light of new evidence or arguments. Fourth, there must be a process of enforcement that facilitates the implementation of the last three conditions.[3]

Ideally this process, which ensures fairness, transparency and accountability, should be used by *both* public and private health care providers who together administer the country's limited medical resources. Failing this, resource allocation will continue to be viewed by doctors, health care administrators and the public as irrational and potentially subject to hidden political and interest group manipulation. Neither will this flawed type of allocation produce the greatest social benefits for the largest number of people who need care. Instead it will only exacerbate the twin burdens faced by both public and private health care providers — heightened expectations on the part of patients unfairly denied benefits, and drastically rising costs as advocacy groups mount challenges to irrational medical decision-making. This outcome would be a formula for widespread loss of confidence in both public and private sector institutions, as taxpayers and medical aid members are called on to bear unsustainable costs for a chaotically administered health system.

Explicit, transparent and accountable rationing processes are not yet being widely used — although there is a growing tendency to do so in some countries,[4] and at least one recent example has been documented in South Africa.[5] South Africa's Constitutional Court has on one occasion approved a hospital policy, forced by shortages of funding, equipment and personnel, to limit dialysis for chronically ill patients only to those eligible for transplants. All who failed medical criteria were denied life-saving dialysis.[6]

Until open, accountable, explicit priority-setting procedures based on sound scientific data (and a single trial seldom provides this) and ethically principled criteria become more widely used, scarce resources will continue to be channelled towards those patient populations and drug companies who make the loudest noises and to those medical disciplines most vociferous about advancing practice in their domain. No ethical, medical or scientific rationale supports this type of arbitrary and unaccountable means of allocating scarce public or private health care resources.

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Reduction in perinatal mortality feasible without incurring major costs

A third Perinatal Care Survey workshop was held at the Hammanskraal campus of the University of Pretoria, 18 - 20 November 2002. Like the previous two, this workshop brought together the users of the Perinatal Problem Identification Programme (PPIP), the national and provincial Maternal, Child and Women's Health (MCWH) units, the national and provincial Health Information and Epidemiology units, and the Medical Research Council (MRC) Research Unit for Maternal and Infant Health Care Strategies to discuss perinatal care based on an audit of perinatal deaths in South Africa.

It is not possible at this stage for South Africa to have confidential enquiries into all perinatal deaths, like the one into maternal deaths, because of the magnitude of the task. A solution, however, has been developed whereby the national basic perinatal data (i.e. data from every site where babies are born) and data from sentinel sites around the country that have confidential enquiries into all the perinatal deaths in their areas, are combined. The basic perinatal data is a minimum dataset that includes all births and deaths in weight categories. The data from the sentinel sites add descriptive data of causes and avoidable factors to the basic perinatal care indices. This gives a good reflection of the magnitude of the problem of perinatal care in the country, and also provides information on why the infants are dying by including details on pathology and health system failure. The combination of both sets of data gives a reliable picture of perinatal care in the country and can direct health workers to areas where the greatest improvements can be made. The reports published under the 'Saving Babies' banner are available for 2000 and 2001 from the National Department of Health.[1,2] The third report, involving 73 sentinel

sites, represents every province and every geographical area and combines the data for 2000 - 2002. (Details of the process and findings are summarised in 'Why babies die — a perinatal care survey of South Africa'[3] and 'Challenges in saving babies — avoidable factors, missed opportunities and substandard care in perinatal deaths in South Africa',[4] published in this issue of the *Journal* (pp. 445 and 450).

Considerable discussion took place at the workshops with regard to prioritising interventions and deciding which strategies to implement. The recommendations of the group are given below. Subsequent reports by this group will concentrate on identifying what strategies are most effective, and on providing case histories of how this was achieved. In this way the group hopes it will play a significant role in improving the care of pregnant women and their babies.

Five key strategies were decided on and regarded as implementable solutions. The strategies are described in such a way that their implementation can be measured. Recommendations on improving the process were also discussed. The group also recognised that it has extremely valuable information and that all groups of society need to hear it. For this reason strategies were developed to disseminate the information. Finally, it was recognised that some of the findings need better investigation and research needs to be conducted in those priority areas. All these recommendations are aimed at health workers, health administrators, medical schools and nursing colleges. Specific recommendations for the public were not addressed in the report. These suggestions come from the workshop and are not government policy. They serve to initiate the process of discussing ways of decreasing perinatal mortality in South Africa.

Five key strategies

1. Ensure that each site conducting births has the necessary equipment and protocols and that the health care providers are appropriately trained to manage labour and in particular trained in the use of the partogram. Introduce a quality assurance tool to assess the success of the training.

Motivation: Intrapartum asphyxia and birth trauma is a significant contributor to perinatal deaths throughout the country, but especially in the rural areas where in babies over 2 500 g it was responsible for more than 50% of deaths.

2. Ensure that each site conducting births has the necessary equipment, protocols and appropriately trained staff to manage asphyxiated neonates. See that training programmes in neonatal resuscitation are accessible to all staff involved with conducting childbirth.

Motivation: The most common cause of neonatal death in babies over 2 500 g is hypoxia. Adequate resuscitation of these infants could significantly reduce mortality and morbidity.

3. Ensure that each site caring for premature infants has the necessary equipment and protocols appropriate to the level of care and that the health care workers are appropriately trained in care of the premature infant, including kangaroo mother care. See that implementation programmes are available to the staff.

Motivation: The neonatal death rate for areas outside of metropolitan areas with functioning tertiary health care services is almost twice as high as that for neonates in metropolitan areas for birth weights 1 000 - 2 000 g. Little can be done to prevent the births of these infants, and in order to reduce mortality, improvements in the care of premature infants in cities, towns and rural areas will have to occur. Kangaroo mother care as a step-down facility for neonatal care is a cost-effective intervention for caring for stable premature infants and allows for better utilisation of scarce intensive and high care neonatal resources. It has also been proved to reduce neonatal mortality in rural settings.

4. Ensure that each site providing antenatal care has protocols in place for where and when to refer patients and that the health care providers are appropriately trained therein. Introduce a quality assurance tool to assess the success of the training.

Motivation: A considerable number of missed opportunities occurred in the antenatal clinics where the health care workers did not take the appropriate actions.

5. Move to a system where the time and point at which the woman confirms she is pregnant also becomes the woman's first antenatal visit where she can be classified according to risk and where her further antenatal care is specifically planned. If this is not practice, establish what the barriers are and overcome them.

Motivation: The most common patient-orientated avoidable factor was no or infrequent attendance at antenatal care. The problem is not lack of knowledge about antenatal care, but the complication occurring before the woman intended starting antenatal care. If antenatal care could be initiated when the pregnancy was confirmed, then this problem would be greatly reduced, allowing adequate time to intervene in the pregnancy if necessary.

If implemented, these recommendations will also impact on maternal mortality and are compatible with the 'Saving Mothers 1999 - 2001'[5] recommendations.

The Department of Health has produced *Guidelines for Maternity Care in South Africa*[6] for clinics, community health centres and district hospitals. These guidelines are all that is needed for these institutions to develop their own protocols.

As there are no national guidelines for neonatal care, this must be a priority. Information, for example on implementing kangaroo mother care, is not readily available. Training courses on neonatal resuscitation are commercially available but are

inaccessible to the majority of those caring for neonates. A new Perinatal Education Programme on basic neonatal care has been produced, but has not been widely publicised as yet.

Methods of assessing the quality of care of women in the antenatal period and intrapartum were discussed. Workable examples for auditing antenatal and intrapartum care are available. These tools could be very influential in changing practice. (Examples of these tools are given in *Saving Babies 2001. Second Perinatal Care Survey of South Africa.*[7] These reports[1,2] are available for the National Department of Health, Private Bag X828, Pretoria, 0001, or at **www.ppip.co.za**).

The Better Births Initiative is available on the Internet[8] and is a programme aimed at directly improving the standard and quality of care during labour.

A number of crucial questions crystallised during the workshop; the group felt it was necessary to answer these urgently. They were:

- What is the primary pathology related to unexplained intra-uterine deaths (IUDs)?
- What are the barriers to implementing on-site screening for syphilis?
- What are the barriers to implementation of initiation of antenatal care on confirmation of pregnancy?
- What is the feasibility of introducing nasal continuous positive airway pressure (nCPAP) for the care of premature infants in cities, towns and rural areas?

Conclusion

There are a few essential ingredients necessary to effect change.[9] The first phase is to identify the magnitude of the problem and to realise that it is feasible to improve significantly on the current state of affairs. The second phase is to have the knowledge available to improve the situation, to persuade the health workers to use that knowledge, and to make the knowledge and facilities available to the vast majority of the population. For this, a political will must exist to push through the necessary changes.

South Africa is at the point where it can give a reliable estimate of its perinatal mortality rate, prioritise the common causes of perinatal death, and list the major avoidable factors, missed opportunities and areas of substandard care that exist surrounding these perinatal deaths. Most importantly, South Africa now knows that these common causes and factors are remediable, and remediable without a massive increase in health spending.

Medical knowledge is available to prevent these deaths and the health system is in place to make that knowledge available to the vast majority of pregnant women. There is a strong political will to improve the care of pregnant women and their infants. Therefore all the ingredients are available, except that of persuading health care providers to use the knowledge available and to direct their energies in the most appropriate way. Should that occur, South Africa should see a sudden and major improvement in perinatal care.

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