Quality in Health Care 1995;**4**:108–114

Reducing Risk in Clinical Practice

Reducing risk in obstetrics

James Drife

Maternity care in Britain is changing. In 1994 the government accepted an expert report called *Changing Childbirth*,[1] which recommended giving women more choice in their care. In future more care will probably be provided by midwives without direct medical supervision. Some midwives foresee an increase in home deliveries; others want to encourage a return to small maternity units run by general practitioners; still others advocate midwifery group practices independent of doctors.

These changes are not a response to increasing obstetric litigation but are the result of pressure from consumer groups and midwives. Many obstetricians and general practitioners are apprehensive about the trend, fearing that dismantling the established system – even partially – will compromise its high standards of safety for mothers and babies.

Therefore anyone setting out to reduce risk in obstetrics in the late 1990s faces a challenging task. He or she will receive conflicting advice from obstetricians, general practitioners, midwives, and consumer groups and will have to work with a system in which no individual manager or group of clinicians has overall control. Nevertheless, a time of change represents an opportunity for introducing new ways of reducing risk.

Risk reduction requires identification and analysis of patterns of risk, followed by improvements in clinical practice focused on the problem areas.[2] In obstetrics we can identify risk areas in current practice but we can only guess at the risks of the proposed changes. Improvements directed towards risk reduction will have to be implemented in conjunction with changes that are already in progress.

In Britain almost all mothers now survive pregnancy, as do 99% of babies. Between 1935 and 1985 the British maternal mortality rate fell from 1 in 200 pregnancies to 1 in 10 000 pregnancies, and the perinatal mortality rate from 60 per 1000 to under 10 per 1000. These dramatic improvements in safety have led to a change in people's expectations. Women now want childbirth to be an emotionally rewarding experience. Nevertheless, almost all women put safety at the top of their list of priorities.

Women also know that caesarean section is no longer an operation fraught with risk, and for more and more women "choice" means freedom to request a caesarean delivery. Such women are underrepresented in consumer groups, which tend to blame obstetricians for the steady rise in Britain's rate of caesarean section – now about 15% and showing no sign of levelling off. Research on women's views through "decision analysis" discloses that women are willing to opt for caesarean section at lower levels of risk than many obstetricians thought.[3]

Current pattern of care

Pregnancy care can be divided into three parts: antenatal care, intrapartum care, and postnatal care. Currently, these are resourced according to tradition rather than logic.

ANTENATAL CARE

Much effort is put into antenatal care, which is usually shared between hospital, general practitioner, and community midwife. Clinic visits are monthly in the first two thirds of pregnancy and more frequent thereafter, so that a healthy woman may make more than a dozen visits to the clinic. This traditional pattern is not based on scientific evidence,[4] and some obstetricians contend that it is of dubious benefit.[5]

At each visit the mother is checked for complications such as diabetes and hypertension. Fetal growth is checked by palpation of the uterus, though this misses about a quarter of cases of growth retardation. The fetal condition can be more accurately checked by cardiotocography, ultrasound measurements, and blood flow assessment. These require the mother to spend time in the ultrasound or fetal assessment unit: they are therefore not used routinely but only in cases of high risk.

CARE IN LABOUR

Almost all British babies are born in National Health Service (NHS) hospitals, and around 70% are delivered by midwives. Home delivery accounts for less than 1% of births in Britain and private obstetric practice for very few. Intrapartum care is crucially important to reducing risk but is often provided by staff under stress because of limited resources and minimal consultant support.

Fetal monitoring during labour

The fetal condition in labour is assessed through the fetal heart rate, auscultated by the midwife every 15 minutes. She also observes the colour of the amniotic fluid, which is normally clear but turns green if the fetus releases meconium (bowel contents) – a

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possible sign of lack of oxygen. This is one of the reasons for artificial rupture of the membranes early in labour, though some women refuse this as they feel it makes labour unnatural. Abnormalities of fetal heart rate or amniotic fluid are the traditional signs of "fetal distress," a vague term which lacks a single precise definition.

Electronic fetal monitoring, in widespread use for over 20 years,[6] entails continuous recording of the fetal heart rate. Signs of fetal distress are reduced heart rate variability, a rate that is too fast or too slow, or decelerations that are not synchronous with uterine contractions.

These abnormalities, however, are not diagnostic of fetal distress. Even with the most sinister abnormalities there is only a 50% chance that the fetus is suffering oxygen deprivation. Thus if electronic fetal monitoring is the sole guide to fetal condition, unnecessary caesarean sections or instrumental deliveries will be done. Electronic fetal monitoring was intended as a screening test to decide which babies should be assessed by fetal blood sampling.

Fetal blood sampling is technically more difficult than electronic fetal monitoring, entailing inserting a tubular instrument through the cervix, stabbing the baby's scalp with a guarded blade, collecting a blood sample and analysing it in a machine which has to be carefully maintained. Not every unit that uses electronic fetal monitoring has access to fetal blood sampling.

Electronic fetal monitoring is important in high risk labour, but its use in low risk labour has been controversial. A large study of electronic fetal monitoring in low risk cases in Dublin in 1985 showed that the rate of stillbirths in the monitored group was no different from that in the unmonitored group.[7]

Nevertheless, nowadays a woman in the low risk category is often checked with a short interval of electronic fetal monitoring on admission to the labour ward. A normal trace is reassuring. Newer ways of assessing the fetal condition are being investigated,[8] but electronic fetal monitoring is likely to be the mainstay of intrapartum assessment for many years.

Instrumental delivery and caesarean section

Rates of caesarean section and instrumental delivery can vary widely between hospitals. For example, in 1983 the rate of forceps delivery was 6·5% in one Dublin hospital, 16·3% in a neighbouring hospital, and 21% in Birmingham Maternity Hospital; perinatal mortality rates in all three hospitals were similar.[9] Of course, different hospitals serve different populations, some with a high proportion of patients from ethnic minority groups, but this is unlikely to explain such wide variations in clinical practice.

Rates of forceps delivery fell sharply in the late 1970s in British hospitals, but rates of caesarean section rose steadily from 6–7% in the mid-1970s to 10–15% in the early 1990s.[10] At the same time perinatal mortality fell but not necessarily as a consequence of more caesarean sections.[11] As O'Driscoll and Foley pointed out, in the National Maternity Hospital in Dublin perinatal mortality fell during the 1970s with no increase in the rate of caesarean section.[12]

POSTNATAL CARE

The lying in period has been greatly reduced over the years. The community midwife has a statutory duty to visit women for 10 days after delivery but postnatal care is the Cinderella of the service: much of the morbidity of pregnancy occurs after delivery but little of it is recognised by health professionals.[13]

STANDARDISATION OF PRACTICE

Obstetric management varies between consultants and between hospitals. Case notes also vary, though there are now moves to standardise maternity notes throughout England. Many British hospitals have labour ward guidelines. There is no national protocol because consensus would be hard to achieve, particularly regarding the balance between "natural childbirth" and "active management." Some midwives dislike protocols, thinking that they limit individual judgement, and some doctors fear that national guidelines would make it easier for plaintiffs to sue hospitals.

Effective Care in Pregnancy and Childbirth, a landmark book published in 1989, applied science to the debates about different styles of practice. It attempted to review all published and, indeed, unpublished trials of obstetric management.[14] With a continuously updated database in electronic form, and including lists of interventions of proven effectiveness, those that are unproven, and those that are definitely ineffective; it has been called "the most important book in obstetrics to appear this century."[15]

STAFFING

Midwives

Community midwives are usually attached to one or more groups of general practitioners. Hospital midwives work shifts which may change during a woman's labour, and most women are delivered by a midwife they have never met before. Flexible schemes have been introduced, such as the "domino" scheme, in which the community midwife accompanies the woman to hospital and supervises the delivery and her return home a few hours later.[16]

General practitioners

To qualify for the "obstetric list" a general practitioner must have completed a six month training post in a maternity hospital. Most general practitioners want to be involved in antenatal care but only a few in intrapartum care.

Hospital doctors

Hospital medical staffing is hierarchical, and the most junior doctor is first on call. He or she will have been qualified for at least a year but may have only a few months' obstetric

experience. Larger obstetric units also have a resident middle grade doctor – usually a registrar with several years' obstetric experience. There is a limit on the number of registrar posts in the United Kingdom. Some registrars are doctors from overseas, mainly from the Commonwealth, although more are coming from Europe. The Royal College of Obstetricians and Gynaecologists has urged that no registrar should have duties on more than one site simultaneously.

Consultants are on call from home at night, and their involvement in the labour ward during the day is variable. The royal college now recommends that all labour wards should have dedicated consultant sessions, but as yet this recommendation has been implemented patchily. Some consultants carry out a labour ward round every morning but there is no official requirement for this.

Relationships between health professionals

Midwives are independent practitioners but are bound by the Midwives' Rules to call a doctor when they judge this necessary.[17] An experienced midwife in hospital may have to call an inexperienced doctor. Usually this does not cause problems, but sometimes midwives are required to call a doctor unnecessarily because of hospital policy.[18] Conversely, a midwife may be frustrated by a doctor who does not respond appropriately to her concerns: yet she may be reluctant to "go over the head" of a junior doctor to a more senior doctor.

AUDIT IN OBSTETRICS

For many years obstetricians led the way in audit. Confidential enquiries into maternal deaths have been systematically carried out for over 40 years to identify and correct avoidable factors. National reports are published every three years.[19] Most maternity hospitals hold regular meetings at which doctors and midwives review cases of stillbirth and neonatal death, again with the aim of improving practice to prevent similar future events. As obstetric care has improved, however, these meetings have become less useful, and it has been suggested that hospitals should discuss "near misses," in which the mother has been at risk or the baby has been delivered in poor condition.[20] Identifying such cases consistently is difficult,[21] and "near miss" meetings are not yet widespread.

Complaints and litigation

Litigation is increasing in obstetrics.[22] Obstetric and gynaecological claims comprised around 20% of the workload of the Medical Protection Society before NHS indemnity: of these, 40% were obstetric claims.[23] The Medical Defence Union in the mid-1980s opened 9000 new files a year, of which some 600 related to obstetrics and gynaecology.[24]

Obstetric cases may involve very large settlements. A child who requires constant nursing and who has a normal expectation of life may be awarded over £1m in damages, and the resultant publicity may encourage other people towards litigation. Such large awards give the impression of serious clinical incompetence, even though a case may be settled because of a minor lapse in care.

CAUSES OF LITIGATION

Stillbirth or handicap may arise from congenital abnormality, complications before labour, premature delivery, or lack of oxygen in labour. At present, premature delivery is almost impossible to predict and prevent but to some extent the other causes are theoretically preventable.

Congenital abnormalities

Congenital abnormalities could be reduced by prepregnancy counselling (for example, to improve diabetic control or give vitamin supplements to prevent spina bifida) or by prenatal diagnosis followed by termination of pregnancy. Prenatal diagnosis is now offered routinely in antenatal clinics in the form of an ultrasound scan – usually at 19 weeks' gestation – to detect fetal anomalies. The range of anomalies that can be detected is steadily increasing, but district hospitals may not match the standards of tertiary referral centres.

A woman who has an abnormal baby may blame the hospital for not offering her the appropriate test or not referring her to a tertiary centre. It has been suggested that blood testing for Down syndrome should be offered to all pregnant women,[25] but the decision to do so has financial and ethical implications. A decision not to offer testing to all women may be made by a committee of doctors or managers, or both.

Obstetric outcomes leading to litigation

Congenital abnormalities
Antepartum or intrapartum stillbirth or neonatal death
Mental handicap ("brain damage")

Antepartum causes of stillbirth

Death in utero before labour sometimes has a specific cause such as maternal diabetes or infection. When a stillbirth occurs maternity hospitals have a protocol of tests on the baby and mother but, nevertheless, a cause may not be identified. Growth retardation may be recognised after delivery but, as mentioned, its diagnosis before delivery can be difficult.

Intrapartum stillbirth

Uncommon in modern practice in Britain, occasional cases of intrapartum stillbirth still occur: it has been suggested that a rate of one in 1000 deliveries is an "irreducible minimum." Human error is often to blame. There may be failure to recognise abnormalities in fetal heart rate which seem glaringly obvious in retrospect. Nevertheless, some obstetric disasters are hard to predict and cannot be prevented.

Handicap

As far as litigation is concerned handicap is more important than stillbirth. A large proportion of cases of mental handicap (often misleadingly called "brain damage") are due to genetic causes – that is, the problem lies in abnormal development of the brain and not in outside influences. Prenatal diagnosis has only a limited role – for example, counselling before pregnancy may detect a risk due to consanguineous marriage, and tests can detect Down syndrome during pregnancy, but other types of mental handicap cannot be detected by ultrasound or other tests during pregnancy.

Birth injury due to forceps can cause mental handicap if intracranial bleeding occurs, but direct injury is unlikely to be a cause without such bleeding. Intrapartum hypoxia is often blamed for causing mental handicap or cerebral palsy, but in fact less than 10% of cases of cerebral palsy are due to asphyxia.[26] Nevertheless, whatever the cause of the child's disability, a coincident abnormality may be evident on the cardiotocograph; if it was not acted on a court may link it with the child's subsequent condition and award damages to the child.

"Brain damage"

In cases of mental handicap the condition of the child in the days after birth may be crucial. The newborn baby is routinely assessed by the Apgar score, which notes the baby's colour, tone, breathing, heart rate, and response to stimulation but has little prognostic value. Taking a sample of blood from the umbilical cord and measuring its oxygen tension and pH gives a more accurate assessment but is not routine practice.

A better guide to prognosis is the baby's condition in the first days after delivery. Abnormal neurological signs may amount to hypoxic-ischaemic encephalopathy, a condition characterised by fits, excessive muscular tone, and poor feeding ability.[27 28] Ultrasound scans may show signs of bleeding within the brain and later cavitation due to lack of oxygen. It can be hard to tell whether such deprivation of oxygen occurred during or before labour.

Freeman and Nelson[29] suggested that if "brain damage" is due to asphyxia four questions should be answered positively:
(1) Is there evidence of marked and prolonged intrapartum asphyxia?
(2) Did the infant show signs of moderate or severe hypoxic-ischaemic encephalopathy during the newborn period, with evidence also of asphyxial injury to other organ systems?
(3) Is the child's neurological condition one that intrapartum asphyxia could explain?
(4) Has the assessment been sufficient to rule out other conditions?

DEFICIENCIES IN CARE

Ennis and Vincent, reviewing 64 cases that came to litigation over stillbirth, perinatal or neonatal death, or other problems, identified three main concerns: inadequate fetal heart monitoring, mismanagement of forceps delivery, and inadequate supervision by senior staff.[30] In addition, women reported that sometimes staff were unsympathetic and gave too little information.[31]

Murphy *et al* carried out a study in which the intrapartum cardiotocographic records of severely asphyxiated babies were compared with those of healthy infants.[32] Investigators unaware of the clinical outcome agreed that abnormalities were present in the traces of 87% of the asphyxiated infants and 29% of the controls. They diagnosed severe abnormalities in 61% of the asphyxiated infants and 9% of the controls. Fetal blood sampling was indicated in 58% of cases in the asphyxia group but was actually carried out in only 16%. The response of staff to the abnormalities was slow, and the authors of this study concluded that "the interpretation of cardiotocographic records during labour continues to pose major problems for practising clinicians."

In a study of the training of obstetric senior house officers in teaching hospitals and district general hospitals Ennis found that most of these doctors received only one or two hours' teaching a week and some received even less.[33] Half of the doctors had had no formal training in interpreting or recognising abnormal or equivocal cardiotocograms. When questioned at the end of their jobs about training in the use of forceps, 23% of the senior house officers said they had had no training, and 35% of the remainder thought their training had been less than adequate. In a study of general practitioner trainees' views on hospital obstetric training Smith found that less than 40% believed at the end of their six months' training that they were competent to perform a simple forceps delivery, most believing that longer training was necessary for a general practitioner who wished to provide care in labour.[34]

Reducing risk

"The real answer to the question 'How to avoid medicolegal problems in obstetrics and gynaecology' is good practice and good communication."[35] Good practice is the best form of defence, and several improvements are necessary (box).

Checklist for risk reduction

Equipment	– No obsolete monitors – Fetal blood gas equipment available
Staffing	– Minimal use of agency and "bank" staff – Workload includes time to talk to patients
Consultants' role	– Dedicated sessions in delivery suite – Sessions dedicated to training
Junior doctors' training	– Introductory training at start of post – Regular *protected* teaching sessions – Occasional "fire drill" exercises – Regular formal feedback on quality of training
Junior doctors' work	– Guidelines on routine and emergency practice – Formal handovers between shifts – Support from senior doctors and midwives
Midwives' work	– Regular training sessions on fetal monitoring – Clear definition of role vis a vis senior house officers – Senior midwife has access to duty consultant
Staff communication	– Regular delivery suite meetings – Teambuilding social occasions
Communication with patients	– Regular feedback from patients' advocates – Consultant promptly notified of problems – Explanations are consultant's responsibility

FOCUSING CARE

Resources need to be directed to where they are needed most. This applies, for example, to senior medical staff. Much of their time and attention has been devoted to antenatal care, on the basis that many problems during labour are predictable and preventable, leading to "cattle market" antenatal clinics, and a detraction from intrapartum and postnatal care. The approach has raised patient expectations but has not abolished medicolegal problems. Most litigation arises from events in labour, and most dissatisfaction arises from postnatal care. Strategies for risk reduction should focus on both these areas, but particularly on care in labour.

Focusing care

- Most litigation arises from events in labour
- Most unhappiness arises from postnatal care

EQUIPMENT

Fetal monitoring equipment is often used long after it has become obsolete. The danger is that staff learn to mistrust unreliable equipment, making them slow to react to genuine abnormalities. An inventory of monitoring equipment should be maintained and there should be planned programmes of replacement.

Fetal blood sampling equipment should be available in all units that use electronic fetal monitoring. It is prone to technical problems and requires careful daily maintenance.

CONSULTANT INVOLVEMENT IN DELIVERY

The royal college has recommended that new consultant contracts should in future include sessions in the delivery suite. The Department of Health is reducing the long hours worked by junior doctors in "hard pressed" specialties and consultant posts are being created to reduce the workload on the juniors. It will be far from easy, however, to ensure that these initiatives actually change working practices in hospital, as the pressures on consultants to delegate their duties in the labour ward will continue. The current NHS reforms may lead to closer scrutiny of doctors' work patterns, and this may enable consultants to avoid being drawn away from the delivery suite by other duties.

TRAINING OF JUNIOR DOCTORS

The need for better training of senior house officers is becoming glaringly apparent. As NHS managers become more aware of the importance of risk management, pressure to improve training will increase. There has been excessive complacency in British hospital practice that learning by osmosis is adequate for junior doctors: the recent studies reviewed above disclose how far training is falling short of what is needed.

A distinction is needed between "teaching" (often directed towards future practice or examinations) and "training" to do the job in hand. The immediate need for risk management is to ensure that senior house officers are trained in interpreting cardiotocograms and in the procedures they are expected to undertake unsupervised.

Resources for teaching are now being identified more clearly and should in future be better directed as postgraduate deans control budgets. It has been suggested that attitudes towards general practitioner training should change and that only those vocational trainees who wish to contribute to intrapartum care should be specially trained to do so.[36]

Specific requirements

(1) Training of new senior house officers should include an introductory session to orient them to the organisation of the hospital and to its clinical guidelines. Most hospitals already hold such sessions.

(2) Presently, teaching sessions for junior staff are often poorly attended due to pressure of clinical work. Arrangements should be in place to ensure that such sessions are not interfered with by other commitments.

(3) Some emergencies, such as major haemorrhage or eclampsia, occur so infrequently in most hospitals that staff do not get regular experience in dealing with them. Hospitals should have protocols to guide staff dealing with obstetric emergencies, and it may be helpful to hold irregular "fire drill" exercises to test how well these protocols work.

(4) There should be formal mechanisms for reviewing the effectiveness of training. District tutors of the royal college should liaise with postgraduate deans and hospital managers to ensure that weaknesses in training are identified and remedied.

DOCTORS' WORK

Guidelines

As mentioned above, most hospitals have guidelines for managing routine cases and emergencies. These should be regularly reviewed and updated.

Handovers

With the new restrictions on junior doctors' working hours, hospitals are introducing partial shifts and split weekends, increasing the need for formal handovers between medical teams at the start of each shift. Traditionally, such handovers have been part of nursing and midwifery practice: they should now be part of routine medical practice in the delivery suite.

Support

A problem that has received little attention is that a doctor managing a patient for a prolonged period may sometimes not notice signs that later seem obvious and important. This problem may be reduced by shorter shifts, as a new team will review problems with fresh eyes. It could also be tackled by the junior doctor reporting regularly to a senior doctor (perhaps by telephone) and by ensuring that the midwifery staff can speak directly to the duty consultant if they have any concerns.

MIDWIVES' WORK

Antenatal care

Schemes are being introduced to standardise antenatal care while allowing it to be shared appropriately between midwife, hospital clinic, and general practitioner. These should include clear guidelines, agreed between midwives and doctors, about when medical referral is required.

Care in labour

In the delivery suite the use of electronic fetal monitoring seems likely to continue even if midwives gain more autonomy and run sections of the delivery suite without doctors in attendance. Many midwives do not feel comfortable with interpreting cardiotocograms, and better training is required to teach them which types of pattern require further investigation. Such training should not be provided as a "one off" session but should include regular revision and updating.

Some hospitals are relying increasingly on staff from a "bank" or a nursing agency. The dangers of this trend should be obvious: ensuring that temporary staff are adequately trained in the hospital's procedures is impossible, and reliance on them should be kept to an absolute minimum.

RELATIONSHIPS BETWEEN MIDWIVES AND DOCTORS

Ideally, labour should be supervised by an experienced midwife who has immediate support from an experienced doctor.[37] The place of the inexperienced doctors in the labour ward will become more and more that of a trainee, learning from senior doctors and midwives.[36]

Generally, consultants and midwives have good working relationships, particularly in the private sector. To provide this level of cover in the NHS will require increased resources from health authorities, who will need to be educated that increased investment in experienced staff will save money in claims as well as providing a better service for women.

Specific measures

As mentioned, the senior midwife on duty should have direct access to the consultant on call.

The relationship between midwives and junior doctors can be made less difficult by having guidelines which define as clearly as possible their roles and responsibilities in each particular hospital. These guidelines should, of course, be drawn up by the consultants and midwives together.

Regular meetings should be held to review the work of the delivery suite. The atmosphere in perinatal mortality meetings and "near miss" meetings can be tense, and it is better to hold regular meetings to discuss interesting cases and matters of current concern as well as cases which have a poor outcome.

"Team building" is necessary in the delivery suite as in any other organisation where staff need to interact under pressure. Social occasions have an important part to play in this process. They occur infrequently, however, because doctors socialise with doctors and midwives with midwives. This problem needs to be recognised and addressed.

COMMUNICATION WITH PATIENTS

The importance of a good rapport with the woman and her partner is now recognised, and communication is being given a higher priority by doctors as well as midwives. "The best protection for the doctor remains the one of talking to the patient and recording an outline of what is said."[38] Good communication is essential once a problem has arisen, but good rapport with women throughout pregnancy and labour will create a sound basis for full explanations if anything goes wrong.

Good communication as a routine

Midwives and doctors often feel offended if it is suggested that they are poor communicators. They protest that such skill is fundamental to their job. Nevertheless, they receive little feedback on these skills and often do not realise how they are perceived by women and their partners.

The delivery suite has the dual function of dealing with life threatening emergencies and creating a relaxed atmosphere for normal childbirth. These functions do not easily mix. Efficiency may be perceived as abruptness, and communication problems are likely to be worse if staff are under pressure. Communication takes time, and therefore adequate numbers of staff must be on duty.

There is a need for sessions providing feedback to staff from patients' advocates, who can tactfully identify any shortcomings in attitudes to women and their partners. This is particularly important in units dealing with a high proportion of patients from ethnic minorities.

Communication in problem cases

If a problem does arise, whether or not it is thought likely to lead to litigation, it should be notified as soon as possible to the consultant – ideally the woman's own consultant but if not, the consultant on duty. Whenever possible, explanations to the woman and her relatives should be given by the consultant, in conjunction with other staff as necessary. This is not to say that consultants are always the best communicators, but litigation sometimes arises because the woman feels the problem has not been taken seriously at a senior level.

A single explanation may not be enough, and it may be necessary for the same doctor to see the couple again to answer further questions. More often, however, the couple will ask the same questions of different members of staff. It is helpful if a note is made of what the patient has been told, so that unnecessary confusion can be avoided.

Conclusion

Pessimists will conclude that the current trend towards making care of pregnancy more relaxed is a recipe for disaster and that if we lose the safety first philosophy of the past 50 years we shall have slipshod care and more

litigation as a consequence. Optimists, however, will contend that many of our current problems in obstetrics have resulted from too rigid a hierarchy, unrealistic expectations of the benefits of medicalisation, and a poor relationship with our clients – all of which could be improved by the changes now being implemented.

I belong to the optimistic group. Although *Changing Childbirth* was not inspired by the principles of risk management, it could well be a significant initiative in reducing risk – but only if its principles are implemented with care and cooperation among the health professionals involved.

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