Maternal Death and Household Disruption: Evidence from Rural Kenya

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<u>Extended abstract</u>

Background: The reduction of maternal mortality is widely acknowledged as a global public health priority, an urgent social justice and human rights issue, and essential to social and economic development. Yet, a recent review of progress toward the Millenium Development Goal MDG 5 (Improving Maternal Health) shows that in the past two decades there has been only minimal progress in lowering maternal mortality, particularly in sub-Saharan Africa and South Asia where 95% of the world's maternal deaths occur.[i] The lowest reductions in maternal mortality are in countries with high HIV prevalence, such as Kenya.[ii]

Even though maternal mortality has been a topic of interest to demographers for decades, and while there is a large body of research on causes of maternal mortality and the types of interventions that can address it, still gaps in research persist. One important gap is in analyses of the disruptions caused to households when a young woman dies in childbirth. In most developing country rural households, young women hold the prime responsibility of running a household, working in the fields, rearing children, and taking care of household members' food and health needs. Thus, it stands to reason that when a young woman dies in childbirth, the trauma of that death is compounded by the disruption to a household's basic functioning her death creates. Yet, there is very limited research that documents the nature and extent of such disruption and how households cope with it.

Several studies do document the mortality risks and other consequences for children when a mother dies, but most examine the effects of adult female deaths in general, rather than the effect of a maternal death specifically. [iii iv v vi vii] One study from rural Haiti that does compare the consequences for infant and child survival when a mother dies of maternal causes vs. non-maternal causes finds that a family with a maternal death has a 55% higher odds of experiencing a death to a child under age 12 years; there are no increased odds for child mortality in the case of non-maternal adult deaths. A longitudinal study in Tanzania shows that when a mother dies in childbirth, her children are much more likely to drop out of school than are other children.[viii] We found no published research, however, on other types of disruption from a maternal death, such as changes in childcare arrangements and changes in family structure that could impact all members of a household adversely.

This study starts to address this gap by using a combination of quantitative and qualitative data to document and analyze the main non-financial "costs" of disruption faced by children and other household members of a woman who dies in childbirth. This study is a collaborative effort between Family Care International, the International Center for Research on Women, and the KEMRI/CDC Research and Public Health Collaboration, which is a longstanding collaboration between the Kenya Medical Research Institute and the U.S. Centers for Disease Control and Prevention (CDC). The study is based in Western Kenya, in Siaya and Rarieda districts, an area with a maternal mortality rate of approximately 600 per 100,000 (KEMRI/CDC HDSS data, unpublished).

Key questions: Our overarching question is: *How do household dynamics, functioning and welfare change because of a maternal death and how are these changes perceived by surviving adult household members?* Specifically, we examine:

- What are the main types of disruption such households incur, including in the realms of allocation of food production and preparation, household tasks and increased burden on surviving adults?
- In what ways is the household structure disrupted with the death and what implications does this disruption have for other household members, especially surviving young children?
- What are the main support mechanisms for a household with a maternal death?
- How do affected households perceive the changes that have occurred to the household because of the maternal death?

Data and methods: The study is currently in the field. We are at present collecting *quantitative data* from households that have suffered a maternal death two months prior to being recruited into the study. Since maternal death is a relatively rare event, we will include all area households with such deaths. Maternal deaths are identified through KEMRI/CDC's Health and Demographic Surveillance System (HDSS), established in 2001. The HDSS currently includes a total population of 220,000 individuals in Asembo (Rarieda District) and Gem and Karemo (Siaya District) who are visited every 4 months. The HDSS uses an established Verbal Autopsy methodology to determine whether a death is a maternal death. For each case, we interview the household member most knowledgeable about the events of this timeframe, or the head of the household where a woman 15-49 years of age died of maternal causes, defined as death during pregnancy, delivery or within 42 days post-delivery.[ix] We ask a few questions about effects on children's schooling[1] but the focus of our analysis is the disruptions to household productivity, structure and daily functioning.

To assess the extent to which maternal death triggers disruptions in productivity for an affected household, we test an innovative narrative approach that we have developed, field-tested and incorporated into our quantitative questionnaire. Typically productivity loss is measured by questions that ask the respondent about her productive activities, wages and income. However, in our study area, which is a relatively poor part of Kenya, productive activities are typically not associated with formal, market-determined wages or income. Thus, it would be difficult to get a monetary value of the myriad activities women perform in these communities. Instead, we attempt a narrative description of potential productivity loss when a woman dies in childbirth. Using the kinds of questions asked in the World Bank's Living Standards Measurement Survey (LSMS) as a template, we collect quantitative data on the productive, child-rearing and other household-related roles of adults in each household (including the deceased woman), and how these have changed as a result of necessary shifts in household responsibilities and tasks with the maternal death under study. Unlike the LSMS, however, we do not attempt to translate these changes into monetary value; rather, we will describe them as a chain of work responsibility repercussions arising from the death, and discuss the disruptions in productivity these imply.

Our *qualitative data* will complement the quantitative by providing a more nuanced narrative of this productivity disruption and what it means for different household members' workload. Qualitative data collection will take the form of household group discussions. We will conduct a total of 10-15 group discussions with a subset of households interviewed in the quantitative survey mentioned above. Since we aim to capture the experiences of different household members *as household members* regarding the disruptions to the household with a maternal death, each group will comprise available and consenting surviving adults from a single household or compound. Households will be selected so as to cover the different types of households in the

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[1] Another part of the study, to be implemented in 2012, analyzes in more detail the short- and medium term impact of maternal mortality on children's health, education and wellbeing.

area as far as is possible. Possible criteria for selection include: households from different socio-economic strata, households with a particular combination of number and age of adult women in the household, households with children of a certain age.

The group discussion has two elements: 1) a mapping exercise whereby respondents create a map of their homestead and their living and work arrangements; and 2) an open-ended guided discussion. We will elicit group members' views on the following aspects of life that could have changed following the maternal death:

- Household food production and preparation (changes in meal quality and quantity; household perceptions of lost income from food production; household perceptions of increased burden in food production and other food-related activity within the household);
- Adults' narratives of changes in job sharing and job responsibility and its implications for household structure, productivity and wellbeing;
- Household narratives and perceptions of changes in household structure and what they mean for household members, particularly young children;
- Support mechanisms (intra-household, inter-household, friends, community groups, etc.).

Expected findings and study contributions: We expect to document in detail how households with a maternal death suffer in trying to maintain their daily life in the face of the death, and how it affects each and every type of household member: a spouse, siblings, other adults, young children, older children. Our analysis will be especially rich because of the combination of multiple methodological techniques. Our findings are intended to contribute to the ongoing efforts to harness the additional international development assistance needed to make substantial progress toward the Millenium Development Goal of reduced maternal mortality.[x] We also expect our study to make a major methodological contribution to the study of rare and/or traumatic events by our development and use of a hitherto untested narrative approach in a quantitative survey to assess changes in household structure and productivity because of maternal death and in poor, remote settings. Finally, our findings will add to the body of research on maternal mortality by documenting the disruptive consequences of maternal death for households, an aspect of maternal mortality that has, to date, received less attention than it merits.

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