Spoilt for choice? Cross-sectional study of care-seeking for health problems during pregnancy in Mumbai slums

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This study considers care-seeking patterns for maternal morbidity in Mumbai's slums. Our objectives were to document women's self-reported symptoms and care-seeking, and to quantify their choice of health provider, care-seeking delays and referrals between providers. The hypothesis that care-seeking sites for maternal morbidity mirror those used for antenatal care was also tested. We analysed data for 10,754 births in 48 slum areas and interviewed mothers about their illnesses and care-seeking during pregnancy. Institutional care-seeking was high across the board (>80%), and higher for 'trigger' symptoms suggestive of complications (>88%). Private-sector care was preferred, and increased with socio-economic status, although public providers also played an important role. Most women sought treatment at the same site they received their antenatal care, most were treated within 2 days, and less than 2% were referred to other providers. Our findings suggest that poor women in Mumbai recognise symptoms of obstetric complications and the need for health care. However, that more than 80% also sought care for minor conditions implies that the tendency to seek institutional care for serious conditions reflects a broader picture of care-seeking for all illnesses. The role of private health-care providers needs greater recognition, and further research is required on provider motivations and behaviour.

Keywords: urban health; maternal morbidity; care-seeking; slums; India

Introduction

Despite the expansion of maternal and child health programmes, maternal and neonatal morbidity and mortality remains high in developing countries. While many deaths could be prevented, and complications avoided, if women had access to affordable, good-quality health care, the existence of services does not necessarily lead to their utilisation, and utilisation does not necessarily imply quality (Navaneetham and Dharmalingam 2002, Agarwal et al. 2007, Khan et al. 2009).

India has more maternal deaths than any other country. It is urbanising rapidly and the urban poor now outnumber the rural poor. Despite the fact that Mumbai is India's urban economic powerhouse, more than half of its 16 million inhabitants live in informal settlements. Neonatal mortality among the urban poor is almost twice
that of the urban rich (National Neonatology Forum and Save the Children/US 2004). The estimated crude birth rate in Mumbai slums is 17.7 per 1000 and the total fertility rate for women aged 15–49 is 1.90. The neonatal mortality rate is 23.6 per 1000 live births and the infant mortality rate 24.9 (International Institute for Population Sciences and Macro International 2008).

Health systems in urban areas include a diversity of providers offering a variety of services (Lorenz and Garner 1995, Harpham and Molyneux 2001). The Municipal Corporation of Greater Mumbai (MCGM) provides more than one-quarter of the approximately 40,000 hospital beds available across the city (MCGM 2005). MCGM health-care infrastructure includes four teaching hospitals, five specialised hospitals, 16 peripheral general hospitals and 26 maternity homes. Primary care is provided through 168 health posts and 162 dispensaries (Brihan Mumbai Corporation 2009). Public providers compete with a burgeoning private sector, which now accounts for 70–80% of outpatient consultations (Bhatia and Cleland 2001, Barua 2005, Radwan 2005). The informal sector largely comprises unqualified practitioners with no formal training (De Zoysa et al. 1998, Dilip and Duggal 2004). Reports of malpractice, over-medication, inappropriate prescription practices and treatments, and excessive use of diagnostic tests, are not infrequent (Barua 2005).

Rates of care-seeking in India are high and the number of consultations with health providers exceeds that in the USA (Das et al. 2008). Understanding maternal health in such settings requires an examination of how health services are used. While much of the literature focuses on the uptake of routine antenatal and delivery care, we know little about care-seeking for maternal morbidity (UK All Party Parliamentary Group on Population, Development and Reproductive Health 2009). This study considered levels and patterns of care-seeking for a variety of health problems experienced by pregnant women living in Mumbai’s slums. Our objectives were to document their symptoms and associated care-seeking behaviour, to quantify the choice of sector and health provider for each symptom, to test the hypothesis that chosen care-seeking sites for maternal morbidity mirror those used for antenatal care, to analyse care-seeking delays and to quantify referrals between providers.

**Methods**

**Participants**

The study sample consisted of slum areas in six municipal wards (F/North, G/North, H/East, K/West, M/East and P/North). Of 92 possible areas, 48 were selected randomly (eight per ward), each comprising 1000–1500 households. Eighteen areas were adjacent to hazards such as polluted bodies of water, railway tracks or garbage dumps; 62% of families owned their homes; and 74% lived in *pucca* (brick or cement) houses. Infrastructurally, 72% of households had a legal electricity supply, 16% had their own water supply, 62% used a communal tap and 21% purchased their water; and 94% used public toilets (Fernandez and Osrin 2006).

A vital registration system was set up to identify births, stillbirths, neonatal deaths and maternal deaths (Shah More et al. 2008). Data for the study originated from a trial approved by the MCGM, the Independent Ethics Committee for Research on Human Subjects (Mumbai committee, reference IEC/06/31) and the
Procedures

Births were identified by 99 locally resident women, generally two per surveillance area, who covered an average of 600 households each. Their role was to keep track of local pregnant women and newborn infants. They received an incentive of 50 rupees (approximately US$1.10) for registering each event, which was confirmed by one of 12 interviewers, each responsible for four areas, who visited mothers at home to arrange and administer interviews approximately 6 weeks after delivery. We used a predominantly closed questionnaire to collect information on demography, socio-economic factors, illnesses experienced during the index pregnancy and care-seeking behaviour. After an explanation of the data-collection activities, participants were asked for verbal consent to be interviewed and assured of the confidentiality of data. Team members who encountered illness in mothers or infants had an ethical responsibility to recommend that they visit a health facility. Interviews were subject to a range of systematic and random checks for accuracy and completeness, both in the field and during data entry into a relational database management system in Microsoft Access (Microsoft Corporation). Information provided by participants remained confidential and outputs did not include their names.

Analysis

The original sample size was based on the trial outcome of neonatal mortality, and this analysis was based on 2 years of data collection. We aimed to accumulate 80–100 births per cluster per year. The use of reported symptoms to examine care-seeking for serious and minor illnesses presented some problems. First, apparently minor symptoms – such as backache or fatigue – could be manifestations of a serious illness, and it was not for us to decide whether care-seeking was inappropriate. Second, it was unreasonable to assume that women would know when symptoms were likely to be serious. On the basis of lay knowledge described in a series of women’s group discussions (Shah More et al. 2008), we chose four symptoms that we felt would represent serious illness to both clinicians and women and their families: leaking of waters, vaginal bleeding, a feeling that the baby had stopped moving and convulsions or loss of consciousness. These ‘trigger’ symptoms should unequivocally, we felt, lead to consultation with a health-care provider.

To examine potential determinants of choice of health-care provider, we did random effects multivariable logistic regression in Stata 10 (StataCorp 2007). Site of care was entered as the dependent variable, the clustered nature of the sample was accounted for by grouping on the cluster variable, and a range of factors were entered as independent variables. Quadrature checks supported the use of this approach. Municipal ward of residence was entered as a series of dummy binary variables. An asset score for socio-economic status was generated from the first component of a principal components analysis (Filmer and Pritchett 2001, Vyas and Kumaranayake 2006), including variables describing house ownership and construction, possession of a ration card, source of electricity, type of toilet and possession of a range of consumer durables. We entered continuous variables for maternal age and parity, and
binary variables for literacy, Hindu religion and previous experience of a miscarriage. We considered entering selected trigger and common symptoms, but decided for the sake of clarity to include dummy variables for each of the morbidities discussed in the paper. As dependent variables, we chose the top four sources of care described by respondents: (1) single-handed private practitioner; (2) private hospital; (3) public general hospital; and (4) public tertiary hospital.

**Role of the funding source**

The sponsors had no role in the study design, data collection, analysis, interpretation or writing of the article. Study author Glyn Alcock had full access to all study data and final responsibility for the decision to submit for publication.

**Results**

We recorded 13,467 births between 1 October 2005 and 30 September 2007, for which detailed information was available on 10,754 (80%). The main reasons for loss to follow-up were relocation or that women who lived elsewhere had come to the area for delivery. The mean age of respondents was 24, and 47% were Hindu and 46% Muslim. Data showed that 28% had not attended school, while 57% had completed secondary school and 8% had attended higher education. Most lived in a nuclear family (54%) or joint family (45%); 17% of women had lived in the community for less than a year, 51% between 1 and 5 years and 32% 6 years or more. Only 15% of women had engaged in paid work during the previous 12 months, mostly home-based or as domestic servants.

Altogether, 6471 (60%) women reported health problems during the index pregnancy. Most experienced more than one problem, with a mean of 2.7 per woman. Table 1 summarises the four trigger symptoms and the six most commonly reported symptoms: vomiting or diarrhoea (40%), tiredness or weakness (32%), headache (29%), swollen legs (25%), abdominal pain (24%) and backache (16%). The table also shows the proportion of women who sought care for each symptom outside the home. Institutional care-seeking was high, from 82% (swollen legs) to 91% (abdominal pain) for common symptoms, and from 88% (leaking waters) to 100% (convulsions or unconsciousness) for trigger symptoms.

Exclusive home treatment was minimal (<2%), and most women who did choose home care also consulted a health provider; 15% took no curative action. The main reasons for not seeking care for two common and two trigger symptoms are presented in Table 2. The most common reason (64–83% of responses) was that the woman had not felt a need to seek medical care for her condition. Other important reasons were that she recovered, that family members did not allow her to seek care, and that there was nobody to look after the children. The severity of the condition did not significantly alter the reasons for not seeking care.

Figure 1 presents graphically the choice of health provider for 4917 women who sought treatment for morbidity during pregnancy at a health-care facility in Mumbai. The data – using nine of the symptoms identified in Table 1 – show three main trends. First, while care-seeking sites for three of the trigger symptoms were split evenly between the private and public sectors, there was an overall preference for private health care. This was most marked for the treatment of vaginal bleeding.
and vomiting or diarrhoea, for which 64% and 62% of clients, respectively, sought treatment in the private sector. Second, private hospitals were the most common care-seeking site. Third, within the public sector, general hospitals were the most common provider. Almost a third of clients sought treatment for convulsions or unconsciousness at a general hospital. The municipal tertiary hospital and maternity homes were the next most commonly utilised sites, while the use of urban health centres and health posts was low.

We examined potential determinants of the chosen site of care in random effects multivariable regression models. Table 3 presents results for four models, each using the same independent variables. There was a clear association between the municipal ward of residence and the source of care. Use of single-handed private practitioners was greatest in F/North ward and least in K/West. Use of private hospitals was lowest in F/North and greatest in K/West. Use of a general hospital was also lowest in F/North and greatest in H/East and use of public-sector maternity homes was lowest in H/East ward and highest in K/West.

There was a consistent association of source of care with socio-economic status, although this did not hold for use of single-handed practitioners. Increasing wealth was associated with greater use of private hospitals and less use of public general hospitals and maternity homes. The remainder of the findings were more variable. For example, the association of greater maternal age with more use of private hospitals and less use of public general hospitals, of parity with more use of public general hospitals, of male infants (which technically should be unknown during pregnancy) with less use of private practitioners and of maternal literacy with less use of public maternity homes. There was also some variation between sources of care for common symptoms: diarrhoea or vomiting was associated with more visits

Table 1. Selected self-reported health problems during pregnancy and institutional care-seeking, for 10,754 women in 48 slum areas, 2005–2007.

| Care sought at a health facility | n  | % | n  | % |
|---------------------------------|----|---|----|---|
| **Care sought at a health facility** |    |   |    |   |
| **Common symptoms** |    |   |    |   |
| Vomiting or diarrhoea | 2613 | 40 | 2201 | 84 |
| Tiredness or weakness | 2064 | 32 | 1795 | 87 |
| Headache | 1850 | 29 | 1610 | 87 |
| Swollen legs | 1639 | 25 | 1343 | 82 |
| Abdominal pain | 1529 | 24 | 1382 | 91 |
| Backache | 1029 | 16 | 867 | 84 |
| **Trigger symptoms** |    |   |    |   |
| Leaking waters | 642 | 10 | 567 | 88 |
| Vaginal bleeding | 189 | 3 | 183 | 97 |
| Baby stopped moving | 30 | <1 | 28 | 93 |
| Convulsions or unconsciousness | 21 | <1 | 21 | 100 |
| **Total women reporting illness** | 6471 | 100 | 5385 | 83 |

*Percentages sum to >100% because most women reported more than one symptom during pregnancy.*
to single-handed private practitioners, leg swelling and abdominal pain with fewer such visits and abdominal pain with more visits to public general hospitals. For trigger symptoms, there was a borderline association of leaking waters with fewer visits to single-handed practitioners, and an association of vaginal bleeding with more visits to private hospitals.

Figure 2 presents graphically mobility between sectors for women who had both antenatal and curative care in Mumbai (n = 4686). The tendency to seek curative care in the same sector was clear: 46% of women who had received antenatal care in the private sector received treatment in the same sector and 36% received both types of care in the public sector. More clients switched from public to private sector (11%) than from private to public (7%). Further breakdown of the data showed that, of the clients who remained in the private sector, 83% did so at a private hospital and 61% with an individual practitioner. In the public sector, continuation was most common at general hospitals (78%), the municipal tertiary or government hospitals (72%) and maternity homes (69%). Although continuation was also high at urban health centres (61%), absolute numbers were low. Use of health posts was minimal.

We analysed data on care-seeking delays and referrals between health facilities. Although we were not able to disaggregate the data into the ‘three delays’ (deciding to seek care, reaching a health facility and receiving medical care; Thaddeus and Maine 1994), we were able to identify a general pattern across symptoms (Figure 3). Most women sought and received treatment within 2 days: 53% who sought care for vaginal bleeding were seen by a health provider within 48 hours and 31% within 24 hours; for backache, 45% sought care within 48 hours and 17% within 24 hours. Less than 2% of clients who sought care for any of the reported symptoms at either public or private providers were referred or transferred to another health facility.

Table 2. Reasons for not seeking care at a health facility for selected symptoms, for 6471 women in 48 slum areas, 2005–2007.

| Reason not to seek care | Common symptoms | Trigger symptoms |
|-------------------------|-----------------|------------------|
|                         | **Swollen legs** | **Backache** | **Vaginal bleeding** | **Waters leaked** |
|                         | n    | %a  | n    | %a  | n    | %a  | n    | %a  |
| Did not see the need    | 217  | 74  | 115  | 71  | 5    | 83  | 48   | 64  |
| Got better              | 86   | 30  | 32   | 20  | 3    | 50  | 16   | 21  |
| Family did not allow    | 22   | 8   | 25   | 15  | 1    | 17  | 11   | 15  |
| No one to look after children | 24   | 8   | 14   | 9   | 0    | 0   | 8    | 11  |
| No one to accompany her | 13   | 4   | 10   | 6   | 0    | 0   | 2    | 3   |
| No time to go           | 7    | 2   | 8    | 5   | 0    | 0   | 3    | 4   |
| Cost of care            | 7    | 2   | 8    | 5   | 0    | 0   | 2    | 3   |
| Health facility far away| 5    | 2   | 4    | 3   | 0    | 0   | 2    | 3   |
| Afraid of facility      | 3    | 1   | 2    | 1   | 1    | 17  | 2    | 3   |
| Other reasonsb          | 31   | 11  | 16   | 10  | 0    | 0   | 13   | 17  |
| Total who did not seek care | 295  | 100 | 162  | 100 | 6    | 100 | 75   | 100 |

*Percentages sum to >100% because more than one reason could be given. Includes transport difficulties, and lack of knowledge of where to seek care.
Our findings suggest that women and their families made informed choices about care-seeking when health problems arose during pregnancy. The pattern of reported symptoms was plausible in terms of their nature and frequency. Symptoms suggesting serious morbidity were reported in fewer than 15% of cases. Institutional care-seeking was high across the board (>80%) and slightly higher for trigger symptoms (>88%). Delays were uncommon, and more rapid consultation and treatment was described for trigger symptoms.

Where comparison is possible, the levels of morbidity concur with national survey data from urban India. These showed that, of women who had given birth in the last 5 years, 5% reported suffering vaginal bleeding, 7% convulsions (unassociated with fever) and 28% swelling of the legs, body or face (International Institute for Population Sciences and Macro International 2007).

The results of the regression analyses were internally consistent. The strongest determinant of site of care was residential location, followed by socio-economic status. The findings for location are consistent with our knowledge of service distribution. In general, where public-sector tertiary hospitals were easily accessible, they were used preferentially. Use of private hospitals was lowest in F/North ward, the site of a tertiary public hospital with a good reputation, and highest in K/West,
Table 3. Random effects multivariable logistic regression models for four choices of health care provider for illness during pregnancy, for 4917 observations in 48 slum areas, 2005–2007.

|                     | Solo private practitioner | Private hospital | Public general hospital | Public maternity home |
|---------------------|---------------------------|------------------|------------------------|-----------------------|
|                     | OR  95% CI     p         | OR  95% CI     p  | OR  95% CI     p        | OR  95% CI     p        |
| **Municipal ward**  |                           |                  |                        |                       |
| F/North             | 1.00 (0.95–1.05)        0.99 | 1.00 (1.06–1.18) 1.01 | 1.00 (0.76–1.28)   0.99 | 1.00 (0.96–1.04)   0.99 |
| G/North             | 0.76 (0.53–1.01)        0.149 | 1.83 (1.13–2.93) 0.013 | 3.51 (1.21–10.21) 0.021 | 0.44 (0.12–1.61) 0.216 |
| H/East              | 0.33 (0.23–0.47)        0.000 | 1.97 (1.24–3.14) 0.004 | 52.21 (18.59–146.61) 0.000 | 0.04 (0.01–0.18) 0.000 |
| K/West              | 0.28 (0.18–0.42)        0.000 | 3.74 (2.31–6.06) 0.000 | 3.48 (1.15–10.58) 0.028 | 2.80 (0.79–9.90) 0.109 |
| M/East              | 0.77 (0.53–1.13)        0.181 | 1.05 (0.64–1.72) 0.837 | 10.83 (3.81–30.79) 0.000 | 2.23 (0.63–7.82) 0.211 |
| P/North             | 0.91 (0.62–1.35)        0.644 | 1.94 (1.19–3.18) 0.008 | 8.38 (2.84–24.73) 0.000 | 1.07 (0.29–3.96) 0.919 |
| **Socio-economic asset score** | 1.02 (0.95–1.10)        0.516 | 1.40 (1.30–1.51) 0.000 | 0.76 (0.69–0.84) 0.000 | 0.83 (0.74–0.94) 0.003 |
| Mother’s age (y)    | 0.98 (0.97–1.00)        0.140 | 1.03 (1.01–1.05) 0.003 | 0.96 (0.94–0.98) 0.001 | 1.00 (0.96–1.03) 0.821 |
| Mother’s parity     | 1.01 (0.95–1.07)        0.763 | 0.99 (0.94–1.05) 0.873 | 1.10 (1.03–1.18) 0.008 | 0.93 (0.85–1.02) 0.123 |
| Infant’s sex (male 1, female 0) | 0.87 (0.76–0.99)        0.041 | 1.10 (0.96–1.25) 0.154 | 1.03 (0.88–1.22) 0.703 | 1.06 (0.86–1.31) 0.567 |
| Mother literate     | 0.91 (0.78–1.07)        0.248 | 1.11 (0.94–1.31) 0.213 | 1.01 (0.82–1.24) 0.906 | 0.63 (0.49–0.80) 0.000 |
| Mother of Hindu faith | 1.15 (0.98–1.35)        0.083 | 1.05 (0.89–1.23) 0.572 | 0.75 (0.59–0.94) 0.015 | 1.07 (0.82–1.40) 0.602 |
| Previous miscarriage| 0.90 (0.72–1.12)        0.325 | 1.14 (0.92–1.41) 0.232 | 0.87 (0.66–1.14) 0.304 | 0.82 (0.57–1.18) 0.283 |
| **Common symptoms** |                           |                  |                        |                       |
| Vomiting or diarrhoea| 1.08 (1.03–1.17)        0.000 | 0.95 (0.83–1.09) 0.472 | 0.91 (0.77–1.09) 0.304 | 0.61 (0.48–0.77) 0.000 |
| Tiredness or weakness | 0.90 (0.76–1.07)        0.243 | 1.08 (0.91–1.29) 0.353 | 0.97 (0.78–1.21) 0.755 | 1.65 (1.26–2.15) 0.000 |
| Headache            | 1.08 (0.90–1.28)        0.404 | 0.85 (0.71–1.01) 0.064 | 1.07 (0.86–1.32) 0.562 | 0.99 (0.75–1.30) 0.944 |
| Swollen legs        | 0.73 (0.62–0.86)        0.000 | 0.99 (0.84–1.15) 0.860 | 1.03 (0.84–1.25) 0.790 | 1.69 (1.34–2.12) 0.000 |
| Abdominal pain      | 0.79 (0.68–0.93)        0.004 | 0.98 (0.84–1.14) 0.765 | 1.38 (1.14–1.67) 0.001 | 1.14 (0.90–1.44) 0.288 |
| Backache            | 1.16 (0.96–1.40)        0.117 | 0.85 (0.70–1.03) 0.101 | 0.90 (0.70–1.14) 0.384 | 1.08 (0.79–1.46) 0.638 |
| **Trigger symptoms** |                         |                  |                        |                       |
| Leaking waters      | 0.79 (0.62–1.00)        0.048 | 0.93 (0.74–1.17) 0.536 | 1.00 (0.77–1.31) 0.990 | 1.32 (0.95–1.85) 0.094 |
| Vaginal bleeding    | 0.82 (0.56–1.21)        0.322 | 1.47 (1.05–2.07) 0.027 | 0.71 (0.43–1.16) 0.168 | 0.59 (0.29–1.22) 0.154 |
| Baby stopped moving | 0.98 (0.38–2.52)        0.963 | 0.84 (0.33–2.13) 0.720 | 1.60 (0.56–4.57) 0.383 | 0.58 (0.14–2.45) 0.461 |
| Convulsion or unconsciousness | 0.89 (0.31–2.55)        0.825 | 1.29 (0.45–3.74) 0.636 | 1.36 (0.43–4.30) 0.599 | 0.36 (0.04–3.26) 0.367 |

Note: OR, adjusted odds ratio; CI, confidence interval.
the wealthiest of the wards. Use of a general hospital was highest in H/East, which has a reputable municipal hospital. Public-sector maternity homes were used least in H/East (where there are none), and most in K/West, the site of a large maternity home generally perceived to offer quality care. Single-handed private practitioners were consulted across the board, but were perhaps more likely to be chosen for symptoms perceived as less pregnancy-related, such as diarrhoea and vomiting. Overall, the wealthier her family, the more likely a pregnant woman was to seek care at a private hospital.

The strengths of the study were that it was community-based and involved a sample of more than 10,000 women recruited over 2 years. Limitations included potential recall bias associated with the self-reporting of illness. The accuracy of diagnoses could not be verified and our classification of symptoms into common and trigger categories were based on respondents’ own descriptions.

In a study with the same group of women, we reported high uptake of antenatal care (93%) and institutional delivery (90%) (Shah More et al. 2009a). In contrast to studies from other developing countries, which show a clear tendency for home-based treatment over facility care (Develay et al. 1996, Koenig et al. 2007), our work in Mumbai led us to anticipate high levels of health service use for maternal morbidity. That utilisation rates ranged from 82 to 100% confirmed our hypothesis, as do the findings of the National Family Health Survey (International Institute for Population Sciences and Macro International 2007), and previous community-based research in urban slums (Yesudian 1988, De Zoysa et al. 1998).
Compared to antenatal morbidity, reproductive health problems among women in India’s urban slums are common (Garg et al. 2002, Bhandari and Kannan 2010), as are other conditions such as anaemia (Mayank et al. 2001). Symptoms that are unrecognised, not thought to be serious or considered normal may lead to underreporting and limited care-seeking. Taboos also render some reproductive health problems invisible and women are often expected to endure them (Garg et al. 2002). Responses to problems during pregnancy may differ because of a perceived risk to the unborn child, and this may help to explain the higher levels of care-seeking. For example, one study showed that women in a Delhi slum generally sought care for obstetric morbidity even though their ability to recognise symptoms of serious complications was poor (Mayank et al. 2001).

Several studies affirm the urban preference for private-sector care (Aljunid 1995, Gupta and Dasgupta 2000, Bhatia and Cleland 2001). Among the reasons for this are ease of accessibility, convenient opening hours and a perception that the quality of care is higher (Bennett 1996, Barua 2005, Habtom and Ruys 2007). Although the use of private facilities is limited by the ability to pay (Shah More et al. 2009a), the willingness to meet the costs may be explained by clients’ expectations that they will receive superior service and more courteous treatment (The World Bank 1996, De Zoysa et al. 1998, Kausar et al. 1999, Gupta and Dasgupta 2000). Our previous research showed an association between routine private-sector maternity care and rising socio-economic status (Shah More et al. 2009b). In the present study, the least poor chose private hospitals for morbidity care over other types of facility, suggesting that financial constraints do play a part in influencing the choice of provider (Kausar et al. 1999, Mahal et al. 2001).

It is estimated that there are well over 1.25 million unqualified practitioners in India (Radwan 2005). We do not know the qualifications of the private practitioners visited by women in our study. However, research across India suggests that most have minimal training, and that individuals trained in non-biomedical disciplines often practice allopathy (De Zoysa et al. 1998, Barua 2005, Duggal and Gangolli

![Figure 3. Care-seeking delays for selected symptoms, for 4917 women in 48 slum areas, 2005–2007.](image)

Note: Numbers in shaded areas are percentages. The size of each circle is proportionate to the percentage represented. Proportions less than 15% are not indicated.
Importantly, clients may not distinguish between qualified and unqualified practitioners (De Zoysa et al. 1998).

Despite the negative publicity that government health facilities have received (Gupta and Dasgupta 2000, Barua 2005, De Costa and Diwan 2007), our findings show that the public sector is still an important health-care provider. Utilisation of municipal hospitals and maternity homes was higher in areas where they were more easily accessible and provided the necessary level of care. Similar research in another low-income area of Mumbai reported that choice of health-care provider was mediated by accessibility, affordability and quality of services, and that a shortfall in the availability of public facilities left some with no option other than to seek private care (Dilip and Duggal 2004). The demand for health-care services for Mumbai’s expanding population exceeds the supply of public-health infrastructure – a fact acknowledged by the city’s municipal administration (MCGM 2005) – and it is plausible that a corresponding increase in the number of peripheral public facilities would result in greater utilisation (Dilip and Duggal 2004). Despite their easy access, we think that the underutilisation of community-based primary health facilities is largely attributable to their limited services and personnel, poor perceptions of quality and the tendency to seek antenatal and delivery care with the same provider. Conversely, the greater use of larger municipal hospitals exacerbates the problems of crowded outpatient departments, queuing, shorter consultation times and the loss of time that results from travelling further from home. These very factors dissuade people from seeking care in a sector that exists to serve them.

When faced with a health problem during pregnancy, women did not seem to face major barriers to accessing care. Rather than waiting for their next antenatal consultation, most consulted a health provider and received treatment within 2 days. Few were referred to another provider. While this may be due to a poor referral system (Barua 2005), or women’s reluctance to accept referrals (De Zoysa et al. 1998), we propose that most families’ care-seeking choices are based on rational decisions about health problems in pregnancy, and that they can usually access the necessary resources to seek care (Matthews et al. 2005). Furthermore, they are able to navigate a complex health system that comprises multiple sources and types of medical care.

Our findings suggest that the urban poor recognise symptoms of obstetric complications and understand the need for health care. This is a good thing, particularly in the event of serious illness. However, more than 80% of women sought care for non-life-threatening conditions such as tiredness and backache. We are not in a position to judge this, but it seems likely that it reflects a broader picture of care-seeking for all illnesses. We think that the propensity to choose institutional care over self-treatment may reflect acculturation to life in a megacity such as Mumbai, a process which might be termed ‘modernisation through migration’ (Basu 1990). An important question arising from the study is whether the proliferation of private health-care providers in poor urban areas contributes to the medicalisation of pregnancy. We plan to explore this possibility in future qualitative research with private providers.

That women in Mumbai’s urban slums are able to choose from a wide range of health-care providers and that utilisation is high is encouraging. However, access to public facilities is uneven and whether high levels of care-seeking result in better health outcomes are matters for debate (Das et al. 2008). Seeking care for minor
illnesses that could successfully be treated without recourse to a health practitioner places additional financial and social burdens on the poorest and can delay treatment of those with more urgent conditions. Conversely, the main reasons for not seeking care suggest that at least some women do not recognise the danger signs of problems during pregnancy, or do not have sufficient mobility or social support to enable them to visit a health provider. In this respect, we are currently conducting a study to quantify women’s agency and its effect on care-seeking behaviour, and we have been working with women’s groups to improve maternal and newborn health practices and encourage appropriate health-care seeking (Shah More et al. 2008). The important role that private providers play in the provision of health care for the urban poor needs greater recognition, and ways in which the private and public sectors might collaborate merit investigation. Further research is needed on provider activities and behaviour to facilitate effective regulation and improve quality of care. How and why expectant mothers and their families make their care-seeking choices in urban slums, where multiple providers and levels of care coexist, also require more detailed investigation.

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