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Regional Meeting of South Asian Forum for Health Research (SAFHR)

July 7-8, 2008
Kathmandu, Nepal

ORGANIZING COMMITTEE

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1. Introduction

South Asian Forum for Health Research (SAFHR) was established in 2003 as a mechanism for enhancing regional collaboration and partnership in health research among South Asian Countries. SAFHR was an outcome of a regional workshop on "Consultative Meeting for Development of Regional Health Research Agenda" organized by Nepal Health Research Council (NHRC) where most of the health research councils of the region had participated. This meeting, held in Kathmandu, Nepal on 7-8 July, 2008, was the second meeting of SAFHR, with the theme of "Enhancing South-South Collaboration in Health Research".

The objectives of the meeting included

- Exploring the ways of strengthening collaboration in health research among South Asian countries, and
- Sharing innovative methods for measuring Maternal Mortality Ratio (MMR).

The meeting had two main sessions: the first session was technical session on "Issues in Measuring Maternal Mortality" in the region, while the second one was the business session on "Ways of collaboration and partnership between South-South countries". Seven-member organizing committee was formed to organize the meeting. Dr. Suniti Acharya, member of SAFHR sub-committee, was the coordinator of the meeting.

Major financial support for the meeting was provided by Ministry of Health, Government of Nepal (GoN), World Health Organization (WHO) and Support to Safe Motherhood Program-Nepal (SSMP-Nepal).

A total of 63 participants (11 international and 52 national participants including resource persons, moderators and rapporteurs) participated in the meeting. The international participants included representatives from Bangladesh, Bhutan, India, Maldives, Pakistan, Srilanka and Thailand. Likewise, national participants were representatives from the Ministry of Health and Population (MoHP), Department of Health Services, universities, medical colleges and other academic institutions; members of the Executive Board and Ethical Review Board of NHRC and Health Advisory Committee of MoHP; former chairmen of NHRC; representatives of EDP supporting health sector in Nepal and maternal health experts.

2. Proceedings of the Program

Day First

I. Inaugural Ceremony

The inaugural ceremony had overwhelming participation of distinguished delegates from home country and abroad. The glory of the inaugural session was added by gracious presence of Giriraj Mani Pokhrel, Hon'ble Minister for Health and Population as the Chief Guest and Dr. Samlee Pliangbangchang, Regional Director, WHO SEARO as the Special Guest.

This ceremony started with the *welcome speech by Dr. Suniti Acharya*, coordinator regional meeting of SAFHR. In her welcome address, she heartily welcomed all the participants for participating in the meeting. She said that despite increased investment and significant progress made in health, the progress has not been equitable. She also highlighted the 10/90 gap in health investment and urged for reducing the gap. Besides that, she gave an overview on background of SAFHR and theme, objectives and expected outcomes of the meeting. She also added that at the end of the meeting a Declaration will be issued which would signify the collective commitments to South-South Collaboration and take SAFHR one step forward towards sustainability.

Addressing the gathering, Special Guest of the ceremony, *Dr. Pliangbangchang*, said that the meeting was quite relevant in the present regional context, as it had the objective of strengthening regional collaboration and sharing innovative methods of Maternal Mortality Measurement (MMM). He reminded the participants of the call to achieve Millennium Development Goals (MDG) by 2015 and added that it was difficult to meet the goal of maternal mortality in the target period. "So, research in MMM is indeed relevant", he said. He also stressed the need for conducting research on socio-cultural aspects of maternal mortality in addition to its measurement. He urged all the stakeholders to go beyond classical health research focused on medical and health aspects to multidisciplinary and operational research. He said that while dealing with certain health threats at regional or national level, there is also a need for global perspective.

Concluding his address, he expressed his gratitude towards the organizers for their farsighted vision on health research in South Asia and assured his continued support for health research activities in South Asia Region.

Delivering his inaugural address, *Hon'ble Pokhrel,* noted that Nepal has made remarkable progress in health sector over the past decades citing the findings of the Demographic Health Survey (DHS) 2006. He opined that committed policies and plans of the government

have contributed a lot to this progress. Giving an overview of the free health care policy adopted by Government of Nepal (GoN), he mentioned the challenges of free health care policy and emphasized the necessity to strengthen research as major attempt to address the challenges faced by health sector. He also noted that the budget allocation in health research has been increased to 0.5% in the government's health budget and by more than 6% of WHO country's budget.

He further added that government had even allocated fund for SAFHR and the MOHP is committed to further increase health research budget in the years to come. Concluding his remark, he expressed the hope that the program would focus on further operationalizing collaboration on health research and assured of the government's support for such program's endeavors.

In order to sensitize guests about the theme of the meeting, *a keynote speech on "South-South Collaboration in Health Research"* was delivered by *Prof. Dr. Gopal Prasad Acharya*, former Chairman of NHRC.

At the outset Prof. Acharya, emphasized that the goal of south-south collaboration in health research is to achieve improvement in health status of the population in the South Asia through use of research for evidence based policy development.

He stressed that the people in the member countries in the region suffered from triple burden of diseases which included infectious diseases, increasing prevalence of non- communicable disease and the threat of emerging diseases such as SARS and Avian Flu. In addition to this, vector borne disease are quite prevalent in the region which are cross border issues and need to be managed jointly by the countries concerned. There are also public health problems such as typhoid fever, snake bites, rabies and organo-phosphorous poisoning which are specific to our region for which we need to find specific and effective treatment through research. Health Research should be promoted to find solutions to the many public health problems prevalent in the region.

Reviewing the research scenario in the SEARO countries, he stated that the capacity for health research was weak and limited in the region and underlined the urgent need to strengthen the research capacity in order to promote high quality health research in the region. Other challenges of research promotion included insufficient number of research scientists in the region, insufficient funds for research, lack of research environment, lack of research culture and lack of collaboration and coordination in health research.

He stressed that south-south collaboration in health research could facilitate research capacity development in the region through development of joint training programs, sharing of expertise, resources and information between the countries, and by promoting multi-country, multi-centric research on common public health problems in the region. Despite various research challenges in the region, he opined that south - south collaboration in health research could address many of them.

Then, Professor Acharya made an overview of south-south collaboration in science and technology and its positive impact on the development of science and technology in many

countries. He briefly outlined the work of the Academy of Science for Developing Countries (TWAS), Consultative Group on Agriculture Research (CGIAR), Iberian American Program on Science and Technology and OIC -COMSTECH on development of science and technology.

Following this, he described the role of South East Asia Ministers of Education Organization [SEAMEO] in development of Science, art and culture in the region. He also highlighted the role of SEAMEO-TROPMED Network which was established in Bangkok in 1968 for promoting education, training and research in Tropical Medicine and Public Health. He mentioned that under SEAMEO TROPMED Network, regional centers of excellence have been established in Indonesia (Nutrition), Phillipines (Public health and hospital administration), Malaysia (Parasitology and Entomology), Bangkok (Tropical Medicine) and all those centers have been doing commendable work.

Prof Acharya opined that SEAMEO TROPMED Network was a good example of south-south collaboration and suggested that something similar should be done among member countries in South Asia to promote health research in the region.

He also outlined following benefits of south -south collaboration: (a) an opportunity to work together to develop shared common vision and goals for promotion of health research in the region, (b) commitment to work together in the spirit of partnership to address the public health problems of high priority in the region including cross border issues, (c) to maximize optimal utilization expertise and resources available in the region, (d) to develop research capacity of the research scientists together through development of joint training programs and participating in multi-centric research, (e) opportunity to work together in multi-country multi-centric research to develop innovations, new technologies and cost effective interventions to address the major public health challenges specific to the region.

According to him, it was precisely with these benefits in mind that SAFHR was established in 2003. The Vision of SAFHR is "Achievement of better health for all people living in the South Asian region". The mission of SAFHR is to facilitate regional collaboration in health research among the South Asian Countries in order to address the common health problems through health research.

Prof. Acharya expressed his happiness that the second Meeting of SAFHR was being held and he put forward a number of strategies for promoting SAFHR further. The strategies recommended include institutionalization of SAFHR; development of formal linkage and networking; identification of regional research priorities; promotion of multi-country multi-centric collaborative research; advocacy for and creation of political support for health research in member countries; sharing of expertise, resources and research information on regular basis; building up regional capacity in health research; mobilization of adequate financial resources for health research; creation of regional health research fund; development of regional centers of excellence in health research and expansion of collaboration beyond the region.

Concluding his remarks, Prof. Acharya said that SAFHR needed to be promoted as he was convinced that it would definitely create positive impact on the health of people in the

region. He also requested all delegates to work together to strengthen SAFHR by creating political will for south-south collaboration in the member countries and mobilizing financial support for it. In addition to promoting health research, strengthening SAFHR will also foster social and economic link between countries in the region and enhance southern voice for health research in the international forums.

The inaugural session also included a *special remark* from *Dr. Marge Koblinsky*, Director, PHSD, ICDDR, Bangladesh. In her remark, she shared some projects of ICCDR-B looking for the successful areas of the southern countries which had reduced maternal mortality or increased the use of skilled birth attendants. She highlighted three main reasons for maternal mortality problems; human resource issue, financing and costing issues and measurement issues. She stressed that there was need for both social and operational research to improve quality of maternal health services. She further opined that cross border adaptation among south countries is much easier due to many similarities. She agreed with the remarks of Prof. Acharya that there is necessary to take the voice of South to the international arena and hoped that the meeting would end up making the southern voice stronger and determining the priorities for collaboration. She also showed her keen interest to contribute to the forum, particularly in the matter of maternal health issues.

Delivering his address, *Dr. Mahesh Kumar Maskey*, Chairman of the inaugural ceremony extended his gratitude to all the participants for their overwhelming participation in the meeting. He put forward his vision of moving beyond the South Asian countries to South East Asia and finally culminating to Asia forum for health research to have an influential voice in various global forums. He also regretted for not being able to materialize ideas and plans of SAFHR, developed in 2003. He however assured that the initiative would be taken to right track in the near future. Moreover, he also urged all the member countries to come up with their innovative and effective ideas and express their firm commitments to translating them into actions.

At the end of the session, *Dr. Sarad Raj Onta*, Member, SAFHR sub-committee, delivered a *vote of thanks* individually to the chief guest, the special guest, resource persons, funding institutions and collectively to all the participant guests from home and abroad. He also extended his sincere thanks to the staff of NHRC and journalists for their hard work and cooperation.

Master of ceremony of the inaugural ceremony was Dr. Achala Baidhya, Member, NHRC board. Ms. Sanju Bhattarai, Researcher, NHRC and Ms. Shailee Singh Rathour, Coordinator, MFBP, NHRC were the rapporteurs for the ceremony.

II. Introductory Session

Dr. Mahesh Kumar Maskey, Chairman of NHRC, requested all the participants to give their brief introduction. He nominated Professor Imrana Qadeer as the Chair and Dr. Huma Qureshi as Co-Chair of the technical session.

III. Technical Session

A. Paper Presentation

The technical session had strong emphasis on sharing ideas about innovative methods of measuring Maternal Mortality. The session began with presentation of Dr. Marge Koblinsky with due focus on global perspective in measurement of maternal mortality, followed by presentation of Dr. Maskey on Nepal's experience in measuring maternal mortality.

Dr. Marge presented a paper on *"Measuring Maternal Mortality- What's New?"*. She said that she would be talking about the experience of IMMPACT. She shared to the audiences various ways of measuring maternal mortality with advantages and disadvantages of each method. She stressed the necessity to develop our own way of measuring MMR where vital registration is not good. She added that even where vital registration is good, there is possibility of misclassification, especially in early pregnancy deaths, emergency deaths, ectopic pregnancy and abortion deaths. Hence, she highlighted the need of more tools for the following reasons: to make sub national estimates of MM, timely estimates on MM, disaggregation of MM by various characteristics, evaluation of effectiveness of interventions, logistical and capacity considerations and reduction of expenses.

In this context, she shared in details about some of the methods of IMMPACT for measuring maternal mortality like MADE-IN/MADE-FOR (MI/MF), Sampling at Service Sites (SSS) and Rapid Ascertainment Process for Institutional Deaths (RAPID). MI/MF approach uses network of village-based informants to identify maternal deaths among women of reproductive age, follow-up interviews with families to conform causes of death, and capture-recapture technique to assess/adjust for completeness. The results from MI/MF approach in Indonesia were comparable with results from DHS 2003 and WHO/UNICEF/UNFPA 2005 surveys in Indonesia. Likewise, SSS approach meets respondents at a service setting as opposed to household in conventional surveys. Six field trails have been conducted to validate this approach. Further, RAMOS is a facility-based data capture method where information is extracted from registers and selected case notes regarding women who died during 15-49 years for evidence of pregnancy-related status. RAPID is a practical method that alerts hospitals against the prevalence of underreporting maternal deaths.

Wrapping up her statement, she stated that census of maternal deaths at sub-national level is possible at low cost using appropriate village informants' network. She further said that accuracy of deaths could be increased by using capture-recapture technique and routine estimates could be obtained by use of method prospectively.

Dr. Mahesh Kumar Maskey presented a paper entitled "*Motherhood Method for Measuring and Monitoring Maternal Mortality (Nepal's experience)*". In his paper, he emphasized on high level of maternal mortality, especially in South Asian countries, as urgent public health concern. Although reduction in maternal mortality had become a global priority, he stated that the available methods for its measurement were either less appropriate or less efficient in terms of validity, precision, cost and time. He added that every method developed till date had got certain limitations and pitfalls. In particular, he pointed out that "Direct Sisterhood Method" was not appropriate for measuring progress towards safe motherhood in short time interval and for comparing sub national estimates. He added that it neither helped in evaluating program impact nor in risk factor analysis. Moreover, it was also affected by high

level of migration and declining fertility. This sort of difficulty led to one school of thought in order to emphasize process indicators like deliveries conducted by skilled birth attendants, availability and accessibility of emergency obstetric care and contraceptive prevalence rate so as to take proxy of reduction in maternal mortality.

To overcome the limitations of existing methods of measurement, he proposed an alternative method "Motherhood Method", which could be a promising method of measurement of maternal mortality. He highlighted the strengths of the method which elicits information regarding births and maternal deaths through vaccination register (BCG and TT vaccination), GFD with mothers/ health workers, peer memory or memory aids and interview based diagnosis (verbal autopsy). He stressed that motherhood method could give current estimate of maternal mortality as well as midpoint estimate of 2–3 years before the survey and trend analysis over the years. By using this method, the issue of sampling or other random error would be eliminated or greatly reduced and conduction of etiologic research for quantifying the effect of different risk factors related to maternal mortality could be possible. To support his claim, he gave evidences from field tests conducted in Divyanagar VDC and Bara district and its further validation done by conducting a census in some of the wards of Bara district.

However, he admitted that some limitations of the methods like requirements of training of field assistants, motivation and orientation of community key informants, health volunteers, workers and mother groups and also the recall bias.

Finally, he said that the motherhood method was a response to the call for the importance of census and alternative method that approximate it and hence he justified the application of the motherhood method in maternal mortality study in developing countries, particularly in South Asia.

B. Floor Discussion

i. Issues Raised

The participants raised different issues like underestimation of still births and abortion related deaths, possibility of linking various process indicators with the cause of maternal deaths, completeness of birth records, consistency of demographic Health Survey and Assessment of burden of disease in Nepal in sub national estimates of maternal deaths and problem of collecting data in municipality.

ii. Response from Presenters

In response to the query of linking various process indicators with causes of maternal deaths, Dr. Koblinsky stated though it was necessary, it was a difficult task. Supporting the views of Dr. Koblinsky, Dr. Maskey added that there was risk of obtaining false picture without linking results of maternal mortality with process indicators. "It is rather important to reverse the traditional approach of finding problems and cause of problems towards the approach of finding strengths of the program which has resulted in improving health indicators", he said.

Regarding the completeness of birth records in motherhood method, Dr. Maskey explained it with evidences from census done in certain wards of Bara district, in which acceptable error of about 0.25% was found. He said that among the various methods, Motherhood

Method was the only method which had the potential for capturing still births and abortion related deaths. He explained that it had a unique approach of going into the community mothers, encouraging peer memory in group and in certain uncomfortable conditions, collecting information privately also, which ensured coverage of all types of abortions, including induced ones.

Moreover, Dr. Maskey said that despite some obstacles in collecting data from municipality, it was possible to collect equally precise data from municipality also, but it needed different strategy. He explained it according to experience from "Assessment of burden of disease in Nepal" study. However, he admitted that development of the method should focus its efforts on municipality data as well.

iii. Remarks from Chair of the session

Prof. Qadeer said that the paper presenters had addressed the most crucial issues, and in those issues, quick and correct methods that were forward looking were necessary. She added that pubic health should focus its activities more on consistency of the methods for comparison rather than their perfection. She also highlighted the fact that we had so many undiagnosed and misclassified deaths in the hospitals which was a major challenge in measurement. She stated that computer was not going to help in those issues. "We should rather improve the kind of training we give to young doctors which is more important in maintaining good record", she said. She concluded by showing her gratitude for using Female Community Health Volunteers (FCHVs), Traditional Birth Attendants (TBAs), and local women in measurement of maternal mortality, as they are the strengths that truly exist in our system.

C. Group Work

Extensive paper presentations by Dr. Marge and Dr. Maskey set tone for the group work and contributed to effectiveness of group discussion. The participants were divided into two groups.

Group work was basically focused on the following issues:

1. Discuss strengths and weaknesses of several methods used for measurement of MMR,
2. Determine possibility of replication of some of these methods in other countries like "Motherhood Method" being tried in Nepal and
3. Plan further steps for consensus on methods for MMR measurement among SAARC countries.

D. Group presentation and discussion

The participants and experts participated in group discussion enthusiastically and made some remarkable recommendations. Both of the groups focused their discussion mainly in Motherhood Method as it was newly introduced at the meeting.

During the group work, the strengths and weaknesses of the commonly used methods for measurement of Maternal Mortality were discussed but much focus was given to Motherhood

Method. Similar views were expressed regarding the strengths and weaknesses of the motherhood method. The ability of the method to give current and sub-national estimates in efficient manner in terms of cost and time was considered as the main strength of the method. The method's weaknesses such as inability to get nationally representative data, chances of under/over reporting and missing very early neonatal deaths, early pregnancy deaths, unmarried women, suicide cases, murder and abortion deaths were raised.

In response to the issues raised, Dr. Maskey clarified that it was possible to get representative data at national level if a large sample was taken to narrow down confidence interval. He admitted that covering early pregnancy deaths was a real challenge for the method. "However, if we devote sufficient time in field and gain trust of families, information of such issues will come unless there is some legal problem attached with it", he said.

He added that even in countries where there was good vital registration, underreporting existed. So, he said that the method could be used as a test in Sri Lanka for validation of their surveillance system and also to test the accuracy of method. Concluding his presentation, he said that if the region followed up such innovative methods, it could contribute to global understanding of measuring maternal mortality.

E. Recommendations from group work

The group recommended that it was possible to replicate Motherhood Method in other countries, but appropriateness should be judged by taking into consideration the country's situation. Considering the Sri Lankan situation of low MMR and high coverage of maternal death reporting, a pilot study of the method in Sri Lanka at sub-national level was suggested.

The group also proposed to establish linkages with research institutions and large NGOs in the region to replicate the method. Apart from this, they also recommended on standardization, documentation and communication of the method with Maternal Health and Epidemiology Research Group (MHERG) in Geneva. Further, they stressed on the need to establish and strengthen surveillance system to report/ identify maternal deaths, preferably using the existing health system.

IV. Reception Dinner

A dinner reception was hosted for all the participants who were invited to the inaugural ceremony. On the occasion, Hon'ble Minister for Health and Population presented souvenirs to the international participants as tokens of love.

Day Second

I. Business Session

The main focus of this session was to identify mechanisms for collaboration in health research among south-south countries. The session was concentrated on the keynote speech on "South- South Collaboration in Health Research" delivered by Prof. Dr. Gopal Prasad Acharya at the inaugural ceremony of the first day. A wide range of activities from group work to drafting of the Kathmandu Declaration on south-south collaboration in health research was successfully conducted in this session.

A. Group Work

The second day of the meeting began with revived enthusiasm and keen interest among the participants. The participants were divided into two groups and asked to choose their rapporteur and chair person for group discussion.

The groups were requested to focus their discussion on the following issues:

1. Identify mechanisms for ongoing collaboration among member states,
2. Identify priority areas for collaborative research on important public health concerns, and
3. Identify funding mechanisms for the research project.

B. Group Presentation and Discussion

Reviewing the keynote speech, each of the participants discussed in their group to bring out some concrete points.

Each group held discussions and presented some tangible points. Both the groups had the common view of setting up secretariat in one of the member countries for tenure of three years. Group 1 showed their concern regarding structure of SAFHR and came up with its working definition as an organization of health/medical research councils and research coordinating organizations from the region. This group also proposed to set up a steering committee consisting of representatives from each member countries. Likewise, Group 2 proposed the need for website, newsletter and online communication for strengthening networking among the member countries. They also put forward the concept of formalizing SAFHR by registering it through the SAARC Secretariat but Dr. Suniti Acharya opposed to the idea, according to her experience of working with SAARC secretariat, saying that the process was very tedious and highly formal. She further added that it would only make more difficult to work and other countries beyond SAARC would not be able to become member of SAFHR, which would hinder the long term vision of Asian forum. She suggested that its possibility should be explored in the long run. "But right now, we need to adopt other modalities", she said.

Besides identifying some concrete areas for collaborative research, the group highlighted the need for dissemination of research findings to avoid duplication and use the evidence for practice. For financial sustainability of SAFHR, they called for seeking support from the government and international partners and collecting membership fees from member countries.

C. Recommendations from Group Work

The groups recommended developing a steering committee from respective member countries in which the chairperson of the committee would be from the country where the secretariat is located. It was proposed to set up SAFHR secretariat in Nepal for the first three years and

rotate it to other member countries according to alphabetical order. The group also put forward some specific areas to conduct multi-centric research.

D. Drafting Kathmandu Declaration

A Declaration Drafting Committee was formed to draft the Kathmandu Declaration. Prof. Harum-Ar-Rashid was the chair of the committee. Representatives from Bhutan, Thailand, Maldives and Sri Lanka were the core members of the committee while, representatives from Nepal, India and Pakistan were requested to help them. The committee was entrusted with the responsibility of drafting the commitments as per the recommendations made by the group, while the preamble for the declaration was prepared separately.

II. Closing Session

The closing session was chaired by Dr. Mahesh Kumar Maskey and Hon'ble Shashi Shrestha, State Minister of Health and Population was the chief guest of the session.

The session started with the presentation of the preamble of declaration by Dr. Maskey and the remaining part of the declaration was presented by Ms. Maimoona Aboobakuru from the Maldives on behalf of Prof. Harum-Ar-Rashid, the chairperson of the Declaration Drafting Committee.

The presentation and adoption of the Kathmandu Declaration was followed by remarks from Dr. Ong-Arj Viputsiri, Regional Advisor, SEARO. He congratulated the organizers as well as the participants for the successful completion of the inter-country meeting with overwhelming participation and interaction. He regarded the workshop as a platform for sharing experiences, knowledge and responsibilities among member countries on managing global research issues and challenges. He highlighted the need to increase investment in collaborative public health research.

He also showed his concerns over the existing difficulty in maternal mortality measurement and recommended the primary health care approach, integrated surveillance system and partnership among public, private and NGOs to overcome them. He pledged WHO's support for health research.

Hon'ble Shashi Shrestha, State Minister of Health and Population congratulated NHRC for taking the historic initiative. She stated that Nepal was on the right track to meet MDG-4 and has achieved an impressive result in reducing maternal mortality. She, however, mentioned that there were still controversies about the statistics related to maternal deaths. She stressed that the initiative taken by SAFHR to deliberate upon innovative methods for measuring maternal mortality as relevant in the present context. She said that reproductive rights were basic human rights and even a single woman should not die of preventable causes while giving birth to a baby. She stressed that significant progress that has been achieved in health over the past several decades in our countries has not equitable. She added that several attempts have been taken to address such challenges by articulating them in the national health policies and strategies referring to Free Health Care policy. Concluding her remarks,

she expressed her gratitude to the participants for their deliberations on such issues and for making concrete recommendations for further actions like the Kathmandu Declaration.

At the end of the session, the international delegates were asked to give their concluding remarks.

Representative from Bhutan, Mr. Nima Sangay extended his sincere thanks to NHRC for taking such an initiative. He stated that the meeting had provided them an opportunity to learn various strategies to measure MMR and replicate them in their countries. He said that Bhutan would keenly look forward to collaborating in health sector in future.

Similarly, representative from India, Prof. Imrana Qadeer said that she wished it would have been better if there were representation from the government for making commitments. As an academician, she expressed her interest to coordinate and work further with Nepal.

Representative from the Maldives, Ms. Maimoona Aboobakuru said that her country would definitely benefit from such collaboration, as it had almost no capacity for health research. She expressed her heartfelt gratitude to the organizers for inviting her and ensured collaboration in all manners.

Dr. Huma Qureshi, a representative from Pakistan, congratulated Nepal for revitalizing SAFHR and hoped for successful endeavors in future. She pledged all types of support from the Pakistan Medical Research Council (PMRC) for enhancing regional collaboration in health research. She highlighted the presence of ministers in the meeting as Nepal's strong commitment to taking health research forward.

On behalf of Sri Lanka, Dr. Upul Senarath expressed thanks for the exceptional hospitality and courtesy shown by the organizers and assured them of her full support and cooperation to implement the declaration.

Delivering his closing remarks, Dr. Mahesh Kumar Maskey, chair of the closing session, said that it had become a kind of dream to revive SAFHR and develop strategies for it. He thanked the participants for their sincere efforts and valuable suggestions. He also extended his sincere gratitude to the Chief Guest for her presence in the meeting and commitment towards developing health research in Nepal.

He informed that the steering committee would be formed from among of those who attended the meeting. According to him, the date and venue for the next meeting would be decided by the steering committee. Concluding his address, he said that despite resource constraints, Nepal had taken the step to generate research based evidences that would help support policy making and program implementation.

ANNEXES

Annex I

Kathmandu Declaration of South Asian Forum for Health Research
8 July, 2008

"Enhancing South-South Collaboration in Health Research"

Preamble:

South Asia has a major share of global burden of diseases, partly due to the size of its population and particularly because it houses more than a third of the world's poor. South Asian and other developing countries are in the epidemiological transition and face double burden of disease where communicable diseases still persists, where as non-communicable diseases are on the rise and the reduction of maternal mortality is still a challenge for South Asia region. However, the Region has made significant progress in health development with a considerable increase in life expectancy, and decrease in infant and under-five mortality and maternal mortality. Most countries have initiated reforms of their health systems in order to ensure universal access to quality health care. Yet important challenges remain: closing the gaps and inequities in health in our societies, creating conditions that promote health and self-reliance, ensuring basic health services to all especially the poor, women and other vulnerable groups, upholding and enforcing health ethics, and placing health at the center of development.

Meeting health challenges of today and tomorrow-such as achievement of the health related MDGs, stemming the burden of diseases can not be achieved by using conventional approaches, or by a single country. It requires new insights through collective research and networking among the countries. To address such challenges, it is necessary to create an environment that generates collaborative research for evidence based policies, planning and program implementation. To this end the idea of South Asia Forum for Health Research (SAFHR) was conceived in 2003.

Since then many important developments at the international level such as Global Ministerial summit held in Mexico in 2004 have taken place, which acknowledged research as an essential component of strong health systems, and called for allocation of at least 2% of national health expenditure and 5% of development aid in health research.

While this regional meeting has focused on the development of strategies for organizational structure, resource generation, capacity strengthening and identification of priority areas for collaborative research in this region, it recognized the importance of expanding this collaboration with other developing countries

We, the participants of Katmandu meeting of SAFHR, agree to pursue the following strategies for fostering collaboration and partnership in health research in South Asia region and beyond:

1. We commit to promote research in South Asia through SAFHR by cooperating in research, capacity strengthening and knowledge sharing.
2. We agree to setup a steering committee from respective member countries and the chairmanship will be rotated and will have tenure of three years. The chair person of the committee will be from the country where the secretariat is located.
3. We agree to attach the secretariat to NHRC for the next three years because NHRC was the originator of the SAFHR. After this period the secretariat will be transferred to the member countries according to alphabetical order.
4. We plan to conduct multi-centric research in the following areas:

    - Maternal, new born and child health
    - TB, HIV/AIDS, Malaria and other communicable disease
    - Malnutrition.
    - Non communicable disease, Trauma
    - Environmental Health
    - Neglected illnesses
    - Health Systems research

5. We agree to ensure funding support from national governments and also seek additional funds from different national and international organizations that are promoting research in areas identified by SAFHR and we hope to – over time- create a "South Asian Research Fund".
6. We commit to work together to promote health research, mobilize political support and develop a strong *Southern Voice* on health research in the global community.

Annex II

Welcome Speech

Dr. Suniti Acharya, Coordinator, SAFHR

Mr. Chairman, Chief Guest, Honorable Minister of Health and Population, Mr. Giri Raj Mani Pokhrel, Special guest, Dr. Samlee, Regional Director, WHO South East Asia Region, Excellencies, Dr. B. Pandit, Secretary Ministry of Health, Dr. Govinda Ojha, DGHS, Representatives from the research councils and research institution from Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, SriLanka, Thailand, Resource person ;Former chairpersons, Representatives of EDP supporting health sector in Nepal, Maternal health experts from Nepal and abroad, Representative of the media, Participants, Ladies and Gentle man.

It is indeed a great honor and privilege for me to welcome all of you in this very important regional meeting of South Asia Forum for Health Research being held in Kathmandu with the theme of "Enhancing South South Collaboration in Health Research". On behalf of the organizing committee I extend my hearty welcome to all of you.

Ladies and Gentlemen, we all know that though there has been significant progress in health over the past of decades in developing countries but the progress has not been equitable. Similarly there has been tremendous progress in the area of science, technology diagnostic and therapeutic techniques relating to health, the access to these has not reached to the poor people. The viscous cycle of poverty and ill health continues. Until few years ago health sector was seen as a social sector consuming resources and did not get due priority in National development planning. The fact that there is a direct link between people's health and development, the investment in health and education contribute to national development and the need for greater investment in health for development began to be recognized by the national and international development players in the 90's only. Recognition of these fact got expression in MDG, which contains 8 targets related to health.

Similarly, role of health research to improve the design of health interventions policies and service delivery started getting recognition in the 90's. The fact that out of 70 billion dollars spent worldwide, only 10 percent of this were used into 90 percent of the worlds health problem, the so called 10/90 gap was widely publicized in the 90's and drew world attention. Since there have been several international, regional and national developments which provided moral, ethical and financial support to health research. In this context South Asian Forum for Health Research was created in 2003 to facilitate regional collaboration addressing common health problems for achievement of better health for South Asian People though concept mission, vision and broad modalities for working were developed in 2003, the progress was slow in operationalization.

The present regional meeting of SAFHR is being held with the Theme of Enhancing South South Collaboration in health research with the support of GON, WHO and SSMP. The objective of this meeting is to explore ways of strengthening collaboration, identify funding mechanisms and to identify priority areas for collaboration. In this context as Maternal Mortality is one of the most important public health problems in South Asia and reduction of MMR is main target in MDG 5, we have identified this as the highest priority area for this meeting. As currently available methods for measuring maternal mortality are not perfect, we wish to share innovations and experiences in this area and explore the possibility of replication. For subsequent meetings other high priority issues will be selected.

The expected outcome of this meeting is that the concept of SAFHR initiated in 2003 will be operationlized and continuation and expansion of SAFHR to South South collaboration and beyond will be ensured. At the end of the meeting a Declaration will be issued which will signify our collective commitments to South South Collaboration and bring us one step forwards towards sustainability of SAFHR.

Once again, I wish to welcome the Honorable Minister of Health Mr. Pokherel and the Regional Director of WHO / SEARO, Dr Samlee for their presence and support to this meeting.

Remark of Special Guest

Dr. Samlee Plianbangchang, Regional Director

WHO, South – East Asia Region

Your Excellency, Giriraj Mani Pokhrel, Minister of Health and Population Government of Nepal, Dr. Suniti Acharya, Coordinator, SAFHR, Dr. M. K. Maskey, Executive Chairman, Nepal Health Research Council, Distinguished Members of SAFHR, Distinguished Participants, Honorable Guests, Ladies and Gentlemen, indeed, it is an honor for me to address this august gathering. I sincerely thank the organizers of the meeting for the invitation.
This Forum is really important in promoting health research in the South Asia. The two objectives of the meeting are timely:

- To explore the ways of strengthening collaboration in health research in South Asian Countries, and
- To share innovative methods for measuring Maternal Mortality Ratio (MMR).

Ladies and gentlemen, all countries are expecting to achieve MDGs by the year 2015. Among these goals, it's very difficult to reach is Goal 5 – to reduce by three-quarters the maternal mortality ratio. Most countries in the developing world are having difficulty to reach this goal on the target date. Our attention to research on measuring maternal mortality ratio is indeed relevant to our strategic need in this regard. In addition to its measurement, I would like the meeting also to think of research in other aspects of maternal mortality. Among others, I strongly believe that there is a significant association between maternal mortality and socio-cultural context of the countries concerned. In such situation, effective intervention to reduce maternal mortality ratio must also take into account its social and cultural dimensions. Whoever involved in the development and implementation of programme to reduce maternal mortality must clearly understand its associated socio-cultural aspects. Research in this area of Maternal mortality is really needed to guide the development of effective intervention programme; the programme that can ensure reaching MDG5 in the developing world on the target date and can ensure a long-term sustainable achievements in maternal health.

Distinguished participants, in a broader context, "today health research" needs to go beyond "classical health research", which focuses heavily on health and medical sciences. Research for health today should be considered in the very broad context to include any research efforts that can have a direct or indirect bearing on health of the entire population. As we understand to day, health has gone for beyond the arena of health sector. For health in this context, we also need research in the areas such as social science, meteorological science, and others. To pursue "research for health" in this broad scenario requires coordinated

efforts of various disciplines and sectors. Therefore, discussions at this meeting on regional collaboration and networking of research councils are indeed relevant to the today development needs in health. For this, we need to go beyond health sector in identifying multidisciplinary and multisectoral research that can contribute effectively to the overall health development endeavors.

Ladies and gentlemen, today, we need multipoint research that can help in the development of effective interventions to reduce global health threats; and to promote international health security. While we think nationally and regionally, we have also to think globally. Health issues to day are globally interrelated and interlinked. We can not work alone nationally or regionally. We have to join the world community in pursuing certain health research. In this regard, we need international community in to join pursuing research in the areas such as climate change and Global warming, outbreak and spread of highly pathetic infectious diseases and disasters, natural or man-made.

Now looking at another level of development, this year is the thirtieth anniversary of Alma Ata Declaration on PHC. We are revitalizing PHC in order to improve our strategy towards the attainment of equity and social justice in health. This is to ensure reaching the unreached; and to promote health as a fundamental right of everyone. While PHC principle is still considered valid for its today application; but such application in the current health development scenario needs new vision and innovative approaches. For this, we need evidence from multidisciplinary research for reorienting our perspective and strategy, as far as PHC to tackle today formidable head the challenges is concerned.

Furthermore, we need operational research, among other research, to support effective development and management of "public health programmes"; the programmes that deliver "public health services" directly to the entire community, the entire population and the service delivery that ensure accessibility by everyone in the entire community, in the entire population. These research needs are in public health areas such as disease prevention and control, environment health, and health promotion. Today public health is moving more and more towards primary prevention, the prevention that focuses on health strategies on health risks and health determinants. Much more research is needed in the areas of health risks and health determinants. Health risks and health determinates to a large extent are country and locality specific research in this regard. We are now strategizing our public health work in the way to keep people staying healthy; rather than to wait for them to get sick and to treat them. To move effectively into the area of primary prevention, we all know well that we need a lot of research efforts in a broad sense to back up the development of intervention strategies. Let us make "public health research" our overriding priority in our health research agenda.

Ladies and gentlemen, these are few contributions from me to the deliberations during the course of the meeting. I very much value this meeting of South Asia Forum for Health Research and look forward to productive interactions and successful outcome. I congratulate the organizers of the meeting for the farsighted vision on health research in South Asia. WHO stands ready to support health research activities in the South Asia Region. I finally wish the meeting all the best and all success. And I wish all participants a wonderful stay in this serene city of Kathmandu.

Thank you.

Inaugural Address of Chief Guest

Honble Giriraj Mani Pokhrel, Minister of Health and Population

Chairman of Inaugural ceremony Dr. Mahesh Maskey, Hon. Dr. Samlee Pliangbangchang, Regional Director of WHO, Excellencies, Distinguished participants.

A very warm welcome to you all in Kathmandu

Nepal has made remarkable progress in health sector over the past decades despite the geographical and other constraints like poor socioeconomic status. The DHS 2006 shows improvement in IMR and U5MR from 64 and 91 per 1000 live births in 2001 to 48 and 61 per thousand live births in 2006 respectively. Maternal mortality rate has also come down to 281 per 100,000 live births from 539 per 100000 live births in 1996. The public health system of Nepal has become a subject of research interest for international community.

Our Health policies and strategies reflect our commitment in basic human rights and the ethical concepts of equity and social justice, fundamental to the sustainable pursuit of health for all. Our policies and strategies also recognize close inter relationship between poverty and ill health and commit to address the health needs of the poor as the highest priority and we are committed to meet MDGs applying the principles of Alma Ata and Primary Health Care. Nepal has made health services universally free in the community level and providing targeted free care in Primary Health care center and District Hospitals.

However, challenges such as closing the gaps and inequities in health in our societies, creating conditions that promote health and self-reliance, ensuring basic health services to all especially the poor, women and other vulnerable groups upholding and enforcing health ethics, and placing health at the center development remain. We need to work harder to meet such challenges

To address such challenges, it is necessary to create an institutional environment by articulating consistent and evidence-based policy and advocacy positions, strengthening the governance of the health system, enhancing partnerships and improving the capacity and providing appropriate incentives for generating evidence-based information through effective epidemiological surveillance, health system research and biomedical research so that our policies and strategies are based on reliable evidence.

For this reason we have raised the budget for research in the past year and we are strengthening the National health council as an apex body to facilitate, monitor and conduct research relevant to the health policy needs. Diseases are not confined by the borders and so is the human intellect. We need to forge partnerships to mobilize resource, transfer technologies,

and to do collaborative research so that we can address challenges faced by the health sector for the improvement of health of our people in our region and beyond.

Meeting health challenges of today and tomorrow-such as achievement of the health related MDGs, stemming the burden of chronic diseases, or pandemic preparedness and response can not be done by a single country .It requires new insights, research agendas, and networking. We need to expand partnerships and make collective and collaborative efforts for addressing common health problems, particularly cross border issues.

We are also aware of the international scenario developing in this area In 1990, the commission on Health Research for Development noted that only 5%of the global spending on health research went to problems affecting the poorest 93% of the world's people, now known as the "10/90 gap". The commission had recommended investment in essential national health research, international partnerships, and mechanisms to monitor progress and for that to assign 2% national health expenditure and 5% of development aid on health research. This position was reiterated by the Ministerial meeting in Mexico in which Nepal was a signatory. It was also reiterated in World Health Assembly's resolution on Health research, on May, 2007.

In spite of resource constraints, Nepal has increased the research allocation to 0.5% of health budget and WHO country budget allocation on research has increased more than 6%. We had even allocated fund for SAFHR and I am happy to see that it helped to bring together scientists and researchers from across the region. The health ministry is committed to further increase research budget for the next fiscal year research and I hope the external development partners will also increase the budgetary share in development aid We are looking forward to participate in the Bamako summit which is being held this year which will take stock of the activities since Mexico meeting and suggest way forwards.

I understand that this regional meeting of South Asian Forum for Health Research with the theme of "Enhancing South-South collaboration in Health Research" in taking place in the present context and will be focusing on operationalizing the concept of South-South collaboration of developing countries in health, reaching beyond the south Asia region.

I expect that this meeting will identify mechanisms for collaboration and networking among Research Councils and other relevant agencies which will be operationalized and continuation, sustainability and expansion of SAFHR will be ensured.

On behalf of the Government of Nepal, Ministry of Health and population, I assure you of our support to your endeavors in this regard. And I hope you will have an enjoyable stay in Kathmandu.

Thank you

Remarks of Chairperson

Dr. Mahesh Kumar Maskey, Chairman, NHRC

Chief Guest, Honorable Minister of Health and Population, Mr. Giri Raj Mani Pokhrel, Special guest, Dr. Samlee, Regional Director, WHO South East Asia Region, Dr. Gopal Acharya, Dr. Suniti Acharya, Dr. Marge Koblinsky, Distinguished participants from different countries of the south Asian region and beyond.

It gives me great pleasure to see you all this morning here. It has given us an indication that with all your support and such a high profile event, our effort to make South Asia regional collaboration in research and move beyond, will really take a very successful initiative ahead. We may have to move from expanding the south Asia region to south east asia region and finally culminating to Asia forum for health research and bringing other countries also in the forum so that we can really develop south-south collaborative research which will have influencing voice in general north south dialogue, forum of WHO and like that.

I have received very warm response from different countries, especially from Asian countries that I have met in different forums. We have invited delegate from China but unfortunately they could not make it. Also it had limitation of fund, so we could ask for only two outside delegates.

I also want to say that those that have already taken this initiative, as Prof. Gopal Acharya has also given a brief history, it is the second meeting of this kind in Nepal but unfortunately we could not materialize the ideas and intervene our plan at that time but after the people's movement and the process of building up new Nepal, the effort to revitalize SAFHR also speeded up. Along with this, our vision is going towards Asian forum for health research. For that, we are already receiving some promises, some good words from different funding agencies to establish secretariat in Nepal.

I am also pleased to share that Nepal Health Research Council has galvanized some of the most eminent researchers that are there in the countries. There are different sub-committees working in different areas in NHRC. So, NHRC is in the right position to take this initiative.

There are several areas that require collaboration but which area to be prioritized will be decided tomorrow. Also we will prepare Kathmandu Declaration, to delineate what we collectively want to do. I look forward to that declaration and hope that we all will put our ideas and commit to action. I also want to share that NHRC is now becoming WHO collaborative center for research management in SEARO which also a good development to strengthen this regional effort in the days to come. I am very glad to see you all in the meeting and once again thank you for your distinguished participation.

Closing Remark

Dr. Ong-arj Viputsiri, RA, WHO/SEARO

Dear distinguished participants, Members of the South Asia Forum for Health Research (SAFHR), Special Invitees, Observers from National Health Research Council and partner institutions.

First of all, I would like to convey my sincere congratulation on the success of this inter-country meeting, on behalf of WHO/SEARO, on the seriousness and importance in order to improve measuring of maternal mortality ratio to obtain better information for use to reach the MDG-5 goal. This was clearly demonstrated by observing the increasing numbers of the participants and future partners of research institutions from the nine countries and from the interaction and discussion going on during the yesterday and today.

I would also like to congratulate the moderators who handled the workshop so well and stimulate each and every participant to get actively involved in the discussions. This is not an easy task but you all have done so well. I regard this workshop as a platform for sharing the experience, knowledge and responsibilities on the managing this global research issue and challenge.

Research, at the highest scientific level, can be coupled with policies and concrete interventions for meeting the visible changes in the health of the people. The outputs of such research can be translated into action that will help tackle effectively the problems of the poor and underserved population. We need to invest in this type public health collaborative research for better building public health system and local infrastructures that serves the needs of the maternal risk population. We need to invest in research that empowers girl, young mother and women.

I would like underline the important of the objective of this meeting that aimed to introduce dynamic exchange of common issues, challenges, experiences, intelligence and communication on innovative measuring method of maternal mortality ratio across the South-South countries network. Where there is no data is, there is no analysis, so no analysis is then there would no relevant strategic synthesis. But please aware of too much analysis might lead to make paralysis or delay of the use.

Ladies and Gentlemen, in conclusion, I would like to say that determining the maternal mortality ratio, usually defined as the number of annual maternal deaths for every 100,000 live births in a population, relies on accurate data on maternal deaths and their causes. But

these data are difficult to come by for a variety of reasons: Many deaths occur outside of health systems and are not recorded; health workers may not always know the causes of death; collecting the data is costly; and calculating the numbers is complex.

Now the question is "What next?" and "What actions will be taken and when?" Primary health care approaches in developing the community health care team with capability to collect, collate, analyze and bridge both demand and supply sides is crucial. Integrated surveillance system from lay report into health information system from various sources and system is needed to effective linkage for better research evidence and use. Partnership among public, private and NGOs are important indeed. Roles and responsibilities must be delineated to gain the best integrated surveillance and linkages for monitoring and evaluation.

Finally, I would to thank you to all participants and partners from various research institutes to make this meeting great success and fruitful recommendations. WHO is pledged to all out support in whatever ways we can through the network of this South Asia Forum of medical/health research council and research institutions network.

Thank you.

Remarks of Chief Guest
(Closing Session)
Honble Shashi Shrestha, State Minister of Health and Population

Mr. Chairman, Distinguished Delegates from South Asian Countries, Ladies and Gentleman. It is my pleasure to attend this closing ceremony of the very important Regional meeting of the South Asian Forum for Health Research. I wish to congratulate all the scientists and researchers attending this meeting for taking a historical initiative in south-south collaboration and partnership in health research.

Nepal, as you all know, continues to make notable and steady progress towards meeting the Millennium Development Goals (MDGs). Nepal is on track to meet MDG-4 and has also achieved an impressive reduction in maternal mortality. Reduction in maternal mortality is attributable to the increased use of Skilled Birth Attendants and antenatal care, female community health volunteer interventions, increased contraceptive use, legalization of abortion, and especially community initiatives for health development. We expect further progress towards the MDGs from the much expanded use of basic health care services under our free care programs.

However there are still controversies about the statistics related to maternal deaths, especially among the international agencies trying to understand Nepal's status in maternal and child health. The latest figure brought forward by the Government is based on the report of Demographic Health Survey, 2006 which shows 281 maternal deaths per 100,000 live births. WHO South East Asia Region has endorsed the DHS figures. However some UN agencies are still quoting very high maternal mortality figures for Nepal. Such practices create confusion and need to be resolved as soon as possible. At the same time we need to have more efficient and valid methods to measure maternal mortality so that the margin of error is decreased. In this context, the initiative taken by the South Asian Forum for Health Research to deliberate upon innovative methods for measuring maternal mortality is most timely. I hope and believe that the scientists of this region will be able to develop a commonly agreed upon method to measure progress towards meeting MDG goals in terms of reduction in maternal mortality.

I want to be emphatic here. The topic of Maternal Mortality is a very crucial one. Reproductive rights are a basic human right. Not even a single woman should die of a preventable cause while giving birth to a baby. Therefore, we should emphasize a rights based approach to

safe motherhood in which every women and her baby has a right to be counted and to be protected from unnecessary and preventable deaths. In this regard it is my great pleasure to share with you that Nepal is also taking initiative for universal access to reproductive health.

We know that although there has been significant progress in health over the past several decades in our countries, the progress has not been equitable. Similarly, although there has been tremendous progress in relevant areas of science and technology, and in diagnostic and therapeutic techniques relating to health, access to these innovations has not reached to the poor people. The vicious cycle of poverty and ill health continues.

We are trying to address such challenges by articulating our health policies and strategies so that they reflect our commitment to basic human rights, equity and social justice, fundamental to the sustainable pursuit of health for all. Our policies and strategies also recognize the close inter-relationship between poverty and ill health. We are committed to addressing the health needs of the poor as the highest priority, and to meeting the MDGs by applying the principles of Alma Ata and Primary Health Care. In keeping with these commitments, Nepal has made basic health services universally free at the community level and is providing targeted free care in Primary Health care center and District Hospitals. And we are currently making a strong effort to expand universal care in the coming fiscal year.

To achieve the maximum benefit from our policies and strategies, it is necessary to create a suitable institutional environment by articulating consistent and evidence-based policy and advocacy positions. This will be achieved by strengthening the governance of the health system, enhancing partnerships, and by improving the capacity and providing appropriate incentives for generating evidence-based information through effective epidemiological surveillance, health system research and biomedical research so that our policies and strategies are based on reliable evidence.

As the Honorable Minister observed in his opening address, meeting our current and future health needs cannot be achieved by a single country alone. Some health challenges are global; others will have specific regional characteristics due to climatic patterns, socio-economic conditions or even political factors. To meet the most pressing health needs of our people we need to focus our research agendas on the specific realities of our countries and region. To do this effectively we need to forge very active regional partnerships, and also increase our financial self-sufficiency in research. Pandemic preparedness also requires coordinated regional collaborations. We need always to keep in mind that transmissible diseases and diseases endemic to poverty do not respect political borders, hence we must collaborate on common health problems.

In this context, I was gratified to learn that this regional meeting has not only deliberated over such issues, but has also produced concrete recommendations for further action. I observed that you have identified mechanisms for collaboration and networking among Research Councils and health institutions of South Asian countries, as well as for developing methods of measuring maternal mortality in South Asian countries along with innovative approaches and mechanisms for replication. I was especially pleased to learn of the

"Declaration on South South Collaboration in Health Research". I congratulate you for this.In spite of resource constraints and many pressing needs in the curative sector, Nepal has increased its health research budget this year. Our contribution to the funding of this South Asian Forum for Health Research meeting is also an indication of the seriousness of our commitment to effective, needs-appropriate, and collaborative research in our region. We are confident that the distinguished group of scientists and researchers who have gathered here will take forward the South Asian health research agenda, in their own countries, and through ongoing collaboration. I assure you that the Ministry of Health and Population will continue to do its best to support the activities of the South Asian Forum for Health Research.

In closing, I wish to thank you for coming to Kathmandu and for your thoughtful deliberations on very serious matters bearing so directly on the lives of our people. I wish you all a safe journey back home, and continued success in your important work.

Annex II

"South- South Collaboration in Health Research"

Prof. Dr. Gopal Prasad Acharya,
Former Chairman,
Nepal Health Research Council

South-south Collaboration in health research

- South-south collaboration in general is an approach of cooperation and collective effort for self reliance among the developing countries to enhance development.
- The goal of south –south collaboration in health research is to achieve improvement in health status of the population in the region through use of research for evidence based policy development.

The Context for South-South collaboration

- Similar health problem in the region- communicable diseases, vector borne diseases, non-communicable disease, threat of emerging diseases
- Similar environmental conditions-uncontrolled urbanization, poor sanitation, environmental degradation, natural disasters
- Social factors- uncontrolled population growth, low literacy rate, health hazard of political conflicts and migration, rampant poverty
- Weak health system to cope with the many challenges
- Scarce financial resources for health research
- Insufficient number of human resources for health research
- Lack of culture of evidence based planning and decision making

Role of Health Research in health development

- Health research is essential to find effective , efficient and cost effective solutions to the many health problems prevalent in the region
- Health research is the critical tool for evidence based policy and decision making and strengthening health system

Situation analysis of research capacity in the region

- Capacity for health research is variable among the member countries
- Some Institutions in the region are excellent with very good track record

- Collectively quite a deal of research experience in the region
- Sharing of expertise, information and resources is minimal

The Research Challenge for developing countries

- Inadequate institutional capacity for research
- Inadequate funds for research
- Lack of need based research for evidence based planning
- Lack of research communication and utilization of research results
- Urgent need to build research capacity in the region to catch up with the development in northern countries

How South-South collaboration can address research challenges

- Provides an opportunity to work together to develop shared common vision for promotion of health research in the region
- Develop regional health research policy, research agenda and regional research priorities
- Optimize our efforts for research capacity development by sharing expertise and resources
- Research Institutions / organizations in the region work together to find solutions to the common public health problems through collaborative multi-centric research
- Work together to develop innovation, new technology and cost effective interventions to solve health problems specific to our region

What are the benefits of collaboration?

- Develop shared vision and commitment to work together in a spirit of partnership to promote health research in the region
- Identifying health issues that are better addressed jointly-cross border health issues
- Exchanging and drawing lessons relevant to local situation
- Building capacity to set standards and increasing credibility
- Allows researcher to work together on health problems that have high priority in the region, - vector borne diseases, new emerging infectious diseases
- Allows sharing of expertise and resources that are available in the region
- Helps each other to develop capacity to generate new knowledge and to apply it to address priority health problems in the region
- Broadens opportunities for researcher to work in another country and assists in professional advancement and growth

- Provides opportunities for innovations and development of cost effective interventions such as co- development of malaria vaccine, low cost HIV/Aids treatment
- Also fosters social and economic link between countries in the region
- Increases southern voice for health research in international forums

Status of South-South Collaboration

The concept of South-South collaboration is already functioning in several areas. Review done by UK office of Science and Innovation and US science foundation has shown south-south collaboration is increasing due to

- Easy access to Internet, IT and ease of travel
- Variable Science development which fosters cooperation
- Economic development of countries with more spending on science
- Availability of Institutional support for south– south collaboration

Examples of south-south collaboration in science and technology

- The Academy of Science for Developing countries (TWAS)
- CGIAR-Consultative group on International Agriculture research (1971, 15 RC)
- Iberian American program for Science and technology (1984, 1000 scientists)
- OIC-COMSTECH

Such examples could be replicated in the field of Health and health research

Examples of Collaboration

- Regional Collaboration at the highest political level - SAARC, ASEAN, African union
- SAARC scholarship in education and other fields
- SAARC Tuberculosis center in Nepal and other centers in other countries
- Southeast Asia Minister of Education Organization [SEAMEO] which aims at supporting institutional structure and aligning strategies for development of science, technology and public health
- SEAMEO Tropical Medicine Network

It is established for promoting education, training and research in Tropical medicine and public health. Regional centers for training and research have been established in some countries. Regional centre for community nutrition in Indonesia; Regional center for Public health, hospital administration and occupational health in Phillipines; Regional Centre for Tropical Medicine (Thailand) and centre for Parasitology and Entomology in Malaysia

- Between two countries by bilateral agreements
- BPKIHS

- Nepal Academy of Science and Technology-GOI is helping in establishment of planetarium and science center at NAST
- Between health research councils and research institutions
- Asia Pacific health research forum,
- African health research forum
- South Asia Forum for Health Research [SAFHR]

Modalities of Collaboration

- Core country collaborating with other countries
- Senior-Junior partnership linking a country with well developed capacity to one which has just started and has limited research capacity
- Equal partner type of arrangement in which two or more countries of equal standing collaborate
- Regional collaboration in which all countries in the region collaborate with each other

Lessons learnt from South-South collaboration in science and technology

- South-south collaboration in science and technology has shown a positive impact on development and transfer of technology among developing countries
- It is a trend that needs to be encouraged
- Collaboration in health research has a potential to have positive impact on population health in the region
- Creating political will and financing support for such initiative is essential

Steps taken for regional collaboration in health research in Asian region

- Nepal Health Research Council organized a Consultative Meeting for Development of Regional Health research Agenda in 2003 and invited representatives from ICMR, BMRC, SLMRC, PMDRC and from Bhutan
- The above meeting recommended creation of South Asia Forum for Health research [SAFHR]
- A platform for health research scientists and research managers to meet periodically to brainstorm about health research development in the region, to review achievements and to plan further activities to strengthen health research capacity in the region

Vision of SAFHR

Achievement of better health for all people living in the South Asian region

Mission of SAFHR

To facilitate regional collaboration in health research among south Asian countries to find sustainable solutions to health problems and to enhance health improvement in the region

Objectives of SAFHR

- To develop a shared vision and commitment for health research promotion in the region
- To collaborate and promote multi-country multi-centric research in priority research areas including cross border issues
- To develop partnership and networking among research Institutions and organizations in the region and beyond
- To facilitate utilization of research results for policy and decision making
- To develop mechanism for sharing expertise, resources and information among research councils and research institutions in the region on a regular basis
- To facilitate development of regional ethical guidelines
- To grow together as regional forum for health research
- To have a southern voice on health research in the global arena

Important issues and challenges which need to be addressed

- Formal status of SAFHR-Network of Medical / Health research councils and research organizations involved in health research
- Membership of SAFHR - SAARC & beyond, criteria for membership and responsibilities of members
- Office bearers and terms of office /Election/Nomination
- Establishment of Secretariat
- Invitation / involvement of International Development partners
- How to maintain motivation of the individuals and institutions to promote collaboration on long term basis
- Sustainability of SAFHR- ensure availability of financial resources on a long term basis

The Way Forward for SAFHR

- Concept of SAFHR developed in 2003
- Current need is to Institutionalize SAFHR and to accord formal status
- Agree on areas of collaboration and set short term, mid term and long term targets
- Mobilize financial resources for long term sustainability
- Develop mechanism and strategies to promote SAFHR activities

Strategies for South- South collaboration

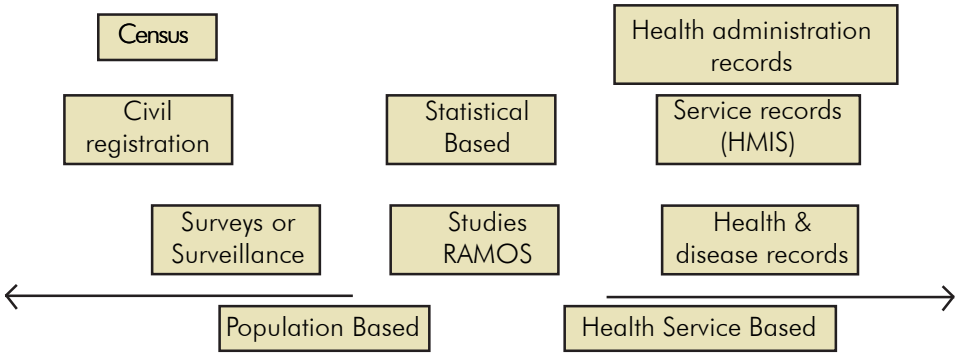
- **Strategy 1:** Institutionalize SAFHR by according formal status as a regional forum for health research institutions Decide on areas and modalities of collaboration.

- **Strategy 2:** Develop formal linkage and networking between Research institutions and organizations in the region and beyond
- **Strategy 3:** Identify regional research priorities and promote multi-country multi-centric collaborative research in the priority areas (ensures capacity development as well as improves quality of research)
- **Strategy 4:** Advocate for and create political support for south- south collaboration for research in health among the countries in the region
- **Strategy 5:** Develop a mechanism to share research information on regular basis. Develop SAFHR website.
- **Strategy 6:** Build up regional capacity in health research by developing appropriate training programs. Develop mechanism to retain trained research scientists in the country by developing career path ,appropriate incentives and enabling environment
- **Strategy 7:** Mobilize adequate financial resources for SAFHR collaborative activities. Strive to acquire 2 % of national health expenditure and 5% of development budget for health research as per recommendation of commission on health research, GFHR, COHRED, WHO and the Mexico Ministerial Meeting. Ear mark certain percentage of fund for SAFHR
- **Strategy 8:** Create Regional health research fund (Asian Health research fund). Modalities to be developed
- **Strategy 9:** Develop regional centers of excellence in heath research in member countries
    - Regional center for National Health Research system development—health research system development, research policy, research priorities, research governance
    - Regional center for research management—research management and leadership skills, resource flow analysis, resource mobilization and financial management, research communication.
    - Regional center for training and research in ethical standards in research
    - Regional center for quality control and quality assurance in health research
- **Strategy 10 :** Expand Collaboration
    - Better developed institutions beyond the region
    - Universities
    - WHO
    - International health research networks
    - Other bilateral and multilateral institutions

"Measuring maternal mortality - what is new?

Dr. Marge Koblinsky
Director,
JHU/ICDDRB

Ways of measuring maternal mortality



Advantages of Methods to Measure Maternal Mortality

MM Methods	Data Exists	Medical Diagnosis	Reporting more complete	Other information care seeking	Easy	Sub national Estimate	Date adjustment method
Civil Registration	x	x			x	x	
Facility-based	x	x			x	x	
Surveys sisterhood indirect					x		
Surveys sisterhood Direct (DHS)	x	x	x				
Census			x			x	x

Disadvantage of Methods to measure Maternal Mortality

MM	Under Methods	Misclassified reports	Biased	Costly	Not Current Estimate	Complex date Process
Civil Registration	x	x	x			
Facillity-based		x	x			
Surveys Sisterhood Indirect				x	x	
Surveys Sisterhood Direct (DDS)				x		x
Census					x	x

All methods miss some deaths

- **Vital registration** misses between 15-60% of deaths, even in developed countries. Linkage misses deaths associated with ectopic/abortion
- **Facilities** miss deaths that are in ER, DOA, or not on obstetrics wards or where cause death is miscoded.
- **All interview** reports miss deaths: when respondents don't know or are unwilling to report pregnancy status (e.g. induced abortion deaths).
- **Sisterhood** misses deaths: where siblings don't know of death or there are no siblings
- **Direct household** approaches miss deaths if the household disintegrates
- **Prospective/demographic surveillance** studies miss deaths if women leave to deliver or pregnancy status unknown

Why develop more tools: Requirements

- Sub National estimates of Maternal Mortality
- Timely estimates
- Capable of disaggregation (eg. equity)
- Comparisons to measure effectiveness of interventions
- Logistical and capacity consideration
- Decrease expenses

Immpact is the global research initiative for maternal mortality programme assessment

Immpact tools for measuring maternal mortality

1. Population based estimates
   a. Sampling at service site (SSS)
   b. MADE-IN/ MADE-FOR

2. Health Facility based estimates
   a. Rapid Ascertainment
   b. Process for
   c. Institutional
   d. Deaths (RAPID)

3. Cause of Death
   a. Barriers and facilitators to reporting facility and community deaths
   b. Computer algorithm for causes (Inter VA-M)

MADE-IN/MADE-FOR

Maternal Death from Informants (MADE-IN)
Maternal Deaths Follow-On Review (MADE-FOR)

This approach uses:

1. Networks of village-based informants to identify maternal deaths among women of reproductive age (MADE-IN),
2. Follow-up interviews with families to confirm cause of death (MADE-FOR), and
3. Capture-recapture technique to assess/adjust for completeness.

Rationale for developing MI/MF in Indonesia

- Given the size of two districts (2.9m) & expected level of maternal mortality, complete enumeration of deaths was necessary
- No existing vital registration system
- Two functioning & independent networks at community level:
  - **village volunteers (RTs) -** responsible for 40-100 households, as part of local government administration
  - **health volunteers (Kaders)** - responsible for integrated health posts covering 100-300 households

Five main steps to MI/MF

1. Identify suitable networks of informants (in Indonesia, Kaders and RTs);
2. Orientate informants at sub-district level;
3. Prepare village listing of "likely or possible" maternal deaths from two networks of informants;
4. Visit families to conduct verbal autopsy to confirm deaths;
5. Use capture-recapture technique to arrive at final number of maternal deaths.

Use of Capture-Re-capture Technique

Rationale: most sources underestimate maternal mortality & thus >1 source of data is preferable.

- Need at least two independent sources for identifying maternal deaths
- Each source must have potential to yield a random sample of all the deaths
- Second source allows an estimate of proportion of deaths captured in first source
- This allows an estimate of the "true" total number of maternal deaths.

Results from MI/MF in Indonesia

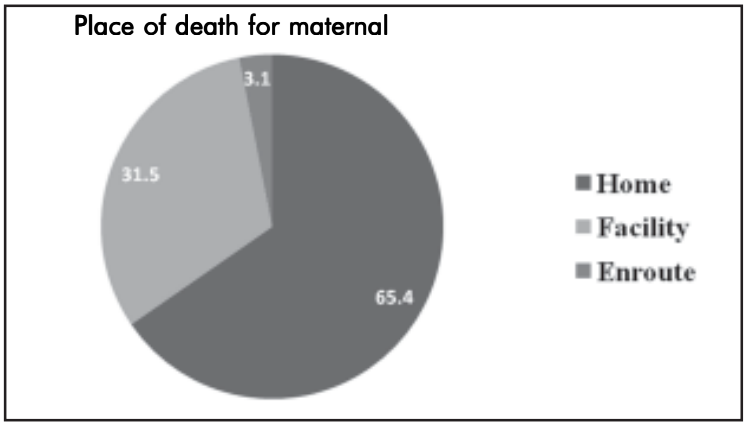
	MMR (deaths/100,000 live births (95% CIs))
Serang & Pandeglang, West Java (mid-2004/mid-2006)	**435** (376,498)
Serang	**379** (317,450)
Pandeglang	**525** (435,629)
Indonesia DHS (2003)	**307** (219, 395)
Indonesia WHO/UNICEF/UNFPA (2005)	**420** (240, 600)

Importance of disaggregated estimates

Wealth quartiles	**Maternal deaths per 100,000 live births (95% CI)**
Poorest	706 (567-869)
Low middle	417 (322-532)
Upper middle	423 (328-535)
Richest	232 (171-305)

Serang & Pendeglang Districts, West Java 2004-2006

Follow-up provides valuable additional data



Serang & Pandeglang Districts, West Java, 2004-06

Advantages and Limitations of MI/MF

Advantages

- Efficient as relies on existing networks for data capture
- Local level involvement & ownership ("right to count")
- Potential to also cover birth reporting
- Follow-up provides opportunity to gather data on circumstances of death

Limitations

- Period & area covered by informants is important:
  - Longer period & bigger area reduces costs
  - But likely to reduce accuracy
- Still requires a collation mechanism at district level
- Like all methods, deaths in early pregnancy may be missed.

Next steps

Indonesia:

- On-going trial of prospective capture of maternal deaths and births using two networks – "institutionalisation" of MI/MF
- Addressing demand to use MI/MF for periodic cross-sectional measurement at a sub-national level

Wider afield:

- Opportunities to adapt to other countries with >1 informant network

Sampling at Service Sites (SSS)

Conventional surveys take the data capture process to the respondents – usually their household. Innovation – let the respondents come to survey. Innovation in sampling, hence called Sampling at Service Sites (SSS).

Sampling at Service Sites: opportunistic or non-probability sampling

Choice of sampling sites:

- high numbers of potential respondents (women of reproductive age);
- suitable setting for conducting interviews;
- Socio-economic profile of respondents similar to community.

Questions asked: characteristics of respondent & deaths to sisters (direct sisterhood method) Selection bias of respondents can be assessed with data from existing population surveys e.g. DHS

Six field trials

Where		Type of sampling site	No. of respondents
Ghana	6 districts, Central Region	10 MCH clinics*	5993
Indonesia	2 districts, Banten Province	7 MCH clinics	2958
Burkina Faso	Houndé District	7 MCH clinics	2235
Ghana	6 districts, Central Region	9 MCH clinics	5348
Burkina Faso	Houndé District	32 market places	5020
Burkina Faso	Ouargaye District	39 market places	16606

*** Clinics at District hospitals & health centres**
Full field trial in Ouargaye District, Burkina Faso: June 2006

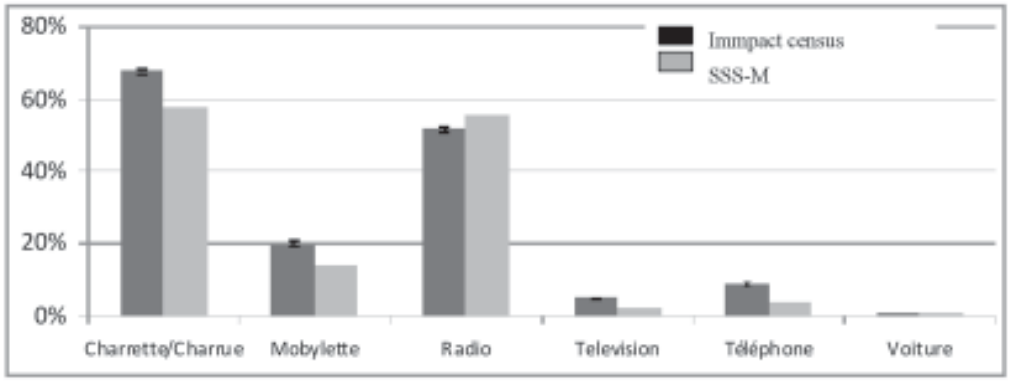
Validation opportunity:

Compare SSS-markets (SSS-M) with full enumeration (census) by Immpact – asking about deaths in household & sisters deaths

- 16,606 female respondents aged 15-49 years, reporting 24,350 adult sisters
- Five weeks, 39 markets in Ouargaye, 20 data collectors & 4 supervisors, 31 days, using PDAs

Asset ownership in SSS-M population compared to Immpact census data

% respondents with assets



Comparison of Burkina Faso results

	Maternal Mortality Ratio (maternal deaths per 100,00 live birth)	% maternal deaths among all deaths to women of reproductive age
SSS-M (Ouargaye; 2003/04)	397 (254 - 540)	23.0%
Immpact census: maternal deaths in household (Ouargaye; 2003/04)	353(295-411)	24.1%
DHS (National; 1999)	484	22.3%

Valuing Sampling at Service Sites:

Advantages

- Enables large samples
- Ease of field logistics
- Local level application
- Choose sampling sites
- Low'ish cost $3-4/respondent

Disadvantages

- Potential bias
- Needs dedicated activity
- Limited questions
- Sisterhood method drawbacks (e.g. migration)

Comparative efficiency of methods

	Community-based informants: Indonesia		
SSS Ghana: Health Facilities	**SSS Burkina Faso: Markets**		
Survey effort (interviewer-weeks)	830	170	130
Women covered	758,000	21,500	24,900
Deaths detected	474	93	99
Deaths per survey effort	0.57	0.55	0.76

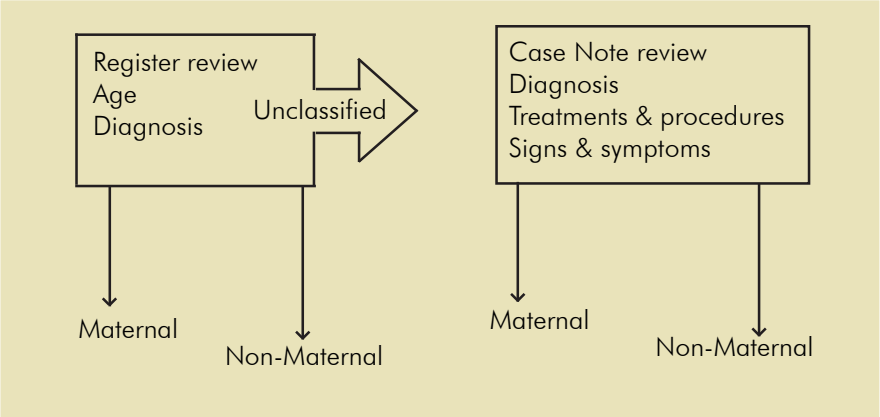
Facility-based data capture
Rapid Ascertainment Process for Institutional Deaths - RAPID
Rationale:

- Studies at health facilities: routine methods under-estimate the number by one-half to two-third → the main problem: misclassification of indirect maternal deaths as non-maternal

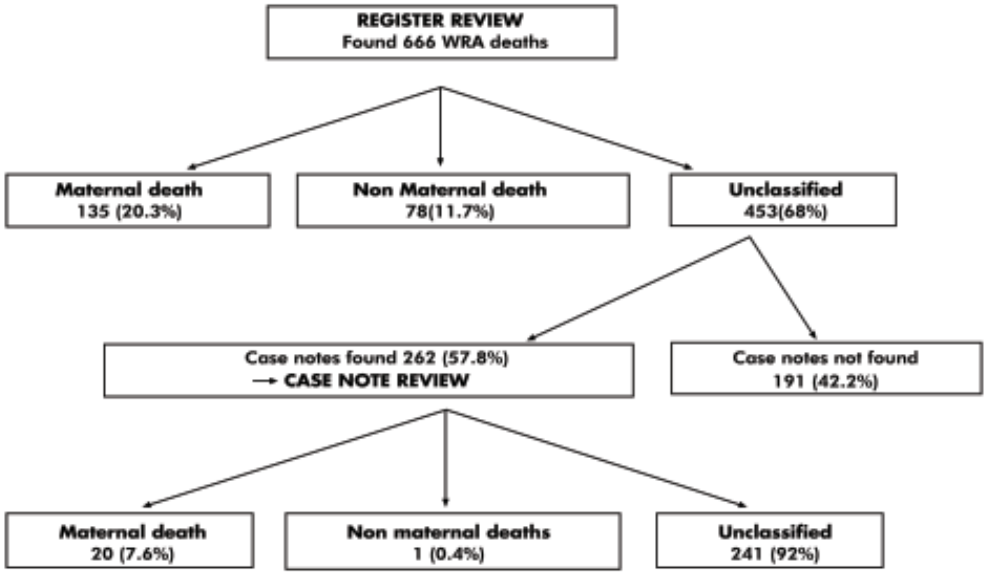
Method

The hospital records of all women who had died aged 15-49 years were checked for evidence of their pregnancy-related status. Information was extracted from registers and selected case notes onto pre-tested forms.

Rapid Ascertainment Process for Maternal Deaths



Result



Conclusion

- Census of maternal deaths at sub-national level is possible at low cost using appropriate village informant networks
- Using two informant networks allow the use of capture-recapture technique to calculate total death
- The use of the method prospectively (i.e. as surveillance system) will provide routine and possibly better estimate
- RAPID is a practical method that alerts hospitals to the prevalence of under-reporting maternal deaths. It highlights misunderstandings of what should be regarded as maternal death and in particular the inclusion of indirect causes.

Call for collaboration

Immpact would like to form a collaborative network to further develop SSS.

Possible developments include:

- "Validating" MM estimates
- Applying SSS to other outcomes
- Testing other sampling sites
- Evaluating field efficiencies
- Asking additional questions
- Institutionalising SSS in HMIS

For further information or discussion, please contact: **Jacqueline Bell**, Immpact, University of Aberdeen (j.bell@abdn.ac.uk)

"Motherhood Method for Measuring and Monitoring Maternal Mortality"

(Nepal's experience)

Dr. Mahesh Kumar Maskey
Executive Chairman,
Nepal Health Research Council

Background

- 536,000 maternal deaths world wide
  99% in developing countries
- 11 countries account for 65% of deaths

  Three South Asian countries occupy 1st, 6th and 8th position (India 117,000, Bangladesh 21,000, and Pakistan 15000 respectively)

  Nepal: ~ 2100
  Life time risk of dying: US-1:2671
  Pregnancy/childbirth Nepal 1:114

- High level of maternal mortality recognized as urgent public health concern

Global Priority

Reduction in maternal deaths has become a priority in global health movements

- 1987 safe motherhood conference, Nairobi
- 1990 World summit for Children, New York
- 1994 ICPD, Cairo
- 1996 International Conference on Women, Beijing
- 1999, ICPD+5
- 2001, Beijing+5
- Millennium Development Goals

MDG5

- The fifth Millennium Development Goal (MDG5):
  Reduce maternal mortality ratio by ¾ between 1990 and 2015.
  Nepal: 213 or 129/100000 (850 or 514?)
- Measuring maternal mortality in developing countries poses a major challenge for monitoring progress toward this goal.

The available methods are either less appropriate or less efficient in terms of validity, precision, cost and time

"The problem of measuring maternal mortality is most acute precisely where it is least likely to be accurately measured" (WHO, 1999)

Definitions

- **MMR**= Maternal deaths during pregnancy, childbirth or puerperium x 100,000
  Live birth
- **Maternal Death:** The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental cause.
- **Tenth revision (ICD-10)** : 'pregnancy related deaths'

Definition based on time of death rather than cause of death

- The life time risk of women dying from pregnancy related cause (Q)=MMR x TFR

Overview of existing methods

- Two broad categories: Direct and Indirect

Direct Methods:

- **Vital registration**

  Nonexistent or extremely deficient

  Underreporting even in developed countries
- **Facility based health services statistics**

Unreliable, selection biases (where % of facility based deliveries is low and usually high risk pregnancy turn up for deliveries)

- **Reproductive age mortality study RAMOS (Multiple Source method)**

Records of hospital, police, public health department and death certificates from registrar general's office (Time/cost intensive, denominator?)

- **Population based surveys**

Large sample size 35000-50000 births

Margin of error ~20-30% (ideal <15%)

- **Census**

Renewed Interest/ every 10 years

Costly, Misclassification/ Omission

Interviewer and respondent's biases

Indirect Methods:

- **Orphanhood method/Widowhood method**
- **Sisterhood Method**

Recommended by WHO (ask four questions)

"Direct sisterhood method" (11 questions), used in DHS

Sisterhood Method

- Constructs a study base of births occurring in past 35 years (average of 18 years)

  By limiting the respondent's age to <50 years the time reference period is restricted to a mid point of 10-12 years

- The "direct sisterhood method" average 7 years. (MMrate/GFR)
- Useful in situation *where there is no reliable measurement* of the level of maternal mortality and *resources do not permit any other approach* for measuring maternal deaths (WHO, 1997).

Limitations

Not appropriate for

- Measuring progress towards safe motherhood in the short time
- Comparing geographic areas (i.e. comparing sub-national estimates) or studying trends.
- Evaluating program impact/ Risk factor analysis
- Allocating resources
- High level of migration.
- declining or low fertility (TFR <3)

Response

- The difficulty in the measurement of ***outcome*** *indicators* such as maternal mortality ratio, had led one school of thought to emphasize on ***process*** *indicators*
- such as deliveries conducted by skilled birth attendants,
- availability and accessibility of emergency obstetric care
- Contraceptive prevalence rate.
- *The improvement in these indicators is taken as the proxy of reduction in maternal mortality.*

"…gathering data on impact (that is maternal ratios and rates) will not be feasible or cost effective" in developing countries (Ward V. Maine D. 1994)"

Such pessimistic notes are being questioned and new methods for measuring the outcome are being developed

We can begin by delineating the characteristics of an ideal method and then see how new methods measure up to these standards.

Proposed attributes of an Ideal Method

- Provide a direct estimate of outcome indicators comparable to the results from an unbiased census
- Time and Cost efficient
- Measure and monitor progress towards safe motherhood (reduction in maternal mortality)
- Evaluate program impact
- Compare estimates of different regions or districts while providing national estimates
- Easy to implement and analyze (even by the local health institutions/individuals)

- Study the cause and risk factors associated with maternal deaths
- Gather information about child mortality indicators as well.

THE MOTHERHOOD METHOD

- A direct technique for deriving population based parameters which can also be designed and used as multistage cluster sample estimates for larger population.
- A targeted census of births and deaths in a defined study period.
- Attempts to collect the same information in a geographic area as an unbiased census would have, without visiting every household.
- "Motherhood method", because it ultimately derives information about the numerator and denominator of outcome indicators directly from the source: the groups of women in a small localized area bonded by the *status of motherhood*.
- The mother's groups include:
  - Women who have given births, expectant mothers, local level health workers and community mobilizers
- Information regarding birth and maternal death is elicited through
  - Vaccination registry
  - GFD with mother's/health workers
  - peer memory/memory aids
  - Interview based diagnosis (verbal autopsy).

Procedure:

- **Step 1**-Ward wise list of actual and potential births from BCG and TT Vaccination. A standard format applied to enter the information.
- **Step 2-** The list checked and augmented by FCHV and TBAs serving the same ward. Mortality information gathered and recorded in the form through GFD.
- **Step 3-** Mothers in the augmented list gathered in small clusters. Their own and peer memory exercised for confirmation and further augmenting the list. GFD conducted among the key informants (ward leaders, mothers and local level health workers) about birth and mortality information.
- **Step 4** –Questionnaire survey, application of verbal autopsy, and GFD, to understand and quantify the risk factors of maternal and child death
- Provides an accurate list of all birth and deaths in the study period, equivalent to what would have been obtained from a census but also free of its usual biases.
- In pre-testing of the method, further validation was done by conducting a census of remaining households, to find any birth or death that have been missed by the motherhood method.
- From these information, maternal mortality ratio along with other child mortality indicators were calculated

Field Test Results 1 Divyanagar VDC (p 8000) Oct 2003-04

- Live births – 15 October 2003-2004 (1 year)
- Stillbirths and infant deaths 15 October 2002-2004 (2 year)

- Maternal Deaths (5 years)
- Total of 142 live birth
- 1 maternal deaths in last 5 years
- *Zero maternal mortality ratio for the study period*
- For a five year period, with a mid point estimate of 2-3 year: 1/142 x1/5 = 1/ 710 =140/100,000 live birth

Field Test 2: Bara District (p 500000) July 2003-05

Category	392 Wards	49 Census Wards			PWG	
	Motherhood Method (MM)	Census	MM	Under-estimation (%)	Total	PWG	Non-PWG
Live Birth	12,921	1,995	1990	0.25	14,916	4,334	10,582
Still Birth	220	25	25		245	41	202
Total Birth	13,141	2020	2015	0.25	15,161	4,375	10,786
Maternal Death	43	6	6		49	9	40
Infant Death	620	93	93		713	108	605
Neonatal Death	435	58	58		493	81	412
Early Neonatal Death	382	52	52		434	72	362
Perinatal Death	602	77	77		679	113	566

Field Test 2: Mortality indices of Bara district compared with national estimates

Mortality Rates	PWG	Non-PWG	Total (95% CI)	National Average	Odds ratio (95% CI)	P-value
IMR	24.9	57.2	47.8(44.5-51.3)	48	2.37(1.92-2.94)	<.01
NMR	18.7	38.9	33.1(30-36)	33	2.13(1.66-2.77)	<.01
ENMR	16.6	34.2	29.1(26.5-31.1)		2.10(1.61-2.72)	<.01
PMR	25.8	52.5	44.8(41.6-48.2)	45	2.09(1.44-2.90)	<.01
SB	9.4	18.9	16.2(14.3-18.3)		2.04(1.44-2.90)	<.01
MMR	207.7	378.0	328.5(248.6-434)	281	1.82(0.085-4.03)	<.0988

First Field Test:

- Field-testing of motherhood method in a small area demonstrates that maternal mortality can be directly measured if the quality of data collected can be ensured by proper facilitation of group discussion and validation from different sources.

Second Field Test:

- Six teams of two field assistants each would cover one VDC of average 6000 population in one day

Strength of motherhood method

- The motherhood method approximates unbiased census based measurement
- Can give current estimates of maternal mortality as well as the mid-point estimate of 2-3 years before the survey and trend analysis over the years
- Particularly useful for disaggregated information: geography, ethnicity, marginalized groups
- By using this method as targeted census, the issue of sampling or other random error would be eliminated or greatly reduced
- Therefore even a zero maternal mortality can be confidently reported for that particular time and place if proper care has been applied in collecting accurate data
- For national estimates, the motherhood method can be incorporated demographic and health surveys (DHS) which uses a ward as primary sampling units
- Provides the opportunity to conduct etiologic research for quantifying the effect of different risk factors related to maternal mortality.
- Mix of 'outsider' field assistants and 'insider' local health volunteers appears to have a synergistic effect in controlling information bias, improving accuracy of information and increasing time efficiency of interview.
- Utilizing health systems approach, this method presents the possibility of community based surveillance mainly operated and maintained by the local health volunteers with proper supervision from the health post and district health office.
- Demographic Surveillance System (DSS), Sample Vital Registration with Verbal Autopsy, (SAVVY)

Limitation of Motherhood Method

- Training of field assistants for moderating group discussion between mothers and community level health workers/volunteers
- Motivation and orientation of community key informants, health volunteers/ workers and mothers group are crucial for the accuracy of data.
- Work load will increase with the increase of duration of study period. Though recall are greatly enhanced by group discussion, peer memory and memory aids, inaccuracies in recall leading to misclassification can not be ruled out for a longer study period.

- Even though the method appears to be highly sensitive and specific in detecting rare events such as maternal and child death, the bias in reporting from health workers/volunteers in the screening of remaining household cannot be ruled out completely
- A larger study with proper supervision is needed to establish accurately the sensitivity and specificity of motherhood method.

Conclusion

- Limitation of indirect methods in measuring maternal mortality has created renewed interest in the importance of census and alternative methods that approximates it.
- The ICPD +5 program of Action (1999) "calls upon United Nations and donors to support developing countries in undertaking census and surveys and to develop innovative and cost effective solution for improving estimates of maternal mortality" (Stanton C, 2001).
- MDG5 urges for measuring and monitoring reduction in maternal mortality "through the development of commonly agreed upon methodology" (MDG5, 2001).

The motherhood method may be considered as one response to this call.

Application of Motherhood method in a larger setting

MMR Study is being carried out as part of Assessment of Burden Disease in Nepal

The process is as follows

- 15 Districts selected randomly on the basis of 5 development region and 3 Ecological Zone.
- VDC'S of each selected Districts are stratified in the basis of Health Ilakas (sub-district).
- From each Ilaka one VDC was selected randomly.
- To represent urban population, some ward of One of the Municipality was selected from sampled district having Municipality
- Total No of selected VDC: 171, 1539 Wards
- Total No of selected Municipality: 9
- Data collection (July 2005-07) -6 months
- NRs 65,00,000 ($100,000)

Acknowledgment

I am grateful to Janet Lang, Lois McClosky, and Kenneth J. Rothman for their valuable feedbacks and encouragements in developing this method. I would like to thank my research associates Dr.Kedar Baral, Rajani Shah, and all the research assistants who contributed in field testing of this method

Appendix-1: Sample size

- The larger the no. of maternal death in the study, lesser is the standard error and higher is statistical precision. No. of maternal death for required statistical precision is derived from the formula:

  $r \geq z2 \{100/ \%ME\}2$

  Where z is the confidence level and % ME is the percentage margin of error.

- To estimate MMR with a margin of error of 20% and at 95% CI, the sample size should be large enough to yield 97 maternal deaths.

  $r \geq 1.962\ 100/20\}2 = 97$

In other words either the sample size of the births occurring in a defined period should be large enough to yield 97 maternal death or some other approach should ensure the required number of yield (deaths).

Margin of error(±)	Deaths (r)
50%	16
40%	24
30%	43
25%	62
20%	97
15%	171
10%	385

Margin of error(±)	Deaths (r)
1000	9800
700	14000
500	20000
300	33000
200	49000
100	98000
50	200000

Source: Hanley et.al 1996

Appendix-2: Multistage Cluster Sampling

For district and national level survey

98 VDCs in a district

49 VDCs randomly selected (50% sample)

49 wards (1 ward from each VDC randomly selected)

All maternal, (perinatal, neonatal, infant and child) death in 49 VDC

Sample of births in 49 VDC

This design is called ***census of case and sample of the base***

Annex-III

SCHEDULE OF THE PROGRAM

Day First (7 July 2008)

09:00 - 09:30 Registration

09:30 - 10:30 **INAUGURAL CEREMONY**

10:30 -11:15 **Tea/Coffee break**

INTRODUCTORY SESSION

11:15 -11:30
- Introduction of Participants
- Nomination of the Chairman, Co-Chairman and Rapporteurs

TECHNICAL DISCUSSION: MEASUREMENT OF MATERNAL MORTALITY

11:30 - 13:00 **Paper Presentation**

- Measuring maternal mortality— what is new?

  Speaker: Marge Koblinsky, Director Public Health Sciences Division (PHSD), ICDDR, Bangladesh
- Motherhood Method for Measuring and Monitoring Maternal Mortality (Nepal's experience)

  Speaker: Dr. Mahesh Kumar Maskey, Executive Chairman, Nepal Health Research Council (NHRC)

13:00 - 14:00 **Lunch Break**

14:00 - 16:00 Group Work

TOR for Group Work

1. Discuss strength and weakness of several methods used for measurement of MMR,
2. Determine possibility of replication of some of these methods in other countries like "Motherhood Method" being tried in Nepal
3. Plan further steps for consensus on methods for MMR measurement among SAARC countries.

(Tea/Coffee will be served during group work)

16:00-16:30 Group Presentations and Discussion

16:30 -17:30 Drafting Recommendation

17:30 - 18:00 Presentation of Recommendation

18:00 – 18:30 Distribution of souvenir by Chief Guest

Reception Dinner

Day Second (8 July 2008)

BUSINESS SESSION

10:00 - 11:00 Group Work (Medical/Health Research Councils Officials)

TOR for Group Work

1. Identify mechanisms for ongoing collaboration among member states,
2. Identify priority areas for collaborative research in important public health concerns,
3. Identify funding mechanism for the research project

(Tea/Coffee will be served during group work)

11:00 - 12:00 Group Presentation and discussion

12:00 -12:30 Drafting recommendation and Kathmandu Declaration on South South Collaboration in Health Research by Declaration Drafting Committee

12:30 - 14:00 **CLOSING SESSION**

Lunch

INAUGURAL CEREMONY

Chief Guest: Honble Giriraj Mani Pokhrel, Minister of Health and Population
Chairperson: Dr. Mahesh Kumar Maskey, Executive Chairman, NHRC

Schedule (Date: June 7, 2008, Time: 9:30-10:30)

- Welcome speech and objectives of the meeting
  - Dr. Suniti Acharya, Coordinator, Organizing Committee, SAFHR
- Remarks of Special Guest
  - Dr. Samlee Pliangbangchang, Regional Director, WHO
- Inauguration by Chief Guest
  (Lighting traditional lamp jointly with SAARC delegates)
- Inaugural address by Chief Guest
- Strategies for South - South Collaboration in Health Research
  - Prof. Dr. Gopal Acharya, Formal Chairman, NHRC
- Remarks by Dr. Marge Koblinsky, Director, PHSD, ICDDR, Bangladesh
- Remarks from Chairperson
- Vote of Thanks
  - Dr. Sharad Raj Onta, Member Organizing Committee, SAFHR

CLOSING SESSION

Chief Guest: Hon Ms. Shashi Shrestha, State Minister of Health and Population
Chairman: Dr. Mahesh Maskey, Executive Chairman, NHRC

Schedule (Date: 8 July, 2008, Time: 12:30 – 14:00)

- Arrival of Chief Guest
- Presentation of Declaration by Chairman drafting Committee
  - Dr. Harun Rashid, Director, BMRC
- Remarks from WHO
  - Ong-Arj Viputsiri, RA, SEARO
- Remarks from Chief Guest
- Remarks from each representative of the countries
- Remarks and closure of the meeting by Chairperson

Annex-IV

NAME LIST

CHIEF GUEST (Inaugural Session)
Hon. Giriraj Mani Pokhrel
Minister for Health and Population
Ramshah Path, Kathmandu
Nepal

CHIEF GUEST (Closing Session)
Hon. Shashi Shrestha
State Minister for Health and Population
Ramshah Path, Kathmandu
Nepal

SPECIAL GUEST
Dr. Samlee Plingbanchang
Regional Director
WHO SEARO, South-East Asia Region
New Delhi, India

INTERNATIONAL PARTICIPANTS

WHO/SEARO

1. **Dr. Ong-Arj-Viputsiri**
   Regional Advisor
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Photos of the Workshop

Addressing the gathering, Special Guest of the ceremony, Dr. Pliangbangchang, Regional Director, WHO SEARO, South-East-Asia Region

Inaugural Addressed by Hon. Girij Mani Pokhrel, Minister for Health and Population

Dr. Mahesh Kumar Maskey, Executive Chairman of NHRC extended his gratitude to all the participants for their overwhelming participation in the meeting

Participants of the Workshop

Closing Remarks by Chief Guest Honble Shashi Shrestha,
State Minister of Health and Population

Group Photo of National and International Participants of the Workshop

Contents

Foreword

Nepal Health Research Council (NHRC) is an autonomous body under the Ministry of Health and Population, Federal Democratic Republic of Nepal. NHRC was established in 1991 by an Act of Parliament and was given the responsibility to promote and coordinate health research for improvement of the health status of people of Nepal.

NHRC had organized "Consultative Meeting for Development of Regional Health Research Agenda" in 2003 with active participation of health research councils of the South Asian Countries. In the meeting, South Asian Forum for Health Research (SAFHR) was established as a mechanism for enhancing regional collaboration and partnership in health research among South Asian Countries. This meeting held on 7-8 July, 2008 with the theme of "Enhancing South-South Collaboration in Health Research" is the second meeting of the SAFHR. It was an initiative to revitalize the regional collaboration for health research among the South Asian countries and expanding it in whole of the Asian Countries. This meeting also issued "Kathmandu Declaration" on South-South collaboration in Health Research.

I would like to thank GoN, WHO and SSMP for providing financial support for the success of the Meeting. The successful accomplishment of the meeting is an outcome of the collective efforts of the organizing committee with Dr Suniti Acharya as the coordinator. We would like to express special thanks to international participants from India, Pakistan, Bangladesh, Bhutan, Sri Lanka, Maldives and Thailand for their valuable commitment to work together to promote health research, mobilize political support and develop a strong Southern Voice on health research in the global community. We would like to express heartfelt thanks to all the NHRC staffs for their cooperation, especially Mr. Gopal Krishna Prajapati for his managerial support and Ms. Alina Maharjan for preparing draft report of the meeting.

Dr. Mahesh Kumar Maskey
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