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King's Fund Centre

'REDUCING THE RISK - SAFER PREGNANCY AND CHILDBIRTH'

A Report of a Conference held at the King's Fund Centre

on 12 December 1978

King's Fund Centre
126 Albert Street
London NW1 7NF

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1. INTRODUCTION

This conference had been arranged in conjunction with the Department of Health and Social Security to review reaction to the 1977 DHSS discussion document 'Reducing the Risk, Safer Pregnancy and Childbirth', in order to assist with the promotion of interest in the preventative and positive health aspects of pregnancy and childbirth. The conference was welcomed by David Hands, Assistant Director, King's Fund Centre, and introduced by the Chairman, Dame Josephine Barnes, formerly Consultant Obstetrician and Gynaecologist, Charing Cross and Elizabeth Garrett Anderson Hospitals. In her introduction, Dame Josephine said that when she was a medical student, the Professor of Obstetrics at University College Hospital was Professor F J Brown. Brown was really the person who had introduced antenatal care to this country, and indeed to the world. At that time the midwives' antenatal records had not even included a reading of the patient's blood pressure.

In 1958, a maternity survey had been launched because perinatal mortality was 35/1000, (it was now about 17-18/1000). This was a national survey of perinatal mortality. Autopsies were carried out on 90% of perinatal deaths. This was a remarkable achievement, and previously unknown causes of perinatal death were discovered. The survey had great repercussions, especially as Professor Neville Butler had followed up over 90% of those children and shown not just the risk to life, but the whole life time of the child by damage that might be inflicted by bad handling in the antenatal period and during labour. Dame Josephine said it was very important to remember this in relation to the subject of the conference. A House of Commons Committee was looking at perinatal mortality. This was not down to an irreducible minimum but was about half what it had been in 1958. In 1970 the survey 'British Births 1970' had revealed more factors but there was still a long way to go. Dame Josephine said we must worry now about the 'near misses', those babies who twenty years ago would have died but who now survived and might be handicapped.

2. THE NATIONAL PERSPECTIVE: REACTIONS TO 'REDUCING THE RISK'

The first speaker was Mr R Mayoh, Assistant Secretary, Department of Health and Social Security.

Mr Mayoh said that the theme of prevention in health had attracted a great deal of deserved attention in recent years. Last year the Estimates Committee of the House of Commons had produced a report on prevention and health, which had shown a big contrast between NHS expenditure on 'Prevention' and 'Cure'. Mr Mayoh said it was right that more attention should be paid to prevention, but it was often overlooked that the two biggest preventive health measures in the last 150 years, pure water supply and effective drainage systems, had nothing to do with the NHS budget.

Mr Mayoh explained that prevention involved everyone. The book 'Prevention and Health, Everybody's Business' had been published by the DHSS to encourage discussion and innovation. The emphasis in the book was upon the individual who must look after his own health and that of his family.

Mr Mayoh said the logical next step was to examine preventive possibilities at the beginning of life and hence the choice of 'Reducing the Risk, Safer Pregnancy and Childbirth', for the next publication in the series. It was important that improvements made in the last twenty years in reducing perinatal mortality should be carried on until an irreducible minimum was reached. The loss of a baby was not the only misfortune that could happen; there was a great deal of avoidable handicap. This was a major tragedy for the individual and his family as well as a financial burden on the state. Mr Mayoh said that if, by improved care, a healthy baby could be born, a great deal had been achieved, more possibly than by any other single action taken to help an individual and his family. Much depended on the care given locally in the antenatal service, and in persuading individuals to take advantage of this care.

Mr Mayoh went on to speak about home confinements. He said as much as possible could be done to make home confinements as safe as they could be for those mothers who insisted on them. But the advice was that hospital confinements were safer. Mr Mayoh agreed it might seem strange that hospital confinement was advised at the same time as a reduction in the maternity budget was suggested. The reason for this was that the drop in the birth rate led to a considerable number of underused maternity beds. Keeping them available cost money and did nothing to improve the service. Mr Mayoh felt this problem had now worked itself through, and that further improvements would undoubtedly result in more demands on resources.

The second speaker was Dr Doreen Rothman, Senior Medical Officer at the Department of Health and Social Security.

Dr Rothman said that everyone at the conference was concerned that pregnancy and childbirth should be a safe and rewarding experience for mothers and their families, and that babies should be born healthy and free from handicap. This was not a simple matter for doctors, midwives, health authorities, the government or parents. It was a matter for cooperative effort.

Dr Rothman spoke of the great deal of progress in reducing maternal deaths, although a number of avoidable factors were still reported. She said perinatal mortality was a much greater problem, and much more complex to tackle because of the multiplicity of predisposing factors involved. These might go back before the time of conception, for example, the biological effects of deprivation in early childhood on the physical constitution of the mother. In adult life social factors such as poor nutrition, housing and smoking were at least as important as good medical care. These factors contributed significantly to the incidence of low birth weight and light-for-dates babies in the population which formed a major component of perinatal mortality.

Dr Rothman explained that the improvement in socio-economic and environmental factors in recent years had contributed much to the drop in perinatal mortality.

Over the past thirty years maternal mortality had fallen from 1/1000 to 1/10,000. Perinatal mortality in England and Wales was 38.5 in 1948 and 17 in 1977. Detailed analysis of the statistics revealed differences for the various social classes. In 1976 perinatal mortality was 24.9 for social class five, double the figure for social class one. This gap had persisted and widened with the growth of the number of people in social classes one and two, and the fall in the number and change of composition of social class five. There were higher perinatal mortality rates in unsupported mothers, and in non-English speaking members of ethnic minority groups. Mortality varied widely between different parts of the country. It tended to be higher in the inner city areas of urban deprivation.

Dr Rothman said this country had been criticised for its position on the international league table of perinatal mortality, but it must be remembered that data was collected in different ways, population and social systems differed and direct comparisons could be misleading. The best of our regions had figures as good as the best on the league table, and if we corrected for excess of low birth weight and small-for-dates babies in our population, our perinatal mortality was about the same as Sweden's.

Dr Rothman told the conference that a number of initiatives had been taken in recent years. The British Paediatric Association, and the Royal College of Obstetricians and Gynaecologists had set up working groups and produced a consultation document which set out suggestions for reducing perinatal mortality. Parliament had been much involved in the past year. There had been a debate in the House of Lords, and some Members of Parliament had been launching campaigns with hundreds of parliamentary questions and letters to Ministers. Mrs Renee Short and her expenditure committee had chosen the subject of perinatal mortality for deliberation this year. The DHSS had taken some initiatives. In 1974 the Free Family Planning Service came into operation. Genetic counselling and prenatal diagnostic services were being looked at remembering that congenital abnormalities were a major contribution to perinatal and infant deaths and handicaps. There were campaigns to encourage breast feeding, discourage smoking in pregnancy and protect from Rubella. There was a conference with the Child Poverty Action Group earlier in the year to investigate how the uptake of services might be improved. Research was being funded (for example the work in research unit in Oxford). Ministers had embarked on a programme of positive discrimination through inner city partnership schemes, and urban programmes to attack social and environmental problems. Approaches had been made to those areas where perinatal mortality was highest and not improving as expected. Authorities in these areas were asked what they considered to be the causes of the high rates and what measures were being taken to bring about improvements.

Dr Rothman concluded by saying that there were criticisms that 'Reducing the Risk' had nothing new to say. In a sense this was true as it was intended to remind readers of the present situation in the state of our knowledge. She felt a considerable amount could be done even without the introduction of new initiatives.

3. THE CARE OF THE MOTHER AND HER CHILD: THE CLIENT'S PERSPECTIVE

The third speaker was Mrs J Page, member of Leeds Community Health Council, Member of the Central Health Services Council and peripatetic teacher of pre-school deaf children.

Mrs Page told the conference that she was the mother of three children. She said that the interests of baby and mother usually went side by side, but suggested that at birth the two interests might be in conflict. She was concerned about the increase in home deliveries because a small proportion of babies need resuscitation at birth. However there was a need to look at the advantages of home confinement, and bring the advantages of home care into the hospital. Maureen O'Brien's study of place of confinement found that 57% of mothers having home confinements did not own a telephone. Mrs Page said that, whereas a woman had the right to have her baby where she wanted, the baby had a right to be born in a safe place, and the risk at birth was greater for the baby than the mother in most cases. 'The Place of Birth' edited by Kitzinger and Davis gave the following advantages of home delivery: the home was more familiar and more secure; the labour was generally shorter; there was less separation from the baby at the time of birth and the family were present. Also there was continuity of care from the midwife and this went on into the first weeks of the baby's life; thus conflicting advice was avoided. In hospital there was a lot of conflicting advice. Mrs Page felt this was not just irritating but very worrying for the mother-to-be.

Another advantage of home confinement was the free regime. The mother was not bound by regulations and restrictions such as when to feed the baby.

Mrs Page gave support to the role of the midwife, and said 'we reduce the status and importance of the midwife at our peril'. The countries which relied on midwives to conduct normal labours namely Norway, Sweden, Denmark, Finland and Holland, had the lowest perinatal mortality rates. Mrs Page felt that the trend to have obstetricians present at all labours was illogical. In the book 'Benefits and Hazards of New Obstetrics' by Chalmers and Richards, it was stated that there were 'dangers in assuming a causal relationship between obstetricians' and gynaecologists' activity and falling mortality rates'.

Obstetricians might look at consultant colleagues in other fields and see the introduction of increasingly complex techniques. But hopefully, Mrs Page said, the obstetricians ideal should be a mother, a midwife and a room. With the push towards increasing complexity and intervention it must be remembered that women were not ill when having babies.

Mrs Page went on to discuss the provision of antenatal care. Here it was the latecomers and defaulters who were most likely to be at risk. Careful thought must be given to where the clinics were held, travelling times for patients and waiting times. In Hilary Graham's article 'Problems in Antenatal Care', it was stated that women were very concerned at the distances they had to travel to receive care, and the expense which travelling involved. Another important aspect was fear. Some women were terrified of attending hospital clinics. Also, although people wanted to know their progress, Hilary Graham found that 80% of women learned nothing at clinic visits.

Mrs Page spoke of the campaign in France, undertaken to increase uptake of ante natal care and to reduce handicap. It was found that public awareness of the need for ante natal care was one of the most important factors in getting people to receive it.

Finally regarding ante natal care, Mrs Page asked why there was not continuity when examining the patient. It could happen that at one visit the taking of blood, blood pressure recording, urine testing and palpation were carried out by different people. Mrs Page felt that if one person looked after the woman throughout her visit this would make an enormous difference to her attitude. Ante natal care must be looked at radically to increase attendance, and pick up those who were at risk.

Speaking of labour, Mrs Page said 'let the woman do it, let the midwife use her judgement, let's get away from too much regimentation'. It was, after all, a physiological process. She also felt that the apparent trend towards universal episiotomy should be halted.

Women should be encouraged to walk about during the first stage of labour as this was natural. A study in Birmingham had shown that those women who were up during the first stage of labour had shorter labours, needed less analgesia and had better foetal heart rates. The husband should be present at the birth if he wanted to be, and it must be remembered that the woman's attitude and state of mind were very important in labour.

Mrs Page said that much work had been done on bonding. People were beginning to realise how significant the first moments after birth were, both for the 'normal' mother and for those who might abuse their children. The mother must be allowed to hold her baby immediately after the birth. One study had found that greater contact at this stage meant greater involvement almost throughout childhood. If the baby was taken away the mother might feel she had failed, and this could start the very serious process of rejection, especially if the child was handicapped. Staff must get the mother helping as much as possible with a handicapped child. To avoid separation premature babies could go home if good community care was available. In Manchester there has been a community premature baby service for twenty-five years.

In Sheffield work had been done on reducing cot deaths. 'At risk' babies had been given special attention, and the cot death rate from 1968-1972 had been reduced from 8.2 to 5.3. Mrs Page asked why this work had not been widely copied.

Mrs Page said that she would also like to see the midwife visiting for longer and overlapping with the health visitor. She felt the midwife had a very special knowledge.

Mrs Page concluded by asking for changes in attitudes. To change attitudes, she said, the detailed organisation of care must be constantly and critically reappraised.

4. PRIMARY CARE BEFORE AND DURING PREGNANCY

The next speaker was Dr M Bull, a General Practitioner from Oxford.

Dr Bull said that in his Area, the general practitioner, obstetricians and community midwives were offered the full facilities of the District obstetric hospital, including the use of ancillary services available to consultants in the hospital.

Dr Bull referred to some obstetric statistics. He said that the domiciliary confinement rate and perinatal mortality rate had been falling. Until 1965 a causal relationship might have been assumed between the two. However, from 1965 onwards, although the domiciliary confinement rate went down by 2%, the perinatal mortality rate had unfortunately not fallen so quickly. In March 1978 a paper in the British Medical Journal showed that the safest place to have a baby was in a NHS bed in a Consultant Unit. Dr Bull felt it was regrettable that this conclusion was reached on figures which were twenty years old.

The next statistic was a recent one from the DHSS comparing the perinatal mortality rates of Richmond and Rochdale. Richmond's figure was 10.2 and Rochdale's 26.6. Dr Bull thought the figures were not suprising. In Rochdale, he said, 35% of primigravida were under twenty years old; 41% of all maternity cases were under 160 cm tall (approximately 5 feet) and 8.7% were single, a reasonably low figure. Dr Bull thought that much the most important factor was that most of the mothers were in lower socio-economic groups.

Some people have put forward the idea, based on obstetric statistics, that home confinement, in many cases, is as safe, or perhaps safer, than hospital confinement. Dr Bull felt that no single system in isolation was likely to achieve major benefits. He said that the point had been reached, with regard to perinatal mortality, where the law of diminishing relatives operated strongly, and it was the team approach that would ultimately prove most effective.

Dr Bull next showed a slide of the Primary and Specialist Teams who provided obstetric care. (Appendix A- attached). He said that the general practitioner obstetrician should be trained properly. Medical schools gave far too little training for this. A minimum of six months in a hospital obstetric appointment was vital. This applied not only where the general practitioner was part of shared ante natal care but should be mandatory if he did any obstetric work at all. Dr Bull thought that the Department of Health should alter their criteria for entry to the obstetric list.

Dr Bull said that the Community Midwife was the key member of the obstetric team with whom the patient had a close relationship. He even felt the point was approaching where there might be a case for social inductions so that the patient might have the midwife she knew to deliver her. He appreciated that this was a highly contentious question. He emphasised that, as far as the mother was concerned, there was no doubt it was the midwife who was the most important person giving care.

Dr Bull felt that the health visitor had an important role before, during and after pregnancy and was the 'eyes and ears' of the practice. Not every practice was fortunate enough to have a family planning nurse, and few practices had designated social workers. Dr Bull would like to see a social worker in every general practitioner's team.

Dr Bull said an organisation, 'Foresight', had recently been formed, concerned with pre-conceptual care. The organisation was new but the idea was not. His next slide showed some of the areas important in pre conceptual care (Appendix B - attached). He elaborated on some of the aspects involved. Concerning nutrition, there were the worries of the modern diet with high carbohydrate intake, convenience foods and added risks of obesity and alcohol ingestion. He felt that housing was the least controversial issue and had shown marked improvement.

Environmental pollution included smoking where an actual relationship had been shown between smoking and the birth weights of babies. Lead pollution was worrying. Workers in Birmingham and Reading had shown that perinatal deaths and central nervous system defects might be proportional to the bone lead concentrations in the mothers and infants concerned. There was concern about atmospheric lead concentration but generally this was still only one fifth of the actual ingestions of lead in the diet.

Enlarging on genetic factors, Dr Bull said that the incidence of congenital defects was one of the few hazards which was rising rather than falling. He felt at this stage it seemed all that could be done was to increase genetic counselling and screening. Many hundreds of defects could be detected by amniocentesis but caution must be exercised here to weigh the benefits of such screening against the risks. There was no effective ante natal screening method yet for phenylketonuria or fibrocystic disease.

Talking of metabolic disorders Dr Bull said that special care must be taken of diabetics and thyrotoxics. Infectious diseases included of course Rubella, and Dr Bull felt the Community Team could play an important role here before and during pregnancy.

Concerning drugs it had been shown in Birmingham recently that the infants of women anaesthetists had a 10% greater than average risk of congenital deformity compared with the general population. There was also worry over the effects of cannabis and LSD.

Dr Bull made the point regarding conception control that the high incidence of teenage pregnancy must be affecting the perinatal mortality rates.

Dr Bull's next slide (Appendix C) showed the providers of primary care before pregnancy. He elaborated on the Rubella problem. He said that the ideal time for ascertaining the patient's immunity status to Rubella was in the Family Planning Clinic. Inoculation could be given if necessary while the patient was still using contraception. Inoculation at school did not mean an effective immunity level ten years later. The immunity level was rising with the use of live vaccine but initially in those first vaccinated the failure rate was 10-15% of cases.

The next slide (Appendix D) showed the basic care decisions for pregnancy. Dr Bull said initial decisions could be made largely in the community. There were very few women who needed full specialist care during the ante natal period except, for example, diabetics, renal failure, severe hypertension and multiple pregnancies. Dr Bull felt that the home assessment by the midwife was very important. Many issues could be discussed on this occasion in the patient's own home, such as care of other children, length of stay in hospital, infant feeding and parentcraft classes. In Dr Bull's areas patients attending parentcraft classes were shown pictures of deliveries with 'their' community midwife in attendance. Fathers were very welcome to be involved at all stages of labour.

Future contraception should be discussed at an early stage of pregnancy, especially if the pregnancy was unexpected.

'Hazards to Foetal Life in Pregnancy' was the next slide (Appendix E). Dr Bull elaborated on Rhesus immunisation which had to be tackled in the 15% of Rhesus negative mothers. The Community Care Team in his area could consult a chart to see if action must be taken (Appendix F).

When considering genetic defects and neural tube defects the question of alfa feto protein screening and amniocentesis arose. (Appendix G).

A further chart (Appendix H) showed 'Screening for Rubella Immunity Status in Pregnancy' and the necessary action to be taken.

Dr Bull's final slide showed the perinatal mortality figures in his area for those patients originally booked for GP, i.e. Community Care. Apart from the bad year 1976, there had been a steady downward trend, and Dr Bull hoped that this showed that progressive improvement was being achieved.

5. THE ROLE OF THE MIDWIFE AND HEALTH VISITOR

The final speaker of the morning was Miss I Waterhouse, Divisional Nursing Officer (Midwifery), Royal Berkshire Hospital, Reading.

Miss Waterhouse believed that prevention was better than cure, and that prevention should be practised before life was conceived. Preparation for parenthood should start in the schoolroom. Ante natal care had a very important role in preventive medicine. It must be realised that the 'customer' would only attend clinics if these were convenient, without too much travel or too much waiting. Acceptance of these facts in her division had greatly strengthened the concept of shared care. Duration of stay following delivery was flexible from six hours to eight days. Care for one mother might take place in all parts of the service. For example, 60% of patients delivered in the Consultant Unit were transferred within forty eight hours of delivery. All midwives were part of the total Division relating to the current practices of the obstetricians, and participated in making realistic policies for the care of their patients. Midwives and health visitors worked closely with physiotherapists to provide classes at strategic points in the District. Subjects such as bonding appeared to need increasingly to be discussed whether raised by the participants themselves or the professional workers.

Miss Waterhouse said that besides the formal planned care in clinics, midwives visited the homes. All patients received a home visit early in pregnancy and at least one further visit at about thirty-six weeks. Home visits were also made at the request of consultants to patients with raised blood pressures thus saving many admissions, and much travelling by patients.

One big problem was getting early ante natal care to those patients most at risk. Where early education had failed care of their own health was poor. Those who neglected themselves and such issues as contraception would be equally reluctant to accept ante natal care although their need was the greatest. This group had a higher risk of perinatal mortality and many obstetric problems. Midwives played a part in preventive care, for example by ensuring that blood tests were carried out. Miss Waterhouse said that in her division blood was taken to test for alfafeto proteins in a drive to diagnose neural defects. Following this and ultrasound and/or amniocentesis if adverse results were found, the midwife could help the mother who had an abortion. She could also support the mother who refused termination and went through pregnancy knowing she carried an abnormal foetus.

Miss Waterhouse explained that Consultants were now travelling to remote units to give care. This enabled community staff to keep up to date with current trends, and they could share their concern about patients who would not accept the care of a Consultant Unit.

The place of delivery remained the choice of the client, but with almost united advice now in favour of hospital, few demanded to have their babies at home. Miss Waterhouse felt that midwives had an important role here as their advice was often the most acceptable. She also felt it was possibly flexible attitudes to care which had reduced the home confinement rate to less than 0.5% with the advantages of maximum safety combined with the personalised service of community care. Procedures were common throughout the division and easy transfer in case of emergency was available. Obstetric and Paediatric Flying Squads were available. The care of the patient in labour was carried out by the midwife wherever the delivery took place. Occasionally a home confinement had to be conducted without medical cover in areas where there was no general practitioner contracted to carry out maternity care. Then the midwife had to rely for support on her Supervisor of Midwives, and, in an emergency, on the Flying Squad.

Miss Waterhouse said that in the post natal period, the midwife's role in prevention continued. She taught the mother how to care for her baby, and helped to establish breast feeding. She also helped with any emotional problems. Post natal care continued for at least ten days. Patients were not discharged from the care of the Midwifery Division until the local midwife was quite satisfied about the condition of mother and baby. The midwife could visit without question for twenty-eight days. Miss Waterhouse then explained the Dial-a-Midwife scheme in her division. This had been initiated to provide a safety valve for mothers. This scheme provided a telephone service based on a G P maternity unit and manned for twenty-four hours. The midwife would make visits if necessary. Although this service had been designed to complement the maternity service it was used by mothers with babies of all ages. During the normal working day problems with older babies were referred direct to the health visitors. At night the midwife would give reassurance and refer to the health visitors later. Both services agreed this was not ideal, but if traditional parameters were adhered to some very vulnerable patients would be left without help.

The concern to foster breast feeding and prevent milk allergy had led to the setting up of a human milk bank. Milk was collected from mothers in the community with the help of voluntary organisations. It was hoped to collect enough milk eventually so that no breast fed baby need ever be given cow's milk.

Miss Waterhouse went on to say there was great concern over giving support to patients with babies in the Special Care Baby Unit. When nursing care only was required babies could be sent to local GP units so that mothers could visit more easily. When the baby was discharged home the local midwife visited even if he was technically over twenty - eight days old. There was flexibility between midwives and health visitors to enable the team member most suited to the care of the patient to visit the home. Preventive care was also carried out postnatally by taking samples for the Guthrie test. Also there was a joint project currently being carried out by midwives, health visitors, and hospital and community Social Services departments. In this project attempts were made to identify, at an early stage, those patients most likely to abuse their children, and then give extra support. This was based on work done on non-accidental injury in Sheffield.

Miss Waterhouse concluded by saying it was easy to blame lack of resources, and not tax ingenuity to find what next to tackle in trying to reduce perinatal mortality. She said it was fashionable for midwives to bemoan their loss of status, and resist the changes envisaged in the current Nurses', Midwives and Health Visitors Bill. She suggested that instead midwives should look at their leading and unique role in reducing the risk, ensuring safer pregnancy and childbirth and in fighting to maintain and improve their preventive service.

6. SAFER MANAGEMENT OF PREGNANCY AND DELIVERY

The first speaker during the afternoon was Professor A C Turnbull, Professor of Obstetrics and Gynaecology at Oxford University.

Professor Turnbull said most women would do very well on their own in pregnancy and delivery, and in these normal cases the attendants did very little. However, it was essential to detect and anticipate problems which could go wrong and prevent these, or treat effectively. Professor Turnbull felt that it was very difficult for obstetricians and midwives to find out what patients thought of their care, although this was becoming somewhat easier as women were now more articulate. The findings were sometimes suprising.

Professor Turnbull's first slide showed Maternal Mortality 1928-1975 in England, Wales and Scotland ('Reducing the Risk' page 10). From this the big improvements could be seen when blood transfusions and antibiotics were brought into use. From then there was a steady reduction in mortality. It must be remembered that often the women who died were at serious risk before the pregnancy because of pre-exisiting illness.

The next slide ('Reducing the Risk' page 11) was Perinatal Mortality 1931-1976 in England, Wales and Scotland and Northern Ireland. He said it was interesting to note that perinatal mortality had fallen more in the last year or two than at almost any time since the beginning of the war. It was a truism to say that perinatal mortality was a measurement of two major factors: Firstly the health of the women having babies, and secondly, the quality and effectiveness of the care they received. It was very difficult to tell what affected these trends. Attendants might attribute any rapid fall in perinatal mortality to their own improved care, but it must be remembered that there were more planned pregnancies over the last ten years than previously. So there were fewer older primigravida, and a lessening in the number of very young primigravida. The size and better spacing of families, and improvements in health generally had helped the work of obstetricians and midwives. They no longer had to cope with the severe poor health which was once such a feature of this country.

The next slide ('Reducing the Risk' page 13) showed Infant Mortality in selected countries 1950-1975. On studying this chart it must be borne in mind that Finland especially, and Japan to some extent, had very few neural tube defects. Also Scandinavian countries were relatively wealthy countries with small populations.

A very significant slide ('Reducing the Risk' page 37) was then shown of live births, stillbirths and neonatal deaths in England and Wales 1975. Perinatal mortality was made up of two major groups. The first group represented the huge majority of births where the baby weighed over 2500g, and here the death rate was very low. The second group contained about 6½% of births where the babies weighed less than 2500g. These babies were at very great risk and there was a colossal perinatal mortality rate in this group - about 9% stillbirths and 9% first month deaths.

Professor Turnbull said that it was difficult to depict visually the very small number of babies who would die in the mature group. Most deaths there were due to difficult delivery, breech delivery, a long labour occasionally, and intrauterine death. The typical case here was a first baby in a 'better-to-do' family in a rural area, whereas the 'British-type death' of a low birth weight baby tended to be in a deprived family in a city area.

Professor Turnbull said he was generalising but felt it true that the premature baby, small-for-dates baby, and abnormal baby were often a measurement of poor living conditions. The British pre-term birth rate was 6½%, Holland 5% and Sweden 4%. Most Swedish women produced normal term babies, British Women lost babies because they produced more small and/or abnormal babies, and the reason for this was not yet known. If the perinatal mortality figures were corrected for baby weight then the British results were very good. Figures across the country were different. There were good results in Oxford, East Anglia, the South West and Wessex. The figures in the North and Northern Ireland were not so good. ('Reducing the Risk' page 14).

The high rate areas might be trying to cope with environmental problems which were not so amenable to better care as the late pregnancy problems. So even with good care it was difficult to improve results in the premature baby, small-for-dates baby, deformed baby situation. It was easier to improve results when good care was given to the woman from a better background with the long labour, difficult birth problem. This must be realised before there was too much generalisation about perinatal mortality.

Professor Turnbull felt that Beard was one of the pioneers in realising the importance of improving perinatal mortality and seeing (in the late 1940's and early 1950's) that most avoidable baby deaths were due to difficult breech or forceps deliveries, long labours and prolonged pregnancies. In the early 1950's Beard avoided prolonged pregnancies in women over 35 years old by offering induction of labour 7-10 days after term. He deliberately avoided traumatic births by doing Caesarian Sections instead of forceps deliveries. The results were marked. Professor Turnbull said the hallmark of modern obstetrics was still the avoidance as far as possible of unnecessarily difficult births, difficult breech deliveries, and prolonged labour. Few women now had a labour of more than twelve hours.

Professor Turnbull felt that monitoring was a mixed blessing. If it was used in low risk women, and if there were no facilities for making biochemical measurements of the baby as well, it might just lead to an increase in the Caesarian Section rate without improved results. Obstetricians were now conscious of this as the result of a few controlled trials in America, Australia and Britain. But monitoring did have an important role. One positive result from foetal monitoring was the possibility that it reduced significant brain damage in some labours. Four studies have been made comparing intermittent listening to the foetal heart, with continuous electronic monitoring alone, with the third comparison of continuous foetal monitoring plus biochemical assessment. Only in this latter group were there no neonatal convulsions in cases of high risk pregnancy and labour. Professor Turnbull felt there was still a need for improved monitoring techniques. He said that there was a place for technological advances like controlled monitoring in high risk situations.

There must be understanding of the woman's emotional needs, and her expectations about delivery must be discovered during pregnancy. Did she want a totally natural delivery, or did she want to be induced and have an epidural? It was important that the woman and her husband were involved in the decisions made throughout the pregnancy and delivery. Breast feeding should be encouraged very soon after birth.

There was the need to be aware of the particular concern of the parents who had a stillbirth, abnormal baby or baby who had died neonatally.

On the subject of home confinement Professor Turnbull said that although excellent results could be obtained it must be remembered that things could suddenly go wrong. Home confinement bookings should be given very careful consideration. He had found that many people wanted home delivery on an emotional basis.

Today, perinatal problems were foetal deformity, preterm birth, foetal growth retardation and problems associated with diabetes and Rubella in the mother. These were difficult areas to reach. In work which had been done involving alfafeto protein screening, eleven out of eleven anencephalics, and eleven out of thirteen spina bifidas had been isolated and the mothers offered termination. Three apparently perfectly normal babies had been terminated and one lady out of the ten thousand investigated was severely offended. Two others had been somewhat offended but would like the test done again in future pregnancies. It seemed that alfafeto protein testing also gave the possibility of picking up 'at risk' cases. Ninety four babies who did not have neural tubes defects but had high fetoprotein results also had poor peri natal results, there were three neonatal deaths and one stillbirth associated with prematurity. There was controversy also whether to tell people they were undergoing alfofeto protein screening.

Professor Turnbull said that preterm delivery was the big problem in perinatal deaths. Approximately 50% of patients delivering before term did not book until well beyond twenty weeks. Many treatments had been attempted but the incidence of preterm births had not been affected. At present the best the obstretrician could do was to produce for the paediatrician premature babies who were undamaged and well oxygenated. It was necessary to make sure that women bonded to premature babies. Care was important because, although there had been no change in the incidence of pre term births, results were improved by technological and human effort.

In conclusion Professor Turnbull said it was important for obstetricians to understand the patient's needs and desires and provided these as part of the care. For too long people had been pushed around in clinics. A smaller number of more intensive visits might be more useful, and this was in the process of being planned. People must be kept informed. It would also help if people could be convinced by better information that obstetricians were acting in good faith, and that it was possible to feel normal in pregnancy but have a potentially disasterous condition for mother and baby.

Better communication, better planned care and better surroundings were needed. So it was a pity, Professor Turnbull said, that cuts had been made in the maternity services, although he fully appreciated the circumstances in which these were carried out.

7. THE SOCIAL CONTEXT

The second speaker of the afternoon was Dr D Henley, Area Medical Officer, Gateshead Area Health Authority.

Dr Henley said that Gateshead (population 220,000) had the classic problems of urban deprivation. In 1977 there were just under 2,400 births and the birth rate at 11.3 was below the national rate. This had been achieved fairly consistently over the last six to seven years, and was a credit to the Family Planning Services. The overall mortality ratio for the Area was high, and the perinatal mortality rate was even worse compared with the national rate. In 1977 there were 56 perinatal deaths, and the rate was 23.3 which was about 40% above the national rate. This was a particularly bad year, the figure was usually about 25% above the national level. According to virtually any measures of medical or socio economic wellbeing Gateshead was at the wrong end of the league table; for example, children in care - high, children receiving sixth form education - low, proportion of educationally subnormal children - high, unemployment - high, convictions for drunkenness and violence - high, new claims for sickness benefit - high, owner occupied houses - low. Dr Henley said that the socio economic structure of the population was bottom heavy. He thought that the severe depression between the wars had led to the selective migration of the more mobile, more able, and more ambitious people. So a concentration of 'difficult' families had been left behind. Now there was selective migration out to the new housing estates so the centre was left with an even greater proportion of problems.

Newcastle had similar problems although they were slightly less marked. The combination of problems in the two city centres had led to Newcastle and Gateshead being set up as one of the six inner city partnership areas as part of the Government's attack on urban deprivation. The Government had allocated £7 million per year for the next three years to Newcastle and Gateshead. The Maternity Service in Gateshead had done well out of this allocation and was getting the better part of £400,000 extra money spent on it in 1979 either directly or indirectly. This money was from the Department of Environment, not the Department of Health. The money would be used mainly to build an extension to the better of two maternity units in general hospitals and close down the second one. Other plans for the first year's money were the expansion of the health visitor training

programme, additional community medical and nursing staff, health education work in the ante natal field and extra equipment for the Special Care Baby Unit. Dr Henley said they were now trying to analyse what their problems were and were formulating ideas for subsequent years in the programme.

It had been discovered quickly that looking at perinatal mortality and infant mortality figures in isolation would not give a realistic measure of achievement because of the many chance variations. Perinatal mortality was a long term problem. Dr Henley said that Professor Turnbull had already identified the main problem area - low birth weight. The proportion of babies under 2000g in Gateshead was 25% above the national average. It was accepted that excess smoking played a part in this figure, but there was a further interesting factor. It had been found that the mortality ratio of chronic respiratory disease in women of forty five years old and over was about 40% above the national average. So, Dr Henley asked, was it possible there was a body of women of childbearing age with sub-clinical degrees of respiratory impairment, which affected their child bearing capacity and ability to produce full weight babies? Perhaps respiratory function tests should be carried out.

In the health education field a preliminary approach had been made to the Health Education Council to see if they would help in a local programme in health education in ante natal care, and especially how to reach the lower socio economic groups.

Dr Henley said that primary care had been looked at, and this was very different to what Dr Bull had described in Oxford. Three established partnerships had been found in Gateshead which had high concentrations of 'risk' families, and ways were being explored to help them, such as giving extra health visitor support if health visitors were available. Perhaps the doctors in these practices should be encouraged to take a special interest in maternal and child health. Perhaps such practices should have a 'hot line' to maternity and paediatric departments. Obstetricians were looking at ante natal prediction scores. By drawing up local predicition scores and testing retrospectively against the last few years perinatal deaths, it might be possible to concentrate special care in needy areas.

Finally, said Dr Henley, they were looking in detail at the way in which the present service was delivered. Were the waiting times for ante natal appointments really as stated? Was it easy for general practitioners to get 'risk' cases round the system to be referred quickly? Were 'defaulters' followed up properly? Were ante natal clinics in the right place, at the right time and were they welcoming for patients? What were the attitudes of staff to the more difficult patients? Dr Henley felt that there might be a few staff who were not enthusiatic about pursuing ante natal care in deprived groups, and who worked on the principle that the service was there for those who wanted it. Obviously these attitudes must be changed.

8. CARE OF THE BABY AND YOUNG CHILD

The final speaker was Dr D Harvey, Consultant Paediatrician at Queen Charlotte's Hospital, London.

Dr Harvey first showed a slide of a spastic child born in the week of the perinatal mortality survey in 1958. Here was an example of an obstetric disaster. The mother had been forty three weeks pregnant at confinement, and the child had severe birth asphyxia. It was not only perinatal mortality that must be prevented, but also the birth of handicapped children.

The next slide was from studies following the 1958 survey and showed perinatal deaths and weeks gestation. It was safer for a baby to be born at term not only to avoid perinatal death, but also to avoid handicap.

Dr Harvey spoke of the importance of where the baby was born. He was keen on some home deliveries, but said it was essential that babies born early were born in hospitals with intensive care units. A major change in the last few years was that more women were transferred to hospital in premature labour. The baby must be born in a safe place.

The next slide showed 'Congenital malformations in England and Wales 1975' ('Reducing the Risk' page 42). Dr Harvey emphasised the importance of examining neonates for congenital dislocation of the hip, and said a lot were missed. It was still not certain whether all could be picked up in the neonatal period, and the baby must be checked at regular intervals.

Every baby in the neonatal period must have a thorough examination. Cleft palate was one abnormality which was often missed. Babies needed two examinations for cleft palate - the palate must be looked at and also felt.

Dr Harvey then spoke of the five basic needs of the neonate - warmth, food, oxygen and air, freedom from infection and, the most important of all, love. Regarding infection he said there was one main point to remember - the washing of hands. Warmth was vital. It had been shown that if a baby was cold on admission to a Special Care Baby Unit it was more likely to die, and more likely to have problems including hyaline membrane disease and hypoglycaemia. It might be necessary to have the incubator very hot to keep the baby warm. A baby weighing 1kg at birth had to be kept very hot(above 35 ^{o}C) in an incubator. The British Standard had just been changed because the British incubators could not keep the babies warm enough. There must also be heating above resuscitation trolleys.

When giving oxygen it was important to treat it as a drug and give the correct amount. This was especially important when the baby was being ventilated. One innovation that had made a great difference here was the ability now to measure oxygen continuously in babies, either trans-cutaneously or by an intra-arterial device. Dr Harvey emphasised that good nursing often meant 'hands off the baby' and being very gentle. He felt that staff should try to imagine what it was like in an incubator surrounded by bright lights and noise, with various tubes inserted.

Dr Harvey mentioned two factors which Professor Avery felt could indicate the standard of obstetric care in any given hospital. Firstly, the incidence of hyaline membrane disease: if inductions were performed at the wrong time there would be too many babies with this. Secondly, the meconium aspiration syndrome, which often led to preuniothorax was a good index of whether babies were being looked after properly in labour; and also of whether the baby was being delivered early enough and being cared for correctly at birth.

Dr Harvey then spoke about food for babies and explained some work Pamela Davis had done in this field. Babies born at the Hammersmith Hospital between 1961 and 1964 had been compared with babies born there between 1965 and 1968. The head circumferance percentiles had been observed for both small-for-dates and normal weight babies. In the 1961-1964 period too many babies (both small-for-dates and normal weight) had small heads at follow up. But in the 1965-1968 period the normal weight babies had normal size heads. This was a very interesting result because the only difference found between the two periods was that, in the second period, the babies were kept warmer, and they were given more food in the first few days of life. This latter point was very significant as it had led to better growth of the head, and also coincided with a reduction in spastic diaplegia, the characteristic cerebral palsy of small babies. Dr Harvey felt that, maybe in the early 1960's, during the first part of the survey, staff at the Hammersmith Hospital were giving the babies too little food. Thus the risk of handicap was increased by something that was done after birth. Normal babies were becoming small-for-dates babies because they were fed too little. Pamela Davis' feeding routine for small babies was to give them 60ml/kg/day on the first day increasing to 150ml/kg/day by the fourth day, to prevent handicap. Dr Harvey mentioned some observations on babies who had been hypoglycaemic on admission to a Special Care Nursery in Denver, Colorado. These babies had been mainly small-for-dates babies, and particularly babies who were born early. The situation had been dealt with by keeping the babies warm, feeding them early with full strength milk, and keeping a check on their hypoglycaemic levels.

The most important factor in feeding the full term or pre term baby was that he should be properly breast fed. Dr Harvey stressed that staff in maternity hospitals should promote breast feeding, but they must be sure of the advice they give. A lot of confusion arose because staff did not know why they were giving certain advice, or did not consider carefully what advice should be given. For example, staff should know why babies were better when fed on demand, and Dr Harvey hoped that today all babies were being fed on demand.

Dr Harvey spoke of a very interesting breast feeding study which had been carried out in Sweden. In the hospital where the study took place every breast fed baby was test weighed, which took up a large number of nurse hours. After much persuasion the staff agreed not to test weigh one group. It was found that the group not test weighed had a greater success rate of breast feeding.

Another breast feeding study was carried out at Queen Charlotte's Hospital London to investigate what the outcome would be if babies were allowed to suckle freely at the breast instead of having timed feeds. Dr Harvey said the regime in many hospitals of three minutes feeds the first day, five minutes the second and so on had always seemed odd to him. In the study at Queen Charlotte's it was found that if the mothers were left to feed their babies as they wished to the success rate of breast feeding was better. There was also no increase in the incidence of sore nipples which many people said would happen with unrestricted feeding. This sort of research should be done in every hospital. Staff should always be analysing their practices.

Dr Harvey said that careful follow up of breast-fed babies was essential, as it was possible for them to starve. Starvation could be detected by weighing the babies at intervals.

Dr Harvey mentioned jaundice and phototherapy treatment, and said it must be remembered that when a baby had his eyes covered and was surrounded by equipment it might be difficult for the mother to form a normal relationship with him. It was important to make sure that mothers came to Special Care Baby Units to visit their babies, and also that siblings were allowed to visit.

Dr Harvey said that babies were much more sensible than was once thought. Ten minutes after delivery a baby was much more likely to look at a face than other objects, and this was one good reason for giving up face masks. If Pethidine was used in labour this cut down the baby's response of looking at a face shortly after delivery. Studies had shown that if the mother had one dose of Pethidine in labour, this might take five days to be eliminated from the baby's blood.

Another indication of the sense of babies was that at four days a baby was much more likely to turn to his mother's breast pad, than that of another woman.

Dr Harvey finished his talk by explaining some important work that had been carried out in Sweden. A group of babies of primiparous women were put on their mother's stomachs for ten minutes in the fifteen minutes following delivery, and had a breast feed on the labour ward. A control group of babies of primiparous women did not have this extra contact. When the babies were three months old they were studied by psychologists who did not know which group they were in, and they were observed at home. During an observation period those babies who had extra contact were much less likely to cry, and much more likely to laugh; in this group the mother looked at her baby differently (at the correct distance, about ten inches away from the baby's face), and she was much more likely to kiss the baby and less likely to clean him. Dr Harvey said this study showed that staff could do quite small things in maternity hospitals with long lasting consequences, and this was a great responsibility.

In the question time which followed his talk Dr Harvey spoke of another important breast feeding study carried out at Queen Charlotte's Hospital. It was found that if breast feeding occurred in the first hour after delivery 80% of those women were breast feeding successfully at six days. If the baby had his first breast feed one to four hours after delivery this figure fell to 60%, a highly significant difference.

Diane Sayle,
King's Fund Centre,
March 1979

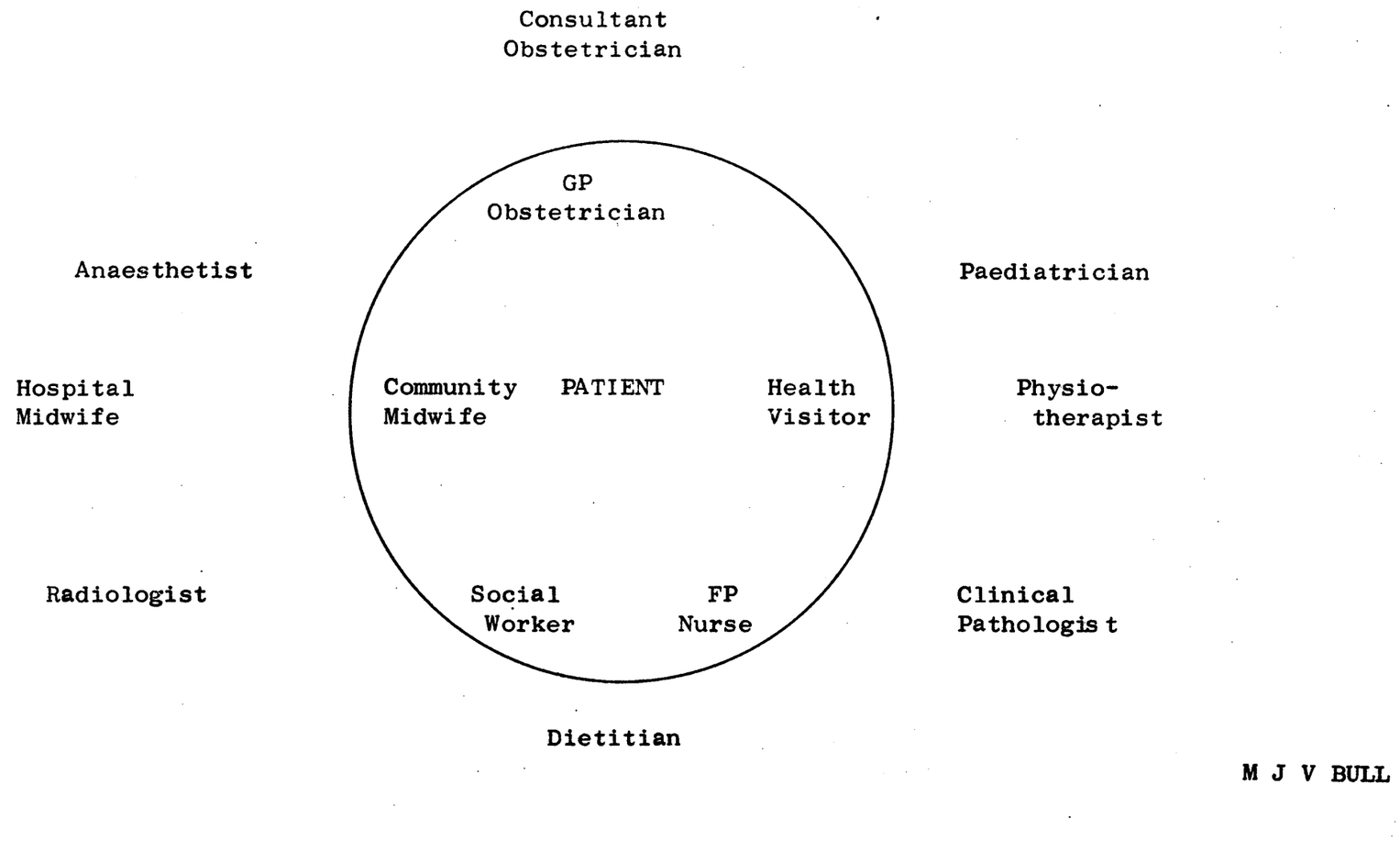
Requests for further information about this conference or suggestions for further related activies should be directed to:

David Hands,
Assistant Director,
King's Fund Centre,
126 Albert Street,
London NW1 7NF

Telephone : 01 267 6111

CARE PROVIDERS IN OBSTETRICS

The Primary and Specialist Teams



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APPENDIX B

PRE-CONCEPTUAL HAZARDS TO FOETAL LIFE

Nutrition

Housing

Environmental pollution

Genetic factors

Metabolic disorders

Infectious diseases

Drugs

Conception Control

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APPENDIX C

PRIMARY CARE BEFORE PREGNANCY

Problem	Provider			
	GP	Health Visitor	FP Nurse	Other
Nutrition		x		Dietitian
Housing		x		Social Services
Contraception	x		x	
Immunisation	x		x	
Genetic counselling	x			Consultant
Hygeine		x	x	

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BASIC CARE DECISIONS FOR PREGNANCY

Decision	Agent			
	GP	Health Visitor	Midwife	Specialist
Pregnancy diagnosis	x			
Assessment of gestation	x			
Home assessment			x	
Place of intended delivery	x		x	(x)
Routine antenatal care	x		x	(x)
Discharge arrangements		x	x	(x)
Infant feeding plans		x	x	
Parentcraft classes	x	x	x	
Future contraception	x			

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APPENDIX E

HAZARDS TO FOETAL LIFE IN PREGNANCY

Anaemia and Haemaglobinopathies

Rhesus iso-immunisation

Infectious diseases

Genetic defects

Neural tube defects

Metabolic disorders

Pre-eclamptic toxaemia

Placental insufficiency

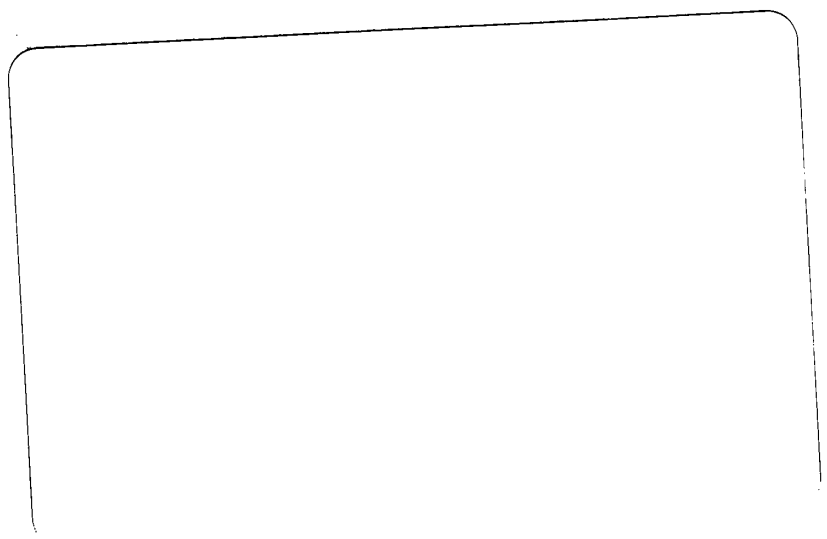
Premature labour

Multiple pregnancy

Malpresentation

Cephalo-pelvic disproportion

Intra-partum asphyxia



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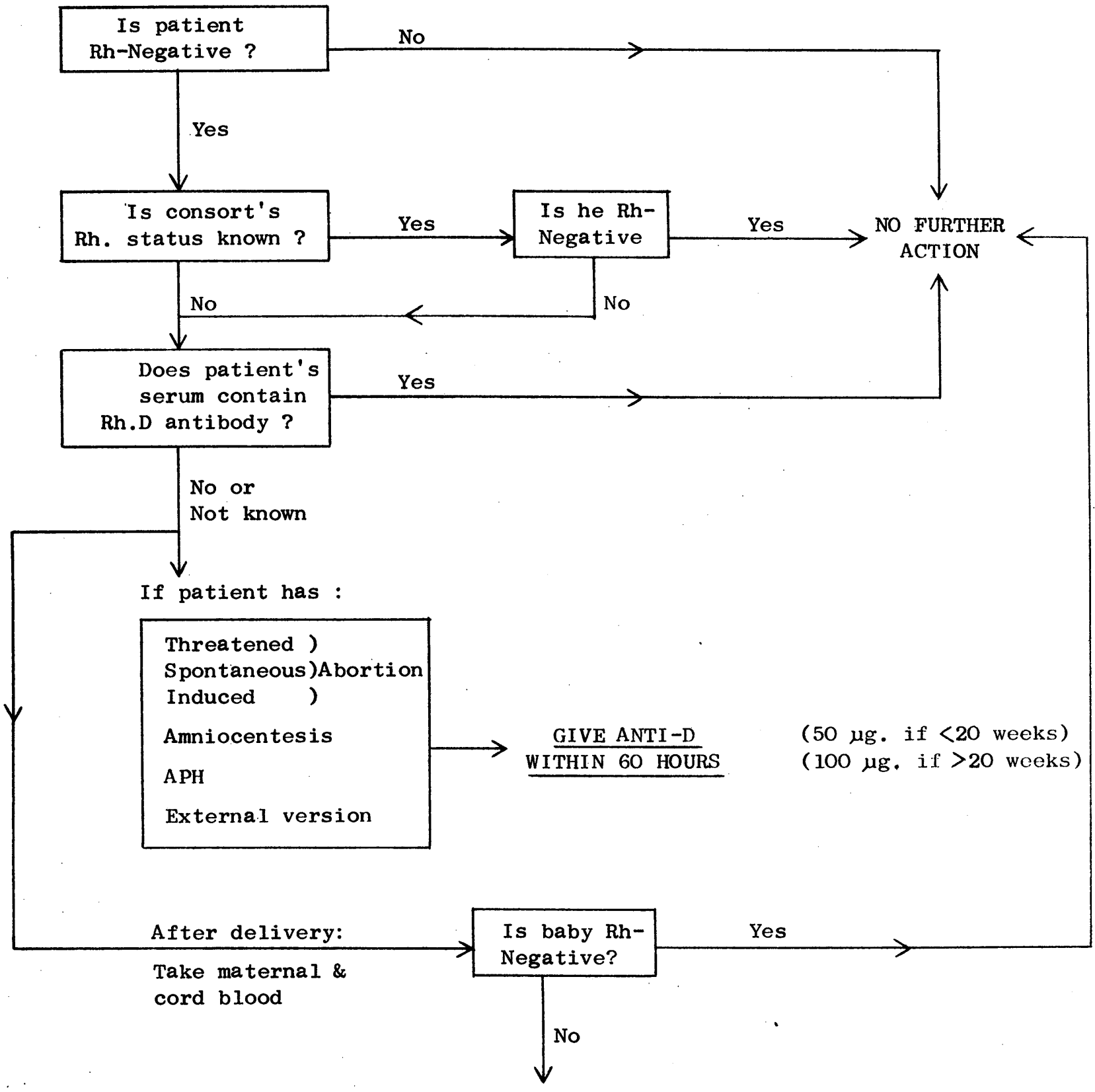
APPENDIX F

PREVENTION OF RHESUS IMMUNISATION IN PREGNANCY



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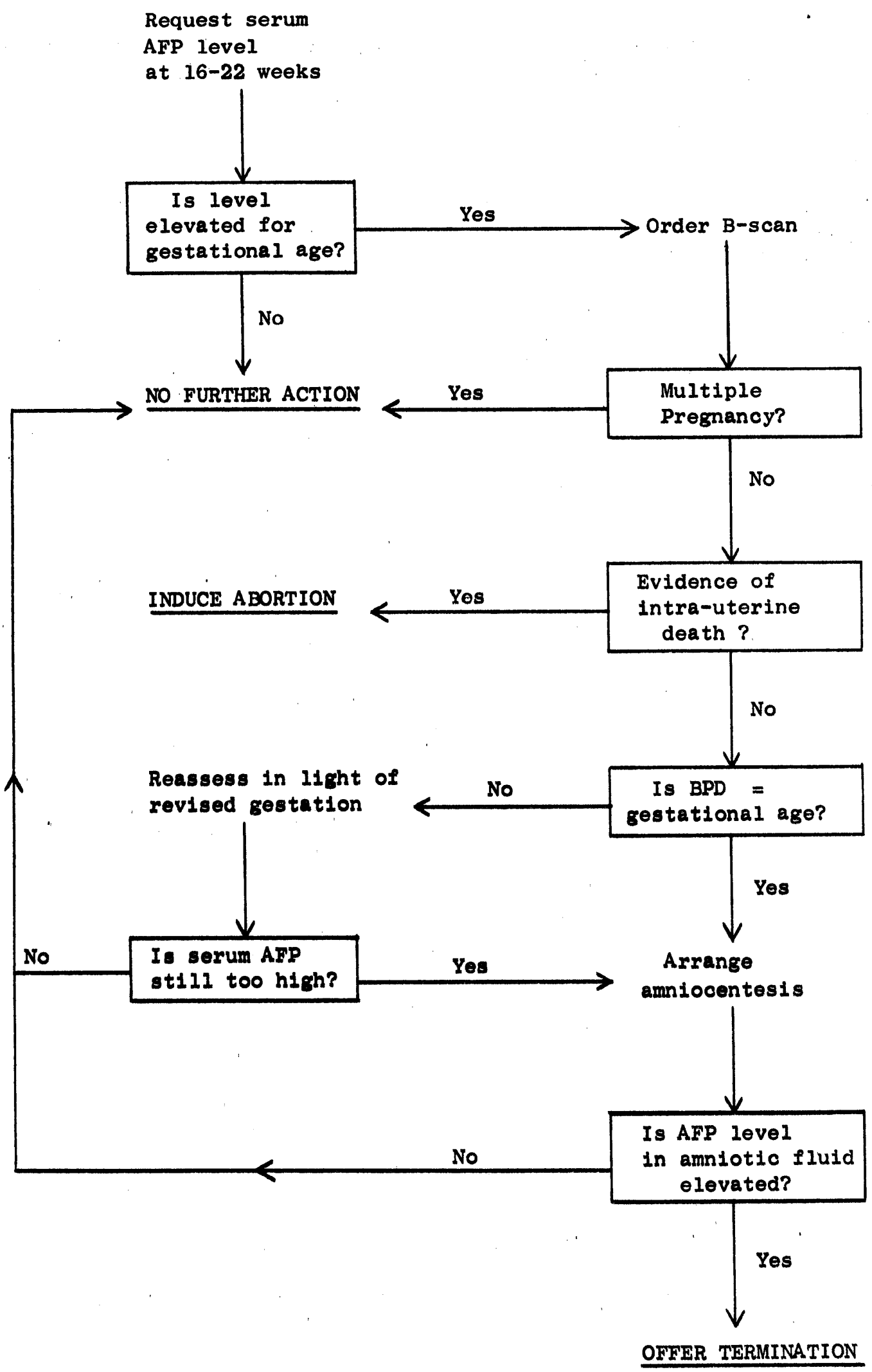
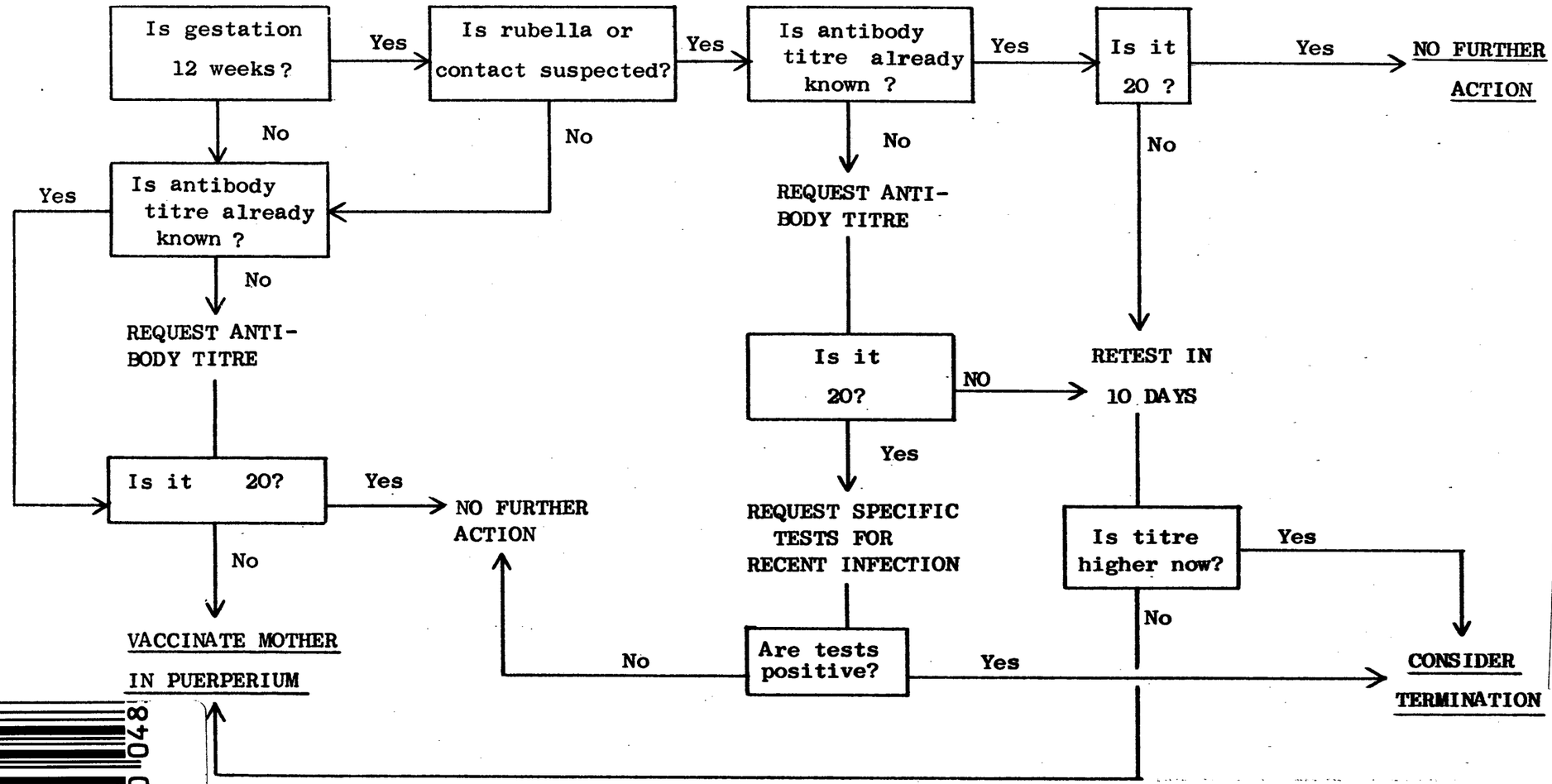
PRENATAL DETECTION OF NEURAL TUBE DETECTS



SCREENING FOR RUBELLA IMMUNITY STATUS IN PREGNANCY

At first attendance:



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