

# Safe Motherhood Initiative

A programme of  
operational research



World Health Organization  
Geneva, Switzerland

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## Safe Motherhood Initiative

WHO announces a new programme of research into means of reducing maternal mortality and morbidity. The Safe Motherhood Initiative was launched at the International Conference on Safe Motherhood held in Nairobi in February 1987 and co-sponsored by WHO, the World Bank and UNFPA, with support from UNICEF and UNDP. It is a culmination of several events including the Strategy for Health for All By The Year 2000, the UN Decade of Women and the Mexico Population Conference of 1984.

Each year, half a million women die from causes related to pregnancy and childbirth - almost one death every minute of the day and night. Almost all (99%) are in developing countries, and almost all are preventable with attainable resources and skills. For each woman who dies, there are countless more who suffer permanent damage to their health.

The knowledge and technology already exist which could prevent this tragedy. Thus, the obstacles relate not only to deficiencies in health care, but are largely social, cultural and economic.

Women die in childbirth because:

- they received no prenatal care
- they have too many children
- they were afraid to go to the hospital
- they could not afford transportation
- they did not know their condition was dangerous but could be treated

- they were afraid to use contraception
- they were malnourished as little girls
- there is no blood available at the health facility
- the untrained traditional birth attendant thought she could handle the complication
- they live too far from a hospital which can provide emergency care
- they seek illicit abortions to end unwanted pregnancies

Many of these obstacles can be overcome through the adaptation and use of already known approaches and technologies. Operational research, to test the effectiveness of such interventions in a variety of settings, is an important step in their wider application.

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## **The operational research programme**

The Safe Motherhood Initiative is a programme of operational research, which means that it is concerned with evaluating the effect of improvements to existing health services and related programmes as well as the wider adaptation and use of already known technologies and approaches. It does *not* deal with long term and basic research, or the research and development necessary to find new technologies. It *includes* analytic studies and evaluations of existing programmes if these form the basis of an intervention study. It uses both quantitative and qualitative methods. It seeks

*better* approaches, not necessarily optimal ones. It *identifies* opportunities.

WHO invites proposals from investigators in developing countries which are designed to evaluate the effect of an intervention on maternal health and maternity care. These proposals should be related to improving access to and coverage of prenatal, intranatal and postnatal care, and to improving the quality of this care.

As access to care is not only physical, but may also be economic, social or cultural, proposals which encompass such subjects as community perceptions and participation are welcomed. Anthropological studies are also appropriate, and methodologies could include innovative and imaginative approaches such as, for example, participant observation and focus groups.

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## **Who is eligible to apply**

WHO encourages submissions from individuals and groups including those who have not previously been involved in research. In addition to government departments, hospitals, universities, and private research organizations, submissions are sought from non-government organizations (NGOs) such as community groups, women's organizations, professional medical groups (of midwives, nurses or doctors), non-medical professional groups (such as social workers or teachers), church groups including mis-

sion hospitals. Any group or individual who believes it has a contribution to make may submit a research proposal for funding from WHO's Safe Motherhood Initiative.

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## **Selection of research topics**

The Safe Motherhood Initiative focuses above all on research into interventions and proposals for such research will have funding priority. However, research into the magnitudes and causes of maternal mortality and morbidity will also be funded if it is concerned with identifying opportunities for applied interventions. Proposals for such research can be submitted in the same way as for operational research. Generally speaking the investigator will have a broad understanding of the social, cultural and economic context of maternal health care in his or her area and will usually be aware of the shortcomings of the health system. Sometimes, though, it may be necessary to undertake research to identify these obstacles.

Some obstacles lend themselves more readily to intervention and evaluation than others. Low status of women, for example, is a root cause of poor maternal health care, but no single intervention is easily implemented, and measurable improvements may take many years. On the other hand, the rescheduling of clinic hours is easily implemented, and its effects are easily evaluated.

The kinds of interventions which can be evaluated are limited only by the imagination of the investigator. However, WHO is not able to fund capital investments such as the building or equipping of hospitals or health centres. Provision of specific pieces of equipment (such as haemoglobinometers, blood pressure meters, short-wave radios) and the training to use them could be funded if such equipment and training is part of the research activity itself.

Interventions include, but are not limited to those falling under the broad heading of *educational programmes* (e.g. of health providers, consumers, or communities) or of *organization* (e.g. those concerned with alternative ways of providing services.) The following are among some of the ideas that have been proposed:

- Maternity waiting homes for women living far from life saving facilities.
- The use of a "labourgraph" to monitor labour in health facilities.
- Training TBAs to recognise and refer high risk women.
- Upgrading district health facilities.
- Community education on recognising danger signs in pregnancy.
- Organization of transport services for use in emergency.
- Reallocation of tasks in health care.
- Blood typing of potential donors for emergency transfusions.
- Social support for women needing to deliver in a health facility.

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## **What measure of change should be used?**

For a variety of reasons, it is difficult to show that an intervention has made an impact on maternal mortality - deaths are

### **Intervention**

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Hospital reorganization to improve availability of operating rooms

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Community education on importance of timely admission to hospital for obstructed labour

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Increasing the number of hours per week the prenatal clinic is open, or providing transportation to the clinic

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Integration of TBAs into the health care system

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Education and motivation of men in the promotion of prenatal care

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Use of oxytocin by different levels of health workers to control post-partum haemorrhage

difficult to locate and identify outside of hospitals, and a large population is required for adequate numbers to measure. In operational research it is usually desirable to measure a variable with an immediate connection with the intervention which has been introduced. See the box below for examples.

### **Endpoints Measured**

Time between admission and caesarean section

The number of women, by duration of labour, admitted from that community

The proportion of pregnant women who receive prenatal care, and/or the gestation at first visit

Number of women referred, appropriateness of referral

Proportion of pregnant women attending prenatal care

Post-partum anaemia or number of women requiring blood transfusion

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## How will proposals be evaluated?

Several factors will be taken into account when research proposals are evaluated. Investigators should follow the guidelines provided in this brochure to the extent that they are able.

**Research design.** Although this is one of the factors which will be considered, WHO may be able to provide technical assistance (by correspondence, or by sending a consultant to the site) to groups with little or no research experience. (Universities and Schools of Public Health should generally expect to receive less assistance in producing fundable proposals.) On subjects of wider relevance in developing countries WHO may have a common protocol to offer.

**Creativity.** A proposal to evaluate the impact of an innovative intervention will make a more favourable impression than a proposal which seeks to evaluate a common intervention (such as TBA training).

**Replicability.** An intervention which could be implemented on a large scale will be more favourably received than one which is too expensive or too difficult to expand to a larger area. However, this criterion does not conflict with the previous one.

**Value of research.** Although the cost of the project is not, in itself, a criterion for evaluation, a project which will contribute more knowledge per dollar expended will receive a better evaluation than one that offers less. Note also that the budget will be carefully assessed for its realism.

**Impact.** The probable impact of the intervention on maternal mortality and morbidity will be evaluated. Interventions which can reasonably be expected to have a larger impact will be more favourably received than those expected to have a smaller impact. Therefore, investigators should justify their proposals if the impact of the intervention is less than obvious.

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## Research grants

The technical and financial assistance provided by WHO can take several forms. Most usually, once a proposal is approved by its Technical Advisory Group, WHO will make a financial contribution toward the costs of carrying out the proposed operational research, and/or identify alternate sources of funding. If needed, it will also provide technical assistance at various stages of the project. To the extent possible, WHO will identify resource persons from within the country. Most grants will be in the range of \$20,000 to \$40,000 and investigators should not normally expect to receive more than this from WHO in any one year. They may, however, receive funds from more than one source.

Smaller grants and some technical assistance are also available for research into the magnitudes and causes of maternal mortality and into the unmet needs for maternal care. WHO is also prepared to contribute toward the cost of workshops, conferences, etc. which aim to disseminate the results of research.

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## Guidelines for the submission of proposals

While the following guidelines are not rigid, all proposals must clearly address the following questions in the order in which they are listed.

### 1. Date the proposal was mailed to WHO

Give the date the proposal is mailed. This can be handwritten after the proposal is typed and completed.

### 2. Title of the project

The title should clearly express the intent of the research.

### 3. Principal Investigator

Give the name of the person who has the main responsibility for carrying out the research project. Give her/his position in the organization, and academic degrees (if any). Provide a telephone number(s) where she/he can be reached at home and at work if possible.

### 4. Institution or organization

Give the name and the mailing address of the institution or organization through which the research will be carried out. If the institution or organization is large, give the department or division in which the research will be carried out. Include in this section the *signature of the Director of the Institution* stating her/his endorsement of the research.

State in this section whether the Ministry of Health or other concerned Government body initiated this project or requested the Organization to initiate it.

## **5. Duration of the project**

Say how long the project will last in months. This should match the timeline which should appear later in the proposal. If there are limitations to the starting or ending dates, please state them here. For example, a limitation might be that students will work on the project during their holidays. Preliminary work that must be done before students can begin must be planned accordingly, and will determine the last possible date the project can start.

## **6. Funds required (In local currency)**

State the total amount of money required to carry out the proposed work. Give the current exchange rate of local currency to US dollars.

## **7. Responsible financial officer**

Give the name, mailing address and telephone number of the person who will be responsible for ensuring that the funds are used appropriately and accounted for.

## **8. Name of bank in which funds will be deposited**

Funds must not be deposited in a personal account. If an account has already been established to receive these funds, give the number of the account.

## **9. Summary**

Give a *one-page* summary of the project which covers objectives, and a brief description of methodology and implications.

## 10. Introduction/rationale

Describe why the type of research you are proposing is needed in the country, and more broadly the region or the developing world as a whole. Consider what is already known about the subject. What will the proposed research contribute? What work has been done by other researchers on this topic and/or in the country? Give references from the literature which you know of. (If you do not have access to the relevant literature WHO will be pleased to help with a literature search).

## 11. Objectives of research

State very clearly and simply what you expect to learn from the research you will carry out. In this section you should *not* state hypotheses, or theories, or describe how you will do the study. An *example* of a clearly stated objective is "Determine whether an education programme for pregnant women increases the proportion who attend prenatal clinic". Note that this makes clear what intervention is proposed (an education programme for pregnant women and what endpoint will be measured (the proportion who attend prenatal clinic). More than one endpoint may be measured (for instance: gestation at first prenatal clinic attendance, mean number of visits made per woman).

A proposal may have several objectives. If more than one intervention is proposed, each should be specified in a separate objective.

## 12. Background

Describe clearly the intervention programme being researched and the local context in which the study will be con-

ducted. Describe what is already known about the subject citing literature references which are available. State what obstacles there are to maternal health and obstetric services. If other interventions have been tried, describe the outcome. What relationship does this project have to other work being carried out in the area? If you are proposing an intervention which has been tried elsewhere, describe the outcome in the earlier project and say how you will need to modify it in your situation.

If you are proposing an epidemiologic study specify how your findings will be used to develop interventions to reduce maternal mortality and morbidity.

This section need not be long but must be adequate for WHO staff to evaluate the potential for implementing the intervention.

### 13. Methodology

In this section you must describe *exactly* what you propose to do. You should address *at least* the following questions:

- a. Describe the overall study design. If you are proposing an intervention study, will data be collected both before and after the intervention is begun? Will you collect data retrospectively (i.e. what you are looking for has already happened) or prospectively (you will wait for the endpoints to happen). If you are proposing an epidemiologic study, is it case-control, cohort, or some other design?

Say who was involved in developing the design of the study. Do not give their names, but their positions: e.g. Ministry of Health statistician, mission hospital midwife, university epidemiologist, health

post doctor, health educator. Will these people be involved in implementing the project? If not, will they serve as consultants?

Describe who will implement the study. Has their collaboration been assured? Whose collaboration is essential to the study, and has this been approved?

If the success of the intervention were soon apparent, could it be expanded?

- b. What population will be studied and how big is it? The following are examples of appropriate populations depending on the intent of the study: all women, pregnant women, women admitted to hospital for delivery, deliveries in a defined geographic area, traditional birth attendants, trained midwives.
- c. What interventions are proposed? How will they be provided? By whom? For how long?
- d. What endpoints will be measured? They should be stated in measurable terms. For example, do not say that you will compare "prenatal care", specify whether you will compare a mean number of prenatal visits, gestation at first visit, or some other quantifiable measure of prenatal care.
- e. How large a sample will be studied? You should consider whether the sample is large enough to satisfy your research objective. If, for example, your endpoint is relatively rare (e.g. vesicovaginal fistula) you will need a larger sample than if the endpoint you propose to measure is presence or absence of prenatal care.
- f. Data management. If you plan to use data collection forms, include them with

your proposal, even if they are in draft form. Say where the forms will be processed, how they will be stored, how and when their quality will be monitored. How will problems with the forms (such as incorrect completion) be handled? What plans are made for prompt collection of forms from the field and their review?

- g. Analysis plan. How do you propose to analyse the data you collect? (This is often the weakest part of research proposals.) Will the data be analysed by hand or by computer? What kind of computer? What software?

It is helpful to provide empty table shells. Keep the research objectives in mind when designing the table shells. You should also consider how many cases you might expect to find in the cells of the table.

#### **14. Dissemination of results and implementation of findings**

Describe your plans to publicize your research findings. These may include local, regional and national workshops (funds for these may be included in the budget), publication in newspapers, magazines, scholarly journals, radio and television. If an intervention is found to be successful, describe how it will be implemented on a larger scale. Your research will have served no purpose if no-one hears of your results and your findings are not incorporated into a larger programme. Draft reports intended for publication should be sent to WHO for information prior to publication. WHO support should be acknowledged.

### **15. Personnel to work on the project**

List the types of personnel who will work on the project and the percent of their time they will devote to it. For example: 4 midwives will each spend 50% of their time; 2 health directors will each spend 10% of their time; a university statistician will devote full-time to the project. Names are not necessary, but can be provided. Have all the people listed *and their supervisors* agreed to participation in the project?

### **16. Time-line**

A time-line chart is an important tool in the planning of a project and can serve to identify tasks that may otherwise be forgotten. It is essential that the time-line demonstrate a realistic assessment of the time necessary to complete the various research tasks.

### **17. Assistance required from WHO**

WHO can provide technical as well as financial assistance. Although your proposal should be as complete as possible, if you feel there is an area where your organization lacks necessary skills you may request assistance in this area from WHO. If, for example, your proposal calls for a sample survey of households in a given area and you have been unable to find someone with experience in drawing samples, WHO might be able to provide that expertise.

### **18. Contributions by others**

WHO does not provide all of the costs of a research project. You should describe the contribution that will be made by persons and/or organizations other than WHO. The most likely contributions will be salaries (especially of senior person-

nel), office space and utilities, use of machinery (from typewriters to vehicles), consultations from local experts. WHO believes that commitment to research and to the implementation of research findings is greater when local organizations have an investment in the research.

These contributions are likely to be in kind rather than money, but if any other funding agency is also contributing to the project, this should be described in this section.

### **19. Ethical issues**

Most operational research of the type envisaged does not involve medical ethical issues, being rather a matter of improvements and innovations in delivery of services of known value. However, proposals for projects which do involve any possibility of adverse effects to individuals must be cleared by the appropriate ethical committee of the country concerned. The research proposal will also be reviewed by WHO's Secretariat Committee on Research Involving Human Subjects.

### **20. Budgets**

Budgets should be sufficiently detailed for WHO to evaluate their adequacy and appropriateness. Categories should include salaries, travel costs, clinical supplies, field costs, and other categories as necessary. Provide details within these categories; for example, do not give only the total cost of salaries, but be specific (e.g. 2 midwives 1/4 time ..\$xx). If some items are covered from another source of funding indicate this in the budget (e.g. 2 midwives 1/4 time ..\$xx provided by Ministry of Health). Each line item in the budget should be justified not only in

terms of how much it costs, but also by what purpose will be served by it (e.g. 2 mobilettes at \$x for interviewers to visit the field; three health workers for 4 months each to conduct interviews).

The Safe Motherhood Initiative will fund *research*. Although, under some circumstances, this can include some capital equipment (such as computer hardware), the proposal must clearly explain why this is necessary. Under no circumstances will the Safe Motherhood Initiative provide funds for the building or upgrading of hospital or clinic facilities.

*Every item in the budget must be justified.*

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## **Reimbursement and reporting procedures**

The means of reimbursement will vary with the duration and magnitude of the project. Many projects will receive a part of the grant before the project begins and the rest when it is completed, or when the project plan requires it. Projects awarded larger grants, or of long duration, will receive a larger number of payments.

The Principal Investigator should send in a written report at least twice a year. Reports must be received by 1 February and 1 August of each year. When funding is provided in instalments, the second and subsequent instalments will be paid when reports have been received.

Reports must include a financial accounting of how funds received have been spent and a narrative report of the progress of the project. These reports must be specific; they should describe what has been accomplished in the reporting period, and what activities will be undertaken in the next few months.

**Proposals and correspondence should be sent to:**

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Safe Motherhood Initiative  
Division of Family Health  
World Health Organization  
**1211 Geneva 27**  
SWITZERLAND  
Tel: (022) 91 21 11 or  
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