Integrated Management of Childhood Illness (IMCI)
Implementation in the Western Pacific Region

IMCI and Child Survival

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World Health Organization
Western Pacific Region

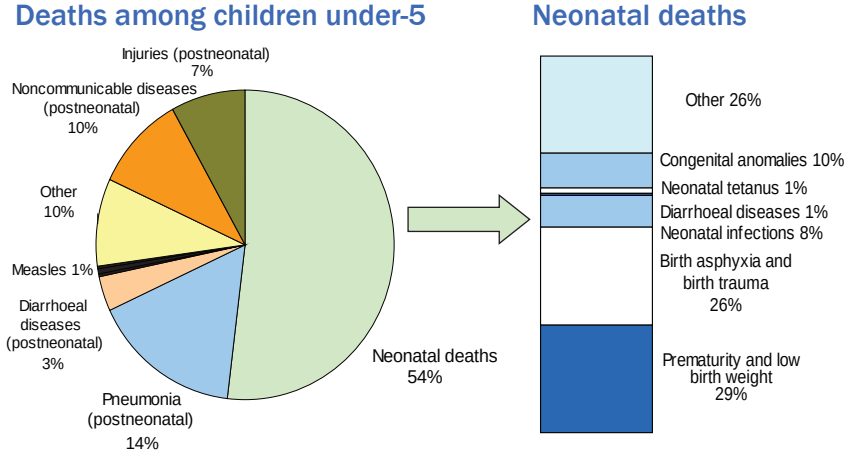
Overview

Child mortality has been reduced significantly in the Western Pacific Region. Overall estimated under-5 and infant mortality rates have been halved between 1990 and 2009. Despite this, preventable and treatable causes claim about 527 000 lives of under-5 children annually. More than 97% of those deaths occur in six countries in the Region (Cambodia, China, the Lao People's Democratic Republic, Papua New Guinea, the Philippines and Viet Nam), with huge disparities in mortality across and within countries. At least 68% of all child deaths in the Western Pacific Region are caused by neonatal conditions and pneumonia, with an increasing proportion of child deaths occurring in the neonatal period. Undernutrition contributes to about 35% of child deaths. Half of the deaths occur in the first month of life. Neonatal deaths are due to complications of pregnancy and childbirth (birth asphyxia and prematurity, infections such as sepsis, respiratory infections, diarrhoeal disease and tetanus, and congenital anomalies).

The Millennium Development Goal 4 (MDG 4) calls for a reduction in child mortality by two thirds between 1990 and 2015. In 2003, the Western Pacific Regional Committee of WHO passed a resolution (WPR/RC54.R9 CHILD HEALTH) strongly urging governments to place child health higher on the political, economic and health agendas and to provide financial resources to match the burden of disease in children.

Subsequently, WHO and UNICEF formulated the WHO/UNICEF Regional Child Survival Strategy in 2005 to provide a unified direction to accelerate action towards MDG 4 in the Region.

Figure 1 : Major causes of death in neonates and children under-5 in the Western Pacific Region - 2008



Source: WHO. *The World Health Statistics 2011*

In the same year, the Regional Committee passed a resolution (WPR/RC56.R5 CHILD HEALTH) endorsing the WHO/UNICEF Regional Child Survival Strategy and urging Member States to use the strategy to guide actions in reducing child mortality and inequities in child survival in line with MDG 4.

The regional strategy focuses on broadening to universal scale an essential package of interventions for child survival (see Box 1). These are a subset of 23 key child survival interventions reviewed in The Lancet in 2003[1] and 16 interventions for neonatal survival reviewed in The Lancet in 2005.[2]

Box 1: Essential package for child survival

- Skilled attendance during pregnancy, delivery and the immediate postpartum period
- Care of the newborn
- Breastfeeding and complementary feeding
- Micronutrient supplementation
- Immunization of children and mothers
- Integrated management of sick children
- Use of insecticide-treated bednets (in malarious areas)

1. IMCI – An integrated approach for child survival

IMCI is a core component of the essential package for child survival that addresses the most common causes of mortality in children under-5, including neonatal infections, pneumonia, diarrhoea, undernutrition and, in some countries, including dengue haemorrhagic fever, measles and malaria. It includes guidelines on the management of the sick child beginning at birth up to five years old. Interventions included in IMCI have the potential to produce a significant impact on the burden of disease and have been ranked among the 10 most cost-effective interventions in both low- and middle-income countries.[3,4] The combination of interventions that makes up IMCI has been adapted in countries and areas in the Western Pacific Region

1 Jones G et al. How many child deaths can we prevent this year? *Lancet*, 2003, 362:65-71.

2 Darmstedt GL et al. Evidence-based, cost-effective interventions: how many newborn babies can we save? *Lancet*, 2005, 365:977-988.

3 *World Development Report*, Investing in Health, 1993.

4 Arifeen SE, Bryce J, Gouws E et al Quality of care for under-fives in first-level health facilities in one district of Bangladesh. *Bulletin of the World Health Organization*, 2005. 83: 260.

to include conditions that have become important in the local settings and for which effective treatment or preventive interventions exist.

The basic treatment interventions target five diseases, including acute respiratory infections, diarrhoea, measles, malaria and ear infection. Countries have made specific adaptations and additions based on locally-prevalent causes of deaths or conditions that adversely affect child survival and development. For example, dengue hemorrhagic fever was added to the list of diseases to watch for in children with fever in Cambodia, the Lao People's Democratic Republic, the Philippines and Viet Nam. While malaria was identified as a cause of death among the under-5s, it is not so in China, Fiji, the Federated States of Micronesia and Mongolia; these four countries removed malaria from their IMCI national guidelines.

IMCI is a strategy that combines evidence-based management of childhood illness with preventive interventions to improve breastfeeding support, nutritional counselling, immunization and vitamin A supplementation. Some countries have added to their preventive arsenal vitamin D supplementation to address rickets (e.g. China and Mongolia) and periodic deworming. IMCI seeks to reduce death and the frequency and severity of illness and disability in order to contribute to improved growth and development.

IMCI implementation in countries involves three components:

- Improvements in the case management skills of health workers
- Improvements in the health system required to deliver child health interventions effectively
- Improvements in family and community practices

Key points: Components of the IMCI strategy

IMCI is a strategy for delivering key interventions that prevent and treat the most common causes of mortality in children under five years old, including neonatal infections, pneumonia, diarrhoea, measles, malaria and undernutrition. IMCI includes the following components:

(1) Improvements in the case management skills of health workers

IMCI standard case management guidelines provide a systematic approach to assessing, classifying and treating sick children from birth up to five years old, including giving appropriate counselling.

(2) Improvements in the health system required to deliver child health interventions effectively

System improvements that are needed in order to provide appropriate case management to newborns and children include adequate numbers of trained staff, an adequate supply of medicines and other supplies, regular supervision of first-level health workers, high quality referral care and mechanisms for ensuring that those children who need referral are referred properly.

(3) Improvements in family and community practices

A number of key family and community practices are important to prevent and treat the causes of child deaths.[5] These include exclusive breastfeeding and complementary feeding, use of insecticide-treated bednets, seeking vaccines and vitamin A at the right times, recognition of when to seek care for a sick neonate or child and appropriate management of sick children in the home.

The Regional Child Survival Strategy identifies several strategic approaches for child survival (see Box 2). Successful IMCI implementation links to each of them. In many countries, IMCI is the core strategy of national child health programmes. It has been included in national health sector frameworks that overarch health policies on child health. IMCI has also provided a forum for coordinating, strengthening and creating partnerships among various child health-related programmes and stakeholders from international and local governmental and nongovernmental organizations (NGOs).

5 Hill Z, Kirkwood B, Edmond K. *Family and community practices that promote child survival, growth and development: A Review of the Evidence.* Department of Child and Adolescent Health and Development, World Health Organization, Geneva 2004.

Box 2: Strategic approaches for child survival

1. Improving leadership and governance
2. Consolidating partnerships
3. Improving efficiency and quality of service delivery
4. Engaging and empowering families and communities
5. Ensuring health care financing support for child survival

The strength of IMCI in child survival is its ability to improve the efficiency and quality of service at various delivery points. To assess the effectiveness, cost and impact of IMCI in improving child survival, the Multi-Country Evaluation (MCE) was designed and carried out in 12 countries. In the five areas included in the MCE (Bangladesh, Brazil, Peru, Tanzania, Uganda), IMCI did not yet show a measurable impact on health service use. However, in Bangladesh, there was an increase in care-seeking for pneumonia in IMCI areas and more visits to the formal health sector. Quality of care improves when IMCI case management guidelines are implemented with adequate resource support. By improving quality of facility care, IMCI has shown to boost the morale of health workers in Bangladesh.

IMCI also promotes cost savings with evidence-based guidelines and management of common conditions with essential drugs. In Tanzania, IMCI increased the efficiency of health workers and demonstrated better value for money as compared with routine care in non-IMCI areas. IMCI contributes to health system development efforts through health worker training and supervision, promotion of the rational use of drugs, protocols for appropriate, timely and systematic referral of children to higher-level health facilities as necessary and improved communication across the health system. In Bangladesh, the rational use of drugs showed some improvement in IMCI areas with less use of cephalosporins as the first drug of choice. In Mongolia, follow-up visits are conducted 2-4 months after training. Outcomes from the last visit conducted in all districts of Ulaanbaatar in 2008 revealed that, generally, there was a good assessment for main symptoms and nutritional status, a correct choice for antibiotics by 70% of health workers visited, correct treatment with oral rehydration therapy (ORT) by 88% and immunization status assessed for all children. IMCI builds upon existing community health care structures and collaborates with other systems already in place, such as those of community groups, NGOs and the private sector.

Many child deaths occur at home and could be prevented by practices implemented by the child's caregiver or community. Knowing when to seek care and eradicating barriers to access care from appropriate health providers are important if children are to be reached. With effective interventions, IMCI supports preventive and caregiving practices at the household

and community levels, including community-based case management where appropriate. IMCI trains health workers in counselling skills that support caregivers, improve their knowledge and facilitate behaviour change. Increased community knowledge of key health practices and caregiver recognition of the need to attend health care results in the empowerment of families and communities.

2. Accelerating and sustaining progress

The Regional Child Survival Strategy emphasizes improved access to and use of the Essential Package for Child Survival with IMCI at its core to achieve the MDG 4 targets by 2015. The regional strategy outlines the importance of a national coordinating mechanism for child survival with strong leadership at the highest government level and collaboration among health sector stakeholders. Countries should have a national plan of action detailing child survival activities, including IMCI, central to the health and development agenda of the country and be linked to credible levels of funding. Monitoring and evaluation should be in place to which all stakeholders adhere. It should include the key child survival indicators and allow government oversight of activities and regular tracking of progress.

Countries should increase the awareness of child survival among the public at national, subnational and local levels through a child survival advocacy plan that is adequately resourced and is linked to key family and community practices, as highlighted in the IMCI strategy. Estimates of resource needs based on credible costing assist countries in mobilizing the required resources to sustain progress in child survival. Improving child survival requires broad, high level and continuing commitment. IMCI provides a tool through which improved survival may be achieved on the ground.

Conclusions: IMCI and child survival

- In the Western Pacific Region, under-5 mortality rate was reduced by one half by 2009. Despite this, about 527 000 lives among children under five years old were claimed in 2009. More than 97% of these deaths occurred in six countries in the Region (Cambodia, China, the Lao People's Democratic Republic, Papua New Guinea, the Philippines and Viet Nam).
- At least 68% of all child deaths are caused by pneumonia and neonatal causes. Deaths in the neonatal period are increasing in proportion compared to post-neonatal deaths. Undernutrition, including micronutrient deficiencies, accounts for at least 35% of child deaths.
- The WHO/UNICEF Regional Child Survival Strategy focuses on broadening to universal scale an essential package of interventions for child survival, which includes IMCI as a core component.
- IMCI includes guidelines on the management of the sick child from birth up to five years old. IMCI is implemented through three main components: improvements in case management skills of health workers; improvements in the health system required for effective management of childhood illness; and improvements in family and community practices.
- IMCI has been demonstrated to improve the efficiency and quality of child health services, at the same time promoting cost savings with the use of evidence-based guidelines to manage childhood illness.
- Implementing IMCI requires high-level commitment, coordination, effective planning and regular monitoring and evaluation. Implementation requires action in a number of programme areas, including policies and guidelines, human resources capacity, health systems and community-based approaches to improving access to health services and information.

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