Maternal mortality in Africa: a gendered lens on health system failure

Journal Article

Maternal mortality in Africa: a gendered lens on health system failure

Paula Tibandebage and Maureen Mackintosh

The 2005 report of the UN *Millennium Project Task Force on Child Health and Maternal Health*[1], and subsequent UN reports on maternal health, make grim reading. With barely five years to go to 2015, the target set for the fifth Millennium Development Goal (MDG), reducing the Maternal Mortality Ratio (MMR – the ratio of deaths from childbearing to all live births) by three quarters between 1990 and 2015 – remains far beyond the reach of many low income countries. To achieve a reduction of 75%, the annual decline in the MMR between 1990 and 2005 should have been 5.5%. With the actual average annual decline estimated at less than 1% over these years, it is apparent that many countries cannot reach the target.

Worse, the average annual decline to date masks huge global inequalities. WHO data show an especially alarming situation in low income countries. In Sub-Saharan Africa (SSA), the MMR has been declining on average by only about 0.1% a year.[2] Developed regions now have an MMR of 9 deaths per 100,000 live births – fewer than one birth in ten thousand (0.9) results in the mother's death. This contrasts shockingly with 100 times that death rate in Sub-Saharan Africa, where the MMR is estimated at 900 per 100,000 live births. The lifetime risk of maternal death in Sub-Saharan Africa - that is, the chance that a 15 year-old woman will die of maternal causes – was estimated at 1 in 26 in 2005, and in Niger, the worst case, 1 in 7. In Ireland, the lowest-risk country, it was 1 in 48,000.

Why is this happening? What does this terrible crisis of maternal mortality and associated ill health tell us about the state of health systems in much of Sub-Saharan Africa? These very high maternal death rates are not only a crisis requiring urgent attention; they also provide a 'gender lens' that illuminates the discriminatory gendered structure of health systems and health policy, and tell us a great deal about the roots of the crisis in the economics of health systems.

Gender, power and health system commercialisation

Gender permeates social institutions and is an organising principle of social life. Feminist economists and health campaigners such as Gita Sen and her colleagues[3] have developed the concept of a 'gender lens' as a gendered perspective from which to analyse the structured inequalities between men and women embedded in health systems. Concepts of health and illness, roles and expectations, and the patterns of access to resources that shape health-seeking behaviour are all highly gendered. The maternal mortality crisis provides us with such a gender lens on current health system failure.

We concentrate on the experience of Tanzania, which is far from the worst case in Sub-Saharan Africa, but our arguments have much wider relevance in Africa and elsewhere, especially in so far as health system commercialization is centrally implicated in maternal mortality. The UN *Millennium Goals Task Force Report* cited above accepted that health systems are institutions deeply embedded in wider social and economic forces. The report advocated 'power mapping' to identify where the power lies to address the crisis of exclusion and impoverishment associated with many low income health systems. Health systems in Africa as in much of the world reflect the huge, gendered social inequalities of the wider society, including gendered hierarchies among staff, and extremely unequal quality and access for higher and lower social classes[4]. Gender and social class interact to create a situation where low-income, low-status women, those with the greatest needs, have the least access to care[5].

Key gender-differentiated aspects of health systems in many African countries, that are known to be implicated in failures of provision, include staffing and the availability of medicines. Equally structured by gender, but less often understood to be so, is health system commercialisation, the process by which health care provision has increasingly become a commoditised, fee-based service market[6]. Charges for both publicly and privately provided services create a barrier to access in time of need and generate further impoverishment. Exclusion from health care thereby becomes not only a generator of poverty but also a defining aspect of the experience of being poor[7]. To be sent away from a health facility without care when you or a child is ill is truly to know how poor you are. These pressures can bear particularly hard on

women, who form the majority of users of the health system since they are responsible also for bringing children for care; who may lose out in household debates over competing use of income; and who may lack independent access to cash.

Market relations of buying and selling are generally analysed as if they are gender-neutral, but this is misleading. Diane Elson draws a useful distinction[8] between social and economic relations that are 'gender ascriptive', such as kinship relations, and those which are not, but are nevertheless 'bearers of gender'. Economic relationships through the market are of this second kind. Gender roles and norms shape the network of social relationships that support market trading in contexts of incomplete information and unwritten contracts. They also support the property rights that underlie market trading and influence economic behaviour.

However, while the gendered nature of market relationships has been established, the concept appears to have been little applied to commercialised – i.e. market-based – health systems. We have found little robust research or policy effort applied to an integrated assessment of the effects of the market-based supply of health care on women's health and female impoverishment. And we have looked in vain for analysis of the methods – the exercise of social and economic power – through which charging for health care becomes in practice a gendered activity. Health care transactions are not one-off market events: they are shaped by information, expectations, experience, norms of behaviour and incentives, all of which evolve over time through market interaction and competitive pressures[9]. Gender interacts with economic inequality to ensure that health care commercialisation, and the newly-emerging market relationships it sets up between health providers and those in need of health care, are immediately constituted as gendered economic processes.

The maternal health crisis in Tanzania

Estimates of the MMR in Tanzania vary widely, but are all alarmingly high. Tanzanian government survey data show an *increase* from an estimated 529 per 100,000 live births in 1996 to 578 in 2004/05[10]. Other estimates are higher. In 2000, the WHO and other UN bodies estimated MMR in Tanzania at 1,500 per 100,000 live births[11], ranking Tanzania in third position among 13 countries that accounted for 67 percent of all maternal deaths globally; in 2005 the WHO estimate was 950 (Table 1).

Whichever estimate we take, the crisis of high maternal death rates is replicated across much of the subcontinent. Of the 14 countries estimated to have an MMR of at least 1,000 per 100,000 live births in 2006, 13 were in Sub-Saharan Africa. In Kaputa, Zambia, maternal mortality estimates calculated using a sisterhood method[12] in 1995 were 1,549 per 100,000 live births[13].

Table 1: Estimates of MMR, births attended by skilled health personnel, and health expenditure: selected countries in Sub Saharan Africa[14]

Country	**MMR (2005)**	**Births attended by skilled health personnel (%) (1996-2004)**	**Health expenditure (2003)**	
			Public (% of GDP)	**Per Capita (PPP US$)**
Tanzania	950	46	2.4	29
Cameroon	1,000	62	1.2	64
Chad	1,500	16	2.6	51
Congo	740	-	1.3	23
Guinea	910	55	3.2	98
Lesotho	960	60	4.1	106
Malawi	1,100	61	3.3	46
Rwanda	1,300	31	1.6	32
Zambia	830	43	2.8	51
Botswana	380	94	3.5	373
South Africa	400	84	3.2	669

Within countries, the burden of maternal mortality is generally unequally distributed, with striking inequalities by area of residence and socio-economic status. In Tanzania, inequalities in access to maternal health care during delivery by area of residence (rural vs. urban), by education level and by wealth status clearly suggest that the MMR will be higher among poor, less-educated women living in rural areas. As Table 2 also shows, more educated women and women in the better-off 20 percent of households (as measured by assets owned) are far more likely to give birth in a health facility (public, private or voluntary) than other women. Rural areas are poorer and less well served: a far higher percentage of live births take place at home in urban than in rural areas. The implication is that disadvantaged rural women face higher risk of maternal mortality than better off, more educated women in urban areas.

Table 2: Tanzania: percent distribution of live births in the five years preceding 2005 according to background characteristics[15]

	Health Facility			
Background characteristic	Public	Voluntary	Private	None
Residence				
Urban	71.5	4.0	5.5	18.9
Rural	29.7	2.8	6.5	60.9
Mother's education				
No education	26.6	1.7	3.8	67.5
Primary incomplete	35.2	1.9	4.9	57.8
Primary complete	41.4	3.7	7.8	47.0
Secondary+	71.3	6.3	7.3	14.9
Asset quintile				
Lowest	25.6	2.1	4.4	67.5
Second	30.1	2.2	4.5	63.1
Middle	28.7	3.2	7.0	61.1
Fourth	42.6	1.9	9.4	46.1
Highest	73.0	6.6	6.8	13.3

For the 47 percent[16] of women estimated to deliver in health facilities, there are again inequalities in quality of care. Better-off women and women with more education are likely to be assisted by more qualified medical personnel. The proportion of women in urban areas who were assisted by a nurse or midwife (67.2%) was more than twice that of women in rural areas (30.2%). This again suggests that MMR is likely to be higher among less educated poor rural women, and some evidence supports this conclusion directly. Research using a sisterhood method[17] estimated MMR in a remote regions of Tanzania (Kigoma) at 606 per 100,000 live births, and in the most remote part of the region at 757. In another rural district, a 1998 study[18] estimated the MMR at 961 per 100,000 live births, much higher than the estimated national average.

Disparities in MMR by socio-economic characteristics are not unique to Tanzania: in other countries too, poverty is associated with higher MMR[19]. In Chad and Niger survey data show a 14-fold difference between the better off and the poor in access to skilled assistance at birth. In Ethiopia the rich were 28 times more likely than the

poor to be attended in delivery by a skilled health worker. Beyond Africa, a similar picture has been observed, even in middle-income countries. In India the better-off were 7 times as likely as the poor to be attended by a skilled health worker[20]. Explanations of high maternal mortality must therefore incorporate social and economic inequality, linking deprivation to lack of health system access and to other problems affecting maternal health.

The importance of hospital care

Maternal mortality is generated by the interaction between household and individual health-seeking and the capabilities and behaviour of providers of care. Delays in making decisions to seek maternal health care, and lack of financial resources to meet the costs of transport, and of health services once at the health facility, contribute to many maternal deaths. And a mother's arrival at a health facility in time, even with money for fees, is not in itself sufficient to assure the safety of mother and child: essential supplies and medication must be available, including those for emergency obstetric care. All of these factors are too often lacking.

The health facility infrastructure in Tanzania is dominated by lower-level facilities, mainly dispensaries, and it is there that most of the population, including pregnant women, first seek health care. Services provided at dispensaries for pregnant women include antenatal care[21] and delivery. Lower-level facilities are however, less likely to provide good quality maternal health services, in terms of appropriate infrastructure, skilled personnel and equipment. Dispensaries and many health centres lack the necessary equipment to handle complications during pregnancy and delivery. Hospitals, which generally are better equipped and staffed with more qualified personnel, are few. Referral linkages between hospitals and lower level facilities are weak, yet active collaboration between referral levels is essential for effective maternal health care[22].

All this has translated into Tanzania's unacceptably high MMR, as so many women die of obstetric complications. Available evidence for Tanzania and other low income countries shows that access by all pregnant women to good quality hospital care is the key to reducing maternal deaths. It is a necessary condition for reducing deaths resulting from direct obstetric causes, which according to the WHO account for 80 per

cent of maternal deaths in Africa. Haemorrhage is the leading cause, accounting for 33 percent of maternal deaths; sepsis is another major cause[23]. The importance of achieving more effective access to hospital cannot be overemphasized.

Yet most pregnant women in Tanzania seek antenatal care in lower-level facilities (dispensaries and health centres), most of which often lack basic supplies and medicines and have severe shortages of staff with the skills to handle complications during pregnancy and delivery. According to the 2006 *Tanzania Service Provision Assessment (TSPA*) survey[24], only 10 and 9 percent of antenatal care providers had training in complications of pregnancy and risk pregnancies respectively. A very low proportion of the facilities surveyed could conduct any basic diagnostic tests (e.g. 18% could test for anaemia,, 20% for urine protein , 18% for urine glucose and 20% for syphilis). The medicines situation was even worse: only 8 percent of facilities providing antenatal care had in stock all the medications needed for treating common complications and infections. Only 5 percent of the facilities had Caesarean-section services: no dispensaries, and only 13 percent of health centres, offered this service, compared with 90 percent of hospitals. Other studies[25] show similar findings, with lower-level public health facilities having severe shortages of medications and laboratory equipment.

Either lower-level facilities must be strengthened in terms of skilled human resources, availability of drugs and essential supplies and equipment, or access by all pregnant women to hospital-level care must be assured. The *Millennium Project Report* identifies the key elements of high quality delivery care as (i) a skilled attendant at delivery, (ii) access to emergency obstetric care in case of a complication, and (iii) a working referral system to ensure that women who experience complications reach emergency obstetric care in time[26]. The report argues that a health system with these three elements could ensure that maternal mortality ceased to be a public health problem. It shows that some countries whose health systems fare quite well on the three listed elements have managed to reduce their MMR significantly.

Unfortunately, the Tanzanian health system scores poorly on all these elements. There is evidence of major delay in transferring pregnant women with complications from lower to higher level facilities; improper diagnosis and management of cases such as

anaemia and hypertension; and inadequate treatment[27]. As concerns referral, there is a strong contrast with some other countries including Honduras and Sri Lanka, where the success of programmes to reduce maternal mortality has been attributed among other things to organized ambulance services[28]. In Tanzania in 2007 less than 10 percent of health facilities covered by one survey [29] had transport for referral purposes, despite the importance of hospital-level life-saving emergency care. A study in Northern Tanzania[30] shows a significantly lower risk of maternal death (325 per 100,000 live births) for respondents attending antenatal clinics close to hospitals than for those attending more distant clinics (561 per 100,000 live births), while the lifetime risk of maternal death was 1 in 42 for the former as compared to 1 in 25 for the latter. Access to hospitals is an absolutely key factor in reducing maternal mortality.

Gender-discrimination, markets and poverty: a lethal mix

If hospital-based intervention is so important for tackling the appalling level of maternal death and disability just catalogued, why are these interventions so unavailable to women in Tanzania? What are the key health system failures and why do they occur? There appear to be three major interlinked problems.

First, the health system at all levels is quite commercialised. That is, access is fee-based, and there are markets for services and essential medicines at all levels of the system. Antenatal consultations are generally free of charge in the government sector, but they may well involve payment for medicines and supplies such as syringes[31]. In the private for-profit and NGO sector charges may not be imposed for consultation, but charges are made for supplies. And any charges must be paid on top of travel costs.

However, antenatal care at dispensaries is the most accessible level of the system, with the lowest entry charge and widespread provision, and access to antenatal consultation and check-up is quite widespread. It is at later stages of pregnancy and at higher levels of care that charges become a major barrier to access. Table 3 shows average official payments – not including informal payments such as bribes – in the late 1990s for 107 women in Mtwara seeking maternity care. Actual payments varied greatly, and in one case, the total cost (including informal payments) of antenatal

hospitalisation reached the equivalent of US$41 – in a district where the average *annual* female earnings were the equivalent of US$110 at the time.

Table 3: Average direct costs of maternity care in hospitals (US$ equivalents of Tanzanian shillings) (costs at health centres and dispensaries in brackets)[32].

	Service fees	Drugs	Supplies	Travel Cost	Total
Antenatal consultation	-	-	0.20(0.20)	-	0.20(0.20)
Antenatal hospitalisation	1.50	0.70	2.90	1.60	6.70
Normal delivery	1.60	-	1.50(0.20)	2.80(1.60)	5.90(1.80)
Complicated delivery	1.60	0.80	1.50	2.80	6.70

Women have great difficulty in paying these charges. There is an exemption system, but it works poorly for women[33]. Of women interviewed in the above study, most were small farmers and 45% had no personal cash income at all. Finding 20 cents for an antenatal consultation might be possible, but further treatment and hospital care could well be out of reach. Furthermore women coming for admission had to be accompanied by someone to support them, adding to the travel and time-loss costs. And these interviewees were already self-selected as more likely to be able to pay. They were among those who had come to facilities for care and treatment; those who stayed at home were not included in the study.

In urban areas people at all levels of income rely largely on private for-profit and NGO health facilities for all types of care. These are small businesses, relying on fees and charges[34]. They charge for medication and supplies and for consultations, except in some cases for antenatal care. Their charges for delivery and for in-patient care will generally – though not always, especially in the case of some faith-based facilities – be above those of government facilities. Prices respond to market pressures, to low ability to pay and to the facilities' struggle for financial viability. It is a commercialised system of care, where except for antenatal consultations, women have to strive to find money to purchase the care they need. Many fail.

Yet the literature on maternal death and maternal morbidity in Africa barely discusses charging and the commercialisation of health care, and evidence is almost completely

lacking[35]. A mid-1990s study[36] reported a sharp drop in hospital antenatal consultations when charges were introduced. Since women are known to seek hospital care if they know the pregnancy is risky, this is likely to have a disproportionate effect in increasing risk.

It seems likely that charges also have a disproportionately severe impoverishing effect on women of childbearing age. Women have responsibility for childcare in health and illness, and often need to borrow from others in the immediate or wider family or draw on tiny savings or sell assets such as farm animals to pay maternity charges. Women are likely to have lower incomes than men, and for a low-income household finding cash for charges is dispiriting, may be impossible and can cause conflict. There is a lack of good empirical work on maternity charges and their gendered implications[37].

The second main reason why the system fails women is that government hospitals – the more affordable option – are inadequate to the task of emergency obstetric care. They are too few, too far from most people's homes, while the intermediate-level health centres do not function effectively in dealing with obstetric emergencies. The reasons for this major failure are numerous and interlocking, but they include an inherited health system structure that was focused on a few large hospitals rather than a dispersed 'cottage hospital' network of the kind that has been successful in Sri Lanka. There has also been a failure to build up and sustain health centres – the intermediate level between dispensaries and hospitals – to fill the gap, for a variety of reasons rooted partly but not exclusively in resource constraint. And there has been a very heavy concentration by donors on supporting primary care, associated with (in the case of the World Bank) a narrow definition of public health, focused on 'public goods' such as vaccination[38]. This combination of factors has meant that government's own limited funds have been spent on trying to keep public hospitals functioning in the face of very high demand.

The result is the inaccessibility of emergency obstetric care documented above. Geographically situated largely in towns, facilities capable of providing it are distant from many people's homes, and Tanzania is geographically very large relative to the size of its population, with poor or very poor rural roads and over half of the

population still rural. The last twenty years have seen the polarisation between dispensary and hospital services grow worse.

This policy outcome is profoundly gendered. Since maternal death rates cannot be brought down without skilled obstetric intervention, and since emergency hospital services are less crucial for many other aspects of adult health care, the health system structure described is highly damaging to the health needs of women of child-bearing age. A gender bias against the health needs of women is built into the public sector health system structure. Furthermore, the relative inaccessibility of hospital care for the poor has been widely used, not to argue for more dispersed and widely accessible hospitals, but to argue for *further* concentration of spending at the primary level[39], the level where poor pregnant women with the need for emergency care are all too often trapped. This apparently illogical but influential argument is revealed by the maternal health 'lens' as profoundly discriminatory against the health needs of women.

The third major factor in the failure of the system to save so many women from death in childbirth is that even the hospitals that are available lack staff and supplies, as documented above. Many lack even basic antibiotics, but aid funding for essential medicines – which has increased very sharply since 2004 – has largely ignored the needs of maternal health, focusing instead on HIV/AIDS, TB and malaria. As a result, the broad availability of essential medicines appears to have risen little in Tanzania since 2004[40]. As of 2006, only 11 percent of government health facilities offering delivery services had all essential supplies for delivery, and only 5 percent had all essential supplies for serious complications[41]. Staffing levels and staff attitudes are also particularly poor in maternal health care: there is a severe shortage of trained midwives; conditions of work can be poor and even dangerous; pay rates are low; and there are recurrent problems of a culture of poor and even abusive attitudes to women in obstetric wards which also discourage attendance and care-seeking[42]. The picture adds up to a lack of priority for maternity care, and especially emergency care, that is deeply gender-discriminatory.

These three problems interact and reinforce one another, creating a cumulative and apparently worsening cycle of discriminatory effects. This can be seen most clearly by considering referral. The clinical literature emphasises the importance of rapid and

effective referral for emergency obstetric interventions. Yet in Tanzania all three major structural factors identified as problematic militate against proper referral mechanisms. Commercialisation has meant in effect that referral as a formal mechanism has almost ceased to exist. People may be 'told to go' to hospital, and sometimes referral letters may be written, but patients experience this process as another facility that requires payment, where they often start from scratch again and often not with a fully qualified staff member. Unsurprisingly, in these circumstances patients with conditions they perceive as severe 'bypass' lower levels, saving funds for the hospital level. If hospital is unaffordable, the patient will not go, preferring to 'die at home', as some of our interviewees in the late 1990s put it. If people have gone first to a private dispensary they may be badly received at a public hospital, and hence may not speak of their earlier visit. The facilities form a fragmented market, not an integrated referral system[43].

The concentration of hospital care in large public urban hospitals compounds the referral problem since they are more expensive than small-scale units would be likely to be – in fees and travel costs – and physically inaccessible in emergencies. Not all low and middle-income countries have taken this route. Comparative research on public spending on health in Asia showed that 'in Malaysia and Sri Lanka many hospitals are small in scale and not particularly well equipped. But their wide geographic distribution makes them accessible to the rural poor'[44]. The same study makes the point that where public hospital provision is very restricted it is more likely to be 'captured' by a cash-strapped middle class than better funded and more geographically distributed hospital provision. Thus there is likely to be a cumulative interaction between funding, health system structure and the political economy of resource use. In the maternal health care case, better distributed hospital care in terms of social class is also less gender-discriminatory: better distribution by class and gender reinforce each other.

International policy too has reinforced the crisis of maternal health by the lack of priority assigned to medicines and supplies for obstetric care. International health policy has combined much 'gender talk' with a failure to assess the gendered implications of, for example, international funding initiatives for medicines for specific illnesses, or the bias against funding hospitals. The lack of medicines and

supplies worsens working conditions in hospitals, undermines staff morale, raises their incentives to demand 'informal' fees and raises costs to women who have to buy their own supplies from commercial sources – or stay away.

Conclusion

The crisis represented by appalling maternal death rates in Africa is deep-rooted. It arises and persists, not as a result of a single failing that can be identified and corrected, but out of a set of deep-rooted and long-standing health system structures, policy assumptions and funding activities. Each of these, as the *Millennium Project Task Force* authors emphasised[45], responds to power: to tackle the underlying problems requires an acceptance that health systems are core social institutions, and demands negotiation of sustainable redistributive reforms that lessen structural gender disadvantage.

This is a huge challenge – which is why the prognosis for meeting the Millennium Goal for reducing maternal deaths is so gloomy. Some commentators indeed see improvements in emergency obstetric access as unlikely to be achieved and concentrate on seeking non-hospital ways to lessen risk[46]. Creating accessible emergency obstetric intervention requires a series of interlocking actions, all of them challenging. It is necessary to cease the virtual silence on the commercialisation of health systems and its consequences, and to tackle the problem of how the out-of-pocket fee-for-service system is to be replaced by access without payment barriers to emergency and other essential care; to restructure the health system to bring emergency obstetric care closer to those who need it; and to rethink international funding priorities on a less gender-discriminatory basis, which requires, as a first step, gender assessment of those priorities[47].

Sri Lanka, with a different history of public health provision and a different health system structure from that in Tanzania and many other African countries, and very low fees in public hospitals, had by 2005 managed at quite a low level of national income per capita – and despite economic and political crisis – to get maternal death rates down to about 43 per 100,000 live births[48]. It can be done. Access to emergency care that saves a mother's life is a human right, and this principle should be the starting-point for policy priorities to address the international 'collective badge of

shame'[49] represented by the scale of avoidable maternal death in so many low-income countries such as Tanzania.

NOTES

We thank the INNOGEN research centre at the Open University, funded by the UK Economic and Social Research Council, for financial support; and Abhishek Chakravarty and Suleiman Mbuyita for research assistance in the form of reviews of the international and Tanzanian literature.

---

[1] Lynn P. Freedman, Ronald J. Waldman, Helen De Pinho, Meg E. Wirth (2005) *Who's got the power? Transforming Health Systems for Women and Children* UN Millennium Project Task Force on Child Health and Maternal Health, Earthscan, London.

[2] WHO, UNICEF UNFPA, World Bank (2007) *Maternal Mortality in 2005: Estimates developed by WHO, UNICEF, UNFPA and the World Bank*, Geneva, World Health Organisation

[3] Gita Sen, Asha George and Piroska Östlin (2002) 'Engendering health equity: a review of research and policy' in Gita Sen, Asha George and Piroska Östlin (eds) (2002) *Engendering International Health* MIT Press Cambridge Ma.

[4] Commission on the Social Determinants of Health (2008) *Closing the Gap in a Generation* World Health Organisation, Geneva; World Health Organisation (WHO) (2003) *The World Health Report 2003: Shaping the Future* Geneva, World Health Organisation

[5] A. Iyer. G. Sen, P. Östlin (2008) 'The intersections of gender and class in health status and health care' *Global Public Health* 3(S1) 13-24; Maureen Mackintosh and Paula Tibandebage (2006) 'Gender and health sector reform: analytical perspectives on African experience' in S. Razavi, and S. Hassim (eds.) (2006) *Gender and Social Policy in a Global Context: Uncovering the gendered structure of 'the social'* Palgrave, Basingstoke

[6] Maureen Mackintosh, Meri Koivusalo (eds.) (2005) *Commercialisation of Health Care : Global and Local Dynamics and Policy Implications* Palgrave, Basingstoke

[7] Paula Tibandebage and Maureen Mackintosh (2005) 'The market shaping of charges, trust and abuse: health care transactions in Senegal' *Social Science and Medicine* 61 1385-95

[8] Diane Elson (1996) 'Gender awareness in modelling structural adjustment' *World Development* 23 (11) 1851-1868

[9] Tibandebage and Mackintosh 'Market shaping'

[10] Tanzania Demographic and Health Survey (TDHS) (1996) available at http://www.measuredhs.com/pubs/pub_details.cfm?ID=280&srchTp=advanced Tanzania Demographic and Health Survey (TDHS) (2005) available at http://www.measuredhs.com/pubs/pub_details.cfm?ID=566

[11] WHO, UNICEF, and UNFPA (2003), 'Maternal Mortality in 2000: Estimates developed by WHO, UNICEF and UNFPA', Geneva, World Health Organisation

[12] In the sisterhood method, a random sample of women are interviewed about their adult sisters; they are asked whether their sisters are living or dead, and if any of them ever died during pregnancy or within six weeks of delivery.

[13] F. Le Bacq, A. Rietsema, (1997), 'High maternal mortality levels and additional risk from poor accessibility in two districts of Northern Province , Zambia' *International Journal of Epidemiology* 26(2):357-63

[14] WHO et al 'Maternal Mortality'; UNDP (2006), *Human Development Report 2006: Beyond scarcity: Power, poverty and the global water crisis*, UNDP, New York.

[15] Only the most recent birth in the five years preceding the survey. Source: Tanzania Demographic and Health Survey (TDHS) 2005

[16] ibid TDHS 2005

[17] G. Mbaruku, Fred Vork, Dismas Vyagusa, Rex Mwakipiti, Jos van Roosmalen. (2003). 'Estimates of Maternal Mortality in Western Tanzania by the Sisterhood Method' *African Journal of Reproductive Health* 7(3) : 84-91

[18] J Macleod R Rhode. (1998). "Retrospective follow-up of maternal deaths and their associated risk factors in a rural district in Tanzania". Bagamoyo district office. Unpublished paper.

[19] W.J. Graham, A.E. Fitzmaurice, J.S. Bells, J.A. Cairns (2004), 'The familial technique for linking maternal death with poverty', *The Lancet* **363/** 9402 23-27

[20] Freedman et al 'Who's got the power?

[21] This is referred to in the United States as 'prenatal' care.

[22] S.F. Murray, S.C. Peterson (2006), 'Maternity referral systems in developing countries: Current knowledge and future research needs', *Social Science and Medicine*, 62: 2205 – 2215

[23] K.S. Khan, D. Wojdyla, L. Say, A. Gülmezoglu, P. Van Look (2006), 'WHO analysis of causes of maternal death: A systematic review', *The Lancet* 367(9516):1066-74; F. Font, M.A. González, R. Nathan, F. Lwilla, J. Kimario, M. Tanner, P.L. Alonso (2000) 'Maternal mortality in a rural district of South Eastern Tanzania**:** An application of the sisterhood method' *International Journal of Epidemiology* 29(1) 117-102;

[24] Tanzania Service Provision Assessment Survey (TSPA) (2006) Preliminary report available at http://www.nbs.go.tz/TSPA/TSPA_2006_PREL_REPORT.pdf

[25] Preliminary analysis by P Tibandebage and W. Lindeboom of data from the CMI/NIMRI/REPOA survey undertaken in 2007, shows that 67 percent of public health facilities in the sample did not have laboratories for basic diagnostic tests.

[26] Freedman et al 'Who's got the power?'

[27] E. Urassa, S. Massawe S, G. Landmark, L. Nystrom (1997), 'Operational factors affecting maternal mortality in Tanzania", PMID: 10166102 PubMed

[28] M.M. Koblinsky, O. Cambell, (2003), 'Factors affecting the reduction of maternal mortality', in: M. A. Koblinsky (ed.) (2003), *Reducing maternal mortality: Learning from Bolivia, China, Egypt, Honduras, Indonesia, Jamaica and Zimbabwe,* Washington DC: World Bank

[29] Unpublished CMI/NIMRI/REPOA survey 2007; estimates from initial data analysis by P. Tibandebage and W. Lindeboom.

[30] B.E. Olsen, S.G. Hinderaker, M. Kazauru, R.P.B. Terje, P. Gasheka, G. Kvale (2007). 'Estimates of maternal mortality by the sisterhood method in rural Northern Tanzania: a household sample and an antenatal clinic sample' unpublished paper.

[31] M. Kowalewski,, P.G.M. Mujinja, A. Jahn (2002). 'Can mothers afford maternal health care costs? Users' costs of maternity services in Rural Tanzania'. *African Journal of Reproductive Health* 6:1 April http://www.bioline.org.br/

[32] Source: Kowalewski et al 'Can mothers afford?'

[33] P. Nanda (2002) 'Gender Dimensions of User Fees: Implications for Women's Utilisation of Health Care'. *Reproductive Health Matters* 10(20) 127-134

[34] Paula Tibandebage, Hadji Semboja, Phares G.M. Mujinja, H. Ngonyani, (2001), 'Private Sector Development: The Case of Private Health Facilities', *ESRF Discussion Paper*, No.26, Dar es Salaam, April; Maureen Mackintosh, Paula Tibandebage. (2007) 'Competitive and institutional constraints on innovation, investment and quality of care in a liberalised low income health system' *European Journal of Development Research* 19(1) : 81-99

[35] A literature review by Abhishek Chakravarty found very little systematic empirical assessment of fee charging on maternal health care access, but a consensus that user fees for health care in general do discourage use. See also Nanda 'Gender dimensions'

[36] A.K.Hussein, P.G.M. Mujinja. (1997) 'Impact of user charges on government health facilities in Tanzania'. *East African Medical Journal* 74(12):751–757

[37] R. Tolhurst, Y.P. Amekudzi, F. Nyonator, S. Bertel Squire, S. Theobald, (2008) '''He will ask why the child gets sick so often'': The gendered dynamics of intra-household bargaining over healthcare for children with fever in the Volta Region of Ghana' *Social Science & Medicine* 66 1106-1117.

[38] World Bank (1993) *World Development Report 1993 Investing in Health* World Bank Washington

[39] ibid World Bank 'Investing in health'

[40] Source: data from WHO-supported medicines price and availability surveys in Tanzania, summarised in Maureen Mackintosh and Phares G.M. Mujinja. (forthcoming) 'Markets and policy challenges in access to essential medicines for endemic diseases' *Journal of African Economies* Special AERC issue (forthcoming)

[41] TSPA (2006) survey cited above

[42] Source, authors' fieldwork

[43] Maureen Mackintosh and Paula Tibandebage (2002) 'Inclusion by design: rethinking health care market regulation in the Tanzanian context' *Journal of Development Studies* 39(1) 1-20

[44] Owen O'Donnell and 18 others (2007) 'The incidence of public spending on health care: comparative evidence from Asia' *World Bank Economic Review* 21(1) 93-123: 109

[45] Freedman et al 'Who's got the power'; Lynn Freedman (2005) 'Achieving the MDGs: health systems as core social institutions' *Development* 48(1) :19–24

[46] Ndola Prata, Amita Sreenivas, Farnaz Vahidnia and Malcolm Potts (2009) 'Saving maternal lives in resource-poor settings: Facing reality' *Health Policy* 89 : 131–148

[47] Hilary Standing. (1997) 'Gender and equity in health sector reform programmes: a review' *Health Policy and Planning* 12 (1) 1-18

[48] WHO 'Maternal mortality' op cit

[49] Lynn Freedman (2001) 'Using human rights in maternal mortality programs: from analysis to strategy' *International Journal of Gynecology & Obstetrics* 75 : 51-60