers had. Grannies and aunties appeared in most cases better able to play some mitigating role in the absence of the deceased women. However, it is not clear the extent to which such a mitigating role is structured by societal norms and expectations, as much as personal incentives and prerogatives.

3.3. Economic forces and male gender role enable retreat from fatherhood responsibilities

The combination of economic pressures and the ways in which masculinities are constructed also affects the expectations and roles for fathers after a maternal death. In our study, across all contexts, fewer than fifty percent of guardians were fathers; and in Malawi none were. Both stakeholders and focus group participants across countries indicated that it is uncommon for men to take over primary caretaking and household responsibilities following a maternal death.

Most often, economic pressures and gender norms regarding nurturing result in female extended family members filling the role of caretaker for the orphaned children. For example, in South Africa, the responsibility of caring for children born within marriage traditionally falls to the female members of the paternal family. However, many children born to unmarried partners are cared for by women in the maternal family following a maternal death. In southern Malawi, a family meeting is held to determine the guardianship of children orphaned by a maternal death; and although the cultural expectation is that the male partner will stay with the family of the deceased woman for at least three months to provide for the children before remarrying, our findings indicate that this is often not the case.

As explained by a male stakeholder from a health center in Neno, Malawi, because nurturing children is considered a female responsibility, men are not compelled to assume the role of care- giver following the death of their wives, even if they have a sick child who requires medical care. Instead, men quickly look to other women, either female family members, as noted above, or a new wife:

Malawian men… just [think] that taking [care] of children is a woman's job so when a woman dies [it] is too hard for a man to take care of the children… it's not common to see a man taking a child to a hospital if the child is sick… if the mother dies… it's like you [the man] are starting a new thing which you have never done before taking care of these children and some men can rush to [re]marry… only for that woman to take care of the children.

Although across the contexts studied there had traditionally been expectations of financial support from fathers, our study findings suggest that ruptures in social norms have diminished these, leaving many maternal orphans without financial support from non-custodial fathers. In Tanzania, stakeholders and focus group participants in Dar es Salaam and Rufiji pointed to shifts away from Julius Nyerere's 'Ujamaa' family hood ethos (Ibhawoh and Dibua, 2003) whereby communities assumed greater support roles for families of deceased women as a result of men resisting assuming individual responsibility. In rural, southern Malawi, increased internal and external (to South Africa primarily) migration of men for employment was noted repeatedly by key in- formants as affecting fathers' perceptions of their responsibilities to children, as was the lack of sanctions from community elders for failure to provide even financial support. In both the area of Kwa- Zulu Natal, South Africa, as well as Butajira, Ethiopia, migration for employment is also common among men, who travel to cities within those respective countries. In the absence of both development policies that ameliorate the drive for migration from rural to urban areas, and functioning social protection systems, such economic forces appear to exert strong impacts on father's behaviors as well as female caretakers' capacities to provide for maternal orphans.

Some men noted with regret the effects of the loss of their wives on their children and their inability to play greater nurturing roles. For example one widower in Ethiopia noted, "I wish I had died, it would have been better for the children". This father also reflected that although he had remarried to have someone care for the children, the stepmother and his older children did not get along well and he felt obligated to support the new wife, to the detriment of the orphans from the previous marriage. These sentiments were echoed across focus groups in Butajira, indicating men too feel trapped by their prescribed social roles. As this female focus group participant explained:

The husband tries to protect his children from their stepmother and she gets angry and when he tries to take care of her, his children feel left out. He is constantly trying to balance that and that is very painful for him

Despite the attempts of female relatives and stepmothers to fill the role of caregiver, children continue to live their lives in the shadow of their mother's death. Both women and men interviewed largely saw the gendered construction of their roles as beyond challenge, even if they expressed profound dissatisfaction.

3.4. Differential impacts of maternal mortality on boy and girl children

In addition to playing central roles in supporting children's ac- cess to healthcare and education, mothers also play an important part in mediating gender identities and sexual behavior in older children, especially girls. Themes around the unique role that mothers play in this respect were repeatedly raised by participants in our study, especially in terms of providing guidance throughout puberty and information about sexual behavior to girl children. Lacking access to information about sexual and reproductive health is a "risk factor" for girls through which gendered inequalities having to do with sexual norms are maintained in society, and lead to compounded health and social risks to children. As one female NGO stakeholder in Malawi stated:
For a girl child there are a lot of issues because a mother plays a big role when raising a child and a mother is the one who advises the girl most of the times in terms of behavior. In maternity, we meet a lot of girls who are very young, they are there for antenatal care services or they come to deliver, and if we ask she says that she married at a [young] age, and if you ask her why, she might say that her mother died when she was young and she had nobody to look after her so she decided to get married.

Among study participants in Tanzania, Malawi, and Ethiopia, early marriage was virtually always discussed as a way of removing a financial burden from birth families, and as a consequence of a life without the support and guidance of a mother. For example, in Malawi, a female focus group participant stated, "Since orphaned children [often] lack assistance, as they enter into adolescence, girls may end up with early pregnancies and marriages, as a manner of finding alternatives." Similarly, a father in Ethiopia explained, "After my wife's death, life was not the same. My children were suffering from the grief of the loss of their mother and from starvation. My daughter married at 16 to avoid the wretched life." And, an Ethiopian key informant, now grown, explained her decision to marry early following her mother's death, "Nothing is comfortable without a mother. I grew up losing many things. Then when my father refused to show me love, I got married and nobody was there to buy me exercise books and other materials … I was fifteen."

While early school dropout and marriage are common experiences for girls across the 4 areas studied, participants consistently indicated that orphans were more severely impacted in their communities. The same adult child from Ethiopia quoted above further elaborated on her situation before her marriage:

I was supposed to get married since I am a woman. There are so many things that girls face. I would have gone abroad [to work as a domestic employee] had there been somebody to send me. I got married since there was no one who could cover my expenses. I got married because I also couldn't learn.

Adult daughters of deceased mothers in our study, in all four countries, spoke about

the ways in which their mothers provided information and assurances to them in relation to relationships with boys at school and other men, in effect mediating sexual roles. One young woman in Ethiopia who had gotten married to a man she did not love to save her family expenses noted sadly that “when my mother died, I lost so much of my life too.” Not having a mother to confide in, and potentially learn from, could translate to a lack of knowledge about the female body, menstruation, fertility, pregnancy, and childbirth, which in turn could have deleterious effects on future maternal health. As a female government stakeholder in South Africa explained, fear of stigmatization following menarche stops orphaned girls from seeking reproductive health information:

When [orphaned] girls approach puberty and on their first day getting a period they won't know who to talk to. They might be scared to talk to their grandmother or their aunt because they've heard them saying before that if you get your period it means you have started seeing boys, whereas if their mother was around they would tell her. Even if [the girl child] found a boyfriend she would tell her mother.

Across the four countries studied, we also found that girl children often take on household and care-taking responsibilities to fill the void left by a maternal death, even in situations where they are taken in by relatives. Girl children are pressured to fill the maternal household role, including all chores, which has impacts across the life course. As a male focus group participant in Tanzania stated, “When a mother passes away it is really problematic. You may find younger [girl] children start caring for other siblings because the father is nowhere to be seen”. This pattern, while understood to be problematic, can also be seen as enabling fathers to step away from parenting responsibilities, rather than shift social behaviors. Because their time is spent taking care of the household, girl children are often forced to dropout of school, severely limiting their future economic potential. As put by a widowed father in Ethiopia:

Girls take over their mother's role in handling household chores. For example, when I go to the field for farming, there is no one to look after the house, so she (the first born daughter) was forced to drop out of school. Then the second one dropped out … if she had not dropped out, she would have been in grade eight by now.

Just as girl children may cope by early sexual debut and early marriage, the loss of the mother's mediating role is evidenced in other unhealthy behaviors among boy children as they create their sense of masculinity. Stakeholders discussed the potential for alcohol use by boys in child-headed households, which further burdens girls with care-giving responsibilities. One stakeholder in South Africa, a female Community Caregiver noted, “The ones who take responsibility [after a maternal death] are usually girls, because boys often start very early with alcohol. These [girl] children end up carrying this heavy load alone, cleaning, feeding other children, and doing everything alone”.

Other participants hinted at a more complex chain of events linking the death of a mother to unfavorable outcomes for male children via the shrinking presence of a father in his children's lives subsequent to a maternal death. One male Community Caregiver stakeholder in South Africa pointed out that boy children are often viewed as more difficult to care for by grandmothers, who provide a significant amount of orphan care in South Africa.

But the other determining factor also is whether it's a boy or a girl. You often find that when it's a boy they [paternal family] will say take him, and when it's a girl they will say bring her. I don't know why but that's what usually happens. The grand-mother prefers the girl to the boy, I don't know why.

Thus, compounded losses, of mothers and fathers, coupled with social expectations, expose boy children to further disruption in their lives, and render them more vulnerable to different risks.

Children's perceptions of their own role within a household following a maternal death also differed by gender. In cases where boy children were the eldest of the siblings in a household, we saw that they would assume financial responsibility for their younger siblings. In Ethiopia we heard from an adult son of a woman who died in pregnancy who had once been a very promising student, and looked forward to a career in the civil service. However, upon his mother's death, his father abandoned the children for a second wife. This oldest son then was forced to drop out of school and take occasional jobs just to feed his siblings. The daughters in the household also dropped out, even earlier, and after first managing the household chores and looking after the small children, the eldest daughter went to the middle east as a domestic servant through an agency and got married, respectively As this family's story illustrates, while boy children may be more likely to perceive themselves as supports for the family in the absence of the mother, female children are seen as– and internalize a sense of themselves as– burdens on the family.

4. Discussion

Through in-depth interviews and focus group discussions with family and community members, we have attempted to trace the shadows of women lost to childbirth in order to reveal the fuller meaning of MM. Comparative findings from this multi-country study provide greater understanding into the profound intergenerational impacts that MM has on child health and well-being, and the mechanisms through which gender norms and practices structure risks for orphaned children across varied contexts in sub - Saharan Africa. Although the four contexts vary substantially, similar themes can be identified in terms of the dynamics that gender relations play within households and in communities. In contexts that are heavily affected by migration, and unequal pat- terns of development that promote rural to urban migration, gendered norms and social patterns trap orphaned children in cy- cles of poverty and suffering in the event of maternal deaths.

Our findings are consistent with others, including from the World Bank, that assert that gender inequity compounds vulnerabilities based on age, health, and poverty, and drives interactions among women's agency, endowments, and economic opportunities, which in turn strip them of their voices and participation in making decisions relevant to theirs and their children's health and well-being (The World Bank Group, 2012). In the case of MM specifically, the shadow of the absent mother and the consequent toll on orphans documented in our study reveals the enormity of the protective and mediating roles that mothers play in these societies. Across countries, our findings suggest that, while changing social norms combined with economic forces operate to loosen traditional expectations of male parental responsibilities, the same is not true of women who are expected to assume virtually all responsibilities for the care and nurturing of children. The absence of effective social protection systems that account for gendered gaps fails to ameliorate rigidly prescribed gender differences in child- rearing responsibilities. Even in South Africa, the only of the four countries studied to have a well-developed social protection system, and more promising comparative outcomes in women's education, employment, and fertility, structural and historical inequalities relating to the intersection of poverty, racial discrimination, and gender inequality continue to permeate social norms. As such, women continue to be subordinated in South Africa, particularly in terms of gender-based violence, caretaking and ac- cess to health care (Coovadia et al., 2009). At the household level, the gendered interactions between poverty and the lack of education and employment opportunities which collectively undermine women's decision-making power regarding finances and resource allocation impact the level of care that women are able to provide to children, thereby perpetuating intergenerational cycles of poverty and suffering (Haddock, 2013; Richards et al., 2013).

However, our findings indicate that despite their low decision- making power and agency, the social construction of the role of the “biological mother” enables women to mitigate some adverse effects on their children because social norms encourage slight latitude in allocating intra-household resources for the benefit of children, as well as placing high expectations on them for nurturing responsibilities. In older children, mothers also appear to mediate sexual and identity roles, with especially strong effects on female children. When this protective effect is lost, orphaned children often suffer adverse nutritional and health consequences, as well as turn to dropping out of school and early sexual debut, resulting in a higher likelihood of health complications over the life course associated with early sexual activity and childbearing, such as increased risk for HIV (Haddock, 2013). Older boy children can also be forced to assume fatherly parental roles when their own fathers shrink from such responsibilities, or alternatively can turn to self- destructive behaviors.

At the same time, our findings suggest that masculinities and expectations of fathers' roles, with regard to both income generation and caretaking, are shaped in dialectical fashion with rigidly prescribed mothering roles, and are also affected by the frequent

imperatives of needing to migrate to find employment. What stood out in participants' remarks was a generalized sense of the immutability of social roles of women in regard to caretaking, despite both evidence and comments regarding the evolution of societal expectations on fathers in terms of parenting (Madhavan et al., 2008; Makusha and Richter, 2014). A combination of rural development programs, social protection systems to ameliorate economic desperation of both fathers and other caretakers, coupled with systematic efforts to raise awareness and free both men and women from their limited gender roles could better protect the health and lives of children.

Our findings, however, should be interpreted with limitations in mind. Although the study provides in-depth qualitative insight into the mechanisms linking gender inequalities, MM, and child out- comes, the linkages cannot be assumed to be causal and the results cannot be generalized beyond the study population. For example, although there was a mixture of women identified through records who had died at facilities and through snowball sampling who had died at home, relying on facility records and social networks to identify and enroll family member key informants potentially limits the variability of our sample.

Despite these limitations, the Impacts of Maternal Death on Living Children Study provides evidence of the cumulative burden of MM on the family and the community, raising awareness of the real costs of failures to advance gender equality not just for women's sexual and reproductive health, but also for children of women who die in pregnancy and childbirth. Our findings are consistent with the existing literature on the linkages between gender inequalities, poverty, and MM, and the emerging evidence base regarding the enormous consequences of a maternal death, particularly in terms of creating vulnerabilities for the health and development of children (Bazile et al., 2015; Finlay et al., under review; Houle et al., 2015; Kenya MOH et al., 2014; Knight and Yamin, 2015; Moucheraud et al., 2015; Yamin et al., 2013).

5. Conclusions and recommendations

These findings underscore that the toll of MM is far higher than ordinarily considered, even with the progress that has been made over the last decade. Our research suggests that not only should the intensity of efforts to reduce MM not slacken, the findings also add to calls to move beyond vertical interventions aimed at proximate causes of MM, in order to provide strengthening for health systems that links maternal, newborn and child health (Jimenez Soto et al., 2012; Odeny et al., 2014; Rotheram-Borus et al., 2014; Spector et al., 2012), as well as for social protection systems, which affirmatively ameliorate gendered burdens of unpaid care work and include incentives for fathers to take part in caring for their children. Further, both public and targeted education campaigns (e.g. through contacts with health system) should challenge generalized acceptance of social norms that perpetuate structural discrimination against women, both for their own sake and for

the sake of their children (Department for International Development [DfID], 2005; Haddock, 2013; United Nations Millennium Project Task Force on Child Health and Maternal Health, 2005; UNFPA, 2012; Yamin, 2010; Yamin et al., 2013). Just as our findings highlight that gender norms can be reinforced and constructed by the existence or absence of appropriate national and global development programs, as well as economic forces, so too can development agendas sup- port multi-sectorial approaches, which include efforts to address the multiple dimensions of gender inequality, in both private and public spheres. These could include targets and indicators in relation to, for example, social and behavioral interventions aimed at men as well as women; the creation of policies and legal frame- works relating to land tenure and title, access to credit and collateral, and asset control; systematic childcare interventions designed to free women's time for paid work; shrinking education and literacy gaps through the use of social protection systems and potentially cash transfers conditional on girls attending school; strengthening health service delivery systems to be responsive to gendered needs of women and youths in poverty; and increasing access to information by widely promoting opportunities for and rights of women to participate as decision makers in society (Gre'pin and Klugman, 2013; World Bank, 2012).

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Competing interests
The authors declare they have no competing interests.

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Appendix A. Supplementary data
Supplementary data related to this article can be found at http://dx.doi.org/10.1016/j.socscimed.2015.04.033.

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