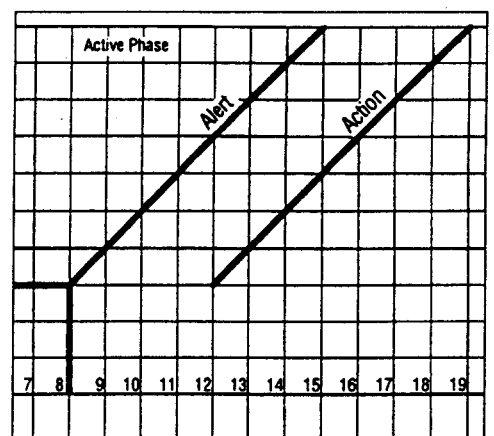


Preventing Prolonged Labour: a practical guide

The Partograph Part I: Principles and Strategy



MATERNAL HEALTH
AND SAFE MOTHERHOOD PROGRAMME
DIVISION OF FAMILY HEALTH
WORLD HEALTH ORGANIZATION
GENEVA

The World Health Organization is a specialized agency of the United Nations with primary responsibility for international health matters and public health. Through this organization, which was created in 1948, the health professions of some 189 countries exchange their knowledge and experience with the aim of making possible the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life.

By means of direct technical cooperation with its Member States, and by stimulating such cooperation among them, WHO promotes the development of comprehensive health services, the prevention and control of diseases, the improvement of environmental conditions, the development of health manpower, the coordination and development of biomedical and health services research, and the planning and implementation of health programmes.

These broad fields of endeavour encompass a wide variety of activities, such as developing systems of primary health care that reach the whole population of Member countries; promoting the health of mothers and children; combating malnutrition; controlling malaria and other communicable diseases including tuberculosis and leprosy; having achieved the eradication of smallpox, promoting mass immunization against a number of other preventable diseases; improving mental health; providing safe water supplies; and training health personnel of all categories.

Progress towards better health throughout the world also demands international cooperation in such matters as establishing international standards for biological substances, pesticides and pharmaceuticals; formulating environmental health criteria; recommending international non-proprietary names for drugs; administering the International Health Regulations; revising the International Classification of Diseases, Injuries, and Causes of Death; and collecting and disseminating health statistical information.

Further information on many aspects of WHO's work is presented in the Organization's publications.

S A F E M O T H E R H O O D

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P r a c t i c a l G u i d e

WHO/FHE/MSM/93.8
DISTR.: GENERAL

ACKNOWLEDGEMENTS

This manual was developed by an Informal Working Group convened by the World Health Organization (WHO) in Geneva, 6-8 April 1988, and updated in 1994, following results obtained from *The application of the WHO partograph in the management of labour: Report of a WHO multicentre study 1990-1991* (WHO/FHE/MSM/94.4). Mrs Helen Kerr prepared the background document for the working group.

WHO gratefully acknowledges the financial contributions made in support of research within the Maternal Health and Safe Motherhood Programme from the governments of Australia, Italy, Norway, Sweden and Switzerland, the Carnegie Corporation, the Rockefeller Foundation, UNDP, UNICEF, UNFPA and the World Bank. Financial support for the production of this document was provided by the United Nations Population Fund.

The WHO appreciates the collaborative effort in preparing and revising the manuals by Dr Christopher E. Lennox and Dr Barbara E. Kwast.

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GLOSSARY

AIDS	Acquired immunodeficiency syndrome
ANC	Antenatal care
CPD	Cephalopelvic disproportion
EPI	Expanded Programme on Immunization
FIGO	Federation of International Obstetrics and Gynaecology
HDP	Hypertensive disorders of pregnancy
HIV	Human immunodeficiency virus
ICM	International Confederation of Midwives
IEC	Information, education and communication
IUD	Intrauterine device
LGV	Lymphogranuloma venereum
MCH	Maternal and Child Health
min	minute
NGO	Nongovernmental organization
PID	Pelvic inflammatory disease
PPH	Postpartum haemorrhage
STDs	Sexually transmitted diseases
SVD	Spontaneous vertex
TB	Tuberculosis
TBA	Traditional birth attendant
UTI	Urinary tract infection
<	Less than
>	More than

Time conversion from 12 hour clock to 24 hour clock

am											
0	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
0	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00

pm											
12:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
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PREFACE

Of the estimated annual toll of half a million maternal deaths, some 99 per cent occur in developing countries. An unknown proportion of these follow prolonged labour, due mainly to cephalopelvic disproportion which may result in obstructed labour, maternal dehydration, ruptured uterus and obstetric fistulae (and also, but less directly, in postpartum haemorrhage and neonatal infection). In the infant, prolonged obstructed labour may cause asphyxia, brain damage, infection and death. Obstructed labour, with or without ruptured uterus, features among the five major causes of maternal death in almost every developing country, although its relative importance varies from region to region. Nevertheless, it can be said with certainty that abnormally prolonged labour and its effects are important contributors to maternal and perinatal mortality and morbidity worldwide.

There are many constraints — geographical, economic, political and sociocultural — which lead to either the non-availability or non-utilisation of the basic obstetric care which is required to manage obstructed labour satisfactorily. The aim of safe motherhood interventions is to address, directly or indirectly, these constraints. Early detection of abnormal progress and prevention of prolonged labour would help reduce maternal and perinatal mortality. The partograph, which is a graphic recording of the progress of labour and the condition of the mother and fetus, has been in use for over 20 years, but not so widely as the reported results of its use would suggest is appropriate. In order to promote its wider and more rapid adoption, WHO held consultations which produced an agreed standard format. This has been the subject of a WHO multicentre trial conducted in Indonesia, Malaysia and Thailand (1). The report of the trial (2) confirms what had been found in earlier studies concerning its effectiveness, low cost and feasibility. In this trial, the proportion of labours which lasted over 18 hours was almost halved after introducing the partograph. The rate of caesarean section among "normal" women (i.e. without serious complications or high risk already on admission) was reduced from 5.2 to 3.7 per cent; and the percentage requiring augmentation of labour was more than halved. There were not the dramatic improvements in neonatal outcome which earlier trials, e.g. in Zimbabwe and Malawi, had shown. However, a study in Assiut in Egypt, at the same time as the multicentre trial but not part of it, **did** show a marked fall in the percentage of Apgar scores less than 7 at five minutes, and in perinatal mortality (3).

In 1988 the WHO Maternal Health and Safe Motherhood programme issued a series of four inter-related documents under the title *The Partograph: A Managerial Tool for the Prevention of Prolonged Labour*. These are now being re-issued in a slightly updated form to take into account the results of the multicentre trial under the general title *Preventing Prolonged Labour: a practical guide - The Partograph*. The first document *Principles and Strategy* (WHO/FHE/MSM/93.8), explains the history and the principles of the partograph, discusses various issues relating to its format, describes how the WHO partograph was devised and gives a brief account of its rationale and method of use.

It is essential to note that the partograph can only be used by health workers with adequate training in midwifery who are able to:

- observe and conduct normal labour and delivery;
- perform vaginal examinations in labour and assess cervical dilatation accurately;
- plot cervical dilatation accurately on a graph against time.

It has no place, therefore, in deliveries at home conducted by attendants other than those trained in midwifery. Whether used in health centres or "maternities" or in hospitals, the introduction of the partograph must be accompanied by a programme of training in its use and

by appropriate supervision and follow-up. The first volume concludes by outlining a strategy to promote wider use.

The second of the four parts, WHO/FHE/MSM/93.9, is entitled *User's Manual*. As implied, the correct use of every part of the partograph is explained in detail, with examples. It demonstrates how all the observations contribute to complement the central monitoring tool which is a graph of cervical dilatation, with its "alert" and "action" lines. Warning is given that the partograph is not to be started if there are already complications of the pregnancy/delivery (e.g. haemorrhage, eclampsia) which require immediate action. The document does provide the WHO protocol used in the multicentre study which produced excellent results and is recommended for use in conjunction with the partograph, though local adaptation is possible. For example, in a health centre or maternity without the facilities or skills to perform caesarean delivery, it is necessary to start making arrangements for transfer to a hospital when dilatation moves to the right of the alert line.

The third part (WHO/FHE/MSM/93.10) is a *Facilitator's Guide*. It provides precise and comprehensive advice to those who are teaching midwives or medical students the use of the partograph. Teaching objectives, materials required, points of special emphasis, and exercises, all are specified.

The fourth and last part (WHO/FHE/MSM/93.11) is entitled *Guidelines for Operations Research*. The results of the multicentre trial have become available and, taken together with reports of hospital evaluations in other countries (3), demonstrate that the introduction and correct, well-supervised use of the partograph can significantly improve the outcome of pregnancy and delivery. Part IV specifies that operations research should not be concerned with the construction of nomograms for a particular population — that is unnecessary — but with a practical application of the knowledge of partographs gained worldwide to date. The gains registered from use of the partograph at hospital level are likely to be even greater at the level of health centres and maternities which rely on referral hospitals for emergency obstetric interventions. More objective criteria of delay in labour and a practical and methodical way of monitoring the progress of childbirth would be a significant contribution to greater safety and would be a welcome aid to reduce the uncertainties and anxieties of health professionals. WHO is supporting evaluations along the lines of the guidance given in Part IV in three centres. However, a number of problems remain. For example, health centres or health centre networks where this operational research should take place should have a minimum of 500 deliveries a year. This should not be an insupportable obstacle, and intensified efforts need to be made to provide the operational research basis for the wider promotion at this level.

In conclusion, a partograph correctly used certainly improves the management of labour and the outcome of pregnancy at the hospital level, and probably even more so at health centre level (4). Beyond the reach of aid through the partograph are the millions who are delivered with no attendant or with the assistance only of a relative or other untrained person. With the gradually increasing availability of appropriate technology, of which the partograph is a notable example, the safety of both supervised homebirths by a trained midwife and institutional (hospital or health centre) delivery should improve. With the trend towards births attended by a trained health worker in the community, hospital and health centre, more and more women and their babies can benefit from this greater safety. It remains for governments, peoples and all other partners in safe motherhood to do their utmost to accelerate this trend.

1. INTRODUCTION

Approximately half a million women lose their lives every year because of complications of pregnancy and about 99% of these occur in developing countries. The risk of a woman dying as a result of a complication related to pregnancy in developing countries can be as much as a hundred times that of women in Western Europe or North America. An average of 450 women die for every 100 000 live births in the developing world (5).

Recognizing the unacceptably high maternal mortality ratio, the preventable nature in the majority of cases, and the social consequences of a mother's death to her family and children, the Safe Motherhood Conference organized jointly by The World Bank, WHO and the United Nations Population Fund held in Nairobi in February 1987 concluded with a "Call to Action." This call demands that health workers involved in the care of mothers and children take positive action now to reduce maternal mortality and morbidity. Among the actions called for are: to ensure that all pregnant women are screened by supervised and appropriately trained non-physician health workers where appropriate, with relevant technology (including partographs as needed), to identify those at risk; and to provide prenatal care and care during labour, as expeditiously as possible (6).

Postpartum haemorrhage and sepsis are the most common causes of maternal death in developing countries, but obstructed labour and ruptured uterus may cause as many as 70% of all maternal deaths in some situations.

Prolonged labour in the developing world is commonly due to cephalopelvic disproportion (CPD), which may result in obstructed labour, maternal dehydration, exhaustion, uterine rupture and vesico-vaginal fistula. Protracted labour is more common in primigravid women than in multipara and the complications and effects of CPD differ between them. In countries where CPD is not prevalent, abnormal progress of labour is often due to inefficient uterine action. Universally, less direct consequences of prolonged labour include maternal sepsis, postpartum haemorrhage and neonatal infection.

Early detection of abnormal progress of labour and the prevention of prolonged labour would significantly reduce the risk of postpartum haemorrhage and sepsis, and eliminate obstructed labour, uterine rupture and its sequelae.

The partograph, a graphic recording of progress of labour and salient conditions of the mother and fetus, has been used since 1970 to detect labour that is not progressing normally, to indicate when augmentation of labour is appropriate and to recognize cephalopelvic disproportion long before labour becomes obstructed (7).

The partograph serves as an "early warning system" and assists in early decision on transfer, augmentation and termination of labour. It also increases the quality and regularity of all observations on the fetus and the mother in labour, and aids early recognition of problems with either.

The partograph has been in use in a number of countries, and used extensively in a few (8-19). It has been found to be inexpensive, effective and pragmatic in a variety of

different settings including developed and developing countries. It has shown to be effective in preventing prolonged labour, in reducing operative intervention and in improving the neonatal outcome (8, 12, 20, 21, 22, 23). The partograph developed by WHO and described here has been extensively tested in a multicentre trial in Indonesia, Malaysia and Thailand. The results have emphatically confirmed the results of earlier studies (1, 2).

Table 1 illustrates the results than can be achieved using a partograph. Labours lasting more than 24 hours, perinatal mortality and caesarean section rates all dropped considerably in these two African studies after the partograph was introduced (11, 12, 20). Table 2 summarises the improvements in labour outcome that were achieved in the multicentre trial of the WHO partograph. Prolonged labour, augmented labour, caesarean sections and intrapartum fetal deaths all fell (1, 2).

Table 1

Rates of prolonged labour, caesarean section and perinatal mortality before and after the introduction of the partograph in labour management*

	Zimbabwe (11)		Malawi (20)	
	Before partograph	After partograph	Before partograph	After partograph
Labour over 24 hours	13.0	0.6	14.0	3.0
Perinatal mortality	5.8	0.6	5.3	3.8
Caesarean section	9.9	2.6	12.3	9.5

* Expressed as % of total deliveries.

Table 2

Rates of prolonged labour, augmented labour, caesarean section and intrapartum fetal deaths in a multicentre trial of WHO partograph* (1, 2)

	Before partograph	After partograph
Labour over 18 hours	6.4	3.4
Labour augmented	20.7	9.1
Emergency caesarean section	9.9	8.7
Intrapartum fetal death	0.5	0.3

* Expressed as % of total deliveries.

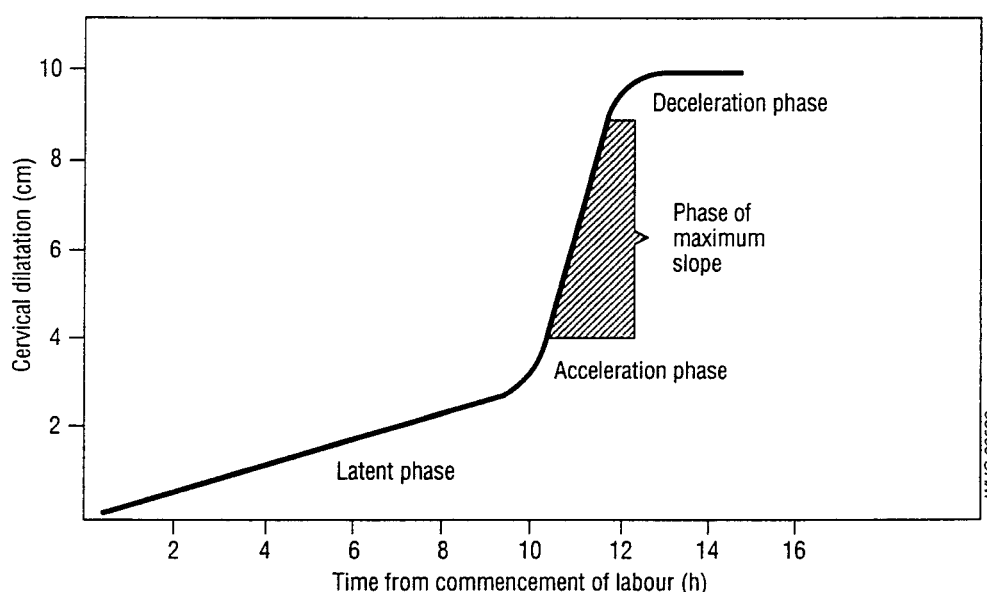
2. OBJECTIVES

The objectives in producing this information and manual on the partograph are:

- To encourage implementation of the partograph throughout the world with a view to reducing prolonged labour and its sequelae.
- To promote further research into its use and benefits, particularly as a referral tool.

3. HISTORY OF THE PARTOGRAPH

E.A. Friedman in 1954, following a study on a large number of women in the USA, described a normal cervical dilatation pattern (see Fig. I.1) (24).



Friedman's curve showing phase of maximum slope
Fig. I.1

Friedman divided labour functionally into two parts. The (early) **latent phase** extends over 8-10 hours and up to about 3 cm dilation. This was followed by an **active phase**, characterized by acceleration from about 3-10 cm at the end of which deceleration occurred. This work has been the foundation on which others have built.

In 1969 Hendricks et al. demonstrated that, in the active phase of normal labour, the rate of dilatation of the cervix in primigravidae and multiparae varies little and that there is no deceleration phase at the end of the first stage of labour (25).

Philpott, in extensive studies of primigravidae in Central and Southern Africa, constructed a nomogram for cervical dilatation in his population and was able to identify deviations from the normal and provide a sound scientific basis for early intervention leading to the prevention of prolonged labour (11). Since then, various authors have developed similar nomograms in other geographical areas. None of these have shown significant differences between ethnic groups (14, 26, 27, 28, 29, 30, 31, 32).

4. THE PARTOGRAPH: THE WHO MODEL

4.1 Principles

The WHO model of the partograph was devised by an informal working group, who examined most of the available published work on partographs and their design. It represents in some ways a synthesised and simplified compromise, which includes the best features of several partographs (7, 8, 9, 10, 13, 14, 17, 29, 33, 34, 35). It is based on the following principles:

- The active phase of labour commences at 3 cm cervical dilatation.
- The latent phase of labour should last not longer than 8 hours.
- During active labour, the rate of cervical dilatation should be not slower than 1 cm/hour.
- A lag time of 4 hours between a slowing of labour and the need for intervention is unlikely to compromise the fetus or the mother and avoids unnecessary intervention.
- Vaginal examinations should be performed as infrequently as is compatible with safe practice (once every 4 hours is recommended).
- Midwives and other personnel managing labour may have difficulty in constructing alert and action lines and it is better to use a partograph with preset lines, although too many lines may add further confusion.

The average time in labour after admission to a health institution in the developing world is 5-6 hours (8, 18, 31, 33). In most cases, therefore, not more than 2 vaginal examinations should be necessary.

The multicentre trial of the WHO partograph has confirmed the appropriateness of this design and no modifications have been recommended as a result of this trial, except for deletion of the heavy vertical line extending upward from 3 cm.

Table 3 demonstrates how effectively an appropriately placed action line identifies labour where intervention is likely. In those studies listed in Table 3, between 3% and 30% of cases studied crossed the action line, a probable reflection of the variety of different partographs in use. In the WHO multicentre trial, 10% of women crossed the

action line; 22% of these were delivered by caesarean section, compared to 1% when the action line was not crossed.

Table 3
**Mode of delivery among labours not crossing and crossing
action line in partograph**

Place of study	Mode of delivery	Action line not reached*	Action line reached or crossed+
Cameroon (8)	Spontaneous vertex (SVD)	92	49
	Operative vaginal	8	45
	Caesarean section	0	6
Papua New Guinea Highlands (18)	SVD	91	46
	Operative vaginal	7	23
	Caesarean section	2	31
Papua New Guinea Urban (9)	SVD	88	19
	Operative vaginal	12	55
	Caesarean section	0	26
Malawi (20)	SVD	73	46
	Operative vaginal	19	32
	Caesarean section	8	22
Zimbabwe (11, 12)	SVD	90	28
	Operative vaginal	11	51
	Caesarean section	0	21
WHO trial (Indonesia, Malaysia, Thailand) (1, 2)	SVD	91	60
	Operative vaginal	8	18
	Caesarean section	1	22

* Figures are % of total labours not reaching action line.

+ Figures are % of total labours reaching or crossing action line.

4.2 Components

Figure I.2 shows the partograph advocated and extensively tested by WHO. This partograph, like others, is basically a graphic representation of the events of labour plotted against time in hours. It consists of three components:

- The fetal condition
- The progress of labour
- The maternal condition.

It can be used for all labours in hospital. In the periphery, it would only be used for low risk labours where spontaneous vaginal delivery is anticipated. High risk patients should be transferred to hospital immediately.

PARTOGRAPH

Name	Gravida	Para	Hospital no.
Date of admission	Time of admission	Ruptured membranes	hours



Fig. 1.2

The partograph does not replace adequate screening of women on arrival in labour to exclude conditions that require urgent attention or immediate transfer. It is designed to detect deviations from normal delivery that develop as labour progresses.

The charting of these three components is described in detail in Part II of this series on the partograph: *User's Manual* (WHO/FHE/MSM/93.9).

4.2.1 The progress of labour

This part of the graph has as its central feature a graph of cervical dilatation against time. It is divided into a **latent phase** and an **active phase**.

The latent phase

The latent phase of labour is from the onset of labour until the cervix reaches 3 cm dilatation. If this phase is delayed for longer than 8 hours in the presence of at least 2 contractions in 10 minutes, the labour is more likely to be problematical and therefore, if the woman is in a health centre, she should be transferred to hospital. If she is in hospital, she needs critical assessment and a decision about subsequent management.

The active phase

Once 3 cm dilatation is reached, labour enters the active phase.

In about 90% of primigravidae, the cervix dilates at a rate of 1 cm/hour or faster in the active phase.

The **alert line** drawn from 3 cm to 10 cm represents this rate of dilatation. Therefore, if cervical dilatation moves to the right of the alert line, it is slow and an indication of delay in labour. If the woman is in a health centre, she should be transferred to hospital; if in hospital, she should be observed more frequently.

The **action line** is drawn 4 hours to the right of the alert line. It is suggested that if cervical dilatation reaches this line, there should be a critical assessment of the cause of delay and a decision about the appropriate management to overcome this delay.

This partograph is designed for use in all maternity settings, but has a different level of function at different levels of health care. In a health centre, the critical function is to give early warning that labour is likely to be prolonged and that the woman should be transferred to hospital (**alert line** function). In the hospital setting, moving to the right of the alert line serves as a warning for extra vigilance; but the **action line** is the critical point at which specific management decisions must be made.

Other observations on the progress of labour are also recorded on the partograph and are essential features in the management of labour. In particular, it is important to note the descent of the fetal head through the pelvis and the quality of uterine activity.

4.2.2 The fetal condition

The fetus is monitored closely on the partograph by regular observation of the fetal heart rate, the liquor, and the moulding of the fetal skull bones.

4.2.3 The maternal condition

Regular assessment of the maternal condition is achieved by charting maternal temperature, pulse and blood pressure, and by regular urinalysis. The partograph also contains a space to chart administration of drugs, IV fluids, and oxytocin if labour is augmented.

5. IMPLEMENTATION

The implementation of the partograph implies a functioning referral system with essential obstetric functions in place. Its use should also improve the efficiency and effectiveness of maternity services.

The proposed partograph and its accompanying management guidelines can only be used where the woman presents herself to the formal health care system in labour and where staff who fulfil certain minimum training criteria work. These staff must:

- Have adequate training in midwifery to observe and conduct normal labour and delivery.
- Be able to perform vaginal examinations in labour and accurately assess cervical dilatation.
- Be able to plot cervical dilatation accurately on a graph against time.

There is evidence (10, 36) that midwife-auxiliaries with quite basic training are able to fulfil these functions and it should therefore be possible to introduce the partograph into a peripheral level of formal health care (10, 24). In these circumstances, the critical function of the partograph is to indicate when referral is appropriate.

It is, however, essential that the introduction of the partograph be combined with a programme of training in its use and of close supervision, encouragement and follow-up of those using it.

6. STRATEGY

Despite the fact that the partograph has been described and used since the early 1970s, it is still not used worldwide. One primary reason for this is the lack of conviction felt about its usefulness by decision-makers and some leaders of the profession. Another main obstacle to widespread use is the existence of so many varieties of the partograph; the potential new user is at a loss as to which set of conflicting guidelines to follow.

To overcome these two primary hindrances, the following strategy is recommended:

- Use the simplified partograph developed by WHO. It includes the essential features of most of the partographs currently in use.
- Introduce this partograph to decision-makers at Ministries of Health, as well as to leaders of the profession in each country, especially to those in teaching hospitals.
- Implement this partograph initially in teaching hospitals and referral centres. Its application can then be extended to health centres.
- Encourage medical and midwifery schools to teach the principles and use of the partograph, and to include it in the curriculum.
- Encourage research into all aspects of the application of the partograph. This research should include evaluation of training programmes, as well as investigation of the impact of the partograph on labour management and on adverse outcomes of labour. Particularly needed is research into the use of the partograph as a referral tool in labour. The WHO multicentre trial has emphatically confirmed the value of the partograph in hospital practice.

It is realized that in many developing countries the formal health care system does not look after all pregnant women. If efforts do not go beyond the formal sector, it is unlikely that the existing appalling maternal mortality and morbidity will be influenced very much. Therefore efforts should be made to reach pregnant women outside the formal health care system. This can be done in a variety of ways:

- Traditional birth attendants (TBAs) should be involved as much as possible as agents of change. They should participate in conveying messages to pregnant women and village elders about the need to seek assistance early during pregnancy and labour.
- In those countries where mutual respect exists between trained midwives and TBAs, the latter have been persuaded to refer women in labour not later than 12 hours after they receive them. This experience should be emulated in other countries.
- Other methods of communication should be used as much as possible (e.g. village health committees, the radio, church groups, newspapers) to convey to rural communities the message that delayed labour can lead to problems for the mother and her baby and that help should be sought early (within 12 hours of the onset of labour).
- It is also hoped that the improved results in labour management that should result from the use of the partograph will increase the credibility of the formal health care system and encourage more women to seek assistance early in labour.

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Abortion: A tabulation of available data on the frequency and mortality of unsafe abortion.

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Antenatal care and maternal health:

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Coverage of maternity care: A tabulation of available information (third edition). WHO/FHE/MSM/93.7.

Detecting pre-eclampsia: A practical guide – Using and maintaining blood pressure equipment.

WHO/MCH/MSM/92.3.

Essential elements of obstetric care at first referral level. WHO 1991. ISBN 92 4 1544244. Sw fr 14 or US\$ 12.60; in developing countries US\$ 9.80. Order number 1150364. Available in English. French and Spanish in preparation.

Guidelines for introducing simple delivery kits at the community level. MCH/87.4. Available in English. French and Arabic in preparation.

Human resource development for maternal health and safe motherhood: Report of a Task Force Meeting, April 1990. WHO/HRD/90.1.

Hypertensive disorders of pregnancy: Report of the WHO/MCH Interregional Collaborative Study, February 1991. WHO/MCH/91.4.

Maternal and perinatal infections: Report of a WHO Consultation. WHO/MCH/91.10.

Maternal mortality: A global factbook. Carla AbouZahr and Erica Royston. ISBN 92 4 159001 7 Sw fr 50; in developing countries Sw fr 35.

Maternal mortality: Ratios and rates – A tabulation of available information (third edition).

WHO/MCH/MSM/91.6. This edition includes WHO's regional estimates.

Measuring reproductive morbidity: Report of a technical working group, August 1989.

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Midwifery education: Action for Safe Motherhood – Report of a collaborative pre-congress workshop, Kobe, Japan, October 1990. WHO/UNICEF/ International Confederation of Midwives (ICM). WHO/MCH/91.3.

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Home-based maternal records:

Guidelines for development, adaptation, and evaluation. WHO 1994 ISBN 92 4 154464 3 Sw fr 20; in developing countries Sw fr 14. Available in English and French.

The prevention and management of postpartum haemorrhage: Report of a technical working group, July 1989. WHO/MCH/90.7.

The prevention and treatment of obstetric fistulae: Report of a technical working group, April 1989. WHO/FHE/89.5.

The risks to women of pregnancy and childbearing in adolescence: A selected annotated bibliography. 1989. WHO/MCH/89.5.

The role of women's organizations in primary health care with special reference to maternal and child health including family planning. WHO/FHE/WHO/88.1

Women's Groups, NGOs and Safe Motherhood. WHO/FHE/MSM/92.3

Women's health and safe motherhood: The role of the obstetrician and gynaecologist – Report of a WHO/FIGO workshop prior to the FIGO congress in Rio de Janeiro, Brazil in 1989. WHO/MCH/89.3.

Women's health and the midwife: A global perspective – Report of a WHO/UNICEF/ International Confederation of Midwives (ICM) workshop prior to ICM congress in The Hague, The Netherlands in August 1987. WHO MCH 87.5.

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World Health Organization,
1211 Geneva 27, Switzerland.
Tel 41 22 791 21 11,
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Complications arising during pregnancy and childbirth cause the deaths of half a million women every year, the vast majority in the developing world. Over 4 million newborn babies die each year, most of them as a result of poorly managed pregnancies and deliveries. Millions more women and babies suffer debilitating and life-long consequences of ill-health.

The World Health Organization seeks to alleviate the burden of suffering borne by women, children and families, through its Maternal Health and Safe Motherhood Programme which seeks to reduce levels of maternal and neonatal mortality and ill-health significantly by the year 2000.

The Organization's activities fall into four main areas:

- technical cooperation with countries in planning, implementing, managing and evaluating national safe motherhood and newborn care programmes;
- epidemiological research into levels and causes of maternal and neonatal mortality and operational research on cost-effective ways of reducing deaths and disabilities;
- strengthening human resources for the provision of essential obstetric care, including development of standard treatment and management protocols, programme planning guidelines and training materials;
- production of advocacy materials and collection, analysis and dissemination of information to provide scientifically sound data on the nature and dimensions of maternal and newborn mortality and morbidity and how change can be brought about.

If you would like to know more about the WHO Maternal Health and Safe Motherhood Programme, write to:

Maternal Health and Safe Motherhood Programme
Division of Family Health
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