

**Contracting Out to Improve Maternal Health: Evaluating the
Quality of Care under the *Chiranjeevi Yojana* in Gujarat, India**

By

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Dedication

This work is dedicated to the memory of:

Ahmed Hanafi Sa'ad (17/12/69 - 29/10/06)

And

Yunusa Aliyu Bako (07/10/70 - 03/08/07)

May their gentle souls rest in perfect peace, amen.

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Executive Summary

Introduction

This study was conducted at the instance of the Centre for Health and Social Justice, New Delhi and aimed to evaluate the quality of care under the *Chiranjeevi Yojana*, which is a new scheme embarked upon by the Government of Gujarat to increase institutional deliveries, by contracting private obstetricians to provide delivery services to women living below poverty line.

The Chiranjeevi scheme started as a pilot project in 5 districts in Gujarat in December 2005, and had since been scaled up to all 25 districts of the state. Two evaluations of the pilot project were conducted in mid-2006, both of which raised important quality of care issues with the pilot programme.

Aims and objectives

The study aimed to evaluate the quality of care under the scheme in the two districts of Panchmahal and Kutch. The specific objectives of the study were:

- 1) In the private clinics contracted under the scheme, to access
 - a. facilities, human resources and level of care
 - b. the outputs
 - c. the referral patterns and constraints to delivery of quality emergency obstetric care
- 2) To explore the beneficiaries' experience and perception of the quality of care

Methods

Both quantitative and qualitative methods were used for data collection. A quantitative inventory was taken of the private clinics using a checklist in order to assess facilities, human resources and level of care. The service outputs from the clinics were assessed by collecting and analysing data from the clinics' performance records. Qualitative semi-structured interviews were conducted with the doctors to understand referral patterns and their constraints to quality care provision, and with beneficiaries of the scheme to explore their experiences and perceptions of quality care.

Results

All the clinics assessed were equipped to carry out normal and assisted vaginal deliveries; however 50% of the clinics in one district lacked complete neonatal resuscitation kits, and two clinics were not adhering to proper aseptic techniques, aspects that could affect the provision of quality care.

For the third level of care, four clinics in each district did not have a separate scrub room from the operating theatre and anaesthetic machines. Only one of the 26 clinics assessed had facilities for blood storage.

Clinics in district A performed more deliveries than those in district B during the month of July 2007 (1747 vs. 706), but significantly less caesarean sections as a proportion of total deliveries (4.92% vs. 11.33%).

From the doctors' interviews, the main reasons for referring patients out were lack of anaesthetists and facilities for blood transfusion, and dissatisfaction with the capitation payment system. The same reasons were also perceived by the doctors to be constraints to provision of quality care.

From in-depth interviews with beneficiaries, the main themes that emerged relate to:

- Women making additional payments to access care
- Generally good experience with interpersonal care
- A short delivery-to-discharge period
- Apprehension about hospital delivery

Implications for policy and practice

These findings have obvious implications for policy and practice, and the following strategic options are worth considering in improving the scheme:

- Setting up more blood transfusion facilities in the districts.
- Integrating antenatal as well as postnatal care into the scheme, which will ensure continuity of care and also help to allay the women's apprehension about hospital delivery
- Decentralising decision-making on fixing the payment system to the district level, so that differences in complication rates between districts is taken into account.
- Contracting non-specialist doctors especially in areas where there are few or no specialist obstetricians
- Formal monitoring of the scheme.

Executive summary word count = 587

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CHAPTER 1

Introduction

1.1 The problem

India is the largest country in South-East Asia, and the second most populous in the world with over one billion people. Also the world's largest democracy, it is made up of diverse peoples with different cultures, languages and traditions. It has one of the world's fastest growing economies, but also suffers from substantial poverty, with an estimated 27.5% of the population living below poverty line (Planning Commission, 2007).

India's maternal and infant mortality rates are among the highest in the world. According to the latest figures from the World Health Organisation, these figures are 540 per 100 000 live births and 56 per 1000 live births respectively (WHO, 2007). There are wide variations across regions, with states like Tamil Nadu having a maternal mortality rate of 115 per 100 000 live births and Bihar with a rate much higher than the Indian average (Mari Bhat, 2002). Gujarat, which is one of the more prosperous states, has maternal and infant mortality rates of 172 per 100 000 and 60 per 1000 live births respectively (Socioeconomic Review Gujarat State 2006).

1.2 Improving maternal care

In order to improve the poor maternal health situation in the state, the Government of Gujarat introduced an innovative scheme called the Chiranjeevi Yojana, where private obstetricians are contracted to offer delivery services to poor women who would not otherwise be able to pay for these services. This was done within the policy context of the Indian Reproductive and Child Health II (RCH II) programme, and also in line with the recommendations of the task force on Public-Private Partnership to improve maternal health care delivery (Draft Report for the Eleventh Five-Year Plan 2007-2012). Previous experience with partnership with the private health sector has been encouraging; over the years the Government of Gujarat has been in partnership with the private sector in areas such as construction of Primary Health Centres, service management contracts of some District Hospitals and engaging private ophthalmologists to perform cataract surgeries (Bhat et. al, 2006).

The decision to engage private medical practitioners in maternity care was predicated on the fact that the private sector is a major player in the Indian health system, accounting for 57% of all hospital facilities, 29% of in-patient beds and 81% of doctors (Bhat, 1996). In Gujarat, three-quarters of the over 17 000 registered doctors work in the private sector (Bhat, Verma and Reuban, 2001). Possible factors contributing to this growing influence of the private health sector include the falling standards of public hospitals and an increase in the proportion of the middle class who can afford to pay for their services.

1.3 The client

The Centre for Health and Social Justice is a New Delhi-based health policy research, advocacy and resource support organisation. It was established in 2006 with the main objective of influencing public health practice and discourse in India through:

- Carefully documented evidence on the impact of policy intention and programme delivery on the lives of citizens, especially the most vulnerable and marginalised

- Enhancing insights and skills among policy makers and practitioners through a process of change that will ensure greater social justice
- Engaging in discussion and dialogue with policy makers and civil society actors for advocacy on health
- Developing leadership and operational capacities for improved design, delivery and monitoring of quality, accessible health care services

Currently, the Centre is engaged in coordinating the Community Monitoring aspect of the National Rural Health Mission, India's new mechanism of delivering public health programmes to its citizens through a comprehensive approach. The study was thus undertaken at the instance of the Centre, which intends to use the findings in its advocacy work.

The director of the Centre is Dr Abhijit Das, a Clinical Assistant Professor of Public Health and Community Medicine, University of Washington, Seattle, USA. The Governing Board is made up of other public health practitioners, researchers, lawyers and advocates from the press and civil society organisations.

1.4 The scheme¹

“Chiranjeevi Yojana” literally translates to “eternal life scheme”. It was initiated with the main objective of increasing institutional deliveries, thereby reducing maternal and infant mortality, by contracting out delivery services among women living below poverty line (defined by the World Bank as those living on less than one US dollar a day) to private obstetricians and gynaecologists. These private partners will then be reimbursed via a capitation system that was worked out with inputs from SEWA Rural, a local non-governmental organisation, and the Indian Institute of Management, Ahmedabad. Briefly, the private doctors will be paid a fixed amount for a batch of 100 deliveries, irrespective of the type of delivery, bearing in mind the local patterns of normal and complicated deliveries. The doctor has the option of either conducting the delivery in his own facility or in a public hospital. The women will also be paid an amount by the doctor to cover their transport cost and a stipend for the accompanying person (see Appendix 1: Service Charges for Chiranjeevi Yojana).

The beneficiaries access care from a private clinic of their choice on production of a Below Poverty Line or BPL card, which is a form of voucher used throughout the country to subsidise essential commodities and services to the poor. Those without a BPL card can still access care by getting a letter from their local authorities.

The state and district health officials held several meetings with the private gynaecologists in the district capitals, where the scheme was introduced to them. Those interested then signed Memoranda of Understanding with the District Health Authorities after submitting information on the staff and facilities of their clinics. Awareness about the scheme was also generated in the communities by the authorities, involving Field Health Workers, Auxiliary Nurse Midwives, Village Heads and even Traditional Birth Attendants. A broad monitoring scheme was worked out where Block Health Officers at sub-district level would collect records of performance and adverse incidents from the contracted clinics and forward it to the District Health Officers on a monthly basis.

¹ Information on the Chiranjeevi scheme from Bhat et. al, 2006 and discussions with the Commissioner of Health and Family Welfare, Govt. of Gujarat

The Chiranjeevi scheme initially started as a pilot study in five of the most economically disadvantaged districts of the state in December 2005, namely Kutch, Banaskanta, Sarbarkanta, Panchmahal and Dahod. 6 months afterwards, a couple of evaluations were done to understand the processes and impact of the scheme. The first of these evaluations was a rapid assessment done by the United Nations Population Fund in two of the five pilot districts in October 2006 (UNFPA, 2006). The UNFPA study showed an increase not only in the private but also public sector institutional deliveries since the inception of the scheme. The 48 private institutions contracted under the scheme in the two study districts (Panchmahal and Kutch) performed a total of 5142 deliveries, an increase of over 30% of total private sector deliveries within the first six months of the scheme. Similarly, there was an increase in the total number of deliveries in public hospitals by 9% during the same period. The study also found out that the clients that availed the services of the scheme were largely happy with the outcome. However, some problems pertaining to low awareness of the scheme amongst Muslim women in some remote tribal areas and early discharge from hospital following a normal delivery were identified. In some instances, clients were made to pay for some services like newborn care and laboratory costs which the providers claimed were not covered under the scheme. Most of the providers interviewed preferred a differential payment mechanism for normal and complicated deliveries. Some programme managers pointed out a need for putting better quality control measures in place. Overall, the study recommended standard protocols for patient management, improving monitoring and quality control, and creating better awareness among prospective clients.

The second evaluation of the scheme was a Working Paper of the Indian Institute of Management (Bhat, Singh, Maheshwari and Saha, 2006). This paper discussed both the processes and performance of the scheme in the five pilot districts. An increase in the total number of deliveries was also demonstrated; importantly, there was no maternal and thirteen infant deaths recorded in the private hospitals under the scheme since inception. This study also showed that the caesarean section rates in the contracted private clinics were significantly less than the Indian average, a finding the authors adduced to the capitation reimbursement system which discourages unnecessary caesarean operations. This paper also drew the attention of policy makers to the “lack of adequate quality control measures which may be crucial in up-scaling the scheme”. Strengthening quality of care was therefore a common theme of both evaluations.

1.5 The study

This study, which was undertaken in partial fulfillment of the masters in Community Health and at the instance of the Centre for Health and Social Justice, New Delhi, aimed to evaluate the quality of care under the Chiranjeevi scheme. It specifically sought to assess the facilities, human resources, outputs and level of service in the private clinics contracted, and to understand the referral patterns and constraints to provision of quality care in the clinics. It also explored the experiences and perceptions of quality of care of the beneficiaries.

A review of the relevant literature was done in the areas of maternal mortality reduction, public-private partnerships in the health sector, quality of care in the private sector, consumers’ views of quality of care and methods of assessing quality of health care.

Both quantitative and qualitative research methods were used to collect data. The facilities and human resources were assessed via an inventory using a checklist developed with the Indian Public Health Standards for Community Health Centres as standards. Data was also

collected from the clinic records to assess the service outputs. Interviews were then conducted with the doctors in the private clinics in order to understand the referral patterns and constraints to quality obstetric care provision. Finally, in-depth interviews were conducted with some of the beneficiaries of the scheme to explore their experiences and perceptions of quality of care. Additional information about the scheme was obtained through informal discussions with policy makers, other researchers and a myriad of health workers.

The findings from the study were then discussed in the context of a resource constraint setting; analyses and comparisons were made with the findings of the previous evaluations of the scheme and other similar studies. Finally, potential areas of improvement were pointed out to policy makers in order to enhance the scheme.

CHAPTER 2

Literature Review

This section deals with a review of the literature on the role of the skilled birth attendant in strategies to reduce maternal mortality. It also examines the concept of public-private partnerships in health care with an emphasis on contracting out, and describes the quality of care in private health institutions, with particular reference to India. It also looks at consumer views about quality of care and finally explores ways of assessing quality in health care.

2.1 Strategies to reduce maternal mortality- role of the skilled birth attendant

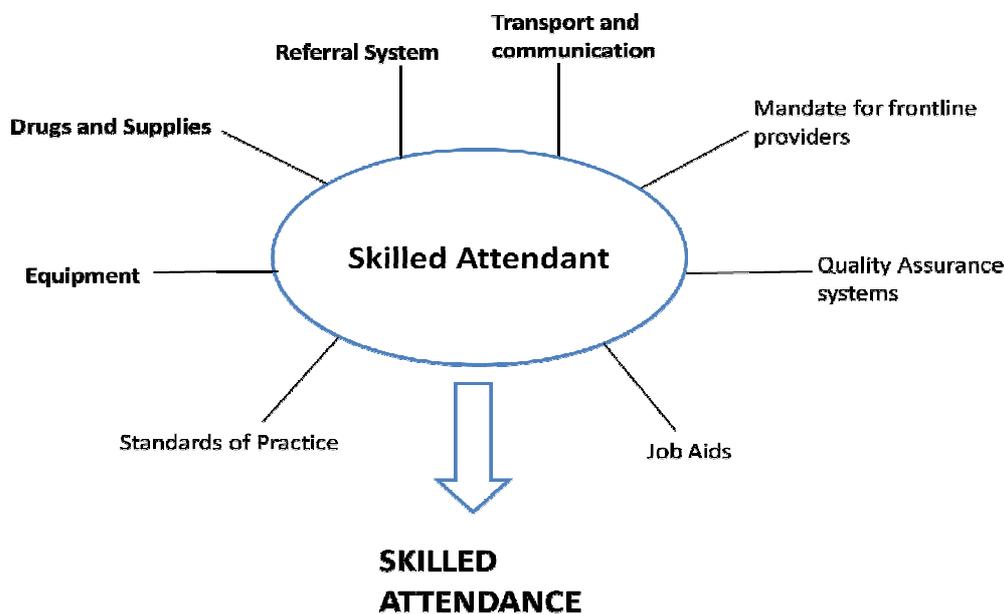
It is generally accepted that in order to achieve any meaningful reduction in the number of women dying from childbirth-related complications, access to facilities adequately equipped and staffed with skilled birth attendants is a major prerequisite (WHO, ICM and FIGO,2004). A skilled birth attendant is defined as “a health professional such as a doctor, nurse or midwife who has the training and proficiency in the skills needed to manage normal pregnancies, childbirth and the immediate postnatal period and in the identification, management and referral of complications in women and newborns” (WHO, ICM and FIGO, 2004). The proportion of births attended by a skilled attendant is one of the two indicators for measuring the fifth Millennium Development Goal, which is improving maternal health.

Most low and middle- income countries however lack skilled attendants in sufficient numbers to have an impact in maternal mortality reduction. In India, only 33.5% of deliveries are attended by skilled personnel (WHO, 2007). In the state of Gujarat, obstetrician and gynaecologist posts are vacant in 65% of Comprehensive Health Centres and in 30% of District Hospitals (Bhat et. al, 2006). Sri Lanka, India’s neighbour, has been able to reduce maternal mortality from over 800 in the 1950s to 92 per 100 000 live births in 2000 by increasing the proportion of deliveries attended by skilled birth attendants to 86% (WHO, 2007).

An increase in the number of skilled birth attendants alone is not sufficient to cause an improvement in the maternal mortality picture (Christian et. al, 2006); other factors such as improved infrastructure (e.g. roads, transport, communication) to facilitate referrals to the next level of care at a well functioning health system with adequate staff and facilities to handle such referrals are all important, and create the so-called enabling environment for delivering good quality care (figure 2.1, below).

Other strategies for reducing maternal mortality include improvements in family planning, antenatal care and safe abortion (Campbell and Graham, 2006). Strategies that target the intra-partum period however remain central.

Figure 2.1: The Enabling Environment for skilled attendance (Source: Family Care International and the Safe Motherhood Inter-Agency Group, 2001)



2.2 Public-private partnerships in the health sector

In recent times, public health systems particularly in developing countries have been facing a major crisis. Competing demands from other sectors have starved the health sector of the funds necessary to keep pace with new technology and a growing demand of improved quality from the public (Nikolic and Maikisch, 2006). An ageing population with their specific health needs have also put extra pressure on the already weak public system, leading to near collapse of the public health system in many low- income countries. Reforms are clearly needed in the health sector and collaboration or partnerships with the private sector have been one of the pillars of this reform process (World Bank, 1993).

There has been much debate as to what constitutes public-private partnerships. The term is often confused with privatisation, because some governments and donor agencies have used it to promote subsidies and sometimes outright sale of government property to private entrepreneurs (Vickers and Yarrow, 1988). But strictly speaking, public-private partnerships are “institutional relationships between the state and the private for-profit and/or the private not-for-profit sector, where the different public and private actors jointly participate in defining objectives, the methods and the implementation of an agreement or cooperation” (Jutting, 1999). Such partnerships are believed to introduce better quality and cost-effective health care because the private sector is regarded as being more efficient (WHO, 2001); partnerships are also thought to allow the state to concentrate on financing and regulation of health care because of its apparent failure in service provision (Mitchell, 2000).

There are various forms of partnership between the state and the private health sector. Some of these include- contracting, social marketing, franchising, joint ventures, leasing, capacity building and out-right privatisation. Contracting is perhaps the commonest form of

partnership between the public and private health sectors (Ashton et. al, 2004). Contracts in this context are of two types:

- Contracting In: where the government engages the private sector to manage certain areas of a public health facility, for example transportation, maintenance of buildings and facilities, and provision of meals (Ashton et. al, 2004).
- Contracting Out: this refers to engaging the private sector to provide certain services (such as reproductive health) or to manage an entire public health facility (Ashton et. al, 2004).

Merely contracting the private sector to provide services that were previously in the purview of the state does not absolve the latter from its responsibility for the health system; it however allows it to attend to the other issues relating to setting performance targets for health outcomes and quality, ensuring the poor have access to the service, and of course payment for the services (Bennett and Mills, 1998). Evidence from a systematic review suggest that contracting out service delivery has a positive impact on the utilisation of services, although the strength of this evidence is weakened by several flaws in the designs of some of the studies (Lagarde and Palmer, 2006; p36). Contracting out also has the advantage of fostering competition among the contracted private providers, which can have a positive impact on quality of services offered, but has the disadvantage of weakening the institutional capacity of the Government health system; government capacity to effectively manage a contract can also be a problem in low resource settings, as is monitoring service delivery, especially in remote areas (Palmer and Mills, 2005).

In a review of studies to examine the effectiveness of contracting in the health sector, Loevinsohn and Harding (2005) found that private contractors were more effective than the government in service provision, both in terms of quality of care and coverage. There were larger differences in those contract areas where change was easier, such as immunisation and vitamin A supplementation, but smaller changes in institutional delivery and family planning, areas that require behavioural change. The authors also cautioned that it was too early to determine whether some of the contracts were sustainable or not. These findings should therefore be interpreted with caution. More so, one of the authors was instrumental in setting up and funding one of the contract initiatives studied, and both authors are staff of the World Bank, which is one of the major proponents of public-private partnerships.

A systematic review carried out by Peters and colleagues (Peters, Mirchandani and Hansen, 2004) to assess the effectiveness of private sector strategies for sexual and reproductive health services in developing countries showed that nearly all the studies reported a positive association between sexual and reproductive health and the private sector strategy. However, the strength of this evidence is rather weak because most of the studies were descriptive without any comparison groups; only five out of 71 studies included in the review had robust designs (randomised controlled trials). The same authors concluded that although strategies of engaging private providers for sexual and reproductive health services look promising, questions pertaining to feasibility and impact remain unanswered, and called for studies with more robust designs.

Another study in South Africa comparing the difference in outcomes of medical care between contractor, public and private hospitals did not show any sustained difference in health outcomes between the contractor or public hospitals. There was however much evidence to suggest serious problems with quality of care in both contractor and public hospitals (Broomberg and Mills, 2004).

2.3 Quality of care in private health systems

An argument usually put forward, albeit based on scanty evidence, is that the quality of care in private health institutions is superior to that in public hospitals (Brugha and Zwi, 1998). Although there are a number of good private health institutions in India that serve affluent members of the society, there are many others that fail even the most basic of quality standards. Following a well-publicised medico-legal case instituted by a public interest group in Bombay, the court-instituted committee on the state of facilities in private maternity hospitals made the following startling revelations (Yesudian, 1994):

- Majority are sub-standard, with many situated in tiny flats
- Less than one-third have qualified nurses
- Some disinfect the operating theatre only once a week and hardly ever after an operation
- Only 10% have adequate records of births and deaths
- Less than one-third have proper labour rooms

By its sheer size, however, the private medical sector is indeed very important in many low and middle –income countries. In India for example, 80% of qualified western medical practitioners work in the private sector (Bhat, 1999). However, India’s huge private medical sector is one of the most unregulated sectors in the country, and has been described as “inequitable, expensive, over-indulgent in clinical procedures and without quality standards” (ADBI, 2000; p5).

The obvious policy recommendation of regulating the private health sector in most low and middle-income countries is easier said than done because it is doubtful if most of the countries have the capacity to “design, implement or enforce the regulation” (Kumarayake, 1997). Moreover, to date, there has not been any convincing evidence of such regulation, particularly in the area of quality assurance (Sauerborn, 2001).

Overprovision and inappropriate interventions by private providers has been topics of major debate (Brugha and Pritze-Aliassime, 2003). In South Africa, for example, caesarean section rates are 50% higher in private than in public hospitals; likewise, inductions of labour rates are ten times higher in private institutions (Price and Broomberg, 1990). In Brazil, caesarean section rates of 70-90% are usual in the private health sector, and are attributed to “provider-induced demand” (Hopkins, 2000). This overprovision of care is usually as a result of a fee-for-service payment mechanism, and does not necessarily improve outcomes.

2.4 Consumer views of quality of care

Until recently, quality of medical care assessments focussed mainly on the technical aspect of care. Client satisfaction has only just been incorporated into quality of care assessment (Barnett, 1995), with international development organisations such as the World Bank and the WHO often being in the fore-front of efforts to make medical services more client-oriented (De Geydnt, 1995). In its 2000 World Health Report on health systems, the WHO included an index of responsiveness to clients’ expectations and ranked countries’ health systems according to their performance on client orientation and respect for persons (WHO, 2000).

Definition of good quality in medical care is difficult, but any attempt of doing so should incorporate consumer views (Cleary and Edgman-Levitan, 1997). There is evidence to suggest that using consumer views in planning health services result in better outcomes, more appropriate service provision and more client satisfaction (Barry et. al. 1997; Macfarlane et. al. 1997). Such consumer views should however not be a one-off measure; repeated evaluations of consumer experiences and preferences should be an integral aspect of care, and if properly done, can serve as a benchmark for comparing quality between different providers (Richards, 1999).

There are arguments against the use of consumer views in measuring quality of health care. One of such arguments is that consumers may not be able to assess the technical aspect of medical care because they lack the standards of judging this aspect of care (Davies and Ware, 1988). Another argument is that biases from individual characteristics can invalidate consumers' ratings on quality of care (Ware et. al, 1978). Despite these arguments, it has been shown that incorporating consumer views in planning health services has a big influence on their utilisation of such services (D'Ambruso et. al, 2005).

2.5 Assessing quality of medical care

The definition of quality in health care is not always easy. While a definition of quality in family planning services has been attempted (Bruce, 1990), the definition in relation to maternity care has received little attention.

Donabedian defined quality of care generally as “the extent to which actual care is in conformity with present criteria for good care” (Donabedian, 1966). This definition has recently been modified as “the degree to which health services for individuals and populations increase the likelihood of desired outcomes and are consistent with current professional knowledge” (Institute of Medicine, 1990; p94). Specifically in relation to maternity care, quality of care has been defined as “the degree to which maternity services for individuals and populations increase the likelihood of timely and appropriate treatment for the purpose of achieving desired outcomes that are both consistent with current professional knowledge and uphold basic reproductive rights” (Hulton et. al, 2000; p9). This definition incorporates the concept of reproductive rights in the definition of quality, which thus takes into account the preferences and inputs of the care receivers.

Donabedian (1988) offers a good description of the approaches to measuring quality of care. In order to assess quality, he argues, we need to decide (1) the definition of health (2) whether we are assessing the practitioner's performance alone or also that of the patients and the health system, and (3) whether we will include assessment of the interpersonal process to that of the amenities and technical care. Based on an understanding of these issues, he proposed the following categorisation on assessment of quality of care:

- a) Structure: this describes the settings in which care takes place, and include facilities, equipment and human resources
- b) Process: this refers to the activities carried out to give and receive care, and includes both practitioners' treatment and patients' activities in receiving care
- c) Outcome: this describes the effects on the health status of the patients of providers' interventions. It also denotes the patients' and community's perception of the quality of care.

Donabedian’s approach to assessing quality of care is however a broad one and is not specific to measuring quality of maternity care. Hulton and colleagues (2000) have developed a framework for the evaluation of quality of care in maternity services based on review of the evidence from a variety of sources, including health policy, medical and social science literature. Their framework divides the provision and experience of maternity care into ten elements (figure 2.2, below).

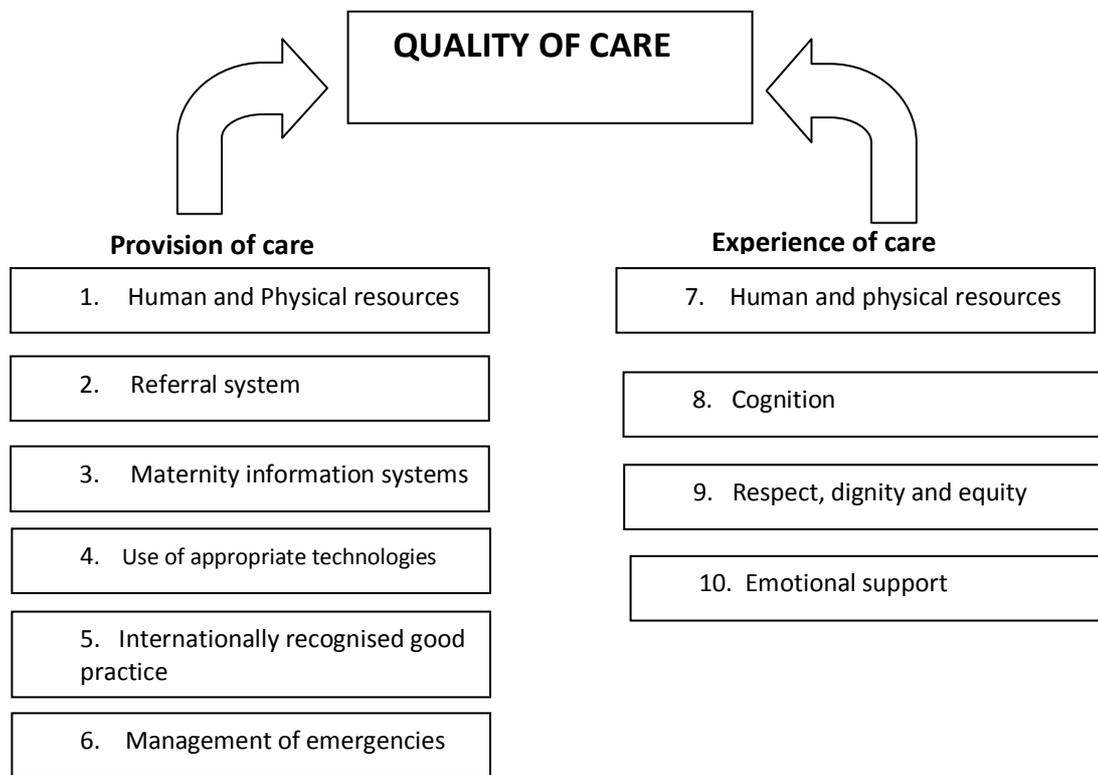


Figure 2.2: Framework for assessing quality of institutional delivery services: Ten elements of care (source: Hulton et. al, 2000; p11)

This framework groups the elements of care into two categories: the provision of care, which has 6 elements and the experience of care with 4 elements. To make the framework into a practical tool, the authors developed a broad set of standards, criteria and indicators to assess each of the ten elements. Although it may be a useful tool for assessing quality of care particularly in hospital maternity settings, this framework has some pitfalls which makes it difficult to use. For example, setting minimum standards for the evaluation of certain elements of experience of care may be difficult because perceptions are known to be influenced by social, technological and organisational contexts of the health system (Ellis and Whittington, 1993), and therefore the perception of quality may vary among different cultures and socioeconomic groups.

The next chapter describes the study aim and objectives, design and methods employed in data collection. It also discusses the research process, ethical considerations, and finally outlines the constraints faced while carrying out the study.

CHAPTER 3

Methods

3.1 Aims and objectives

The aim of the study is to evaluate the quality of care under the Chiranjeevi scheme.

The specific objectives of the study are:

In the private clinics contracted under the scheme, to access

- a) facilities, human resources and level of care
- b) the outputs
- c) the referral patterns and constraints to delivery of quality emergency obstetric care

- 2) To explore the beneficiaries' experience and perception of the quality of care

3.2 Study design and methods

3.2.1 Study population

The Chiranjeevi scheme has been on-going for a little more than one and a half years now in the initial 5 pilot districts. Although it has now been scaled-up to all the 25 districts of the state of Gujarat, only two of the 5 pilot districts were studied. In the UNFPA Rapid Assessment study, the districts of Panchmahal and Kutch recorded the highest and lowest numbers of deliveries respectively (UNFPA, 2006). These two districts are also among the most disadvantaged in terms of socioeconomic development in the state (Socioeconomic Review Gujarat State, 2006) and were thus selected for the study. The study population thus consisted of private clinics contracted under the Chiranjeevi scheme in these districts, together with the doctors managing those clinics (objective 1) and women who had delivered in these clinics under the scheme (objective 2).

The two districts of Panchmahal and Kutch are located on the eastern and western borders of the state respectively (see figure 3.1: Map of Gujarat State). In Panchmahal district, there are 31 private gynaecologists contracted under the Chiranjeevi scheme, with practices spread across 6 out of the nine talukas or blocks of the district. The nearest block to Godhra, the district headquarters, is Kalol, and is about 30 kilometres while the furthest is Santrampur which is 100 kilometres away from Godhra. Kutch district has 17 gynaecologists contracted in 5 out of the 9 blocks. The nearest block to Bhuj, the capital of the district is Anjar and is 50 kilometres away, while the furthest is Mandvi, which is 80 kilometres away.²

Both quantitative and qualitative methods were used for data collection. The facility assessment and staffing patterns were conducted via a quantitative inventory of the study clinics using a checklist, while qualitative interviews were employed to understand the referral patterns and constraints to provision of quality care from the doctors and to explore beneficiaries' experience and perception of quality of care. The data collection methods were carried out concurrently in order to understand the different dimensions of the quality of care under the Chiranjeevi scheme, and to validate the findings using the different methods. The data collection tools were developed in Liverpool with inputs from staff of the International Health Group of the School of Tropical Medicine, and were refined in the field during the

² Data on contracted gynaecologists obtained from the Health Offices of the two districts

process of data collection. Data collection was carried out between 1st and 25th August 2007. Data analysis was started during the period of field work and was completed on return to Liverpool.

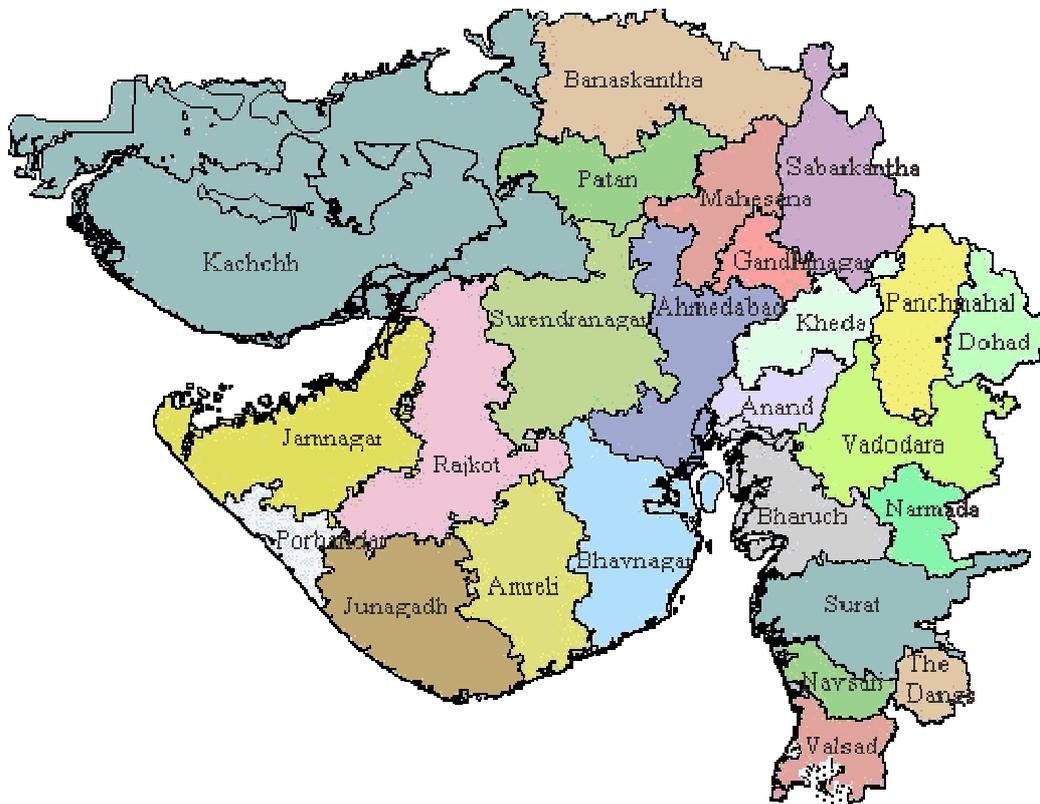


Figure 3.1: Map of Gujarat showing the 25 districts (Source: <http://www.languageinindia.com/sep2002/gujarat.gif>)

The sampling method, recruitment procedure, data collection methods, and analysis framework is described by objective below.

3.2.2 Objective 1:

Sampling procedure

The initial plan was to sample half of the clinics contracted under the scheme in each district. This plan would mean 16 clinics in Panchmahal and 9 in Kutch. Statistically, this scheme would have given the study a power of 80% to detect a doubling of the risk of perinatal mortality in the district with lower number of deliveries (Kutch), assuming a perinatal mortality rate of 6 per 1000 live births in the district with more deliveries (Panchmahal). This scheme could however not be used because of various reasons. In Panchmahal district, for example, two clinics in Devgadha Baria block, which were initially chosen, were disqualified because this block has recently been transferred to another adjoining district. Moreover, 10 out of the 33 clinics in this district are located in the district headquarters of Godhra, which is an urban area. Taking the clinic mix into consideration, therefore, it was decided to select the

clinics based on those that are willing to participate in the study. Only 12 clinics could be reached that gave consent to participate in the study. In Kutch district, out of the 17 clinics contracted under the scheme, 15 agreed to participate and all were recruited for the study. The number of clinics recruited for the study is shown below by location:

Table 3.1: No. of clinics contracted in the two districts

District	Block (Taluka)	Total no. of clinics contracted under the Chiranjeevi scheme	No. selected for study
PANCHMAHAL	Godhra	10	6
	Lunawada	8	1
	Santrampur	4	2
	Halol	6	1
	Kalol	2	1
	Shahera	1	1
	Sub-total	31	12
KUTCH	Bhuj	9	7
	Anjar	2	2
	Bhachau	1	1
	Nakhatrana	1	1
	Mandvi	4	4
	Sub-total	17	15
	Total	48	27

Tools and methods of data collection

For objective 1, both quantitative and qualitative methods were used to collect data. An inventory of the facilities and human resources in the study clinics was taken using a checklist which was developed to collect quantitative data. This information was then used to determine the level of service in each of the clinics (see Appendix 2: Checklist for facility inventory). Standards of care are necessary in order to assess its quality (Roemer and Montoya-Aguilar, 1988); these standards were set according to the capability of the hospital to carry out basic and comprehensive essential obstetric care (Marquez, 2001), and were mainly derived from the Indian Public Health Standards for Community Health Centres which are the First Referral Units (IPHS for Community Health Centres, 2007).

To understand the referral patterns and constraints to quality obstetric care delivery, qualitative interviews were conducted with the doctors in the study clinics. Topic guides for the interviews were prepared in advance to cover the range of issues to be explored. These interviews also served to give further insight into the data collected with the checklist (see Appendix 3: Topic guide for provider interviews). Additional secondary data was collected from the records of these clinics to assess their outputs. Table 3.2 below shows the methods and data collection tools for objective 1.

Table 3.2: Methods/tools for data collection for objective 1

Objective	Method	Data collection tool
To assess facilities, human resources and level of service	Inventory	Facility Checklist and observation
To assess the service outputs	Review of service records	Table
To assess referral patterns and constraints to delivery of quality obstetric care	Interviews with doctors	Topic guide

Recruitment of participants and data collection process

The list of all the clinics contracted under the Chiranjeevi scheme was obtained from the District Health Offices in the two study districts. The contact details of the clinics were then taken and these clinics were contacted by the principal researcher and the research assistant via phone calls and visits to the clinics. The purpose of the research and its methods were explained to the doctors and their consent, either verbal or written, was sought to participate in the study (see appendix 4a: Consent forms for doctors). Appointments were then arranged with those that consented to take part. These clinics were then visited at the appointed times. The principal researcher took all the inventories of the clinics using the checklist, while being conducted round the facility by either the doctor in-charge or a nursing staff. Interviews with the doctors were conducted by the principal researcher in conjunction with the research assistant, in the privacy of the doctors' offices. Written notes were taken during the interviews by both the principal researcher and the research assistant. Secondary data pertaining to the number of the deliveries conducted in the month of July 2007, and the proportion of the deliveries among Chiranjeevi clients was collected from the records of the clinics by the research assistant. Data on the number of caesarean sections performed in the clinics within the same month was also collected.³

Data analysis process

Data of the facilities and human resources collected from the clinics was entered directly into the checklist for each clinic during the process of collection. This information was then transferred onto a database developed using the computer software Microsoft Excel 2003.

The analysis was carried out using texts, tables and statistical graphs to describe the basic characteristics of the study clinics. The level of service in the clinics was then determined by categorising the clinics into three levels of obstetric care, based on their facilities and human resources. The three levels of care which have been adapted from the World Health Organisation Basic/Comprehensive essential obstetric care categorisation (WHO/UNICEF/UNFPA, 1997) are:

Level 1: those clinics with facilities and staff capable of carrying out an uncomplicated vaginal delivery.

Level 2: those clinics slightly more equipped than clinics at level 1, with capability of conducting an assisted or operative vaginal delivery.

Level 3: those clinics capable of carrying out caesarean section and blood transfusion (analogous to WHO Comprehensive Emergency Obstetric care), in addition to being able to conduct normal delivery

³ The doctor in clinic 11 refused to show his delivery records; the doctor in clinic 17 was absent during the visit to his clinic but he was later interviewed on phone.

In carrying out this categorisation, certain value judgements were made in determining the facilities and human resources that are necessary to carry out each level of obstetric care. For instance, the minimum requirements for conducting an uncomplicated vaginal delivery are a fully functional and equipped labour room, a qualified midwife with a ward attendant and cleaner, adequate number of oxytocics and analgesic drugs, sterile surgical gloves and sutures, and a clean ward with adequate aseptic precautions and waste disposal mechanism. An obstetric specialist is not necessary to conduct an uncomplicated delivery but because of the unpredictable nature of events during childbirth, it is prudent to have one available on call in case complications occur. This is why Doctor on-call for 24 hours is added to the list of minimum requirements for level 1 care (see table 4.3 in chapter 4). Similarly, in addition to the above minimum requirements, additional facilities such as an obstetric forceps and/or vacuum extractor, an ultrasound machine and a neonatologist with equipment for advanced resuscitation are required for the second level of service, since these operative vaginal deliveries are associated with increased neonatal morbidity and mortality. For the third level of service, additional requirements are a fully equipped operation theatre, an anaesthetist and facilities for blood storage (this latter facility is not strictly required for a blood transfusion but adds to the quality of a blood transfusion service).

Data from the interviews with doctors was analysed manually by reading extensively through the manuscripts and understanding the main issues raised concerning the referral patterns and the factors that constrain them against providing quality obstetric care.

3.2.3 Objective 2:

Sampling procedure

The sampling strategy for selecting the beneficiaries of the scheme for in-depth interviewing was purposive, since qualitative research methods do not require a probability sampling technique (Ritchie and Lewis, 2003). It was intended to recruit at least one beneficiary per clinic for interviewing, which would have meant a total of 27 beneficiaries. However, only 25 women were interviewed. This is because no new themes or issues seemed to be emerging from the interviews (saturation point).

The women interviewed were selected purposefully from the list of Chiranjeevi scheme beneficiaries obtained from the District Health Offices in the two districts. In choosing the beneficiaries, factors taken into account were: ensuring a good spread between those living in rural and urban areas; those that had a normal versus complicated delivery; and those that had an adverse event like early neonatal death. It was intended to select only women who had delivered within the previous 3 months to reduce recall bias; however those that delivered as late as twelve months ago were chosen in order to ensure adequate spread among the participating clinics.

Tools and methods of data collection

In-depth interviews were used to collect data on the beneficiaries' experience and perception of quality of care. An interview topic guide was prepared using issues concerning users' perception of quality obstetric care from the literature (see Appendix 5: In-depth interview topic guide). This topic guide was modified accordingly during the process of data collection, by adapting it to the new issues and emerging themes from the interviews.

Table 3.3: Methods/tools for data collection for objective 2

Objective	Method	Data collection tool
To explore beneficiaries' experience and perception of quality of care	In-depth interview	Interview topic guide

Recruitment of participants and data collection process

The women selected for in-depth interviewing were identified with the assistance of the Village Health Workers (VHWs) who kept records of all beneficiaries in their villages. These women were then visited in their homes by members of the research team. The purpose of the study and its methods were explained fully to them and their consent sought (see appendix 4b: Consent forms for beneficiaries). They were given the option of consulting with members of their families before giving consent. All the women approached gave verbal consent to participate and the interviews were then conducted in their homes. The interviews were facilitated by a local lady who has some experience in conducting qualitative interviews; she was also specifically trained for this research. Either the principal researcher or the research assistant was always around to observe these interviews and also to record the proceedings. Field notes were also taken by both the principal researcher and the research assistant to supplement the audio recordings. The interviews were conducted in the local Gujarati and Kachchi languages, which neither the principal nor the research assistant understood. The facilitator therefore explained the issues being discussed at intervals, thus providing an opportunity for probing further certain issues.

Although privacy was sought in conducting the interviews, some of the women requested for another female member of the family, usually the mother or mother-in-law, to be around and this wish was respected.

Data analysis process

The process of data analysis for the qualitative aspect of this study started in the field during data collection. At the end of each day, all members of the research team met and discussed the day's proceedings. Emerging themes from the interviews were discussed and meanings of some of the issues raised explored. The interview topic guide was also continuously modified to capture new issues arising from the interviews. The interview facilitator attempted translating all the interviews while data collection was still going on, but this was not finished until at the end of the interviews. The translated interviews were then transcribed by the principal researcher together with the facilitator of the interviews. A selected number of the transcripts were given together with the original records to an independent person to validate the translation. Final corrections were done to the transcripts by the principal researcher and the interview facilitator.

The transcripts and other field notes were then analysed using the Framework Approach (Pope, Ziebland and Mays, 2005). All the transcripts were read exhaustively by both the principal researcher and the research assistant in order to understand and identify emerging themes. A framework of the issues and themes from the data was then identified in the context of the research objectives. Next, key parts of the data relating to a particular theme were identified and indexed, using colour codes on Microsoft Word software. These codes were then rearranged by charting all the codes that relate to a particular theme under one heading. These charts were then used to try and understand the various concepts emerging,

and also to offer some explanations to the findings. Table 3.4 below shows an example of a chart that emerged from the data analysis.

Table 3.4: An example of a chart from the data

Staff behaviour (interpersonal)	Length of stay before discharge	Satisfaction/dissatisfaction	Communication (interpersonal?)
<ul style="list-style-type: none"> -They supported me during the delivery, they took care of me, and they treated me like a child. They cleaned me and gave me a bath and behaved very well - They gave me drip and told me not to worry. It was a good experience. -“The Doctor and nurse behaved well” -They were really nice to me - The doctor examined me and went away and the nurse conducted the delivery. 	<p>8.30 a.m. (I was admitted) and 9.45 a.m. I got a boy. There is nobody to look after the animals at home so we asked for discharge and the same day after one hour, we came back.</p> <p>-2 a.m. I was admitted and within ten minutes they gave me a cut I delivered the child in the morning. 7 a.m. and they told us to stay but we said no and came back (home) at 11 a.m.</p>	<ul style="list-style-type: none"> - We have come from outside and we are very poor. I am very much satisfied. The nurses never took any money, even when we gave them freely. They said to my mother that you put this money for donation instead.” - There was no trouble – like in other places. In my first delivery in govt. hospital the baby drank placenta water before birth. I had hope and oxygen was given and he was saved; this one it is normal.” <p>Devashish is perfect.</p>	<ul style="list-style-type: none"> -They said “there is a problem, we are doing our best so don’t get frightened.” -“then the doctor called me and said there is a problem so you be here” (stay here) - ...but I was not told before the doctor did an internal check-up.

3.2.4 Additional methods for data collection

In order to have a better understanding of the Chiranjeevi scheme, formal and informal interviews were conducted with a select group of key informants who are all stakeholders of the scheme. A total of 8 people were purposefully selected from Civil servants, policymakers, academics and other researchers, and members of civil society organisations working in the field of maternal health. The selection was done with the assistance of the client, who also played a key role in contacting them and arranging meetings.

Informal discussions were also held with different individuals in the field, especially staff of the Health Offices in the two districts, and also with the many Village Health Workers, Anganwadi Workers (AWW)⁴ and traditional birth attendants (TBAs) that were encountered during the field work.

All these data collection methods were complimented by personal observations during the field work.

⁴ A village health worker who is responsible for treating minor ailments in under-5 children in the community, such as diarrhoea, and giving routine immunisation.

3.2.5 Quality assurance

The research assistant for this study is a medical doctor who also has a Diploma in Public Health. She has had some experience in carrying out field work in the area of health research. The facilitator of the in-depth interviews with beneficiaries currently works for a local non-governmental organisation (NGO) in Gujarat, and has also had experience in conducting qualitative interviews. Training sessions were carried out for both to intimate them of the objectives and methodological approach to carrying out the study. Extensive discussions were also done between both members of the research team and the principal researcher throughout the period of data collection and initial analysis. These discussions helped to modify the tools of data collection and also offered valuable insight into the local contexts of the research area. The analysis process was also enriched via feedback from colleagues and academic staff of the Liverpool School of Tropical Medicine.

In order to develop an effective tool for assessing the quality of care in the private clinics, the facility inventory checklist in appendix 2 was developed by adapting the WHO guidelines for essential obstetric care provision to the Indian Public Health Standards for obstetric care at the first referral level. This was done in order to contextualise the internationally recognised best practices in obstetric care to the local situation. All data collected on the checklist was immediately transferred onto the database created to avoid losing the data. Extra copies were saved on discs as back-up.

In addition to tape recording all in-depth interviews, copious notes were also taken in order to capture the full range of issues discussed. The principal researcher or the research assistant was always around during the in-depth interviews, to offer guidance and identify likely issues that require further probing. Tape recordings were first translated into English and then transcribed; some tapes were selected and translated by an independent person to further validate the process. All data collected was kept in the custody of the principal researcher and coded; interview tapes were destroyed after the transcripts were completed.

3.2.6 Ethical considerations

Apart from passing through ethical approval from the Ethics Committee of the Liverpool School of Tropical Medicine, the protocol of this study was also scrutinised by a local ethics advisory board made up of experts in biomedical research in India which was set up by the client.

Any study involving hospital workers is likely to affect the smooth running of the hospital in question, and so affect patient care. In order to cause as little disruption as possible to patient care, the doctors were asked to choose the time for the facility checks and interviews. Most of the visits were thus done at times when patient load was minimal.

All in-depth interviews with beneficiaries of the scheme were conducted in the women's homes. Privacy was always ensured and only the respondent was interviewed unless where she opted to have another person around. It was also appreciated that interviewing women who lost their babies might pose an additional emotional stress on them. The principal researcher has training and experience to offer counselling under such circumstances during his obstetric residency training. Special tact and empathy was also required while conducting such interviews and the facilitator was adequately briefed.

All the data collected was coded to ensure anonymity. Finally, high ethical standards of sensitivity and respect for persons were observed throughout the period of the field work.

3.2.7 Constraints

Language barrier: All the in-depth interviews with the Chiranjeevi beneficiaries were conducted in local languages (Gujarati and Kachchi), which the principal researcher did not understand. In order to have a feel of the process therefore, the facilitator gave comprehensive briefings at intervals while the interviews were being conducted. This enabled the principal researcher to ask further probing questions that the facilitator might have missed. A selected number of the tape recordings were also given to an independent party to translate in order to validate the translations done by the facilitator of the interviews.

The lady who facilitated the in-depth interviews also did not speak fluent English. Although she understood the local languages of the people well, it is likely that some of the meanings of what was said could have been lost in translation. Again, the translation of a selected number of the recordings helped to correct some of the errors in translation.

The next chapter presents the findings of the study by objective.

CHAPTER 4

Results

4.1 Objective 1: Service provided

The first objective was to describe the services available in the private hospitals contracted under the Chiranjeevi scheme. This was divided into three areas:

- a) Facilities, human resources and level of service
- b) The service outputs
- c) The referral patterns and constraints to delivery of quality emergency obstetric care

27 clinics in two districts were visited. Facilities and human resources were assessed via an inventory using a checklist. The service outputs were obtained from the delivery records of the clinics, while information on referral patterns and constraints to quality care provision was obtained through interviews with the doctors. Performance data was not available from clinic 11 in district A (the doctor declined to show data); while facility inventory was not done for clinic 17 in district B (the doctor was not around to give consent).

4.2 Facilities, human resources and level of service

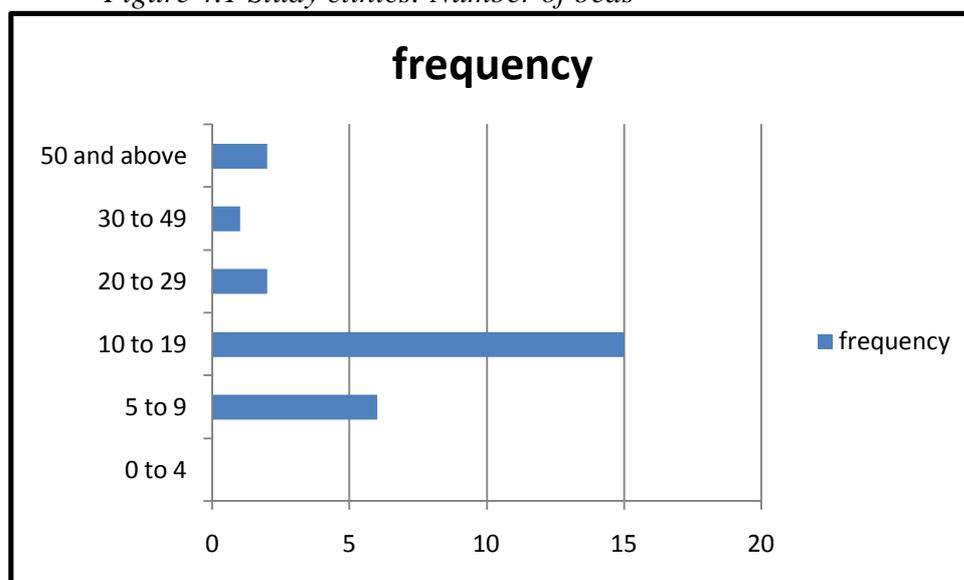
4.2.1 Types of clinics: There are three different types of private clinic under study- private for-profit, private not for-profit (Trust hospitals) and Christian Missionary. The majority (21) of these clinics are for-profit; 11 in district A and 10 in the second district. There are 5 private not for-profit clinics or Trust hospitals, 1 in district A and 4 in district B. The only Missionary hospital, which is also not for-profit, is situated in district B (table 4.1).

Table 4.1: Types of private clinic

Type of clinic	District A	District B	Total
Private for –profit	11	10	21
Private not for-profit (Trust hospitals)	1	4	5
Christian Missionary	0	1	1
Total	12	15	27

4.2.2 Beds: The number of beds in the study clinics ranges from 6 to 50, with most of them having between 10 and 19 beds (n=15). Only two of the clinics have up to 50 beds (figure 4.1 below).

Figure 4.1 Study clinics: Number of beds



4.2.3 Qualifications: There are two different qualifications for the obstetric and gynaecologic specialist in India- MD or Masters in Obstetrics and Gynaecology and DGO or Diploma in Obstetrics and Gynaecology. The MD is a superior qualification to the DGO. There are 24 MDs in all, 10 in district A and 14 in district B. 2 of the 3 DGOs are in district A. Qualifications of nurses in the study clinics are also of two types; the BPN or Bachelor of Nursing, and the ANM or Auxiliary Nurse Midwife. Of the 149 nurses in the 27 study clinics, 137 are ANM holders while only 12 are BPN holders. The proportion of ANM nurses are equally distributed between the two districts, whereas 10 of the 12 BPN nurses are in district A (table 4.2 below).

Table 4.2 Study clinic: Staff qualification

Staff cadre	Qualification	District A	District B	Total
Doctors	MD	10	14	24
	DGO	2	1	3
Nurses	BPN	10	2	12
	ANM	68	69	137

4.2.4 Level of service: For this study, 3 levels of obstetric care are identified, based on the facilities and human resources available. The three levels of care, which are based on the WHO essential obstetric care categorisation, are:

- Level 1: those clinics with facilities and staff capable of carrying out an uncomplicated vaginal delivery.
- Level 2: those clinics slightly more equipped than clinics at level 1, with capability of conducting an assisted or operative vaginal delivery.
- Level 3: those clinics capable of carrying out caesarean section and blood transfusion, analogous to WHO Comprehensive Emergency Obstetric care (WHO, 1991), in addition to being able to conduct normal delivery

What follows below is a description of the clinics in terms of the minimum requirements for the three levels of service.

Level 1 (Normal delivery)

For the first level of service, the following were the requirements lacking in the clinics (table 4.3 below):

District A

- No doctor on-call (one clinic)
- No cleaners round the clock (2 clinics)
- No sterile gloves (2 clinics)
- Not observing proper aseptic procedures in the labour room (one clinic)

District B

- No cleaners round the clock (2 clinics)

Table 4.3 First level of service

Minimum requirements	Clinics meeting requirements District A n=12	Clinics meeting requirements District B n=14
Functional/fully equipped Labour Room	12	14
Doctor on-call 24 hrs	11	14
Midwife for 24 hrs	12	14
Cleaners/ward attendant for 24hrs	10	12
Drugs (oxytocics and analgesics)	12	14
Consumables (sterile gloves/sutures)	10	14
Clean environment/asepsis	11	14
Proper waste disposal	12	14

Level 2 (Assisted vaginal delivery)

For the second level of service, the following requirements were lacking (table 4.4 below):

District A

- No forceps and/or vacuum extractor (One clinic)
- No ultrasound scanning machine (one clinic)
- No complete sets of neonatal resuscitation kits (6 clinics)

Table 4.4 Second level of service

Minimum requirements	Clinics meeting requirements District A n=12	Clinics meeting requirements District B n=14
Functional Labour room	12	14
Forceps/Vacuum extractor	11	14
Neonatologist cover	12	14
Complete resuscitation kit	6	14
Ultrasound scanning machine	11	14
24 hr doctor on-call	11	14
24 hr midwife cover	12	14
24 hr ward attendant/ cleaner cover	10	12
Sterile gloves/sutures	10	14
Oxytocics/analgesics	12	14
Cleanliness/asepsis	11	14
Proper waste disposal	12	14

Level 3 (Caesarean section and blood transfusion)

For the third level of service, the following were lacking (table 4.5, below):

District A

- No separate scrub rooms from the operating theatre (4 clinics)
- No anaesthetic machines and trolleys (4 clinics)
- No facilities for blood storage (11 clinics)

District B

- No separate scrub room from the operating theatre (5 clinics)
- No facilities for blood storage (14 clinics)

Table 4.5 Third level of service

Minimum requirements	Clinics meeting requirements District A n=12	Clinics meeting requirements District B n=14
Functional Labour room	12	14
Forceps/Vacuum extractor	11	14
Neonatologist cover	12	14
Complete resuscitation kit	6	14
Ultrasound scanning machine	11	14
24 hr doctor on-call	11	14
24 hr midwife cover	12	14
24 hr ward attendant/ cleaner cover	10	12
Sterile gloves/sutures	10	14
Oxytocics/analgesics	12	14
Cleanliness/asepsis	11	14
Proper waste disposal	12	14
Fully equipped OT	12	14
Separate scrub room	8	9
Anaesthetist cover	12	14
Anaesthetic machine	8	14
Blood storage facility	1	0

4.3 Service Outputs: deliveries performed by the clinics in July 2007

Proper service records of the different signal functions for essential obstetric care were poorly kept in almost all the clinics. The only records that were complete, and hence used for this analysis, are those of the total deliveries and caesarean sections performed.

In district A, the doctor in charge of facility number 11 declined to show records of the clinic, whereas in facility 17 of district B the doctor in charge was not around during the visit to give consent for examining the records.

4.3.1 Service outputs: District A

The total number of deliveries performed in 11 of the 12 clinics studied in district A in July 2007 was 1747, with individual clinics performing deliveries ranging from 47 to 336, with an average of 158.8 deliveries per clinic. All the 120 deliveries performed in clinic 9 were among Chiranjeevi clients. The percentage of Chiranjeevi deliveries as a proportion of the total number of deliveries was 63.7%. The average caesarean section rate in the district during this month was 4.92%. In 4 of the clinics, all the caesarean sections done were in Chiranjeevi clients (tables 4.6 and 4.7).

Table 4.6: Deliveries performed (District A)

Clinic no.	Total no. of deliveries	Deliveries in Chiranjeevi clients
1	150	80 (53.3%)
2	190	152 (80%)
3	120	70 (58.3%)
4	336	200 (59.5%)
5	281	152 (54%)
6	200	180 (90%)
7	102	30 (29.4%)
8	53	50 (94.3%)
9	120	120 (100%)
10	47	38 (80.8%)
11	-	-
12	148	42 (28.3%)
Total	1747	1114 (63.7%)

Table 4.7: Caesarean sections performed (District A)

Clinic no.	Total C/S	C/S as percentage of total deliveries	C/S in Chiranjeevi clients
1	6	4	2 (33.3%)
2	2	1.05	2 (100%)
3	6	5	2 (33.3%)
4	5	1.48	1 (20%)
5	20	7.1	4 (20%)
6	5	2.5	5 (100%)
7	6	5.88	4 (66.7%)
8	11	20.75	11 (100%)
9	3	2.5	3 (100%)
10	0	-	-
11			
12	22	14.86	3 (13.6%)
Total	86	4.92	37 (43%)

4.3.2 Service outputs: District B

During the same period, 14 out of the 15 clinics studied in district B performed a total of 706 deliveries, with deliveries in the individual clinics ranging from 3 to 125. The average number of deliveries per clinic in this district is 50.4. 42.9% of the deliveries were Chiranjeevi clients. The average caesarean section rate in this district is 11.33%, with Chiranjeevi clients accounting for 22.5% of the total caesarean sections. 6 out of the 14 clinics did not perform a caesarean section for a Chiranjeevi client (tables 4.8 and 4.9 below).

Table 4.8: Deliveries performed (District B)

Clinic no.	Total no of deliveries	Deliveries in Chiranjeevi clients
13	76	50 (65.8%)
14	125	115 (92%)
15	10	0
16	47	13 (27.6%)
17		
18	104	26 (25%)
19	34	13 (38.2%)
20	65	17 (26.1%)
21	3	1 (33.3%)
22	66	22 (33.3%)
23	20	0
24	11	3 (27.3%)
25	33	17 (51.5%)
26	23	1 (4.3%)
27	89	25 (28%)
Total	706	303 (42.9%)

Table 4.9: Caesarean sections performed (District B)

Clinic no.	Total C/S	C/S as percentage of deliveries	C/S in Chiranjeevi clients
13	4	5.26	1 (25%)
14	8	6.4	3 (37.5%)
15	2	20	0
16	9	19.14	1 (11.1%)
17			
18	14	13.46	4 (28.6%)
19	6	17.64	3 (50%)
20	5	7.69	2 (40%)
21	0	0	0
22	3	0	0
23	10	0	0
24	0	0	0
25	5	15.15	2 (40%)
26	2	0	0
27	12	13.48	2 (16.7%)
Total	80	11.33	18 (22.5%)

4.4 Doctors' views

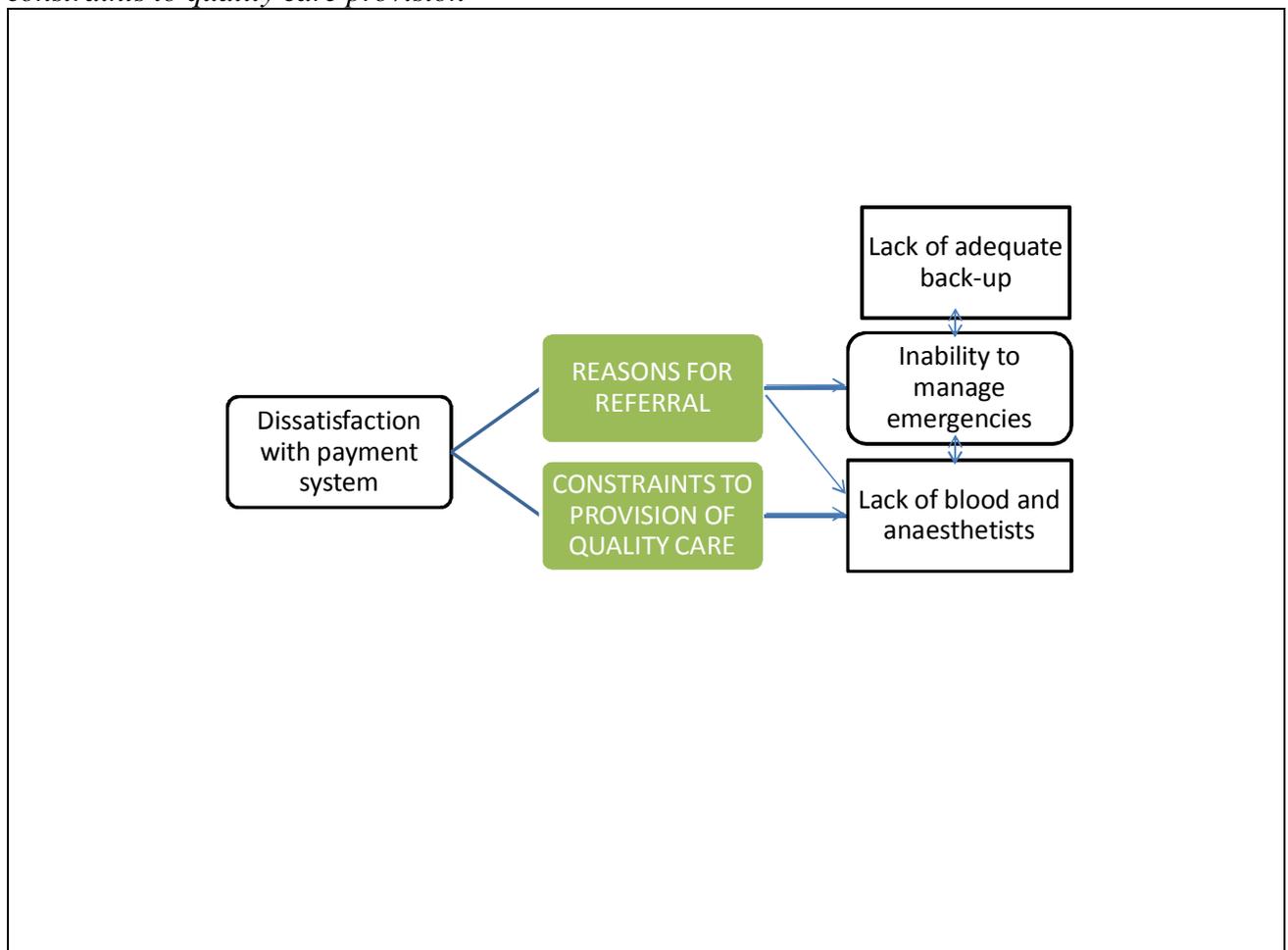
Semi-structured interviews were conducted with doctors in 27 clinics in the two districts studied in order to understand the referral patterns and constraints to delivery of quality care. 26 of the interviews were conducted during the facility assessment visit, while one doctor in district B was interviewed over the telephone because he was not around during the visit to his facility.

These interviews revealed that the pattern of referrals to and between the private hospitals contracted under the Chiranjeevi scheme depends on the location of the practice and individual constraints faced by the doctors. Doctors in rural settings appear to see patients directly, whereas those in urban and peri-urban settings have clients referred to them from the former settings.

The following themes emerged from the analysis of data collected from the interviews with the doctors:

- 1) Dissatisfaction with the capitation payment system
- 2) Inability to manage obstetric emergencies due to:
 - lack of blood transfusion facilities and anaesthetists
 - lack of adequate back-up

Figure 4.2: Diagram showing the inter-relationship between the reasons for referral and constraints to quality care provision



There appears to be an overlap between the reasons for referral and what the doctors think are constraints to their provision of quality care to the clients (figure 4.2 above). Thus, dissatisfaction with the payment system appears to be one of the reasons for referral and also what doctors perceive to be one of the reasons why they do not give quality care to their clients. Also, lack of blood and anaesthetists appears to be both a constraint to provision of quality care and a reason for referral, because managing obstetric emergencies becomes difficult or impossible.

4.4.1 Dissatisfaction with the capitation payment system

There were anecdotal reports of some doctors referring women under the Chiranjeevi scheme who require operative delivery in order to save costs. This is because these doctors think what they spend on such operative deliveries is much higher than what the government reimburses them (ref: *AJ, Key informant, informal interview*). Only one doctor said he referred patients solely for this reason. In his words:

“Everybody takes extra charges (from the Chiranjeevi client). Since I don’t do this, I send them (complicated cases) to the District Hospital since I won’t be paid differently”. (PI 7)

Another doctor with a practice in the district capital presented evidence to support his claim that some of his colleagues avoid doing operative deliveries in order to cut costs by referring complicated cases to other clinics, under the pretext that they do not have anaesthetist cover. He showed me a referral letter written by a doctor claiming to have difficulty getting an anaesthetist. The same doctor who had written that referral had earlier said he didn’t have such difficulties getting an anaesthetist.

Most of the private practitioners interviewed are also of the opinion that the current reimbursement system which pays them the same amount irrespective of whether they perform a normal or complicated delivery is a serious impediment to their provision of quality services to the Chiranjeevi clients.

“Most of us (private practitioners) are driven by profit, and so we will use lower quality drugs and (surgical) sutures for these (Chiranjeevi) patients.”(PI 7)

“We are aware of some colleagues that have separate rooms and (lower quality) antibiotics for the Chiranjeevi patients because they do not pay for the services.” (PI 4)

The doctors also believe that the assumption of a 7% caesarean section rate in calculating the service charges was wrong, and causes them to be short-changed. The belief is that the Chiranjeevi clients, being poor women, do not have access to routine antenatal care in pregnancy and may therefore be more prone to having complications in labour.

“The (payment) system is okay if caesarean section rates are low, but the BPL women usually have complications because they don’t attend antenatal clinic.”(PI 18)

Only a few of the doctors said they are happy with the payment system, particularly for caesarean section, because they see other motives in their participation in the scheme other than monetary gains. One of such doctors said:

“The whole aim of this (scheme) is to help the poor, so what we are paid does not really matter.” (PI 6)

4.4.2 Inability to manage obstetric emergencies

Lack of blood facilities and anaesthetists

The major problems the doctors appear to be having in managing emergencies are lack of blood transfusion facilities and anaesthetists. In district A, the doctors informed me that there are two blood banks—one owned by the government and the other operated by the Red Cross Society; both are located in the district capital. Doctors in District B said there are blood banks in two other blocks apart from the 2 in the district capital. These blood banks are accessible to all medical facilities in the districts but the long distances between some of the blocks and the district headquarters means that only clinics in the headquarters or those that are close by can have access to these blood banks in emergencies. Therefore, almost all the doctors with practices located far from the district headquarters said they refer cases of severe anaemia in pregnancy or those with bleeding during childbirth to facilities in the district headquarters. These referrals are usually to the District Hospital but a few of the doctors refer to other Chiranjeevi private clinics. Often, the client being referred is given the option of choosing where she wants to go.

“I don’t deliver (women with) severe anaemia here because of lack of blood. The nearest blood bank is in ... (65 kilometres away) so I refer them to the district hospital but they usually prefer to go to a private clinic, so I tell them to go where they want.”(PI 5; district A)

All the doctors interviewed said they had arrangements with private anaesthetists to attend in emergencies; however those with clinics located in rural settings said there are usually some problems getting these anaesthetists, most of whom they said lived in urban areas. According to the doctors, these anaesthetists charge between 3000 to 5000 rupees⁵ for a caesarean section, and they often insist on taking their fees upfront. Because they will have to travel long distances in order to attend to emergencies in clinics outside of the district capitals, often at late hours of the night, they usually do not respond to such calls, particularly if they know that they will not get paid immediately. A doctor practicing in a town about 70 kilometres away from the capital of district A said:

“When you call them (the anaesthetists) for an emergency, they first ask if the patient is BPL (Below Poverty Line) and if you answer yes, they usually give an excuse (for not coming).”(PI 8; district A, rural setting)

A good number of the doctors also believe lack of blood and anaesthetists is a constraint to effective emergency obstetric care. A doctor who has a busy practice in a block with neither a functional blood bank nor an anaesthetist said:

“Here we see a lot of severely anaemic (pregnant) women; we cannot offer them much since we don’t have facilities for blood transfusion, so we refer them to ... (about 35 kilometres away).”(PI 6)

Concerning the lack of anaesthetists, a doctor who has not done any operative delivery in the past three months said that:

“We do not handle high risk (obstetric) cases here; we refer them out since one is not sure of getting an anaesthetist in an emergency.”(PI 24)

⁵ One Indian rupee = 0.025 US dollars approx.

Lack of adequate back-up

Lack of adequate back-up to manage serious obstetric complications like severe hypertensive disorders is one of the reasons the doctors gave for referral. One doctor with a practice located in the capital of district A said he usually refers cases of severe pre-eclampsia and eclampsia to the District Hospital because he does not have a High Dependency Unit which these patients require for optimal care of their conditions. The same doctor also said he refers medical complications in pregnancy like cardiac and kidney conditions to the District Hospital.

4.5 Objective 2: Beneficiaries' views

In-depth interviews were conducted with a purposefully selected sample of 25 women who had delivered in a Chiranjeevi private clinic recently. The list of respondents was drawn from the two districts, taking into account such differences as socioeconomic status, urban-rural mix, and those that had a normal delivery versus those with complications or an adverse outcome. 12 respondents were interviewed in district A and 13 in district B. Table 4.10 below shows the characteristics of the respondents interviewed.

Table 4.10: Characteristics of Chiranjeevi beneficiaries interviewed in the 2 districts

Client characteristics	District A	District B
Socioeconomic status		
BPL ⁶ women	5	2
Non- BPL women	7	11
Location		
Urban area	3	5
Rural area	9	8
Type of delivery		
Normal vaginal delivery	10	8
Assisted delivery (forceps)	0	2
Caesarean section	2	3
Adverse event		
Neonatal death	1	1

The main themes that emerged from the data analysis are:

- 1) Women make additional payments to access care
- 2) Women generally experienced good interpersonal care
- 3) There is a short delivery-to-discharge period
- 4) Apprehension about hospital delivery

4.5.1 Women make additional payments to access care

Although delivery services are supposed to be free to women with a BPL card, some of the women said they were charged various sums of money for different services. In district B, it appears to be standard practice for doctors to collect a deposit from the women, especially if these women did not come with a BPL card. Most times these deposits were refunded in full upon submission of the card, but in some instances the amount refunded was less than the initial deposit.

⁶ BPL= Below Poverty Line

“We put 1000 rupees as a deposit and we got the money back. The sisters told us that we will have to fill a form and we got the money back.”(IDI 16; district B)

“We made a deposit but after my delivery he (the doctor) gave us some money but I don’t know the amount. My husband knows about it though.” (IDI 25; district B)

Another woman who was refunded less than what she deposited said:

“He (the doctor) took 1800 rupees the previous day and next day he returned 1500 rupees back to us.”(IDI 23; district B)

It also appears that some doctors in both districts are asking clients to purchase their medicines outside. Under the Chiranjeevi scheme, post-delivery drugs are meant to be free. Many women mentioned spending various sums of money on drugs:

“We spent 1500 rupees for medicine, which we purchased from the market. All together we spent more than 3000 rupees.”(IDI 21; district B)

“No, they never asked for any money. But for the medicine they prescribed, which we purchased from the market.”(IDI 5; district A)

Also, some beneficiaries, particularly in district B are spending much more than the 250 rupees that the government reimburses for transportation.

“... and we spent 500 rupees for the Jeep, because we live very far away.”(IDI 18; district B)

“It was very difficult to get to the hospital because we couldn’t afford the 750 rupees for the transport; my husband had to borrow the money...” (IDI 16; district B)

Another charge taken by the some doctors relate to complicated deliveries, particularly caesarean section. This is not helped by the women’s lack of full knowledge of the provisions of the Chiranjeevi scheme.

“There is no provision in the BPL scheme for the operation so we had to pay 5000 rupees.”(IDI 18)

Another related issue is that of a doctor who reimbursed the 250 rupee transport cost to a woman that did not deliver in his clinic, presumably to register her birth as his own and make claims from the government. She had made a deposit but opted to go back home since delivery was not imminent. The next day her husband went back to claim the deposit, which he got in full plus an additional 250 rupees. The woman said:

“...they gave me an injection and the doctor said it will take two days. But I have small children at home alone. My eldest daughter who is 12 years old is blind, that is why I couldn’t stay in the hospital. I came back home in the late evening but instead of two days, at midnight on the same night I delivered a baby girl with the assistance of Shantiben (a TBA). ... when I was admitted they asked us to deposit money and we gave five hundred rupees, but as I have small children alone at home, we came back but next day my husband went back and the doctor gave him (back the) 500 plus another 250 rupees.” (IDI 2)

4.5.2 Women generally experienced good interpersonal care

Based on their experiences, most of the beneficiaries perceived the interpersonal care at the clinics to be good. This perception cuts across both districts. Below are some of the quotes from the women regarding their experiences:

“They did it (the vaginal examination) slowly, peacefully. They were not scolding, which was very good for me. We know what happens in other places. So this one is better.”(IDI 12; district A)

“They supported me during the delivery, they took care of me, and they treated me like a child. They cleaned me and gave me a bath and behaved very well.”(IDI 14; district B)

Regarding their perceptions as to what constitutes good quality care, the women also cited good interpersonal care. The experience of this aspect of care was cited as the main reason why they would patronise the same clinic for future deliveries.

“I will go back to the same clinic because the doctor was very good to me- he treated me like his daughter...” (IDI 17; district B)

Good communication during labour is important in allaying the anxiety of the woman and also helps in gaining her confidence and cooperation, and is an important aspect of interpersonal care. There is a mixture of both good and bad communication skills exhibited by the staff across clinics in both districts. One woman who developed complications in labour and eventually had a safe delivery was quite happy with the fact that she and her relations were kept informed throughout. She said:

“They said ‘there is a problem, we are doing our best so don’t get frightened.’ ...then the doctor called my mother and said ‘there is a problem so you stay here with her’” (IDI 15; district B)

Another woman who was initially impressed by the interpersonal care she received was disappointed when the doctor failed to inform her when he was about to perform an intimate examination:

“...but I was not told before the doctor did an internal check-up.”(IDI 8; district A)

4.5.3 Short delivery-to-discharge period

Most of the women who delivered in the private clinics under the Chiranjeevi scheme were being discharged from hospital less than 24 hours after delivery; sometimes it was the women who were requesting to be discharged:

“I was admitted at 8.30 a.m. and at 9.45 a.m. I got a boy. There is nobody to look after the animals at home so we asked for discharge and the same day after one hour, we came back (home).”(IDI 5; district A)

“...I was admitted at 3 pm and delivered at 6 pm. Within one hour I was discharged. They told me to go as it was okay.” (IDI 25; district B)

“They discharge everybody like this. If the delivery happened in the daytime, they discharge in the evening and if it is in the night they discharge in the morning” (IDI 19; district B)

“I was admitted at 2 am and within ten minutes they gave me a cut and I delivered the child. They told us to stay but we said no and came back (home) at 7 am.”(IDI 1; district A)

4.5.4 Apprehension about hospital delivery

Particularly in district B, there appears to be a fear of hospital delivery and processes, for various reasons as seen in the following quotes:

“I was very frightened because I didn’t know what was going to happen (in the hospital).” (IDI 19; district B)

“Initially lots of operations were being done, so I was frightened. They were also taking lots of money in the past so my mother cried very much. She thought they will keep us for 2 hours and then do an operation, so she was crying.”(IDI 13; district B)

“It was my first (hospital) delivery and I was very frightened...I was thinking ‘what will happen to me in the hospital?’”(IDI 16; district B)

“I was frightened because everybody was telling me I was going to be given blood (transfusion) as I was not having enough blood. I did a test and they told me my (haemoglobin) level was 7. I don’t take medicine and don’t like injection, so I was frightened. They treated me well though.” (IDI 23; district B)

There is an exception to this general apprehension, as one woman who had a caesarean section in district A said:

“As I went for the operation there was no doubt it was for a good reason and I was not frightened. Whatever the doctor will do will be good.”(IDI 10; district A)

The next chapter discusses the findings from this study in the light of what is already known from previous evaluations and a review of relevant literature.

CHAPTER 5

Discussion

It is obvious that in order to achieve the health-related Millennium Development Goals, many low and middle-income countries will have to adopt measures to improve service delivery in their health systems. To reduce maternal mortality, increasing the number of births attended by a skilled attendant and the delivery of emergency obstetric care remain central to such measures (WHO, ICM and FIGO, 2004). But constraints relating to human resources for health and facilities in most middle and low-income countries pose a serious threat to achieving any appreciable progress in this regard; the current UN recommendation of one Comprehensive and four Basic Emergency Obstetric Care facilities for every 500 000 population is not met in most developing countries (UNICEF/WHO/UNFPA, 1997). Contracting with the private health sector has therefore been proposed as a measure to bridge the gap between the public and private health systems in terms of human resources and adequate facilities (Wyss, 2004). Global experience with contracting to improve health care service delivery shows that it is an effective method and can achieve rapid results (Loevinsohn and Harding, 2005). It is in the light of this that the Government of Gujarat in India embarked upon a scheme to contract delivery services to private obstetricians in order to increase institutional deliveries and reduce maternal and infant mortality.

Findings from previous evaluations of the Chiranjeevi scheme in Gujarat showed that institutional deliveries have markedly increased since inception of the scheme (UNFPA, 2006; Bhat et. al, 2006). Although there is no direct evidence to support this, these evaluations also suggested a decrease in both maternal and neonatal mortality. The current study set out to evaluate the quality of care under the scheme, which the two evaluations above did not study in any depth. The findings from this study are therefore discussed in light of the previous evaluations and findings from similar studies as far as quality of care is concerned.

5.1 Facilities, human resources and level of service

Generally, the findings from this study suggest that almost all the clinics studied are staffed and equipped to carry out basic essential obstetric care, which comprises a normal and assisted vaginal delivery, giving parenteral antibiotics, oxytocics and anticonvulsant drugs to women who require them, manual removal of placenta and evacuation of retained products of conception (WHO/UNICEF/UNFPA, 1997). Records are however poorly kept to analyse all the signal functions. All clinics are also run by an obstetric specialist, although this is not strictly speaking a requirement for this level of care. Certainly a well-trained non-specialist doctor can qualify as a skilled birth attendant. There are many of such doctors with private practices in the state and their use should be considered to supplement the number of private clinics under the scheme, particularly in district B where there are no obstetric specialists in 4 of the nine blocks.

Quality of care issues noticed at this level of care relate to cleanliness and aseptic control, with some clinics in each district not having cleaners round the clock in their labour wards and some using recycled gloves to conduct vaginal examinations and delivery. Lack of complete neonatal resuscitation kits was also detected in half of the clinics in district A.

Failure to observe universal infection control measures such as disinfection of labour rooms and instruments, and the use of sterile gloves, is one of the main causes of post-delivery infections, one of the major causes of maternal mortality (Fauveau and de Bernis, 2006). Sadly, this aspect of care is poor in most developing country settings. An observational study of the infection control measures among midwives in Ghana showed that most did not observe basic aseptic techniques; sterilisation techniques were inadequate, and there were limited supplies like sterile surgical gloves (Cronin et. al, 1993).

Operative vaginal deliveries like forceps or vacuum extraction are associated with higher rates of morbidity and even mortality in the newborn. These operative deliveries are indicated in problematic labours like prolonged second stage, maternal exhaustion and cord prolapse. Although vacuum extraction is associated with fewer neonatal complications than forceps delivery, both vacuum and forceps deliveries are associated with increased risks of intracranial and retinal bleeding, feeding problems and need for mechanical ventilation, in addition to maternal injuries like perineal tears and bleeding (Demissie et. al, 2004). Based on evidence from Randomised Controlled Trials, the Royal College of Obstetricians and Gynaecologists concluded that the availability of a trained neonatologist with adequate resuscitation equipment attending an operative vaginal delivery reduces the risk of fetal demise or serious disability from an adverse neonatal outcome (Revised RCOG Guideline No. 26, 2005).

The main impediments to quality care provision were with the higher level of service or Comprehensive obstetric care, which comprises, in addition to the 6 elements mentioned under basic care, blood transfusion and caesarean section (WHO/UNICEF/UNFPA, 1997). The obvious quality of care issues lacking at this level are: lack of separate scrub rooms from the operating theatres, no anaesthetic machines and no facilities for storing blood.

Because the operating room space is supposed to be sterile while the scrub area is not, siting the scrub room in the operating theatre is a serious flaw in aseptic procedure and increases the chances of transmitting infection during the operation. Isolating the operating field from the surrounding unsterile environment is one of the cardinal principles of aseptic procedure in the operating room (Abreu and Potter, 2001).

Most of the clinics studied use regional anaesthesia (spinal anaesthesia) for performing caesarean section, and some of the doctors in those clinics without an anesthetic machine said they do not see the need for one. Again, events in labour can be so dramatic and unpredictable that immediate measures may be required to convert a regional anaesthetic technique into a general one, hence the need for availability of both a trained anaesthetist and appropriate equipment in any facility offering this level of obstetric care (ASA, 2000).

The above findings should be put into the context of resource constraint settings of most developing countries. Various studies in similar settings have shown deficiencies in the facilities and human resources for obstetric care. A survey to determine the availability of emergency obstetric care services in Uganda showed that 97.2% of the facilities studied did not have the facilities or human resources to offer basic obstetric care (levels 1 and 2). The missing signal functions for comprehensive obstetric care (level 3) are blood transfusion and caesarean section (Mbonye et. al, 2007). This survey studied public hospitals, health centres and private clinics, some of which may be at a lower level of care than the private clinics in this study.

Sampling of the study facilities also left out some districts because of security reasons, which may have skewed the results.

Another study in 2 of the 4 provinces in Pakistan found that of the 170 facilities surveyed, only 22 and 37 were providing basic and comprehensive emergency obstetric care respectively (Ali et. al, 2005). This study employed a multi-stage random sampling technique to choose the facilities for study, and data collected from the hospital records was validated by a repeat collection in 10% sample of the hospitals. The Pakistani study however only surveyed public hospitals.

Hulton and colleagues, using a framework they developed for assessing quality of maternity care, found a less than optimal quality of care in both public and private maternity hospitals in an urban slum of India (Hulton et. al, 2007). They identified lack of essential drugs, poor companionship in labour and physical and verbal abuse as some of the factors that affected quality of care.

The availability of facilities and human resources for carrying out emergency obstetric care in most of the developing world therefore appears to be deficient. The state of the private clinics contracted under the Chiranjeevi scheme seems to be better than those from other studies, especially in terms of facilities and human resources. It would have been interesting to know the situation of facilities in public hospitals in the study districts, since this study only looked at private ones.

5.2 Service outputs

In terms of total number of deliveries, the clinics in district A performed more than those in district B (1747 vs. 706). The proportion of deliveries among Chiranjeevi clients was also higher in district A (63.7% vs. 42.9%). This is similar to the findings from previous studies (UNFPA, 2006; Bhat et. al, 2006), both of which showed district A performing more deliveries than district B. The reason why district A is performing more deliveries may be because it has more clinics contracted under the scheme. Certainly it is also more densely populated than district B, and prospective clients may be having easier access to the private Chiranjeevi clinics.

Clinics in district A also performed more caesarean sections in absolute terms but the rate of caesarean section as a percentage of total delivery was higher in district B (11.33% vs. 4.92% in district A). This is also similar to the findings from the study by Bhat and colleagues (Bhat et. al, 2006). The 4.92% caesarean section rate in district A is lower than the 7% assumed in the calculation of the service charges. It is also lower than the 5% rate suggested as the minimum for measuring the availability of emergency obstetric care (WHO/UNICEF/UNFPA, 1997). Although a very high caesarean section rate is not desirable, a rate below 5% such as the one found in this district may be an indication of an unmet need for emergency obstetric care (Ronsmans et. al, 2002). The low caesarean section rate in this district should therefore be viewed with skepticism, as it may be an indication that the practitioners are avoiding this important component of care.

5.3 Referral patterns and constraints to delivery of quality obstetric care

The main reasons given by the doctors interviewed for referral are lack of blood transfusion facilities and difficulties in getting anaesthetists in emergencies. The shortage of these two services in the study districts thus signals problems with achieving the third level of care.

There appears to be an obvious discrepancy between the findings from the facility assessment and the interviews with doctors concerning availability of anaesthetists. Whereas the facility assessment showed that all the 26 clinics assessed had an anaesthetist on their duty call roster, interviews with the doctors revealed that a good number of them are having problems getting anaesthetists to attend to obstetric emergencies. It is difficult to figure out if the doctors are claiming to have anaesthetist cover in order to qualify for enrolling on the scheme, or they are referring patients under the pretext of lacking an anaesthetist in order to avoid during a caesarean section. A formal monitoring system will therefore help in resolving this and making sure only those that meet the standards are contracted.

The doctors interviewed in this study also felt these same factors affected the quality of care given by them. Discussions with doctors and other health workers showed that anaemia in pregnancy is highly prevalent in the area, and this increases the need for blood transfusion even for minor degrees of bleeding during delivery. The prevention and management of anaemia should therefore be a major public health priority, even as efforts are made to improve on the blood transfusion facilities by the government.

The other factor the doctors said affected quality of care was the capitation payment system employed by the government, which reimburses them the same amount for both normal and complicated deliveries. Most of the doctors interviewed preferred a differential payment for normal and complicated deliveries because they felt that the caesarean section rate was higher than the 7% used in calculating the service charges. The different caesarean section rates found in the two districts may indicate differences in patient characteristics and practice patterns in the two districts; the dataset may also be too small to determine the actual caesarean rates. Larger studies may be required to work out the actual rates, as changing epidemiological indices may necessitate a review of the payment. The capitation payment system being used currently is however a good one in the circumstances as it helps to keep the caesarean section rates in check because it is a cost containment measure; it also makes the cost of care paid by the government more predictable (Barnum et. al, 1995). But it may be worthwhile to consider decentralising the costing of services to the district level so that the perceived differences in complication rates between districts are taken into account.

5.4 Beneficiaries' experience and their perception of quality of care

The generally positive experiences of the beneficiaries while accessing care in the private clinics contracted under the Chiranjeevi scheme is a testimony of the perceived better quality of care in private hospitals in India (Bhat, 1996).

In this study, good interpersonal care appears to be what most of the beneficiaries perceived as good quality care. The beneficiaries seemed to be more impressed with staff behaviour than other aspects of care. Similarly, a study in Uganda on the factors that influence the choice of delivery place among respondents showed that women preferred to deliver in private hospitals because they perceived the private providers to be more responsive to their needs (Amooti-Kaguna and Nuwaha, 2000). Also, in a British study women rated prior explanation of procedures to be carried out and their involvement in decision-making as the most important aspects of care they cherished (Drew et. al, 1989).

Overall, most of the women interviewed had positive perceptions about the care they received. It is important however to put these perceptions in context, because perceptions of the quality of care are known to be influenced by socioeconomic circumstances (Haddad et.

al, 1998). It may be that the poor women who benefitted from the Chiranjeevi scheme were satisfied with care that would be deemed less than optimal by more affluent societies. This finding is however similar with findings from the UNFPA rapid assessment (UNFPA, 2006).

Another important finding from the study is the extra out of pocket payments made by beneficiaries. Both previous evaluations of the Chiranjeevi scheme found that clients were making extra payments while accessing care. Although delivery care is meant to be free in the clinics contracted under the scheme, women are being made to pay for drugs and to make deposits, especially in district B. Observation also showed this district to be sparsely populated, with large parts of the district not having any contracted clinics nearby. It is little wonder therefore that some beneficiaries in this district spent much higher amounts on transportation. This practice will surely have a negative impact on uptake of the scheme among potential beneficiaries who do not necessarily have the money to pay, as well as deny good quality care to those that have already accessed it.

There were anecdotal reports that the pressure mounted on the various stakeholders to increase performance of the scheme may be causing some of them to falsify delivery figures⁷. The case of the doctor who reimbursed transport fees to a beneficiary that did not deliver in his clinic raises suspicions that this doctor may have recorded the delivery as his own. Again, a formal monitoring of the scheme will help to check such issues.

The short period of observation following delivery in both districts is another issue of concern, and was also noted by the UNFPA study. Interviews with the beneficiaries showed that they often requested for these early discharges because they felt everything was normal. Life-threatening obstetric complications, such as serious bleeding, are however known to happen up to 24 hours after an apparently normal delivery (Smith and Brennan, 2006; Abouzahr, 1998), and this should warrant an observation period of at least 24 hours after a normal delivery during which time vigilance of the hospital staff can avert a potential catastrophe. Although there has recently been a call for early discharge from hospital following a normal delivery in developed countries (Brown et. al, 2002), poor transportation and communication and the lack of effective medical support in most developing country settings makes this hazardous to the mother and even newborn.

Another important theme that emerged from the interviews with beneficiaries was the apprehension about hospitals generally by many of the clients especially in district B. The reasons for these apprehensions varied from fear of caesarean section, to fear of the high costs of treatment in private clinics. It is likely that similar apprehensions amongst the poor are keeping away a lot of potential clients from availing the institutional delivery services under the Chiranjeevi scheme. Potential clients therefore need to be more informed about the scheme and what they are entitled to, as well as health education on the merits of hospital delivery. This issue also calls for integrating antenatal as well as postnatal services to the current scheme, which will allow for continuity of care, even as the clients familiarise themselves with the care providers before coming in for delivery.

⁷ Informal discussions with an academic researcher in Ahmedabad, Gujarat

CHAPTER 6

Conclusion and strategic options

The Chiranjeevi scheme has been on-going in Gujarat state for close to two years now. It initially started as a pilot project in 5 of the most economically disadvantaged districts and is now operational in all 25 districts of the state. Data from previous evaluations of the scheme has shown that it has markedly increased institutional deliveries in the state. It is thought to have also reduced maternal and neonatal morbidity and mortality, although there is no direct evidence of this. The previous evaluations however raised concerns about the quality of care provided by the private clinics contracted under the scheme.

This study thus set out to evaluate the quality of care under the scheme. Specifically, it sought to assess the facilities and staffing in the clinics, and then work out the different levels of obstetric care that can be offered in the clinics. Performance records were also analysed to assess the service outputs of these clinics, while doctors were interviewed to understand the referral patterns and the constraints they faced in providing care to the clients. From the demand side, experience and perceptions of quality were assessed by interviewing women who had benefitted from the scheme.

The results of the facility assessment showed that most of the clinics were fairly equipped and staffed to carry out basic essential obstetric care. All the clinics were run by an obstetric specialist, although this is not strictly speaking a requirement for basic care. Moreover, there are no specialists in some blocks; hence no clinics are contracted in those blocks even though there are many non-specialist doctors who can offer this service. Half of the clinics in one district were lacking adequate neonatal resuscitation kits and a few of the clinics lacked sterile gloves and were not observing aseptic procedures in their labour rooms. The major quality of care issues were with comprehensive obstetric care (level 3): lack of separate scrub rooms from the operating theatre, lack of anaesthetic machines and trolleys and lack of blood storage facilities in most of the clinics. The lack of these inputs did not prevent the clinics from carrying out these signal functions for comprehensive obstetric care, as seen from the service outputs. The quality of these services may however not be optimal, considering the crucial role of these inputs in the provision of comprehensive obstetric care. Nevertheless, the quality of care in these private clinics may still be much higher than that in public hospitals, if the results of previous studies are to be believed.

The lack of blood transfusion facilities and anaesthetists, and dissatisfaction with the current payment system appears to be major constraints to the provision of quality care in these clinics; these are also the main reasons for referral from the clinics.

Interviews with the beneficiaries revealed that most of them were satisfied with the care they received, particularly the interpersonal care, although it may be that these perceptions were shaped by the low socioeconomic status of these women. Other issues that were raised relate to the additional payments made by some of the beneficiaries, a short period of observation after delivery and general apprehension about hospital delivery, particularly in district B.

These findings are similar to those from previous evaluations of the scheme, and highlight the need for putting measures in place to address them and hence enhance the scheme.

The following are thus areas of potential improvements for policy makers to consider.

6.1 Potential areas of improvement for policy makers' consideration

6.1.1 Improving blood transfusion facilities and anaemia prevention

Considering that lack of blood transfusion facilities appeared to be a major constraint to obstetric care from the study, it is worth considering setting up more of such facilities across the districts. The cost implication of such a project may however be significant, and an interim measure may be to improve on anaemia treatment and prevention in all pregnant and potentially pregnant women. This can be done through health education on proper nutrition, and malaria prophylaxis and case treatment with iron supplementation. These interventions can be provided through antenatal clinics or in the community by Village Health Workers. They are by no means a substitute for improving blood transfusion facilities, but can reduce the need for blood transfusions in pregnant women.

6.1.2 Adding antenatal and postnatal care into the scheme

The services under the scheme currently include a pre-delivery visit. There is a need however to include at least 3 comprehensive antenatal care visits and a postnatal visit to the current package. This will ensure continuity of care as the doctors will have an opportunity of knowing about the clients' medical and pregnancy history before the onset of labour. The clients will also be more likely to feel at ease with hospital staff they are familiar with. Interventions like anaemia treatment and prevention can also be more easily carried out during antenatal clinics, as is health education and general information on the Chiranjeevi scheme.

6.1.3 Context-specific costing system

The differences in the caesarean section rates found in the study and the perceptions among the doctors of differences in the districts, and the high transport costs incurred by some of the beneficiaries calls for decentralising decision-making on the costing system for the different services to the district level. Inputs from the private gynaecologists should be taken on the complication rates to be used in working out the payment system. This is by no means a call for abolishing the capitation system, but merely to consider the differences between districts in calculating the service charges.

6.1.4 Involving non-specialist doctors

The many non-specialist medical doctors practicing in the private sector of the state may be contracted to offer delivery services under the scheme, especially in those districts where there are few specialist gynaecologists. This should be done together with strengthening referral linkages between these non-specialists and the specialists in the same district or with public hospitals that have a specialist, so they can refer complicated cases in time.

6.1.5 Formal monitoring of the scheme

Formal monitoring of the scheme will go a long way in detecting potential areas for quality improvement. The existing Monitoring and Evaluation units in the District Health Offices can be restructured and empowered to adequately monitor and regularly evaluate the activities of the contracted clinics. The Centre for Health and Social Justice, New Delhi which is currently involved in Community Monitoring of the National Rural Health Mission can assist in monitoring certain aspects of the scheme on the demand side, and can partner the Government to coordinate the extensive network of non-governmental organisations in Gujarat to carry out this mission.

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Appendix 1: Service charges for Chiranjeevi Yojana

Procedure	Delivery in a Private Nursing Home			Delivery in a Public Institution		
	Cases per 100 cases	Cost per procedure (Rs.)	Total (Rs.)	Cases Per 100 cases	Cost per procedure (Rs.)	Total (Rs.)
Normal Delivery	85	800	68,000	85	200	17,000
Complications						
Eclampsia		1000			300	
Forceps/ Vacuum/ Breech	3	1000	3000	3	300	900
Episiotomy		800			300	
Septicemia	2	3000	6000	2	300	600
Blood Transfusion	3	1000	3000	3	300	900
Caesarean (7%)	7	5000	35000	7	1000	7000
Pre delivery visit	100	100	10000	100	100	10000
Investigation	100	50	5000	100	50	5000
Sonography	30	150	4500	30	150	4500
NICU Support	10	1000	10000			
Food	100	100	10000			
Dai	100	50	5000			
Transport	100	200	20000	100	200	20000
Total			179500			65900

Source: Bhat, Singh, Maheshwari and Saha (2006)

1 Indian Rupee = 0.025 US Dollars approx.

Appendix 2: Facility inventory checklist

Serial no..... District..... Block..... Date.....

Building:

INFRASTRUCTURE	EXISTING	REMARKS
No of beds		
Operating theatre		
Labour room		
Neonatology unit		
Laboratory		
Blood storage facility		
Refrigerator		
Electricity		
Running water		
Transport/ambulance		
Telephone		
Ultrasound machine		

Labour room

INFRASTRUCTURE	EXISTING	REMARKS
Delivery couch/stirrups		
Delivery kit (SVD)		
Assisted vaginal delivery kit (forceps/vacuum)		
Suction machine		
Sterile gloves		
Resuscitation kit for baby		
Weighing scale		

Theatre

INFRASTRUCTURE	EXISTING	REMARKS
Relation to labour room		
Operating table		
Surgical instruments		
Light source		
Anaesthetic machine		
Oxygen supply		
Suction machine		
Separate scrub room		

Drugs/consumables

INFRASTRUCTURE	EXISTING	REMARKS
Oxytocics		
Anticonvulsants		
Antibiotics		
Analgesics		
Emergency drugs		
Surgical sutures		
Consumables		

Cleanliness/asepsis/waste disposal

INFRASTRUCTURE	EXISTING	REMARKS
Cleanliness		
Asepsis		
Waste management		

Staff

Cadre	Total no	Qualifications	No per shift	Remarks
Doctors (obstetricians)				
Nurse/midwife				
Anaesthetist				
Neonatologist				
Lab. Technician				
Ward attendants				
Cleaners				

Records

	No of deliveries	C/S	Maternal death	Neonatal death (early)
Chiranjeevi				
Other				
Total				

Appendix 3: Provider interviews

1. What is your understanding of the issues in the MOU signed with the Government?
2. How long have you been in Chiranjeevi?
3. How many professional staff do you have working here?
 - Doctors
 - nurses/midwives
 - anaesthetist
 - neonatologist
 - What are their qualifications? (Graduation dates?)
 - Is training being provided for them? If yes, in what form?
4. Is there 24-hour coverage of services? How long are the shifts?
5. How do you dispose of waste products- sharps, body fluids, placental tissue etc?
6. When do you first see the Chiranjeevi clients? When do you last see them?
7. Is there a provision of referring out patients?
 - What are the common reasons for referral?
 - Where do you refer them?
 - How are they transported?
 - Who accompanies them?
 - Do you get feedback from your referrals?
8. Do you have patients referred to you?
 - What are the reasons for such referrals?
 - Where are they being referred from?
9. What are the main constraints in providing quality services to your clients?

Appendix 4a Consent form for doctors

My name is Farouk Muhammad Jega and I am a medical doctor from Nigeria. I am studying for a Masters degree in Community Health at the Liverpool School of Tropical Medicine in the UK. These are my colleagues Jyoti Gupta and Ramilaben. We are carrying out a study to assess quality issues in clinics contracted under the Chiranjeevi programme and we understand that yours is one of such clinics.

We kindly ask you to permit us to have a look around your facility and also examine some medical records. We would also want a few minutes to discuss certain aspects of the processes of care you offer to your clients and also referral patterns. We will also take notes during our interview and complete a checklist as we examine your facility and records.

Although there may not be any immediate benefit to you, this study may assist in improving the Chiranjeevi scheme and you may then benefit from the improvements.

You have the right to consent or decline our request without any negative consequences to you or your practice. You are also at liberty to withdraw consent anytime during our time in your clinic.

Any information we collect will be treated in the strictest of confidence. All the data will be coded so that your identity and that of your clinic will remain anonymous.

The results of our study will be disseminated to various stakeholders including policy makers to enable them improve the scheme. If you need any clarifications, please do not hesitate to ask us any questions.

If you agree to participate in this study please sign the consent form attached.

Thank you.

Informed consent (on a separate page)

I have clearly understood the purpose of the study and have consented to the researchers assessing my clinic and medical records of patients. I also consent to discuss the process of care and referral patterns with them. I understand that I will not benefit directly in monetary terms from participating in this study. I also understand that I have the right to withdraw consent without any negative consequences to me or my practice.

I have been assured that any information collected by the research team will be treated in confidence.

Name _____

Signature _____

Date _____

Witness _____

Appendix 4b: Consent form for beneficiaries

My name is Farouk Muhammad Jega and I am a medical doctor from Nigeria. I am studying for a Masters degree in Community Health at the Liverpool School of Tropical Medicine in the UK. These are my colleagues Jyoti Gupta and Ramilaben.

We are carrying out a research to understand the quality of care given to women who deliver in clinics under the Chiranjeevi programme. We have chosen you because you have recently delivered in one of such clinics. We will like to talk to you and know your views about the quality of care in the clinic where you delivered. We assure you that we will not disclose your identity and any thing you tell us will be treated in the strictest of confidence.

Although there is no monetary benefit for you now, the study will assist the government in improving the Chiranjeevi programme in providing better services to other women, including you, should you decide to patronise the same clinic or another one under the scheme in the future.

If you agree to speak to us, we will like to record the interview on tape and also take some written notes because we may not remember everything we discussed. The tapes will be kept in a secure place, and will be destroyed at the end of the research. It will only be accessed by members of the research team.

You are at liberty to decline talking to us and there will be no negative consequences to you even if you choose to patronise the clinic in the future. If you agree to participate, you can decide not to answer any question you are not comfortable with, and you can withdraw from the interview at any time.

Do you have any questions? Would you like some time to think or discuss with someone?

If you agree please sign the consent form provided.

Thank you.

Informed consent (on a separate page)

I have understood the purpose of the study and have consented to being interviewed. I understand that there is no monetary benefit to me. I also understand that I have the right to withdraw consent or refuse to answer any question without any negative consequences to me.

I have been assured that the information I give will be treated as confidential.

Name_____

Signature_____

Date_____

Witness_____

Appendix 5: In-depth interviews topic guide

Name.....Age.....Parity.....Occupation and average monthly income.....

Husband's occupation/average monthly income

Asset ownership: motorcycle; bicycle; farmland; animals; own house; other (specify)

1. What do you know about the Chiranjeevi scheme? Where did you hear about it?
2. Why did you go to deliver in that particular hospital?
3. What happened from the time you arrived at the hospital to the time you saw a nurse/doctor?
4. How were you and your relations treated by the hospital staff? Did you like/dislike the treatment given to you? Please explain.
5. What did you like most about the hospital?
6. What do you think about the hospital in terms of: Privacy/cleanliness? Please explain.
7. How long did you wait before being attended to? Was it too long? Please explain.
8. Were you asked to make any payments? Please explain
9. Is there anything else you would like us to know about your experience?
10. What suggestions do you have for improvement of services in the clinic where you delivered?