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**Gendered health systems biased against maternal survival:
preliminary findings from Koppal, Karnataka, India**

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The authors belong to a research team from the Indian Institute of Management Bangalore (IIMB). They collaborate with Mahila Samakhya Karnataka, a government programme for the empowerment of women, and the Department of Health and Family Welfare Services, Government of Karnataka, in the Gender and Health Equity Project, which is funded by SIDA and the MacArthur, Rockefeller and Ford Foundations. Their work is part of the Gender and Health Equity Network, coordinated by IDS (www.ids.ac.uk/ghen).

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Summary

In this paper we outline the context of pregnant women's lives and the plural health systems they encounter in Koppal, the most deprived district in the state of Karnataka, south India. We combine preliminary survey findings with qualitative work to illustrate the dynamics involved in seeking and receiving obstetric care. Despite high levels of poverty and scarce resources supporting primary health care in the region, women with obstetric complications do access a range of health providers. Yet they still die. Although addressing the technical and managerial capacity constraints to ensuring equitable access to emergency obstetric care is essential, we argue that maternal well-being and survival cannot be effectively ensured without confronting the gender biases that also constrain health systems from supporting women's health and saving women's lives. We analyse these biases as failures in acknowledgement and accountability for pregnant women's needs and conclude with strategic steps to effectively respond to the situation that encompass technical, managerial and political action.

Keywords: maternal health, maternal mortality, plural health systems, gender bias, acknowledgement, accountability.

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Contributors

Asha George conceived of and drafted the paper following discussions with Aditi Iyer and Gita Sen. Asha George drew from data collected during her doctoral research fieldwork (qualitative case studies, qualitative research on government service delivery), as well as from fieldwork undertaken with Aditi Iyer (household and provider surveys).

1 Introduction

Behind every death in pregnancy and childbirth is a personal tragedy. That tragedy can be understood and approached in many different ways. It is a biological or medical event. It is a health system malfunction. Sometimes it is a family or community responsibility. When multiplied many times over – nearly once every minute – then it is also a social injustice of massive proportions. When framed by its social profile . . . then it is also a collective badge of shame.

(Freedman 2001)

Reducing maternal mortality is the fifth Millennium Development Goal (MDG) and one of three MDGs focusing on health. Apart from being a health indicator, maternal mortality also serves as a striking marker of social inequality, revealing one of the greatest public health disparities between developed and developing countries (Maine 2001). The scale and character of the inequalities that maternal mortality represents is tragic, but more so when one realises the senseless nature of these women's deaths, as they are nearly all avoidable.

Since 1987/88 when the Safe Motherhood Initiative¹ and the Call to Women for Action to Prevent Maternal Mortality² was made, considerable information has been generated leading to a broad consensus on the nature of the problem and the actions required (Ravindran and Berer 1999). It is no longer adequate to just focus on risk profiling through antenatal care. The availability of emergency obstetric care must also be ensured, as most complications are unpredicted (Maine 1991, 1999). In addition to ensuring viable health services to prevent deaths due to unexpected complications, achieving safe motherhood also means addressing gender inequalities and protecting women's reproductive rights (Sen *et al.* forthcoming). Strengthening health systems and improving women's status necessitate a broad vision, followed with commitments in terms of policies, programmes and funding. At the same time, immediate, focused changes are essential and urgent to enable health systems to respond to the needs of pregnant women who continue to die needlessly (UN Millennium Project 2005; WHO 2005).

In this paper we present preliminary survey findings that outline the context of pregnant women's lives and the plural health systems they encounter in Koppal, the most deprived district in the state of Karnataka, south India. We then illustrate the dynamics of seeking and receiving obstetric care by using case studies based on qualitative enquiries. Our work highlights how addressing persistently high levels of maternal mortality is not just a matter of resolving the technical and managerial capacity constraints to ensuring emergency obstetric services, but also one of addressing gender biases manifested by a lack of acknowledgement of and accountability for pregnant women's needs. We conclude with strategic steps to effectively respond to the situation that encompass technical, managerial and political action.

¹ Launched by a consortium of UN agencies, governments, donors and large NGOs in Nairobi, Kenya.

2 Methodology

Our research is undertaken within the context of a collaborative project with a village-based women's empowerment programme, Mahila Samakhya Karnataka (MSK) and the Department of Health and Family Welfare Services, Government of Karnataka. Based on the 60 villages that MSK chose to spearhead community level interventions to improve gender and health outcomes, the research team undertook a household survey in 2002, a private health provider census in 2004 and qualitative research into the nature of government service delivery for primary health care in 2004.

The household survey assessed individual and household level socio-economic status, gender and health awareness, health care utilisation and expenditure for self-reported morbidity and pregnancy. A 12.5 per cent sample was selected in a circular systematic fashion with equal probability after a random start from a sampling frame that stratified households by Primary Health Centre (PHC) affiliation, caste and class (measured as average per capita monthly consumption expenditure). Information about caste and class was obtained from a household census conducted five months before the survey. Locally recruited male-female pairs interviewed household heads and other household members under the supervision of the research team and retired staff from the National Sample Survey Organisation. Among the 1920 households interviewed, information was collected on 12,328 individuals, which included 2,680 sick people and 538 pregnant women who had 334 live births.

A corresponding private health provider census was undertaken in the project villages, as well as in the surrounding larger villages and towns within the district. Information was collected about the characteristics of traditional birth attendants, spiritual and traditional healers, provision stores selling tablets, private doctors, rural medical practitioners (RMPs),³ medical stores and laboratories. Locally recruited interviewers undertook the census under the supervision of the research team. 548 health providers were interviewed in the project villages where MSK interventions were being undertaken and a remaining 262 in the surrounding 11 villages and larger commercial towns.

Concurrent to the private health provider census, qualitative research examining government service delivery was carried out. This consisted of semi-structured interviews undertaken with 13 medical officers providing clinical services, 13 programme officers in charge of supervision at the District Health Office, 3 senior district officials and 9 state health department officials. Structured closed and open ended interviews with 33 female health assistants (Auxiliary Nurse Midwives (ANMs) and Lady Health Visitors), 18 male health assistants (Male Health Workers (MHWs), 4 lab technicians, 3 nurses and 2 block health educators were undertaken by survey investigators. This interview data is complimented by participant

² Launched by the Women's Global Network for Reproductive Rights and the Latin American and Caribbean Women's Health Network in San José, Costa Rica.

³ RMPs stands for rural medical practitioners. They are also called registered medical practitioners, although the Medical Council of India stopped registering them in 1954. They are men who practice allopathy with no formal medical qualifications.

observation of government service delivery (outpatient clinics, antenatal care (ANC) clinics, pulse polio efforts, tubectomy camps) and supervision efforts (PHC, sectoral, *taluka* and district level health department meetings, as well as field visits by programme officers).

Lastly while living in Koppal, we documented the experiences of 12 women with obstetric complications, 9 of whom died despite seeking care from health providers from primarily one *taluka*. These case studies resulted from impromptu investigations aimed at improving local service delivery during April–August 2004. Our attention to the maternal deaths happening around us led to further joint investigations with a *Taluka* Health Officer (THO). Time was spent supporting government review efforts by observing supervisory meetings and accompanying the THO while he interviewed families and health providers about the circumstances of each woman’s ordeal. We also interviewed health providers, family members and project staff independently of the THO.

Our enquiries were neither part of a study on women’s access to obstetric services nor a study on maternal mortality. Nonetheless our findings provide compelling information that illustrate how women in need of obstetric services are failed by plural, unregulated health systems in Koppal. Our findings were corroborated with the THO and with a private gynaecologist in Bangalore, before an analytical summary was circulated to decision makers.

3 Placing Karnataka and Koppal in context

Karnataka with its population of 52 million accounts for a little over 5 per cent of the population of India (GOI 2001). Although it is part of the more developed southern part of India, its social indicators are only just above the national average, and it trails behind its more advanced southern neighbours, Kerala and Tamil Nadu, as shown in the following three tables.

Table 3.1 Comparative health and development indicators

	Per capita gross domestic product Rs current prices 2001/02	Poverty headcount ratio 1999/2000	Infant mortality rate 1994–1998	U5 mortality rate 1994–1998	Maternal mortality rate 1995 (per 100,000)	Percentage of children U3 stunted 1998/99
All India	20,164	22.7	67.6	94.9	453	45.5
Kerala	23,324	9.9	16.3	18.8	87	21.9
Tamil Nadu	23,805	19.8	48.2	63.3	376	29.4
Karnataka	22,612	25.1	51.5	69.8	450	36.6
Andhra Pradesh	19,528	21.7	65.8	85.5	436	38.6

Source: RBI as cited by World Bank (2005), Deaton and Dreze (2002), IIPS and ORC Macro (2001), UNICEF (1995).

Table 3.2 Comparative health service coverage and expenditure indicators

	% Children receiving all vaccinations (1-3y) 1998/99	% Pregnant women receiving at least 1 ante-natal checkup 1998/99	% Institutional deliveries 1998/99	% Births attended by health professional 1998/99	% PHCs providing medical termination of pregnancy 1999	Per capita annual public health expenditure Rs.	Public health expenditure as % of gross state domestic product
All India	42.0	65.4	33.6	42.3	3	84	0.9
Kerala	79.7	98.8	93.0	94.0	4	111	1.8
Tamil Nadu	88.8	98.5	79.3	83.8	2	100	1.4
Karnataka	60.0	86.3	51.1	59.1	8	93	0.9
Andhra Pradesh	58.7	92.7	49.8	65.2	2	66	1.0

Source: IIPS and ORC Macro (2001), IIPS (2001), Public Expenditure Review (2004).

Table 3.3 Comparative government primary health centre service delivery indicators

	% PHCs having		% PHCs having functional		% PHCs having some stock on the day of the survey	
	Normal delivery kit 1999	Emergency obstetric care drug kit 1999	Suction aspirator for medical termination of pregnancy 1999	Labour room, table and equipment 1999	Iron folic acid (small) 1999	Tetanus toxoid 1999
All India	46	21	16	53	40	12
Kerala	11	1	8	29	77	75
Tamil Nadu	85	60	17	49	25	90
Karnataka	52	26	13	62	52	67
Andhra Pradesh	45	6	15	73	29	93

Source: IIPS (2001).

One reason for Karnataka's lack of progress are the gross regional inequalities within it that have a historical origin. The present Karnataka state was formed in 1956 by combining Kannada language districts from the then states of Madras, Hyderabad, Bombay and Coorg with the former princely state of Mysore. As was true in other parts of India (e.g. Kerala), the area under the princely state of Mysore was better on social and economic indicators at independence than the districts that had been under direct colonial rule. These differences have persisted after independence as noted by the Nanjundappa Committee's Report (GOK 2004).

Koppal, carved out of Raichur district in 1997, is a dry district with four *talukas* (sub-districts), a population of 1.193 million and an overall literacy rate of 55 per cent (IIPS forthcoming). The majority (61.1 per cent) of households in Koppal have a low standard of living and primarily (84.4 per cent) live in rural areas (IIPS forthcoming). As a part of the disadvantaged, northern region of Karnataka, poverty in Koppal combines with high levels of illiteracy, inadequate diets, recurring fatigue and illness. Most poor

people struggle to survive on daily wage hard labour combined with seasonal migration amidst periodic drought. Resources are biased along adverse caste hierarchies and gender norms. Services are primarily found in urban areas and are often of poor quality. Although a high proportion of households in rural Koppal have electricity (73.4 per cent), fewer get water from a tap (58.8 per cent), only 10.2 per cent have a toilet facility and 3.9 per cent use liquid petroleum gas or electricity for cooking as the majority (94.8 per cent) rely on wood (IIPS forthcoming).

The Karnataka Human Development Report ranks Koppal at the bottom of all districts (Government of Karnataka 1999). Although not uniformly the lowest on all the indicators shown in Table 3.4, this is cold comfort since it lies fairly close to the worst levels for all.

3.1 Pregnant women's lives

For women in Koppal in addition to a life of hardship shared with poor men, gendered forms of power combine with domination exercised on the basis of age. Women are married into their in-laws' households while very young, making it harder for them to contest a life ruled by curtailed autonomy and domestic violence. Overall in Koppal, 51.4 per cent of girls are married before they are 18 and in rural Koppal 84.3 per cent of girls under 18 start cohabiting with their husband's families (IIPS forthcoming). In our household survey, almost two thirds of pregnant women (65 per cent) were married before they reached 18. More than half of these minors (56 per cent) were married before they were 15 and 19 per cent before they were 12.

Once married there is tremendous pressure to bear children, especially sons. From our survey, pregnant women currently aged 14–19 were married at the median age of 14 and already had a median of 1 pregnancy (Table 3.5). The health implications of having closely spaced pregnancies at a young age, only further exacerbate existing malnutrition, anaemia and the risks of future maternal morbidity and mortality.

The most prevalent form of family planning practiced is that of female sterilisation (95.6 per cent), but only after family norms have been achieved. The practical non-use of spacing methods (0.7 per cent IUD/loop, 0.3 per cent pills) means that younger women are not able to use contraception. Only 6 per cent of married women aged 15–19, 31.4 per cent of married women aged 20–24, and 47.5 per cent of married women aged 25–29 were using modern methods of contraception, mainly sterilisation. Many women (68.2 per cent) waited until they had 3 or more children before using contraception. Those with no surviving sons were much less likely to be using any modern methods of contraception (6.8 per cent) compared to women who had no surviving daughters (19.4 per cent) (IIPS forthcoming).

Table 3.4 District-wise selected key indicators of Karnataka

Districts	% Female literacy	% Girls married below 18 years	% Current users of FP method	Birth order 3 and above %	% Safe delivery	% Complete immunisation	% Composite index	Per capita ZP health expenditure Rs. 2002-3	Regions
Districts with good performance									
Hassan	59.32	15.20	75.10	19.70	69.70	92.80	81.55	73	Old Mysore
Shimoga	67.24	16.50	69.30	22.80	83.00	92.90	80.37	75	Old Mysore
Kodagu	72.53	22.00	70.60	18.80	79.40	94.80	80.06	92	Old Mysore
Dakshina Kannada	77.39	4.50	63.70	32.00	91.50	86.00	78.77	48	Old Mysore
Uttar Kannada	68.48	15.00	66.00	27.20	86.10	89.90	76.11	84	B'bay K'taka
Udupi	74.02	4.50	63.70	32.00	91.50	86.00	75.97	51	Old Mysore
Districts with average performance									
Mandya	51.62	37.00	71.70	26.10	61.90	88.00	75.86	73	Old Mysore
Mysore	55.81	47.90	65.40	23.90	69.70	92.70	75.70	60	Old Mysore
Bangalore Rural	78.98	21.05	63.00	16.40	79.10	83.70	75.34	52	Old Mysore
Bangalore Urban	78.98	37.00	60.10	26.10	90.60	77.00	75.19	13	Old Mysore
Chitradurga	54.62	30.05	59.90	34.40	53.80	88.40	73.98	80	Old Mysore
Tumkur	57.18	27.10	61.30	27.30	63.50	88.00	73.97	45	Old Mysore
Dharwad	62.20	36.50	61.20	37.40	65.30	74.80	73.03	35	B'bay K'taka
Chamraj Nagar	43.02	47.90	65.40	23.90	69.70	92.70	72.18	47	Old Mysore
Chikkamagalur	64.47	37.00	71.40	26.10	78.00	83.50	72.13	103	Old Mysore
Kolar	52.81	33.50	57.10	29.70	59.20	90.60	71.92	56	Old Mysore
Gadag	52.58	36.50	61.20	37.40	65.30	74.80	69.72	52	B'bay K'taka
Belgaum	52.53	55.80	61.80	36.70	68.60	64.80	68.75	38	B'bay K'taka
Haveri	57.60	36.50	61.20	37.40	65.30	74.80	65.66	55	B'bay K'taka
Districts with poor performance									
Bellary	46.16	44.20	50.40	48.60	54.00	52.60	65.54	51	H'bad K'taka
Davangere	58.45	35.50	59.90	34.40	53.80	53.80	65.43	56	Old Mysore
Bijapur	46.19	64.80	47.10	43.00	50.10	53.20	62.86	45	B'bay K'taka
Bidar	50.01	67.60	50.60	52.90	52.50	50.30	60.55	61	H'bad K'taka
Raichur	36.84	57.10	45.40	52.80	48.00	37.20	58.34	35	H'bad K'taka
Gulbarga	38.40	47.70	39.20	53.70	47.70	25.30	58.31	51	H'bad K'taka
Bagalkot	44.10	64.80	47.10	43.00	50.10	53.20	54.71	55	B'bay K'taka
Koppal	40.76	57.10	45.40	52.80	48.00	37.20	53.09	41	H'bad K'taka

Source: GOK (2003: 10), Public Expenditure Review (2004).

Notes: B'bay K'taka is an abbreviation for Bombay Karnataka

H'bad K'taka is an abbreviation for Hyderabad Karnataka

Apart from son preference, high fertility in northern Karnataka (Sekher *et al.* 2001), is also desired by the poor to counter high neonatal and infant mortality with the trade off being women's reproductive well being. It is not considered unusual for a woman to lose children or have repeated stillbirths, miscarriages or abortions. The reasoning is that if a pregnancy or child is lost, a woman can always get pregnant again with little additional expense (Umamani and Yogananda 2003).

Table 3.5 Marriage and fertility patterns by age groups of pregnant women

Age intervals		Age at marriage	Total number of pregnancies	Number of children	Number of living sons
14 to 19 years	Median	14.00	1.00	1.00	0.00
	Minimum	1	1	0	0
	Maximum	18	5	3	2
20 to 21 years	Median	16.00	2.00	1.00	1.00
	Minimum	2	1	0	0
	Maximum	20	5	4	3+
22 to 24 years	Median	17.00	3.00	2.00	1.00
	Minimum	1	1	0	0
	Maximum	22	7	5	3+
25 to 27 years	Median	18.00	3.00	2.00	1.00
	Minimum	7	1	0	0
	Maximum	26	8	6	3+
28 years and over	Median	16.00	5.00	4.00	2.00
	Minimum	3	1	0	0
	Maximum	27	17	10	3+
Total	Median	16.00	2.00	2.00	1.00
	Minimum	1	1	0	0
	Maximum	27	17	10	3+

Source: Karnataka GHE Household Survey Data (2002).

Yet the consequences for women's health are not benign, especially considering existing levels of reproductive morbidity. A prospective study in southern Karnataka among mothers with young children found that 26 per cent episodes of illness were related to reproductive health. When the episodes were restricted to severe illness, reproductive ill health accounted for 48 per cent of all episodes. Most striking was that genitourinary conditions were the longest (median duration of 46.7 days), the most expensive compared to other health conditions and the leading condition for which no action was taken (30 per cent no action taken) (Bhatia and Cleland 2001 a and b).

Low health care seeking despite significant levels of self-reported reproductive morbidity among women is also demonstrated by the RCH survey data. 17 per cent and 18.1 per cent of currently married

rural women in Koppal reported having at least one menstruation related problem and any abnormal vaginal discharge, but only 48.2 per cent and 30.4 per cent sought treatment. In contrast although only 4.2 per cent of rural men reported having at least one symptom of reproductive tract or sexually transmitted infections, 76.8 per cent sought treatment (IIPS forthcoming). Due to stigma, the tendency for women to be more asymptomatic than men for reproductive tract infections, as well as the normalisation of symptoms by women, the actual prevalence of gynaecological symptoms is likely to be higher than what is self-reported by women and the levels of treatment seeking lower among women than for men.

In addition to underlying reproductive morbidity, each pregnancy entails significant risks of morbidity. A cross-sectional survey in southern Karnataka found that about 40 per cent of women reported at least one morbid condition associated with their last pregnancy (18 per cent antenatal, 8 per cent delivery, 23 per cent postnatal) (Bhatia and Cleland 1996). A prospective study in rural Maharashtra documented maternal morbidity in 53 per cent of women under observation during and after delivery (18 per cent during labour and 43 per cent after delivery). 15 per cent of women had acute complications and required emergency obstetric care for primary post-partum haemorrhage, retained placenta, prolonged labour and fits, while 24 per cent required non-emergency medical attention for abnormal presentation of a fetus, puerperal infection, psychosis, secondary post partum hemorrhage and breast problems with fever (Bang *et al.* 2004).

The risks to women of maternal mortality and morbidity are undervalued and so are its direct links to neonatal well-being and survival. Low birth weight, a leading cause of neonatal mortality, is linked to maternal nutrition and well-being (Sen *et al.* forthcoming). Furthermore maternal complications like abnormal presentation, breast problems, puerperal infection, psychosis and fits are associated with adverse perinatal outcomes (Bang *et al.* 2004). Lastly infants who survive maternal deaths are less likely to live than those whose mothers are alive.

Such risks to women's and newborn health are further endangered by the hazards of poverty. In Andhra Pradesh, all of the women dying from pregnancy and obstetric complications were reported to have been working for subsistence reasons (mostly agriculture or labourers). None of them were exclusively engaged in housework. In contrast 37 per cent of the women who had complications but survived were housewives and 27 per cent of women with normal deliveries were housewives and did not work outside the home (ANS 2001). In Tamil Nadu, many women who had uterine prolapse ascribed their condition to heavy manual labour within a week or fortnight following delivery, possibly explaining why the mean age for developing symptoms at 26 years was much younger than usual (Ravindran *et al.* 1999). In southern Karnataka, women continued to undertake strenuous work until late in their pregnancy (Mathews *et al.* 2001). When pregnant and postnatal women are forced to do heavy manual labour in order to survive, health education messages asking them to take rest while pregnant have little relevance to the hardship of their lives.

Yet the reality of women's lives in Koppal does not mean a total neglect of their health or an absence of health seeking behaviour while pregnant. Some even travel to larger towns to consult private nursing homes for ANC and undergo scanning. Although sonography or an ultrasound is rare among the

disadvantaged (14.2 per cent rural, 8 per cent illiterate and 9.5 per cent for low standard of living), a significant proportion of those who are more privileged access such high levels of technology (34.3 per cent urban, 53.5 per cent with education of 10 years and more, 42.6 per cent with high standards of living). Those who only have one child ever born are also more likely to have a scan (35.7 per cent) rather than those who have more than 3 children ever born (9.3 per cent) (IIPS forthcoming).

A large proportion (81.1 per cent) of pregnant women receive at least one antenatal check-up, but the quality of this check up is usually not satisfactory as only 24.4 per cent received a full antenatal check-up (3 visits, 100+ IFA tablets and at least one TT injection). Most ANC is provided by a doctor (60.4 per cent), rather than by an ANM/ LHV (20.9 per cent). Only 13.4 per cent is delivered to women at their home (IIPS forthcoming). Hence in Koppal, it is a service that women access primarily at a health facility, rather than through outreach efforts or home visits. It is also an area where government services continue to play a significant role, especially for the less privileged. Although 46.6 per cent of women in Koppal used a private health provider for ANC, most of these women were urban (69.3 per cent) rather than rural (40.5 per cent) (IIPS forthcoming). In our household survey while 53.4 per cent of illiterate women sought their medical checkups during pregnancy from government services, only 9.1 per cent of women with 10 years or more years of education did so.

Once the baby is delivered, very little attention is paid to the health of the mother. We found that household expenditures increase after delivery, but this expenditure is for the naming ceremony of the child and very little is spent on the mother's health or nutrition. In southern Karnataka, postnatal health checkups focused primarily on counselling for immunisation and contraception. After excluding contacts that focused on tubectomy, it was found that 42 per cent of women had no postnatal health contact (Kilaru *et al.* 2004). Although 32.2 per cent of women in Koppal reported receiving a medical check up within two weeks of having of giving birth (IIPS forthcoming), in our household survey only 11 per cent of normal deliveries were followed by a health check up. The corresponding figure for health check ups after deliveries with life threatening complications during labour and / or postnatal complications rises, but is still only 34 per cent.

When women's health is so poorly valued by families and women themselves internalise this low priority, it is not surprising that families in Koppal are unprepared for obstetric emergencies. Yet once an extreme emergency occurs and the urgency of the complications are recognised, families mobilise funds and transport to access higher levels of care. In all of the 12 case studies we documented, families did take women to health providers, sometimes even out of the district at great cost.

3.2 Village level health providers

Who are the health providers most readily available to respond to the needs of pregnant women living in the rural villages of Koppal? A large number of informal providers ranging from spiritual and traditional healers, shopkeepers selling tonics and tablets, traditional birth attendants and RMPs exist at the village level. Our private health provider census interviewed 548 providers working in the 60 villages involved in the project covering a population of about 82,000 people. This included 33 spiritual healers, 135

traditional healers, 178 traditional birth attendants, 45 RMPs, 1 qualified Ayurvedic doctor, 2 qualified Homeopathic doctors, 152 provision stores and 2 medical shops. The 4 largest commercial towns surrounding the project area, including the district capital, accounted for 89 per cent of 45 private doctors,⁴ 84 per cent of the 70 medical shops and all the 8 laboratories interviewed through our census. Although there are a few private specialists in the largest towns, the rural reality of Koppal is defined by a health care market dominated by informal providers, where women have no qualified providers in the private sector who can handle obstetric complications.

The lack of qualified alternatives at the village level is reflected in health seeking behaviour during delivery. In terms of assistance during childbirth, according to our household survey the main provider who helped women during normal deliveries were: traditional birth attendants 60 per cent, RMPs/ private doctors 14.3 per cent, relatives 17.7 per cent, auxiliary nurse midwives (ANMs) / lady health visitors (LHVs) 5.5 per cent and government doctors 0 per cent. When there was a life threatening complication during labour some women did seek more “skilled” providers by turning to RMPs / private doctors 25.8 per cent and government doctors 7.7 per cent. Nonetheless 44.8 per cent of women with complications still sought the help of traditional birth attendants as a main provider. Although a plural market of health providers exist, the choice of traditional birth attendants even when faced with life threatening complications, reflects a forced trade-off among poor alternatives.

Apart from their dominant role in assisting women during delivery, traditional birth attendants, unlike other health providers, play an important role in cleaning, massaging and bathing both mother and child for several days after delivery. Traditional birth attendants also take ritual care of the placenta. They are trusted and familiar village level confidantes, who assist women with home deliveries in the squatting positions to which women are accustomed.

Table 3.6 Main person conducting normal vs complicated deliveries

Person conducting the delivery	Whether there was a complication during labour		
	No	Yes	Difference
<i>Dai</i> (traditional birth attendant)	60.2%	44.8%	-15.4
ANM/LHV	5.5%	7.7%	+2.2
Private doctor/RMP	14.3%	25.8%	+11.4
Government doctor	0.0%	7.7%	+7.7
Relative	17.7%	10.3%	-7.4
Other	1.5%	3.7%	+2.2
Don't know	0.7%	0.0%	
Total	100.0%	100.0%	

Source: Karnataka GHE Household Survey Data (2002).

⁴ This includes those who reported holding a BDS (Dental), BAMS (Ayurvedic), BUMS (Unani), BHMS (Homeopathic) or MBBS (Allopathic) degree. Out of 45 private doctors, only 14 (31 per cent) were MBBS.

Table 3.7 Place of delivery for normal vs complicated deliveries

Place where delivery took place	Whether there was a complication during labour		
	No	Yes	Difference
Home	94.8%	83.3%	-11.5
Government subcentre	0.4%	0.0%	-0.4
PHC	1.3%	5.1%	3.9
CHC	0.4%	0.0%	-0.4
Government hospital	0.0%	6.4%	6.4
Private nursing home/ hospital	2.7%	5.1%	2.5
Don't know	0.4%	0.0%	
No response	0.0%	0.0%	
Total	100.0%	100.0%	

Source: Karnataka GHE Household Survey Data (2002).

Yet despite being so responsive to women's needs, it is a concern that only 36 per cent of traditional birth attendants reported following 4 of the 5 "cleans" during their narratives about the normal deliveries they assist. The five cleans (clean place, hand, thread, blade and cord) are a critical message imparted to traditional birth attendants and to community groups working on maternal and child health issues. Only 44 per cent of traditional birth attendants mentioned clean place, 49 per cent clean hand, 93 per cent clean thread and 97 per cent clean blade.⁵ The use of thread and blades to cut the umbilical cord occurred independently of whether traditional birth attendants received training, but cleanliness was not always understood as sterile.

Gender discrimination plays a role in constraining the professionalisation of traditional birth attendants, as their families are not always supportive of their work or of training opportunities. Furthermore the services they provide do not form the basis of their livelihood as they do not claim fees, but receive customary payments of clothing and agricultural produce for their work.

Unlike traditional birth attendants, RMPs are less involved in the time-consuming work of assisting women during the long hours of delivery and the hard work of caring for mothers, their babies and placentas after birth. Yet RMPs are more literate and command more social status than traditional birth attendants. RMPs are perceived by communities to be much more responsive than government health providers, although they have fewer qualifications (or none at all). Unlike government health providers they will make house visits regardless of the time of day, live in the village and can always be relied upon to provide injections and tablets. Indeed prior to and after delivery an RMP's primary role is to provide oxytocin, tetanus toxoid and vitamin B injections. 93.7 per cent of RMPs in our provider census stated that they administered injections for normal deliveries. The irrational use of oxytocin, especially in injection form as documented later in the paper, can lead to a higher risk of uterine rupture. Higher fetal

⁵ The fifth clean is clean cord, of which analysis is still ongoing.

distress and maternal morbidity can also be expected (Dujardin *et al.* 1995; Ellis *et al.* 2000). In addition to providing and charging for injections, our qualitative case studies indicate that RMPs also seem to play an important role in mediating access to health care for poor, often illiterate women with obstetric complications, unfamiliar with larger towns and formal health care institutions. Nonetheless in our provider survey 79.1 per cent of RMPs said they do not assist women with delivery complications.

3.3 Government health service delivery

The Karnataka Government has established an extensive network of health facilities structured according to a hierarchy of services based in theory on population norms.⁶ At the primary level the network starts with sub-centres manned by junior health assistants (previously known as auxiliary nurse midwives (ANMs) and male health workers (MHWs)) that function under primary health care centres (PHCs) with at least one doctor. Government health assistants and doctors are in fact the only providers qualified to provide allopathic medicine at the village level in rural Koppal. Their work is supported by community health centres (CHCs) where in theory specialists are based. All these primary level facilities are supported by secondary hospitals at the *taluka* level and by the district hospital for tertiary care.

Facilities have proliferated due to the preference of elected representatives for sanctioning PHCs and hospitals in their own constituencies and due to the availability of budget lines for infrastructural development. Several PHCs had new labour rooms constructed with funding from the Reproductive and Child Health programme and foreign funding supported infrastructural improvements of secondary level hospitals with the aim of improving referral.

In Koppal, this investment in infrastructure has not translated into comprehensive emergency obstetric care as none of the higher-level government facilities have all the required specialists or critical supplies. Neither policy makers nor implementers have addressed the lack of technical inputs for emergency obstetric care (including abortion) by ensuring the availability of surgeons, anaesthetists, gynaecologists, upgrading the emergency skills of existing personnel or ensuring their access to critical supplies such as blood, anti-epileptic and haemorrhage drugs (Mavalankar 2003 and Box 3.1).

Even if the logistics of ensuring emergency obstetric care through appropriate inputs, supplies and staffing were addressed there still remain large managerial barriers to improving the effectiveness of maternal health care services. A key contribution of the Karnataka Task Force on Health and Family Welfare was to highlight the need to address vacancies at the primary health care level (GOK 2001). Medical officers, lab technicians, nurses and male junior health assistants (MHWs) were recruited within the district on a contract basis, while junior female health assistants (ANMs) were selected for training and recruitment at the state level. Although staff postings are biased against equity considerations through corruption, vacancies in primary health care service delivery in Koppal have substantially reduced.

⁶ Subcentres, PHCs and CHS are supposed to cover populations of 5,000, 30,000 and 100,000 respectively. In 2001, subcentres and PHCs in Karnataka were catering to smaller populations on average than specified by national norms: 4,285 and 20,817 people respectively, but CHCs were dealing with larger population loads: 140,117 people (GOI 2004). In Koppal, subcentres cater to more than their population norms.

Box 3.1 UN process indicators for Koppal district

UN standards: For every 500,000 people at least 4 Basic Emergency Obstetric Care (EOC) and at least 1 Comprehensive EOC facility.

Koppal standards: For 1,300,000 people there are no Basic EOC and no Comprehensive EOC facilities.

Basic EOC

Intravenous antibiotics, oxytocic drugs and **anti-convulsants**

Manual removal of placenta

Removal of retained products of conception (Safe abortion / Manual Vacuum Aspiration)

Assisted vaginal delivery

Comprehensive Emergency Obstetric Care (EOC)

Basic EOC

Blood transfusions

Surgery

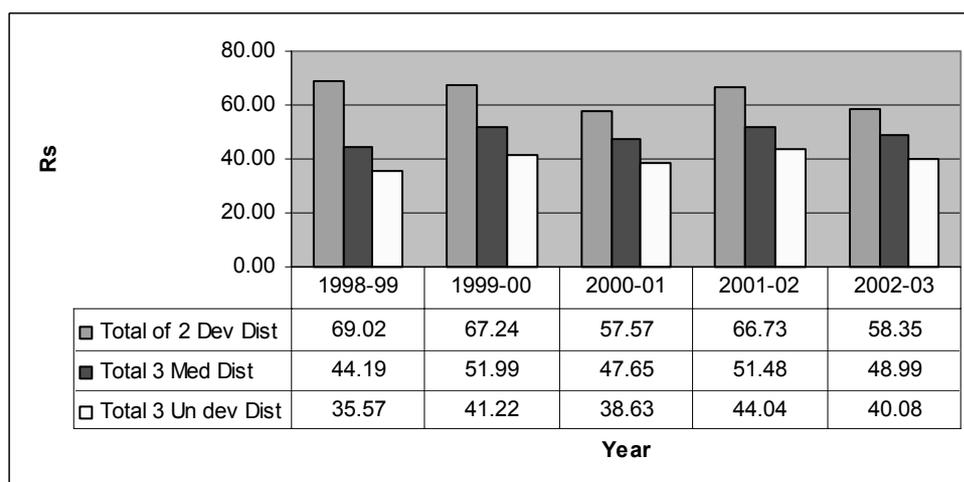
Items in bold were missing during the time of our research in Koppal

Vacancies have existed not just because of bureaucratic inertia, but also because of critical constraints in budgetary levels and allocations. A high proportion of government expenditure is on salaries (approximately 70 per cent) while other key inputs or components of service delivery, such as drugs, maintenance and other operational expenses are severely under-funded (World Bank 2005).

Over the last 5 years the total state budget for health and family welfare increased at a rate of 7.7 per cent annually, but this was not on par with increases in state expenditure. As a result, the share for health and family welfare in state expenditure decreased from 5.5 per cent in 1998–99 to 3.9 per cent in 2002–03 and as a proportion of gross state domestic product it was stagnant at approximately 1 per cent throughout the decade of the 1990s, declining to 0.85 per cent by 2003–04. On a per capita basis, this is equivalent to Rs.202.18 (US\$ 4.2) in 2002–03 (World Bank 2005). India, as a whole, ranks 13th from the bottom among all countries in terms of government expenditure on health (WHO 2000).

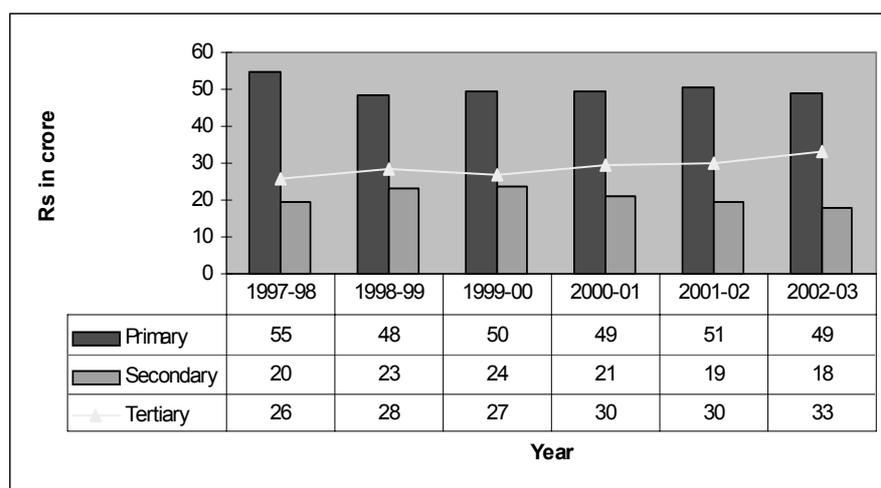
Moreover within declining commitments to health, decisions on the allocation of expenditure are skewed against equity considerations as they are often based on available inputs (World Bank 2005). As a result, more funds tend to reach urban and developed areas where more facilities and personnel are already in place, even though various government committees have made recommendations to redress existing urban and southern developmental biases. Government funding has begun to respond as shown by the slow increase of budgets in less developed areas and the decrease in budgets to more developed districts, but the bulk of funding still favours more developed southern districts (Figure 3.1). The state also increased the share allocated to tertiary care and urban services, while reducing its share for rural health services (Figure 3.2) (Public Expenditure Review 2004).

Figure 3.1 Per capita health expenditure in 1993–4 constant prices in 8 Districts



Source: Public Expenditure Review (2004).

Figure 3.2 Total health expenditure by levels of care (percentages)



Source: Public Expenditure Review (2004).

The central government proposed that each state should increase its spending on health and family welfare to 3 per cent of gross state domestic product and up to 7 per cent of state expenditure. Karnataka's Medium Term Fiscal Plan from 2004–05 to 2007–08 does anticipate an annual nominal rate of increase in health spending equal to 13 per cent and the 2005/06 budget announced an 18 per cent increase in the health (World Bank 2005). A critical factor in ensuring that these budget promises to health at the state level do translate into more resources for primary health care at the district level is the commitment of Zilla Panchayat elected members, who ultimately approve allocations between development sectors usually according to political expediency with very little technical guidance or public oversight.

Countering the inequitable biases in government spending and the inordinate risks involved in unorganised financing is a crucial challenge in improving health outcomes in Karnataka. In India, 82 per

cent of health spending is private, of which out of pocket forms a substantial majority (Peters *et al.* 2002) and the consequences for poor people are catastrophic. Only five countries in the world (Cambodia, the Democratic Republic of Congo, Georgia, Myanmar and Sierra Leone) have a more privatised form of health financing (WHO 2000). Insurance covers only about 8.6 per cent of Karnataka's population and often excludes maternal and child health care from its benefits (World Bank 2005). Although user charges instituted in CHCs upwards have to date contributed a miniscule proportion of state health resources, only 0.37 per cent in 2002–2003 (Public Expenditure Review 2004), the regressive effect on health care access is no doubt much higher. In the last decade those in rural Karnataka who could not access health care due to financial reasons increased from 15 per cent to 23 per cent according to National Sample Survey data. This is mirrored throughout the nation (Sen *et al.* 2002). Another estimate found that nearly 25 per cent of those hospitalised fell below the poverty line because of huge medical costs (World Bank 2001).

Addressing equity considerations stymied by the systemic problems identified by the Task Force (corruption, neglect of public health, distortions in primary health care, lack of equity, implementation gaps and weak ethical imperatives) requires strategic and sustained action. These cannot be addressed through managerial reforms alone. They require strategies to combat the political pressures that sustain such inequitable features of health systems. Political interference and corruption are by essence under-documented phenomena but administrators are under pressure to transfer personnel to particular posts, to not take disciplinary action against errant personnel and to turn a blind eye to bribes ranging from minor payments regarding standard reimbursements for travel or other programme costs to larger payments for supply contracts for equipment and drugs.

Within this besieged environment, improvements in maternal health have been difficult to sustain (Mavalankar and Reddy 1996; Mavalankar 1999). Safe motherhood efforts are inadequately implemented, reflecting a range of poorly integrated interventions that include registering pregnancies, limited antenatal services, practically no attention to postnatal care and training of traditional birth attendants with no support to maintain their skill base or integration into health services. On the ground in Koppal, reproductive and child health services are primarily reduced to an over-riding focus on immunisation, followed by an adherence to female sterilisation, and then some minimal components of antenatal care accompanied by rhetorical statements about identifying high-risk pregnancies and the need for institutional deliveries.

In our survey, ANMs listed immunisation as being the 1st and 2nd most important activities that they face pressure to implement, followed by family planning, with communicable diseases coming in last (Table 3.8). Very few ANMs mentioned ANC or reproductive and child health (RCH) and only one mentioned post natal care in particular. MHWs, similar to ANMs, also listed immunisation and family planning as the activities for which they faced most pressure, except that they were more likely to list vertical programmes for communicable diseases. Again ANC or the broader category of RCH were not listed as an activity for which MHWs faced much pressure.

Table 3.8 Activities for which health assistants face the most pressure to implement

Activity (consolidated list)	1 st most pressure		2 nd most pressure		3 rd most pressure		4 th most pressure	
	ANM N (32)	MHW N (16)	ANM N (31)	MHW N (16)	ANM N (29)	MHW N (14)	ANM N (19)	MHW N (11)
Family planning	15.6%	6.3%	29.0%	37.5%	44.8%	37.5%	26.3%	18.2%
Immunisation	59.4%	50.0%	41.9%	25.0%	13.8%	25.0%	15.8%	18.2%
RCH	6.3%	12.5%	6.5%	0.0%	6.9%	0.0%	0.0%	0.0%
ANC	9.4%	0.0%	9.7%	0.0%	10.3%	0.0%	15.8%	0.0%
Communicable diseases	9.4%	31.3%	12.9%	37.5%	24.1%	37.5%	42.1%	63.6%
Total %	100%	100%	100%	100%	100%	100%	100%	100%

Source: GHE Government Health Assistant Survey Data (2004).

While extraordinary efforts focus on immunisation drives or vertical programmes, regular outreach and integrated primary health care services are neglected. This skewed emphasis has direct consequences for sustaining improvements in health outcomes. Effective neo-natal and maternal health services cannot be organised on the model of immunisation drives or a vertical programme. Different risks are entailed, as a missed opportunity during an immunisation drive does not necessarily result in disease. Not addressing a neo-natal or obstetric complication however, most likely leads to fatality or severe morbidity. There are also different organisational challenges, as immunisation campaigns are largely preventive, one day camps or focused campaigns. In contrast addressing neo-natal and maternal health requires a range of social, preventive, curative and surgical care available on a routine basis and when unexpected complications arise in emergencies, 24 hours, 365 days a year (Mavalankar and Reddy 1996; Mavalankar 1999).

By its nature good maternal health requires the involvement of community level health providers, who will attend to other health conditions due to their general health training and due to community demand, as well as specialist medical skills. It needs to be based in a primary health care system that is integrated upwards into specialist secondary and tertiary services. It cannot exist as an *ad hoc*, under funded, haphazard arrangement of vertical programmes that separates preventive and curative care into different cadres and where private sector services are contracted by a crumbling public sector core (McCoy *et al.* 2004). In this sense the ability to effectively address neo-natal and maternal mortality is a litmus test for functioning and equitable health systems as a whole.

4 Iterative failures in seeking obstetric care in Koppal

In 1998 the main causes for maternal death for rural India were in order of priority: 24 per cent anaemia,⁷ 23 per cent bleeding in pregnancy and puerperium,⁸ 12 per cent abortion related deaths, 10 per cent

⁷ Anaemia is an indirect cause of maternal mortality, but it plays a critical role due to its high prevalence in India.

⁸ Puerperium is the period from the termination of labour until the complete involution of the uterus, normally perceived to be six weeks after delivery (Shankar 2000).

eclampsia and toxæmia, 10 per cent puerperal sepsis, 7 per cent malposition of child leading to death of the mother and 14 per cent unclassified symptoms (GOI, RGI 1998). These are the biomedical reasons why women die during pregnancy.⁹ This is also how the maternal death records filled out by the ANM would report these cases. However, they do not explain the multiple failures that impede women's access to effective care. These failures have been grouped by public health practitioners in terms of several key delays: delays in recognising complications and seeking care, delays in reaching appropriate health facilities and delays in receiving appropriate care once in health facilities (Thaddeus and Maine 1994; Ransom and Yinger 2002). The delays model maps a linear pathway, tracking time and decision making from families to health facilities.

Yet women's experiences in Koppal represent a more complicated reality. The case studies in Table 4.1 and in the Appendix demonstrate the considerable attempts made by women¹⁰ and their families to seek health care prior to and during delivery. Women access informally and formally qualified health providers, located in government and private services, both in and outside the district at multiple points of time but they still fail to get effective treatment.

Table 4.1 Women accessing obstetric care April–August 2004 listing chain of providers

Profile	Chain of providers
Acute emergencies where women died	
Kasimbi Age 38 3rd pregnancy Complications: hydramnios (too much amniotic fluid), prolonged labour, haemorrhage	During pregnancy: <ul style="list-style-type: none"> • MO at PHC in next village • ANM in village Within 24 hours from onset of labour until death: <ul style="list-style-type: none"> • TBA at home • ANM at home • MO at PHC in next village • Government hospital nurse • Government hospital MO • Private surgeon • Private nursing home for diagnostics • Private surgeon for removal of dead foetus • Private hospital out of district where she died

⁹ ICD-10 classification of maternal deaths does not include domestic violence in its definition of direct causes. Yet in a study in Maharashtra, domestic violence was the second leading cause of maternal death (16 per cent) after hemorrhage (Ganatra *et al.* 1998).

¹⁰ We have changed their names in order to protect their identities.

Profile	Chain of providers
<p>Mariamamma Age 17 1st pregnancy Complication: eclampsia</p>	<p>During pregnancy:</p> <ul style="list-style-type: none"> • Private nursing home in a big town linked to RMP in village • MHW in village <p>Within 13 hours from onset of complications until death:</p> <ul style="list-style-type: none"> • MO in next town • Government hospital out of district where she died
<p>Girijamma Age 23 5th pregnancy Complication: haemorrhage</p>	<p>During pregnancy:</p> <ul style="list-style-type: none"> • Private nursing home in a big town <p>Within 3 hours from delivery until death:</p> <ul style="list-style-type: none"> • TBA at home • RMP1 at home • RMP2 in next town • Government hospital where she died
Latent emergencies where women died	
<p>Kusuma Age 24 4th pregnancy Complications: prolonged labour, still birth, retained placenta, sepsis</p>	<p>Within 6 days from onset of labour until death</p> <ul style="list-style-type: none"> • RMP at home • MO1 at PHC in village • ANM at PHC in village • TBA at home • RMP at home • Health volunteer at home • MO2 on home visit • MO1 at PHC in village • Private hospital out of district where she died
<p>Gallamma Age 23 4th pregnancy Complication: Severe anaemia/ Jaundice</p>	<p>Within 6 days from arrival at natal home until death</p> <ul style="list-style-type: none"> • Traditional healer • MO and ANM at PHC in village • She died at home
<p>Kasturba Age 23 3rd pregnancy Complications: severe anaemia, cardiac failure</p>	<p>During pregnancy:</p> <ul style="list-style-type: none"> • ANM from CHC <p>During 7 days onset of health complaint until death</p> <ul style="list-style-type: none"> • MO at PHC1 • PHC2 for delivery without waking up staff • MO at PHC1 • She died at home

Profile	Chain of providers
Sarita Age 26 3rd pregnancy Complication: sepsis/ severe anaemia	During pregnancy: <ul style="list-style-type: none"> • MO at PHC in village During 8 days from delivery until death: <ul style="list-style-type: none"> • ANM at home • RMP at home • ANM at home • MO in next town • She died on the road to a government hospital
Durgamma Time 11 days Age 21 1st pregnancy Complication: sepsis	During 17 days from delivery until death <ul style="list-style-type: none"> • MO and Nurse at CHC • ANM at CHC • She died on the road to a private hospital out of the district
Vijaylaxmi Time 13 days Age 24 1st pregnancy Complication: sepsis	During pregnancy <ul style="list-style-type: none"> • ANM at CHC in next town During delivery <ul style="list-style-type: none"> • RMP in next town • She died on the road to a private hospital out of the district
Emergencies where women survived	
Kallama Age 30 4th pregnancy Complication: TB, Severe anaemia, Inter-uterine fetal death	Over several weeks during third trimester of pregnancy: <ul style="list-style-type: none"> • ANM in village • MO PHC1 in other village • MO PHC1 in other village • ANM in village • RMP in village • RMP in village • MO PHC2 in other village • THO at home
Manjula Age 24 1st pregnancy Complication: prolonged labour	During pregnancy: <ul style="list-style-type: none"> • ANC from ANM1 in village During 14 hours from onset of labour until delivery: <ul style="list-style-type: none"> • ANM1 and TBA at home • ANM1 and RMP1 at home • MO at CHC in next town • ANM2 at CHC in next town • RMP1 and RMP2 in next town
Shakuntala Complication: severe anaemia	During a week: <ul style="list-style-type: none"> • ANM at home • Government hospital in next town

Kasimbi saw 8 different health providers in the space of 24 hours and still died of haemorrhage due to obstructed labour. Kusuma sought help from 4 different health providers in the 48 hours leading up to her delivery of her still born child. Neither of these health providers acknowledged her risk during delivery nor her need for postnatal care. She died of sepsis 4 days later. Even when risk or co-morbidity is acknowledged by health providers as in the cases of Mariamma, Kasturba and Kallamma, it did not lead to appropriate treatment or effective continuity of care.

Some of these deaths, like those of Kasimbi, Mariamma, Girijamma can be explained by the lack of emergency obstetric care. However, our case studies also document systemic biases in the routine delivery of services that are inimical to saving women's lives even from conditions that can be treated at the primary health centre level. Kasturba was recognised as suffering from severe anaemia but neither the medical officer nor the ANM in charge of her care ensured that her condition improved either before or after delivery. In Sarita's case, despite her delivery being attended by a qualified provider, who followed up with postnatal care, her fever was not recognised as being caused by sepsis. Similarly, despite seeking an institutional delivery in a higher level government facility and returning for postnatal care, Durgamma still died from sepsis.

Our case studies show that iterative efforts by families and women to obtain treatment result in ineffective outcomes because health systems fail to acknowledge women's requests for help and are not held accountable for the systemic failures that continue to allow women to die. It is our argument that these gendered failures in acknowledgement and accountability are responsible for the multiple delays that prevent women from accessing the effective care that could save their lives.

5 Acknowledgement failures

Failures in acknowledgement take place for multiple reasons. Sometimes they exist due to explicit bias, as women's needs are deemed illegitimate. At other times recognition exists, but a lack of acknowledgement still persists due to neglect, as other issues claim more priority. Bias of this kind can be institutionalised into indifference in health systems through the design of budget lines, supervision systems, staffing patterns, drug allocations, training curricula, etc. These failures in acknowledgement will be discussed in further detail after being illustrated by a case study.

5.1 Kusuma

Kusuma was 23 years old and this was her fourth pregnancy. She was married to a migrant labourer. Her family reported that her husband was often not around and also physically abused her. He had refused to let Kusuma get sterilised, when she had tried to enrol in a tubectomy camp with the help of local health volunteers. Although they had three girls, ages 1–4, he wanted a son. Kusuma's closely spaced repeated pregnancies most likely strained her overall health, but her decisions about family planning could not be taken independently of her husband's preferences.

Kusuma, like many other women in Koppal, went to her natal home for the later stage of her pregnancy in preparation for delivery. She started receiving ANC there in her 5th month. ANC should be provided from the first trimester onwards, but families rarely publicly acknowledge pregnancy until much later. Furthermore government services are not organised to facilitate a continuum of care for migrants, in this case pregnant women. This lack of acknowledgement of the particular vulnerabilities of migrants also has negative implications for other programmes, like TB treatment provided through RNTCP (Revised National Tuberculosis Control Programme).

In her ninth month of pregnancy, Kusuma awoke at around 3am in pain. By 9am since there was no progress in labour, her family called the local RMP, who administered two injections without physically examining her. Although contractions led to the release of fluid and some movement of the baby, nothing else happened. Around noon she was taken to the PHC, which was within 10 minutes walking distance from her home. The medical officer reported a diagnosis of lower back pain, not labour pain. Her family concurred that the medical officer examined her and then sent her home, but they had a different understanding of the same clinical encounter. They understood from him that she was not due to deliver until later that night. In Koppal, communication between health providers and women seeking routine services is usually perfunctory and divergent understandings are rarely addressed.

The next day Kusuma had yet to deliver and her worried family brought her back to the PHC. As the medical officer was away attending a meeting called by the District Health Officer, there was no health provider available at the PHC. Fortunately her family was able to find the ANM in her house within the PHC compound. The ANM asked them to buy four vials of tetanus toxoid (TT). She administered one vial and kept the remaining three for herself.

Government health providers often run out of drug supplies. In Kusuma's case, even if the PHC had run out of stock, her family bought and gave to the ANM more TT vials than were administered to Kusuma. Apart from the issue of irregular drug supplies serving as an excuse for minor corruption, TT should have been administered earlier, at least 4 weeks before delivery. Nonetheless the administration of TT is one of the actions that senior personnel check for. It also is a "curative" intervention that the ANM can offer on her own and something visible in the absence of diagnostic skills about labour complications or medical officers or specialists that could back the ANM up.

By this time more than 24 hours had passed since Kusuma first felt labour pain. She by now had consulted three different providers, each of whom had responded but without acknowledging her need for special attention due to her prolonged labour. None of these providers gave advice as to what stage of labour she was in, how much longer labour should take or what would be warning signs of complications. When Kusuma did deliver the next morning at 6am, she did not return either to the PHC or to the RMP, but delivered at home with the assistance of a trained traditional birth attendant. After two days of experiencing pain and expecting delivery, Kusuma delivered a stillborn baby boy.

After delivery the same RMP who saw her earlier was called again to her house. He asked the traditional birth attendant about Kusuma's condition and then administered two injections without carrying out any further examination. Despite knowing that she had a stillbirth and an unusually long

labour, he did not return to assess her recovery. As the baby did not survive, the traditional birth attendant also did not return to bathe and massage the newborn and mother, as is usually the custom. Finally neither the ANM nor the medical officer made any effort to find out whether Kusuma had delivered or not despite her two visits to the PHC earlier seeking assistance with labour pain. Despite Kusuma's multiple interactions with a range of providers prior to delivery, none of these providers followed up with assistance when she most critically needed them: in the postnatal period.

Kusuma became weaker and weaker, but her family waited three days to take her to the PHC. By that time the medical officer found her to be in a critical condition suffering from sepsis due to the incomplete delivery of her placenta. He told them to take her to a private hospital in the neighbouring district. After a few hours the family was able to rent a car from the ANM and began the 75km journey. Later that evening her neighbours received a frantic call reporting that the family needed more money to pay for admission, examination costs and to get blood from elsewhere. The neighbours managed to collectively gather more money and sent someone with it. However, news arrived the next day that Kusuma had not survived. Her family needed more money to bring her body back. They had spent more than Rs. 8,500 trying to save Kusuma's life. This was an exorbitant amount for her widowed mother who earned Rs.15 a day as a casual wage labourer.

When we spoke to Kusuma's family members, we discovered from the dhobi (washerwoman) working nearby that Kusuma had been bleeding. Kusuma's family had not known about this and wondered in hindsight why she had not said anything about her bleeding or her worsening condition. Despite her deteriorating condition neither her family nor her health providers acknowledged her need for postnatal care until it was too late.

Kusuma died 6 days after first experiencing labour pain and 4 days after delivery. During that time she sought care and advice from 5 different health providers at multiple points of time. Neither government nor informal health providers met her needs for effective antenatal, delivery or postnatal care. When she developed complications, they were only acknowledged once she was in a condition too severe to be handled within the poorly resourced district.

5.2 Bias through illegitimacy

Kusuma's needs were not acknowledged partly because of the ways in which gender power relations devalue, and worse, delegitimise women's experiences, their bodies and biological processes. For example, in southern Karnataka, pregnancy is seen as a time during which "dirty" or "bad fluids" are accumulated in the body. Bleeding after delivery is considered important as it drains the body of this bad blood. Delivery is also a ritually polluting process requiring a long period of cleansing and penance, during which elders enforce restricted mobility, diets and fluid intake for newly delivered mothers (Kilaru *et al.* 2004). These biases directly interfere with the recognition of obstetric complications, like haemorrhage and inhibit health care seeking in the postnatal period.

Health professionals also de-legitimise women's point of view. Although women like Kusuma seek help for labour pain, medical officers diagnose them with lower back pain or "false" labour pain. This

disjuncture between women's experiences of labour pain and its medical diagnosis indicates several problems in communication and care seeking. Women might be misinterpreting their experiences or health providers may be misunderstanding the situation. Social bias may also be at play by inhibiting women from speaking freely about their intimate reproductive health concerns with health providers from a different gender, class, educational and caste background. At the same time health providers may have social biases that invalidate women's experiences. Finally biases may exist in the technical understanding of what constitutes labour pain. Due to these factors the process of seeking care and advice may be quite complex in practice and often marginalising for women.

Even when labour pain is acknowledged and access to government facilities for institutional delivery is successfully negotiated, women's perspectives may still not be respected while in professional care. It is not just that cleanliness is not assured, but that the treatment received by women can be dehumanising. Women are often left in labour rooms by themselves, dependent on their families to seek staff out from other wards or their quarters as labour proceeds and if problems arise. They are expected to deliver in a position that is different from what they are used to at their homes and which helps health providers more than it helps them. Even for normal deliveries, medical rituals involve shaving the pubic area, administering IV drips, repeated deep vaginal examinations and episiotomies. If women have travelled to larger towns, they have to trust health providers who are strangers, who have learned their skills in hospitals giving orders to women who are allowed little control over their situation. Yet if complications arise, health providers tell families, who are neither informed or in control, to be prepared to face the consequences (Caleb Varkey 2004).

Women with poor entitlements within families and in health systems tolerate high levels of pain, discomfort and humiliation. Their rights to effective care, respectful treatment and their ability to protest are weakened by their unequal access to resources, including finances, expertise, political authority, etc, as well as by the shame that surrounds women's bodies and the normalisation of many women's illnesses. Gender bias thus operates to disenfranchise women objectively through unequal status, but also normatively through disempowering local traditions and medical frames of knowledge that together make ineffective health care and degrading treatment habitual.

5.3 Bias through institutionalised indifference

Even when needs are recognised, a lack of acknowledgement can persist due to indifference and neglect. Far before a maternal death occurs, bias is manifest in the programmatic neglect of preventive services that, if properly implemented, could substantially improve maternal health. For example, anaemia is an endemic problem with 46 per cent of women in rural Karnataka being anaemic (IIPS 2001). Survey statistics from Koppal report that 97.8 per cent pregnant women have some form of anaemia and 22.2 per cent of pregnant women having severe anaemia (IIPS forthcoming). In Gallamma's, Kasturba's, Sarita's, Kallamma's and Shakuntala's cases health providers failed to diagnose severe anaemia accurately or to provide adequate follow up. Health providers are held accountable for dispensing iron folic acid tablets, but not for addressing women's concerns about side effects or for ensuring that their haemoglobin levels

improve.¹¹ As a result, anaemia remains a serious chronic health condition, which considerably heightens the risk of maternal death in situations of haemorrhage and cardiac failure, especially when it interacts with malaria.

Another critical preventive aspect of maternal health that is not sufficiently acknowledged by either government or private services is postnatal care. The time period during which women face the most risk of an obstetric complication, during and after delivery, is also the phase during which they are most neglected. In Koppal most women deliver at home, but few qualified health providers visit newly delivered women even within a week after delivery, let alone soon after delivery. Even if women go to government facilities for delivery, we observed that they are often not admitted as inpatients (longer than 12 hours). Families are eager to leave within a few hours, after which there is no coordinated effort to provide follow up care. Kusuma, Sarita, Durgamma and Vijaylaxmi all sought institutional delivery and died due to sepsis several days, sometimes even a little over a week after delivery. They could have been saved if their health had been monitored through effective postnatal care.

Although government programmes make rhetorical statements about the importance of institutional deliveries, they do not adequately acknowledge or mitigate the financial barriers and consequences of accessing obstetric care, especially when complications arise. In Koppal functioning ambulance services, where available, are not used due to the user fees charged.¹² In addition to user fees charged at higher level government facilities and the costs of drugs, medicines, diagnostics, etc, the real cost of care is inflated by indirect costs related to care, transport and food required for the woman and her family while away from home. These are not inconsiderable for women in Koppal, as accessing emergency obstetric care requires them to travel out of the district, often to private facilities, due to the lack of functioning government services. Furthermore the opportunity costs of time spent in order for family members to travel with, stay, cook and care for women in inpatient wards in distant towns and cities is often not affordable for families dependent on daily wage labour.

Most unpredictable in times of emergency care are predatory unofficial fees, in the form of the costs of missing supplies, bribes to secure better service or plain extortion, demanded by health providers who benefit from failing, unaccountable health systems to line their own pockets (Killingsworth *et al.* 1999; Afsana 2004). Demanding unofficial fees for delivery in government facilities was explicitly mentioned by one respondent, in addition project staff reported at least one case of corruption related to delivery at a government hospital to the officer in charge of the facility. Although Karnataka has an active Lokayukta,¹³ reprimanding individual corrupt government health providers cannot be effective, unless pressure is brought against corrupt higher level officials (Rao 2003; George 2003a).

¹¹ ANMs can administer prophylactic and therapeutic doses of IFA tablets, Mos can administer anti-haemotonic injections, but extreme cases need blood transfusion.

¹² The user fee is Rs.4 per kilometre. The costs entailed may not be different from private transport, but we observed that the psychological impact of attaching a user fee to an emergency service designates it as a luxury item not to be afforded to everyone. Administrative officers can theoretically subsidise the cost for poor families by drawing from their user fee funds, but they do not do so, for fear of encouraging indiscriminate use.

¹³ Ombudsman for Government Services

Women with high risk pregnancies are supposed to be given Rs.200 by ANMs to help cover transport costs for institutional deliveries. Very few women in Koppal know about this assistance. Furthermore PHC staff were unable to clarify whether the money was to be kept at the PHC to be used to assist with transport from the PHC to higher level facilities or whether the money should be given to women ahead of time to help travel to any government facility. PHC staff were also unclear whether the money could be used to help women with high risk pregnancies identified during ANC or for women with unexpected obstetric complications at the time of delivery or in the postnatal period. This lack of clarity persists as the disbursement of this money is not usually discussed during supervision enquiries. Nor do all higher officers disburse the money to ANMs due to the difficulties in clearing bills with their own administration. Several respondents noted that payments cannot be claimed without forfeiting a percentage to clerks in charge of finances. Not only is there a lack of transparency, but no one is held accountable for addressing the administrative bottlenecks that block effective disbursements to beneficiaries. Health system analysis usually focuses on vacancies, epidemiological surveillance, budget analysis, but not whether clerks efficiently pay stipends and retrieve files.

Hesitation in seeking care for obstetric complications due to its costs can be fatal. Kusuma's, Manjula's and Kasturba's families hesitated to seek obstetric care in larger towns. In Kasturba's case, a consultation before delivery with a MO in her village PHC recommended admittance to higher level government facilities due to her severe anaemia, but did not facilitate transport. At the time of delivery, Kasturba's family rented the only available transport, a tractor for Rs.300, to take her to a close by neighbouring PHC in the middle of the night, as there is no resident MO in her own village PHC due to the absence of staff quarters. She delivered on the patio floor. As there were no immediate complications the family did not wake up the PHC staff for fear of having to make additional payments. When her condition began to deteriorate several days later, her family took her to their village PHC, where the doctor again recommended admittance to higher level government facilities without assistance with transport. This was despite his work with an NGO that routinely provides a jeep for transporting health providers and supplies and despite his own daily commute in his private car to a town with higher level health facilities. Kasturba and her family missed the only afternoon bus connecting her village to the outside world. She died that evening from cardiac failure due to severe anaemia that was not addressed despite multiple interactions with government services.

6 Accountability failures

Neither acknowledgement nor accountability are explicitly part of the delays model, but the case studies from Koppal show that they are crucial factors in ensuring that women's lives are valued more than they currently are. Although acknowledgement and accountability failures focus on different aspects of the dynamics that fuel high levels of maternal mortality, they also have points of synergy. Concerns about accountability conventionally focus on problems of capture through corruption, political interference or intimidation, yet when 'failures are not directly caused by capture or incompetence, then we must identify

forms of bias that distort their operations' (Goetz and Jenkins 2004a). In this sense accountability may fail certain groups of people because their marginalised status obstructs their ability to make effective claims. Bias may also operate more insidiously, as the current system may not recognise claims as either legitimate or important. In this sense the biases that lead to acknowledgement failures explain some failures in accountability for the less powerful (George 2003b). The following case study illustrates some of these dynamics, discussed in more detail later on.

6.1 Manjula

Manjula is 24 and she was pregnant with her first child. She received ANC from the new ANM who lived in her village. At full term, Manjula began to feel labour pain at 9pm, after which the ANM and traditional birth attendant were called to her house. At midnight the ANM gave Manjula two injections and then stayed for another two hours before going home, leaving the traditional birth attendant behind. The following morning the ANM returned and the local RMP also visited, they each gave Manjula one more injection. It is unclear what these numerous injections were and unlikely that they were appropriate, yet they are visible products signifying the provision of curative services and concomitant technical expertise.

Since delivery was taking longer than expected the ANM asked them to go to the higher-level government facility, but the family said they were too poor to go. Finally around noon the ANM convinced them to go to the higher-level government facility. However, she was not able to accompany them, as she was responsible for immunisation in her village that day, an activity for which she is held accountable for by both the health department and UNICEF consultants. Instead Manjula was accompanied by the RMP and her relatives, who were less familiar about their entitlements to care or with the people, administrative rules and medical practices followed at the government facility in the neighbouring town.

Once they arrived at the government facility, the MO examined Manjula and admitted her. After administering an IV, he told them that she would have a normal delivery at around 2pm and left for a meeting at *taluka* headquarters. The site in which the IV had been inserted began to swell. Her family was unable to find anyone in the facility to help her with the swelling or the delivery. Finally they found an ANM off duty in her quarters within the facility compound. The ANM and Manjula's family got into an argument, which concluded with the ANM removing the IV and telling them to go to a private nursing home in the district capital.

Manjula and her family went to the bus stand to make their way to Koppal. Near the bus stand, the local RMP found a RMP clinic that treats piles and does blood and cough tests. As delivery seemed imminent, rather than travel by bus to the district capital, they took her to this second RMP, who administered two saline bottles. It is unclear whether the saline bottles had oxytocin or epidosisin in them like in government facilities and if they were necessary. Manjula soon delivered a boy around 2:30pm. The RMP charged the family Rs. 3000, but the local RMP bargained him down to Rs.1000.

Manjula's family had taken her to the higher-level government facility after much hesitation. Although Manjula was admitted, she was subsequently sent elsewhere in the middle of labour with no

further assistance from government personnel. She was lucky to not develop any complications at either the higher-level government facility or at the RMP clinic, as neither were equipped or staffed to respond in the event of an obstetric emergency.

The new ANM felt bad for having repeatedly asked the family to take Manjula to the higher-level facility. ANMs and MHWs repeatedly stressed how communities discredited their preventive work when they encouraged families to seek curative care from facilities where medical officers or other facility-based staff were not responsive.

When discussing the problems Manjula faced at the higher-level facility, a senior ANM counselled the new ANM to be very careful with community members. The senior ANM strongly recommended that the new ANM get patients to sign a blank piece of paper before referring patients elsewhere as a form of self-protection. The senior ANM reasoned that one could not trust either community members or higher level officers to not blame ANMs for poor outcomes, whether they helped women in labour or not.

In the absence of internal accountability, this fear is not unfounded. In the case discussed earlier, when questions about Kusuma's death were raised by outsiders, despite multiple failures by a whole range of providers, higher authorities focused blame on the ANM for not maintaining her ANC register properly. The ANM had no one else lower down to blame, except the community. Ultimately families and health care service providers blame the victim for not seeking care earlier. Accountability in such cases mirrors the hierarchical power relations that structure health systems against the interests of poor women rather than serving as a countervailing force.

Health providers respond by saying, 'She didn't tell us that she was bleeding' or 'They didn't come to the PHC in time'. Not only is the victim not around to defend herself, but considering the marginalised status of poor, illiterate women in Koppal and the low value assigned to their health and lives, it is disingenuous to expect them to make strong, informed and effective demands on their families and health care providers, especially when they are in pain during labour or caught in an emergency suffering from an obstetric complication.

6.2 Challenges to claiming accountability

Standard accountability measures may not succeed, when they are insensitive to the ways in which women are explicitly disenfranchised and worse victimised, while their needs are implicitly marginalised as invisible, inconsequential or illegitimate. Although reproduction is a biological function, it takes place in a social context where entitlements are framed by power relationships configured by gender, age, caste and class. Women's interactions with the health system are sporadic, often unpleasant and their rational reactions are to evade the health system altogether. In the case of reproductive health, the services they require trespass the intimacy of their bodies, their sexuality and the traditional norms that regulate their social position. When faced with obstetric emergencies they return as desperate supplicants. These biases isolate women and undermine the basis on which women would have to demand accountability from service providers.

Nor can health providers avoid the social context of reproduction, if they are to ensure that their clinical care leads to effective healing and well-being. This means countering social norms around age of marriage, son preference, spacing of children, nutritional security of women and girls, violence against women, notions about the impurity of delivery, etc. Yet it is unlikely that private health providers, dependent on reputation for their commercial success, would risk challenging such closely held, discriminatory values. Nor would community level government health providers forfeit support from village elites that sanction such biases against women. Therefore in order for accountability for women's health in general and for maternal mortality in particular to improve, it cannot continue to fail addressing women's rights.

Furthermore the biases of the individualising focus of accountability need to be taken into consideration. Collective efforts may help to protect individuals who may be put at risk if they contest authorities on their own. Indeed project volunteers did find that when they accompanied women to health facilities, their collective presence inhibited health providers from asking for unofficial payments. Accountability that solely relies on demand-led efforts to pursue change, enables the state to abdicate responsibility for improved services. By depending on the demand or voice of aggrieved, often marginalised individuals to seek redressal on their own for stigmatised issues, accountability reforms maybe just as inequitable as market reforms which also lay emphasis on the individual to demand consumer choice to realise better health system outcomes (Goetz and Jenkins 2004b).

Feminist analysis contributed to social transformation by showing that women's concerns were not individual, isolated problems, but part of broader patterns of bias. Similarly accountability may tend to focus on extraordinary deviance in the form of corruption, political interference and egregious callousness of individual health providers. Yet it is critical to move beyond these sensational factors and examine the underlying system wide failures that marginalise women even in death.

6.3 Bias through institutionalised indifference

As mentioned earlier although government does use indicators emphasising early registration of pregnant women for ANC, dispensing of TT injections and IFA tablets, supervisors hardly ever emphasise postnatal home visits. This not only reflects a failing to substantively understand the importance of risk in the postnatal period, but also reflects a procedural bias in supervision norms. Supervisors ask health providers to report the aggregate numbers of women seen, not whether any continuity of care was assured. Beneficiaries are defined by the number of health products given out (x amount of IFA tablets makes one beneficiary) and accountability is defined by whether health providers have kept accurate stock records. Their records prove that they are doing their jobs and their patients receive visible products like injections and tablets. The actual health outcome of the women they see, whether she survived or not, becomes incidental to their work. Family planning, ANC and a stress on institutional deliveries are critically important, but when they are not integrated into a continuum of care that ensures access to

emergency obstetric care, they are not sufficient to save women's lives. All the maternal deaths we documented in Koppal did receive ANC and live within accessible distance of a subcentre or PHC. Yet they died.

In addition to devaluing continuity of care, the actual technical skills required to acknowledge and save women's lives are not supported. Several of the case studies documented serious errors in technical judgement by both medical officers and health assistants. Medical officers did not assess Kusuma's labour pain correctly, did not recognise Kasturba's obstructed labour early and misdiagnosed Galamma's severe anaemia with jaundice. In reviewing Vijaylaxmi's death due to sepsis, the ANM in charge explained that she died because she was too fat. Although health providers provided postnatal care to Sarita and Durgamma, they treated their fever after delivery (due to sepsis) symptomatically for malaria and thus missed an opportunity to save their lives.

In Uttar Pradesh, most ANM training focused on routine antenatal and postnatal care, but not practical life saving skills (RamaRao *et al.* 2001). In Koppal, ANMs are not equipped to provide effective diagnostic skills for obstetric care as basic equipment like blood pressure operators, stethoscopes, thermometers, and HB meters are not available at the subcentre level. Nor are ANMs encouraged to take such initiative considering their current monitoring and supervisory system. ANMs are asked to keep an eye out for the 5 *Toos*: *Too* late pregnancy (over the age of 35 years), *Too* early pregnancy (below the age of 15 years), *Too* short lady, *Too* many deliveries (over 5–8), *Too* anaemia (sic). Only the latter has a clinical diagnosis, and as mentioned earlier, is not taken very seriously.

Health providers cannot be held accountable, when they themselves do not have the technical skills to respond. But even if technical training and supervision addressed these failings, management norms do not currently value the risks women face when going through labour. This is highlighted by the lack of attention given to women seeking assistance during delivery when other competing health tasks are at hand. The neglect suffered by Kasturba, Kusuma, Galamma, Vijayalaxmi and Manjula indicates that, in practice, PHC doctors are more accountable for routine outpatient care, pulse polio campaigns, routine immunisation work, tubectomy camps or even administrative meetings, than attending to women with potentially life-threatening obstetric complications. There is no back up system that ensures follow up so that women receive prompt and appropriate medical care attention during these other routine tasks or scheduled government holidays. Nor is there an external donor providing additional expertise or pressure to address these gaps in maternal health. External consultants hired by UNICEF, WHO and other donors regularly visit the district to monitor progress on immunisation, polio, leprosy and TB, while maternal health has been integrated into oblivion.

This lack of accountability for the continuity of care is why referral in Koppal does not lead to improved outcomes. Once the woman is referred she is forgotten about. This is not different from how private services discharge patients they can't handle for fear of them dying on their premises. Even if the MO writes a letter, as in Kasturba's case, no one called the district hospital despite functioning phones to inform them of her need for a caesarean due to obstructed labour. Upon arrival Kasturba was told to wait by a nurse for four hours before a doctor arrived, who then sent them to a private facility, as the

specialists had already left for the day. Ultimately families are left to fall back on the unqualified advice of RMPs or traditional birth attendants, rather than any government personnel to ensure access to care. Even if government health providers and doctors are not adequately technically trained or supervised to respond to obstetric emergencies, they are more literate, socially entitled and administratively familiar with government facilities than the poor families, birth attendants or RMPs that accompany women in emergencies.

Finally the lack of accountability for maternal deaths is institutionalised by their invisibility in government information systems. Although all deaths are supposed to be reported, maternal deaths are often missed. In a rural study in Anantpur, Andhra Pradesh, as many as 66 per cent of maternal deaths had not been recorded by health providers (Bhatia 1989).

During the 5 months in which we reported 9 maternal deaths from one *taluka*, the remaining three *talukas* of Koppal district did not report even one maternal death. One reason for this failure in reporting is that women often travel back to their native villages for delivery and then, when complications develop, travel out of the district while seeking effective care. Their fluid migrant status jars with reporting mechanisms that are designed around fixed geographical areas. In the absence of a coordinating mechanism that links information about patients across PHCs, pregnant women drop out of existing monitoring mechanisms.

However even when documented, the reporting formats do not allow for any reflective analysis of what the stumbling blocks were, and what could have been done to save the woman's life. Only the barest biomedical and demographic details are collected. There is a government order requiring the medical officer and higher-level officers to review each maternal death, but this is rarely done. It is not in their interests to report problems, especially when they already feel unsupported and besieged by a crumbling government health service. Maternal mortality committees with dedicated staff and resources that could follow up the implementation of change by highlighting gaps in awareness, technical inputs or management are conspicuous by their absence.

6.4 Bias through commercialisation

What is perhaps most striking about the maternal deaths we have documented in Koppal is not the lack of access to care, but the irrational or inappropriate care provided to women with obstetric emergencies. Whether they are government doctors, ANMs or RMPs, health providers provide injections or IV drips to women in labour whether necessary or not. Even antenatal care, largely a preventive programme, is reduced to the distribution of IFA tablets and the administration of TT injections. At the level of hospitals and specialists, there seem to be an excessive use of episiotomies and scanning, even though effective obstetric care does not necessarily require such extreme measures, which have health risks of their own. How is it that qualified providers are mirroring the practises of unqualified practitioners, while at the specialist, hospital level there seems to be an excess of technological interventions?

This is not just the result of uneducated or unskilled health providers practising gender biased traditional or medical frames of knowledge. Research has repeatedly shown that formal qualifications,

training or awareness does not necessarily predict actual treatment strategies deployed by providers (Paredes *et al.* 1996; Trostle 1996; Ashetkar and Mankad 2001; Das and Hammer 2004). Training health providers in “correct” skills will not result in changed behaviour unless the incentive systems around them are also corrected. Apart from skewed bureaucratic incentives, accountability for maternal mortality is also deformed by the unregulated market pressures that permeate service delivery in Koppal.

RMPs cluster around larger market towns or sometimes set up stalls within weekly bazaars. Although patients can choose among several RMPs, they have no information on clinical effectiveness, so they are guided by considerations of caste, credit availability and other responsive behaviour. RMPs respond by actively seeking clients by marketing their expertise through aggressive treatment in the form of injections, IV fluids, tonics, electropathy and proactively undertake village and home visits on motorbikes (Ashtekar and Mankad 2001).

Leonard (2003) argues that incentives in rural markets encourage a race to the bottom in terms of increased commercialisation and commodification. In the absence of effective regulation by the government, professional associations or third party payment holders, health providers are guided by competitive pressures to sell pharmaceutical commodities and use diagnostic technology, rather than provide preventive advice or even effective curative services. This responds to and further encourages patient’s demand for such commodities, as in the absence of regulation, their evaluation of health care is skewed towards visible responsiveness (rush in waiting rooms, use of equipment, use of injections and tablets, bed side manner, willingness to undertake home visits) rather than non-verifiable clinical effectiveness.

This commercialised consumption approach to health care also affects the preventive and clinical effectiveness of government services. Almost every patient in the government outpatient clinics observed left with an injection or with tablets. Government health providers report that their biggest demand from the public is for more injections. Separating this demand for curative services from the delivery of preventive measures that are essential for good maternal health would further devalue in the eyes of communities the credibility of ANMs and MHWs who implement the majority of public health programmes.

7 Re-examining accountability in health services

7.1 Underlying principles

Accountability involves two core elements: *answerability* and *enforceability* (Schedler 1999). It entails the obligation to inform and explain through improved transparency. In addition, in order to be effective, policymakers and programme implementers must also be mindful of the enforcement mechanisms used to hold them to task. Accountability is therefore intrinsically about power.

Indeed without addressing the power relations that preserve unjust hierarchies within health systems, accountability will at best remain ineffectual and at worst perpetuate inequity (George 2003b; Murthy and

Klugman 2004). To guard against such failure efforts to improve accountability must fulfil certain conditions (Goetz and Jenkins 2004b) or participation contracts (Murthy and Klugman 2004). They should enable all participants to have equal access to information, safeguard their ability to question evidence, monitor implementation, issue dissenting reports to higher bodies and pursue complaints or appeals processes that are independently assessed.

Apart from its immediate concern with reducing abuse and assuring compliance with procedures and standards, in order for accountability to be sustained it must also improve performance and learning (Brinkerhoff 2004). Ideally it should foster a virtuous synergy between obligation and entitlement (Goetz and Gaventa 2001; Goetz and Jenkins 2001; Freedman 2003; George 2003b) and lay the foundation for improved responsiveness. Although accountability and responsiveness have a common goal, improved performance, their process is distinct, as most public officials are expected to be responsive to the public but are held accountable by their managers and elected representatives. The former is premised on voluntary moral duty, while the latter is a procedurally enforceable matter (Goetz and Jenkins 2004a).

Accountability and responsiveness are best understood as equally necessary complements, neither of which are sufficient to improve performance on their own. Expanding participation through community surveys, public fora, committees, may broaden responsiveness but may not result in improved accountability, because these measures may have no powers of enforcement or dissent. Similarly, accountability usually flows upwards from health providers to managers to elected representatives, ensuring a responsiveness upwards or a responsiveness to powerful special interests, that may not address marginalised issues and communities.

What is required is a synergy where efforts to improve accountability for maternal mortality must be able to use individual situations as triggers for broader reforms that address the system wide biases obstructing responsiveness to pregnant women's health needs (Nuñez Urquiza 2004). That this is essential is evidenced by the finding that in a multiple stepwise regression of 68 countries with a GNP<US\$ 1000 per capita, the most powerful independent variable predicting maternal mortality was WHO's aggregate scores for responsiveness¹⁴. It even had a significantly greater explanatory power than female literacy or wealth (Gross National Product-Purchasing Power Parity)¹⁵ (Van Lerberghe and De Brouwere 2001a).

This requires a shift from enforcing 'an accountability for control, with its focus on uncovering malfeasance and allocating "blame"' to 'an accountability for improvement which emphasises discretion, embracing error as a source of learning, and positive incentives' (Brinkerhoff 2004). The point is to not ignore the need for sanctions to enforce standards, but to not exclusively rely on them to promote

¹⁴ Operationalised as respect for patients (dignity, confidentiality, autonomy) and attention for clients (promptness, quality of environment, access to social assistance and free choice of provider).

¹⁵ Responsiveness yield a total r^2 of 0.53, female adult literacy rates increase r^2 to 0.61 ($p<0.005$) and GNP-PPP further to 0.65 ($p<0.2$).

systemic change. In the absence of positive mechanisms and rewards to support change, sanctions can become a means to pacify public opinion by scapegoating individuals, while covering up institutional problems (Freedman 2003a).

7.2 Accountability and maternal mortality

In this context, supporting non-threatening audit processes aimed at promoting learning and corrective change is essential. Approaches to reviewing clinical practice vary from informal peer discussions of selected cases to more structured reviews involving statistical analysis of criterion based cases (Filippi *et al.* 2004; WHO 2004). Audits can be used not just for revising the technical aspects of clinical diagnosis and treatment, but also the timeliness of interventions, service organisation and staff roles and responsibilities (Ronsmans 2001). Indeed while engaging in constructive peer review, in the context of failing health systems, audits must uncover the root causes of poor health care service delivery. For this to happen they need to empower health providers to work with management to address the systemic problems that obstruct service delivery. Such problem identification and analysis must be followed up with implementation of change (Supratikto *et al.* 2002; Weeks *et al.* 2003; Nuñez Urquiza 2004). For this to happen health providers and local management must be inspired to take ownership over service delivery and be empowered to do so through appropriate decentralised administrative reforms.

Without these changes many critical areas relevant to maternal mortality will remain unaddressed. One such area is referral.¹⁶ Currently referral in Koppal is a haphazard and risky endeavour dependent on individual luck and bargaining power, rather than a mechanism that coordinates universal access to appropriate care. Women like Kasimbi, Mariamma, Kusuma, Kasturba, Sarita and Durgamma and their families move with increasing desperation from health provider to health provider, even travelling out of the district, always in vain. Referral is more than a matter of logistics facilitating telecommunications, transport and roads. It is also a matter of accountability for assuring a continuity of care for women and a continuity of supplies and expertise for health providers. This means holding the first point of referral accountable for accompanying women in emergencies to the next health facility and also holding health administrators accountable for not providing the required inputs to enable a functioning referral system to back up health providers.

It is critical to not pin accountability solely on traditional birth attendants and ANMs. These under skilled women, usually working in isolation cannot address maternal mortality on their own. Mothers who experience complications in labour and after delivery, need to be quickly transferred to specialists at higher levels of care. The reality of Koppal is that within government services those specialists and emergency obstetric services only exist on paper. Therefore calls for accountability cannot not just rest on holding

¹⁶ In Maharashtra it was found that the distance covered to contact health services was 3 km for women who died from complications and 2.5 km for women who survived similar complications. But the distance covered to reach appropriate treatment was 63.5 km for women who died and 39.3 km for women who survived (Ganatra *et al.* 1998).

community level health providers responsible for poor health outcomes, but must also examine the biases and challenges of health care administrators who fail to ensure the responsiveness of the health systems in which community level health providers work.

This requires transparency in terms of what is the extent of provisioning for maternal health services and who is responsible for it within the health care administration. Administrators and politicians need to be made accountable for not just sanctioning new facilities and services, but for actually making them function through the provision of inputs and responsive management. This entails developing service delivery indicators not just for community level health providers, but also for their superiors. Health providers should know (not just in theory, but actually) when their supplies and salaries are due to arrive and where to find specialist advice and support.

These kind of accountability reforms are crucial for improved internal functioning of health services and also if public discussion about maternal deaths and their linkage to failing health systems are to be constructive and effective. Budget analysis and service delivery assessments that detail actual basic maternal health service infrastructure, personnel, equipment and drugs on a regular basis are crucial efforts that must be supported. Even if governments do not have the resources to undertake such assessments on a periodic basis, they must be much more transparent as to what guidelines exist and be much more proactive in providing access to existing information. Without such information and the development of maternal health service indicators that can be publicly monitored, elected representatives will continue to be more concerned with building health centres and transferring medical personnel for which politicians can more credibly claim credit for (Keefer and Khemani 2004), rather than ensuring that emergency obstetric services exist and are responsive to women's needs.

8 Conclusion

Pregnancy is a normal physiological process. In spite of this, women face risks and complications at any time during pregnancy, but especially during or after delivery. In addition most serious obstetric complications cannot be either predicted or prevented. Nonetheless women with complications need not die (Maine 1991, 1999; ANS 2001). We argue that their survival hinges on three critical elements within health systems that together have the power to transform maternal mortality outcomes: emergency obstetric care and gender dynamics in acknowledgement and accountability.

Some might think that gender analysis is not relevant in understanding the persistence of high levels of maternal mortality among the rural poor of Karnataka. After all only women die of maternal deaths. It is a "women's health problem". Nonetheless gender analysis is not just about comparing women and men as separate biological beings, but about analysing the relations of power that structure social systems, benefiting some while marginalising others. In surviving maternity, women's rights to health and life are framed by struggles against gendered relationships of power with their families and numerous health

providers. Entitlements are legitimated, or in the case of Koppal, disenfranchised by relationships that are shaped over time by repeated interactions and negotiations over women's intimate selves, their bodies and their critical health needs.

Gendered relations of power also order the hierarchies that structure the health system. They determine which kind of health providers are valued for their expertise, while others are burdened with the bulk of maternal health care, blamed for bad outcomes and yet whose problems remain unaddressed by higher authorities. Most service delivery monitoring focuses on community level health providers and current accountability efforts focus on increasing the administrative authority of local elected representatives over these health providers. The power of higher level health authorities is such that neither the health system itself nor the public can easily pinpoint who is responsible for higher level, technical or administrative system failures. Indeed the silence of many community level health providers in the face of so many preventable maternal deaths lies in the hypocrisy of being held accountable for failures when their superior officers continue to peddle political influence and corruption with impunity.

The reality of maternal health care in Koppal shows that it cannot be neatly compartmentalised into discrete interventions. A focus on health systems, their effective functioning, equity and humanity is required. The context of Koppal shows how poverty constrains choice or exit strategies in a plural health system. Poor women in need of maternal health care face a range of differently located, diversely qualified, yet almost equally ineffective health providers in the private and public sectors. In this situation of forced pluralism there is little coordination between health providers and the over all quality, effectiveness and accountability of care provided is abysmal (Bloom and Standing 2001). It is not surprising that families may fail to continue to seek care, but ultimately when desperate they have no choice but to return to such a system. Seeking maternal services in such a context can be dehumanising, and in situations of emergency, fatal.

For this to change governments do not need to start from scratch. In Karnataka, facilities already exist and a vast network of health personnel exists. The challenge is to get services to function effectively and equitably (Maine 2001). Governments must address the technical system failures that permit the lack of emergency obstetric skills training for community level health providers and doctors, the absence of specialists to back up community level health personnel, the lack of access to services like abortion, and dysfunctional logistical systems that permit deficits in critical inputs like blood, emergency transport, drugs for convulsions and haemorrhage. Effective referral systems that involve informal providers, which are transparent in designating and holding health providers responsible so that effectiveness and quality of care improves, need to be prioritised.

Strategic managerial reforms to sustain the impact of these immediate technical steps include a revision of current monitoring systems to encourage more field supervision that supports a continuity of care rather than the narration and cross-checking of aggregate figures from stock books and registers. This involves motivating health providers with rewards for acknowledging problems and providing support structures to enable them to solve the problems that arise. A culture of critical enquiry must be ingrained

in health professionals at the start of their medical training and careers (Ronsmans 2001). Human resources, their training and management, the often neglected, female side of health systems require much more committed investment and sustained attention.

Providing emergency obstetric care may lay a foundation for all other safe motherhood interventions (Rosenfield 2004), but we argue that an equally critical systemic factor is how gender bias reinforces the failures in acknowledgement and accountability that let pregnant women die. From a programme point of view gender bias that permits the invisibility and neglect of important women's health issues like anaemia, domestic violence, safe abortion and postnatal care needs to be counteracted. Furthermore at the individual patient provider level, women's experiences cannot continue to be considered as illegitimate. They must be acknowledged and responded to by families, health providers and managers. Otherwise health-seeking behaviour will continue to be ineffective due to bias that allows inadequate systems and inappropriate care to pass as the norm.

Accountability for each failure contributing to each of the delays needs to be examined from a gender perspective. This entails ingraining transparency into the fundamental nature of service delivery. It means defining and publicising standards of care that are sustained and enforced by constructive relationships and alliances with those outside the provider-patient dyad: social providers, community groups, administrators, and elected representatives. Accountability efforts require a synergy between institutional structures and indispensable human spirit in the form of motivation. 'The equation for performance is not the sum of knowledge, skills and motivation. It is the sum of knowledge and skills, multiplied by motivation. If motivation is zero, performance will be zero whatever the levels of knowledge and skill of the providers' (Fathalla 2003). In other words apart from investing in committees, protocols and reporting formats, a network cadre of individuals with gender and public health training to make pregnancy safer needs to be nurtured. Collective effort will need to sustain the energy required to follow up these reforms and to celebrate the excitement of saving women's lives.

Immediately addressing the indifference of health providers, managers, elected representatives and the broader public to the preventable causes of maternal mortality requires political action. It is impermissible for so many women to die of health conditions for which interventions and drugs exist, especially as some as in the case of sepsis date to the discovery of penicillin. A key reason behind the fall of maternal mortality in Europe and the USA was the growing recognition of the magnitude of the problem and of its avoidability, which mobilised both professionals and the broader public (Van Lerberghe and De Brouwere 2001b). Public concern needs to be aroused and more people need to question not just the errors of individual health providers, but also the failings of the larger health system including its inequitable organisation and financing.

Indeed one of the failures in the lack of progress in reducing maternal mortality comes from the inability to sustain public and policy interest. 'The premise underlying WHO's "massive effort" strategies for malaria, TB and HIV/AIDS are that these diseases are responsible for a significant proportion of the

global burden of disease, that they particularly affect the poor, that they exacerbate the cycle of poverty and that cost-effective interventions are available for dealing with them. Exactly the same kind of rationale can be used to justify a “massive effort” for safe motherhood’ (AbouZahr 2001).

Mobilising for a safe and humane motherhood is not an impossible task as demonstrated by the committed and hardworking health providers that can be found coping with demoralising health systems and adverse social-economic contexts. Although we documented women who died, there are also women with complications who survived with the help of responsive health providers who were able to quickly provide treatment or coordinate access to missing inputs with the support of higher officers who motivated them to provide follow up care. It is not just community level health providers, community groups, or women’s collectives that need to be mobilised, but also health administrators and elected representatives that also sustain health systems. The foundation starts with the understanding that maternal health care must be seen as a human right of fellow citizens and not as a catastrophic misfortune of those women have no other choice but to live in the rural villages of Koppal.

Appendix: Case studies women accessing obstetric care April–August 2004 listing of services and failures

Profile	Services received	Failures in service delivery	Failures in referral
Acute emergencies where women died			
Kasimbi	<p>During pregnancy gets ANC from MO at PHC in next village</p> <p>During labour ANM gives her injections at home for delivery.</p> <p>Complication: After 4 hours ANM takes Kasimbi to PHC.</p> <p>Hydramnios (too much amniotic fluid), prolonged labour, haemorrhage</p> <p>MO at PHC gives her IV drip for delivery.</p> <p>After a few hours MO tells her to go to government hospital.</p> <p>Kasimbi is admitted to government hospital and seen by nurse.</p> <p>After a few hours she is seen by MO on duty</p> <p>MO tells her to go to private surgeon</p> <p>Private surgeon requires diagnostics tests</p> <p>Kasimbi goes to private nursing home to get diagnostic tests.</p> <p>She returns to private surgeon and dead foetus is removed</p> <p>She starts haemorrhaging</p> <p>She is sent to a private hospital outside the district, but her family runs out of fuel.</p> <p>Kasimbi is admitted to private hospital but dies soon afterwards</p>	<p>Faulty detection of risk during ANC by MO</p> <p>Faulty assessment of risk during delivery by ANM</p> <p>Faulty assessment of risk during delivery by MO</p> <p>Faulty assessment of risk during delivery by Nurse</p> <p>Government specialist posted but not available</p> <p>Diagnostics requested by private surgeon as precondition to treatment</p> <p>Haemorrhage after intervention by private surgeon</p> <p>Insufficient blood at private clinic</p> <p>No blood in government services</p>	<p>ANM did not stay with patient</p> <p>MO did not refer earlier</p> <p>MO did not call government hospital to ensure responsiveness</p> <p>Nurse did not call MO on duty</p> <p>MO refers to private surgeon but without telling family what was required or calling private surgeon himself</p> <p>Private surgeon refers for diagnostic tests even though this further delays the urgent care needed</p> <p>Referred out of district to private hospital as no care available in district</p> <p>Family runs out of fuel</p>
Mariamamma	<p>During pregnancy goes to private nursing home in a big town to get ANC from private doctor who prescribes injections that are administered by local RMP</p> <p>Complication: Eclampsia</p> <p>MHW visits her at home gives TT and IFA.</p> <p>During her last term of pregnancy she starts to have convulsions. She is taken to the next town to a government MO's private clinic rather than to the MO posted at the CHC</p> <p>MO refers her to government hospital out of district</p> <p>Admitted to government hospital but dies soon afterwards</p>	<p>ANM post vacant</p> <p>Inappropriate treatment from private sector during ANC</p> <p>Lack of treatment protocol at PHC level for pre-eclampsia, no anti-hypertensive tablets in the PHC</p> <p>Lack of treatment protocol for MOs to administer MgSO4</p> <p>No specialists for emergencies</p>	<p>Sent to government hospital out of district as no care available in the district, but with no stabilising treatment given prior to long distance travel</p>

Profile	Services received	Failures in service delivery	Failures in referral
Girijamma Complication: Haemorrhage	During pregnancy goes to private nursing home in a big town to get ANC from private doctor with scan Delivers at home with TBA RMP1 refers to government hospital due to excessive bleeding RMP2 called to help get admission in government hospital in the middle of the night Admitted to government hospital but dies soon afterwards	No detection of risk after delivery by TBA No blood in government services	No referral made by TBA Referred too late to government hospital where there is no blood available.
Latent emergencies that lead to death			
Kusuma Complication: Prolonged labour, still birth, retained placenta, sepsis	During pregnancy she receives ANC from the PHC in her village After onset of labour pain RMP gives injections After a few hours she sees MO1 at PHC who sends her home The next day she sees ANM at PHC who gives her a TT injection That night she delivers a still born boy at home with a TBA RMP gives her injections at home after delivery Two days later she is seen at home by a health volunteer and MO2 on home leave The next day she sees MO1 at the PHC She is taken to a private hospital that requires extra money for diagnostics and blood. She dies the next day	Faulty assessment of labour by MO, so no institutional delivery No MO to follow up due to out of town meeting Faulty assessment of labour by ANM, so no institutional delivery No detection of risk after delivery by TBA despite prolonged labour and still birth No detection of risk after delivery by RMP despite prolonged labour and still birth No post natal care No follow up by MO or ANM despite being in the same village Diagnostics requested as precondition to treatment in private hospital	No referral by TBA No referral by RMP Referral by health volunteer and MO2 to PHC but family delayed Sent too late out of district to private hospital as no care available in district
Gallamma Complication: Severe anaemia/ jaundice	She is taken to a traditional healer for jaundice treatment She is also taken to the MO and ANM at the PHC in the village, who give treatment. She dies a few days later.	Faulty diagnosis: THO determines that she had severe anaemia which was more amenable to treatment than jaundice No follow up by MO or ANM despite being in the same village and severe condition due to tubectomy camp	MO reports referral for testing jaundice, family reports treatment and advice to return later.

Profile	Services received	Failures in service delivery	Failures in referral
<p>Kasturba</p> <p>Complication: Severe anaemia/ cardiac failure</p>	<p>During pregnancy diagnosed with severe anaemia by MHW at PHC1 in her husband's village</p> <p>She sees the MO at PHC2 in her natal village, he advises institutional delivery in government hospital</p> <p>She delivers on the grounds of PHC3 in a neighbouring village without waking up the staff for fear of having to pay money</p> <p>She returns to MO at PHC2 who advises admission to government hospital.</p> <p>They miss the one bus from their village to the government hospital.</p> <p>She dies that night.</p>	<p>Although risk acknowledged no follow up by MHW in PHC1</p> <p>ANM post vacant at PHC1</p> <p>Although risk acknowledged no follow up by MO in PHC2</p> <p>No inpatient service at PHC2 as no quarters for health workers</p> <p>No admission to PHC3 due to fees</p> <p>No post natal care</p> <p>ANM post vacant at PHC2</p> <p>Although risk acknowledged no follow up during post natal period by MO in PHC2</p>	<p>No referral to ensure treatment taken at PHC1</p> <p>MO2 advised delivery at government hospital, but no further assistance</p> <p>MO2 advised emergency care at government hospital, but no assistance with transport</p>
<p>Sarita</p> <p>Complication: Sepsis/ severe anaemia</p>	<p>She receives ANC from MO at PHC in her natal village.</p> <p>ANM assists delivery at her home and provides PNC.</p> <p>She gets injections from RMP in her village.</p> <p>ANM refers her to CHC in next town.</p> <p>Family takes her to a government MO's private clinic (not the MO posted at CHC).</p> <p>MO refers her to government hospital but she dies on the way</p>	<p>No resident MO at PHC</p> <p>No proper building at PHC</p> <p>ANM misdiagnoses sepsis for malaria</p> <p>RMP gives injections but ineffective</p>	<p>ANM does not recognise sepsis</p> <p>RMP did not refer</p> <p>ANM refers too late</p>
<p>Durgamma</p> <p>Complication: Sepsis</p>	<p>Institutional delivery with MO and Nurse at CHC in next town.</p> <p>She returns 4 days later and sees ANM at CHC.</p> <p>She returns 17 days later and is sent to a government hospital out of the district but she dies on the way</p>	<p>Sepsis despite institutional delivery</p> <p>ANM misdiagnoses sepsis for malaria</p> <p>No post natal care</p>	<p>ANM does not recognise sepsis</p> <p>Sent out of district, but too late</p>
<p>Vijaylaxmi</p> <p>Complication: Sepsis</p>	<p>During pregnancy she receives ANC from ANM in the CHC in the next town.</p> <p>She tried to get admitted to the CHC but was not able to due to pulse polio, so she delivers with RMP in that town.</p> <p>13 days later was being taken to a private hospital outside the district when she died on the way</p>	<p>No government staff available for delivery due to pulse polio</p> <p>No post natal care due to government holiday</p>	<p>No follow up</p>

Profile	Services received	Failures in service delivery	Failures in referral
Emergencies where women survive			
Kallama TB, severe anaemia, inter-uterine fetal death	<p>During pregnancy she gets ANC from ANM in her village</p> <p>She goes to another village and gets treatment at PHC1 for cough</p> <p>She returns to PHC1 and gets different treatment for cough.</p> <p>She gets another treatment for cough from ANM in her village.</p> <p>She goes to RMP and gets injections for cough.</p> <p>She feels complications and sees RMPs who tells her to go to PHC. MO at PHC2 in another village induces labour to deliver dead foetus</p>	<p>ANC does not assess risk nor treat severe anaemia</p> <p>MO does not assess risk nor treat severe anaemia</p> <p>ANM, MO and RMP give inconsistent treatment for cough</p> <p>MO2 insists on family signing blank sheet of paper before giving treatment</p>	<p>MO2 tries to refer to government hospital, but family refuses for lack of funds</p> <p>THO recommends government hospital admission, but no assistance with transport</p>
Manjula Prolonged labour	<p>During pregnancy she receives ANC from ANM in her village</p> <p>When labour begins at night ANM1 attends delivery with TBA at home</p> <p>The next morning ANM1 and RMP give injections at home</p> <p>ANM and RMP send her to CHC in next town</p> <p>MO at PHC gives IV for delivery</p> <p>IV entry point begins to swell, ANM removes it and sends them away</p> <p>She gets admitted to RMP clinic who gives IV for delivery and has normal delivery</p>	<p>ANM1 does not ensure care at CHC, because of immunisation work</p> <p>No MO for follow up due to out of town meeting</p> <p>No staff available in the wards, families have to go to staff quarters to look for help after woman is admitted.</p> <p>ANM2 discharges woman early</p> <p>ANM2 tells ANM1 to make sure she gets the family to sign a blank sheet of paper before referring</p>	<p>ANM1 tells woman to go to CHC but with no assistance</p> <p>ANM2 tells woman to go to government hospital but with no assistance</p>
Shakuntala Severe anaemia	<p>During PNC visit ANM realises that she is very weak</p> <p>ANM reports her condition to THO in meeting.</p> <p>Following THOs instructions ANMs gets woman admitted to government hospital.</p> <p>Family instructed to get blood and other inputs from elsewhere which are administered in time for her to recover</p>	<p>No blood, family had to get from elsewhere</p> <p>No specialists</p>	<p>THO reviewed ANM's work and got her to follow up with family</p> <p>THO ensured that appropriate care received at hospital despite lack of specialists</p>

References

- AbouZahr, C., 2001, 'Cautious Champions: International Agency Efforts to get Safe Motherhood onto the Agenda', in V. De Brouwere and W. Van Lerberghe (eds), *Safe Motherhood Strategies: A Review of the Evidence. Studies in Health Services Organisation and Policy (17)*, Antwerp: ITG Press: 384–410
- Afsana, K., 2004, 'The tremendous cost of seeking hospital obstetric care in Bangladesh', *Reproductive Health Matters*, Vol 12 No 24: 171–90
- ANS (Academy of Nursing Studies and Women's Empowerment Research Studies), 2001, *Study of Factors Contributing to Maternal Death in Andhra Pradesh: Report of a Study in Medak and Mahaboobnagar Districts*, Hyderabad: Academy of Nursing Studies and Women's Empowerment Research Studies
- Ashetkar, S. and Mankad, D., 2001, 'Who cares? Rural health practitioners in Maharashtra', *Economic and Political Weekly*, 3–10 February: 448–53
- Bang, R.A., Bang, A.T., Reddy, M.H., Deshmukh, M.D., Baitule, S.B. and Filippi, V., 2004, 'Maternal morbidity during labour and the puerperium in rural homes and the need for medical attention: a prospective observational study in Gadchiroli, India', *BJOG: An International Journal of Obstetrics and Gynaecology*, Vol 111 No 3: 231–8
- Bhatia, J.C., 1989, *A Study of Maternal Mortality in Anantpur District, Andhra Pradesh, India*, Bangalore: Indian Institute of Management Bangalore
- Bhatia, J. and Cleland, J., 2001a, 'The contribution of reproductive ill-health to the overall burden of perceived illness among women in southern India', *Bulletin of the World Health Organisation*, Vol 79 No 11: 1065–9
- 2001b, 'Health-care seeking and expenditure by young Indian mothers in the public and private sectors', *Health Policy and Planning*, Vol 16 No 1: 55–61
- 1996, 'Obstetric morbidity in south India: results from a community survey', *Social Science and Medicine*, Vol 43 No 10: 1507–16
- Brinkerhoff, D.W., 2004, 'Accountability and health systems: toward conceptual clarity and policy relevance', *Health Policy and Planning*, Vol 19 No 6: 371–9
- Bloom, G. and Standing, H., 2001, 'Pluralism and marketisation in the health sector: meeting health needs in contexts of social change in low and middle income countries', *IDS Working Paper 136*, Brighton: Institute of Development Studies
- Caleb Varkey, L., 2004, Presentation made on the National Consultation on Linking Home to Referral Hospital. Organised by Centre for Health Education, Training and Nutrition Awareness (CHETNA-Ahmedabad) and Academy for Nursing Studies (Hyderabad), May 5, Ahmedabad
- Das, J. and Hammer, J., 2004, 'Strained mercy: quality of medical care in Delhi', *Economic and Political Weekly*, 28 February: 951–61
- Deaton, A. and Dreze, J., 2002, 'Poverty and inequality in India: a re-examination', *Economic and Political Weekly*, 7 September

- Dujardin, B., Boutsen, M., De Schampelaire, I., Kulker, R., Mashande, J.P., Bailey, J., Wollast, E. and Buekens, P., 1995, 'Oxytocics in developing countries', *International Journal of Obstetrics and Gynecology* 50: 243–51
- Ellis, M., Manandhar, N., Manandhar, D. and Costello, A., 2000, 'Risk factors for neonatal encephalopathy in Kathmandu, Nepal, a developing country unmatched case control study', *British Medical Journal* 320: 1229–36
- Fathalla, M.F., 2003, 'Good anatomy does not mean good physiology: a commentary', *International Journal of Gynaecology and Obstetrics*, Vol 82 No 1: 104–6
- Filippi, V., Brugha, R., Browne, E., Gohou, V., Bacci, A., De Brouwere, V., Sahel, A., Goufodji, S., Alihonou, E. and Ronsmans, C., 2004, 'Obstetric audit in resource-poor settings: lessons from a multi-country project auditing "near miss" obstetrical emergencies', *Health Policy and Planning*, Vol 19 No 1: 57–66
- Freedman, L.P., 2003, 'Human rights, constructive accountability and maternal mortality in the Dominican Republic: a commentary', *International Journal of Gynaecology and Obstetrics*, Vol 82 No 1: 111–4
- 2001, 'Using human rights in maternal mortality programs: from analysis to strategy', *International Journal of Gynaecology and Obstetrics* 75: 51–60
- Ganatra, B.R., Coyaji, K.J. and Rao, V.N., 1998, 'Too far, too little, too late: a community based case-control study of maternal mortality in rural west Maharashtra, India', *Bulletin of the World Health Organisation*, Vol 76 No 6: 591–8
- George, A., 2003a, 'We need to fix this leaky vessel': Interview with Dr H. Sudarshan, Vigilance Director for Health, Education and Social Welfare, Karnataka Lokayukta (KLA), *Humanscape Magazine*, September 10 (9), www.humanscape.org/Humanscape/new/sept03/weneedto.htm (accessed 2 January 2004)
- 2003b, 'Using accountability to improve reproductive health care', *Reproductive Health Matters*, Vol 11 No 21: 161–70
- Goetz, A.M. and Gaventa, J., 2001, 'Bringing citizen voice and client focus into service delivery', *IDS Working Paper* 138, Brighton: Institute of Development Studies
- Goetz, A.M. and Jenkins, R., 2004a, *Reinventing Accountability: Making Democracy Work for Human Development*, London: Palgrave Macmillan
- 2004b, 'Voice and accountability in service delivery', *Development Outreach*, Vol 6 No 1, World Bank Institute, March
- 2001, 'Hybrid forms of accountability. Citizen engagement in institutions of public-sector oversight in India', *Public Management Review*, Vol 3 No 3: 363–83
- GOI (Government of India), 2004, *Health Information of India 2004*, New Delhi: Central Bureau of Health Intelligence, Directorate General of Health Services, Ministry of Health and Family Welfare. Statistics derived from tables accessed on 15 June 2005 from <http://cbhidghs.nic.in/HII2004/content1.asp>
- 2001, *Census of India*, New Delhi: Office of the Registrar General

- GOI (Government of India) and RGI (Registrar General of India), 1998, *Survey of Causes of Death (Rural)* reproduced in *Health Information of India: 2003*, accessed on 30 May 2005 from the Government of India, Central Bureau of Health Intelligence website <http://cbhidghs.nic.in/Introduction.asp>
- GOK (Government of Karnataka), 2004, *Report of the High Power Committee for Redressal of Regional Imbalances*, Bangalore: Nanjundappa Committee
- 2003, *Karnataka State Integrated Health Policy*, Bangalore: Department of Health and Family Welfare
- 2001, Task Force on Health and Family Welfare, *Karnataka: Towards Equity, Quality and Integrity in Health. Focus on Primary Health Care and Public Health*, Bangalore: Government of Karnataka
- 1999, *Human Development in Karnataka 1999*, Bangalore: Planning Department
- IIPS (International Institute for Population Sciences), forthcoming, *Reproductive and Child Health District Level Household Survey 2002. Round 2 Phase 1*, Koppal, accessed on 15 June 2005 from www.rchindia.org/rep/kar/koppal/koppal.htm
- 2001, *India Facility Survey, Phase 1 1999. Reproductive and Child Health Project*, Mumbai: International Institute for Population Sciences
- IIPS (International Institute for Population Sciences) and ORC Macro, 2001, *National Family Health Survey (NFHS-2), India, 1998–99: Karnataka*, Mumbai: International Institute for Population Sciences
- Keefer, P. and Khemani, S., 2004, ‘Why do the poor receive poor services?’, *Economic and Political Weekly* 39, (9 February): 935–43
- Kilaru, A., Mathews, Z., Ramakrishna, J., Mahendra, S. and Ganapathy, S., 2004, ‘“She Has a Tender Body”: Postpartum Care and Care-seeking During Bananthana in Rural South India’, in M. Unnithan-Kumar (ed.), *Reproductive Agency, Medicine and the State: Cultural Transformations in Childbearing*, Oxford: Berghahn Books
- Killingsworth, J.R., Hossain, M., Hedrick-Wong, Y., Thomas, S.D., Rahman, A. and Begum, T., 1999, ‘Unofficial fees in Bangladesh: price, equity and institutional issues’, *Health Policy and Planning*, Vol 14 No 2: 152–63
- Leonard, D., 2003, ‘Lessons From the New Institutional Economics for the Structural Reform of Human Health Services in Africa’, in *Africa’s Changing Markets for Health and Veterinary Services: The New Institutional Issues*, Berkeley: University of California International and Area Studies Digital Collection
- 1999, ‘What’s So Special About Maternal Mortality?’, in M. Berer and T.K.S. Ravindran (eds), *Safe Motherhood Initiatives: Critical Issues*, Oxford: Reproductive Health Matters / Blackwell Science
- Maine, D., 1991, *Safe Motherhood Programmes: Options and Issues*, New York: Columbia University, Centre for Population and Family Health
- Maine D 2001. How do socioeconomic factors affect disparities in maternal mortality? *Journal of American Women’s Medical Association*. 56(4): 189–191.
- Mathews Z, Mahendra S, Kilaru A, Ganapathy S 2001. Women in Waiting: Antenatal Care, Care Seeking and morbidity in rural Karnataka. Results of a Prospective Study. *Asia Pacific Population Journal*, Vol 16 No 2: 11–29

- Mavalankar, D., 2003, 'Policy barriers preventing access to emergency obstetric care in rural India', *Achutha Menon Centre for Health Science Studies Working Paper Series 5*, Trivanderum: Sree Chitra Tirunal Institute for Medical Sciences and Technology
- 1999, 'Promoting Safe Motherhood: Issues and Challenges', in S. Pachauri (ed.), *Implementing a Reproductive Agenda in India: The Beginning*, New Delhi: Population Council
- Mavalankar D. and Reddy, P., 1996, 'Can PHC system in India deliver emergency obstetric care?: A management perspective on child survival and safe-motherhood programme', *Social Change*, Vol 26 Nos 3–4: 14–29
- McCoy, D., Ashwood-Smith, H., Ratsma, E., Kemp, J. and Rowson, M., 2004, *Going From Bad to Worse: Malawi's Maternal Mortality. An Analysis of the Clinical, Health Systems and Underlying Reasons, With Recommendations for National and International Stakeholders*, Background Paper Commissioned by Task Force on Child Health and Maternal Health, Durban: Health Systems Trust
- Murthy, R.K. and Klugman, B., 2004, 'Service accountability and community participation in the context of health sector reforms in Asia: implications for sexual and reproductive health services', *Health Policy and Planning* 19 (Suppl. 1): 78–86
- Nuñez Urquiza, R.M., 2004, *Detección de Eslabones Críticos en los Procesos de Atención Para la Prevención de Muertes Maternas*, México: Secretaria de Salud
- Paredes, P., De la Pena, M., Flores-Guerra, E., Diaz, J. and Trostle, J., 1996, 'Factors influencing physician's prescribing behaviour in the treatment of childhood diarrhoea: knowledge may not be the clue', *Social Science and Medicine*, Vol 42 No 8: 1141–53
- Peters, D.H., Yazbeck, A.S., Sharma, R.S., Ramana, G.N.V., Pritchett, L.H. and Wagstaff, A., 2002, *Better Health Systems for India's Poor: Findings, Analysis and Options*, Washington, D.C.: World Bank
- Public Expenditure Review, 2004, Draft Report on Health Sector Public Expenditure Review Commissioned for the Karnataka Health System Development Project, unpublished document
- Rao, A., 2003, *Karnataka Lokayukta: Initiatives in the Public Health Sector, A Review*, Bangalore: Public Affairs Centre
- RamaRao, S., Caleb, L., Khan, M.E. and Townsend, J.W., 2001, 'Safer maternal health in rural Uttar Pradesh: do primary health services contribute?', *Health Policy and Planning*, Vol 16 No 3: 256–63
- Ransom, E.I. and Yinger, R.V., 2002, *Making Motherhood Safer: Overcoming Obstacles on the Pathway to Care*, Washington, D.C.: Population Reference Bureau
- Ravindran, T.K.S. and Berer, M., 1999, 'Preventing Maternal Mortality: Evidence, Resources, Leadership, Action', in M. Berer and T.K.S. Ravindran (eds), *Safe Motherhood Initiatives: Critical Issues*, Oxford: Reproductive Health Matters / Blackwell Science
- Ravindran, T.K.S., Savitri, R. and Bhavani, A., 1999, 'Women's Experiences of Utero-Vaginal Prolapse: A Qualitative Study from Tamil Nadu, India', in M. Berer and T.K.S. Ravindran (eds), *Safe Motherhood Initiatives: Critical Issues*, Oxford: Reproductive Health Matters / Blackwell Science
- Ronsmans, C., 2001, 'What is the evidence for the role of audits to improve the quality of obstetric care?', *Studies in Health Service Organisation and Policy* 17: 203–23

- Rosenfield, A., 2004, 'Maternal Mortality Reduction: Lessons Learned, 1985–2003', presentation made at the International Forum on Population and Development, 8 September, Wuhan, China
- Schedler, A., 1999, 'Conceptualising Accountability', in A. Schedler (ed.), *The Self-Restraining State: Power and Accountability in New Democracies*, London: Lynne Rienner
- Sekher, T.V., Raju, K.N.M. and Sivakumar, M.N., 2001, 'Fertility transition in Karnataka: levels, trends and implications', *Economic and Political Weekly*, 22 December: 4742–52
- Sen, G., Cottingham, J. and Govinder, V., forthcoming, *Maternal and Neonatal Health: Surviving the Roller Coaster of International Policy*, Maternal-Newborn Health and Poverty Project, Geneva: WHO
- Sen, G., Iyer, A. and George, A., 2002, 'Structural reforms and health equity: a comparison of NSS surveys of 1986–87 and 1995–96', *Economic and Political Weekly*, 6 April: 1342–52
- Shankar, P.S., 2000, *New Medical Dictionary*, New Delhi: Oxford and IBH Publishing Company
- Supratikto, G., Wirth, M.E., Achadi, E., Cohen, S. and Ronsmans, C., 2002, 'A district-based audit of the causes and circumstances of maternal deaths in South Kalimantan, Indonesia', *Bulletin of the World Health Organisation*, Vol 80 No 3: 228–35
- Thaddeus, A. and Maine, D., 1994, 'Too far to walk: maternal mortality in context', *Social Science and Medicine*, Vol 38 No 8: 1091–110
- Trostle, J., 1996, 'Inappropriate distribution of medicines by professionals in developing countries', *Social Science and Medicine*, Vol 42 No 8: 1117–20
- Umamani, K.S. and Yogananda, C., 2003, *Place of Delivery and Delivery Practices in Rural Karnataka*, Bangalore: Population Research Centre, Institute for Social and Economic Change
- UNICEF, 1995, *The Progress of Indian States*, New Delhi: UNICEF
- UN Millennium Project, 2005, *Who's Got the Power? Transforming Health Systems for Women and Children*, Task Force on Child Health and Maternal Health, London: Earthscan
- Van Lerberghe, W. and De Brouwere, V., 2001a, 'Reducing Maternal Mortality in a Context of Poverty', in V. De Brouwere and W. Van Lerberghe (eds), *Safe Motherhood Strategies: A Review of the Evidence. Studies in Health Services Organisation and Policy (17)*, Antwerp: ITG Press: 1–5
- 2001b, 'Of Blind Alleys and Things That Have Worked: History's Lessons on Reducing Maternal Mortality', in V. De Brouwere and W. Van Lerberghe (eds), *Safe Motherhood Strategies: A Review of the Evidence. Studies in Health Services Organisation and Policy (17)*, Antwerp: ITG Press: 7–33
- Weeks, A.D., Alia, G., Ononge, S., Mutungi, A., Otolorin, E.O. and Mirembe, F.M., 2003, 'Introducing criteria based audit into Ugandan maternity units', *British Medical Journal* 327: 1329–31
- WHO, 2005, *World Health Report 2005: Making Every Mother and Child Count*, Geneva: World Health Organisation
- 2004, *Beyond the Numbers: Reviewing Maternal Deaths and Complications to Make Pregnancy Safer*, Geneva: World Health Organisation
- 2000, *World Health Report 2000 Health Systems: Improving Performance*, Geneva: World Health Organisation

World Bank, 2005, Project Appraisal Document for Improving Health Outcomes through the Karnataka Health Systems Development and Reform Programme, unpublished document
—— 2001, *Raising the Sights: Better Health Systems for India's Poor*, Washington, D.C.: World Bank