

CICRED'S SEMINAR

**Why Women Continue to Die from
Childbirth in Dhaka, Bangladesh**

Bruce K. Caldwell

INTERREGIONAL SEMINAR ON REPRODUCTIVE HEALTH, UNMET NEEDS AND POVERTY: ISSUES OF ACCESS AND QUALITY OF HEALTH, BANGKOK

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SESSION 3:

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Bruce K. Caldwell

National Centre for Epidemiology and Population Health

Australian National University

Canberra

Executive Summary

A major unmet need in Bangladesh is for better health care and better maternity care. Bangladesh like much of South Asia and indeed of the developing world has high levels of maternity mortality and morbidity arising from poor reproductive health. Until recent years, efforts to improve public health have concentrated on preventive measures to control communicable disease and simple curative measures. These have been very effective in reducing infant and child mortality, which has fallen from high to more moderate levels.

More recently interest in developing countries has turned to improving maternal care, which has not improved to the same extent. Levels of maternal mortality are very high by the standards of the developed world. South Asia has a particular problem with relatively high female mortality to which maternal mortality contributes.

Efforts to reduce maternal mortality have been slow partly because of indecision as to whether to focus on a community-based approach to maternity care or a more medical approach focussing on ensuring that even difficult childbirths can be delivered safely. It is clear that to be effective medical services are essential but effective care at the local level including ANC, and child delivery services, is essential.

This paper concentrates on why among the poorer population of Dhaka, women who need good maternity services, and in theory have access to such services do not use them. In this sense, there is little unmet demand. The issue is really why the demand is not there. The issues are examined using data from a survey of poor Dhaka, and a micro-study of women, half of whom had skilled health assistance in delivery, and half who did not.

Ideally all births would be in appropriate institutions where the best attention would be available. This is probably unrealistic in Bangladesh given the resource implications but also there is no community desire for such services. There is a very strong feeling against institutional delivery unless it is necessary. Hospitals are seen as difficult and unfriendly places where it was difficult to have one's family and friends. It is particularly difficult for women because the hospital environment conflicts with their home duties, and their desire to maintain modesty. There is a concern about doctors as attendants because most are men. In addition, there are concerns about the financial costs involved.

If births are not in institutions, then births should ideally be done by skilled people. The levels of skilled assistance are higher than institutional delivery but not much. In general people see no need to use trained people but prefer to use those they are comfortable with. Again this does not include doctors who are mostly men, and are located in hospitals. When appropriate schemes exist it should include nurses, paramedics and even trained traditional birth attendants.

If women do not have births in hospitals or clinics a critical question is whether they get attention in an emergency. It is clear that women who go to institutions or get trained attendants tend to be the more serious cases, many being there because they had complications. Nevertheless, a majority of women who reported complications had not sought help, and indeed the process of seeking help as reported was very arbitrary, reflecting a complicated decision-making process, and ad hoc institutional arrangements.

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Introduction

This paper focuses on the key issue of reproductive health, maternal mortality, and why some women do not get the care they require. It reports on this issue in the poorer parts of Dhaka City in Bangladesh, which was estimated to have a relatively high maternal mortality rate of 600 per 100,000 live births in 1995 (World Bank 2002). It is particularly notable for a very low proportion of women who require the assistance of medically trained personnel at childbirth, and, relatedly, the very low proportion of births that take place in an appropriate health facility. The World Bank has estimated that skilled health staff attend only 14 percent of live births in the period 1998-99 (World Bank 2002). Dhaka is above the national level in births attended by skilled staff, but, despite its much greater access to appropriate health facilities and trained personnel its levels are still very low by international standards, and the poorer areas of Dhaka are little better than Bangladesh's rural areas.

After having been relatively neglected, maternal mortality has become an increasing health focus. The World Health Organization launched 'The Safe Motherhood Initiative' at an international conference at Nairobi, Kenya in 1987 (Starrs 1987). Maternal mortality was highlighted by the Program of Action of the 1994 International Conference for Population and Development which stated 'All countries, with the support of all sections of the international community, must expand the provision of maternal health services in the context of primary health care... All births should be assisted by trained persons, preferably nurses and midwives, but at least by trained birth attendants' (United Nations 1995).

Public health resources had previously been focussed on more easily preventable causes of death, particularly among children. Infant and child mortality rates were extremely high, and their reduction had a particularly great effect on improving life expectancy given the large number of years of life gained per infant life saved. Infant and child death rates were also known to be very sensitive to socio-economic development being closely linked to the levels of infectious disease, malnutrition and parental care, and amenable to simple public health measures including immunisation, oral rehydration treatment (ORT) and at a somewhat more advanced level, primary health care.

The exclusive focus on children's health has changed partly due to the very success of efforts to reduce early mortality, and partly as a result of concerns that a concentration on children's health has ignored the well being of their mothers. There is now recognition that children's well-being is closely linked to the health of their mothers, and an increasing concern that the interests of women are generally neglected, especially their health. A key part of this focus on women's health has been on maternal mortality. Levels of maternal mortality are far higher in developing countries than in developed ones, to the point where in many poor countries they are a major source of death, a situation that has not been true in developed countries for at least a century. The levels of mortality are highest on a regional basis in Africa, but, given the huge population of South Asia, the region in which Bangladesh is located it is estimated that nearly half of all women who die of maternal mortality are there. Moreover, there is a special concern about maternal mortality in South Asia. South Asia is distinct among the world's regions in having higher mortality rates for females than males, the natural biological advantage of women in longevity failing to compensate for sociocultural and other factors discriminating against them. Maternal mortality is only one factor in this, but the childbearing ages are particularly extreme in this characteristic, and for these ages maternal mortality is in South Asia the leading cause of death (Koenig *et al.* 1988). It has been estimated for Bangladesh that in the late 1980s women had one chance in 35 of dying of a maternal related cause during their lifetime (Koenig *et al.* 1988; Maine *et al.* 1996). The maternal-mortality rates (the number of deaths per 100,000 women of reproductive age from causes related to pregnancy and childbirth) is almost certainly falling as a result of a decline in the birth-rate. The total fertility rate (TFR) has halved from six to three during the course of the 1980s and early 1990s. Trends in the maternal mortality ratio (the number of deaths from maternity related causes per 100,000 births), which is not directly affected by high birth rates, however, are much less certain.

A major problem in determining maternal mortality rates and ratios is the weakness of the data. Because the denominator is very large for the numerator, estimates tend to be very imprecise and the most efficient indirect survey method, the sisterhood method requires a large sample and a broad time span measuring at least a decade before the survey (Maine 1996). It has nevertheless been estimated that in 1995 that Bangladesh had a maternal mortality ratio of 600 per 100,000. In comparison, most industrialised countries had ratios of fewer than 20, whereas some African countries had ratios of up to 2,000. Within South Asia, neighbouring India had a ratio of 440, Nepal 830, Pakistan 200 and Sri Lanka 60. These figures have to be treated with suspicion with the figure for Pakistan, in particular, seeming suspiciously low (World Bank 2002). In this paper we will not explore this issue further, simply noting that maternal mortality is very high in Bangladesh, including Dhaka, and examine some of the factors involved.

The 1987 World Health Organization's "International Safe Motherhood Initiative" was launched to reduce maternal mortality but, as Maine *et al.* (1996) note, progress was slow, in part, because of disagreement on the best approach. Initially it was hoped that the maternal mortality ratio could be reduced relatively simply by using a community-based approach similar to that, which had proven so successful for infant and child mortality.

Many countries established maternal and child health (MCH) services including the provision of antenatal care (ANC) services to expectant mothers. ANC, in theory at least, helps identify high-risk pregnancies for special attention including delivery by trained health professionals (Backett *et al.* 1984). It also normally provides such assistance as iron tablets to overcome anaemia, and tetanus toxoid immunisation for pregnant mothers (though this is mainly for the benefit of the infant). Post-natal care (PNC) may also be provided to reduce risks to mother and child following birth. In Bangladesh these services are delivered in rural areas by various fieldworkers including the family welfare visitor (FWV), an 18-month trained paramedic who provides family planning and MCH services.

Nevertheless, such measures were not enough by themselves. In Bangladesh, for example, they do not effectively address the issue of malnutrition. A high proportion of Bangladeshi women are malnourished as is reflected in a very high rate of low birth-weight births. This situation reflects general under-nourishment, a belief that women should wait until other family members have eaten, and above all a belief that restricted eating would lead to an easier birth.

Moreover, the WHO “risk approach”, while successful in identifying some cases that needed extra care, has been found to lack specificity and sensitivity, with for example, only a minority of cases of obstructed labour being predicted by obstetric history (Kasongo 1984, Kessel 1994) The ideal solution to identifying difficult childbirths is to ensure that all childbirths receive medical attention either in a hospital or clinic, or by providing a cadre of medically trained personnel capable of providing appropriate delivery services, and of ensuring that the woman and child receive appropriate treatment in an emergency. Where the resources and personnel are not available the only alternatives are to provide training to the traditional birth attendants on good birth delivery procedures, and when to refer patients. This approach has met with mixed success. Common problems have included inadequate training of the traditional birth attendants (TBA). As poor follow-up and a general lack of acceptance of the risks from the general community. In some countries, including Bangladesh, an attempt has been made to overcome community resistance by informing pregnant women and their carers about the danger signs to be watched for in a delivery to show when they should seek medical attention. However, there is little advantage in identifying high-risk pregnancies if appropriate facilities and services cannot be provided (Kessel 1982; 1994).

Increasing evidence indicates that a reduction in maternal mortality requires access to a number of essential obstetric services. An influential study testing the impact of a community-based approach to reducing maternal mortality was conducted by Faveau *et al.* 1991, in Matlab, using the Demographic Surveillance System which, as Maine *et al.* (1996) pointed out, is one of the few places where an intervention into maternal mortality can be rigorously tested. Under this intervention nurse-midwives were placed in health subcentres and given the responsibility of providing prenatal, home delivery and postpartum care to women in their area, identifying pregnancy-related complications, treating them where possible, and referring others, organising referral and accompanying the women to the central Matlab clinic, and working with community health workers when they were needed (Maine *et al.* 1996). The study apparently demonstrated that a community-based approach could work with a remarkable decline in maternal mortality from 440 to 140 per 100,000 live births in

the intervention area, without a significant decline in the control area (Faveau *et al.* 1991, Maine *et al.* 1998). Ronsmans *et al.* (1998) argues that the pattern is more complex than this and without the random allocation of interventions into treatment and intervention areas cannot be properly tested. Maine *et al.* (1996) accepted that the decline has been meaningful but, needs examination in more detail by cause of death. They argued that the original analysis placed too much emphasis on the community activities of the nurses and did not emphasise sufficiently their role in referral and the contribution of the hospital based intervention.

WHO has defined as essential services, the capacity to perform caesarean sections, administer anaesthesia, give blood transfusions, perform vacuum extractions, and perform vacuum aspirations for incomplete abortion (WHO 1986; Kessel 1994). It also recommended facilities for inserting intrauterine devices and performing surgical sterilization to prevent dangerous pregnancies and reduce the overall number of pregnancies a women bears. In addition there should be provision for the manual removal of placentas.

For many countries, the provision of such services has been extremely slow, either because governments lacked commitment, or because they have lacked the necessary resources to provide such sophisticated services.

ANC Services in Bangladesh

In Bangladesh ANC services may be provided by a doctor or by a nurse/midwife or paramedic. The latter in rural areas is usually a government female field worker, the family welfare visitor (FWV), an eighteen-month-trained paramedic. The FWV is based, along with a medical assistant (usually a male) in a local Union Health and Family Welfare Centre (UHFWC) where she provides advice on family planning, inserts IUDs, undertakes menstrual regulation (pregnancy termination before ten weeks of gestation), as well as ANC. In urban areas the FWVs role is sometimes taken by NGO provided nurse-midwives or paramedics, but more often ANC services are provided by doctors, who may be government, private or NGO.

According to the 1999-2000 Bangladesh Demographic and Health Survey (Mitra *et al.* 2001) for births in the preceding five years 23.7 percent of women received antenatal care from a doctor, 9.6 percent from a nurse/midwife (including paramedic), 3.6 percent from 'other' and 63 percent received no ANC. Urban women were much more likely to receive ANC with around half (49.9 percent) receiving care from a doctor, 8.7 percent from a nurse/midwife and 'only' 37.7 percent receiving no ANC. Rural levels of ANC were much lower with 18.2 percent receiving ANC from a doctor, 9.8 percent from a nurse-midwife while 68.3 percent received ANC from no one. ANC was also strongly associated with education (no education 11.5 percent, secondary plus 49.5 percent and birth order (first birth 32.7 percent, sixth or later birth 10.6 percent). Even when women have received ANC the average number of visits is well below that recommended level of once a month and more frequently near term, adding up to roughly twelve visits. Only 10.5 percent of women had four or more ANC visits.

As noted one of the main purposes of ANC is to detect and monitor complications during pregnancy. While 37 percent of women said they had received ANC from anyone, 35.3 percent had been weighed, 27.4 percent had their height measured, 28.9

percent had their blood pressure measured, 19.2 percent had given a urine sample, 15.7 percent had given a blood sample, and 16.4 percent had their eyes tested. Almost all receiving ANC, or 36.4 percent of the total had been given iron tablets, but a much lower proportion, 15.9 percent had been informed of the signs of pregnancy complications. Women who received ANC were much more likely to receive the full range of checks and services in urban Bangladesh than in rural areas.

Delivery care

To reduce maternal mortality near to the very low levels of industrialised countries requires that deliveries, and especially complicated cases, be delivered under medical supervision, with access to medical facilities, ideally in a hospital. The 1999-2000 BDHS recorded that 12.1 percent of births in the preceding five years involved assistance by trained medical personnel (7.1 percent by medical doctors, and 5.0 percent by a nurse-midwife or FWV). A further 9.7 percent involved a trained TBA. Fifty-four percent involved an untrained TBA, 22.4 percent relatives and 1.6 percent no-one. The likelihood of having a medically trained attendant is much higher in urban (33.0 percent) than rural areas (8 percent). It is also strongly associated with education (no education 5.4 percent, secondary plus 30.4 percent), birth order (1st birth 20.2 percent, sixth plus 4.0 percent) and number of antenatal visits (none 4.3 percent, four plus 54.7 percent).

The proportion of babies born in a health facility is lower still. In the preceding five years only 7.9 percent were born in a health facility. In urban areas 25.1 percent were, but in rural areas a very low 4.6 percent were. Use of a health facility was strongly associated with education (no education 3.1 percent, secondary plus 21.4 percent). Birth order (1st birth 14.4 percent, sixth plus 1.6 percent), and ANC visits (none 1.6 percent, four plus 44.2 percent).

Assuming that some 20 to 25 percent of births may need some kind of medical intervention what these data indicate is that many of these women are not getting the attention they need. This is particularly so for rural women, and less educated women, and if the figures were available almost certainly for poorer women. These categories to some extent overlap but almost certainly each contributes to the failure of the women to get the attention they need. Even for population categories that approach the 'ideal' number of medically assisted deliveries that we have somewhat arbitrarily chosen, this figure is only meaningful if those requiring more advanced medical assistance are indeed the ones receiving it. The evidence is that this is true only to a limited degree. The explanation for the high association of ANC visits to delivery by medically qualified personnel, and in a health facility, is almost certainly less than those who are found to be at risk of having a difficult delivery are referred by the ANC provider to an appropriate clinic, than those who go to ANC are also more likely to choose on their own account to use a medically trained person, or to deliver in a health facility.

That this is the case is indicated by the very low proportion of births that involve complicated procedures, well below the proportions prevailing in wealthier countries. For example, only 2.4 percent of all births were by caesarean section, well below the levels of industrialised countries, even taking into account elective surgery. In rural areas the figure is only 2.4 percent and for women with no education 0.6 percent and for women with higher order births (for 6 plus births 0.3 percent). The figure is

correspondingly somewhat higher for women in urban areas (8.0 percent), with more education (secondary plus 7.7 percent) and having a first birth (5.2 percent). There is some overlap in these categories, but it is indicative that geographical access to health facilities, and the socio-economic characteristics of the women are both important. First births form a higher proportion of births of high socio-economic status women, but it is also true that they may be more likely to require intervention. While caesarean rates are higher for urban and more educated women they remain well below the expected figure indicating that many of these women are failing to get the treatment they need. The urban women who are not getting adequate treatment are likely to be those who are poorer and less educated, while the educated women who do not get services are likely to be mostly rural or in smaller towns without access to appropriate health services.

In this paper we are concentrating on the poor of Dhaka, the city with the most health facilities and doctors in the country, and hence we are concerned with why they do not use the resources available. We will examine firstly the writings of Therese Blanchette (1984) about beliefs and practises concerning childbirth. While Blanchette was describing rural Bangladesh her findings are relevant to urban Bangladesh as we will see – if simply because many urban Bangladeshis are rural migrants. Blanchette was concerned with how the beliefs of the rural population, and especially rural women, affects their child delivery practices. She argues that childbirth in rural Bangladesh belongs to a woman's realm from which men are to some degree excluded. One effect of this is to isolate concepts of childbirth from Islamic belief, the impact of Islamic teachings being primarily on men. She notes, for example Islamic teachings are given primarily in the mosques, which are attended exclusively by men. The beliefs of the village women on childbirth are an amalgam of Islamic, Hindu and particularly earlier pre-Hindu beliefs. Islamic concepts of *purdah* combined with Hindu concepts of pollution and pre-Hindu notions of vengeful spirits (*bhuts*) to emphasis that the way to protect the mother and her child was for the mother to avoid any action that might bring about pollution and make her vulnerable to the attentions of the (*bhuts*). This could be done most effectively by obeying notions of *purdah*, as practised in Bangladesh, and to stay at home during pregnancy and childbirth. This not only ruled out the need for doctors, but also discouraged the use of external medical facilities, and especially discouraged receiving attention from male health providers, even though the great majority of doctors in rural Bangladesh are males.

While emphasising amalgam of beliefs, she stresses that there were important differences in interpretation. In particular, among Hindus, a caste specialist, the midwife, can remove the spiritual pollution associated with childbirth. The Muslims, without an equivalent caste system, do not share this belief, an equivalent role being taken on in some, but not all cases, by older women, usually someone known to the woman, and often a relative. This means that whereas a *dai* or traditional birth attendant (TBA) is a professional among Hindus, she is not amongst Muslims among whom most 'TBAs' have delivered relatively few babies, significantly among Muslims there is a strong belief that a woman should not receive payment for service. The few TBAs who do deliver babies on a more professional basis for payment do so out of necessity and have very low prestige. This means that, while among the Hindus there is a group who can be easily identified and given training, there is no

equivalent amongst Muslims. When TBAs are selected for training they are often high prestige women with little experience or interest in delivering many babies.

ANC and Delivery Practices Among the Urban Poor in Dhaka

Methodology

In 1999 a survey was conducted of four bosties and four non-bostie areas broadly representative of the poorer sections of the city. The sample yielded interviews with 911 bostie households and 914 poor households, a total of 1825 slum households and 8,429 persons, giving an average of 4.6 persons per household (for more detail on the survey, methodology see Caldwell et al. 2001). Of 1,809 ever-married women aged 15-49 interviewed 923 (5.21 percent) said they had given birth in the preceding five years. These women were asked additional questions concerning antenatal treatment at the last birth. In addition a micro study was conducted of two random samples of the ever-married women. The first sample was of women who at last birth had been attended by a trained health professional, and the second of women where this was not the case. The women were asked a series of questions concerning the circumstances of the birth, and the context and related decision-making process concerning the birth, and the use or otherwise of a medical professional. The interviewers were given a series of key issues that the respondents were to be questioned about, but they were trained to encourage the respondents to explain their story in a form as close to a narrative as possible. The degree to which this occurred depended both on the skill of the interviewer and particularly on the openness of the respondents to the interviewing process. An additional survey was undertaken of a number of the *dais*, the traditional birth attendants working in the areas, and whom the respondents had used.

Findings: ANC

Of the women who had given birth in the proceeding five years, 513 (56 percent) said they had a medical check-up when they were last pregnant. The figure was much higher in the poor areas (74 percent) than in the bosties (40 percent). The poor area is above the BDHS figure for urban areas (62 percent), but is probably fairly representative of Dhaka. The bostie figure is closer to the rural figure of 32 percent. Within the bosties and the poor areas women were much more likely to have sought ANC if they were educated, lived in a well-off household as measured by a basket of goods, and were born in Dhaka. Clearly there are strong overlaps between these categories, but the evidence from this data and the in-depth study suggest that the key point is that pregnancy is perceived to be a natural phenomenon not requiring intervention unless there is something clearly wrong. Of particular note is the strong independent effect of education and migrant status on ANC visits. Women who are not educated and who have migrated from rural areas are substantially less likely to have been medically checked, probably because they see less need and perhaps also because they are less comfortable in dealing with medical professionals. There is also some evidence in the in-depth survey that many of these women returned to their home villages so they could be with their families for the birth.

When asked who had examined them during pregnancy the great majority in both bosties (78 percent) and poor areas (86 percent) reported that a doctor had done so. In most cases, the examination took place in a maternal and child health centre, an NGO clinic or a private clinic. There was tremendous variation of clinic type by the precise locality, evidently reflecting on the ground of availability of particular services

offered by clinics. Two areas were in close proximity to a Maternal and Child Welfare Centre, and three areas were close to a NGO clinic. This may in part explain the high usage of doctors.

The respondents were asked specifically about the various check-ups conducted. Women from bosties who had an ANC check-up were less likely to have been checked for individual items such as weight, height, blood pressure, eyes, blood and urine. Combined with the fact that they were less likely to have had any ANC check-up overall, bostie women were much less likely to have been checked for any individual item. In general the data for bostie women resembled BDHS data for rural rather than urban women. Poor area figures were comparable with urban areas.

Health workers in Bangladesh are often reluctant to physically touch their patients, particularly when the provider is a male and the patient is female, in part, because the patients themselves are uncomfortable with it. A specific question was asked about whether there had been a physical examination. Of the 512 women, who had received ANC, 128, or exactly one quarter, had a physical examination, including 24 (12 percent) of the 200 women in the bosties and 104 (33 percent) of the 312 women in the poor areas. This was equivalent to 14 percent of all women, or 5 percent of women in bosties, and 24 percent of women in poor areas. Interestingly there was more likely to have been a physical examination if a doctor conducted the ANC than if a nurse had, even though doctors are much more likely to be men presumably because they were more likely to examine serious cases. Of the 128 women who had a physical examination, 13 were told that something was wrong, seven were told that the baby's position was abnormal, two that the baby was not moving, two that the baby was large, one that she had high blood pressure, and another that she had anaemia.

Child delivery

In only a minority of cases (19.5 percent) was the main person to conduct the delivery medically trained. As with ANC the level was much lower in the bosties (11.8 percent) than in the poor area (28.5 percent). An additional 11.8 percent had a trained TBA (7.8 percent in the bosties, and 16.6 percent in the poor area), 55.9 percent had an untrained TBA (62.2 percent in bosties, 48.5 percent in poor areas), 7.9 percent a relative (11.4 percent in bosties, 3.8 percent in poor areas), 2.4 percent no one, (4.0 percent in bosties, 0.5 percent in poor areas), and 2.5 percent unspecified.

Medically trained attendance in both areas is low but the bostie is particularly so being little above the equivalent figure reported by the BDHS for rural Bangladesh (8.0 percent) and far below the urban figure (33.0 percent). Furthermore, assuming that the proportion of critical cases requiring medical supervision would be some 20 to 25 percent in the poor area, the figure is high enough to cover these cases, though in reality many of those getting attention will not be critical cases. The bostie figure however, suggests that many female residents are not getting the attention they need. This suggests that the low use of medical professionals for deliveries is not simply a matter of physical access, in that if people truly needed a medical professional one could be much more easily accessed than in the countryside.

Nevertheless, there were significant differences by locality among both bosties and poor areas, indicating perhaps that proximity to available services is important, and

also that specific neighbourhood programs may be important, a point we will examine in more detail when we look at place of birth. For example in one poor area 43.8 percent of births were conducted by a doctor, and 6.7 percent by a nurse meaning that half of all births were medically assisted, apparently because of the presence of a Maternal and Child Health Centre. This was also the area to have the highest ANC usage.

Other variables to have a significant independent effect were household possessions suggesting that affordability is a significant factor, and migrant status – whether the household had migrated from a rural area. Surprisingly education was not a major factor either in the cross-tabulations (see Table 1) or in multivariate analysis. This suggests perhaps that the major factor preventing usage of modern attendants were less, that “traditional” beliefs that were inconsistent with or opposed to the use of health professionals than simply the practical issue that people were not convinced of the value of using them. On this reading, the major effect of migrant status may be less indigenous rural notions affecting the use of health professionals, than the practical issues that migrant families are less likely to be comfortable in using health professions and less likely to be able to call upon necessary resources in such situations and will therefore choose the cheaper option, added to a desire by some women to be back to their natal home for delivery. It is pertinent to note that the health system is not geared to providing delivery services within hospitals, and that outside skilled delivery services are generally *ad hoc* depending on the programs often initiated by local NGOs. Only women from wealthier families who could afford private clinics would normally have a medical professional attending a delivery. The critical issue in these circumstances is whether in the case of a difficult delivery a woman receives medical attention when needed.

When the respondents were asked why they did not use a trained medical professional at the birth 86.3 percent said that there was no need, while 28.4 percent said that it was too expensive (more than one response was allowed). Other much more minor reasons included ‘none was available’, ‘did not like to use’, and ‘husband did not like’. The likelihood of their saying there was no need differed little by characteristic, but respondents in bosties and with few possessions were more likely to cite financial problems.

Places of Delivery

Closely related to the person conducting the delivery is place of delivery. The proportion of deliveries conducted by a medically qualified person is linked to the low proportion taking place in hospitals where doctors normally work. The reasons for this is similar to those given for not obtaining a trained health provider, that is a lack of perceived need, and cost; but there was also a positive preference for giving birth at home and a strong dislike and distrust of hospitals, where individuals feel they are treated poorly and where they have little control. We will examine this point in more detail when we examine the qualitative findings. In the previous five years 88 percent of last births had been at home (64 percent in the respondents’ own house and in 24 percent another house). In bosties the figure was 95 percent and in the poor areas 79 percent. The remainder were born in public hospitals (5 percent) and, particularly in the poor areas, in maternal and child welfare clinics (3 percent) and private clinics (4 percent). The MCWC figure was strongly inflated by the one area in close proximity to a MCWC. Similar but slightly weaker associations were found with birthplace,

with immigrant status, number of household possessions, and, to a lesser extent, education. As with the person conducting the delivery the major reasons given for not having an institutional delivery were, that there was no need (81 percent) and financial problems (22 percent – more than one reason allowed). Financial problems were more stressed in the bosties (27 percent versus 17 percent) and among poorer households. Other reasons given included ‘no-one or no family member to accompany the patient (5 percent), lack of knowledge (5 percent) did not know where to go (2 percent) and transport problems and distance (2 percent).

Treatment of delivery complications

A critical question, however, is whether those in need of assistance from a medical professional are getting it or not. Of the 13 women who were said during a medical check-up during pregnancy that something was wrong, five had their child delivered by a doctor, three by a nurse and one by a trained TBA. The respondents were asked whether they had suffered from any of four conditions associated with a problematic delivery, regular contractions lasting more than 12 hours, excessive bleeding that the respondent feared to be life-threatening, a high smelling vaginal discharge, and convulsions not caused by fever. Just over one-third (37.3 percent) of respondents said they had one of these conditions. They appeared to be a little less likely to report these conditions if they lived in an area reporting higher ANC use and hospital attendance.

A slightly higher proportion of these women said that they had a medically trained person at their delivery (including trained TBAs) (42.7 percent versus 34.9 percent). This implies that such assistance was sought in some cases when a difficulty occurred. This nevertheless, meant that the great majority of mothers with such conditions either did not seek assistance or did not do so in time for the birth. About 37 percent of women with difficult deliveries said they sought medical help either during the delivery or subsequently. The likelihood of doing so being higher in the poor area (44.9 percent) than in the bosties (31.0 percent)

Much of the treatment was, especially in the bosties, fairly minor. Of the 129 women to seek treatment 27 (21 percent) received various syrups, capsules or tablets (including iron tablets). Another nine (7 percent) obtained *kobriaj* (traditional medicine) treatment and three homeopathy (2 percent). Fifty (39 percent) received injections, though it wasn't specified what these were. Seventeen (13 percent) women had a caesarean, twelve (17 percent) in the poor area, five (9 percent) in the bosties. An additional two (3 percent) women from the poor areas had unspecified surgery. The main sources of treatment used were private doctors (47 percent). Other significant sources were public hospitals (16 percent), pharmacies (16 percent), fieldworkers (28 percent) and traditional doctors (5 percent).

The bostie women were more likely to use traditional doctors (11 percent versus 5 percent) and pharmacies (26 percent versus 8 percent). Poorer households in Dhaka rely for much of their health care on pharmacies (Mookerji, Caldwell 2001). In contrast the poor areas are somewhat more likely to use private doctors (54 percent versus 39 percent) and, more surprisingly, fieldworkers (36 percent versus 18 percent). This latter figure varies strongly by locality and is apparently related to specific programs run by local NGOs.

The data suggest that many women, especially women in the bosties who in a wider sense represent poorer women living in unserviced neighbourhoods, are not getting the services they require. Clearly most women survive, and indeed our sample is by definition is one of survivors. Nevertheless, they are running a risk. As noted, twelve women in the poor area had a caesarean and five in the bosties. This is equivalent to 2.8 percent of pregnant women in the poor area and 1.0 percent in the bosties, levels well below the caesarean rates in industrialised countries, suggesting that many women, especially the more disadvantaged, are at serious risk of not getting urgently required treatment.

Qualitative Results

In the previous section we examined the study's qualitative findings, noting, in particular, the very low rates of the attendance of health professionals at childbirth, especially among those living in bosties, the poor and rural urban migrants. There was significant variation by individual neighbourhoods indicating that local programs of NGOs and public hospitals had a major impact on the services used. Usage of hospitals for delivery was even lower.

The major reason given for the low use of health professionals and of hospitals was that it was not necessary, a revealing but broad answer. It implies that people are not convinced of the value of trained attendants or institutional delivery at least for normal deliveries. Given that the hospital system is not truly equipped to handle more than exceptional cases, in addition to a strong societal preference for births at home, this may well be a reasonable response. What is not clear, however, is whether adequate care would be sought when there are complications.

Of the 37 percent of the respondents who said there had been complications the great majority had not sought, or obtained a trained provider in time for the birth. A high proportion of these cases reported that trained attention had not proved to be necessary. Below we will examine the qualitative responses of some of the women covering the context in which trained attendants were used or not used.

As noted detailed questions were asked of two random samples of 40 respondents each, one whose deliveries had been conducted by a medically trained person, and a second sample whose deliveries had not been so conducted. The two groups are not directly comparable as a high proportion of the former had their deliveries so conducted because they had complications. The second group therefore inevitably has a greater proportion of uncomplicated pregnancies and deliveries. Nevertheless, it is clear from the transcripts there were many cases where the decision as to whether to seek a trained provider was influenced not just by the seriousness of the case but also by other factors.

Very few of the respondents would have gone to a hospital for child delivery if they had not experienced difficulties in their pregnancy, or for some in a previous pregnancy. A very strong preference was expressed for delivery at home over hospital delivery. Given that this is where doctors normally conduct deliveries this largely ruled them out as birth attendants in normal circumstances. As in the quantitative survey a major reason given by the in-depth respondents for disliking hospitals is cost.

Many of the respondents emphasised the costs of hospitals, which they contrasted to the cheapness of using a *dai*. Respondent 61 noted that the *dai* cost her only 180 taka (US\$3) and a piece of cloth. Respondent 49 spent somewhat more on a nurse, 1,200 taka (US\$20). In contrast several respondents complained of spending many thousands of taka on a hospital delivery, though the costs clearly varied greatly by whether the delivery involved complications.

Even quite small amounts of money can cause difficulties because people have little ready cash at hand. Respondent 27 noted that she received treatment at a maternity hospital because her baby was in the wrong position. The hospital asked for 400 taka (US\$6.67) for treatment, money she raised by selling her dresses. She did not use the hospital for delivery, commenting. 'If I had a complication, then I might go to hospital, but I did not have a problem. Besides you know, hospitals want money. Even public hospitals demand money. Nothing happens without money here!' A rare contrary position was put by Respondent 56 who said that, the maternity hospital charged only 120 taka (US\$2) for two days 'seat charge', which, she noted, was a very small sum.

Public hospitals are heavily state subsidised, and in theory many of their services are provided at token cost. In practice hospitals are often short of essential supplies and have to charge for these items. In addition, the respondents imply that doctors and other staff are trying to make money out of them, though it is possible that this view may reflect a lack of understanding of the true costs involved. Concerns about cost are particularly great where major surgery is concerned. Respondent 51 claimed that her caesarean had cost 24,000 taka (US\$400) a huge amount of money by Bangladeshi standards, and that her father had to sell his land to pay for it. Respondent 15 said she had two caesareans, the first costing 20,000 taka, and the second 9,000 taka. The first child had died. Respondent 16 commented that the hospital had demanded 10,000 taka before carrying out her caesarean. Her parents-in-law paid, but took her home six hours after the operation in case they were charged more. A factor which seemed to add to their angst is that many did not appear convinced as to the need for the operation harbouring a suspicion that the doctors simply are trying to make money. Respondent 20 commented that she had been to one doctor who had demanded money to conduct a caesarean. In response her husband took her to another clinic where the doctor said it was not necessary. Clearly, whether such an operation is necessary depends to a great degree on the judgement of the doctor. The degree to which people accept this judgement and any legitimate associated expense depends both on their ability to pay and their trust in the doctors. This latter seems to be low, in part, perhaps because many people only use doctors in an emergency, and hence there is a weak sense of a trusted family doctor.

Even where major surgery was not involved people were still concerned about costs, not being convinced of the value of going to the hospital or of the doctor's role. A good deal relates to the points made by Blandett (1984) that people still retain many older beliefs about the factors that endanger pregnant women, and how to protect them. According to these indigenous beliefs 'proper' behaviour, by the women, and treatment by the indigenous healer, the *kobiraj* can provide protection and adequate treatment, not a western trained doctor. Many respondents expressed concern about 'alga batas' a term that literally means 'bad air' but is used to refer to the effects of bad spirits known in Bangla as 'bhut'. Respondent 48 noted that she had fallen down

while pregnant, and had received treatment from the *kobiraj* to protect the baby. Later, after birth, the child suffered from the influence of bad spirits. The child died, but she commented that there would have been no use using a doctor because this is not an area that doctors can deal with. She is now wearing an armlet to protect her next pregnancy. Respondent 60 reported that she had experienced a series of miscarriages due to evil spirits. To ensure that she had a baby she went to a *fakir* who foretold that she would have a baby. She subsequently went to a female *kobiraj* (*kobiraji*) who gave her three medicines to take on three successive mornings on an empty stomach while standing in a pond. She soon became pregnant. When she was nearing the birth the *kobiraj* gave her medicine to deter evil spirits. Given the problems she had suffered, when she had labour pains, the respondent went to the hospital for delivery. The hospital doctors gave her saline and two injections after which the baby was born. She commented that she only used the hospital because of the dangers involved and otherwise it was better to use a *dai* as they were cheaper, the hospital requiring bribes. The hospital in her case demanded 5,000 taka (US\$83), an amount that took her family two to three months to pay off. She had not used a *dai* at any stage because she said her membrane had not broken, and therefore there was no need.

I have quoted these two respondents at length because they bring out some important points. The respondents are reluctant to use the hospitals because they are expensive, unfriendly and do not fit in with their ideals of disease causation. In the last case, and in some of the earlier examples quoted, the hospital had been used, initially as an act of desperation, and to this degree the hospitals skills may be said to be recognised. Nevertheless, clearly a lack of understanding and high cost discourage people from using hospitals. This adds to perceptions that doctors and other hospital staff are remote, rude and even grasping.

Respondent 18 commented that she did use a doctor because she was scared of what they might do. She had accompanied a woman to hospital for a menstrual regulation (early abortion by vacuum aspiration). The doctor had treated the women like a cow placing her legs on two sides while doing the MR. Seeing this she decided she did not want to be treated this way. She went back to her village because her mother, sisters-in-law, sisters and brothers were there to look after her. At the moment of birth there was no-one with her, and she did not call anyone. She delivered the child herself though she was very afraid that she might die. Her previous child had died, so soon after birth she made a hole in the baby's ear and placed a protective earring in it. Respondent 57 said her mother told her not to go to a doctor because the doctor used medicine, which is harmful to the mother. Another point that is particularly clear in the previous example, though it is also present in the last, is that people may be driven less by concerns over the mother's health than that of the child's, in this case following a history of miscarriage. The women themselves prefer, if possible, to have their children at home.

A reluctance to accept the importance of the doctor's skills may be related to the very low emphasis given the skills of the doctor's indigenous equivalent, the *dai* or traditional birth attendant. The emphasis particularly in the last case quoted was on the skill of the *kobiraj* rather than of the *dai*. Blanchett notes in this regard that the *dais* tend to emphasise the physicality of what they do, whereas the more respectable *kobiraj* seldom touch the body. The *dais* in this survey emphasised the physicality of

what they did, almost delighting in describing how physically demanding their work was in manipulating the belly to reposition the child, and particularly during the childbirth itself almost as though they brought the child out themselves without the mother's involvement. The doctors are in a sense caught between this cultural dichotomy. They too try to claim the social superiority traditionally associated with the *kabiraj* but their work requires them to deal with the physical body. One consequence is that most doctors rarely touch the body making diagnoses on the basis of a statement of the patient or even a relative of the patient - a tendency added to by feelings over female modesty. This may contribute to a feeling that assisting at a normal childbirth is not truly the doctor's job.

In a number of births outside the hospital the main role of the doctor has been to induce the birth with an injection when it has been delayed but the physical birth itself is handled by a *dai* or nurse. Respondent 61 said that in her case the *dai* called in the doctor to induce the baby, but the birth itself was delivered by the *dai*. Respondent 48 similarly said her *dai* called in a doctor to induce the delivery. When nothing happened, then the doctor sent her to a hospital.

Reluctance to use hospitals, however, is not only related to concerns about cost and a lack of acceptance or understanding of doctor's skills. It also relates to the disruption to traditional family and gender roles involved. As noted, family and gender roles are strongly differentiated in Bangladesh. Women have very specific roles as mothers and wives, in raising children, food processing and cooking, all tasks carried out in and around the house. Women are often discouraged from earning incomes outside the house. There is strong opposition to men undertaking what are seen as women's jobs, and women undertaking what are seen as men's. These attitudes were associated and reinforced by the institution of *purdah* where it is shameful for a woman to be seen by men, at least non-family members. To some extent this is beginning to change, especially in urban Bangladesh with new occupations open to women, such as making garments, and increasing female education bringing with it a desire for appropriate employment. Nevertheless, the old attitudes are still strong. For a woman to give birth in hospital means being taken out of her household, and disrupting her work and arguably interfering with her family responsibilities. Respondent 57 commented, 'I decided to have all my babies at home. My mother and sister can stay with me at home. No one would be allowed to stay at hospital. Besides I can do any household work at home'. She added, 'Who would take care of my children?' The maternity said they would do so, but she preferred to give birth at home with the help of a nurse.

A number of respondents particularly emphasised the greater attention received when giving birth at home. Respondent 27 commented, 'My baby was delivered by my mother in my home. My mother is a *dai* and is very experienced and besides I feel comfortable at home. It is my own environment, I feel easy here. I hadn't any problem so my mother was appropriate'. Respondent 21 remarked, 'doctors and nurses don't care well, but in any house my mother always look's after me well'. To give birth in a hospital is also taking a woman away from those closest and providing greatest emotional support, including her husband and children, but arguably most importantly other women in the family such as her mother, mother-in-law and very importantly sisters-in-law. Added to this, is the breaking of *purdah* and the shame associated with going to the hospital. *Purdah* is weaker in urban areas than rural, but

nevertheless concepts of female shame are very strong. The respondents expressed very strong concerns about being seen undressed by any outsiders but particularly by men, as Respondent 59 commented that she delivered her last child herself without assistance because she was too 'shy' to tell anyone, not even her sisters-in-law who were senior to her. Respondent SL said her first baby had died and she had gone to a leading hospital on the recommendation of her doctor, who said that it was cheap, and that it had lady doctors. One of these had then suggested that she use her private clinic, which was more convenient. In all she paid 9,000 taka but she apparently regarded this as reasonable given the circumstances. While purdah may be weaker in the cities than in the urban areas, the issue of family roles may in some ways be worse. In the villages many people live in close proximity providing support to each other in emergencies. In the town, especially in the bosties, houses are small and nuclear families are generally the norm, with relatives, if not back in the village, at least at some distance. This meant both that it was more difficult for a woman to undertake her own responsibilities, and also that it was more difficult for others to look after her. Respondent 26, a village migrant, commented that she had gone back to her village to have her last child, 'I had to go there because there was no one to look after me at that time in Dhaka. My mother had to look after her family, so she could not come here to attend me'. She added that giving birth in the village made it impossible to deliver in a hospital as none were nearby. Similarly Respondent 18 commented that she went to the village because there was no one in the city to look after her properly. Respondent 59 noted that childbirth at home with a dai is preferable because, apart from being cheap, it is much easier for people to visit you. There is a recurrent theme through many of the interviews that the hospital environment is alien, isolated and confronting.

Another factor that discourages use of hospitals and doctors is simply one of convenience; hospitals and doctors are often very difficult to use or approach. As noted, hospitals are more accessible in the cities, but for most people who have limited access to transport, they are not particularly convenient to use.

Respondent 59 commented that she had to go to the hospital during her pregnancy because she couldn't pass urine and stools. She had been advised to have her child in the hospital, but 'when the pain started there was nobody to help me or to take me to hospital'. The baby was delivered by a *dai*, but the *dai* was not skilled and could not deliver the baby properly. The baby died after three months.

In theory, people could use doctors outside hospitals, but in general they rarely do so, most such deliveries which involved a medically trained attendant being attended by a nurse/midwife. Doctors are reluctant to conduct deliveries away from appropriate facilities, and it may not be a good use of their skills anyway. Also some factors that make people reluctant to use doctors in hospitals also apply to doctors outside, even if to a lesser degree. Other medically trained people too are often reluctant to attend deliveries, particularly at inconvenient times. Respondent 26 commented that she had her child 'in the village, noting that, in the village, doctors do not have a suitable place for delivery. They have to be called to houses, and they did not come to our house. In my case my father and brother went to fetch the doctor, but it was night and the doctor refused to come, so I had my delivery with the help of the *dai*. If the doctor had come then the delivery might have been done by her'. In this case the woman

referred to as a doctor is probably an FWV, not a doctor who would be most unlikely to visit an ordinary village home.

Given the difficulties in using doctors, families tend to go to *dais*, the people with whom the women are most comfortable, are often acquainted with, many being relatives, and who are most at hand. Respondent 48 commented that she preferred to use the *dai* who was her cousin. She was not used to using a doctor and besides there was no need.

Factors that encourage appropriate use of hospitals for difficult deliveries

Given the strong preference for home delivery, it is important that people are made aware of when it is important to get appropriate treatment. As noted, ANC was supposed to identify high-risk pregnancies, but many of the women who do subsequently have difficult deliveries are not identified as such. Given this, one approach that has been tried out in Bangladesh and elsewhere is to inform the families by providing them simple pictorial charts as to when medical assistance should be sought. Respondent 26 noted that television programs were promoting the message that problems may arise if a *dai* (presumably an untrained dai) delivers a child, commenting that 'such things make us frightened'. Ideally too, the birth attendant should be encouraged to refer difficult cases. This is particularly difficult in Bangladesh, where the main birth attendants, the *dais* are, almost by definition, illiterate and share most of the beliefs that make women and their families reluctant to use hospitals, apart from any professional feeling that it implies a slight on their own skills.

Nevertheless, there were a number of examples of referral by *dais* or nurses either directly to hospitals or to local doctors, who themselves sometimes then referred the case onto a hospital. A couple of these cases have already been quoted. Such referral appears to be most likely where the local hospitals have already entered into schemes which provide nurse-midwives to local households, or incorporates the *dais* into their own system, often by providing them some training and remuneration, and perhaps most importantly by giving them some recognition.

A number of hospitals and clinics also have organised programs under which trained nurse/midwives conduct deliveries in people's homes. Respondent SL57 had a nurse attend her delivery at home because she was reluctant to give birth in hospital. She noted that her water broke seven days before the birth, and she called the nurse. The nurse came morning and afternoon.

Respondent 42 stated that the local NGO clinic had trained *dais* to deliver babies correctly. She said that this lady delivered almost all the babies in the area. The dai visited her every month during her pregnancy, and gave her full check-ups after the fifth month. She also took the respondent to the NGO clinic for tetanus toxoid injections. However, even if effective programs can be established to provide reasonable quality maternity services within households, it remains essential that the hospitals themselves be acceptable and indeed attractive as places for delivery for more complicated cases. An important factor is that costs have to be reasonable and transparent. In addition hospitals have to be comfortable and acceptable given community attitudes. It is clear from what respondents say that hospital staff have to be more understanding and in touch with local people. They also need to be more

family oriented. Some hospitals and clinics evidently are attempting to do just this. Some provide facilities to help women, for example, looking after children. An important issue is that of female doctors. Respondent 15 was quoted above as indicating that one hospital had been recommended to be as having lady doctors. Respondent 42 said she had not used a hospital because she was too shy, 'if I went to the hospital, a male doctor would do my delivery, and he would see my vagina, and then I would feel shy (ashamed), I know that all the doctors there are men!' She added that if something went wrong with her pregnancy she would go to a hospital, but only if there were a lady doctor.

Conclusions

In this paper, we have focussed on the circumstances of childbirth and what can be done to reduce the risk of maternal mortality. Effective efforts to reduce maternal mortality should also act to reduce neonatal mortality. To reduce maternal mortality requires monitoring difficult pregnancies, and ensuring appropriate birthing procedures, particularly for difficult deliveries. In particular cases, it may require access to surgical facilities and blood supplies. This would involve regular check-ups and ensuring appropriate birthing procedures, ideally by having all births conducted by medically trained personnel.

The ideal way of ensuring safe births would be to have all births in hospitals, but this is not likely to be possible in the foreseeable future in Bangladesh. This is especially the case in rural areas, but applies to a considerable degree to the cities such as Dhaka, especially for the poorer population, which, although they have hospitals, do not have enough beds, or doctors and nurses. However, even if there were enough hospital facilities, there is a strong aversion to using hospitals, in part because of the costs, but also because they are seen as unfriendly, and simply not as convenient and comfortable as being at home.

Given that for the foreseeable future most births are going to be at home, it becomes necessary to ensure that people seek help when they need it. This requires that people are aware of what the danger signs are in a difficult pregnancy and childbirth, and that they seek appropriate attention. There have been trial programs to inform people what the danger signs are, and to encourage them to seek medical help. Preferably, however, all births should be attended by someone with at least some training that would be able to deliver normal births safely, and refer, and indeed assist women to seek treatment for difficult cases at appropriate facilities. While not as effective as having all women within hospital, this approach would save resources, and be more in keeping with local preferences. This implies an extensive infrastructure involving considerable resources including appropriately trained people, preferably women. A problem, as discussed, is that Bangladesh Muslim society does not have a strong concept of professional TBAs, most *dais* having conducted relatively few deliveries. Training programs have tended to train the wrong people, mostly women who do very few deliveries. The training that has been provided has often been too limited, has suffered from a lack of follow-up training and incorporation of the TBAs into any effective structure providing them payment. It might be more effective to create a new cadre of nurse-midwives, but, apart from the tremendous resource implications of this, there are very few such women currently in Bangladesh. This is partly because historically it has not been acceptable for women to be nurses in Bangladesh, and

there have also been institutional obstacles to training nurses, more emphasis having been given to the training of doctors usually men. It should be noted, however, that there are not enough doctors either and certainly not enough women doctors. There are signs of change, especially with the creation of the Family Welfare Visitor (FWV), an eighteen-month-trained female paramedic (see Symons). The FWV provides ANC as well as contraception, menstrual regulation, and in theory delivery, though the reality is she is too overworked to provide the latter for most women, and probably has too little training, facilities or motivation to be particularly useful in providing safe delivery. Nevertheless, her very existence suggests that a special cadre of nurse/midwives is possible provided the resources are available. There is arguably a cultural aversion to touching the products of the body, particularly childbirth, but it is arguably less strong than in Hindu India, and can be overcome. A greater issue may be the acceptance of such a cadre by pregnant women and their families, but there is evidence, as in indicated in some of our interviews that nurses and trained TBAs are accepted provided a proper structure is in place, and they are properly remunerated.

Even with effective nurse/midwives, and/or trained TBAs, it is still essential to have a hospital facility that is acceptable to the potential clients. This should be affordable and family-oriented, making it possible for women to have their families and friends with them as much as possible. Given the strong aversion to the presence of men, particularly ones outside the family, at childbirth, it is also important that delivery services be conducted, if possible, by women doctors and nurses.

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Table 1

Where health professional attended birth by selected characteristics of mothers.

	<u>Bostie</u>	<u>Poor Area</u>	<u>Total</u>
Ever been to school			
No	13.5	21.4	16.1
Yes	10.3	33.2	24.0
Migrant household			
Yes	11.6	19.0	14.4
No	13.3	38.7	27.8
Household possessions			
Very poor	14.3	7.8	12.6
Better off	7.9	37.9	28.1