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Improving Neonatal Health in South-East Asia Region

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HIGHLIGHTS

South-East Asia Regional Consultation on improving newborn health was organized jointly by WHO SEARO, BASICS II/USAID in collaboration with WHO Collaborating Centre (WHO CC) for training and research in newborn care, All India Institute of Medical Sciences (AIIMS), New Delhi from 1 -5 April 2002 in New Delhi, India. There were 58 participants in the consultation. The participants comprised of Director Generals of Health Services and Senior Programme Managers from nine out of 10 countries in the region, staff from WHO -HQ, Regional and Country Offices, BASICS II, USAID, UNICEF, Saving Newborn Lives (SNL) of Save the Children Foundation USA, DFID, PATH, CARE India, John Snow International (JSI) Nepal, Save the Children Foundation USA, Kangaroo Foundation, representatives from WHO collaborating centers, experts from community based organizations and office bearers of professional societies. The Regional Director, SEA Regional office of WHO, inaugurated the consultation. The consultation comprised of country presentations, innovative experiences in the countries of the Region, panel discussions and group discussions. It provided an opportunity for exchange of experience amongst the partners and with the countries. A resolution was passed during the consultation.

The countries in SEA Region contribute maximally to the global burden of neonatal mortality and low birth weight. While infant and under five mortality rates have declined as a result of interventions like vaccinations, ORT, vitamin A supplementation, standard case management of pneumonia and other child health programs, high levels of neonatal mortality have persisted in different countries of the region. The stagnation of neonatal mortality has lead to a reduction in the rate of decline in infant mortality rates.

In the country presentations, the problem of high neonatal mortality was stressed. Neonatal mortality rates (NMR) are not uniformly high in all the countries of the region. It is between 35-50/1000 live births in Bangladesh, Bhutan, India and Nepal. The neonatal mortality rates are between 20-34/1000 live births in Indonesia. These are between 10-19/1000 live births in DPR Korea, Maldives, Myanmar (latest figures unavailable), Sri Lanka and

Thailand. Within the different countries at sub national levels i.e. in the states/provinces the mortality rates even exceed 50/1000 live births. Now neonatal mortality contributes to more than 60% of the infant mortality and about 40% of the under five mortality rates in several countries of South-East Asia Region.

The difficulties in determining the causes of neonatal mortality were discussed. From the information available in the hospitals and the community, the direct causes of neonatal mortality are neonatal tetanus, sepsis (including, septicaemia, pneumonia, meningitis and diarrhoea), birth asphyxia/birth injury, low birth weight/prematurity and congenital anomalies. Except for congenital anomalies, neonatal deaths are quite amenable to reduction since effective and affordable interventions are available.

Presentations and discussions on innovations and country experiences provide optimism for improving neonatal health based on local experiences in the region. Community based studies have provided evidence for feasibility and impact of interventions to treat sepsis in the neonates. A mortality reduction of 62% was demonstrated by the use of combined interventions of essential newborn package and treatment of sepsis. Other studies have demonstrated the impact of supervised home based care of the low birth weight/premature babies. Management of mild and moderate cases of birth asphyxia at home and in small peripheral maternity facilities is now feasible and is likely to have an impact on mortality. These experiences need to be expanded and multiplied. As a result of tetanus toxoid vaccination during pregnancy, about 350,000-400,000 deaths are being averted each year. There is an unfinished agenda to eliminate neonatal tetanus by a focus on the remaining areas where the problem is remaining. Efforts to prevent mother to child transmission of HIV have been very successful in Thailand. In Indonesia, maternal and child handbook is being widely distributed and used. A healthy start plus project with a stress on postnatal visit and hepatitis B vaccination is being implemented in a number of districts in the country. Sri Lanka has succeeded in bringing down the neonatal mortality rates to about 13/1000 live births by promoting institutional deliveries and integrated maternal and child health care.

Skilled birth attendance is strongly associated with lower neonatal mortality rate. Its maximal influence is in reduction of deaths during the first 24 hours after birth, which represents about 40% of all neonatal deaths.

Unfortunately, except for a few countries or a few areas, skilled birth attendance is not available in the countries of the region. In Sri Lanka, a high proportion of skilled birth attendance could only be achieved over a 75-year period. About 22 million out of 35 million deliveries in the countries of South-East Asia Region do not get skilled birth attendance. Therefore, the strategy of skilled birth attendance though important can only be a long-term goal. In the interim period, community health workers can be trained to provide basic care during delivery.

During discussion, priorities for improving neonatal health were identified. These were classified for the future mothers, during pregnancy, at the time of childbirth and during the neonatal period. The policy and strategies for reducing neonatal mortality were discussed with a panel of experts. Because of the different situation of neonatal mortality, differences in birth attendance and health systems, countries and areas (states or provinces) within each country can be classified into three different scenarios. In scenario A with high neonatal mortality it may only be feasible to provide tetanus toxoid vaccination and essential neonatal care package. This can be done immediately. In scenario B where the mortality is moderately high, a reasonable proportion of deliveries are attended by trained birth attendants and where the health system exists to some extent, essential neonatal care and tetanus toxoid vaccination during pregnancy should be supported by supervised care of low birth weight babies, treatment of sepsis and if possible management of mild and moderate cases of birth asphyxia. In scenario C where the neonatal mortality rate is moderate, a larger proportion of deliveries are attended by skilled birth attendants and health system is accessible, the thrust should be on skilled birth attendance and support from institutions by level II and level III neonatal care. This scenario based stratified approach provides an opportunity for all countries to participate according to their current situation.

Political commitment to neonatal mortality reduction has already been made. It is articulated as Millennium Development Goal of reduction of under-five mortality rates by 50% of the levels in 1990 to be achieved by the year 2015. Programmes of safe motherhood and child health and strategies of Integrated Management of Childhood Illnesses (IMCI) and Integrated Management of Pregnancy and Child Birth (IMPAC) are already available and are being implemented. Unfortunately, at present, neonate is invisible within the policy in most countries of the region. This deficiency has to be corrected

and it should be understood clearly that the Millennium Goals cannot be reached unless the neonatal mortality declines by more than 50%.

Scaling up of interventions was discussed in a plenary session. Scaling up of interventions for improving neonatal health requires implementation of operational strategies within the existing milieu of adverse cultural practices and poorly developed health system in the countries of the region. Important strategies include decentralization of health care through health sector reforms, mainstreaming of neonatal health care within and outside the health sector; making neonatal health a people's movement and sustaining partnerships to mobilize resources on a sustainable basis.

Neonatal health and neonatal mortality are multifactorial. The resource base can be widened, through the adoption of the strategy of mainstreaming and partnerships within the health sector and outside the health sector. Mainstreaming should involve programs dealing with future mothers (education, empowerment of women, nutrition and SE status), family planning, adolescent health, immunizations and child health and development. To be successful, partnerships need to be sustained with the NGOs, private sector, development agencies, professional bodies and academic institution. A regional partner's forum and national co ordination committee can facilitate mainstreaming.

Information and evidence are important in advocacy for the programme. The various parameters for assessing neonatal health were discussed during the meeting. Key indicators for neonatal health should be used in the national surveys as well as in the routine reporting and recording system. The incorporation of these will help to provide a feedback and improve the performance of the providers.

In the regional consultation concern was expressed about the high neonatal mortality and the poor status of neonatal health. For advocating the cause of neonatal health in the countries of the region, a resolution was unanimously passed. This is included in the annexure.

Preparation of a regional strategy and national strategy was regarded as a priority. A number of important recommendations were made in the consultation.

Recommendations of the consultation

- (1) Countries in South East Asia Region within the framework of Millennium Development Goals to reduce under five and infant mortality rates should identify specific goals for reduction in neonatal mortality rates. This reduction in NMR should be about 50% of the 1990 levels by the year 2015. It requires positioning of neonatal health within the ongoing maternal child health programs in the countries. A serious consideration should be given to call the existing MCH programs as Maternal Newborn Child Health (MNCH) programs.
- (2) An enabling national policy is required to support countrywide implementation of an evidence-based essential neonatal health care programme supported by the existing referral institutions. At the same time, the current ongoing interventions directed towards improvement of health and social status of future mothers; family planning; pregnancy and delivery care; child and adolescent health and development programs are to be intensified and sustained because they also influence directly or indirectly the determinants of newborn health, survival and development.
- (3) Advocacy at the highest political level amongst partners and stakeholders is needed at all levels to recognize that improved neonatal health is the key to healthy start to life and is therefore, fundamental to human well being, development and socio economic progress. Governments, partners and stakeholders should advocate mobilization of additional new resources to improve neonatal health and at the same time ensure efficient utilization of available resources while ensuring full accountability. The existing regional mechanism of health minister's forum, and secretary's meeting should be used as entry point for high-level advocacy. Partners and stakeholders should collaborate and coordinate the advocacy efforts in a synchronized manner.
- (4) Strategies should take into account different scenarios of neonatal mortality and health system capacity that exists in disparate national and sub national settings. Strategy should provide different options, which the countries can adopt based on different scenarios prevailing in the respective countries, districts and provinces as regards neonatal mortality, skilled birth attendance and health system. Country strategy is the basis for development of programme and plans of action. Steps

should be taken by the partners, and stakeholders in collaboration with the countries to prepare regional strategic framework for adaptation and use in the countries of the region. The strategy of scenario based stratified approach with phasing in can be widely used even in resource poor settings with weak health infrastructure.

- (5) Mainstreaming of neonatal health is urgently required within and outside the health sector. Neonatal health and survival depends on contribution from and co-operation between maternal/reproductive health and child survival and public health, nutrition, family planning programs in the health sector. Outside the health sector, education, rural and urban development, planning, finance, women's welfare, law and education ministries can contribute substantially to neonatal health.
- (6) Partnerships are required to tap the existing untapped resources for improving neonatal health. The vast potential of families and communities; governments, NGO's, stakeholders; corporate sector; professional bodies; academia; developmental partners and UN organizations can be realized through establishing and sustaining partnerships built on the foundations of common goals, commitment and trust. A Regional partner's forum should be formed to support country partnerships and maintain linkages with global mechanisms. Regional partners forum can effectively use intercountry mechanisms to support the countries.
- (7) Registration of births and deaths should be universalized. Include reporting of stillbirths in compulsory registration and recording of age at death. If possible, birth weight information should be a part of the vital registration. Key indicators for neonatal health should be developed and agreed by consensus. These indicators are to be included in routine recording and reporting systems. This data will be useful in supportive supervision and to provide feedback to improve the skills and performance of health care providers.
- (8) Initiate and strengthen national surveys and national health and management information system by including indicators like still births, early and late neonatal deaths exclusive breast feeding rates at 1 months and 6 months, early initiation of breast feeding, number of post natal visits and birth weight. This will help in generating disaggregated data needed for elaborating strategies, and for preparing plans. In countries where Macros Demographic and Health Surveys (DHS) surveys are not

done, the existing health and management information system should be strengthened to respond to the needs of national neonatal health care programs.

- (9) Strengthen neonatal care being implemented as a part of maternal and child health within the life course approach e.g. making pregnancy safer and IMCI. In the strengthening process, capacity development is important. It includes training, skills development, logistics, supportive supervision and follow-up.
- (10) Research related to neonatal health and survival should be accorded a high priority. Community based operational research to provide innovations for programme implementation is an urgent need. Selected hospital-based studies to generate evidence, which has policy implications need to be supported. Quality of research must be ensured through involvement of professional bodies, research institutions, WHO Collaborating Centres and developmental partners. Comparability of data is to be ensured by adopting internationally agreed standards and indicators

1. BACKGROUND

During the last two decades, there has been a substantial decline in infant mortality rates in the countries of the South-East Asia Region. Changes in neonatal mortality, however, have not mirrored this trend; instead these have stagnated during this period. Countries in the Region are committed to the millennium development goals. These are not likely to be achieved unless neonatal mortality is dramatically reduced. Newborn health is an integral part of maternal and child health, but unfortunately, it is often ignored by both the programmes, especially during the first week of life. This has resulted in its contributing to the highest burden of infant mortality in the Member countries. Recognizing this, the WHO Regional Office for South-East Asia has taken up neonatal health as a priority programme and initiated steps to improve neonatal health in the countries of the Region. The Integrated Management of Childhood Illness (IMCI) strategy has been introduced in six priority countries addressing the management of sick newborn above seven days' age using a simple, algorithmic approach. Bangladesh, Indonesia, India and Myanmar propose to extend this to newborns one day old. The efforts have been coordinated by WHO. The current status and priorities for newborn care in SEA Region were discussed in a regional expert group meeting sponsored by WHO SEA Region and organized by the WHO Collaborating Centre for Training and Research on Newborn Care at the All India Institute of Medical Sciences, New Delhi in November 1998. Establishment of a South-East Asia Neonatal Network forum was recommended during this consultation. A workshop on neonatal interventions was organized by WHO/HQ in Nepal in April 2001, during which experiences with neonatal care interventions were reviewed and shared. Implementation of simple interventions with proven effectiveness on neonatal outcomes needs to be accelerated at the country level. In addition there is a need to identify the most cost-effective interventions to treat neonates at first level health facilities and referral institutions and promote their implementation. Collaboration amongst different partners is the key to success in promoting neonatal health. BASICS II/USAID and the WHO Regional Office have supported situational analysis of neonatal health in the countries of the Region and these are proposed to be consolidated as Regional Situational Analysis. This intercountry consultation was proposed for

exchange of information, sharing of experiences, and developing an understanding of the existing constraints and opportunities in neonatal care. The outcome of the consultation combined with situational analysis will pave the way for elaborating strategies to address the problem of high neonatal mortality and the poor status of neonatal health in the countries of the Region. It was expected to further enhance collaboration amongst the various partners based on mutual interest. The consultation will also serve to strengthen advocacy for neonatal health.

The WHO Regional Office and BASICS II/ USAID in collaboration with the WHO Collaborating Centre for Training and Research in Newborn Care, All India Institute of Medical Sciences, New Delhi, India jointly organized a South-East Asia Regional Consultation on Improving Newborn Health from 1-5 April 2002 at New Delhi. The participants in this consultation included the Directors-General of Health Services, programme managers and senior officials of the governments from nine Member Countries, as well as partners and stakeholders concerned with neonatal health. These comprised staff from WHO/HQ, Regional Office and country offices, technical managers from USAID and BASICS II, UNICEF, Saving Newborn Lives (SNL) of Save the Children Foundation (USA), DFID, Save the Children Foundation (USA), PATH, CARE India, JSI Nepal, Kangaroo Foundation, representatives from WHO collaborating centres in the Region, experts from community-based NGOs, researchers who have done innovative work in the field, and office bearers of professional societies.

The specific objectives of the consultation were as follows:

- (1) To develop consensus on essential care package for neonatal health for different levels of health care delivery system;
- (2) To agree on key indicators for monitoring and evaluation of neonatal health;
- (3) To promote partnership towards development of plans for resource mobilization and networking, and
- (4) To review existing tools and guidelines and develop plans for adaptation and adoption.

2. INAUGURATION

Dr P K Dave, Director, All India Institute of Medical Sciences (AIIMS) welcomed the participants of the consultation and summarized the contributions made by the WHO Collaborating Centre on Training and Research in Newborn Care for the South-East Asia Region at AIIMS. Dr N Kumara Rai, Director, Community Health Services (CHS), WHO, New Delhi, described the objectives of the consultation. Dr Victor Barbeiro, USAID, New Delhi, emphasized that the steps to be taken to improve neonatal health and reduce mortality were well known. He hoped that important recommendations of the consultation would help in the implementation of the programme and assured the full support of USAID in this endeavour. Dr Indira Narayanan from BASICS II emphasized that maternal and neonatal health are inseparable. Neonatal health at present is in the grey zone between the Safe Motherhood Initiative on the one hand and the child health and development programmes on the other. There is an urgent need for creating a niche for the neonate in existing programmes.

Dr Uton Muchtar Rafei, Regional Director, WHO, Regional Office for South-East Asia, in his inaugural address, noted with satisfaction, the steady decline in infant and under-five mortality rates but expressed concern about stagnating neonatal mortality in the countries of the Region which bear a disproportionate burden of global neonatal mortality and low birth weight. The poor start to human life in the countries of the SEA Region is attributable to low female literacy; insufficient empowerment of women; low income; intergenerational vicious cycle of undernutrition, unsatisfactory fertility regulation; poor access to and unsatisfactory utilization of health care during pregnancy and deliveries taking place under unhygienic conditions at home, frequently even without the presence of a trained birth attendant. Essential neonatal care is either unavailable or is poorly utilized. He advocated the adoption of essential neonatal care package, to promote neonatal health and reduce neonatal and perinatal mortality. While doing this, an integrated strategy should be adopted. Closer collaboration is required in order (within health department) to improve health care during pregnancy, increase preparedness for birth and ensure the presence of a skilled birth attendant at the time of birth. A healthy start to life through improved neonatal health will not only reduce neonatal mortality, it will also reduce social and economic costs resulting from illness and disability, enhance pregnancy spacing and

increase national productivity. The national policy should address neonatal health and survival, and the existing programme should be strengthened, consolidated and expanded by the application of cost-effective strategies. Advocacy is required to mobilize resources. Ministries of health need to advocate speeding up of national developmental efforts. The essential neonatal care package should be continuously refined to be cost-effective, evidence-based and appropriate to the cultural context.

He appreciated the participation of a number of partners in the consultation and hoped that this collaboration be further expanded and sustained. (For full text, see Annex 1)

See list of participants and agenda at Annexes 2 and 3.

3. OVERVIEW

3.1 Newborn Health - A Global Perspective

Dr Jelka Zupan from WHO/HQ gave an overview of global perspective on neonatal health. The high burden of perinatal and neonatal ill health in 2000 consisted of 7 million perinatal deaths (4 million still births and 3 million early neonatal deaths); and 4 million neonatal deaths (3 million early neonatal deaths and 1 million late neonatal deaths). Perinatal mortality rate was 56/1 000 births, while neonatal mortality rate (NMR) was 34/1 000 live births. The global burden of low-birth weight (LBW) infants was 16% of all births. In the less developed countries, the LBW incidence was 17% i.e. three times the incidence in developed countries (5-7%). Low birth weight was associated with high neonatal mortality. Birth weight mortality is high in each low birth weight group. The causes of neonatal deaths in less developed countries are similar. These included birth asphyxia and trauma, prematurity, infections (including serious infection, acute respiratory infections, diarrhoea and neonatal tetanus) and congenital anomalies. New challenges were being added to old diseases, complications and bad practices. According to 1999 data, there were 0.6 million perinatal HIV infections globally. The problem of HIV is getting worse in women and adolescent girls. The concern for STI, congenital syphilis and gonococcal ophthalmia is increasing. Perinatal mortality is related to antenatal markers, gestational age of less than 37 weeks and complications during labour. Reductions in perinatal mortality can be achieved through preventive care before pregnancy, improved pregnancy

care that includes birth plans and emergency preparedness, skilled attendance during childbirth and refocused postpartum care for the mother and the baby. Skilled birth attendance includes the presence of a skilled attendant, in an appropriate setting with access to basic supplies and drugs in addition to the availability of accessible emergency services. The health of the mother and the newborn is inseparable and optimum outcome of pregnancy and childbirth requires a continuum of care. A widespread implementation of effective interventions to reduce maternal and perinatal mortality requires a functioning close to the client health system that ensures delivery of services of good quality. According to the report of the Commission on Macroeconomics and Health: "There is a set of effective interventions that can substantially reduce maternal and perinatal mortality even in the least developed countries at the most pessimistic scenario of slow economic growth. The per capita costs of scaling up by 2007 of maternity related illnesses are US\$0.5-0.8 and childhood related illnesses and immunizations are estimated at US\$0.6-1.1 per capita". WHO has helped in defining clinical norms, and standards for skilled attendance for pregnancy, childbirth, post partum and newborn care. The Integrated Management of Pregnancy and Childbirth (IMPAC) includes a package containing a practical guide for skilled attendant, manual for referral hospital and tools for working with families and communities.

3.2 Newborn Health - A Regional Perspective

Dr Neena Raina, WHO, SEARO, identified the disproportionate burden of neonatal ill health in the countries of the SEA Region. The countries of the Region have 25% of the global population and more than 40% of neonatal deaths. After a steady decline in infant mortality rate, there is stagnation attributable to continued high neonatal mortality rates. In several countries, neonatal mortality is about two-thirds of infant mortality. Early neonatal deaths are two-thirds of neonatal mortality. Deaths during the first day of life are two-thirds of early neonatal deaths. The data on cause of death is unsatisfactory. In the hospitals, prematurity tops the cause of deaths while in the community, infections lead the list of causes. The incidence of LBW is high in the countries of the Region varying between 7% in Thailand to 50% in Bangladesh (1995). The rate of decline in LBW incidence has been slow. The mortality during neonatal period in each weight range below 2 500g is high. Even though the mortality is lower as birth weight increases, the higher numbers in 1 500-1 999g and 2 000-2 499g group contribute to a very large number of deaths. This has strategic implications in deciding about essential

neonatal care package which should include supervised care of babies at home in the birth weight range of 1 500-2 499g. especially in 1 800-2 499g weight range, provided that they have no complications.

Countries in the Region have achieved good coverage with TT during pregnancy, and this has led to reductions in deaths due to neonatal tetanus, although it still continues to be a public health problem in several provinces/states in some of the Member Countries. The continuing high proportion of home deliveries conducted by untrained traditional birth attendants, relatives or family members reflects the deficiencies in health systems and poor demand for services. Traditional practices like administration of prelacteal feeds, late initiation of first breast feed, the practice of not seeking health care for sick neonates and inconsistent measures to keep the baby warm are common in some countries. Delivery is considered an unclean process and adequate attention is not paid to cleanliness at the time of cutting the umbilical cord and while caring for the umbilical stump. Exclusive breast feeding rates are low. While existing programmes for future mothers, health care during pregnancy and child birth and programmes to promote child health and development should continue to be strengthened and intensified, there is an immediate need to focus on essential neonatal care package to improve neonatal health.

Based on available information, it is possible to stratify states and divisions into those with very high (above 50/1000 NMR), high (35-50/1000 NMR); moderate (20-34/1000 NMR); and low (less than 20/1000 NMR) neonatal mortality rates. A stratified approach should be adopted with increasing sophistication of the package as the mortality rates decline. In the Region, WHO is supporting countries in implementing IMCI strategy; safe motherhood programmes, adolescent health and child health and development programmes. The integrated approach should be extended to fully cover the grey area of neonatal health.

3.3 Neonatal Mortality - A Donor Perspective

Dr Victor Barbiero, USAID, India, provided a donor perspective on reduction of neonatal mortality. Reviewing the situation in India on neonatal mortality, its causes and determinants, he called for action how to achieve reductions in neonatal mortality rates in the countries of the Region. He quoted Melinda

French Gates (2001) "We know what is to be done. We have the tools; it is time to marshal global political will and to commit unprecedented resources to saving newborn lives. We call on the world to give all children a healthy start now". What is important is that too many babies die. India alone contributes to some 30% of neonatal deaths worldwide. Even though tools exist to save these babies from dying, applying them may not be easy. Less than 25% deliveries are institutional in India. The challenge is to reach the newborns in time, since most of them are born at home and traditional practices preclude them from taking them outside the home even when they are sick. How do we tackle the problem of high perinatal mortality rate? Data from the most recent National Family Health Survey (NFHS) shows that neonatal health is directly linked to the health of the mother, which depends on their own health and empowerment. Key interventions for improved neonatal health and effective reductions in neonatal mortality based on evidence are tetanus immunization during pregnancy, early initiation and exclusive breastfeeding, clean and safe deliveries, warmth, observing neonates for sickness, diagnosis and treatment of sick neonates in the community supported by referral when required. Commitment is required at all the levels i.e. mothers, fathers, community, health care providers and political. In order to enlist the commitment, he recommended development, adoption and institution of practical and sustainable public-private community interventions. For sustaining the effort, important new questions should continue to be asked and innovative research should continue to be supported.

3.4 The Niche for the Newborn - Options

Dr Indira Narayanan from BASICS II identified the technical focus areas in the flagship child survival programme under the Bureau for Global Programme, USAID in which 14 countries and three regional initiatives are included and supported. BASICS II promotes newborn health as a critical piece within the total picture of child survival and development and maternal health. It supports a holistic approach to improve newborn health with emphasis on essential newborn care, particularly where there are significant constraints and limited resources. As this is a relatively new area in the field of international health, advocacy at all levels is of prime importance. Integration with all relevant existing programmes including those on child survival and maternal health is essential, but should be done carefully so that issues critical to this short period are not lost among the larger and better known areas. Newborn

health is in fact “child survival” in the first month of life, linked with maternal health. A “life cycle” or an “age-related” approach with the period of the first month with its unacceptably high mortality having clear visibility and focus in intervention strategies is likely to be beneficial.

Long-term goals including skilled birth attendance for all deliveries and good quality care for all sick newborn infants need to be taken into consideration and initiated early. Their full realization will obviously take time. Hence in the interim period, capacity building and supervision of existing facility health workers along with traditional birth attendants, community health workers/ volunteers and families should be included. Important operational strategies include community mobilization and communication for appropriate behaviour. Interventions to improve newborn health should address issues that are unique for this period of life, be evidence-based, have goal-oriented targets, deal with areas of maximum need such as community level strategies, have a balance between a “top down” approach of ensuring policies in place and adequate “supplies” and a “bottom-up approach” creating demand. Registration of births and deaths with improved recording, reporting and review are important. Monitoring and evaluation should also be an inherent part of intervention programme.

4. STATUS OF NEONATAL HEALTH IN SEAR

4.1 Bangladesh

Dr M Rahman summarized the status of implementation of child survival interventions in Bangladesh, which has led to impressive declines in infant and child deaths, but only a limited impact in the first month of life mostly attributed to *tetanus toxoid* (TT) immunizations during pregnancy. The neonatal mortality rates are above 50/1 000 live births in the rural areas and above 40/1 000 in the urban areas (DHS 1999-2000). The use of verbal autopsy to identify the causes of neonatal mortality showed that about 50% of deaths occur during the first three days of life, 14.9% are due to neonatal tetanus, 20% are attributed to ARI, diarrhoea or both and 13% are undefined (DHS). In Bangladesh, the incidence of low birth weight is above 30% and the vast majority of these babies are small for gestational age. Unpublished data from Matlab has shown that in less than 10% cases, care-seeking during illness takes place from a trained provider during illness in 0-5 months age. The

situation is worse in sick newborn babies. Improving neonatal health is a complex task since more than 80% deliveries in urban areas and almost all deliveries in rural areas take place at home. Therefore, improvements of neonatal survival will depend on the design of simple, effective, community based interventions. Neonatal care is a component of Government of Bangladesh's Health and Population Sector programme (HPSP) which involves community-based workers and clinics. Bangladesh Integrated Nutrition Project (BINP) is designed to reduce LBW, which is an important determinant of mortality. The present training on Emergency Obstetric Care (EOC) does not emphasize newborn care. Bangladesh is a focus country of Saving Newborn Lives (SNL) initiative, which would advocate for essential neonatal care, promote community-based research and support training. Major challenges are to reach and serve neonates in the homes and lack of medicines and equipment to manage sick neonates. Enough is not known about those who still deliver more than 80% of babies at home. Continuing absence of synergy between safe motherhood and child health care initiatives is an important gap.

4.2 Bhutan

Dr Gado Tshering summarized that demographic indicators have shown considerable improvements in infant and under five mortality rates during the last decade in Bhutan. There are numerous difficulties due to the rugged and inhospitable terrain. According to the National Health Survey 2000, the IMR was 61/1 000 live births. The proportion of births attended by trained persons was only 15% in 1994. This increased slowly to 24% in 2000. Trained health workers attend only 5% of the deliveries at home. Antenatal care has direct implications on neonatal outcome, but only 51% pregnant women attended antenatal care clinics one or more times during pregnancy. At least, one in four babies are born low birth weight. Data on causes of neonatal mortality in the community is not available. Hospital-based information identifies prematurity as a cause of death in 52% of neonatal deaths. Other causes of mortality are severe birth asphyxia in 25%, congenital anomalies in 11% and sepsis in only 4%. Since babies are discharged early and follow-up is not ensured, neonatal sepsis has not emerged as a major cause of death. Prematurity is not a direct cause of death and many premature babies may have died because of sepsis. Although figures for neonatal mortality are not available, the stagnation in trends of infant mortality suggest that high

neonatal mortality rate in Bhutan is a serious public health and national development concern. Exclusive breastfeeding is practised by 42%. Bhutan is pursuing the baby-friendly hospital initiative (BFHI), which needs to be intensified. Synergy is required between IMCI strategy promoted by WHO and Early Childhood Care Development (ECCD) strategy of UNICEF. The current stress on safe motherhood will also benefit neonatal health. Integration of neonatal health with IMCI and support for improved skills of health workers combined with improved community participation for safe delivery and essential neonatal care is needed in the programme.

4.3 India

Dr S Malhotra summarized the situation of neonatal health in India. During the last couple of decades, the proportion of neonatal mortality to infant mortality is increasing in India. With 1.2 million deaths during the neonatal period, India contributes nearly 30% deaths to the global burden. According to the National Family Health Survey, the neonatal mortality rates were 50 or more/1 000 live births in the states of Madhya Pradesh, Orissa, and Uttar Pradesh; in contrast, Kerala had a neonatal mortality rate of only 11/1 000 live births. The wide variations between different states justify the consideration of appropriate strategy to tackle the problem. Only 25% of all births in India occur in health institutions like hospitals and primary health centres. The rest three-fourths of births occur at home. Trained personnel are in attendance in only 34% of the 25 million births that occur annually in the country. Neonatal tetanus as a cause of death has shown a decline as a result of tetanus toxoid vaccination during pregnancy. A lot has been achieved, but this continues to be an unfinished agenda for implementation since there are pockets of this problem in many districts in the country. Causes of neonatal deaths in the community are not well documented. A community-based study in Gadchiroli, Maharashtra showed sepsis to be responsible for 52% deaths. Asphyxia (20%) and prematurity (15%) were the other prominent causes. Nearly 30% of babies are born low birth weight although the database is weak since babies born are not routinely weighed at the time of birth. India has included neonatal health in its national population policy and formed a national task force to focus on improvement of neonatal health. The Government of India observed newborn week throughout the country from 15-21 November 2000. The Indian Council of Medical Research has, in consultation with experts identified research priorities in neonatal health with

a direct bearing on the programme. A community-based multicentric study on interventions to reduce neonatal mortality has been initiated. Under the Reproductive Child Health (RCH) programme, essential neonatal care is now included as an integral component of primary health care. The National Neonatology Forum, which has a membership of 2 500, is advising the government in implementation of RCH programme, and is helping to develop consensus on policy-related issues. It is propagating key information through monographs and publications and accrediting neonatal units in the country.

4.4 Indonesia

Dr Ina Hernawati reviewed the status of neonatal health in Indonesia. Neonatal mortality rates in Indonesia have declined slowly during the past 10 years (from 28 to 22/1 000 live births) in comparison to more rapid fall in IMR (from 65 to 48/1 000 live births). Gains have been made in neonatal mortality resulting from a decline in neonatal tetanus though there are districts with persistent problem of neonatal tetanus where this should be eliminated. Following the economic crisis and political changes, the social programmes have slowed down and indicators relating to neonatal health are not showing improvements. The country is pursuing the policy of decentralization. Neonatal care in Indonesia is implemented within the integrated mother-baby interventions. Strategies for the neonatal programme include empowerment of women, families, and communities, strengthening of intersectoral collaboration and improvement of the quality and accessibility of neonatal care. Indonesia has introduced a comprehensive MCH handbook, which includes basic information on health of the mother and the baby. Efforts are ongoing to empower communities through provision of trained community midwives. Neonatal health care is proposed to be strengthened through improved skills of health care providers, strengthening of health system and improvement of health care-seeking behaviour of families and communities. The programme encourages midwife-TBA partnerships and development of training units related to maternal and neonatal health. Post training supervision in the inbuilt health system are being strengthened through development of standards of services for maternal and neonatal care; increasing availability of essential medicines, vaccines and micronutrients and development of monitoring and supervision system for quality assurance. A number of key indicators have been developed. These indicators will help assess progress in neonatal health and information in management of

asphyxia, LBW and sepsis including neonatal tetanus. For success of policy on decentralization, a district-planning guide is a priority intervention for developing the capacity in the district. In Indonesia, the IMCI programme has added an algorithm for management of health problems in young infants from birth to 2 months of age. The training in IMCI will also emphasize essential neonatal care.

4.5 Maldives

Dr Afeef reviewed the progress in neonatal health in Maldives. During the last decade, infant and neonatal mortality rates have shown a decline. The neonatal mortality rate was 23/1 000 live births in 1995. This has declined to 14/1 000 in the year 2000. Six out of seven neonatal deaths occur within the first seven days of life. The trends in the incidence of LBW also demonstrate a fall in incidence from 18% in 1987 to 11.0% in 1999. The main causes of neonatal mortality include extreme prematurity, birth asphyxia, congenital anomalies and meconium aspiration. Deliveries are now conducted in institutions (central hospital, regional hospital and health centres) while the deliveries conducted by Traditional Birth Attendants (TBAs) have declined considerably. There is no specific policy on neonatal care, although the health policy provides for access to family planning, antenatal care, clean and safe delivery and post natal care, all of which help to improve neonatal health. The national policy supports exclusive breastfeeding in the first six months and provision of timely referral services. It is proposed to ensure provision of services by obstetricians and paediatricians in regional and central hospitals. Medical doctors provide services in health centres, while community health workers and female health workers manage health posts. Deficiencies in the programme were identified in the management of birth asphyxia. It is proposed to provide resuscitation equipment and train the staff in resuscitation of asphyxiated newborns.

4.6 Myanmar

Dr Thein Thein Myint said that the national mortality survey (1999) showed an infant mortality rate of 60/1 000 live births. The information on neonatal mortality rates is not available. The latest figures are for 1987, which showed the mortality rate to be 15/1 000 live births (Hlaing 1987). In Myanmar,

antenatal coverage increased from 61% in 1991 to 76% in 1997. Deliveries were conducted at home in 60% cases. The deliveries by trained birth attendants increased from 46% in 1991 to 56% in 1997. The incidence of LBW continues to be high. It is estimated to be 24% (National Nutrition Survey).

In Myanmar, specific components of neonatal care in the community have been incorporated into the training of health care workers in IMMCI (Integrated Management of Maternal and Childhood Illnesses). Under the IMMCI strategy, 812 trainers and 13 589 health care providers have been trained. Modules have been prepared for the management of critically ill children in the hospital. These include management of serious health conditions of neonates. To date, 40 courses have been organized and 976 hospital staff members trained. Training on neonatal resuscitation has been conducted for 100 specialists and 240 doctors and nurses. About 268 hospitals and 49 townships have been certified as baby-friendly hospitals. It is now proposed to consolidate and strengthen maternal, neonatal, child and adolescent health as components of the women and child health development (WCHD) strategy. By 2005, this will cover one-third of townships under Area Development Project of UNICEF. It is proposed to add essential neonatal care in WCHD. In Myanmar, Myanmar Maternal and Child Welfare Association (MMCWA) is a national NGO with an extensive network throughout the country. It has established a number of maternal and child welfare centres. These are excellent entry points for strengthening community-based neonatal health care. Important international partners include WHO, UNICEF, UNFPA, JGA, Save the Children, Marie Stopes International and Population Services International.

4.7 Nepal

Dr D S Manandhar said that neonatal health in Nepal continued to be poor. Neonatal deaths accounted for more than 60% of infant mortality. The problem of low birth weight is common (about 25% incidence). It is related to malnutrition among women of reproductive age, high prevalence of anaemia during pregnancy and only 20% women using antenatal care. About 89% of deliveries occur at home and 78% take place without the assistance of a trained birth attendant. Births occur in an unclean environment. Clean delivery kits are used in only 3% cases. Information on causes of neonatal

death in the community is poor. Some published data shows birth asphyxia, infections and low birth weight as the main cause of death. The Government of Nepal is implementing safe motherhood programme as a mother-baby package. Guidelines published include neonatal care at the community and referral hospitals. Clean home delivery kits (CHDK) are prepared in Nepal and promoted. Use of low cost locally produced equipment supports essential neonatal care. Saving Newborn Lives project has been initiated in Nepal. Several NGOs are supporting the safer motherhood project. Various professional bodies are assisting with training and advocacy relating to neonatal health. IMCI in Nepal proposes to include management of illnesses and promotion of health from 1 day - 2 months age. DFID, WHO and UNICEF are developing and implementing Mira Makwanpur project to improve mother and newborn care in the community. The project has adopted the strategy of facilitation through women volunteers one in each village development committee to activate, strengthen and support mother groups. This is aimed at increasing awareness of perinatal problems, provide knowledge of danger signs, increase demand for appropriate services and give knowledge of services available. This is complemented by health service strengthening using low cost technology. The use of antibiotics in the treatment of infections by community based workers after proper training is under consideration by His Majesty's Government (HMG), Nepal.

4.8 Sri Lanka

Dr Vineeta Karunaratne while summarizing the Sri Lanka experience said that the country has given a high priority to MCH and FP programme through sustained political commitment by successive governments. A strong infrastructure has been established at the community level with development of a cadre of public health and institutional midwives. Health care is provided free of charge and transport is subsidized. The country has a well-established monitoring and evaluation system.

The achievements in maternal and child health by Sri Lanka are very impressive. The female literacy is very high (88%). The infant mortality rate is 15/1 000 live births and neonatal mortality rates are 13/1 000 live births. The incidence of low birth weight is 17%. Most of the deliveries (94%) are institutional and antenatal coverage is about 98%. Important milestones include the establishment of the first maternity hospital in 1879 and initiation of antenatal services in 1921. Training of midwives was started in 1926. Promotion of institutional deliveries began in 1948. The Safe motherhood

programme through new initiatives was begun in 1989. This has included better monitoring of labour by use of partogram in maternity units, introduction of improved methods of resuscitation of asphyxiated babies and improved delivery practices through regular in-service training. Neonatal tetanus has been eliminated by tetanus vaccination during pregnancy and by adoption of aseptic techniques during delivery. Malaria prophylaxis is routine in endemic areas and exclusive breastfeeding is promoted during the first four months. The challenges include provision of more equitable services, further upgradation of EOC and neonatal care in institutions, continued training to sustain programme quality and improvement of services in the conflict-affected areas and in the estates.

4.9 Thailand

Dr Nipunporn Veramongkol described the achievements of Thailand in reducing neonatal mortality rates and considered them to be impressive. Literacy rates are high, total fertility rates are low (1.8%). The perinatal mortality rates are about 10/1 000 births and neonatal mortality rates are 19/1 000 live births. Antenatal care is widely available and utilized, and neonatal tetanus has been eliminated. About 15% of pregnant women are anaemic. Deliveries are mostly institutional and attended by a trained worker. About 9% of the babies are born LBW and an estimated 4.5% are asphyxiated at birth. The health care of mothers and children received a set back following the economic crisis. The decline in mortality did not occur, proportion of anaemia in pregnancy increased and incidence of LBW increased. Thailand has produced and widely distributed well-child/MCH child booklets. The pregnancy pathway illustrated material has been produced. The country has widely implemented BFHI involving all public and private hospitals in the country. However, exclusive breastfeeding rates are low. Various professional bodies including perinatal and neonatal societies, WHO, UNICEF and UNAIDS, promote neonatal health. JICA and Redda Barna are supporting various MCH programmes in the country. Thailand has addressed effectively the challenge posed by HIV/AIDS. By adopting programme to prevent mother to child transmission, the perinatal transmission rates have declined. AIDS cases in children 0-4 years from mother to child transmission have reduced after reaching a peak in the year 1997. Thailand is constrained by a lack of national policy and a holistic approach on neonatal health care. Further

improvements will be possible by continuing to provide good quality curative care and emphasizing more on prevention and promotional measures.

5. SPECIAL EXPERIENCES/SUCCESS STORIES

5.1 Saving Newborn Lives Initiatives in Nepal

According to Dr Neena Khadka, Saving Newborn Lives Initiative has prepared a draft situational analysis on newborn health in Nepal. This initiative proposes to increase and sustain the use of healthful maternal and neonatal practices and key services in the country. It is proposed to strengthen neonatal practices in various reproductive health and safe motherhood programmes in 24 Village Development Committees (VDCs) in Kailali district. The project will be implemented in collaboration with local NGOs through district public health office. Female community health volunteers (FCHVs) will facilitate behaviour change communication (BCC) among mother groups and post natal care will be provided through MCH workers, trained TBA and trained relatives. SNL will participate in maternal and neonatal *tetanus toxoid* campaigns in three districts in collaboration with HMG, WHO and UNICEF. It proposes to participate in research through analysis of the Demographic Health Survey 2001 which will assist in planning, undertake social marketing assessment of clean home delivery kits and evaluation of role of TBAs in effecting neonatal outcomes.

SNL will mobilize commitment and resources through advocacy at the political level, influencing policy through safe motherhood committee and network and lobby neonatal health cause amongst influential groups such as professional bodies, media and community leaders. It is proposed to use a set of global core indicators to monitor and evaluate neonatal health in the country.

5.2 Saving Newborn Lives Initiative in Bangladesh

Dr Izaz Rasul summarized the work of Saving Newborn lives in Bangladesh. A country situational analysis entitled "State of the World's Newborn; Bangladesh" was launched through stakeholder's workshops at national level

in January 2002 and subsequently in all the divisions in the country in March-April 2002. Essential neonatal care will be introduced as a direct cost-effective means of reaching both the urban and rural communities. Neonatal care will be integrated into maternal and child health programmes and this was reflected in the recently released National Maternal Health Strategy.

An extensive formative research on household level practices in pregnancy, childbirth and newborn is currently being undertaken in 14 upazilas (subdistrict) in six administrative divisions in the country. The findings from the formative research will guide the country in formulating BCC strategy to promote healthy newborn practices at the household, family and community levels. It is promoting improvement in the household practices through BCC strategies to influence families and communities on the value of essential newborn care.

SNL in collaboration with government, NGOs, professional bodies and academicians had developed generic Essential Newborn Care (ENC) module and government had incorporated the ENC training in the annual operational plan for financial year 2002-2003. SNL will assist government and NGOs to train professionals and health care workers to improve the skills of various cadres. This includes provision of skilled care at childbirth. SNL along with its partners (Government, NGOs like CARE, Bangladesh Rural Advancement Committee (BRAC) and others) has developed community and facility based ENC service delivery projects. It is supporting research to demonstrate feasibility of new models and techniques to improve neonatal health. Currently, intervention trials are being supported to assess clinic based and community-based approaches in the delivery of neonatal care.

Advocacy to promote neonatal health nationwide will be undertaken jointly with development partners and stakeholders. It is proposed to prioritize maternal and neonatal care in the national health plan. Support will be provided to the annual meetings/conferences of professional bodies to enlist their commitment to save newborn lives.

5.3 Community Newborn Care in West Bengal, India

Dr Alok Lahiri and Pankaj Mehta reviewed the progress of work on integrated community-based neonatal care in the state of West Bengal in India.

According to Sample Registration System (SRS) data the neonatal mortality rate in the state was 30/1 000 live births in comparison to 46 for India. Now 36% of the deliveries are conducted in the institutions. In rural areas, 60% deliveries are attended by the TBAs. There are no separate facilities to manage sick neonates in the hospitals and health centres. Sick neonates are generally treated along with older sick children. A review of current neonatal care at home, health facilities and hospitals shows the gaps in the provision of neonatal care. The support provided by the mothers, families, TBAs, health volunteers, health workers, nurses and doctors needs to be substantially improved. Neonatal care principles are simple and achievable through primary health care in a cost-effective manner. There is a need to apply the principles of essential neonatal care everywhere.

In the state of West Bengal, a partnership has been established between the government, UNICEF, National Neonatology Forum and professionals. Complementary programmes supported by CARE, DFID and GTZ are involved to strengthen essential neonatal care. In the partnerships established, convergence is the focus and panchayat samitis (local self government) are fully informed and involved. The strategy is to create an enabling environment where the wellbeing and survival of neonates is stressed. Neonatal health should be demystified so that it becomes a people's movement. Selection of the most backward districts, and provision of four resource persons in each district has achieved operationalization of neonatal care.

Newborn corners in the neonatal wards in the hospital facilities have been established in 155 locations in the State. To date, 628 medical doctors, 1 491 nurses, 716 supervisors, and 1 319 TBAs have been trained. Simple and appropriate equipment and supplies at the community, health centres and hospitals were provided. The project is taking small but definitive steps according to the available capacity in the state to improve and upgrade an essential neonatal care package everywhere. This should lead to the emergence of a newborn friendly family initiative.

5.4 Healthy Start Plus Programme in Indonesia

The goal of the Healthy Start Plus Programme in Indonesia is to improve the health and nutrition of mothers, infants and children under five years age. The focus is on 1-7 days of life, as an integral part of maternal newborn health initiative. According to Dr Iwan Ariawan, the project envisages a visit by

village midwife between 1-7 days after the birth of a child to provide hepatitis B immunization, iron folic acid, and vitamin A to the mother and examine the baby. Counselling is provided to encourage good cord care, exclusive breastfeeding, and adoption of Kangaroo approach, recognize sick neonates and advise the mothers about nutrition. PATH is assisting by training the midwives and district office staff to help in social mobilization and provide logistic support. Training of staff uses the principles of adult and collective learning, which are acceptable to village midwives, increase the self-esteem of village midwives and focus on the participatory approach.

A pilot project was implemented in West Nusatenggara from 1991-1996. The outcomes were a decline in infant mortality (73 to 55/1 000 live births), an increase in exclusive breastfeeding rates (42-58%) and in hepatitis B immunization from 0% in 1990 to 71% in 1993 and to 84% in 1996. Hepatitis B immunization is given by UNIJECT and the quality is monitored. This ensures the safety and efficacy of the vaccine. Encouraged by the achievements, the project has been extended to two districts in East Java and two in West Java. About 1 000 village midwives have been trained so far against the target of 2 000.

5.5 Resuscitation of Newborn in the Community and Maternity Facilities

According to WHO, about 3.6 million babies develop birth asphyxia each year in developing countries, 900 000 die and many more are left with mental and physical handicaps. According to Dr Vijay Kumar, Survival for Women and Children Foundation (SWACH) a large proportion of deliveries in developing countries continue to take place at home. Referral of babies who are asphyxiated is not feasible, since the baby will die or be compromised before reaching the hospital/health centre. Resuscitation has been considered technically complex, but studies have shown that a lot of simplification is possible in resuscitation procedures without compromising the quality of intervention in babies with mild or moderate asphyxia. Hospital-based studies have shown that a tube and mask device which costs less than 10 times as compared to bag and mask is effective in ventilating asphyxiated newborn babies successfully.

An operational study was carried out in India, Indonesia, Bangladesh, and Islamic Republic of Iran with support from WHO, USAID and PATH. SWACH Foundation, in consultation with partners developed a technical

reference manual, a guide for maternity staff, an illustrated guide for illiterate birth attendants and a training curriculum for maternity facility staff. An algorithm was developed, identifying steps in the management of birth asphyxia. A total of 210 providers (TBAs and maternity facility staff) were trained. During the study, 5 005 deliveries took place. All providers learnt the management of birth asphyxia and an evaluation showed that the skills learnt were retained for 3-13 months after the training. 3.4-13.9% babies were asphyxiated as evident by absent or weak cry. Physical stimulation and or mucus suction were enough to revive the babies in 31-71.3% babies who did not cry at the time of birth. Between 34-75% of asphyxiated babies were successfully managed with ventilation. Only 19 babies died. The mortality from birth asphyxia was 5.8/1 000 live births. The Equipment was kept clean. The procedure was well accepted by the families and communities and the prestige of providers was enhanced following the introduction of the resuscitation measures. Birth asphyxia management is recommended in health facilities where more than five deliveries take place each month. Birth attendants who assist more than five deliveries per month should also be included. Training should be given and skills maintained through ongoing training. Simple equipment and supplies are needed for providers and facilities to ensure practice of the skills learnt.

5.6 Community-Based Interventions in the Care of Low Birth Weight Babies

In the countries of the South -East Asia Region, 25-30% of babies are born low birth weight. A large proportion is born small for gestational age. Low birth weight/prematurity is not a direct cause of death. However, nearly 7 to 8 out of 10 deaths during the neonatal period occur in LBW babies. The cost of preventing LBW is high. Preventive programmes, though very desirable, can be effective only on a medium and long-term basis and prevention involves many non-health interventions.

Dr Neena Raina summarized the findings of a community-based longitudinal intervention study, which was carried out in Haryana, India to determine the impact of supervised care on survival of LBW babies. A simple package comprising prevention of hypothermia, early initiation and exclusive breastfeeding, management of diarrhoea and pneumonia, and referral of sick babies was used. The package was implemented in the existing health system. The training material was developed according to the tasks assigned to the health care providers by the government. Training strategies were used to ensure interactive training, with emphasis on skills development, and ongoing

training to solve problems and correct deficiencies. Matrices were developed to identify care components in the family, community, sub centres, health centre and hospitals. In the delivery of supervised care of LBW babies, a team approach was used. Medicines and other supply logistics were consistent with the policy of the state government. Traditional practices were identified, and an effort made to overcome the common harmful practices in the community.

The providers included TBAs, *Anganwadi* workers (AWW's), female multipurpose health workers (FMPWs) and community health guides (CHGs). There was significant decline in neonatal mortality rate in LBW babies, but the decline in post- neonatal mortality was more dramatic. Amongst causes of death, those related to feeding problems and birth asphyxia decreased and some reduction in deaths due to sepsis was observed. While Registered Medical Practitioners (RMPs) were utilized in the control area, primary health care workers (AWW and FMPWs) were approached in the intervention area. Knowledge of mothers on essential neonatal practices was significantly better in intervention areas than in control area. Practices relating to keeping the baby warm, feeding colostrum and clean delivery were adopted in the intervention area. The experience in this study was utilized in carrying out community-based research on birth asphyxia management and further intensification of conducting clean delivery. It is important that policy support for treatment of infections be made accessible to reduce sepsis related mortality.

5.7 Gadchiroli Newborn Case Study

Eighty five percent of babies in rural areas in India are born at home. According to Dr Abhay Bang, since hospital care is usually inaccessible, most neonates in rural areas are cared for at home where they survive or die. Therefore, community-based estimates of burden of neonatal morbidity and care gap are required.

A study was done in Gadchiroli district in Maharashtra, India, by an NGO, SEARCH starting in 1995-96. Thirty-nine villages were selected and 763 neonates were visited at home eight times by a trained female village health worker during the first month of life. The neonatal mortality rate was 52 and IMR was 73/1 000 live births. Nearly 42% of the babies were born LBW. Nine out of 10 deaths occurred in LBW babies. Morbidity in the neonates was classified as high risk and low risk. This classification reflects the association of high -risk morbidity with death. Thirty-eight out of 40 neonatal

deaths occurred in high -risk neonates. Nearly 17% neonates developed sepsis. Although 54% of neonates had indications for medical care, very few received it. Only 2.6% neonates were seen and treated by a doctor (most often private) and 0.6% was hospitalized.

After the initial study, the female village health worker was trained to treat sepsis in newborn with injection gentamicin and oral cotrimoxazole for seven days. Other components of essential neonatal care were provided e.g. clean delivery, temperature monitoring and maintenance, early initiation and exclusive breastfeeding, and management of birth asphyxia (by sucking secretions using oral mucus sucker with mucus trap and ventilation by mouth to mask or tube and mask). There was 62% reduction in neonatal mortality as compared to the control villages. The case fatality rates for sepsis declined from 16.6% to just 2.8%. It is estimated that one death for every 18 neonates cared for could be averted.

This home-based care of neonate including treatment of sepsis is feasible and acceptable. The cost is US\$5.3 per neonate which is much lower than US\$17.3 - 44.2 in hospital-based care in Chennai, India. The model recommends provision of village-based female health worker, who works with TBA. A kit has been developed by SEARCH to provide essential neonatal care in the villages. This alternative approach includes provision of home-based neonatal care. It should be replicated in India and in other countries and deserves serious policy consideration.

5.8 Kangaroo Mother Care

Kangaroo mother care (KMC) is a care technique for infants below 2 000 g birth weight created and developed by a team of paediatricians at Institution Materno Infantil in Bogota, Colombia in 1978. Dr Nathalie Charpak summarized the experience with Kangaroo mother care. The components of the intervention include prolonged skin-to-skin contact – Kangaroo position, breast-milk-based nutrition and early discharge in Kangaroo position. This approach has been scientifically tested. It has been shown to be an effective and safe alternative to caring of LBW infants in minimal care units after the stabilization of the infant's condition. It is useful in the mother's empowerment and family bonding to the LBW infant. The complete intervention includes early discharge, skin-to-skin contact 24 hours per day, exclusive breastfeeding and ambulatory care. It is important to ensure the quality of health care, which should meet the standards of minimal health care.

KMC is useful in improving the survival of LBW infants, their growth and development, while meeting the standards of quality and at the same time humanizing health care. The Kangaroo position offers skin-to-skin contact between mother and child in a vertical position. Mothers act as incubators, providing the main source of nutrition and stimulation. The infant temperature stays within the normal range. Advantages include good maintenance of physiological parameters and continuous monitoring of the baby. Kangaroo feeding policy encourages exclusive breastfeeding. The aim is to obtain weight gains similar to intrauterine weight gain (i.e. 15-20 g/kg/day). If required, dropper or tube feeding can do supplementation. After stabilization, the baby can be discharged from the hospital. The baby is maintained in the Kangaroo position at home until the baby rejects it, which is around 37-40 weeks of gestation. KMC is humanization of medical technology and is a rational tool of maximizing the available human and technical resources. Kangaroo mother care has three distinct uses: (1) it can be applied in places without appropriate neonatal care facilities as it is the only alternative to the lack of incubators; (2) in places with access to all levels of neonatal care, KMC offers early mother-infant, skin-to-skin contact, enhancing the quality of mother-infant bonding and successful breastfeeding, and (3) in situations where facilities are of good standard, but insufficient to cope with the demands, KMC is an alternative to minimal care after the infant has overcome extrauterine life adaptation problems.

Representatives from 30 countries who met during the second international workshop adopted the Bogotá Declaration urging all governments to incorporate KMC as an integral part of management of LBW and full-term infants at all levels in all countries. Developing countries faced with the problems of high neonatal mortality and high incidence of LBW and having low capacity should adopt KMC in their policy.

6. SUMMARIES OF GROUP EXERCISES AND PANEL DISCUSSIONS

6.1 Essential Neonatal Care Package

Prioritizing interventions

The session was organized using the visualization in participatory programme (VIPPP) technique. Discussions were held in three groups. The participants of

Group I discussed the components of essential newborn package in countries where neonatal mortality is high. Group II and Group III identified components in countries with moderate and low levels of neonatal mortality respectively. The interventions in essential newborn care package were classified in to (1) care of future mothers; (2) care during pregnancy; (3) care at birth; (4) care after birth, and cross-cutting interventions. Participants were then asked to assign priorities to the interventions, which were then consolidated.

Group discussions	No. of participants identifying interventions a priority
(1) Care of future mothers	
▪ Nutrition of girls	4
▪ Rubella immunization	-
(2) Care during Pregnancy	
▪ Birth preparedness (place, skilled attendant, transport arrangement)	35
▪ Tetanus toxoid immunization	24
▪ Early pregnancy registration	15
▪ Identification of risks during pregnancy	18
▪ Iron & folic acid	18
▪ Appropriate Health Education	8
▪ Nutrition education	4
▪ Treat infections (malaria, urinary tract infection)	5
▪ Micronutrients (zinc, vitamin A)	4
▪ Voluntary Counselling and Testing (VCT) and Anti Retro Viral Drugs (ARV) if HIV positive	1
(3) Care at birth	
▪ Observe the five cleans	35
▪ Resuscitate asphyxiated babies	34
▪ Appropriate place and skilled attendance	18
▪ Early recognition of danger signs	15

Group discussions	No. of participants identifying interventions a priority
▪ Two attendants (one skilled + TBA)	12
▪ Birth weight recording	6
▪ Maintain temperature provide warmth	12
▪ Breast feed within one hour	10
▪ Compulsory birth registration	5
▪ Emergency obstetric care	5
▪ Prompt referral and transport	6
(4) Care after birth	
▪ Identification of danger signs	32
▪ Early and exclusive breast feeding	31
▪ Supervised care of LBW	29
▪ Recognize and treat sepsis	23
▪ Maintain warm chain for newborn	16
▪ Postnatal visits	11
▪ Immunization	9
▪ Strengthen Level II, Level III neonatal care	8
▪ Timely referral of sick newborns	7
▪ Health education and counselling	2

Maximum priority was given to interventions promoting care after the birth of the baby. This was followed by interventions needed at the time of birth. Other interventions are also deemed to be priority interventions, but are within the scope of safe motherhood and intersectoral efforts, which directly or indirectly influence neonatal health and survival.

Crosscutting issues are important for programme implementation in the countries. These were listed and were the subject of discussion during panel or group discussion subsequently in the meeting. Some of the participants

decided to consider them as priority interventions. The cross-cutting issues included training of community health workers, increased cooperation between paediatricians and obstetricians, improvement of traditional practices, data management and behaviour change communication. Some of the interventions selected showed a discrepancy. Birth weight recording was given priority by six participants but 29 selected supervised care of LBW a priority. It was presumed by the participants that supervised care of low birth weight babies necessitates assessment of birth weight. There are country-specific problems such as HIV/AIDS. Only one participant identified voluntary counselling and testing and anti-retroviral treatment as a part of mother-to-child transmission prevention. This may be an important intervention in a country faced with the high burden of HIV infection.

6.2 Care Providers for the Neonates

In this panel discussion, doctors and nurses as care providers were not included. They provide neonatal care in institutions (hospitals or health centres) or on an ambulatory basis in the government and private sector. In the countries of South East Asia, in Sri Lanka and Thailand, more than 90% deliveries are institutional deliveries. In other countries, despite a policy for institutional deliveries, the progress towards universalization of institutional deliveries is slow. Even in Sri Lanka, institutional deliveries could become universal in a period of about 75 years. For neonatal care, the health systems are weak and demand for services is poor. Therefore, many countries have not succeeded in providing skilled birth attendance. Midwifery cadres in Bangladesh, India, Indonesia and Nepal are responsible for providing maternal and neonatal care. Large numbers of FMPWs, community midwives and other auxiliaries have been trained. Access continues to be poor; they are not often called to provide skilled attendance at birth for various reasons. In some countries, they have to perform a number of tasks, which prevent them from providing services at the time of childbirth. At present, their contributions to newborn care are minimal. Innovative approaches are under consideration. India proposes to revitalize the training of FMPWs to be more skill-based and is planning to train a new cadre of community midwives who will work on a private basis.

6.3 Traditional Birth Attendants (TBAs)

Traditional Birth Attendants (TBAs) are important to delivery of health care. They are preferred by the community to assist during delivery in many countries. However, recent national policies and donors do not support their training, since the TBAs cannot contribute directly to reductions in maternal mortality rate. TBAs as health care providers are a reality in many countries of the Region. If optimally trained, they can help and strengthen home care practices in the care of neonates through clean cord care, support to exclusive breastfeeding, ensuring adequate warmth and recognizing danger signs of disease. The family and community request for their presence during the postnatal period in supporting the family and doing certain household chores, which the trained midwives will not do. The limitations of TBAs must be recognized and they should not be expected to do tasks, which they are not able to manage. Countries need to consider the complementary role of TBAs and midwives. Several countries are considering this option.

6.4 Village Practitioners

This is not a homogenous group and varies from practitioners of indigenous systems of medicine to unqualified practitioners. Village practitioners are popular, acceptable and easily accessible. In the countries of the Region, they do not attend to deliveries and have a limited role in newborn care. National policy cannot legitimise their practice. However, they can be trained in promoting key essential neonatal care practices similar to village volunteers. Their current treatment practices need to be rationalized.

6.5 Community Health Volunteers

Large numbers of community health volunteers like Female Community Health Volunteers in Nepal, *Anganwadi* workers in India, *Kaders* in Indonesia, volunteers in Bangladesh and MMCWA volunteers in Myanmar comprise vast manpower living in the community. Their potential can be harnessed in supporting the provision of essential neonatal care at home and they can help enhance the demand for services. Volunteers should not be given a salary. The community can compensate them through mutual negotiation.

During childbirth and in the postnatal period, health care is needed for the mother and the newborn baby. Both are vulnerable and need health care. Sometimes, serious problems can develop which require immediate attention. Programmes should identify all health workers and volunteers and utilize their potential fully through team approach. Within the framework of the team approach, health volunteers and skilled health workers should handle preventive and promotive care by complementing each other.

Family members including mothers are available and fully committed to care for the neonate. Health promotional efforts should fully involve families in providing essential neonatal care to the extent possible. Empowerment of the family is a crucial input.

6.6 Strengthening Health Systems and Improving Family and Community Practices

The participants discussed strengthening of health systems and improving family and community practices in three groups. The topics covered included (a) community participation and mobilization (b) communication for appropriate behaviour (c) strengthening of peripheral health facilities and of Level II and Level III neonatal care (d) capacity development including training and (e) supportive supervision. Core issues for discussions were provided to each group.

The role of the community is critical in improving neonatal care. The objective is health promotion and creating a demand for services. Families need to be empowered and the vast potential of the mother and the family in upgrading the quality of neonatal care is to be fully recognized. Community mobilization is necessary. In every community, there are numerous groups such as religious leaders, women's groups, TBAs, and school children. Their strengths can be fully utilized by matching their interests and potential with what they can contribute. Experiences and success stories are useful in increasing community involvement after identifying their specific role. Community mobilization can be achieved by adopting a social marketing strategy, combined with communication for change. Strategies should be explored to inform village heads when a death of a newborn baby occurs. They will then be more concerned about neonatal health and be aware of the numerous problems faced during the neonatal period. Community

participation can contribute to recording and reporting, campaigns, transportation and financial resources. This will be a definite way of starting a social audit. At present, the demand for services is poor. This has to be increased through a change of existing harmful practices, by increasing awareness and by provision of acceptable and accessible services. Religious leaders can help in increasing the demand for services.

Neonatal mortality reduction and improvement in neonatal health in the countries of the Region are possible by wide application of essential neonatal care, increasing the demand for services and provision of appropriate treatment in health facilities, which are accessible. These facilities include health posts, health centres and hospitals. Medicines, appropriate equipment and supplies should be provided according to the range of services to be made available. Strengthening of Level II and Level III neonatal care is important and should be a long-term goal. Standards of quality need to be adhered to.

Capacity development including training, follow-up and supervision besides ensuring supplies is important. The component of targeted neonatal care deserves serious consideration within maternal-neonatal health. The training strategies should be need-based, emphasize teamwork and the stress should be on skills development. The training effort must be ongoing. The existing training tools should be reviewed and targeted neonatal care component added. To be effective, training has to be ongoing with built in refresher training. Follow-up is very useful in solving problems, in reinforcing the skills and maintaining motivation. At present, supportive supervision is deficient. Training of supervisors, to consider supervision as supportive rather than a faultfinding exercise, can strengthen this. Critical areas to be supervised are to be identified. Supervisory checklist can provide useful guidance. During supervision, records can be reviewed, deficiencies in supplies identified and problems solved. Programmes provide little resources for supervision. Provision of transport and allowances to the health workers for supervision needs attention in the programme.

6.7 Mainstreaming, Partnerships and Resource Mobilization

Outcomes in neonatal health depend on the quality of neonatal care. There are a large number of determinants, which indirectly but substantially influence the neonatal outcome. Therefore, successful programmes will

require not only a focus on targeted neonatal care but also influencing partners within and outside the health sector. This can be achieved through mainstreaming of neonatal health. Neonatal health should be a concern not only of child health care providers, but also those who are responsible for the health of the mother, nutrition, public health, EPI programme, family planning, various disease control programmes like HIV/AIDS, malaria. The health of future mothers has implications on neonatal health. Mainstreaming is required with programmes on child and adolescent health. Outside the health sector, female literacy is important, socioeconomic status is related to neonatal survival and the media is critical for women's empowerment. To do this, advocacy is needed. Sustaining the mainstreaming of newborn health would call for increased awareness and responsibility, which requires policy support and direction. Mainstreaming can be considered to be successful if departments outside health contribute to it by allocating resources and investing in programmes which favourably affect the determinants of health of the neonates. The success of neonatal health depends on establishment of partnerships and their sustenance. It depends on clear identification of common objectives and goals by each partner, commitment of resources and ongoing communication amongst partners. Partnerships should be established between the government, NGOs and the private sector. Developmental partners, professional bodies and academia should work with the government and establish partnerships amongst them. Global and regional alliances of partners can provide support to country programmes. Coordination is necessary for partnerships to be successful. Governments need to be responsible for coordination. This will help in preventing any overlaps and duplication in efforts. A regional partners' forum can be considered to coordinate with similar forums or coordination committees at the national level to promote newborn health. The regional partners' forum should establish links with global partnerships. This can be used to undertake advocacy, mobilize resources and provide support using intercountry mechanisms. Through regular meetings and ongoing communication, the effort can be effectively sustained.

The success of neonatal health programmes hinges on mobilization of resources – money, manpower and materials. Existing resources should be utilized in a cost-effective manner with transparency and accountability. Resources for direct newborn care are meagre. They have to be optimally used, demonstrating value for money. The substantial contributions made by

the communities and families need to be recognized. The large out-of-pocket expenses especially by the poor require rationalization in order to provide them with returns for what they spend. Community cost-sharing schemes, health insurance and other socially relevant schemes should be extended to maximize the benefits. Neonatal health care has been until recently considered to be high technology and expensive. This is not true. Application of essential neonatal care package supported appropriately by Level II and Level III neonatal care where available, to support neonatal health and manage illness is now possible by using appropriate and affordable technology. This will require new additional resources on a sustainable basis. It is important to identify the existing resource gaps to advocate for support and resource mobilization.

6.8 Policies and Strategies on Newborn Health

The Millennium Development Goals (2015) of reducing under five and infant mortality rates cannot be realized unless neonatal mortality declines by about 50% of the current levels. The policy on neonatal health in the countries is either poor or non-existent. Currently, neonatal health is not positioned within the integrated approach being adopted for safe motherhood, child and adolescent health and development. Neonatal mortality is quite amenable to reduction, since evidence-based, affordable and effective interventions are available to improve neonatal health and reduce neonatal mortality. Skilled birth attendance is critical, since it addresses the problems of 4 million stillbirths and mortality reduction in babies 0-3 days of age. Without skilled birth attendance, very early neonatal mortality will not change but even then through a healthy newborn partnership at the grass-roots level functionaries, substantial (upto 50%) mortality reduction is achievable by strengthening health care in babies 1-28 days of age. At the policy level, countries should consider reducing neonatal mortality through phased introduction of targeted interventions affecting neonatal health on a medium-term basis. At the same time, long-term plans should include building up capacity to ensure provision of skilled birth attendance. Countries can be divided into district/ provinces where the neonatal mortality is high (neonatal mortality rate more than 50/1 000 live births or more), areas where it is moderate (25-50/1 000 live births) and locations where neonatal mortality is low (below 25/1 000 live

births) on the basis of disaggregated data on neonatal mortality. If this data is not available, then surrogates can be used. The strategy of scenario-based stratified approach can be adopted to implement programmes which affect neonatal mortality. In scenario A, where neonatal mortality is more than 50/1 000 live births or more, deliveries occur at home with a relative or a traditional birth attendant at the time of delivery and neonatal tetanus is a continuing problem, simple interventions which can be applied even in a poorly functioning health system should be considered. In scenario B, where NMR is 25-50/1 000 live births, some deliveries are beginning to be attended by skilled/trained birth attendants and health systems are developing, some specific interventions to address problems like asphyxia, LBW and sepsis in the neonates can be added to the basic package. In scenario C, where the mortality rates are below 25, the strategy should be to promote institutional deliveries, enhance substantially skilled attendance and build Level II and Level III neonatal care.

Scenario-based guidelines- A

Description	Assumptions	Interventions	
		Short term	Long-term
<ul style="list-style-type: none"> ◆ Neonatal mortality rate above 50 per 1000 live births ◆ Most deliveries occur at home, attended by traditional birth attendants ◆ Tetanus neonatorum still a problem 	<ul style="list-style-type: none"> ◆ Health system is very weak ◆ Even the 'easier' child survival interventions not satisfactorily implemented. ◆ There is possibly very little antenatal care. ◆ It is desirable to start with relatively simple and doable neonatal interventions ◆ TBAs are important partners 	<ul style="list-style-type: none"> ◆ Maternal tetanus ◆ Immunization ◆ Clean Delivery kit ◆ Exclusive breastfeeding ◆ Improved family practices (IEC) ◆ Prepare for scenario B 	<ul style="list-style-type: none"> Skilled birth attendants. Start investing in their training and recruitment

Scenario-based guidelines- B

Description	Assumptions	Interventions*	
		Medium-term	Long-term
<ul style="list-style-type: none"> ◆ Neonatal mortality rate between 25-50 per 1000 live births ◆ Most deliveries still occur at home, attended by traditional birth attendants ◆ Tetanus neonatorum no more a significant problem 	<ul style="list-style-type: none"> ◆ The health system has made a good beginning ◆ But action is still in the home setting ◆ TBAs are important partners 	<ul style="list-style-type: none"> ◆ Antenatal care: iron, folic acid ◆ Home-based care of neonates ◆ Partnership of existing workers ◆ Community mobilization 	<ul style="list-style-type: none"> ◆ Skilled birth attendants: Further augmentation of training and recruitment effort ◆ Start strengthening facilities (NMR < 35)

* These are in addition to interventions suggested for scenario A

Scenario-based guidelines- C

Description	Assumptions	Interventions*	
		Medium-term	Long-term
<ul style="list-style-type: none"> ◆ Neonatal mortality rate less than 25 	<ul style="list-style-type: none"> ◆ Skilled attendance rates are picking up 	<ul style="list-style-type: none"> ◆ Ensure skilled attendance at birth ◆ Promote institutional deliveries ◆ Further strengthen facilities 	<ul style="list-style-type: none"> ◆ Ensure sustained allocation of resources

* It is assumed that interventions suggested for scenario A and B are already in place

Population policy in India has recognized the link between infant mortality and excessive population growth. The goal is to reduce IMR to 30 by the year 2010 which necessitates a rapid decline of neonatal mortality. A national technical committee has been set up to align programme and project interventions with newly emerging appropriate technologies in neonatal and perinatal care. The national policy supports provision of basic facilities for neonatal care in primary health care settings, equipping primary health facilities for care of LBW and sick newborns and using low-cost, effective and locally available equipment. Schemes to improve the outreach of MCH services are being implemented. Innovations are supported through operational research. An evidence of political commitment at the highest level is the inauguration of the first national newborn week on 15 November 2000 by the Prime Minister of India.

Policy matters need to recognize the importance of investing in saving newborn lives and improving neonatal health. It has implications in saving the lives of newborns, children and women, reduction in disability, increase in productivity, income generation and acceleration of demographic transition. Saving Newborn Lives is a global initiative for advocacy and information through the State of World's Newborns Report, establishing healthy newborn partnerships, promoting training, behaviour change communication and research. The initiative is promoting addition of a neonatal component to the existing safe motherhood and child survival programmes and ensuring postnatal care as a routine component similar to antenatal care or immunization.

WHO is helping to improve neonatal health and survival through the strategy of integrated management of pregnancy and child birth (IMPAC) and integrated management of childhood illness (IMCI). It strives to improve the quality of care through standardization of care by setting norms and standards; improving the health system response and improving family and community practices. As a part of norms and standards development, essential care practice guide, midwifery modules and manuals have been prepared. Guidelines for referral management of childhood illnesses in first level health facilities, and guidelines for basic health workers are available and being used in the countries. WHO recommends the strategy of skilled birth attendance for reduction of maternal and perinatal mortality.

Professional bodies are helping the cause of neonatal health through assistance in production of training material, capacity development through

training, promoting and conducting research and setting standards of care. They have a great potential for advocacy at the highest political level, since some members have a strong influence nationally and internationally. Through advocacy, professional bodies can help to mobilize new resources. They can play a key role in promoting cooperation and coordination with regional and global partners through regular information exchange.

6.9 Monitoring and Evaluation

Monitoring and evaluation of neonatal health and survival are important. This provides evidence, which can help in advocacy at the national, regional and global level. Evidence helps in developing strategies, planning and programming. At present, this is weak in the countries of the South-East Asia Region. National surveys should therefore, include key information on neonatal and perinatal mortality, and stillbirths. The causes of death in the neonatal period are poorly documented. This deficiency should be corrected to help plan and implement interventions. Information on early and exclusive breastfeeding, birth weight and the number of postnatal visits should be included in the national surveys or health management information system.

National information systems on birth and death should be improved. At the village/community level, the local chief should sign the death certificate. This will not only improve the quality of the information, but also assign a sense of responsibility and concern in the communities where deaths occur.

Saving Newborn Lives has developed a set of core indicators for monitoring and evaluation of neonatal health and survival in partnership with a number of stakeholders. The core indicators for community-based projects and programmes include (a) percentage of births attended by a skilled provider; (b) percentage of mothers who initiate breastfeeding within one hour of birth, and (c) percentage of mothers who were delivered using a clean birth kit or babies in whom the cord was cut by a new/clean instrument. Saving Newborn Lives is in the process of contracting for a study to operationalize and validate indicators for warming and drying of newborn baby. Dr La Rue Seims shared a number of indicators. These need to be reviewed based on the country situation, and the key indicators selected. The indicators selected must be validated and related questions resolved.

Routine recording and reporting by different categories of health care providers have to be strengthened and made more useful. Audit of deaths and adoption of verbal autopsy is important. This is an important intervention to improve the quality of neonatal health care. It is necessary that routine recording and reporting be linked to the existing information system. A greater emphasis is required to use records and reports to provide a feedback as an approach to improve the quality of neonatal health care. It is not enough for the records and reports to be complete. Analysis of information is more important and putting it to use crucial. Monitoring and evaluation should be an integral part of training and the end-users must recognize the importance of collecting information in order to appreciate the importance of the investment in their time. Involvement of the community in monitoring and evaluation and discussion on the findings is to be increasingly encouraged in improving neonatal health through behaviour change.

6.10 Phased Expansion of Best Neonatal Practices

Existing evidence provides optimism that interventions available for improving neonatal health and reducing neonatal mortality can be scaled up nationally in the countries of the South-East Asia Region of WHO. Selection of the problem (s) and priority to be given depends on a number of criteria. These include (i) association with high mortality or burden of disease; (ii) availability of technology to reduce mortality and possibility of wide application; (iii) affordability and cost-effectiveness of interventions chosen, and (iv) acceptability of interventions proposed to the community and the people.

Since the problems of neonatal mortality and LBW/prematurity are widespread and multifactorial, many sectors besides the health sector have to be involved with effective coordination and multiple partnerships. For scaling up to be successful, improved newborn health has to be a concern of the families. The programme needs to be demystified so as to reach all.

Advocacy

Is required at the highest political level in the country and outside to mobilize resources based on resource gaps identified. In the national policy, neonatal

health has to be positioned appropriately in the context of integrated life course approach. Consensus needs to be developed on the best strategies to tackle important preventable causes of death – sepsis, LBW/prematurity, birth asphyxia. Agreement on home care package is required, which provides home-based essential neonatal care. Advocacy must be sustained until neonatal health becomes a people’s movement.

Availability

Medicines, commodities, vaccines and essential equipment have to be made available through a responsible and responsive health system. Empowerment of families and communities to provide essential neonatal care will contribute to improvement. The demand to use the health system has to be increased from the existing low use rates to optimal use of the facilities.

Accessibility

Physical access to meeting the needs of sick newborn should be defined. The facility providing treatment of illness and information should be brought closer to the people. They are unlikely to be utilized unless they are located within walking distance from home. Functional and behavioural access are even more important. Services available are not utilized unless people are informed, involved and convinced of the need for use of services.

Affordability

In the first place, the technology and treatment offered should be affordable. In resource-constrained settings, even low costs may be beyond the reach of poor people. Programmes implemented through cost sharing mechanisms, the use of a social marketing approach, insurance systems, credit system, which is non-exploitative, are to be considered. Nationally and in some countries sub-nationally, bulk purchasing, packaging and negotiations with manufacturers can help in keeping the cost within affordable limits.

Accountability

Evidence base is extremely important for advocacy. This has to be strengthened in the context of improved neonatal health and survival. A robust and relevant information system would help in planning and

programming. Information is most useful in training and feedback. Innovations are required to refine the available interventions. They must be linked to programme and implementation to enrich them.

Some strategies to be considered for scaling up essential neonatal care package are decentralization through health sector reforms; mainstreaming of neonatal health within and outside the health sector; making neonatal health a people's movement and establishing and sustaining partnerships to widen resource mobilization.

Scaling up should not be done suddenly. It is advisable to start from where the programme is at present. Within the countries, the situation differs. This is evident from the national surveys available in several countries of the Region. Disaggregated information from these surveys shows that neonatal mortality is high in some states/divisions and provinces, moderately high or moderate in others. The strategy should be scenario-based, and stratified. Based on the available resources and existing constraints, the implementation can be phased in. This strategy will not impose undue burden.

Programmes can be built on what exists and can be scaled up consistent with available resources and capacity. Expansion should then be undertaken through intensification and acceleration. At the same time, it is necessary to ensure that quality is not compromised and efforts are sustained. Continuous innovations and operational research should complement the ongoing programme implementation.

6.11 Constraints and Opportunities

Neonatal mortality in the countries of the South-East Asia Region of WHO continues to be high, contributing to more than 40% of the global burden. There are differences in neonatal mortality rates amongst the different countries and large variations exist within each country. In some areas or pockets, neonatal tetanus persists as a public health problem, even though this is an easily preventable cause of neonatal death. While some countries have achieved high institutional delivery rates by ensuring skilled birth attendance, in others, deliveries continue to occur at home without the presence of even a traditional birth attendant. Birth weight is not measured routinely. Evidence indicates a high incidence of LBW/prematurity. About 70-80% of all neonatal deaths occur in LBW/premature babies. The highest

proportion of deaths occur during the first day of life, followed by deaths within first week. The high neonatal mortality rates in the countries of the South-East Asia Region is a reflection of unsatisfactory neonatal health, low levels of female literacy, poor health and nutrition of girls and women combined with low empowerment; widespread prevalence of anaemia and ill health during pregnancy; unsatisfactory antenatal care and non-availability of skilled attendance at birth. The health systems are weak and unresponsive and the demand for services is poor. There are cultural, logistic and socioeconomic barriers in taking sick neonates outside the home for health care.

The countries in the Region are committed to the Millennium Development Goals and are currently intensifying their safe motherhood and child health and development programmes by adopting integrated strategies. However, neonatal health is not adequately reflected in most countries in the policy. No specific goals are set to reduce neonatal mortality rates. Since neonatal health is not positioned in the integrated strategy, resources allocations are unsatisfactory. There is persisting myth that effective neonatal care is complex and requires complicated institution- based technological interventions. Since the causes of neonatal deaths are not widely known, explicit policy recommendations on case management of sepsis with antibiotics, management of birth asphyxia and supervised care of LBW/premature babies are not available.

Advocacy on promotion of neonatal health until recently has been poor. This is because of insufficient evidence base and the pre-occupation with other programmes on child health, immunizations, safe motherhood and family planning. Resource allocation for direct neonatal care to improve neonatal health is unsatisfactory. There is very little advocacy material to promote the cause of neonatal health among high -level decision-makers. In the past, advocacy efforts have been fragmented.

If the Millennium Development Goals for reduction of infant and under five mortality rates are to realized, specific goals and strategies should be developed to reduce neonatal mortality rate by more than 50% nationally by the year 2015. There is enough evidence to indicate that neonatal health can be improved and neonatal mortality reduced through the application of cost-effective interventions even in resource poor countries. This can be achieved through provision of essential neonatal care package in all settings. Community and institution-based studies show that mortality due to birth

asphyxia, LBW/prematurity and sepsis can be substantially reduced. Since the mortality rates differ within the countries, and skilled/trained attendants vary and health systems function unevenly a scenario-based, stratified strategy can be implemented.

Neonatal health and neonatal mortality is multifactorial. The resource base can be widened through the strategy of mainstreaming and partnerships. Neonatal health needs to be mainstreamed within and outside the health sector. This mainstreaming should involve programmes focused on future mothers (education, nutrition, women empowerment, socio economic status), family planning, nutrition, adolescent health, immunizations and child health and development. Improving neonatal health requires establishment and sustenance of partnerships with NGOs, private sector, development agencies, professional bodies and academia. A beginning is being made in some countries, but a lot more needs to be done in order to get meaningful results.

The information and evidence base on newborn health and neonatal mortality is unsatisfactory. Registration of births and deaths is not compulsory. Age at death, and causes of death remain undetermined. Routine records and reports are unreliable. Babies born at home are not routinely weighed and therefore accurate estimates of LBW are not available. The threshold and response to neonatal deaths in the community is high. Therefore, the importance of reporting deaths is not appreciated. In many communities with high neonatal mortality, no name is given to the baby until it has reached a certain age. Reporting of stillbirths is even worse than neonatal death. There are no standardized indicators to monitor neonatal health and whatever is available is not widely used.

There is a lot of interest in developing tools and guidelines for neonatal care. In this context, good progress has been made. WHO has developed a set of guidelines for IMPAC comprising of essential care practice guide, midwifery modules and other manuals for pregnancy care and skilled birth attendance. In child health and management of childhood illnesses, it has developed guidelines for referral, management in first level health facilities and for basic health workers. Guidelines for improving neonatal health and managing neonatal illness are a part of the IMPAC and IMCI strategies. Member Countries have also developed training materials. The problems are that in all these guidelines, essential neonatal care is not adequately stressed and the available guidelines are more suitable for facility staff. While a lot of training is going on in safe motherhood, child health and development

programmes, training on neonatal health care is marginalized and skill-based training is often ignored. Hardly any equipment, medicines and supplies are provided, especially in the health outposts and peripheral health facilities. These are the reasons for lack of responsiveness of the health systems. Additional resources will be required to identify the reasons for poor demand from the community and determine the current practices, which require modification to improve neonatal care at home.

Innovations and research have helped to provide optimism that neonatal health can be improved and neonatal mortality reduced by simple interventions, which can be applied widely. More innovations are needed to overcome operational and implementation problems. As the programmes are implemented, further refinements and simplification may be required for success. Additional resources will be required for qualitative research to identify the reasons for poor demand from the community and determine the current practices, which require modification to improve neonatal care at home.

Neonates are independent individuals and they have a right to survive and develop to their full potential for a healthy and productive life. The importance of neonatal health and not merely neonatal mortality reduction is to be endorsed and supported. While neonatal health can benefit from programmes for health of women, the specific needs of neonates need to be fully recognized and supported.

In the countries of the South-East Asia Region of WHO, neonatal mortality rates are high and low birth weight/prematurity is a serious concern. It is possible to provide the basic package comprising tetanus toxoid vaccination during pregnancy; early initiation and exclusive breastfeeding, ensuring clean practices for newborns at birth; keeping the newborn baby warm, and observing the baby for signs of illness, at all levels of health care, including the family level for improving health of the neonate. Assessment of birth weight and supervised care of LBW/premature babies, and recognition and treatment of sepsis and management of birth asphyxia can be introduced in the country, based on the capacity of the health system. Facility-based support will complement the essential neonatal care package. This should be strengthened wherever resources permit.

Annex 1

TEXT OF ADDRESS OF DR UTON MUCHTAR RAFEI, REGIONAL DIRECTOR, WHO SOUTH-EAST ASIA REGION

Distinguished participants, dear colleagues, ladies and gentlemen,

I am happy that this important regional consultation is being organized here jointly by the World Health Organization, SEARO and BASICS II.

During the past two decades, we have seen a steady decline in under five and infant mortality rates. In contrast, the rate of decline in neonatal mortality has stagnated. The result is that neonatal mortality in many countries contributes to over 60% of infant deaths. Each year, globally, an estimated four million babies die before one month of age. About 40% of these deaths occur in the countries of the South East Asia Region. Here, more than 1.5 million babies die during the neonatal period and a similar number are stillborn. This is an enormous human wastage.

The fall in infant mortality and under-five mortality rates is attributed to successes in immunizations, use of ORT in the treatment of diarrhoea, standard case management of pneumonia, the vitamin A programme and improved nutrition status. The drop in neonatal mortality rates can be predominantly attributed to successful immunization of women during pregnancy with tetanus toxoid. However, unless special efforts are made to reduce deaths during the first four weeks of life, the pace of decline in infant and child mortality is likely to slow down.

According to WHO estimates, infections, including tetanus, sepsis, pneumonia, diarrhoea and complications of prematurity and birth asphyxia are the main preventable causes of neonatal mortality. A major concern is the high proportion of low birth weight babies in the countries of the South-East Asia Region. Between 20-30% babies are born with low birth weight and 40-80% of the newborns who die have low birth weight.

This enormous burden of neonatal mortality and low birth weight requires priority attention in national policy and programmes relating to health and development.

The poor start to human life in the countries of our Region is attributed to low female literacy, insufficient empowerment and the low status of women as well as low family income. Among the poor there is an intergenerational vicious cycle of undernutrition in females starting from birth.

Pregnancy occurs early, women have too many children, often with an interval of less than two years. Access to health care and utilization of services available during pregnancy are unsatisfactory. Births take place under unhygienic conditions at home without any birth attendants for 20-25% of deliveries in some countries.

Thus, there is very little access to essential newborn care and obstetric care to very large populations. The lack of health care during the postpartum period adversely affects the health of both the mother and the newborn.

During the last couple of decades, there has been global consensus to strengthen safe motherhood and reproductive health programmes. These programmes have received attention in countries of the Region where the problem of high maternal mortality is alarming. During the last decade WHO has advocated an integrated approach to pregnancy and childbirth. The Integrated Management of Pregnancy and Child Birth (IMPAC) is one step in this direction. The Integrated Management of Childhood Illness (IMCI) strategy is also being implemented in all the target countries of the Region. There is no doubt that the integrated strategy is a cost-effective approach. However, neither IMPAC nor IMCI adequately covers the first week of life adequately, which is the most vulnerable period and which contributes to nearly two-thirds of neonatal deaths.

Both the mother and the baby are vulnerable. While an integrated approach is advisable, it is necessary to assign adequate priority to meet their specific needs. It has been believed, erroneously, that reduction in newborn mortality requires expensive technology and institution-based care. Evidence suggests that most neonatal deaths (except those caused by congenital malformations) can be prevented by cost effective interventions, which do not require sophisticated equipment, or highly technical training.

Studies have shown that an Essential Newborn Package can improve newborn health and lead to some reductions in mortality. This comprises a skilled attendant at delivery; provision for clean delivery; keeping the newborn warm using simple measures; early initiation of breastfeeding and continuation of exclusive breastfeeding; home visits by the health worker/volunteer; and immunizations. This package of essential newborn care which

directly contributes to improved neonatal health should be accepted as national policy and made accessible to all newborns. An additional package of services to include reviving asphyxiated babies; supervised home care of pre term and low birth weight babies and timely referral of sick and very low birth weight babies will lead to additional reduction in neonatal mortality.

National policy should recognize that improving newborn health is not merely reduction of neonatal mortality. Healthy newborns will grow into healthy adults, which will help increase productivity and reduce considerable social and economic costs resulting from illness and disability. Evidence also shows that if newborns and infants survive, mothers are likely to space their pregnancies. This will help them to improve their own health and that of their children. In addition, spacing of pregnancy will reduce fertility and indirectly reduce neonatal deaths.

The special needs of the newborn deserve attention at the highest level on a scale similar to reproductive health, child health and control of communicable diseases. This will strengthen, rather than erode, integration. An enabling policy should strengthen the health system by making essential services for the newborn accessible.

It will be important for the programme to build on what already exists. Proven, cost-effective strategies should be strengthened, consolidated and expanded. This can be done by doing more of what is known to work, and, whenever possible, to do it better. Interventions like tetanus toxoid immunization and exclusive breast-feeding can be scaled up without any delay. It should be possible to introduce a newborn care component into the existing safe motherhood and child survival programmes. For example, if post-natal care for the mother and the newborn baby become as common as care during pregnancy, it will improve the health of the mother and the baby.

Policy and advocacy must be supported by mobilization of resources – financial and human. The thrust should be on mobilizing resources and more effective utilization of existing resources. The strategy should be to plan for sustained allocation of resources.

The intervention strategies, including the essential newborn package should be further refined. Collaboration with institutions and researchers is recommended to advance the state of art of newborn care. This includes a continued search for low cost-effective strategies and also the need to increase the evidence base for better understanding of the cultural factors, which influence the family and the community.

Since the issues relating to reduction in perinatal mortality are complex and an integral part of women's health, success in improving newborn health requires partnerships with women's well being and development. Ministries of health have to advocate speeding up of national developmental efforts directed towards increasing female literacy, women's empowerment, reducing gender discrimination, delaying the age at marriage, improving nutritional status and reducing poverty, family planning efforts, including the unmet needs of contraception. Closer collaboration and integration are needed to improve health care during pregnancy, increase the preparedness for birth and ensure delivery by a skilled birth attendant.

Professional and academic organizations and the academia have an important leadership role in improving newborn health. Professionals have the responsibility for maintaining high standards of care. In addition, they can advocate for essential newborn care, recommend standards of best practices, assist in training personnel and undertake and support research to further refine essential newborn care. Professional associations should also strengthen the ties between obstetrics, paediatrics and public health for the cause of maternal and neonatal health.

WHO in the South-East Asia Region has intensively supported the initiatives on safe motherhood, reproductive health and child and adolescent health including IMCI. The WHO Collaborating centre for South-East Asia on Training and Research in Newborn Care at All India Institute of Medical Sciences has been actively involved in organizing various meetings on newborn health and has established a regional network. There is now an increased interest from donors and development partners in newborn health. WHO is committed to providing technical support to countries and to promote partnerships at different levels. WHO will also continue to advocate the importance of saving the lives of the newborn. The presence of different partners in this meeting like Ministry of Health and Family Welfare, UNICEF, USAID, BASICS, SNL, Save the Children, DFID, CARE, JHPIEGO, JSI, the World Bank, PATH, Kangaroo Foundation, WHO CCs, NGOs and professional bodies, reflects their increasing commitment to newborn health.

In conclusion, I wish you all success in your deliberations and a very comfortable stay in India.

Thank you.

Annex 2

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Annex 3

PROGRAMME

1 April 2002

0800-0900 hrs	Registration
0900-0945 hrs	Inauguration

Session I

	Chairperson	– Dr Veena Kalra
	Co-Chairperson	– Dr B.D. Chataut
	Rapporteur	– Dr Dulitha Fernando
1030-1040 hrs	Introduction of Participants	
1040-1105 hrs	Newborn Health – Global perspective	– Dr Jelka Zupan, WHO/HQ
1105-1130 hrs	Newborn Health - SEA Regional perspective	– Dr Neena Raina, WHO/SEARO
1130-1155 hrs	Newborn Health - USAID perspective	– Mr Victor Barbiero, USAID
1155-1220 hrs	The Niche for the newborn - options for neonatal health	– Dr I. Narayanan, BASICS II
1220-1300 hrs	Discussions	

Session II - Country Reviews

	Chairperson	– Dr Marzio Babilie
	Co-Chairperson	– Dr Ashok Dutta
	Rapporteur	– Dr Ashok Deorari
1400-1415 hrs	Bangladesh	– Country Report
1415-1430 hrs	Bhutan	– Country Report
1430-1445 hrs	India	– Country Report
1445-1500 hrs	Indonesia	– Country Report
1500-1515 hrs	Maldives	– Country Report
1545-1600 hrs	Myanmar	– Country Report
1600-1600 hrs	Nepal	– Country Report
1615-1700 hrs	Discussions	

2 April 2002

0900-0915 hrs	Sri Lanka	–	Country Report
0915-0930 hrs	Thailand	–	Country Report
0930-1000 hrs	Discussions	–	Country Report

Session III - Programme Initiatives in Newborn Health

	Chairperson	–	Dr U. Hla Pe
	Co-Chairperson	–	Dr Gado Tshering
	Rapporteur	–	<i>Dr T. Karki</i>
1030-1050 hrs	SNL – Nepal	–	Dr Neena Khadka
1050-1110 hrs	SNL – Bangladesh	–	Dr Izaz Rasul
1110-1130 hrs	Community Newborn Care in West Bengal –India	–	Dr Aloke Lahiri
1130-1150 hrs	Community Newborn Care in West Bengal – India	–	Dr Pankaj Mehta UNICEF
1150-1210 hrs	Health Start Plus – Experience in Indonesia	–	Dr Iwan Ariawan
1210-1300 hrs	Discussions		

Session IV – Innovative Approaches to Community Newborn Care

	Chairperson	–	Dr M. Bateman
	<i>Co-Chairperson</i>	–	Dr Sarah Hall
	Rapporteur	–	Dr Neena Khadka
1400-1430 hrs	Management of birth asphyxia at community level	–	Dr Vijay Kumar – SWACH
1430-1500 hrs	Community Based Interventions in Care of Low Birth Weight Babies	–	Dr Neena Raina WHO/SEARO
1530-1600 hrs	Lessons of the Gadchiroli Newborn Care Study	–	Dr Abhay Bang – SEARCH
1600-1700 hrs	Discussions		

3 April 2002

0900-1045 hrs	Group Work : Essential Newborn Care Package		
	Chairperson	–	Dr Anna Alisjahbana
	Co-Chairperson	–	Dr D.S. Manandhar
	Rapporteur	–	Dr Sidharth Agarwal

- 1115-1300 hrs **Panel discussion I - Care provider for the Newborn**
- Chairperson – Dr Vinod Paul
Co-Chairperson – Dr Ranjana Kumar
Rapporteur – Dr A.K. Patwari
- Panelists:**
- Dr Ina Hernawati – Indonesia
Dr Sudhansh Malhotra – India
Dr Vineetha Karunaratne – Sri Lanka
Dr Abhay Bang, – SEARCH India
Dr B.D. Chataut – Nepal
Dr Mahbubur Rahman – Bangladesh
- 1400-1700 hrs **Group Work : Strengthening of Health Systems and Improving
Family and Community Practices**
- Group A – Community Participation/Mobilization
Group B – Communications for Appropriate Behaviour
Group C – Capacity Building including Training
Group D – Supervision
GroupE&F – Issues Relevant to the Peripheral
Health Facility
- 4 April 2002**
- 0900-1030 hrs **Presentation of Group Work**
- Chairperson – Dr Lily Kak
Co-Chairperson – Dr Sri Hermiyanti
Rapporteur – Dr Izaz Rasul
- 1100-1300 hrs **Panel discussion II - Policies and Strategies on Newborn Health**
- Chairperson – Dr Azrul Azwar
Co-Chairperson – Dr Nipunporn Varamoungkol
Rapporteur – Dr Iwan Ariawan

	Panelists (10 minutes each)	
	Dr Sudhansh Malhotra	– policy on Newborn Health in India
	Dr Monir Islam	– IMPAC Strategy
	Dr Anne Tinker	– SNL Experience
	Dr Vinod Paul	– Prioritizing Strategies for Newborn Survival
	Dr D.S. Manandhar	– Role of Professional bodies
1400-1530 hrs	Panel discussion – III - Mainstreaming, partnerships and resource mobilisation	
	Chairperson	– Dr Indira Narayanan
	Co-Chairperson	– Dr Nazmun Nahar
	Rapporteur	– Dr Alope Lahiri
	Panelists (10 minutes each)	
	Dr Ranjana Kumar	– DFID
	Dr Mahbubur Rahman	– Bangladesh
	Dr Htay Nwe	– MMCWA, Myanmar .
1600-1730 hrs	Panel discussion IV – Monitoring and Evaluation	
	Chairperson	– Dr Monir Q Islam
	Co-Chairperson	– Vineetha Karunarthne
	Rapporteur	– Dr Dilip Poudal
	Panelists (10 minutes each)	
	Dr Anna Alisjahbana	– Indonesia
	Dr La Rue Seims	– SNL
	Dr Vineetha Karunarthne	– Sri Lanka
	Dr Abhay Bang	– SEARCH, India
5 April 2002		
0900-0930 hrs	Kangaroo Mother Care	– Dr Nathalie Charpak Funducion Canguro
0930-1030 hrs	Panel discussion V – Phased Expansion of Best Neonatal Care Practices	
	Chairperson	– Dr Anne Tinker
	Co-Chairperson	– Dr Mahbubur Rahman

Rapporteur – Dr Djoko Soetikno
Speaker – Dr Vijay Kumar

1100-1300 hrs

Chairperson – Dr Jelka Zupan
Co-Chairperson – Dr Vijay Kumar
Rapporteur – Dr Frits de Haan

Recommendations/Conclusions

1400-1500 hrs Presentation of Recommendations

1500-1530 hrs Closing ceremony

Annex - 4

NEW DELHI RESOLUTION ON NEWBORN HEALTH

World Health Day, April 7, 2002

Recognizing that

- Countries of the South East Asia Region contribute to more than 40% of the annual global burden of 4 million deaths of infants under four weeks of life (neonates);
- Neonatal mortality accounts for over 60% of infant mortality and around 40% of under-five mortality;
- Further reduction in infant and child mortality is critically dependent upon a significant decline in newborn deaths;
- The achievement of the Millennium Development Goals on child survival, to which the member states are already committed, requires a reduction in newborn mortality by almost half by the year 2015, and
- A substantial decline in newborn deaths is achievable through cost-effective interventions implemented at homes communities and facilities.

And, convinced that

A healthy start in life is the foundation of healthy, productive and fulfilling adulthood, that, in turn, determines the well-being, development and future of humanity.

We the stakeholders in neonatal health from the Region, representing professionals, governments, and non-government organizations, gathered in New Delhi, India, and having deliberated upon key issues in newborn health

Request the governments, the UN organizations, the international community and the civil society to

Adequately reflect newborn health as an urgent priority in the resolutions of the forthcoming UNGASS on children

And, with the goal of *reducing neonatal mortality in the South East Asia Region by 50 percent by the year 2015:*

Develop Regional and national strategies on newborn health;

Develop sustained partnerships and mobilize resources; and

Develop and implement comprehensive national initiatives on newborn health in synergy with the ongoing safe motherhood and child health programs, and by building on the existing strengths and systems.