
A framework for the evaluation of quality of care in maternity services

'The question should not be why do women not accept the service that we offer, but why do we not offer a service that women will accept?'

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I Introduction

The existence of maternal health services does not guarantee their use by women. Neither does the use of maternal health services guarantee optimal outcomes for women. An important aspect of care that has been highlighted to explain why women either do not access services at all, access them late or suffer an avoidable adverse outcome, despite timely presentation, relates to the intangible concept of quality of care. Part of the reason for the intangible nature of quality is that it is very difficult to measure. As long as avoidable deaths and morbidity continue to occur that can, at least in part, be attributed to poor quality care, there is an imperative to overcome the difficulties of definition and measurement (both perceived and real) associated with quality.

This monograph develops a framework that enables the measurement of quality within institutional delivery services for use by public health researchers, policy makers, managers and a range of health professionals. The framework divides the provision and experience of care into ten elements, drawing on a wide body of research and evidence-based good practice. For each element, broad standards, criteria and selected indicators are suggested. The framework is designed to function in two possible ways.

Firstly, as a tool by which to help structure a situation analysis review of quality of care as provided at a facility, and experienced and perceived by its clients, actual and potential.

Secondly, as a tool by which to improve the quality of care through the ongoing critical examination of activities, compared with an agreed standard. Where care falls short of agreed standards it would then be possible to instigate a process to identify opportunities and implement change to bring practice closer to the standard. This framework provides an instrument by which to guide and structure the measurement and monitoring of quality in this vital area of maternal health care.

The framework weaves together a number of distinct yet integrated components of institutional delivery care: care during normal delivery; care during a complicated delivery; psycho-social-cultural care during labour and delivery; hospital logistics and management; and the overarching health system of which the unit is part. The hospital administrator and the head of the maternity wards are usually responsible for the first four components mentioned above while the district health authority is responsible for the latter. The complexity of the task of assessing

quality using a framework that draws on elements of care that fall under the remit of different authorities should not be underestimated. However, as the quality of each component is dependent on the quality of the others, their inclusion conceptually within one broad framework is important. A fully equipped operating theatre is of no use if it is impossible to locate an anaesthetist. Similarly while care in normal delivery may be clinically exemplary, if a woman is unhappy with the psycho-social support she receives, she and her family may prefer that she deliver at home for any future pregnancy, with the support of traditional birth attendants.

The framework is flexible. How it is used in practice will depend on a number of factors such as location, resources, management structure, type of institution, capacity for data collection, political will, local circumstances and the degree of staff involvement. Unless the process by which the framework is implemented is appropriate, effective change will not result. However, it is the content of the framework that provides the foundation for a successful quality assessment process. The unique contribution of the approach taken in this monograph is the drawing together of research from medical, health policy and social science disciplines to produce an evidence-based model by which to assess

quality. While the process of implementation is briefly touched on, the primary aim is to examine the potential content of a quality assessment of institutional delivery care.

It is important to note that this framework has been designed for use in institutional facilities only, and is limited in its current form to quality of care to pregnant and labouring women and new mothers. While it is recognised that care of the labouring woman and the unborn fetus and newly born infant are closely related, expanding the focus of this monograph would have rendered it unwieldy. If services are acceptable to women and provide appropriate, timely care, commensurate benefits to the unborn child would be anticipated; see Johansen and Hod (1999) for a discussion of quality development in perinatal care and Mancey-Jones and Brugha (1997) for a review of the use of perinatal audit to promote change.

2 Background

More than 585,000 women each year die of pregnancy-related causes worldwide, 99% of these occur in the less developed world (WHO, 1996a). If timely and appropriate obstetric care were accessed in the event of a complication, an estimated 75% of the above deaths could be prevented. While in many areas services simply do not exist, where they do they are often under-utilised. In addition, late presentation by pregnant women in the event of a complication, combined with poor quality of care, contributes to high levels of maternal and perinatal mortality and severe morbidity (Thaddeus and Maine, 1994). As all pregnant women are at risk of obstetric complications, access to adequate essential obstetric care (EOC) needs to be universal (WHO 1998). The existence of such care, however, guarantees neither use nor improved outcome. This will be possible only if the care that exists is of a high enough quality to provide adequate treatment and encourage early utilisation. Furthermore, quality of care is an essential component of any programme that upholds the basic principles of a reproductive health approach.

Quality is not easy to measure or define. However, significant progress has been made in defining quality of care in relation to the family planning

element of reproductive health (Bruce, 1990). The recognition that the quality of services has an impact on the use of services has given suppliers of such services a strong incentive to improve quality of care with the goal of greater acceptance and more sustained use of contraceptive technologies. At the same time, more couples are able to achieve the family size and spacing they desire and a concomitant reduction in overall fertility can be expected, a win-win situation.

However, while the elements of quality care within family planning are relatively well defined and amenable to measurement, a broad approach to quality of care in maternity services has received relatively little attention. Historically, the major focus in maternity services has been to reduce maternal mortality by the provision of hospital based services. The effectiveness of this approach in developed and developing countries has perhaps detracted from the broader issues of quality of care, which affect women's health and influence the acceptability and uptake of services. Where services exist they should provide at the very least a standard of care that results in the best possible outcome given the resources available and should not inhibit utilisation. It is clear from a review of the current literature that no systematic

framework is currently available by which to assess quality in maternity care. There is a need for well-defined criteria and standards at all stages of the complex maternal health-care chain. As a response, this monograph focuses on quality in one specific section of the care chain: the provision of institutional delivery services. A framework of meaningful and measurable elements of quality of care is developed, based on an extensive review of evidence from a range of disciplines. The creation of this framework provides a practical basis on which the systematic improvement of care in this vital part of the maternal health chain may be developed.

3 Quality of Care

3.1 Why is Quality Important?

A maternal death is defined by the 9th and 10th revisions of the International Classification of Diseases as:

'The death of a woman while pregnant or within 42 days of the termination of pregnancy, irrespective of the duration or site of the pregnancy and which results from any cause related to or aggravated by pregnancy or its management' (WHO, 1992).

Clinical literature suggests that about 75% of maternal deaths result from direct obstetric causes, such as haemorrhage, obstructed labour, infection, toxæmia and unsafe abortion (WHO, 1985). This literature also suggests that a majority of these deaths could be prevented with timely medical treatment. Delay - that is an avoidable time delay from the onset of a complication to the accessing of appropriate services - has emerged as a pertinent and indeed central factor contributing to maternal death and disability (Thaddeus and Maine, 1994). In the past decade, growing attention has been given to the vital role of essential obstetric care in the prevention of maternal deaths. As all pregnant women are at risk of obstetric complications, effective access to adequate essential obstetric care needs to be universal and women should be able to access that

care promptly in the event of a complication.

In practice, the facilities that provide essential obstetric care in an emergency also provide care in normal delivery. A woman's experience of care for an uncomplicated delivery is likely to influence her future health seeking behaviour. It is conceivable that after experiencing good but disrespectful treatment in a previous normal delivery, a woman with a complication may delay accessing care from a facility that provides essential care of clinically high quality in favour of staying at home a little longer or travelling slightly further to a unit where the perceived, though not necessarily actual, care is of a higher standard. The relationships are complex. What needs to be understood is that while the availability of appropriate essential obstetric care is the only way to prevent a complication becoming a death, the quality of care provided and experienced in normal delivery may impact negatively on overall outcomes if the timing of use is delayed as a result of poor perceived standards of care. An assessment of quality must necessarily conceptualise the various components of care as interdependent.

Increasing the availability of services does not always increase the use of services, and the reasons for this have been investigated. Delays to accessing care can range from delaying the actual decision

to seek care on the part of the individual and her family, to delays in reaching an adequate health-care facility and finally, delays in actually receiving adequate care at the facility. Factors that influence delays in the decision to seek care include the status of women, illness characteristics, distance from the facility, and perceived quality of care. Delay in actually accessing care refers to factors such as the distribution of facilities and the condition of the roads, while delays in receiving adequate care include the adequacy of referral systems, shortages of supplies, and the competence of available personnel (Thaddeus and Maine, 1994). Thus the theoretical availability of services does not mirror access, and a number of socio-economic and cultural factors combine with individual and group perceptions and experience of quality of care to influence the utilisation of maternal health services.

The quality of care that a health service provides is thought to influence use in a number of ways, although little is known about the mechanisms by which this relationship functions. Studies have shown that quality can affect the decision to seek care (Iyemba, 1983; Stock, 1983; Mwabu, 1986). Where service users have access to more than one facility, it is often their perceptions of quality of care, related to their own experiences or those of people they know, rather than proximity that determines their choice of facility. It is a combination of dissatisfaction with the service received and the effectiveness of

treatment given that shapes a patient's and her friend's and family's perception of care, which in turn influences health-seeking behaviour (Thaddeus and Maine, 1994). Quality may also have an impact on the timing of presentation at a facility. In circumstances where the percentage of institutional delivery is high (above 70%) and the option of delivery at home particularly undesirable (such as within urban slums) services ideally need to discourage late presentation by women already planning to deliver at a facility. Late presentation (arrival within an hour of delivery) does not enable staff to assimilate an adequate medical and antenatal history effectively or undertake basic checks such as blood pressure and temperature. In addition, in the event of a complication for which no symptoms are recognised by the woman, sufficient time to assemble emergency staff, drugs and equipment is key to improving outcome. Late presentation is an example of an indication of poor quality of care in these circumstances. It may represent poorly communicated health messages, or a desire to stay at home for as long as possible before delivery so as to avoid labouring alone in the hostile environment of a hospital maternity ward.

In addition, for those women who do access services, at whatever stage, the outcome is partly dependent on the quality of care they receive. The existence and prompt use of services

alone is not sufficient to reduce the number of maternal deaths. Facilities need to be providing adequate services. A community-based investigation of maternal deaths, undertaken in both rural and urban areas of Zimbabwe to assess their preventability, identified sub-optimal clinic and hospital management as an avoidable factor in nearly 70% of cases. Lack of appropriately trained personnel contributed significantly to sub-optimal care (Fawcus et al., 1996). Similarly, a study conducted at a university hospital in Nigeria found that delays in obtaining appropriate treatment were responsible for a significant number of deaths, and that such delays were more common among women of lower socio-economic status and among younger women (Okonofua et al., 1992). Findings from this study indicate that delays relating to health service failures were more significant than postponing the initial decision to seek emergency care. Health service failures identified included incorrect treatment, lack of facilities, poor staff attitude, and delays in the referral process. Poor co-operation between health providers, and inadequate equipment and supplies were identified by women themselves as constraints to essential obstetric care (Okafor and Rizzuto, 1994). In a review of hospital-based studies, Sundari documents evidence of avoidable factors and identifies a range of failures in the health service delivery system that contributed to maternal deaths in developing countries.

'Failures ranged from the lack of minimal life-saving equipment at the first referral level; lack of equipment, personnel and know-how even in referral hospitals, and, worst of all, faulty patient management' (Sundari, 1992; p.513).

3.2 A Reproductive Health Approach

The concept of reproductive health, which gained currency initially in the 1980s, is premised on the feminist principle that every woman has the right to control her own sexuality and reproduction without discrimination as to age, marital status or income. Ensuring the highest possible standards of reproductive health-care for girls and women is fundamental to the exercise of their reproductive rights and freedoms, and to the exercise of the broad array of other human rights to which girls and women are entitled (Dixon-Mueller, 1993). Quality of care is an essential component of any programme that upholds three principles of a reproductive health approach:

- 1) A woman's ability to regulate her fertility safely and effectively by conceiving only when desired, by terminating unwanted pregnancies, and by carrying wanted pregnancies to term.
- 2) To remain free from avoidable disease, disability or death associated with her sexuality and reproduction.

3) To bear and raise healthy children.

(Adapted from Germain and Ordway, 1989, cited in Dixon-Mueller, 1993).

Where the nature of maternal care is such that it inhibits effective utilisation and receipt of effective care, women are being denied the basic right to bear and raise healthy children and remain free from disease and disability associated with their reproduction. Evidence suggests that there are procedures specific to childbirth in an institutional setting that women dislike or fear, and which may therefore inhibit utilisation. They may feel uncomfortable exposing their genitals in a hospital ward, or they may intensely dislike positions favoured by hospitals for delivery (Thaddeus and Maine, p.1096). Not only does good quality of care afford a woman dignity in childbirth, it also endeavours to avoid those aspects of care that are disrespectful - even unnecessary - and may impact negatively on patterns of use.

4 What is Quality?

Definition and Measurement

The definition of quality of care determines both the content and the process of care. In 1966 Donabedian defined quality of care in a unique way:

'quality of care is the extent to which actual care is in conformity with present criteria for good care.'

The unique feature of this conceptualisation of quality at the time was the introduction of evaluation into the definition. Evaluation became the link between quality and quality assurance. This definition makes an important distinction between the quality of actual care, which is established at the end of an evaluation procedure, and the expected quality of care as it is described in terms of criteria and clearly defined standards (Reerink, 1990). A more recent definition states that:

Quality of care is 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, p.94)

The above definition has been adapted to achieve a definition of quality of care relevant in the context of maternal health. This definition incorporates the concept of both effective and timely access and of reproductive rights thus:

'Quality of care is the degree to which maternal health 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.'

This working definition provides the basis from which to create a quality assessment framework for maternal health in an institutional setting. The definition allows quality in this context to be separated into two constituent parts:

- **The quality of the provision of care within the institution.**
- **The quality of the care as experienced by users.**

For quality of care to be meaningful, it is fundamental that elements of these two components of care be consistent with the basic norms of internationally agreed reproductive rights.

The division of quality into these two components recognises the fact that use of services and outcome are the result not only of the quality of the provision of care but of women's experience of that care. The provision of care may be deemed of high quality against all recognised standards of good practice but unacceptable to the woman and her family. Conversely, certain aspects of provision may be popular with women but objectively ineffective or even harmful to health.

5 A Quality of Care Framework

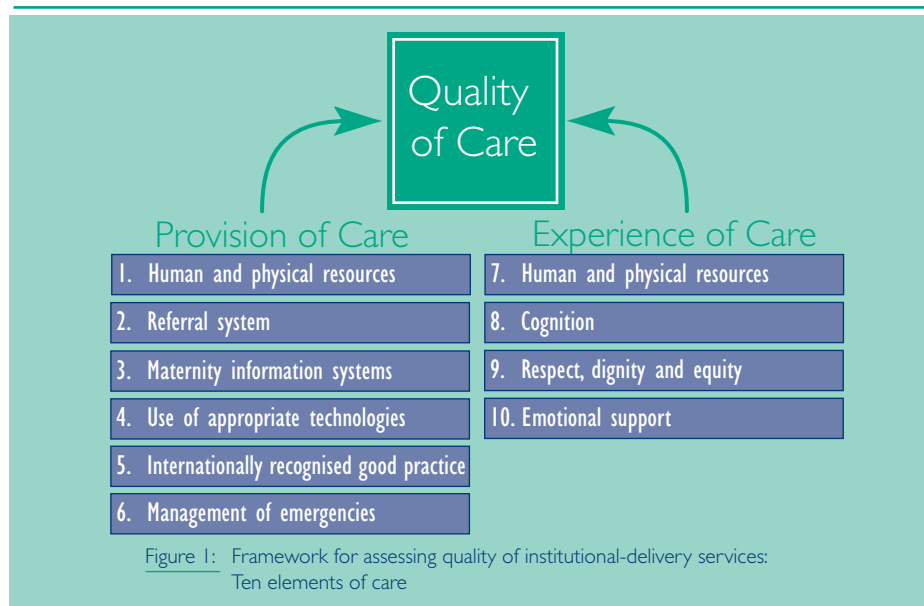


Figure 1: Framework for assessing quality of institutional delivery services: Ten elements of care

5.1 Ten Elements of Care

The quality framework is presented in Figure 1. It identifies six elements related to the provision of care: human and physical resources; the referral system; management information systems; the use of appropriate technologies; internationally recognised good practice; and the management of emergencies. Four aspects relating to women's experience of care are also identified namely; human and physical resources; cognition; respect, dignity and equity and emotional support.

In the process of developing the framework, a wide range of social science, health policy and medical literature was reviewed. Prominent among these were:

The Pregnancy and Childbirth Module of the Cochrane Library

The UK Royal College of Obstetricians and Gynaecologists Clinical Audit Unit

WHO Safe Motherhood Series (including Care in Normal Birth and the Mother and Baby Package)

The Design and Evaluation of Safe Motherhood Programmes (Maine et al, 1997)

The Evaluation Project Indicators for Safe Motherhood (Carolina Population Centre, University of North Carolina) Guidelines for Monitoring the Availability and Use of Obstetric Services (WHO/UNICEF/UNFPA, 1997).

5.2 Criteria and Standards

To make the above framework a practical and analytic tool, criteria for each constituent element need to be developed and corresponding standards defined by which quality can be evaluated. The criteria are a set of broad requirements that must be satisfied before each element of quality can be realised. The Appendix to this monograph contains ten tables detailing suggested criteria, broad standards and suggested indicators for each of the elements that make up the framework. For example, the following illustrates a criterion that can be used to assess the quality of the management information system provided at a maternity unit (see Table 3 in the Appendix). This example comes from the third element of the provision of care: management information systems.

CRITERION	STANDARD
Basic registers in facilities are designed to record data that is sufficient to monitor and evaluate activities effectively.	'sufficient' 'effectively'

Standards define the limits by which the criteria can be assessed. In this example, *sufficient* and *effectively* are the standards that need to be defined. Sufficient in a maternity home may not have the same meaning as sufficient in a large university hospital. Given the enormous variability that exists in health-care systems and economic and socio-cultural conditions throughout the developing world, setting universal standards is problematic. What is acceptable and achievable in one setting may be impossible in another.

The criteria within the framework can be applied universally among institutions of similar status but local conditions should dictate the exact standards that are appropriate in that setting. Given this, however, for certain aspects of maternity care it is possible to set universal standards applicable regardless of the context; for example, the maintenance of asepsis at all times. This is what Donabedian referred to as certain limits which should not be transgressed (1966, p.183).

It is particularly difficult to set minimum standards for the elements of the framework relating to the experience of care. Research conducted in the developed countries indicates that perceived quality may vary among members of different socio-economic groups (Calnan, 1988a; Roberge et al., 1996; Haddad et al., 1998). Perceptions are influenced by the social, organisational and technological context in which the health services are

delivered (Palmer, 1991; Ellis and Whittington, 1993). However, even when staff are overwhelmed by the volume of users, rudeness and disrespectful behaviour, should not be condoned (Mensch, 1993). Notions of privacy vary culturally, as do definitions of respect. Where the communication of important information is inhibited, such as details of medical conditions from the patient to the provider, or of details of side-effects from certain drugs, such behaviour is more than simply rude, it can contribute to adverse outcomes. Agreeing on minimum standards for communication and respect within institutions is therefore an important part of the quality process.

5.3 Indicators

Once appropriate standards have been explicitly defined, a variety of indicators may be selected to evaluate how closely these standards are being met. There already exist numerous publications that offer a range of indicators that can be drawn on to aid the evaluation process (Koblinsky et al., 1995, Maine et al., 1997, Campbell et al., 1995, UNICEF/WHO/UNFPA, 1997). These indicators are usually organised into an input-process-output structure leading to outcomes. That is, indicators have been developed to evaluate the inputs to a programme, and how these are converted through processes (activities) to produce results (outputs) at the programme

level and eventually changes at the population level (outcomes) (Koblinsky et al., 1995).

This is a useful way to conceptualise the whole. However, in an assessment of quality of care at the facility level the range of indicators so far developed fails to capture important aspects of service provision that contribute to women's experience of care. The detailed framework presented in the Appendix offers a number of suggested indicators to assess whether criteria to assess users experience of care are being met. The development of such indicators is in its infancy and the corresponding examples given in Tables 7-10 represent working suggestions. In addition, the indicators that are currently most commonly used do not on the whole help evaluate either the appropriateness of intrapartum and postpartum care or whether that care falls within recognised standards of good practice. For this reason we have paid particular attention to these aspects of the quality framework.

The degree of difficulty in measuring quality increases as one moves from input, otherwise known as structural, variables to process measures and then to outcomes of patient care. Certain outcomes, such as maternal mortality rates or ratios, case fatality rates, perinatal mortality rates and so forth can reveal certain things about maternal health at a general level, but alone reveal very little about the

process of care at the institutional level. It would be presumptive to infer that improved outcomes were the result of improving the process in most cases (De Geyndt, 1995). For example, a reduction in maternal mortality at the facility level may be the result of an improved transportation system and have little to do with the quality of care provided. The cause-effect relationship between process and outcome is often tenuous. No indicator used in isolation is sufficient to provide a meaningful insight into the element of quality being examined.

There are two important drawbacks of the input-process-output trilogy. The first, as indicated above, relates to the complex relationship that exists between cause and effect. The link between structural attributes and the process of care is inconsistent and empirically unproved (De Geyndt, 1995). The simple existence of human and physical resources necessary to provide high quality essential care is not enough to assure the provision of such care. The second methodological problem relates to the relative importance of the ten elements. Failing to meet standards set for certain criteria may result in such poor quality care as to influence the health outcome directly (for example, empty blood stores in a referral hospital), while failing to meet other standards will have a less immediate impact (for example, prohibiting social support in labour). Aspiring to meet all criteria to

the highest standards would be the ultimate goal, but in practice, given limited resources, decisions will inevitably be made about the relative importance of specific interventions to redress areas of poor quality identified in the assessment process.

Given this, however, it is not useful to have a limitless supply of blood if there is no one qualified to transfuse that blood, just as the existence of an effective communication system with referral hospitals is practically redundant if transport between the units is not available 24 hours a day. To reduce the number of maternal deaths it is vital that the interdependence of the elements of care be recognised in the assessment of care. Optimal care in one element can go hand in hand with high levels of maternal death and morbidity if care in other areas falls below an acceptable standard.

In practice, many of the problems experienced in the provision of essential obstetric care, especially in developing countries would cost little to address, at least in financial terms. For example, operating theatres may be locked and the person responsible for the key cannot be found, the theatre may not have been cleaned after the previous operation, anaesthetists are usually on call during the night but often cannot be contacted or are unable to attend during public holidays. Furthermore there is evidence that an increase in the quality of care provided and

experienced could actually reduce the cost of the service by decreasing waste, curtailing inappropriate use of limited resources, eliminating inefficiencies, optimising the use of existing inputs, and applying correct processes (De Geyndt, 1995).

5.4 Data Collection

Experience has shown that, depending on the source of the information, data can be conflicting. For example, in order to measure the normal waiting time between arrival at the facility and the first examination, multiple sources need to be drawn on to piece together the most probable timing of events. Provider interviews may suggest that women are generally examined within half an hour of arrival. An examination of case notes, which should theoretically record time of arrival and the time of first examination, may or may not contradict this claim. Yet a woman's recall of events may or may not be reliable depending on her education, progress of labour and so on. All of this information combined with an observation of normal events, including an assessment of the accuracy of time reporting in case notes, over a period of time will enable the investigator to define an average normal waiting time for both uncomplicated and complicated deliveries. The investigator will need to make value judgements as to the reliability of different sources. This

enables a systematic verification process that will ultimately produce a more objective assessment. While the criteria for quality require local discussion and definition, the framework approach, using a variety of indicators, has the potential to best reflect a valid notion of quality. The panel opposite briefly reviews a range of sources and methodologies that may be used to calculate indicators in a quality assessment process.

Approaches to Data Collection

Facility Records

These can be divided into two groups: information that is available in the public domain (for example, annual reports and annual accounts) and source documents, that is, information routinely collected by the institution (such as the admissions register). Facility records include annual reports, accounts, staff lists, registers (admissions, delivery, discharge), hospital guidelines (procedural/protocol, documents), blood-bank records, inventories of facility's equipment, stocks and supplies and operating theatre records. The quality of this information is likely to be variable, but important data can be extracted, if used with care.

Provider Interviews

Structured and semi-structured interviews with a full range of health providers can be used to obtain information on a range of factual, impressionistic, theoretical and substantive issues. An attempt should be made to ensure interviews are held in private and that confidentiality is maintained. One drawback of provider

interviews is that they often elicit responses that reflect idealised behaviour. In a structured interview many providers respond with what they know should be the case, rather than an accurate description of existing services (Simmons and Elias, 1994).

Exit Interviews

Structured and semi-structured interviews with women who have delivered are best taken on the day of discharge. They should be relatively short (30 minutes maximum) and held in private. They are effective for obtaining information on the course of a woman's labour; the decision-making process; and circumstances governing the timing of presentation, the choice of facility and actual experience of care. Certain questions relating to her experience of care are not appropriate in this setting and are unlikely to provide meaningful data (courtesy bias). Women may be unlikely to speak as candidly about their experiences of care as they might at their own home. However, the timing of this interview facilitates accurate data on, for example, the

number of vaginal examinations received - information that may be less easy to remember accurately some time after the delivery. Interviews should be designed to obtain some socio-economic data and basic information about the number of previous pregnancies and deliveries, place of delivery, outcome, and the nature of complications during and after delivery.

Case Notes

The quantity and quality of information in case notes is notoriously variable. However, when used in conjunction with an exit interview they can be useful for piecing together events. They can help distinguish between poor management and poor record-keeping. For example, case notes alone do not reveal whether blood pressure is being routinely taken on arrival but staff are failing to record this in case notes, or whether blood pressure is simply not being taken at all. They do, however, reveal if it is being routinely taken and recorded, and can therefore provide a useful indicator of good quality.

Observation

General observation techniques are essential in the assessment of basic quality indicators relating to cleanliness, crowding, state of equipment, provider-client relations at a general level and so on. Moreover, it is an effective means of

verifying aspects of care described in provider and client interviews. Observational approaches have the advantage that data reflects an action or interaction itself rather than someones rendering and recollection of what happened.

Providers tend to be affected by the presence of outsiders (best-behaviour bias), so observation techniques require that the assessor is either internal and specifically trained, or present for a sufficiently long period of time to gain a fairly accurate insight into normal care. This will result in a more complete and accurate picture of all aspects of care. In reality, where quality of care norms are not yet widely accepted and implemented in the field, providers may not feel the need to disguise their approach to clients when being observed (Simmons and Elias, 1994).

Community Survey

Household surveys designed to elicit client perspectives and information about their experience of care are an important methodology. Undertaking a survey is often not possible, requiring too much time and too many resources. However, if it is possible, survey data can provide some unique insights into health-seeking behaviour in the community. Surveys enable information to be gathered about previous birth experiences, and can include specific

questions relating to many aspects of quality of care, from interpersonal relations and waiting times to the use of specific procedures. If the survey covers a large enough area it can provide information for and about a range of institutions (public, charitable, non-governmental and private) as well as providing information about women who delivered at home. This offers the opportunity to examine factors that determine use, non-use and choice of provider. Surveys can also be used to obtain information indirectly that is difficult to obtain from providers directly. For example, researchers have found that information relating to operational delivery rates are often not forthcoming from private providers, who fear regulation and the potential limitation of what is a very lucrative aspect of their service (Matthews, 2000). Caesarean-section rates by provider, however, can be calculated using survey data where the survey covers a sufficiently large number of women delivering in a range of institutions.

It should be noted that surveys that intend to reveal meaningful information about levels of satisfaction need to ask questions that are detailed enough to reveal how women and their families discriminate among service attributes. Surveys from developing countries are reported to have noted uniformly high levels of

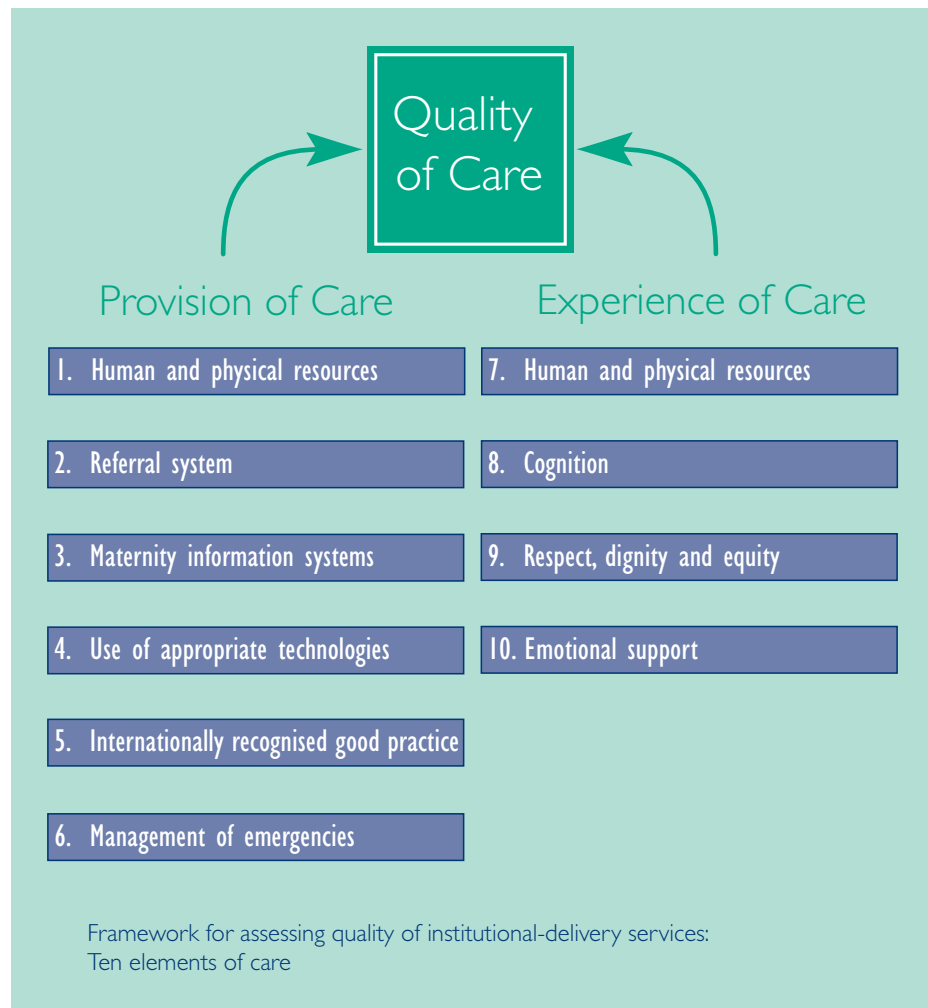
satisfaction despite great variability in the quality of services (Simmons and Elias, 1994).

Focus Groups and In-depth Interviews

A further limitation of surveys is that they cannot adequately capture the complex feelings and perspectives of clients or the underlying dynamics of power and status. Simmons and Elias (1994) draw attention to the fact that research on social services in developed countries has shown that survey data typically reveal high levels of client satisfaction with services, while in-depth street-level approaches show extensive evidence of dissatisfaction (Lipsky, 1981). If it is possible to follow up women who have delivered in the facility under assessment, their inclusion in focus group discussions can yield important insights into womens experience of care in the facility, and their reasons for accessing care when, and where they did. Insights into why women did not access care at that particular facility can be equally revealing. In order to identify potential aspects of care that may inhibit utilisation, the organisation of focus groups and in-depth interviews with women who live in close proximity to the facility but that chose another provider or delivered at home, would be necessary.

6 Expanded Quality Assessment Framework

Opposite the ten elements of care that make up the framework are reviewed in more detail.



6.1 Provision of Care

6.1.1 Human and Physical Resources

Human resources include the quantity and quality of health and non-health personnel employed for providing and supporting the delivery of patient care (De Geyndt, 1995). The term refers also to the configuration of staff, levels of supervision, management styles, population-based staffing ratios, and nature and frequency of staff training.

Physical resources are the grounds, buildings fixed and movable, medical and non-medical equipment, vehicles, furniture, medical and office supplies, pharmaceuticals, warehousing and storage conditions and maintenance of physical assets (De Geyndt, 1995, p.33). The term covers general hospital infrastructure, including water and electricity supplies.

A quality assessment tool needs to be able to record in some detail the availability, use and quality of the above. The review process would need to assess not only the clinical skills of staff, their experience, training and communication skills, but also their hours and salaries. Facilities can suffer from staff shortages, a dysfunctional skill mix as compared with case mix, unclear job descriptions, underskilled staff and staff who lack confidence in their skills (Huque et al., 1999). They can also employ staff who feel isolated,

unmotivated and undervalued - all of which have an impact on the quality of both clinical and interpersonal care provided by the institution. The Safe Motherhood Project in Nigeria draws attention to the fact that inadequate pay and benefits for health staff are frequently mentioned as determinants of poor quality of care. Okafor and Rizzuto (1994) recommend that such practices should be reviewed and, if possible, remuneration for health professionals should more closely reflect the value of the critical service they provide. Simmons and Elias (1994) warn that researchers must be aware of the profound sense of alienation that shapes providers behaviour in many settings. Where the threat of unemployment and resource scarcities dictate assignments to rural work settings, rather than an intrinsic motivation to serve, providers are bound to communicate their sense of frustration and lack of concern for their clients (p.4). Effective provision of maternity services requires that staff are managed and supported effectively in their roles. Delay in payment of salaries, excessive patient loads and insensitive line management will promote an adverse professional environment. Conversely efficient and responsive management of an institution will tend to enhance the quality of the working environment and motivate staff. Areas suitable for the application of

quality standards related to human resources include:

Safety at work, staff training and development and the management of human resources

Staff require protection from risks associated with their work. These include physical violence, verbal abuse from patients and relatives and transmissible infectious diseases, especially Hepatitis B and HIV. These are especially pertinent in maternity facilities where exposure to large volumes of body fluids is likely.

Effective systems for staff appraisal linked to personal and professional development opportunities such as the availability of courses and in-service training are key to maintaining the quality of the human resource base.

Staff operate more effectively where there are clear management structures and clear lines of accountability.

Basic and Comprehensive Essential Obstetric Care

Insufficient and unqualified staff, unavailability of blood, shortages of essential drugs and missing supplies limit access to life-saving procedures (Thaddeus and Maine, 1994). A WHO working group (1996) identified two levels of essential obstetric care: basic and comprehensive. A facility at the level of a health centre is expected to be able to provide six essential functions: antibiotics (injectable), oxytocics (injectable), anticonvulsants (injectable), manual removal of the placenta, removal of retained products and

assisted vaginal delivery. A facility providing a comprehensive level of essential care, such as a district hospital, is expected to be able to provide not only all of the above but also caesarean-sections and blood transfusions.

The provision of these services requires that other aspects of the physical infrastructure function efficiently. In the developing world there are frequent problems with the provision of the continuous supply of power and water. In addition, the maintenance of buildings and equipment in a state of adequate repair is often problematic in settings where budgets are constrained, and increased demand for services compromises the efficient operation of facilities. The ability of a facility to perform effectively the functions expected of it is the outcome not only of the quality of human and physical resources but also of the other aspects of quality identified in this framework.

Criteria that may be used to assess the quality of the provision of care relating to human and physical resources include:

- 1) The skill mix is appropriate to cope with patient flow and the case mix of deliveries at the facility.
- 2) The maternity wards are adequately equipped to perform their function effectively and consistent with internationally recognised good practice.
- 3) The operating theatre is in good repair and fully equipped with drugs and surgical equipment to perform life-saving procedures when required.
- 4) The general infrastructure of the facility is of sufficient size and state to cope with demand, and essential support services are reliable.
- 5) The organisational and management structure of the labour, delivery and postpartum suite ensures most efficient use of resources.
- 6) Staff should always be adequately protected from risks associated with their work.
- 7) Effective systems for maintaining the quality of the human resource base should be in place at all facilities.
- 8) All facilities should have a clear management structure and clear lines of accountability

(also see Table 1 in the Appendix)

6.1.2 Referral

The quality of the referral system is crucial to preventing maternal death. The hierarchy of maternity facilities only becomes a functioning unit if the referral system from the lower-order health centre to the referral unit is efficient and effective. While the majority of complications are unpredictable, it is possible to identify antenatally certain high-risk groups (such as breech presentation and multiple pregnancies), which should be referred to the appropriate facility well before labour begins. This framework is not concerned with referrals made antenatally, however, but with the quality of referral procedures once a woman in labour or with a complication presents at the facility under assessment.

Poor referral procedures were identified as a significant constraint to the accessing of emergency care in a study in Nigeria (Okafor and Rizzuto, 1994). Here, midwives in Akwa-Ibom were reportedly frustrated that registered maternity-centre patients were treated as unbooked cases when they went to general hospitals for emergency assistance, and were therefore denied prompt treatment. Among facilities in urban India, it has been reported that units providing basic emergency care may deny care to any unbooked woman presenting in labour, regardless of her condition. This policy adds

avoidable delays to the accessing of prompt and appropriate care for women who go on to have an uncomplicated delivery. For women with a complication the delay can be far more serious where an insufficient attempt is made to stabilise her condition before referral. The time taken to travel between facilities on often crowded roads is unpredictable, and in the late stages of labour it can be uncomfortable, distressing and potentially fatal for both mother and child (Matthews et al., 2000).

It is important that referral protocols are defined with input and cooperation from managers at all levels within the system. Managers should determine locally which conditions can be treated in a given facility and which must be referred. An effective referral and transport system is the link that allows facilities to work together in a continuous chain. There must be good communication and cooperation throughout the chain if the system is to be effective (WHO, 1994).

This element of the framework aims to identify components of sub-standard care, such as poor coordination between providers, which may delay the referral process and consequently negatively affect the pregnancy outcome.

Criteria that may be measured to help determine the quality of the referral process include:

- 1) An admissions procedure that ensures the timely examination and referral of a woman presenting with a complication.
- 2) Experienced staff and essential drugs and equipment are available at accessible hours at the referring facility to stabilise a woman before referral.
- 3) Reliable transport is available on a 24-hour basis.
- 4) There is a functioning and reliable communication system to enable staff to communicate with the referral hospital of first choice to ensure that essential staff and equipment are available.
- 5) There is a qualified member of staff on call to accompany complicated cases to the referral hospital when necessary.

(See also Table 2 in Appendix)

6.1.3 Maternity Information Systems

A review of record-keeping procedures by the Prevention of Maternal Mortality (PMM) network at ten facilities in Kumasi, Ghana (Danqua et al., 1997), and a recent study involving facilities in urban India (Matthews et al., 2000) have revealed

that information on obstetric complications is often inconsistent or missing. Some hospital record systems were not designed to collect such information at all. Individual patient records are indispensable for case-management and peer review, and for appropriate record-keeping to determine the impact of programmes (Geefhuysen, 1999). In these studies, case notes were often nonexistent, incomplete or illegible. No formal procedure existed to classify and then record maternal complications by primary cause. Nor did any functional procedure exist to review causes of death. For example, many perinatal deaths will inevitably remain unexplained, but obvious obstetric and paediatric causes should be identified. Deaths due to prematurity are relatively common, but if their number is compared with the total number of low birthweight babies delivered at the facility, the ratio can give an impression of the standard of intrapartum and neonatal care (Driessen, 1987). Regression models in a study of the measurement of quality of essential obstetric care in Nigeria showed that the most consistent and important predictor of quality scores was the use of printed forms (ie, routine records of labour) during intrapartum care. Printed forms served as job aids, providing prompts that reminded midwives to perform specific tasks (Adeyi and Morrow, 1997).

The PMM network also identified problems in record-keeping at the human resources and management levels where they noted a lack of trained records personnel and training programmes. They found that medical personnel lacked knowledge and skills in recording and managing information, and that administrators poor use of available information contributed to inefficient planning of services. Any quality assessment exercise would need to review the record-keeping practices and skills of the department and the way in which information is routinely used. It will then be possible to upgrade effectively both record-keeping instruments to ensure all necessary information is recorded, and the skill base to ensure staff are adequately trained to record the correct information accurately and use it effectively. Regular reporting of baseline data, analyses and dissemination of data for the purposes of policy, planning and case review are essential components of a maternity information system.

Criteria for assessing the quality of management information systems include:

- 1) Basic registers in facilities are designed to record data that is sufficient to monitor and evaluate activities effectively.
- 2) Current procedures for recording information result in complete and accurate data entry.
- 3) A review process is in place to ensure data is comprehensive and used effectively to improve patient management and service delivery.
- 4) Each complicated case (severe morbidity or mortality, maternal or infant) is effectively reviewed and analysed, and avoidable factors identified.

(See also Table in 3 in the Appendix)

6.1.4 Appropriate Technologies

It is now increasingly recognised that certain technologies within maternity care are not always appropriate, being at best wasteful and at worst harmful. However, assessing the extent to which inappropriate technologies are used has not yet been widely embraced as an indicator of quality of care. For this reason this element of the framework is examined in some depth here.

Good care relies on the use of technologies that have been justified scientifically. Inappropriate technologies can compromise safety, use up scarce resources unnecessarily, and in the case of certain specific procedures be not only uncomfortable and humiliating for the labouring woman, but even harmful. According to the World Health Organisation a technology is:

'an association of methods, procedures, techniques and equipment which together with the people using them can contribute to solving a health problem. An appropriate technology is one that is scientifically sound, adapted to local needs, acceptable to those who use it or for whom it is used, and that can be maintained and utilized with resources that the community can afford'

(WHO, 1996b).

Ideally, only interventions that support the process of normal birth should be used, and those that are poorly evaluated or potentially harmful stopped. The WHO has published a report on care in normal birth, in which it details aspects of normal care and identifies technologies that have been demonstrated by randomised controlled trials to be inappropriate, unnecessary and sometimes harmful (WHO, 1996b). While there are myriad potential interventions that can be, and are, used by midwives and obstetricians all over the world, a selected number identified in the WHO report are included as criteria

for this element of the framework and will be discussed here. Those selected are relatively easy to identify in an assessment exercise. The assessment process would attempt to ascertain whether or not these were used by the facility being assessed, and how often.

Routine Pubic Shaving and Enemas

Preparation for birth in a health centre or hospital often includes several routine procedures such as taking a woman's blood pressure and checking her pulse and temperature, all of which have implications for the birth. As a rise in temperature may indicate infection or dehydration, and a rise in blood pressure may signal pre-eclampsia, both should normally be checked at least every four hours. Routine procedures such as pubic shaving and enemas before delivery, however, are common but have no proven benefits and can both be uncomfortable and humiliating. Pubic shaving was popularly thought to reduce infection and make suturing easier. While there is no evidence to support this, the likelihood is that the risk of infection for the woman (and indeed the provider) will rise through contamination from a non-sterile blade. The transmission of HIV and hepatitis are among the more serious potential consequences. A study examining this practice as early as 1922 (Johnston and Sidall, 1922) and a more recent randomised controlled

trial in 1965 were both unable to detect any lowering of puerperal morbidity by pubic shaving. Rather, there was a tendency towards increased morbidity in the shave groups (Kantor et al, 1965).

Enemas are used in the mistaken belief that they will help the uterus to contract and the head to descend, and to reduce contamination at delivery and so minimise the risk of infection to mother and baby. While some women do ask for enemas, many find them an embarrassment. Two randomised controlled trials have evaluated the effects of routine enemas, and no effects on the duration of labour or on neonatal infection or perineal wound infection were detected (Romney and Gordon, 1981; Drayton and Rees, 1984). Routinely administering enemas to women in labour confers no benefit. Aside from being particularly uncomfortable during labour, they carry some risk of bowel damage (rectal irritation, gangrene and anaphylactic shock).

Intravenous Infusion and Vaginal Examination

Other routine procedures still widely used include intravenous infusion of glucose and fluid. Fasting in labour is commonly observed in order to minimise the contents of the stomach should a general anaesthetic be necessary. However, there is no guarantee that withholding food and drink will result in a stomach volume of

less than 100ml. Nor can fasting be relied on to lower the acidity of the gastric contents (Crawford, 1956; Roberts and Shirley, 1976; McKay and Mohan, 1988). Restricting food and drink in labour continues in many institutions. Dehydration and ketosis are possible outcomes of this type of restriction, the common response to which being the use of intravenous infusion of glucose and fluid. Dehydration can cause veins to collapse, which would make putting in a drip, if needed, difficult. Moreover, not only can the use of intravenous infusion interfere with a woman's ability to move freely in labour, and so interfere with the natural process, it may have potentially serious unwanted effects on the baby such as hyperinsulinism (Lucas et al., 1980; Rutter et al., 1980; Tarnow-Mardi et al., 1981; Lawrence et al., 1982). Labour requires enormous amounts of energy. The WHO (1996b) concludes that the correct approach should be not to interfere routinely with women's wish for food and drink during labour and delivery (p.11).

Checking cervical dilatation is the most common method used to assess the progress of labour. This requires a vaginal examination. To reduce the risk of infection, these examinations should be kept to a strict minimum - once every four hours during the first stage according to the WHO (1994) and should be carried out only by skilled attendants, with clean hands and

wearing gloves. It is important to keep invasive techniques to a minimum. Attendants' impatience often results in the over-use of this technique.

Intravenous Infusion of Oxytocin

Impatience is sometimes a reason for the liberal use of another technology: intravenous infusion of oxytocin. When the membranes rupture early and labour does not follow spontaneously labour is often augmented in order to avoid chorioamnionitis. The practice of using an intravenous infusion of oxytocin, to speed up labour after early amniotomy if the rate of cervical dilatation is less than 1 cm per hour, has been investigated in a number of randomised trials (Read et al., 1981; Hemminki et al., 1985; Bidgood and Steer, 1987; Cohen et al., 1987 and Lopez-Zeno et al., 1992). Three of the trials provided data on the length of labour after oxytocin augmentation compared with control groups only. Only one of these demonstrated a shorter mean duration with oxytocin. In one trial women in the control group were encouraged to get out of bed and move as they wanted. In this group the mean length of labour was slightly shorter than in the augmented group. No difference in AGPAR scores were found (Hemminki et al., 1985). The majority of women in this trial described the augmentation process as unpleasant, and more than 80% said that it increased their pain. The WHO (1996b, p. 23) concludes that it is not clear from available data that the

liberal use of oxytocin augmentation (active management of labour) is of benefit to women or infants. Additionally, the WHO (1996b) concludes that as a general rule oxytocin should only ever be used to augment labour in facilities where there is immediate access to Caesarean section should the need arise.

Intramuscular Oxytocin

In many areas of the world intramuscular oxytocin is administered by injection to augment labour. Use of any intramuscular oxytocin before the birth of the infant is generally regarded as dangerous because the dosage cannot be adapted to the level of uterine activity. Hyperstimulation may result which is harmful to the fetus (WHO 1996b). An increased incidence of ruptured uterus has also been linked to this practice (Kane, 1993). Recent studies of hospitals in urban India, and of assisted home deliveries in rural Karnataka, observed the frequent use of intramuscular oxytocin before delivery to augment labour (Matthews et al. 1999, Matthews et al. 2000). This harmful practice should be abandoned (WHO, 1996b).

Caesarean Delivery

Caesarean delivery can be life saving for mothers and infants, but more and more often it is being used for reasons other than this. The appropriate use of Caesarean delivery can lead to a

decrease in maternal mortality and morbidity as well as decreasing perinatal mortality and morbidity. The rate of Caesarean section varies considerably among countries from about 5% to over 30% of all deliveries. Rates also vary considerably within countries. In a resource-poor setting rates can suffer from being too low in municipal facilities yet too high in private ones. In Brazil, where delivery in hospital is the norm, the Caesarean delivery rate for the country has been estimated as 36.7% (DHS, 1996). A recent study found rates in private hospitals as high as 72% (Chacham and Perpetuo, 1998). The optimal rate of Caesarean delivery is unknown, and will inevitably vary by institution according to its status within the referral chain. But the national data available suggest that little improvement in outcome appears to occur when overall rates rise above 7% (Enkin et al., 1995). The WHO (1997) suggests that rates of below 5% may indicate inadequate availability and access to obstetric care, while rates of above 15% may suggest over-utilisation for reasons that are not essential. Excess use of Caesarean section exposes women to anaesthesia and major surgery with their concomitant risks. It is also expensive, at a cost to either the wider health-care resource pool or to the woman and her family if they are paying for the operation and associated costs. A study of 221 consecutive Caesarean sections at a

large London teaching hospital demonstrated that maternal morbidity was common after the operation. Anaesthetic problems, haemorrhage, paralytic ileus, wound problems and infective complications were both frequent and often unrelated to the condition that mandated the Caesarean section (Kelleher and Cardozo, 1994).

Studies indicate that the growing use of this technology is partly the result of the lucrative nature of this intervention for the providers of care. Other factors that have been suggested to explain differentials in use include the fear of malpractice litigation, convenience for the clinician, the socio-economic situation of women and patient demand. Of women who stated that they would prefer to deliver by Caesarean section in the Metropolitan Area of Belo Horizonte County in Brazil, 43% gave 'less painful' as the reason, 22% wanted to have a tubal ligation at the same time, and 16% had had a previous Caesarean section. The same study set out to establish the extent to which patient demand could explain the high Caesarean section rate in the county. Of the 400 women interviewed 71% said that they wanted a vaginal delivery, 21% wanted a Caesarean section delivery and 8% said they had no preference. These figures suggest that patient preference is not a sufficient explanation for the very high rates experienced in this area (Perpetuo et al 1998).

Supine Position

Many facilities move women from a labour room to a delivery room at the start of the second stage of labour and then require them to lie on their backs to deliver. Yet moving a woman at this stage of labour is an added discomfort, serves no physiological purpose and can be disruptive at this point. This is true also of the latter procedure of ensuring women are lying on their backs to deliver, in some cases with their legs tied in stirrups or held by hospital staff. In the absence of a complication women should be free to adopt whatever position feels most comfortable for them at the time of delivery. Generally, if given the choice, women choose positions such as squatting or standing that more closely complement the physiology of the labouring woman, ensuring that gravity aids the process. Lying on her back, or semi-reclining, effectively results in a more restricted birth passage. In these positions, particularly the latter, the woman will be sitting on her coccyx and sacrum, curving the interior of her pelvis and bringing her pelvis and spine closer together, which reduces the space available for the baby's head (Sutton and Scott, 1996). A number of trials (Stewart and Spiby, 1989; Liddell and Fisher, 1985; Crowley et al., 1991; Bhardwaj et al., 1995) suggest that an upright position or a lateral tilt during second stage labour has greater advantages than a supine position. Findings demonstrate that the upright

position causes less discomfort and difficulty when bearing down, less labour pain, less perineal trauma and fewer wound infections. In one trial a shorter second stage was observed in the upright position. Despite this, the supine position for delivery is generally the position favoured by the staff attending, and is preferred not only in most of the developing world but in much of the developed world as well. Much of the positive effect of the vertical position depends on the ability of the birth attendants and their experience with any position other than the supine. Birth attendants may need to be trained to help women deliver in positions other than the supine (WHO, 1996b, p. 27).

Episiotomy

In many parts of the world, episiotomy is used liberally, particularly for first births. It is generally justified on a number of grounds. It is thought to prevent damage to the sphincter and rectum, and permit better healing than a spontaneous tear. It is thought to prevent trauma to the fetal head, and, finally, it is thought to prevent serious damage to the muscles of the pelvic floor. In practice, all of the above can be prevented by appropriate management of labour and delivery. Not only do episiotomies, like other surgical procedures, carry a number of risks such as excessive blood loss and infection, evidence has shown that the routine use of episiotomy does not reduce the risk of perineal trauma or

improve healing, nor does it prevent damage to the fetal head or improve APGAR scores. Also, use of episiotomy has not been shown to reduce the risk of urinary stress incontinence after delivery (Sleep et al., 1991). Where rates of infectious diseases such as HIV and hepatitis are high, not only is the overuse of episiotomy unnecessary for the above reasons it may increase the risk of transmission for the health-care provider responsible for the cut and subsequent repairs. Despite this, episiotomy is the USA's most common surgical operation, as most women undergo this procedure at the birth of their first child for the primary purpose of avoiding a perineal tear. Routinely substituting a straight cut for a ragged tear, results in many thousands of women having cuts when only a few may have suffered tearing. Episiotomy certainly has a place in safe maternal care, but only if used appropriately. Indiscriminate routine use is not appropriate use, especially in areas where levels of hygiene are low, in and outside the institution. Data from randomised trials do not support a 'blanket' policy, such as those in place in many developing world hospitals, which require all primiparous women to have an episiotomy (Carroll, 1997). The WHO (1996b) suggests that a good goal to pursue would be an episiotomy rate of 10%, the figure attained without harm to mother or infant in a British trial (Sleep et al., 1984).

Manual Revision of the Uterus

The delivery of the placenta is the next point at which appropriate care is vital. At this point the major risks for the mother are postpartum haemorrhage and retained placenta. The routine manual revision of the uterus post delivery is an example of another widely used and yet inappropriate technology. Manual revision of the uterus refers to the practice of checking the contents of the uterus by hand for retained sections of the placenta. The process, as well as being uncomfortable for the newly delivered, episiotomised mother, increases the risk of postpartum infection, can cause shock or mechanical trauma and is of no proven benefit.

Pain Relief: Behavioural and Drug Based Methods

A woman's experience of pain in labour may be modified by a variety of circumstances, including the cultural context, the support she receives from caregivers and companions, and the labouring environment (Enkin, 1995). A number of factors can result in intensified feelings of pain such as abnormal labour, prolonged or complicated by dystocia, induced or accelerated by oxytocics or instrumental delivery (WHO, 1994).

The study of pain transmission and its modulation has provided findings that are applied in a variety of behavioural approaches to relieving the pain of childbirth. These have been classified

by Enkin et al., (1995) as:

- Techniques that reduce painful stimuli, such as maternal movement and position changes, counter pressure (steady strong force applied to an area of the lower back during labour).
- Techniques that activate peripheral sensory receptors such as superficial hot and cold, immersion in water, during labour, touch and massage and acupuncture and acupressure.
- Techniques that enhance descending inhibitory pathways such as attention focusing and distraction, hypnosis, or music and audio-analgesia.

Pharmacological control of pain in childbirth has a long history. The use of opiates was mentioned in early Chinese writings. There have been more clinical trials of pharmacological pain relief during labour and childbirth than any other intervention in the perinatal field (Enkin et al., 1995). Methods have been classified as:

- Systemic agents such as narcotics, sedatives and tranquillisers.
- Inhalational analgesia (such as, nitrous oxide).
- Regional analgesia, usually epidural or spinal analgesia.

For many in the developing world, access to drug based methods of pain relief are very limited. More

fundamentally, clear evidence of the extent to which lack of drug based pain relief in labour is associated with adverse sequelae, distress and suffering is lacking. In contrast, studies of cancer pain in different sociocultural settings has clearly shown comparable levels of distress and suffering, which has led to current WHO initiatives to enhance the availability of effective drug treatment, especially by addressing the legal problems surrounding the medical use of opioids in many countries. It is not yet possible, from the existing literature, to identify a consensus to inform the development of general criteria about the extent to which methods of pain relief should be available to women in labour and primary research in this field is urgently required. However, effective pain relief for operative procedures is mandatory and its availability and provision should form part of the evaluation framework.

In the light of the above the following criteria may be measured to assess the quality of the provision of care.

- 1) The following procedures are not used either routinely, or most of the time:
 - Pubic shaving
 - Enema
 - Intravenous infusion
 - Episiotomy for primiparas
 - Lithotomy position for delivery
 - Manual revision of the uterus
- 2) The use of vaginal examination to assess the progress of labour is kept to the minimum necessary.
- 3) Intramuscular oxytocin is not used to speed up labour
- 4) The use of Caesarean section falls within reasonable limits
- 5) Effective pain relief is always provided for operative procedures.

(see also Table 4 in the Appendix)

6.1.5 Internationally Recognised Good Practice

There are a number of procedures in maternity care that have, through carefully designed randomised studies been shown to be of benefit to the mother or her baby. The UK Royal College of Obstetricians and Gynaecologists (RCOG) has published a list of effective procedures suitable for audit (Benbow et al., 1997). The present framework draws almost

exclusively on the RCOG guidelines, but there are other sources from which good-practice criteria can be obtained (see the WHO Safe Motherhood series). Table 5 in the Appendix provides a selection of auditable procedures of good practice identified in the RCOG report. Number 8 is drawn from the WHO Mother and Baby Package. While the criteria selected are not in any way exhaustive their inclusion in any quality assessment of the type suggested would be relatively straightforward, and subsequent findings suggestive of the quality of the general level of clinical practice.

The following criteria are suggested (see also Table 5 in the Appendix):

1) Magnesium Sulphate is the drug of first choice for the treatment of eclampsia.

Eclampsia causes as many as 50,000 maternal deaths a year world-wide. It is widely recognised that magnesium sulphate is the best treatment for eclampsia. A large multicentred, international, randomised trial (The Eclampsia Trial Collaborative Group, 1995) showed that it is better at treating and preventing further seizures than either diazepam or phenytoin, other popularly used drugs (Royal College of Obstetricians and Gynaecologists 1996).

2) Women are actively considered for a vaginal delivery after one Caesarean section.

Women who have had a Caesarean section should be actively considered for a subsequent vaginal delivery taking into account the reason for the previous section (Flamm et al., 1988; Rosen et al., 1990; Rosen et al., 1991).

3) Prophylactic antibiotics are used routinely at the time of an emergency Caesarean section.

The use of prophylactic antibiotics at the time of an emergency Caesarean has been shown to decrease the incidence of post-operative infectious morbidity such as pelvic abscess, septic shock and wound infection (Mungford et al., 1989).

4) Ventouse delivery is the instrument of first choice for low-cavity operative vaginal delivery.

Evidence from randomised controlled trials suggest that ventouse is preferable to the use of forceps for low-cavity operative vaginal delivery. The reason given for this is that ventouse is associated with reduced maternal trauma, without any increase in fetal trauma (Johanson 1995, and Drife 1996).

5) When repairing perineal wounds, polyglycolic acid suture material is used.

As trauma to the perineum and problems with healing are a significant component of maternal morbidity (Glazener et al., 1995) and can affect the mothers ability to care for her baby, perineal trauma should be minimised. When it occurs, polyglycolic acid suture should be used for perineal repair (Enkin et al. 1995; Sleep 1991). The use of polyglycolic acid materials for suturing causes less pain and less use of analgesia in the immediate puerperium period in comparison with catgut and non-absorbable sutures.

6) For a non-complicated delivery women are always allowed to adopt whatever position they choose for delivery.

Whenever possible, women should be allowed to move and adopt whatever position they choose for the birth. Upright posture in labour seems to shorten the length of the labour and reduce the need for drugs to augment the labour (Stewart et al., 1978; Nikodem, 1995). Exit interviews with women on discharge, or retrospective survey questions can be used to document position of birth and reason for that position. Many facilities continue to insist that women assume the supine position for delivery with no clear understanding of the reasons for this.

7) Women are always allowed the social support of their choice during labour and birth.

All women should have continual professional support in labour and the choice of social support during labour and birth (Hodnett and Osborn, 1989a&b). Women who are supported during labour and birth, not only report a more enjoyable experience but have better outcomes. The main social support giver should be freely chosen (Benbow, 1997). Randomised trials on support in labour by a single person have demonstrated that continuous empathic and physical support during labour has a number of associated benefits. These include shorter labours, significantly less medication, fewer APGAR scores below 7 and fewer operative deliveries (Klaus et al., 1986; Hodnett and Osborn, 1989a&b; Hemminki et al., 1990; Hofmeyr et al., 1991) The WHO (1996b) concludes that a woman in labour should be accompanied by people she trusts and feels comfortable with. However, in order to respect the privacy of other women labouring in the same room, this may preclude male supporters in many cultures. Social support can also reasonably be excluded from operative deliveries. Many hospitals in the less developed world, as in the developed world for many years, preclude all but staff from the labour

and delivery wards. This element of good care is also an important part of a woman's experience of care (see 6.2.7 emotional support).

8) Throughout labour a woman's physical well-being should be regularly assessed.

A woman's pulse, temperature, blood pressure, fluid intake and urine output should be monitored regularly throughout her labour and delivery.

6.1.6 Management of Emergencies

The primary direct causes of maternal death world-wide include: haemorrhage (25%), sepsis (15%), hypertensive disorders (12%), unsafe abortion (13%) and obstructed labour (8%) (WHO, 1994). Facilities need the essential drugs and equipment to manage specific conditions and qualified staff who are trained to recognise, treat or refer such conditions. This framework identifies criteria that are indicative of the capacity of facilities to provide high quality clinical care (see Table 6 in the Appendix). For a more complete examination of the indications for, and approaches to, the management of the above emergencies, refer to the WHO Mother and Baby Package (1994) and A Guide to Effective Care in Pregnancy and Childbirth (Enkin et al., 1995).

1) Postpartum haemorrhage is the

single most important cause of maternal death. It is estimated that 150,000 women die of postpartum haemorrhage each year. Nearly 90% of women who die from postpartum haemorrhage, die within four hours of delivery (Kane et al., 1992) indicating that they are a consequence of events in third stage of labour (WHO, 1998). Hospital studies suggest that about 2 to 3% of women haemorrhage during delivery. In the majority of cases, uterine atony and retained placenta are responsible for the haemorrhage, but vaginal or cervical lacerations and (occasionally) uterine rupture or inversion play a role (Kwast, 1991).

For the management of postpartum haemorrhage:

- Oxytocics should be available at all facilities and health staff should be trained to administer them by injection as a first aid measure for postpartum haemorrhage.
- Health workers of an appropriate level should be trained in clinical skills to manage ante and postpartum haemorrhage.
- IV fluids should be available at all facilities and blood transfusion services should be available at comprehensive essential obstetric care units on a 24-hour basis.

2) Puerperal infections such as sepsis are still major causes of maternal mortality in many developing countries. In some places, as many as one in three

deaths is the result of infection. Fever is the main symptom, and antibiotic treatment is the main cure. Puerperal infection is more likely after a Caesarean section, prolonged labour, early rupture of the membranes and frequent vaginal examinations. Strict hygienic measures during labour are important for preventing puerperal sepsis (WHO, 1994). Birth attendants should be attentive of early signs of puerperal sepsis and institute adequate treatment promptly. The choice of antibiotics will differ from country to country, due to local availability, patterns of causal agents and antibiotic susceptibility (WHO, 1998)

For the management of puerperal sepsis:

- All women and birth attendants should be aware of the requirements for a clean delivery: clean hands, clean delivery surface, clean cord cutting and care.
- Health staff should be trained to recognise puerperal sepsis and manage it appropriately or refer.
- All facilities should be able to provide the necessary treatment for puerperal sepsis, including antibiotics and surgical procedures.

3) Eclampsia and pre-eclampsia are common complications of pregnancy. Pregnancy-induced hypertension usually occurs in the second and third trimester of pregnancy. If untreated, pre-eclampsia may lead to eclampsia,

with very high blood pressure, convulsions, cerebral haemorrhage or organ failure. Once eclampsia develops, immediate treatment and rapid delivery are needed. Eclampsia is estimated to occur in about 1 in 100 to 1 in 1,700 deliveries in developing countries (Crowther, 1985). Between five to seventeen percent of women who develop eclampsia die. Those who survive may suffer paralysis, blindness, or chronic hypertension and kidney damage.

For the management of severe pre-eclampsia and eclampsia:

- Health staff should be trained to manage and refer women with pregnancy induced hypertension.
- The full range of services required to manage severe pre-eclampsia and eclampsia should be available at Comprehensive Essential Obstetric Care (CEOC) facilities.

4) Unsafe abortion is responsible for an estimated 13% of the 585,000 maternal deaths that occur each year.

'The prevention of abortion-related maternal mortality is dependent on the emergency abortion care being integrated through the health-care system of every country, from the most basic rural health post to the most sophisticated tertiary level facility, 24-hours per day. Whether it is health information and education, stabilization and referral, uterine evacuation, or specialized care for the most severe

complications, at least some components of emergency abortion care must be available at every service delivery site in the health-care system' (WHO, 1994a)

One of the most positive steps that can be taken is to provide life-saving care at the lowest possible level of the health system, in order to maximise the chances that the woman will reach that care before it is too late (WHO 1994a). The first referral level must be able to build on the services provided at the primary level by providing life-saving surgical and medical procedures for all but the most serious abortion related-complications.

For the management of abortion related complications:

- Health workers should be trained in the early recognition of abortion related complications.
- Evacuation of the uterine contents, antibiotic therapy and intravenous fluids should be available at all facilities and surgical treatment at CEOC hospitals.
- Treatment should always be followed by counselling and contraception information and services.

5) Prolonged labour is defined as active labour with regular uterine contractions and progressive cervical dilatation for more than 12 hours (WHO, 1994). Obstructed labour occurs when progress is arrested by mechanical factors and delivery by Caesarean section is required. Prolonged labour is strongly associated with several adverse

outcomes. It can lead to perinatal asphyxia, maternal exhaustion and even maternal death (Enkin et al., 1995). The purpose of monitoring progress in labour is to recognise early problems, so that their progression to serious problems can be prevented. A cervical dilatation rate of 1 cm per hour in the active phase of labour is often accepted as the cut-off between normal and abnormal labour; however many women who show slower rates of cervical dilatation proceed to normal delivery. The definition of normal progress should therefore be interpreted with discretion in the context of the woman's overall well-being (Enkin et al., 1995). When monitoring the progress of labour, recording the findings makes the degree of progress readily apparent, so that problems will be recognised early, and to facilitate transfer of information to other caregivers (Enkin et al., 1995). The WHO recommends that the partograph should be introduced at hospitals and health centres where staff with appropriate skills and training are available. The partograph is a structured graphical representation of the progress of labour that can be an effective tool for the early recognition of obstructed labour. Too much reliance on partographs however, can be an agent for regimenting labour rather than caring for the woman in labour, especially when strict protocols of action related to partograph patterns are followed (Enkin et al., 1995).

For the management of prolonged and/or obstructed labour:

- The partograph should be introduced at hospitals and health centres where staff with appropriate skills and training are available.
- First level health centres should be able to effectively perform the following: emptying of bladder; giving antibiotics if rupture of membranes occurred more than 12 hours previously, rehydration and referral.
- In addition to the above mentioned second level health centres should be able to rupture membranes if required and perform a vacuum extractor delivery.
- Additional interventions, such as oxytocics, antibiotic and the capacity to perform Caesarean section and other surgical procedures should be available at CEOC hospitals, on a 24-hour basis.

6.2 Experience of Care

While the quality of the provision of care in facilities is fundamental to ensuring effective care, women's actual experience of care is also significant. If women's cumulative experience at a facility is such that it deters some from returning for a subsequent delivery, or leads to rumours to the same effect in the wider community, the actual quality of the provision of care for these women is academic. The Safe Motherhood study in Nigeria reported findings from focus groups in which participants cited a litany of inadequacies that they expected to experience at health services, including poor hygiene and medical treatment, and censure or abuse from health workers. Cost, convenience and kindness were principal factors in the choice of health-care provider (Okafor and Rizzuto, 1994). A study in Zaire that identified qualities that women thought should be found among health workers showed that they valued interpersonal qualities (respect, patience, courtesy, attentiveness, friendliness and straightforwardness), technical qualities and, to a lesser extent, integrity (Haddad and Fournier, 1995). When they were asked about the two best qualities a nurse should have, the majority mentioned a relational component first and a technical component second. This observation is supported by findings

from studies conducted in a variety of settings (Calnan, 1988a; Bruce, 1990; Lohr et al., 1991; Vera, 1993). What this suggests is that the provision of care could be of the highest technical quality yet still be unacceptable to the women and families for whom the care is intended.

To help reduce the number of women presenting late once in labour, and to increase overall utilisation, facilities need to concern themselves with the experience of care that women receive during their contact with the facility. While effective antenatal care in this respect is vital, this quality assessment tool has been designed to assess only care internal to a facility. However, late presentation (within one hour of delivery) is one indication of poor communication of health messages at contact opportunities with women during pregnancy; for example, at an antenatal visit or hospital admission for a complication in pregnancy. The criteria selected to assess the woman's experience of care includes indicators to measure the quality of information exchange, which can be fundamental to, among other things, ensuring patient compliance and other such outcome indicators.

'During every health-care encounter, the culture of the patient, the culture of the provider and the culture of medicine

converge to impact patterns of health utilization, compliance with recommended medical interventions, and health outcomes. Increased sensitivity [in turn] can facilitate positive interactions with the health-care delivery system and optimal-health outcomes for the patient served, resulting in increased patient and provider satisfaction'.

(American College of Obstetrics and Gynecology, Committee on Health-care for Underserved Women, 1998).

A woman's experience of care can be divided into four broad areas: her contact with and experience of human and physical resources; her cognition, that is, the level to which she understands what is happening to her and why; the respect, dignity and equity of care she receives throughout her stay at the facility; and, finally, the emotional support she receives during her labour and beyond.

6.2.1 Human and Physical Resources

A woman's experience of care relates not only to the quality and appropriateness of the obstetric care she receives and her perception of the quality of that care, but also to her impression of the state of the infrastructure (the bed, sheets, food, toilets and so on). Her experience of care here refers also to her experience of actual contact time with qualified staff. This is distinct from her impression of how staff treated her

during an interaction (see 6.2.3 on respect, dignity and equity). Are providers qualified to undertake the tasks they are responsible for, and is the time they spend with clients sufficient? For example, criteria here would help identify whether or not women are being left alone for extended periods, or whether unqualified personnel are undertaking certain duties that should be the responsibility of nurses or midwives.

In a study that examined the meaning of quality for women who received reproductive health services at a non-governmental family planning and maternal and infant care clinic in Santiago, Chile the clinic's cleanliness was regarded as a sign of respect for the client and its hygienic conditions relieved fears of infection (Vera, 1993). Women also referred to the quality of time and attention they received as an important element of overall quality. They described having to wait for hours and hours as characteristic of the government health services. In the clinic in question, women felt they were given the time to both talk and learn: *'they explain things'*. For the women interviewed in this study a high quality of health services meant treatment that included the following elements: a clean, hygienic place, prompt service, accurate information, an opportunity to learn, and enough time to consult with staff and receive advice (Vera, 1993).

Criteria that may be selected as part of a quality assessment of this aspect of care include:

- 1) The physical infrastructure and the overall environment of the maternity wards are acceptable to all/most women.
- 2) Contact time with qualified staff is sufficient.
- 3) Male/female staff ratios are acceptable to most women.
- 4) Staff are competent to provide appropriate care.

(see also Table 7 in the Appendix)

6.2.2 Cognition

One aspect of care that Donabedian (1988) drew attention to in his model was the interpersonal care. This consisted of communication between the client and provider for the purpose of both diagnosis and the determination of preferences for treatment. The relationship between these two parties should be characterised by '*privacy, confidentiality, informed choice, concern, empathy, honesty, tact and sensitivity*'.

Cognition relates to two specific experiences of care:

- The extent to which a woman feels she understands what is going on and feels that her questions have been answered adequately.
- Whether she actually receives

sufficient information in a form that she and her family can understand and that she has the right to know.

Cognition depends on what Bruce refers to as provider-client information exchange (Bruce, 1990). How effective this information exchange is depends on having adequately trained and qualified staff and a positive client-provider interaction. An analysis of women's demand for services in South Asia identified this aspect of care as a crucial factor explaining women's use of medical services (Leslie and Gupta, 1989). Reasons that have been given for under-utilisation of available health services include poor relations between health-care providers and their clients (Jacobsen, 1991). Women often have questions that they hesitate to raise with the typical Western-trained or male provider, fearing that providers are too busy to attend to a women's real concerns, or that such questions would be considered stupid (Simmons and Elias, 1994; Lubis et al., 1992). The clients view that providers might consider them stupid is often well-founded (Simmons and Elias, 1994).

Questions included in an exit interview or survey questionnaire schedule can address whether the woman was happy with the explanations she received, whether she understood what was going on, whether she was confused and ignored, and so on. Positive responses or not-negative responses, however, do

not always equate to good quality care. There are other means of assessing whether or not she received adequate information in a specific circumstance. For example; if an infant dies within hours of birth and his/her mother is unable to give any explanation for the cause of death before being discharged, this is a strong indication that the standard of care she received (information exchange) fell below an acceptable standard. A recent study in urban India observed that the quality of information exchange appeared to be consistently lower for illiterate women (Matthews et al., 2000). Also, in the case of episiotomy, many women did not know this was going to happen to them, nor did they know that their uterus was about to be revised manually, without anaesthetic, after delivery both providing evidence that women were not being adequately prepared for certain particularly uncomfortable and often inappropriate procedures.

Women interviewed by Campero et al. (1998) in a study examining the influence of support in labour in a social security hospital in Mexico made constant reference to the lack of information provided by the medical staff regarding their health and that of their babies, the hospital routines and medical interventions. The information that was provided was reported as having been delivered in an authoritarian and vertical manner such that the women did not have a chance to speak,

let alone ask questions. It was reportedly taken for granted that the woman would accept whatever the doctor told her: *We're going to examine you We're going to remove the drip'* and so on (Campero et al., 1998, p. 398). With regard to the degree to which women received information about their own labour and delivery, this study found that it was often hard to know exactly what women had been told about a Caesarean section, for example. Even when the doctor gave the woman some information, almost no one in the study understood it, and the information was often inaccurate and confusing. Some women consequently felt guilty and thought that the indication for a Caesarean section was the consequence of their poor effort during labour (Campero et al., 1998). Likewise, with regard to episiotomies, lack of information resulted in some women perceiving it was their fault that the episiotomy had to be performed. As in the study in urban India, some women were not even aware that it had been performed until afterwards.

Whether or not a woman clearly understands what is happening, why, and any specific instructions will determine her subsequent behaviour. In maternity care, postpartum health is vital and it is essential that a woman returns for a postnatal check. She also needs to be aware of symptoms that may signal a complication postnatally, such as fever or foul-smelling discharge, and know what to do in the case of such a development.

High quality provider-client information exchange is more than a nicety that may contribute to a positive experience: it is a medical necessity. It has been argued that the interpersonal process is the vehicle by which technical care is implemented and on which its success depends (Donabedian, 1966). It is the task of the provider to give the woman as much information and explanation as she desires and needs (WHO, 1996b).

Criteria that may be used to measure this aspect of care include:

- 1) Necessary information is conveyed effectively in a language that is understandable to all women.
- 2) All women are fully prepared for treatment and understand their options. Where possible they experience real informed choice.
- 3) The reasons for a specific intervention or outcome are always clearly explained to all women
- 4) Information about postpartum care is effectively conveyed.

(see also Table 8 in the Appendix)

6.2.3 Respect, Dignity and Equity

Client-provider exchanges reflect and are shaped by what Simmons and Elias (1994) refer to as latent dimensions of programme-client interactions, which are relatively hidden but nonetheless

powerful components of the interactions. Such components reflect the fundamental differences in the status, power and culture of participants in the encounter (Simmons and Elias, 1994). These interactions are rarely characterised by supportive relationships, more often expressing dissonance, inherent conflict and social disparities (Simmons and Elias, 1994; Mernissi, 1975; Nichter, 1989; Scrimshaw, 1974; Misra et al., 1982).

There are numerous instances during labour and delivery where staff can fail to treat women with the respect and dignity they have the right to expect. This includes the observance of her privacy and dignity during physical examinations, late-stage labour and delivery. All women's privacy in the birthing setting should be respected (WHO 1996b). Insensitive treatment, poor standards of confidentiality, tactlessness and moral judgements by health providers are all elements of poor quality care documented by numerous studies as women's experience of care (Lasker, 1981; Finerman, 1983; Wedderburn and Moore, 1990). A study of public-health units in the Rakai district of Uganda found that some midwives were perceived as rude, proud, negligent and vulgar. Some young midwives were also said to abuse mothers if they had never attended antenatal care, or if they had had many pregnancies. Campero et al. (1998) report that in Mexico, women's

complaints about certain routine interventions such as vaginal examinations were expressed with a sense of shame: *'It's the first time anyone ever did that to me. It made me feel very strange [and] ashamed that everyone was seeing it, and that they were doing it in front of other people.'* Other complaints about vaginal examinations reported in this study concerned pain: *'Why are they so rough?, Why don't they wait until the contraction is over?'* (Campero et al., 1998).

Modern medical facilities have a culture of their own that often clashes with the culture of the potential users (Finerman, 1983). An investigation in a village in Rajasthan produced anecdotal evidence from in-depth interviews that villagers were generally perceived as dirty and ignorant of modern ways in the government hospital. The woman and her attendants were found to feel uncomfortable in the hospital, and they reported feeling insulted and ignored. In the village the common image of a hospital delivery is one in which no attendants are allowed near the labouring woman and she is made to lie on a table all by herself: *'Is this the way to treat a labouring woman?'* (Patel, 1991).

There are cultural practices that currently have no place in modern hospitals in the developing world but if recognised by institutions, assuming they did not interfere with the provision of high quality care, would greatly enhance women's experience of care and may

even be beneficial. The squatting position for childbirth, traditional in many cultures, is known to promote the progress of labour more effectively than the supine position typically used in hospital settings (Rohde, 1995). The adoption of such a tradition by providers would have multiple advantages (with appropriate training of birth attendants). In addition, in many areas the placenta is considered to have enormous ritual significance and forms part of the celebration of the new life. In hospital settings, placentas are generally routinely disposed of and the family given no choice in what is done to this symbolic part of the newborn. Some hospitals in Cochambamba now provide the placenta to families on request (Rohde, 1995).

If a woman and her family are treated with disdain and disrespect, if she is ignored and subjected to unnecessary, uncomfortable and humiliating procedures, it would not be surprising that if given a choice she and her family subsequently chose to deliver at home, or at an institution where she expected to receive higher quality care. Being treated like a person was the single most frequent theme in Vera's study of women's attitudes to quality of reproductive health services in Santiago. Other elements identified as important to quality by the women interviewed in this study included treatment as an equal in transactions and *'cordial, likeable, friendly staff'* (Vera, 1994).

Criteria that may be used to assess this aspect of care include:

- 1) All facilities have an individual responsible for assessing socio-economic and cultural context of the catchment area and an effective mechanism for feeding relevant recommendations to providers.
 - 2) All women feel they have been treated with appropriate respect.
 - 3) Women do not have to undergo any unnecessary and humiliating procedures.
 - 4) Cultural practices that do not interfere with high quality care are respected.
 - 5) All women are treated with the same standard of care regardless of education, class, caste and age.
 - 6) Services are appropriately priced for the catchment.
- (see also Table 9 in the Appendix)

6.2.4 Emotional Support

Many factors in the birth environment can induce stress. The setting and many of the people in it may be strange to the labouring woman. Fear, pain and anxiety may be increased by a mechanised clinical environment and unknown attendants, with potentially adverse effects on the progress of labour. A hospital environment, where separation of family members and rigid protocols are enforced is one of the

factors believed to cause the high intervention rates during labour that are seen in many industrialised societies.

There are numerous studies, that highlight the relationship between psycho-social support and the reduction of various types of medical interventions such as the use of forceps, analgesics and Caesarean sections (Sosa and Kennell, 1980; Klaus and Kennell, 1986; Keirse and Enkin, 1989; Kennell and Klaus, 1991).

The needs of a woman in labour are divided into three parts by Butani and Hodnett (1980). The first is the need to maintain her self-control, the second the need to live up to certain expectations, and the third the need to preserve her self-esteem. In Mexico these needs were fulfilled by doulas (birth attendants) in a recent study that evaluated the effects of the provision of psycho-social support to first-time mothers during labour, childbirth and the immediate postpartum period in a social security hospital. Women were offered cognitive, emotional and physical support by a doula who helped the woman maintain a positive emotional state throughout labour and childbirth (Campero et al., 1998). Supportive strategies identified and used in this study included the following:

Talking to the soon-to-be mother in an encouraging and soothing language; recognising the woman's labour efforts; maintaining constant eye contact; giving information about the progress of her

labour; explaining in clear and understandable terms, the medical indications and procedures; answering questions; encouraging the woman to adopt the most comfortable positions possible; suggesting how to relax, breath and push when appropriate; giving massages; holding hands and gently caressing the woman; offering her the bedpan; and changing the bed clothes when necessary'
(Campero et al., 1998, p.397).

The findings were that those women supported by a doula had a more positive birth experience. It has also been shown that support during labour accelerates recovery, favours early bonding between mother and child, decreases anxiety and depression during the first six weeks postpartum and reduces the time spent in labour (Klaus and Kennell, 1992; Hofmeyr and Nikodem, 1991). In light of these findings, it has been recommended that all women should have continual professional support in labour and the choice of social support during labour and birth (Hodnett, 1997).

Women who are given support in the form of receiving adequate information or encouragement are reported as feeling a greater sense of control over their labour. Control has been recognised as a key component in a labour process experienced as satisfactory. In addition while a woman expects to have some degree of control her primary satisfaction and

self-esteem depend on whether she can achieve it (Campero et al., 1998; Butani and Hodnett, 1980; Kitzinger, 1990; Hillan, 1990). In addition to a woman's immediate experience of care and childbirth, the influence of thoughts and feelings about her childbirth experience on later self-perception as women and mothers has been emphasised (Campero et al., 1998; Simkin, 1992; Konrad, 1987).

Emotional support in this context refers not only to a woman's access to her own social and emotional support but to emotional support given by members of staff. Professional birth attendants need to be familiar not only with their medical tasks but also with their supportive tasks, both of which they need to be able to perform with sensitivity and competence (WHO, 1996b)

Criteria that may be used to assess the quality of the experience of care in this respect include :

- 1) Except in exceptional circumstances women are able to choose freely the social support they receive in labour and at delivery.
- 2) All women are treated with honesty, kindness and understanding.
- 3) In the event of a death or disability, appropriate levels of professional and emotional care are made available to women and their families.
- 4) All staff are aware of their supportive role in the provision of care during labour, delivery and the immediate postpartum period
- 5) An effective process exists in all units through which providers are able identify and respond to user expectations.

(see also Table 10 in the Appendix)

7 Use of the Framework

The framework has two possible functions. The first is as a tool by which to help structure a situation analysis review of the quality of care provided at a facility, and experienced and perceived by its clients, actual and potential. The second is as a tool by which to improve the quality of care through the ongoing critical examination of activities, compared with an agreed standard. Where care falls short of agreed standards, a process can then be instigated to identify opportunities and implement change to bring practice closer to the standard. The danger is that, unless implemented appropriately, the assessment process will not result in effective change. In a review of perinatal audits, Mancey-Jones and Brugh (1997) conclude that: *'Successful change is more likely where the audit process is adapted to suit the local culture, where those who need to implement change are involved in identifying problems and deciding how to address them, where recommendations are appropriate to available resources and build on existing practices'* (Stocking, 1992, Atkinson and Hayden, 1992; Greco and Eisenberg, 1993)

The successful implementation of a quality assessment is as much about content as it is about process. Amoono-Larsen (1985) concluded that when performance criteria are agreed upon as achievable and acceptable by health

centre staff, their use in evaluating quality of care can provide an impetus for improving care and in-service training of staff. While feeding results back to staff is a necessary component of the assessment process, research has generally found that in the absence of explicit recommendations, little impact on practice is observed (Mancey-Jones and Bruga, 1997; Mugford et al., 1991; Mooney and Ryan, 1992; Robinson 1994). Mancey-Jones and Bruga conclude that the impact of active feedback where data is disseminated with specific recommendations, is uncertain. While some authors in developing countries have reported short-term improvements in clinical practice, following a clinical audit (Mitchell and Fowkes, 1985), others have reported that active feedback alone has failed to change practice even where the relevant practitioners have acknowledged the need for change (Lomas, 1991). In practice, recommendations will often need to be supported by additional time and resources such as further education and training and supportive supervision. Where the lack of obvious signs of improvement resulting from an assessment process is partly the result of inadequate resources, staff morale will be difficult to sustain.

In their review of literature on perinatal audit in developing countries

Mancey-Jones and Bruga (1997) also report finding no published systematic evaluations from developing countries on the effects of perinatal audit on specific elements of practice, nor on participants knowledge, attitudes or motivation. In published work they report that assertions about the positive impact of audit on staff morale, motivation and communication are not substantiated. Audit does not necessarily have a positive effect on participants attitudes as it may be perceived as threatening, and the critical analysis necessary in this type of process may lead to a deterioration of staff relationships, particularly in cultures where criticism is experienced as aggression. Preliminary findings from an ongoing study involving maternal near miss audits in hospitals in West and North Africa suggest that while staff often readily identify examples of substandard care, translating the recognition of poor quality care into positive behaviour change is a more complex process. The steps needed to yield such change and so improve outcome are still not clear (Ronsmans 1999). Little improvement in the provision of quality of care can be expected until the process of implementing a successful assessment is better understood.

8 Implementing Change

How the assessment process is organised will vary depending on multiple factors; management style: location, political will, financial backing and so forth. However, certain features need to be in place for it to bring about measurable change. These have been explored by Cleaves (1980); Stocking (1992); Greco and Eisenberg (1993) and Walt (1994) and adapted by Mancey-Jones and Bruga (1997) who divide the factors necessary to facilitate change into four groups: context, content, process and actors (see Figure 2).

Figure 2

Factors facilitating implementation of change

Context	<ul style="list-style-type: none"> The local culture is accepting of the concept of 'constructive criticism' Environment is non-threatening, open and supporting of change The assessment and recommendations are appropriate to the level of resources
Content	<ul style="list-style-type: none"> Proposed change is appropriate for the specific problem identified Change is recognised as likely to be effective, supported by research of consensus opinion Change is compatible with current beliefs and practices Change represents a small incremental change from current practices Proposed change is simple, involving few individuals
Process	<ul style="list-style-type: none"> A combination of a number of strategies are used to implement the change including: <ul style="list-style-type: none"> Recognition of positive behaviour Presentation of supportive evidence from research Education activities and supervision Follow-up audit and feedback Financial incentives Administrative regulations
Actors	<ul style="list-style-type: none"> Willing to participate in audit process Recognise need for change and improvement Feel involved in the decision making Persons in position of power committed to change and improvement Personal incentives for change

Source: Taken from Mancey-Jones and Bruga 1997

9 Conclusion

The provision of a high quality of care at maternal health facilities is not a luxury but a necessity. There is substantial evidence to suggest that there is a relationship between the quality of care that a facility provides, and patterns of utilisation. The more intuitively obvious relationship between quality of care and outcome is better established. Less is known, however, about the mechanisms through which both of these relationships function. Clearly, the quality of institutional delivery services can make the difference between life and death, but before change can be initiated to improve quality it is important that we understand these mechanisms. To analyse these relationships effectively, instruments that capture the complex nature of the diverse aspects of quality need to be developed and tested within a range of facilities in a variety of contexts. At present, in the field of maternal health, despite an extensive literature devoted to many different aspects of quality in maternity care, no integrated approach to the evaluation of services has yet been established.

In this monograph we draw together experience and evidence from the extensive medical, health policy and social science literature that exists on all aspects of quality in maternity care to create a flexible quality assessment

framework specifically for use at the institutional level in developing countries. It divides quality into two elements that are conceptually distinct but closely related in practice: firstly into the provision of quality of care, and second into elements relating to client's experience of that care. These two important aspects of quality of care in pregnancy and childbirth are intrinsic components of a basic reproductive rights approach. The benefits of improving quality of care to mothers at delivery are multiple. Not only could we expect to see an increase in timely and effective use of services, and improved psycho-social and health outcomes, improved quality has been shown to curtail inappropriate use of limited resources, reduce the use of ineffective and harmful technologies, eliminate inefficiencies, optimise the use of existing inputs and promote the following of correct procedures. With real political will, and the allocation of new resources for safe motherhood, quality of care in maternal health can become a reality.

Appendix

52 **Table 1: Human and Physical Resources (Provision of care)**

Criteria	Standard	Suggested basis for indicators	Sources
The skill mix is appropriate to cope with the patient flow and case mix at the facility.	'appropriate to cope'	<ul style="list-style-type: none"> •No. of qualified staff (experience, qualifications) •Terms and conditions of staff (hours, income, conditions) •Normal level of supervision •Staff attitudes (morale, job satisfaction) •Actual day-to-day staffing levels •Staff turnover •Staff training (quantity, content and attendance) 	<p>Facility Records Provider Interviews Observation</p>
The maternity wards are adequately equipped to perform their function effectively and consistent with internationally recognised good practice.	'adequately' 'effectively' 'consistent with internationally recognised good practice'	<ul style="list-style-type: none"> •Number of beds, blinds, toilets, handbasins etc per delivery •Quantity of essential drugs by sell-by dates •State of essential equipment •Nature of sterilisation procedures •Layout of wards •Diagnostic and therapeutic capabilities 	<p>Provider Interviews Observation Facility Records</p>
The operating theatre is in good repair and fully equipped with drugs and surgical equipment to perform life saving procedures when required.	'good repair' 'fully equipped'	<ul style="list-style-type: none"> •Physical layout of operating theatre/location •Quantity of essential surgical equipment •State of repair of equipment •Number and availability of qualified staff •Access to blood stocks •Quantity of essential medical supplies 	<p>Facility Records Provider Interviews Observation</p>
The general infrastructure of the facility is of sufficient size and state to cope with demand and essential support services are reliable.	'sufficient' 'reliable'	<ul style="list-style-type: none"> •Structural features of physical infrastructure •Identify essential support services (electricity, running water; transport) •Reported reliability versus observed reliability •Frequency of maintenance of physical assets, vehicles and equipment •State of furniture, medical and office supplies, warehousing and storage conditions 	<p>Provider Interviews Observation Facility Records Exit Interviews</p>

Criteria	Standard	Suggested basis for indicators	Sources
The organisational and management structure of the labour, delivery and postpartum suite ensures most efficient use of resources	'most efficient use'	<ul style="list-style-type: none"> •Nature of management capabilities •Evidence of management plan •Reported and observed administrative red tape •Financial inputs •Spending breakdown •Use of wasteful technologies •Over prescription or inappropriate use of drugs and interventions •Financial capacity •Transparency 	<p>Facility Records Provider Interview Observation</p>
Staff should always be adequately protected from risks associated with their work.	'always' 'adequately'	<ul style="list-style-type: none"> •A written policy on violence to staff •Provision of security personnel where required •The existence and application of policies and practices for minimising exposure to body fluids •The existence and application of policies and practices for safe disposal of sharps •The existence and application of policies for the management of needle-stick injuries •The provision of Hepatitis B vaccination •Availability of HIV testing and post-exposure prophylaxis 	<p>Facility Records Provider Interview Observation</p>
Effective systems for maintaining the quality of the human resource base should be in place at all facilities.	'effective' 'all'	<ul style="list-style-type: none"> •Appropriate and fair systems of reward and promotion •Listing of available training opportunities •The provision of study leave •The uptake of training courses •Evidence of in-service training including skill certification or portfolios 	<p>Facility Records Provider Interview Observation</p>
All facilities should have a clear management structure and transparent lines of accountability	'all' 'clear' 'transparent'	<ul style="list-style-type: none"> •Job descriptions for all positions •The existence and use of an organisational structure chart •Timeliness of salary payments •Staff knowledge of their responsibilities and the responsibilities of other staff members •Managers knowledge of their job descriptions and responsibilities 	<p>Facility Records Provider Interview Observation</p>

Table 2: Referral System

Criteria	Standard	Suggested basis for indicators	Source
An admissions procedure which ensures the timely examination and referral of a woman presenting with a complication	'timely'	<ul style="list-style-type: none"> •Admissions procedure: theory and practice •Referral procedure: theory and practice •Actual waiting times •Level of coordination between levels of care •Staff knowledge of referral procedure 	Facility Guidelines Provider Interviews Observation Exit interviews Case notes
Experienced staff and essential drugs are available at accessible hours at referring facility to stabilise a woman before referral	'experienced' 'essential' 'available 24 hour basis'	<ul style="list-style-type: none"> •Staff complement: actual vs theoretical •Quantity of essential drugs by use by dates •Number and style of repair of essential equipment 	Facility Records Provider Interviews Observation
Reliable transport is available on a 24 hour basis.	'reliable' '24 hour basis'	<ul style="list-style-type: none"> •Availability of transport and driver: theoretical and actual •Observed versus reported reliability •Vehicle in working order (fuel, parts and regularly serviced) •Average travel time from referral to arrival at referral facility 	Facility Records Provider Interviews Observation Exit Interviews
There is a reliable, functioning communication system to enable staff to communicate with the referral hospital of first choice to establish availability of essential staff and equipment.	'reliable' 'functioning' 'available' 'essential'	<ul style="list-style-type: none"> •Primary means of communicating with referral facilities (eg. phone or radio) •Observed versus experienced reliability (eg. ability to get an outside line in an emergency) •Experienced efficiency of switchboard at referral hospital •Average time taken to communicate with relevant health professional at referral centre •Average non-travel time from referral to arrival at referral facility 	Provider Interviews Observation Exit Interviews Case Notes
There is a qualified member of staff on call to accompany complicated cases to the referral hospital when necessary.	'qualified' 'on call'	<ul style="list-style-type: none"> •Normal procedure (specify grade of staff usually accompanying referral) •Observed/experienced procedure •Actual versus theoretical availability of qualified staff •Percentage of referred women accompanied 	Facility Guidelines Provider Interviews Observation Exit Interviews Case Notes

Table 3: Maternity Information Systems

Criteria	Standard	Suggested basis for indicators	Source
Basic registers in facilities are designed to record data that is sufficient to monitor and evaluate activities effectively.	'sufficient' 'effectively'	<ul style="list-style-type: none"> •Nature of existing proformas normally completed by facility staff from admission to discharge •Space available on existing proformas to record information on nature of complication and treatment 	Facility Records
Current procedures for recording information result in complete and accurate data entry.	'complete' 'accurate'	<ul style="list-style-type: none"> •Completeness of past proformas •Legibility of past records (case notes, admissions registers and so on) •Accuracy and consistency of past records •Nature of supervisory mechanism in place 	Facility Records Case Notes Provider Interviews Observation
A review process is in place to ensure data is comprehensive and used effectively to improve patient management and service delivery.	'comprehensive' 'effectively'	<ul style="list-style-type: none"> •Nature of review process, official and actual •Frequency of data analysis •Frequency and content of reporting procedures •Examples from staff of use of data to improve practice •Examples of changes in procedures/supplies following review of records •% of staff who report having received training in information collection and use •Number and type of training devoted to maternity information system, past and planned 	Provider Interviews Facility Records Observation
Each complicated case (severe morbidity or mortality, maternal or infant) is effectively reviewed, analysed and avoidable factors identified.	'effectively' 'avoidable'	<ul style="list-style-type: none"> •Facility procedures in the event of death or severe morbidity •Observed investigation procedure •Examples by staff of lessons learned from past poor outcomes •Public access to records 	Provider Interviews Facility Records Case Notes Observation

Table 4: Appropriate Technologies

Criteria	Standard	Suggested basis for indicators	Source
The following procedures are not used either routinely, or most of the time. •Pubic Shaving •Enema •Intravenous Infusion •Episiotomy for Primiparas •Supine Position for Delivery •Manual Revision of the Uterus	'not used' 'routinely' 'most of the time'	<ul style="list-style-type: none"> •Recommended use in hospital guidelines •Reported use by staff •Percentage of women reporting use of procedure in labour •Recorded use 	Facility Records Provider Interviews Exit Interviews Case Notes Survey
The use of vaginal examination of the uterus to assess the progress of labour is kept to the minimum necessary.	'minimum necessary'	<ul style="list-style-type: none"> •Reported use by staff •Average actual use from time between arrival at hospital and delivery: observed and reported 	Provider Interview Exit Interviews Case Notes
Intramuscular oxytocin is not used to speed up labour	'not used'	<ul style="list-style-type: none"> •Records of supplies and use of ergometrine and oxytocin •Evidence of reported use by staff •Evidence of actual use (reported by women, recorded in case notes and observed) •Facility's capacity to perform Caesarean sections at anytime 	Facility Records Provider Interviews Case Notes Exit Interviews Observation
The use of Caesarean section falls within reasonable limits.	'reasonable limits'	<ul style="list-style-type: none"> •The Caesarean section rate •Caesarean section rate by recorded indication 	Facility Records Case notes
Effective pain relief is always provided for operative procedures.	'effective' 'always'	<ul style="list-style-type: none"> •Percentage of women reporting feeling pain during an operative procedure •Type of pain relief routinely provided for operative procedures •Number and availability of personnel trained to administer relevant pain relief •Supplies of basic drugs and equipment 	Facility Records Case Notes Provider Interviews Exit Interviews Survey

Table 5: Indicators of Good Practice

Criteria*	Standard	Suggested basis for indicators	Source
Magnesium Sulphate is the drug of first choice for the treatment of eclampsia.	'first choice'	<ul style="list-style-type: none"> •Identify drug of first choice as reported by staff •Evidence of use from stocks, supplies, case notes •Identify type and comparative use of alternatives 	Facility Records Provider Interviews Case Notes
Women are actively considered for a vaginal delivery after one Caesarean section.	'actively'	<ul style="list-style-type: none"> •Facility protocol/recommendations •Staff responses to normal procedure for previous Caesarean section •Evidence of practice (percentage of women with previous c-section going on to have a subsequent Caesarean delivery) •Evidence that women are actively given the opportunity to deliver vaginally (unless otherwise indicated) 	Facility Records Provider Interviews Exit Interviews Case Notes Observation
Prophylactic antibiotics are used routinely at the time of an emergency Caesarean section.	'routinely'	<ul style="list-style-type: none"> •Facility guidelines •Reported normal use of antibiotics at the time of an emergency Caesarean section by staff •Actual use (percentage of women with emergency Caesarean section who are given antibiotics around time of operation) 	Facility Records Provider Interviews Exit Interviews Case Notes
Ventouse delivery is the instrument of first choice for an instrumental delivery.	'first choice'	<ul style="list-style-type: none"> •Facility guidelines •Instrument of first choice as reported by staff •Evidence of comparative use from facility records (number of forceps deliveries vs ventouse deliveries) •Evidence of actual use 	Facility Records Provider Interviews Case Notes
When repairing perineal wounds polyglycolic acid suture should be the favoured option	'favoured option'	<ul style="list-style-type: none"> •Suture material most commonly used as reported by staff •Evidence of supplies and use of all suture materials 	Facility Records Provider Interviews

58 Table 5: Indicators of Good Practice - continued

Criteria	Standard	Suggested basis for indicators	Source
For a non complicated delivery women are always allowed to adopt whatever position they choose for delivery.	'always'	<ul style="list-style-type: none"> •Normal practice as reported by staff •Evidence of actual delivery positions (percentage delivered in supine position, percentage standing, squatting, other) •Percentage of women reporting choosing of delivery position of her choice 	Provider Interviews Exit Interviews Survey
Women are always allowed social support of her choice during labour and birth.	'always'	<ul style="list-style-type: none"> •Facility guidelines •Normal practice as reported by staff •Percentage of women who report being accompanied in labour and delivery by person of her choice •Observed practice 	Facility Guidelines Observation Staff Interviews Exit Interviews Survey
Throughout labour a woman's physical well being should be regularly assessed.	'regularly'	<ul style="list-style-type: none"> •Number and timing of blood pressure measures •Number and timing of temperature and pulse measurements •Quantity of fluid intake vs urine output noted 	Labour Notes Provider Interviews Exit Interviews Observation Survey

Table 6: Management of Emergencies

Criteria	Standard	Suggested basis for indicators	Source
Sufficient stocks of oxytocics should be available at all facilities and relevant health staff should be effectively trained to administer them by injection as a first aid measure for postpartum haemorrhage	'sufficient' 'all' 'relevant' 'effectively trained'	<ul style="list-style-type: none"> •Number of units of oxytocics in store within expiry date •Number and timing of specialist training courses in administration of oxytocics per individual staff post in past two years/five years •Percentage of deliveries in which oxytocics were administered •Refrigerator working and system for dealing with power cuts in place •Case fatality rate for haemorrhage over time 	Facility Records Provider Interviews Labour Notes Observation
Health workers of an appropriate level are effectively trained in clinical skills to manage ante and post partum haemorrhage	'appropriate level' 'effectively'	<ul style="list-style-type: none"> •Number and timing of staff training courses dedicated to management of haemorrhage per individual staff post in past two/five years •Recall by staff of key procedures •Evidence of major haemorrhage protocol in the unit •Case fatality rate for haemorrhage over time 	Facility Records Provider Interviews Labour Notes Observation
Intravenous fluids are available at all facilities and blood transfusion services should be available at comprehensive essential obstetric care facilities on a 24 hour basis	'all available' '24 hour'	<ul style="list-style-type: none"> •Number of units of intravenous fluids in store within expiry date •Availability of blood supplies (by time of day, type, cost, distance) •Availability of staff trained to administer blood transfusion (by time of day) 	Facility Records Provider Interviews Observation
The partograph is used effectively to assess progress of labour where staff with appropriate skills are available	'effectively' 'appropriate'	<ul style="list-style-type: none"> •Number of labours whose progress was assessed by partograph •Number of staff trained to use partograph •Number of labours assessed by partograph as prolonged by subsequent interventions 	Facility Records Labour Notes Provider Interviews Observation

8 Table 6: Management of Emergencies - continued

Criteria	Standard	Suggested basis for indicators	Source
The appropriate range of services required to manage prolonged or obstructed labour are available at reasonable hours at each stage of the referral chain	'appropriate' 'available' 'reasonable'	<ul style="list-style-type: none"> •Evidence that first level health centres have facilities and trained staff to: empty bladders; give antibiotics; rehydrate and refer women •Evidence that second level health centres have facilities and trained staff to rupture membranes if required and perform a vacuum extractor delivery •Evidence that CEOC hospitals have trained staff, essential drugs and equipment to perform additional interventions, such as oxytocics, antibiotic and the capacity to perform Caesarean section on a 24-hour basis •Percentage of women referred from first level health centre who go on to have instrumental delivery or caesarean section •Case fatality rates for obstructed labour over time •Perinatal death rates attributed to birth asphyxia over time 	Facility Records Case Notes Exit Interviews Provider Interviews Observation
All birth attendants are aware of the requirements for a clean delivery and follow them effectively.	'all' 'aware' 'effectively'	<ul style="list-style-type: none"> •Observance of asepsis at all times •Hands always cleaned before and after any contact with woman •Delivery surface sterilisation procedure •Sterilisation procedure for instruments 	Facility Records Provider Interviews Exit Interviews Observation
Health staff are effectively trained to recognise puerperal sepsis and manage it appropriately or refer.	'effectively trained' 'appropriately'	<ul style="list-style-type: none"> •Percentage of staff who have attended specialist training in puerperal sepsis •Percentage of staff who can accurately describe the signs, symptoms and treatment of puerperal sepsis •Case fatality rate for puerperal sepsis 	Facility Records Provider Interviews Observation
All facilities should be able to provide the necessary treatment for puerperal sepsis	'All' 'necessary'	<ul style="list-style-type: none"> •Availability of thermometers and antibiotics per facility 	Facility Records Provider Interviews Observation

Criteria	Standards	Suggested basis for indicators	Source
Health staff are effectively trained to manage and to refer women with pregnancy induced hypertension	'effectively trained'	<ul style="list-style-type: none"> •Percentage of staff who have attended specific training in recognition and management of pregnancy induced hypertension within past two or five years •Percentage of staff able to accurately recount signs, symptoms and course of action •Case fatality rate for pre-eclampsia and eclampsia 	Facility Records Provider Interviews Observation Labour Notes
The full range of services required to manage severe preeclampsia and eclampsia is available at CEOC facilities.	'full range required to manage'	<ul style="list-style-type: none"> •Sphygmomanometers, stethoscopes and urine testing reagents readily available •Magnesium sulphate, intravenous and oral anti-hypertensive agents available in store within expiry date •Capacity to undertake emergency Caesarean section (availability of staff and equipment) 	Facility Records Provider Interviews Observation
Health workers are effectively trained in the early recognition and treatment of abortion-related complications	'effectively trained'	<ul style="list-style-type: none"> •Access to laboratory services for haematology and biochemistry 	Facility Records Provider Interviews Observation
Evacuation of the uterine contents, antibiotic therapy and intravenous fluids are available at all facilities and surgical treatments at all CEOC hospitals	'available at all facilities' 'all'	<ul style="list-style-type: none"> •Percentage of staff who have attended specific training in recognition and treatment of abortion-related complications within past two/five years •Percentage of staff who can recount signs and symptoms of abortion-related complications and appropriate course of action •Availability of antibiotic therapy, intravenous fluids and skills and equipment to evacuate uterine contents 	Facility Records Provider Interviews Observation
Treatment is always followed by appropriate counselling and contraception information and services	'always appropriate'	<ul style="list-style-type: none"> •Percentage of women who received counselling after an abortion •Percentage of women who received contraceptive information and services after an abortion •Percentage of staff trained in counselling 	Facility Records Provider Interviews Exit Interviews Observation Survey

Table 7: Human and Physical Resources (Experience of care)

Criteria	Standard	Suggested basis for indicators	Source
The physical infrastructure and the overall environment of the maternity wards are acceptable to all or most women.	'acceptable to all or most'	<ul style="list-style-type: none"> •Percentage of women who report they are satisfied with the state of infrastructure and wards (buildings, bed, sheets) •Percentage of women who perceive toilets and washing facilities to be accessible and clean •Perceived quality and acceptability of food and drink •Reported reliability of running water and electricity 	Exit Interviews Focus Groups In-depth Interview Survey
Contact time with qualified staff is sufficient.	'qualified' 'sufficient'	<ul style="list-style-type: none"> •Percentage of women who report contact time with staff as sufficient (per contact) •Percentage of women reporting being alone at a time when it worried her to be alone •Percentage of specific procedures reported as being carried out by grade of staff •Average number of staff of all grades per delivery and per complication 	Facility Records Observation Exit Interviews Case Notes Focus Groups In-depth Interviews Survey
Male/female staff ratios are acceptable to most women.	'acceptable' 'most'	<ul style="list-style-type: none"> •Percentage of female doctors •Percentage of women reporting feeling embarrassed, shy or uncomfortable with staff of opposite sex 	Facility Records Exit Interviews Focus Groups In-depth Interview Community Survey
Staff are competent to provide appropriate care	'competent'	<ul style="list-style-type: none"> •Level of staff knowledge about a specific diseases and complications and their appropriate treatment •Effective supervision •Qualifications and experience of staff as per responsibilities •Performance review, training and staff development in place •Training record 	Facility Records Provider Interviews Observation Case Notes Exit Interviews

Table 8: Cognition

Criteria	Standard	Suggested basis for indicators	Source
Necessary information is conveyed effectively in a language that is understandable to all women.	'necessary' 'effectively' 'understandable to all'	<ul style="list-style-type: none"> •Percentage of women who had full medical and birth history taken •Percentage of women who are explained and understand a diagnosis •Percentage of staff speaking local dialects •Percentage of women able to give accurate information about contraindications or side effects of certain interventions or procedures •Percentage of women who report that their questions were answered in a language they were able to understand 	Observation Exit Interviews Facility Records Case Notes Survey
All women are fully prepared for treatment and understand their options. Where possible they experience real informed choice	'fully prepared' 'where possible' 'real informed choice'	<ul style="list-style-type: none"> •Percentage of women who knew they were going to have an episiotomy before the procedure was carried out •Percentage of women who have had a Caesarean section and who report being having the reason for their operation explained and what the operation would involve •Percentage of women who report delivering in a position of her choice •Percentage of women who report the presence of at least one birth supporter of her choice 	Exit Interviews Observation Focus Groups In-depth interviews Survey
The reasons for a specific intervention or outcome are always clearly explained to all women	'always' 'clearly' 'all'	<ul style="list-style-type: none"> •Percentage of women who are able to explain why they had a specific procedure or intervention •Percentage of women who report having been explained reasons for a poor outcome •Percentage of women who understand probable reason for poor outcome 	Exit Interviews Provider Interviews Observation In-depth Interview Survey
Information about post-partum care effectively conveyed.	'effectively'	<ul style="list-style-type: none"> •Percentage of women complying with treatment and returning for post natal appointments •Percentage of women who know how to care for perineal wounds correctly •Percentage of women at time of discharge who can name symptoms that may indicate a post-natal complication 	Facility Records Exit Interviews Survey

Table 9: Respect, Dignity and Equity

Criteria	Standard	Suggested basis for indicators	Source
All facilities have an individual responsible for assessing socio-economic and cultural context of the catchment area and an effective mechanism for feeding relevant recommendations to providers	'all' 'effective mechanism' 'relevant'	<ul style="list-style-type: none"> •Appointment of staff member responsible for research •Evidence of remit, resources and methods of staff responsible •Evidence of change in practice following recommendations (eg. examples of this) 	Facility Records Provider Interviews Observation
All women feel they have been treated with appropriate respect	'appropriate'	<ul style="list-style-type: none"> •Percentage of women who report respectful or not disrespectful treatment •Nature of observed interactions 	Exit Interviews Observation Focus Groups
Women do not have to undergo any unnecessary and humiliating procedures	'do not'	<ul style="list-style-type: none"> •Percentage of women undergoing unnecessary procedures •Percentage of women who report undergoing procedures that they felt were uncomfortable and/or humiliating) 	Case Notes Exit Interviews Observation Focus Group In-depth Interviews Survey
Cultural practices that do not interfere with high quality care are respected.	'do not' 'respected'	<ul style="list-style-type: none"> •Reported use or non use of practices identified as culturally offensive to women and their families or practices that they would have wanted to happen and were denied 	Observation Exit Interviews Focus Groups In-depth Interviews
All women are treated with the same standard of care regardless of education, class, caste, age etc	'all' 'same standard'	<ul style="list-style-type: none"> •Comparison of responses to other quality indicators by socio-economic/religious/caste status 	Case Notes Exit Interviews Survey
Services are appropriately priced for the catchment	'appropriately'	<ul style="list-style-type: none"> •Cost of specific services as a percentage of monthly income •% of women reporting financial constraints as limiting access to services 	Exit interviews Survey Focus Groups In-depth Interviews

Table 10: Emotional Support

Criteria	Standard	Suggested basis for indicators	Source
Except in exceptional circumstances women are able to choose freely the social support they receive in labour and at delivery	'exceptional circumstances' 'freely'	<ul style="list-style-type: none"> •Percentage of women reporting companionship of her choice in labour and delivery •Hospital policy on social support in labour •Observed practice 	Facility Records Exit Interviews Provider Interview Observation Survey
All women are treated with honesty, kindness and understanding.	'all' 'honesty, kindness, understanding'	<ul style="list-style-type: none"> •% of women reporting unauthorised payments to staff for services •% of women reporting being satisfied with interpersonal care •Document examples of poor interpersonal care reported by women/families 	Exit interviews Observation Focus Groups In-depth interviews Survey
In the event of a death or disability appropriate levels of professional and emotional care are made available to women and their families.	'appropriate levels'	<ul style="list-style-type: none"> •Percentage of staff trained in bereavement counselling •Percentage of women satisfied with post-natal care in event of death or disability •Percentage of women and their families who feel that they understand the reasons for a death or disability before discharge compared with recorded causes of death 	Facility Records Case Notes Exit Interviews Provider Interviews Observation Survey
All staff are aware of their supportive role in the provision of care during labour, delivery and immediate post-partum period	'all'	<ul style="list-style-type: none"> •Percentage of staff who include supportive role in description of responsibilities •Percentage of women who describe examples of supportive behaviour of staff during labour, delivery and immediate post-partum period 	Facility Records Provider Interviews Exit Interviews In-depth interviews
An effective process exists in all units through which providers are able to identify and respond to user expectations	'effective'	<ul style="list-style-type: none"> •Number and grade of staff responsible for investigating users-views •Examples of changes made following process to obtain users views •Evidence of a complaints procedure (theoretical vs observed) 	Facility Records Provider Interviews Observation In-depth Interviews

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