Status of IMCI Implementation in the Western Pacific Region
Where has IMCI been implemented?

Fourteen countries in the Western Pacific Region had implemented IMCI by 2009 (Cambodia, China, the Federated States of Micronesia, Fiji, Kiribati, the Lao People’s Democratic Republic, Malaysia, Mongolia, Papua New Guinea, the Philippines, Solomon Islands, Tuvalu, Vanuatu and Viet Nam).

The introduction of IMCI in most countries involved three principal steps:

1. Orientation of Ministry of Health policy-makers, managers and other stakeholders and agreement to adopt IMCI as a key child health strategy.
2. Identification of an IMCI focal person or coordinator and the formation of an IMCI working group to plan and oversee the introduction of IMCI.
3. Adaptation of IMCI case management guidelines to ensure that they are appropriate for the local epidemiology. Adaptation also includes modification of feeding recommendations to use locally available foods and inclusion of local terms and expressions where necessary.

Once IMCI has been adopted formally, the rate at which it is introduced to each district throughout a country is highly variable and depends on a number of factors, including the availability of funding, resources for training, essential drugs and equipment at first-level facilities.

Key points: Defining implementation of IMCI

A country is implementing IMCI if it has:

- oriented policy-makers and managers and IMCI case management guidelines adapted for the local setting;
- included IMCI in the most recent annual implementation plan and committed human, material and financial resources; and
- conducted IMCI activities such as training, IMCI follow-up after training or supervision and/or community IMCI activities.
What adaptations have been made to the IMCI guidelines?

Twelve out of 14 countries implementing IMCI in the Region have adapted IMCI clinical case management guidelines to match local causes of under-5 mortality and morbidity and other public health priorities. At the end of 2009, adaptations included adding the first week of life to the sick young infant guidelines (11 countries), adding the management of wheeze and sore throat (nine countries) and adding the assessment and management of rickets (two countries). Malaria was removed where it was not a public health problem (four countries) and dengue haemorrhagic fever was added in areas where prevalence is high (four countries). In several countries, adaptations have been made directly into the IMCI Computerized Adaptation and Training Tool (ICATT), which makes the process quicker and easier. A full summary of country adaptations is shown in Table 1.

<table>
<thead>
<tr>
<th>KHM</th>
<th>CHN</th>
<th>FJI</th>
<th>LAO</th>
<th>MYS</th>
<th>FSM</th>
<th>MNG</th>
<th>PHL</th>
<th>PNG</th>
<th>SLB</th>
<th>VUT</th>
<th>VNM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sick young infant (including the first week of life)</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Wheeze and sore throat</td>
<td>x</td>
<td>Wheeze only</td>
<td>Wheeze only</td>
<td>x</td>
<td>x</td>
<td>Wheeze only</td>
<td>x</td>
<td>Sore throat only</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removed malaria</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Included dengue</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Care for development</td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rickets</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How was IMCI implementation planned?

Countries in the Region have implemented IMCI in different ways and a number of lessons have been learnt. The formation of an IMCI working group, which includes donors and other partners, has been useful for planning and coordinating activities. Funded implementation plans formulated with stakeholders, help in the early implementation phase. Phased implementation, beginning in a few areas, allow lessons to be learnt that are useful for further expansion.

Important lessons learnt about planning IMCI implementation include:

- Begin implementation in a few areas. Experience from these areas is invaluable for planning activities in other areas.
- Decide which health workers should receive in-service training. Health workers selected for in-service training are those responsible for providing first-level outpatient care. The
categories of health workers selected for IMCI training varies among countries and includes doctors, nurses, midwives and health assistants. In Mongolia, *bagh feldshers*, who provide primary health care services to villages and households, are trained. In many countries, hospital doctors are also trained since they provide referral care and need to understand the classifications used in IMCI and the criteria used to decide which sick children should be referred.

- Develop an in-service training plan. Training plans are important to ensure that an adequate number of facilitators are trained; the quality of training is maintained; and all health workers needing training receive it.
- Review drug availability in the implementation areas. It is important that essential IMCI drugs and supplies are generally available in selected implementation areas.
- Establish an approach to supervision. Where possible, existing supervisory systems are used. Supervisory methods should include the use of a standard checklist, observations of health worker practices and immediate feedback, and problem-solving.
- Establish an estimated budget for early implementation activities. Creating a budget helps secure resources for all activities in advance and allows for effective planning. Budget lines can be allocated to both the Ministry of Health and to donors active in each country.

**Key points: Criteria for selection of IMCI early implementation areas**

- Good physical access to central-level staff
- Committed staff in districts to conduct planning and management
- Availability of a suitable training site
- Availability of drugs needed for implementation of IMCI in health facilities
- Referral-level care available
- Availability of other resources to support the IMCI strategy

**What is the current status of implementation?**

Fourteen countries have adopted, adapted and implemented IMCI. An IMCI coordinator is present in the majority of countries and 11 of 14 countries have an IMCI working group. Implementation of IMCI has been assisted by strong local commitment by policy-makers and senior medical staff. The process of orientation, adaptation and implementation planning, when conducted collaboratively, ensures high-level commitment.
Indicators for tracking implementation in the Region have been established. These are based on the Regional Child Survival Strategy. Detailed data from seven Western Pacific Region countries are available from a Regional Child Survival Review workshop held in Xi’an, China in October 2009. Six of these countries (Cambodia, China, the Lao People’s Democratic Republic, Papua New Guinea, the Philippines and Viet Nam) account for almost 97% of all deaths among under-5s in the Region.

Policy and planning inputs for child health from seven Western Pacific Region countries are shown in Table 2.

<table>
<thead>
<tr>
<th>Activity area</th>
<th>Indicator</th>
<th>KHM</th>
<th>CHN</th>
<th>LAO</th>
<th>MNG</th>
<th>PHL</th>
<th>PNG</th>
<th>VNM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy</td>
<td>Budgeted national child health plan for ensuring universal access to newborn and child survival interventions available</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Proportion of six key technical policies and guidelines adopted and being used*</td>
<td>4/6</td>
<td>3/6</td>
<td>5/6</td>
<td>6/6</td>
<td>6/6</td>
<td>3/6</td>
<td>5/6</td>
</tr>
<tr>
<td></td>
<td>Committee on the Rights of the Child (CRC) reporting mechanism established and working</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Mechanism for monitoring the International Code for Marketing of Breast-milk substitutes established and working</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Laws on vital registration adopted</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Proportion of medical, nursing or other health worker training schools giving preservice IMCI training</td>
<td>100%</td>
<td>12% MS</td>
<td>100% NS</td>
<td>100%</td>
<td>40% N/MWS, 17% MS</td>
<td>100% CHWS</td>
<td>80% MS, 30% NS</td>
</tr>
<tr>
<td>Planning</td>
<td>One coordination mechanism for maternal, newborn and child health (MNCH)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Proportion of districts implementing IMCI</td>
<td>90%</td>
<td>22%</td>
<td>73%</td>
<td>100%</td>
<td>72%</td>
<td>11%</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Proportion of total health budget allocated to MNCH in the previous year</td>
<td>NA</td>
<td>2%</td>
<td>NA</td>
<td>NA</td>
<td>4%</td>
<td>NA</td>
<td>6%</td>
</tr>
<tr>
<td></td>
<td>Proportion of proposed child health budget received on time the previous year</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>100%</td>
<td>100%</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

Current status of policy and planning inputs in seven Western Pacific Region countries

- Six of seven countries report that there is a mechanism for coordinating maternal, newborn and child health (Cambodia, China, the Lao People’s Democratic Republic, Mongolia, the Philippines and Papua New Guinea).

- Five countries have a budgeted national child health plan available (Cambodia, the Lao People’s Democratic Republic, Mongolia, the Philippines and Papua New Guinea). The policy recommendation is that all programmes have a single national child health plan available and budgeted. This is used to secure funding from government or non-government sources. Without a single cohesive plan, it is unlikely that activities will be conducted systematically.

- A high proportion of countries have made key policy updates, including new adaptations to the IMCI guidelines, adding IMCI drugs to the essential drug list, formulating strategies for ensuring financial protection of neonates and children and endorsing policies on community-based management of pneumonia. Mongolia and the Philippines have all six key child health policies in place while Viet Nam and the Lao People’s Democratic Republic have five of six in place. Other countries have made some progress, but further work is needed. Policies adopted are summarized in Figure 1.

- District IMCI training coverage is relatively high in the Region, ranging from 11% to 100%. District coverage is greater than 70% in Cambodia, the Lao People’s Democratic Republic, Mongolia and the Philippines. District coverage is less than 50% in China, Papua New Guinea and Viet Nam. The district is assumed to be the lowest administrative unit of the health system.

- All countries have begun incorporating IMCI into pre-service training.

- Limited data on budget allocations and expenditures for IMCI are available. IMCI is included as a separate budget line in the annual child health budget in nine of 14 countries. All countries need to put in place mechanisms for tracking budgets and expenditures and to report these data regularly.

**Figure 1: Key policies and guidelines adopted, seven Western Pacific Region countries, October 2009**

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3 WHO/UNICEF Workshop to Review Progress and Actions to Improve Child Survival, Xi’an, China, October 2009.
Activity outputs for child health from seven Western Pacific Region countries are shown in Table 3.

<table>
<thead>
<tr>
<th>Activity Area</th>
<th>Indicator</th>
<th>KHM</th>
<th>CHN</th>
<th>LAO</th>
<th>MNG</th>
<th>PHL</th>
<th>PNG</th>
<th>VNM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human resources</td>
<td>Proportion of first–level facilities with at least 60% of health workers who care for children trained in IMCI</td>
<td>69</td>
<td>83% (town)</td>
<td>NA</td>
<td>76%</td>
<td>72%</td>
<td>61%**</td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td>Proportion of community-based health workers who have received community IMCI training</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>75%</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Systems</td>
<td>Proportion of hospitals or maternity facilities accredited as baby-friendly in the previous two years</td>
<td>11%</td>
<td>NA</td>
<td>NA</td>
<td>75%</td>
<td>NA</td>
<td>0%</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td>Proportion of first-level health facilities that have all essential medicines for IMCI</td>
<td>89%</td>
<td>65%</td>
<td>&lt;20%</td>
<td>62%</td>
<td>NA</td>
<td>67%**</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Proportion of facilities that manage severely ill children with oxygen and paediatric delivery systems available in the paediatric ward</td>
<td>15%</td>
<td>100%</td>
<td>NA</td>
<td>95%</td>
<td>NA</td>
<td>90%</td>
<td>100%</td>
</tr>
<tr>
<td>Quality</td>
<td>Proportion of sick children from birth to 59 months old needing an antibiotic and/or an antimalarial who are prescribed the drug correctly</td>
<td>83% (IMCI areas)</td>
<td>84%</td>
<td>NA</td>
<td>56%</td>
<td>43% (5 provinces)</td>
<td>68%**</td>
<td>58%</td>
</tr>
<tr>
<td>IEC</td>
<td>Proportion of caretakers of children from birth to 59 months old who know at least two danger signs for seeking care immediately</td>
<td>43%</td>
<td>82%</td>
<td>NA</td>
<td>81%</td>
<td>NA</td>
<td>74%***</td>
<td>9%</td>
</tr>
</tbody>
</table>

KHM (Cambodia) CHN (China) LAO (Lao People’s Democratic Republic) MNG (Mongolia) PHL (Philippines) PNG (Papua New Guinea) VNM (Viet Nam)

* Data are reported from project implementation areas – 86 counties in 11 provinces
** Data are reported from IMCI Pilot areas – four districts in two provinces
*** Data are reported from Papua New Guinea Maternal, Newborn and Child Health Household Survey (MNCH HHS) 2009 – four districts.

Current status of activity outputs for IMCI in seven Western Pacific Region countries

- A high proportion of facilities have trained at least 60% of health workers who see sick children in IMCI. Coverage ranges from 15% to 76%.
- A high proportion of facilities have essential IMCI drugs available. Of those countries with data, the proportion with all medicines ranged from <20% to 100%.

4 WHO/UNICEF Workshop to Review Progress and Actions to Improve Child Survival, Xi’an, China, October 2009.
• The proportion of facilities that manage severely ill children with oxygen and paediatric delivery systems available ranges from 15% to 100%.

• The proportion of sick children needing antibiotics or antimalarials who are prescribed the drug correctly ranges from 43% to 84%. This measure is collected using a health facility survey, which includes an observation of case management practice. This is a measure of quality of care provided to children reaching first-level facilities. Improved quality of care is important for ensuring that sick children reaching facilities are managed correctly and for improving demand.

• Data are often not available on training of community-based health workers, baby-friendly hospital status and caretaker knowledge and practices. Information on community health worker training can be difficult to get because training is often conducted at the district level or below, record-keeping may not always be ideal, training may be conducted by NGOs and other partners, and data may not be available to Ministry of Health staff. If these data are not available, then efforts should be made to collect these data systematically. Community-based health workers are a central part of implementation at the lowest level.

• Output data are rarely tracked and used by country programmes for making decisions. Without these data it is not possible to know whether activities in key areas have been conducted effectively. Most outputs can be collected from routine records or supervisory reports. Data on quality of care at first-level health facilities are collected using health facility assessments.

What are the challenges for IMCI in the Region?

While good progress has been made with implementing IMCI in the Region, challenges remain. Training coverage is variable both between and within countries and is greatly affected by staff turnover. In particular, training coverage in remote or hard-to-reach areas needs to be improved. Gaps are noted in follow-up after training, supervision of trained health workers and in referral of sick children needing referral. Careseeking and home case-management practices have been slow to change; more attention to reaching communities is needed.

Problems with access to services are noted in all countries, particularly for poor, remote and migratory populations. Funding for IMCI is inadequate to cover all recurrent costs in many settings. Getting data on IMCI expenditures can be difficult, particularly in decentralized systems where each district or region allocates its own budget.

Challenges identified as part of a regional planning workshop in 2009 are summarized in the box on the next page.
Challenges to IMCI implementation in seven Western Pacific Region countries: WHO/UNICEF Workshop to Review Progress and Actions to Improve Child Survival, Xi’an, China, October 2009.

Policy

• Although the code of marketing of breast-milk substitutes has been adopted in most countries, it generally needs to be more actively enforced.

Training

• Training coverage is variable both between and within countries. Training coverage in remote and hard-to-reach areas needs to be improved.
• Staff turnover remains a problem in many areas.
• Follow-up after training is rarely conducted because of lack of funds and transportation.
• Funds are often inadequate to allow roll out of training to all areas.

Health systems and quality

• Supportive supervision, including observation of practices, is rarely conducted due to resource and time constraints.
• Referral of sick children needing referral is often poor for a number of reasons, including high cost, unavailability of transportation, perceived poor quality of care and a lack of understanding of the importance of higher-level care.
• Most countries are not conducting health facility surveys regularly to track quality of care.

Household and community

• Community IMCI generally needs to be scaled up – all countries need assistance in adapting the CIMCI protocol and then planning and managing implementation.
• Community resources – women’s and men’s groups, volunteers, mothers who feed appropriately, for example – are not often used by programmes to change behaviour and could be used more widely.
• Caretaker knowledge and practices in key child health areas need improvement. Behaviour change and communication activities, based on the key family practices, are needed. Changing feeding practices requires a sustained effort using multiple channels to reach the target population as well as one-on-one counselling.
• There is a high level of inappropriate use of antimicrobials, including inappropriate doses and frequency of administration. Antibiotics are widely available in communities from untrained providers.
What needs to be done in order to further scale up IMCI?

The next step for implementing countries is to take IMCI to a national scale. The Regional Child Survival Strategy outlines five strategic approaches for scaling up child survival activities, including improving leadership and governance, consolidating partnerships, improving efficiency and quality of service delivery, engaging and empowering families and communities and ensuring health care financing support for child survival.

**Leadership and governance**

High-level advocacy is needed to ensure that IMCI is adequately funded and that policies and guidelines to support implementation are in place. Although good centralized coordination is present in most countries, more decentralized planning and management of IMCI activities is needed. High-risk and vulnerable populations need to be identified and resources targeted to these groups. District planning and budgeting for IMCI will help ensure that resources are allocated to the populations that need them and that budget estimates accurately reflect the needs on the ground.

**Consolidating partnerships**

Collaboration is necessary for successful implementation. In several of the countries in the Region, stakeholders are involved in pre-service and in-service training and in logistical support for health facility implementation. Partners include multilateral and bilateral organizations, donors, NGOs and private providers. Collaboration ensures that more resources are made available, that these resources are applied where they are needed and that there is no duplication of effort.
**Case example: IMCI Implementation in China**

Planning for introduction of IMCI began in 1998. Adaptation of the training course was completed and implementation begun in 2000. Evaluation of the early implementation phase in 2001 indicated that the quality of care for sick children was improved significantly in implementation areas. IMCI was then expanded to 46 counties in 11 provinces.

IMCI has now been expanded to an additional 50 counties through collaboration between the Ministry of Health and United Nations Children’s Fund (UNICEF). A health facility survey in target provinces in 2006 found that practices of IMCI-trained health workers continued to show significant improvements over the baseline. The use of facility surveys has provided data that have been useful for demonstrating the impact of IMCI and mobilizing resources for further expansion.

By December 2007, about 10,000 health workers and 170 facilitators had been trained. Two training centres have been established in Xi’an Municipal Children’s Hospital and Hunan Provincial Children’s Hospital. A training strategy for the next phase of implementation is being worked out to guide the further expansion of IMCI training in China.

**Improving quality of service delivery**

Improvements in quality will require improvements in supervision and referral practices. Strategies have been considered for improving supervision, including on-the-job oversight and better linkage among technical divisions so that joint supervision can be conducted. More resources are required. Improving referral requires action at a number of levels. It includes improving the quality of referral care, formulating community-based strategies for paying for referral costs and improving the demand for referral care by better educating caretakers about when and why it is necessary.

**Engaging and empowering families and communities**

More attention is needed at the community level. In the Western Pacific Region, community-based IMCI training has been started in a few countries. Expansion has been hampered by the lack of standard training guidelines and lack of funds. In 2008, a community IMCI case management module was introduced in the Region. This module trains community health workers to recognize signs of serious illness, provide oral rehydration salts and zinc supplementation to children with diarrhoea and to treat simple cough. In addition, WHO guidelines for home-based newborn care and well-child care are available and have been

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introduced in the Region. More resources are required at the district level and below. District level staff need improved skills in developing and managing activities in the community. Better collaboration with existing community groups and with local NGOs is needed.

**Case example: Community-based local health planning in the Philippines**

The Philippines has maintained a bottom-up approach to planning.

The smallest political unit (barangay) uses a community health board for health planning. Plans are formulated based on local priorities, resources and systems. In this way local government units make plans best suited to the population they serve. These plans are used by districts, provinces and regions for annual planning. Central management supports local plans.

**Ensuring health care financing support for child survival**

All countries should establish a long-term health care financing scheme that facilitates universal coverage with affordable services and financial protection for children. No government can provide all the investment required for health. Therefore, the WHO/UNICEF Regional Child Survival Strategy recommends that the direct costs of care be provided by tax-based social health insurance or private health insurance (including community-based schemes) or mixes of these.
Case example: Health care financing in China

In Yunnan Province in China, a health care voucher system was introduced for poor households. Vouchers allowed families to receive free services, up to a predetermined limit.

In Nanhua the proportion of children with diarrhoea receiving treatment at health facilities increased from 67.3% to 81.1% in the year following the introduction of the voucher system. During the same period, the proportion of children with diarrhoea receiving treatment who were not poor increased from 77.2% to 82.5%. Reducing the direct cost of health services among poor households can improve health care use and access to effective treatment.

Conclusions: Status of IMCI implementation in the Western Pacific Region

- By 2009, 14 countries had implemented IMCI. Implementation involved orientation of decision-makers, selection of an IMCI coordinator and working group and adaptation of the IMCI guidelines for the local setting.

- Country adaptations of the IMCI guidelines included removal of malaria where it is not a public health problem, the addition of management of the neonate and the addition of several conditions that are public health problems, including rickets, dengue fever, HIV and wheezing.

- Early implementation of IMCI requires careful planning, including selection of target areas and health workers to be trained, formulation of a training plan and adequate supplies of medicines.

- Countries track implementation using standard measures of inputs and outputs. Progress in a number of areas is seen, including improved policies and guidelines, training, planning and system supports.

- Challenges remain to scaling up the implementation of IMCI, including inadequate financial resources and limited training coverage in remote or hard-to-reach areas. A number of health systems issues still need to be addressed, including inadequate follow-up and supervision of health workers and problems with referral of children needing referral. Community IMCI needs to be strengthened in all countries.

- Further scaling up of IMCI in the Region will require efforts in five areas: consolidating partnerships, improving decentralized planning, improving the quality of service delivery, engaging and empowering families and communities and ensuring long-term health care financing.