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Report on the

Regional IMCI Coordinators' meeting

Sana'a, Yemen
6–9 December 2010

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CONTENTS

1. INTRODUCTION

The World Health Organization (WHO) Regional Office for the Eastern Mediterranean (EMRO) held a regional IMCI coordinators' meeting in Sana'a, Yemen, from 6 to 9 December 2010. The main objective of the meeting was to review progress of implementation of the Integrated Management of Child Health (IMCI) strategy and progress towards Millennium Development Goal (MDG) 4 on reduction of under-five mortality and discuss new initiatives and actions to move the child health agenda forward. More specifically, the objectives of the meeting were to:

- present progress in under-five mortality reduction and implementation of the IMCI strategy in countries in the Region;
- discuss initiatives to increase access to quality child health care, such as community health workers and mobile teams;
- discuss approaches to sustainability of the IMCI strategy, including progress in IMCI pre-service education;
- present updates on child health at regional and global level, including new tools and approaches;
- share child health-related success stories of countries in the Eastern Mediterranean Region and discuss actions to move the child health agenda forward in the Region.

The meeting convened 59 participants, including child health programme managers, senior decision-makers and academics from 19 of the 22 countries in the Region, and staff from UNICEF country offices, United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) and WHO. It was the first time that member countries of the Gulf Cooperation Council (GCC) were represented, this underlying the relevance and importance of MDG 4 and child health issues and strategies to countries with any economic development background and in line with the regional move to broaden its strategy from child illness to child health.

The meeting was inaugurated by H.E. Dr Abdul Karim Rasa'a, Minister of Public Health and Population, Yemen, who described Integrated Management of Child Health (IMCI) as a good model for integration, despite the difficulties of being able to shift from vertical to 'horizontal' programmes. Over the past few years, IMCI in Yemen had been the best approach for capacity-building. The Minister referred to Egypt as a good model for IMCI pre-service education. He pointed out that major issues in IMCI implementation included a good selection of programme managers and support from decision-makers. Finally, the Minister noted that Yemen had been proactive in searching for funding opportunities for child health, succeeding in including IMCI in the Global Alliance for Vaccines and Immunization (GAVI)-health system strengthening-funded initiative.

The message of Dr Hussein A. Gezairy, WHO Regional Director for the Eastern Mediterranean, highlighted progress and issues in under-five mortality reduction in the Region and in achieving MDG 4, the regional IMCI strategy and evidence of its impact, WHO technical and financial support, including regional guides and materials produced, new

initiatives, such as pre-service education and community-based child health care, sustainability and universal coverage and the need for resource mobilization.

The programme and the list of participants are included as Annexes 1 and 2, respectively. Annex 3 contains a list of indicators for assessing infant and young child feeding practices.

2. PROGRESS IN UNDER-FIVE MORTALITY REDUCTION AND IMPLEMENTATION OF THE IMCI STRATEGY IN COUNTRIES IN THE REGION

2.1 Progress in under-five mortality reduction

One in 8 (12.5%) of the 584 million people living in the Eastern Mediterranean Region is under-five. Most recent estimates from the United Nations Inter-agency Group for Child Mortality Estimation[1] suggest that under-five mortality has dropped in the Region by 31% in the period from 1990 to 2009. Despite this progress, this reduction rate is way below the target of MDG 4of a 66% reduction set for 2015, just five years away. Furthermore, the reduction has been uneven across countries in the Region, ranging from no reduction (Somalia) to 77% reduction (Egypt). The statement at the United Nations Summit high-level plenary meeting of the General Assembly, New York, in September 2010, that "Child deaths are falling but … not quickly enough to reach the target", therefore applies also to this Region. Countries differ significantly in this respect and can be grouped according to the annual average rate of reduction (AARR) in under-five mortality based on those UN estimates.[2] On average, an AARR greater than 4% was needed from 1990 to achieve MDG 4 in 2015. The AARR indicator, when broken down by five-year periods, also gives a better idea about trends over time and the level of effort required to achieve MDG 4 in the next five years, thus its feasibility at this stage.

- *Countries with an AARR of 6% or more*. This includes three countries, namely Egypt, Lebanon and Oman, which have already reached MDG 4 and have surpassed its targets.
- *Countries with an AARR of 4% to 5%*. This includes five countries, namely the Islamic Republic of Iran, Morocco, Syrian Arab Republic, Tunisia and United Arab Emirates. These countries are currently on track to achieve MDG 4, provided that they maintain the same high level of reduction in the next five years.

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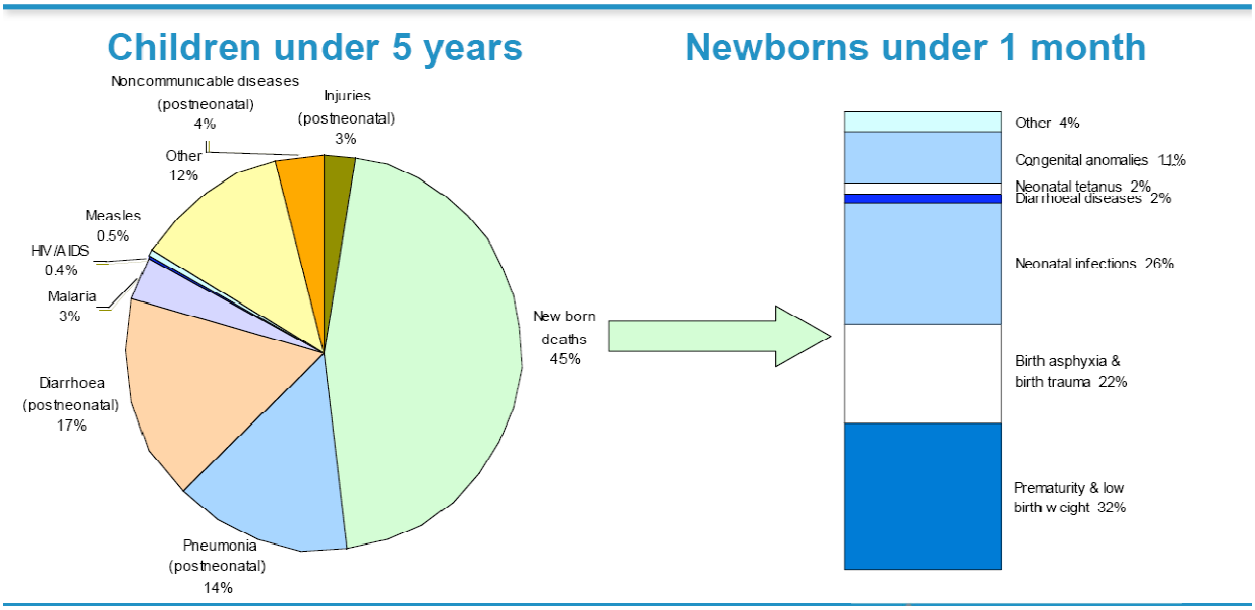
1 This group includes UNICEF, WHO, the World Bank, the United Nations Population Division and an independent technical advisory group of experts. It is tasked with the responsibility of estimating child mortality data for reporting progress towards the MDGs. WHO also goes through a consultation process with countries before releasing those estimates in its World Health Statistics report.

2 Limitations are inherent to any estimates. Furthermore, the very limited availability of reliable data sources in some cases makes the projections for some countries less reliable. Countries with low under-five mortality levels are more likely to move to the first two categories as more data become available and are entered in the estimation model in the future.

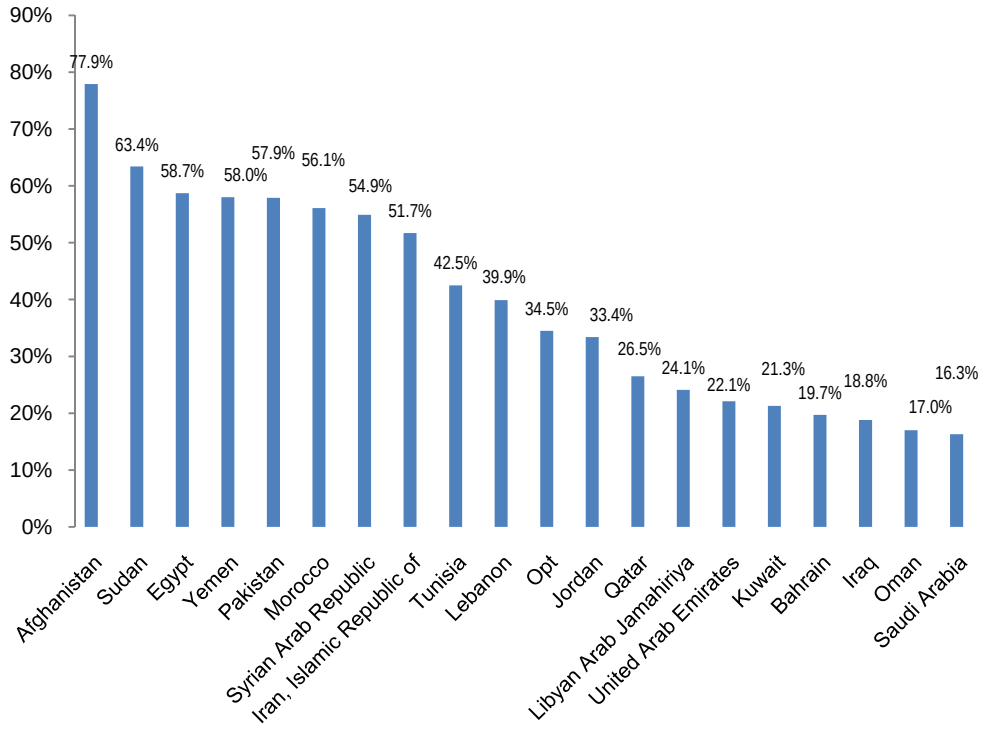
- *Countries with an AARR of 3%*. The three countries in this group–Libyan Arab Jamahiriya, Saudi Arabia and Yemen–have achieved good mortality reduction rates but require greater effort to progress towards MDG 4. This may be a challenge.
- *Countries with an AARR of less than 3%*. It includes two groups of countries. The first group is countries with high under-five mortality rates which are mostly in complex emergencies, such as Afghanistan, Djibouti, Iraq, occupied Palestinian territory, Pakistan, Somalia and Sudan. These countries are not on track to achieve MDG 4 based on current UN estimates. The second group is a few countries with low levels of under-five mortality and different causes of death which make further reductions, although possible, a real challenge. As updated data become available for the latter group, they may move to a higher category.

Thus, while under-five mortality has been declining in the Region, about 1.1 million of under-five children still die each year. The causes of mortality have gradually been shifting pattern in this decade, with such traditional causes as infectious diseases (post-neonatal pneumonia and diarrhoea, malaria, HIV/AIDS and measles), decreasing to about 35% of all causes and newborn deaths increasing to 45% (Figure 1). Household out-of-pocket expenditure in countries ranges from 16% to 78% of total health expenditure, with substantial burden for families in countries with high under-five mortality (Figure 2).



Source: World Health Statistics 2010, WHO

Figure 1. Major causes of death in newborns and children in the Eastern Mediterranean Region, 2008



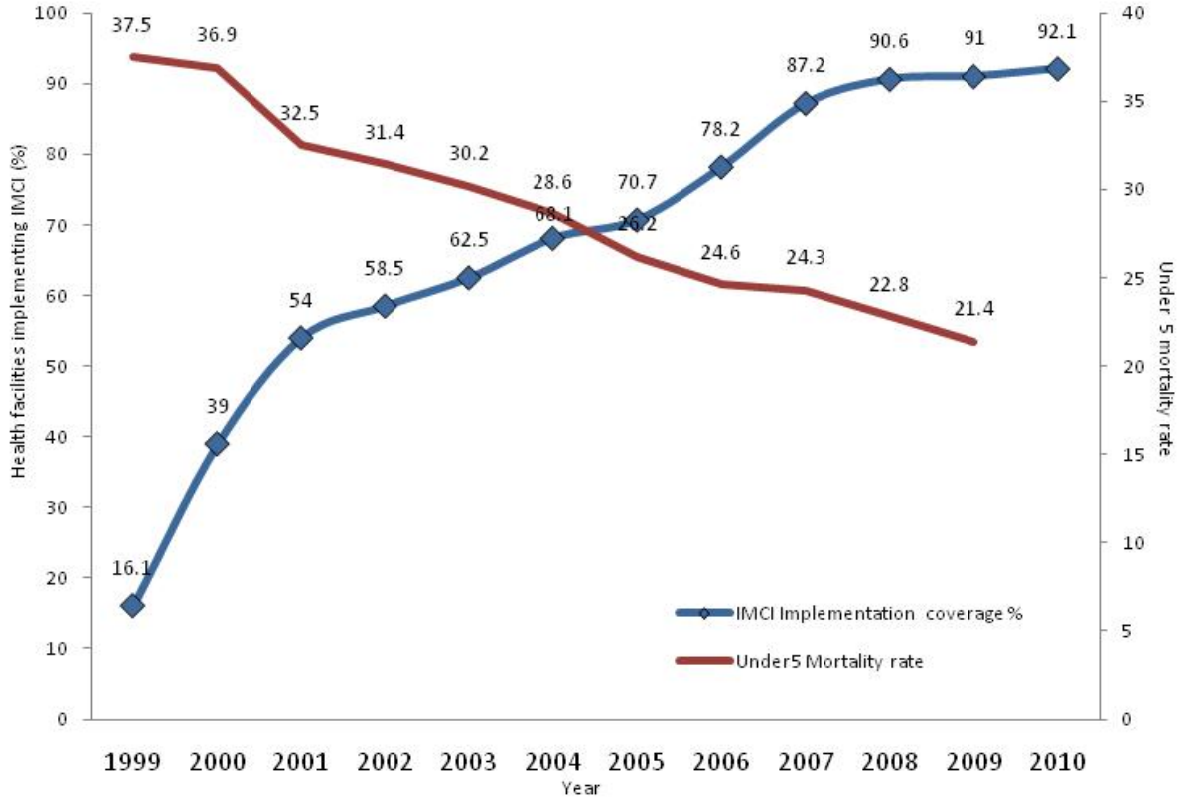
Source: The work of WHO in the Eastern Mediterranean Region, Annual report of the Regional Director, 2009.

Figure 2. Out-of-pocket expenditure on health as a percentage of total health expenditure

2.2 Progress in implementation of the IMCI strategy in the Region

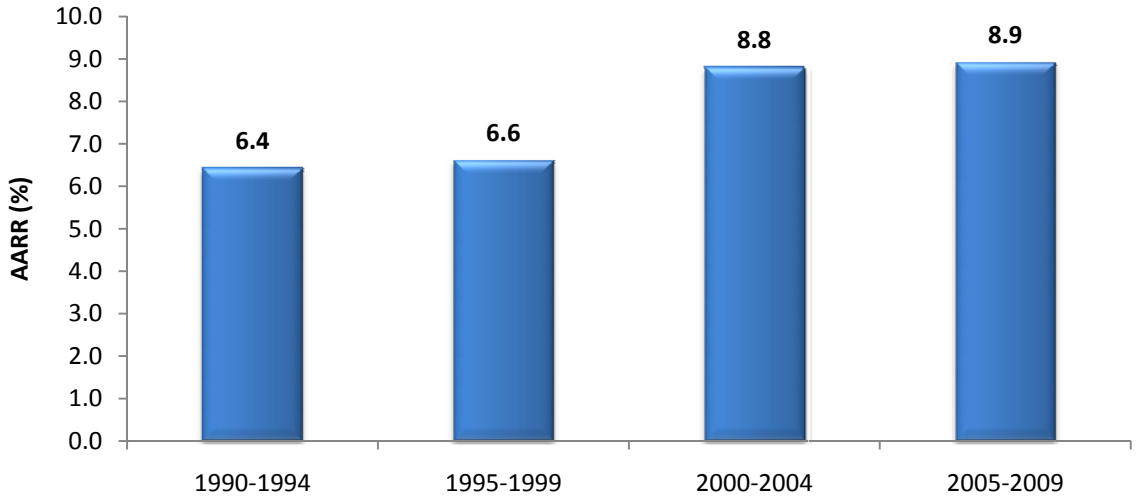
The Regional Office has been promoting the IMCI strategy for years in countries as the primary child health care strategy to address child health issues. Comprising three components (human resource development, improving health system support elements and improving family and community child care practices), the strategy addresses public child health in an integrated way and defines quality criteria for each step of implementation, to ensure quality. It is conceived as flexible and dynamic to adapt to country and emerging needs, and has in fact evolved from the focus on “childhood illness” to encompassing a broader concept of “child health”. The strategy includes a set of cost-effective interventions, rationalizes the use of health system support elements and reduces the cost of health services by improving case management and use of medicines.

An analysis recently conducted on the impact of IMCI on under-five mortality in Egypt has found an association between under-five mortality reduction and IMCI implementation, with districts implementing IMCI having significantly higher rates of reduction than districts not implementing IMCI. Another interesting finding, consistent with the former, shown in Figure 3, is when the trend of under-five mortality is plotted against IMCI implementation at health facility level in Egypt from 1999 to 2008. As IMCI implementation rate increases, under-five mortality declines. Finally, the analysis of AARR by five-year periods shows a substantial increase in the rate of mortality reduction from 2000, that is when IMCI implementation started accelerating in the country during the expansion phase.



Source: Based on data from the Ministry of Health, Egypt

Figure 3. IMCI implementation at health facilities versus under-five mortality in Egypt, 1999–2008



Source: based on the Child Mortality Estimate database of the Inter-agency Group for Child Mortality Estimation.

Figure 4. Annual average rate of reduction of under-five mortality by quinquennia, Egypt, 1990–2009

Five countries are close to achieving universal IMCI implementation at health facility level–Afghanistan, Djibouti, Egypt, Oman and the Islamic Republic of Iran. The pace of IMCI implementation at health facilities in the other countries has been slow in this decade, ranging from no progress to less than 75%. Based on current implementation rate levels, the WHO Regional Office for the Eastern Mediterranean has estimated that it would take between 1 and 43 years to achieve universal coverage in countries in the Region and almost 30 years for the Region as a whole.[3] This situation raises issues related to:

- commitment, initially strong during the early implementation phase, then fading away and not translating into action;
- availability of financial resources, decreasing during the expansion phase;
- IMCI being conceived only as a training programme, this adversely affecting support from decision makers;
- inadequate, short-term planning, not targeting (universal) coverage, often limited to just training activities, not based on appropriate data and not addressing long-term sustainability;
    - lack of a “one national plan”, replaced by different project and donors’ plans
    - lack of regularly reported, reliable, complete data.

The Regional Office has over the years responded to the above challenges, also through new initiatives under the IMCI strategy, to address such issues as:

- policy issues, by developing guidelines and providing technical support to countries to situation analysis and policy development as part of the child health policy initiative, and advocating for IMCI at a high level;
- planning issues, by developing an IMCI district planning guide and building country capacity in this area, and providing technical support to the development of national plans of action;
- low access to care, through tele-consultations, child health mobile teams, community-based child care with community health workers, incorporation of IMCI into integrated training, health system reform and health insurance schemes;
- data, collecting data from countries on IMCI implementation and making them available on the Regional Office web site, analysing under-five mortality trends, supporting evaluations–reviews and surveys–and the dissemination of their findings, supporting the development of child health country profiles;
- sustainability, by IMCI pre-service education and strengthening health system support.

Among the lessons learned are: the need to generate and disseminate evidence on the impact of interventions to access funds, which are often available in countries; the fact that slow pace of implementation disappoints donors; that countries themselves have to put child

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[3] This excludes countries with coverage higher than 90%, such as the Islamic Republic of Iran, Egypt and Afghanistan.

health and IMCI among their top priorities; and that information must be used for sound planning and setting coverage targets.

A lesson which has been learned and deserves special mention is that related to neonatal health. Given the increasing proportional contribution of neonatal deaths to under-five mortality in many countries as under-five mortality rates decline, there is a recognized need to "invest" more in this area. However, this increase in funding in neonatal health should not be at the expenses of child health, meaning that funds should not be merely "shifted" from interventions for children older than 1 month to those for neonates. In fact, any neonate saved will continue to be exposed to the same threats to his/her life and development as any other under-five child.

3. DOCUMENTATION, COUNTRY PROFILES AND IMCI INFORMATION SYSTEM

3.1 Documentation of IMCI implementation: the Egypt experience

Good documentation represents the institutional memory of any programme. Developing standardized tools, collecting the information regularly, providing timely feedback and using the information are all key ingredients of sound programme management. The Egyptian experience in this respect is unique as to the number of tools used, the type of information collected and its use to inform IMCI planning and for advocacy. It ranges from planning to implementation, monitoring and evaluation. It covers management, training, health systems and community. Examples include IMCI reports of national and district planning and training workshops, monthly IMCI district reports, computerized database of IMCI-trained staff, detailed IMCI annual reports distributed to all governorates, reports of follow-up visits after IMCI training, university plans on IMCI pre-service education-related activities, reports on causes of child deaths, reports of community health workers, IMCI registers, reports on programme reviews and surveys on key family practices on child care, health facility surveys on health provider and service performance, demographic and health surveys. Yet, among the constraints described are an inadequate appreciation at health facilities of the value of information and limited capacity at different levels to process and analyse the information collected.

3.2 Child health country profile

The child health country profile is a summary tool that compiles and synthesizes national and sub-national information on child health status, outcome, output and input indicators to provide at a glance an understanding of the status of child health and the relevant health care in a country. It aims to:

- use the best available information for evidence-based decisions on policies, strategies, health system or health status;
- guide prioritization and phasing of interventions and strengthen their implementation.

A characteristic of information in the child health country profile is that it is:

- made available in one single document, while originally scattered through different sources;
- easy to consult;
- presented mainly in a visual way through graphs with only few, key, summary interpretation points with concise, minimum text (bullet points).

The target audience of the child health country profile includes: decision-makers, programme managers, regional and local authorities, health services, consultants, partners, information entities, research and academic institutions and professional associations.

The information presented in the profile must, whenever possible, be of high quality. It may be nationally representative (nationally stratified sample, vital registration coverage greater than 90%) or representative of a local population.

Reliable sources of information by type of indicator include:

- for health status indicators: vital registration systems, nationally representative surveys such as demographic and health surveys (DHS), multiple indicator cluster survey (MICS), Pan Arab Project for Family Health Survey (PAPFAM) and other national surveys, special population-based surveys, estimates by the Child Health Epidemiology Reference Group and United Nations Inter-agency Group for Child Mortality Estimation, facility-based data (if more than 90% of births and deaths occur there), routine information system;
- for outcome indicators: nationally representative surveys (see above), special surveys, health service routine information;
- for output indicators: quality surveys (service provision assessment surveys), health facility surveys, IMCI reporting data, household surveys (e.g. maternal and child health delivery channel surveys);
- for input indicators: government (ministry of health), international and national agencies, national health accounts.

What is the added value of a child health country profile as promoted by WHO? There exist similar ongoing initiatives, where child health indicators are presented in country profiles, prepared by international agencies or teams. The “added value” of the WHO profile can be recognized by the following characteristics.

- flexibility, to include additional, specific indicators as most relevant to each country situation, beside the core indicators of the template;
- national language, whenever possible;
- country ownership due to involvement of the national team during its development;
- official ministry of health document rather than one developed externally by international agencies often without national involvement;
- opportunity for capacity-building of the national team.

The profile is expected to help institutionalize the use of, and demand for, information. The process of developing the profile includes the development of a country profile template by WHO as a starting point, the establishment of a small working group in the country to conduct the review process—with members experienced in data handling and analysis and child health programme managers, identification of the most relevant issues to advocate for support to programmes and for programme managers to set priorities, identification of additional data sources, analysis and summary of the data in the profile format, preparation of the recommendations on the way forward and dissemination of the profile.

3.3 IMCI coverage information system

The IMCI coverage information system is a web-based information management system developed by the Regional Office for data collection, validation and presentation to monitor implementation and support planning and decision-making. Currently, there is lack of a standard format for data collection in the Region and frequency of data collection, validation and reporting, data protection, data sharing and dissemination. The regional WHO IMCI tool is meant to provide an efficient data management system. It includes a central database, automatic data validation tools and state-of-the-art presentation facilities, such as interactive maps, motion charts, graphs and tabular reports. Its use requires no sophisticated training. District data are entered into the system and automatically aggregated into governorate/province and national data. Based on country policies to be agreed upon officially, data are entered into the system by countries themselves and then, after validation, reflected on the web. The tool was welcomed by participants, who had a short hands-on demonstration session. Its use by countries should start soon, after updating the list of administrative levels.

4. INCREASING ACCESS TO QUALITY CHILD HEALTH CARE

4.1 Community-based child health care: framework for implementation and the regional training package

The regional community-based child care initiative aims to increase access to quality child health care by community health workers (CHWs) and hence increase coverage of life-saving interventions. The care provided depends on whether CHWs are authorized to give medicines (treatment, referral and home care, including care-seeking, immunization, counselling on feeding), or are not authorized to treat (referral and home care only). This initiative is not a new training programme. It is in fact crucial to set first a system for implementation before training CHWs, follow a standardized approach and set quality criteria for each step. The list of key activities in the development of the initiative supported by the Regional Office to date include:

- orientation and planning workshop on community health work, Cairo, 23–26 November 2009
- intercountry demonstration training course on community health work, Sana'a, 21–26 March 2010
- regional expert consultation to review WHO Regional Office CHW training materials, Cairo, 3–5 July 2010
- field-test of CHW materials, El Fayoum, Egypt, 6–8 July 2010
- first CHW training course in Yemen, Dhamar, 6–11 November 2010.

The approach proposed by the Regional Office includes three phases.

- Introduction
- Early implementation
- Expansion.

In the introduction phase, decision-makers are oriented and a small core team is established, including managers of child/IMCI and maternal care programmes and community-based initiatives and partners as relevant. The team reviews and proposes updating of relevant national policies for high-level endorsement, carries out a situation analysis to inform planning, guides the country adaptation process of the regional guidelines and training materials, conducts orientation workshops, develops the strategy and plan of action and builds capacity for training and supervision. A key task is the one related to policies, which should clearly define CHW tasks, responsibility and support to their work.

Policies on community health work should define:

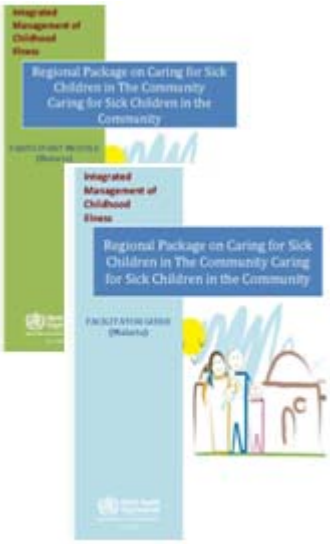
- the role of CHWs
- their place in the health work force
- their tasks
- medicines and supplies kit
- motivation schemes, including remuneration
- budget source
- linkages between CHWs, the health system at all levels and the community, including supervision
- reporting and recording system.

The early implementation phase sees the implementation of the plan of action in a limited geographical area, to test the strategy and learn from that experience. As training materials have been adapted and reproduced and so have medicine and supply kits, the first batches of CHWs are trained, followed up and supervised after training, while system support elements are monitored. Based on a review of this phase, expansion starts to gradually increase coverage and to introduce the approach in pre-service training, as applicable, similarly to the IMCI pre-service education approach. As shown in IMCI, early involvement of teaching staff in in-service training facilitates the process.

The training package for CHWs aims to provide them with the skills required for dealing with child health problems responsible for a substantial proportion of under-five deaths in countries with a high or moderate level of mortality, such as conditions with danger signs, fast breathing, diarrhoea, fever/malaria and malnutrition. Accordingly, implementation of the guidelines requires only four medicines: oral rehydration salts (ORS) and zinc for diarrhoea, an antibiotic for pneumonia and an antimalarial for malaria, where this condition is prevalent. Supplies needed are also few: a timer to count the respiratory rate, rapid diagnostic tests for areas with malaria, mid-upper arm circumference strap to screen children for malnutrition, sick child recording forms and a register.

Community health worker training materials

- Facilitator guide (English)
- Participant module and feeding counselling booklet (English, Arabic)
- Recording form (English, Arabic)
- Videos in English and Arabic (signs, RDT, preparation of medicines)
- Photo booklet
- Feeding counselling card (English, Arabic)
- Instructor guide for clinical practice.



As in IMCI, the CHW training approach includes: 1) skill acquisition during standard quality training; 2) skill reinforcement by follow-up visits and meetings at the reference health facility; and 3) supportive supervision, with periodic review of case recording forms. Case management targets children age 2 months up to 5 years old. Training lasts for six days and facilitators are selected among those with an IMCI training background who have previously been adequately exposed also to the CHW training. Participants' average literacy levels are primary or secondary level. WHO Regional Office has developed the following versions of training materials: a) a malaria version and a non-malaria version for CHWs authorized to provide medicines and treat sick children; and b) another version for CHWs not authorized to treat sick children. Guidelines are colour-coded to be compatible with the IMCI guidelines and based on evidence.

In addition to the Facilitator guide, other facilitators' aids have been developed for selected sessions. Taking into account the limited education level and often the lack of health background of participants, training materials use a simplified language, terminology and approach to content. Reading is kept to a minimum with concise summary points presented as a bulleted list. Key methods include brief introductory explanations followed by demonstrations in the classroom, video demonstrations, supervised classroom and clinical practice and exercises with photos, videos, scenarios, role-plays and games with feedback. In general, training is very interactive and dynamic and participants have thus far appreciated the active methodology used. The course comprises of six sessions: course objectives, greet the caretaker, identify child's problems, treat a sick child at home, refer a sick child with danger signs and counsel the caregiver of any sick child with no danger signs (vaccination, home care rules, feeding and follow-up). Experience to date in Egypt and Yemen has been very promising.

4.2 Yemen: reaching out to the community

Three quarters of the 23 million population in Yemen live in rural areas and only 30% of the rural population has access to basic primary health care services. There is also a low

utilization of public health services at health facilities. A number of factors hinder accessibility to health, including a difficult terrain landscape, with mountains, desert and a widely disperse population over a vast area in the country. To address this issue, the Ministry of Health has in recent years developed a three-tier strategic approach to increase access of children to primary health care services: a) health facility-based; b) integrated outreach services and child health mobile teams; and c) community-based by CHWs.

Launched in 2007–2008 and supported by the Global Alliance for Vaccines and Immunization (GAVI)-health system strengthening component, the integrated child health mobile teams include a physician, health worker trained in IMCI, midwife, Expanded Programme on Immunization (EPI) staff and health education staff. In addition to immunization and reproductive health, the teams manage children with pneumonia, diarrhoea, malaria, malnutrition, referral for children with danger signs based on the IMCI protocol, counsel caregivers on child care and mobilize communities during campaigns and outreach activities. The teams have been operating in 64 districts and there are plans to start them in 71 districts in five governorates in 2011 by a World Bank-supported project.

The community-based approach relies on community volunteers and started many years ago with a focus on health education and counselling. The use of a community volunteer strategy on childhood management was introduced in March 2010, followed by the preparation of a strategic framework, which is in the process of being endorsed officially. Yet, there is a need for a clear policy to regulate community work. The establishment of a health information system for reporting is also under consideration. At local level, the implementation approach includes orientation and sensitization of health staff and the community, selection of volunteers, their training and introduction to community leaders and local authorities, distribution of kits to those trained, conduct of follow-up visits to those trained, regular supervision and refreshment training. Community volunteers are to be linked to the nearest facility, which they are expected to visit monthly to have their records reviewed and, possibly, receive a medicine supply. An important step is recognition of community volunteers as part of the health system.

Criteria for the selection of volunteers in Yemen include among others: gender (female), location (living in the same village to be served), age (at least 18 years old), with priority for those married; minimum education level (completion of at least the sixth year of basic education, with priority for those with higher education), commitment and acceptance by the community, readiness to carry out the required tasks and attend meetings held far from their village. Challenges remain, such as the lack of a system to deliver medicines regularly and manage referrals, the high number of scattered settlements (136 000) and the lack yet of strong links between community volunteers and the health system.

4.3 Pakistan: experience with partnership

"Delivering as One" is a UN reform process which aims to bring together the strength and expertise of the various UN agencies in a country in a well-coordinated, efficient way, to maximize their support to service delivery in the country. "Health and Population" is one of the thematic areas. Within this initiative falls the Norway-Pakistan Partnership Initiative to reduce maternal, neonatal and child mortality rates in 10 least-performing districts–with an average under-five mortality rate of 120 per 1000 live births–in Sindh, the second largest province in the country with 41 million population. The five-year Norwegian Krone (NOK) 250 million project sees as UN partners WHO, UNICEF and United Nations Population Fund (UNFPA), in addition to other partners. Implementation has already started. Other partnership opportunities which are already addressing child health include projects supported by international and national nongovernmental organizations, multilateral and bilateral agencies and professional associations. Partnerships promote more coordinated and efficient utilization of human and financial resources and each partner's expertise and a stronger platform for resource mobilization. To be successful, partnerships require mutual respect between the members of the partnership, their mandates and commitments, a continuous dialogue with early consultations, sharing of information and a result-oriented approach for which all members feel responsible and to which all contribute. For example, as a result of these efforts, IMCI implementation expanded from 7 districts in 2005 to 73 districts in 2009. IMCI pre-service education was also started in six new teaching institutions. Partnerships require skills such as leadership, negotiation, communication, building trust and consensus, advocacy. In the Pakistani "Delivering as One" experience, challenges at the beginning of the process included, among others, lack of understanding and guidance from previous experiences, tendency of each member to promote their own agenda and lack of readiness to listen to other members' views. However, being consistent, respectful, patient and flexible facilitated the process and contributed to a positive experience.

5. APPROACHES TO SUSTAINABILITY OF THE IMCI STRATEGY: PROGRESS IN IMCI PRE-SERVICE EDUCATION

5.1 IMCI pre-service education: regional perspective

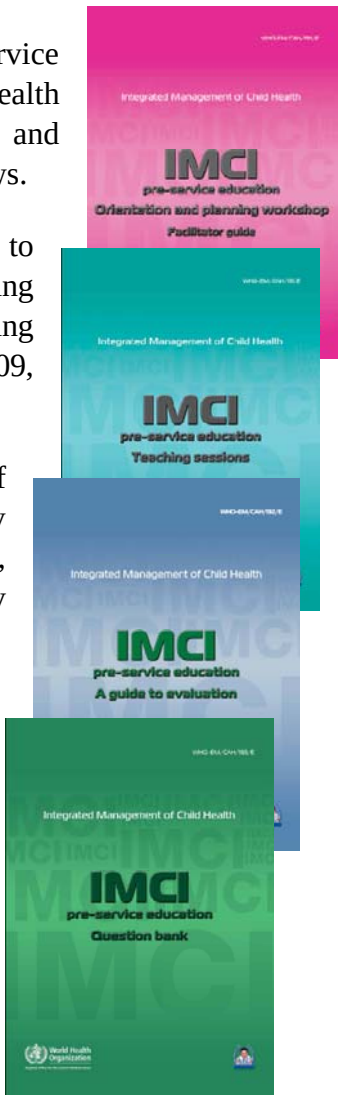
IMCI pre-service education refers to the introduction of IMCI-related clinical guidelines and public child health approaches in medical and allied health professional school teaching programmes before graduates enter service. This includes integrated protocols on the management of child health problems at outpatient primary health care settings, usually introduced in paediatric teaching, and interventions at family and community level, introduced in community or family medicine or public health teaching.

The Regional Office has since 2000 developed a standardized approach to the introduction of IMCI into teaching programmes to sustain IMCI strategy implementation in the long term, which has been followed in most countries in the Region. By strengthening outpatient paediatric and community medicine teaching, with a major emphasis on skills, IMCI pre-service education aims to improve future graduates' performance and enable them to work within the given health system context of a country. It targets all would-be providers, whether in the public or private sector and should alleviate the burden of in-service training borne by the ministry of health. It is

important that teaching staff are exposed and involved when IMCI is introduced in a country, from planning to adaptation of the guidelines, in-service capacity-building, follow-up after IMCI training and reviews. This improves their knowledge and ownership of the country-adapted strategy and stimulates their interest in introducing it into teaching programmes. After a teaching institution formally requests support to introduce IMCI, an orientation and planning workshop is conducted, followed by training of teaching staff, teaching, monitoring and evaluation.

Experience to date has confirmed the importance of institutionalizing IMCI teaching and avoiding linking the experience to a few, specific individuals, as that would adversely affect its sustainability over time, especially when those individuals leave the institution. It has also highlighted the need to emphasize clinical versus theoretical clinical (as IMCI is about skills) and allocate adequate time in the teaching curriculum. Students need to have a minimum level of exposure to real patients and practise skills. IMCI has to be included in student examinations, assessing not only student knowledge through multiple-choice questions and scenarios, but also student skills through actual clinical cases and/or observed structured clinical examination (OSCE).

The Regional Office has also developed an IMCI pre-service education package to further assist teaching institutions, ministries of health and partners through the process of introducing, implementing and evaluating IMCI teaching. The package comprises six modules, as follows.



1. *Orientation and planning workshop: Facilitator guide* is designed to assist in the conduct of in-depth participatory workshops for teaching institutions to develop plans to introduce IMCI into the teaching programmes. The guide, tested in an intercountry workshop in July 2009, includes detailed guidelines, presentations and tools to support this task.

2. *Teaching sessions* with lesson plans to support planning and conduct of IMCI-related teaching sessions within the paediatric and community medicine teaching programmes, describes the student learning objectives, content and procedures of each session. The content was thoroughly reviewed by an expert group in 2008.

3. *Guide to evaluation* is a comprehensive tool to assess whether IMCI pre-service education as a public health intervention improves students' competencies in managing main childhood health problems in outpatient settings. Extensively reviewed through expert consultations and tested in four medical schools, this guide comes with a *User guide to data entry and analysis* and a CD with the relevant e-forms and programme files.

4. *Question bank* is a resource library of multiple-choice questions and case scenarios suitable for evaluations of IMCI pre-service education and student formative and summative assessments. It has already been used to develop student knowledge tests for evaluations in two medical schools, in 2009.

5. *E-lectures*, on CD, provide standard technical content as a resource to support IMCI-related teaching.

6. *E-learning material for students*, on DVD, is designed to support students' learning at their own pace through an electronic, interactive medium.

5.2 Evaluation of IMCI pre-service education: regional work and the Sudan experience

The Evaluation Guide of the IMCI pre-service education package developed by the Regional Office provides a guide to planning and conducting evaluations of IMCI pre-service education experiences in institutions and countries, to assess whether IMCI as a public health intervention improves student competencies in managing main childhood health problems and promoting child health in outpatient settings and the community. Developed by the Eastern Mediterranean Region Technical Committee on the evaluation of IMCI pre-service education and peer-reviewed in expert consultations in Cairo (2006) and Tehran (2008) under guidance and coordination by the Child and Adolescent Health programme of the Regional Office, the Guide describes step-by-step how to evaluate the process followed to introduce and teach IMCI and its results, including teaching staff and student competencies. It provides all necessary details, from the identification of the teaching institution to evaluate, to arrangements in the school, developing the evaluation schedule, sampling the students and conducting the various evaluation activities at the institution. To facilitate the task, the Guide comes with a set of evaluation forms and a user guide to data entry and analysis with software for the analysis of assessment of student knowledge and skills. A separate Question Bank is a useful additional source of multiple-choice questions and case studies for the student knowledge test. The Regional Office has provided technical support to evaluation carried out in Alexandria University, Egypt (July 2006), Khartoum University, Sudan (August 2006), Mansoura University, Egypt (June 2009) and Gezira University, Sudan (December 2009). It has also built capacity for such evaluations in the Region through a training course held in Mansoura, Egypt, in June 2009, during which participants from different countries practised evaluation skills first in classroom sections and then participated in a real evaluation.

Sudan started efforts to introduce IMCI into pre-service medical education since 2001, when it established a medical education task force for this purpose. Since then, 23 of the 31 government and private medical schools have taken steps to introduce IMCI into their teaching programmes. After more than five years of implementation, the need was felt to assess the role of IMCI in improving student competencies in managing common problems in children under-five and clarify weaknesses and strengths to improve the overall teaching process. The Universities of Khartoum and Gezira, selected for the evaluations, had pioneered IMCI pre-service education in the country since 2001, represented two different curricula and approaches to IMCI teaching ("block" versus "scattered with synthesis block"), had a recognized role in medical education in the country and produced a large number of graduates each year. Moreover, the University of Gezira was considered a model for community-based teaching. Preparation for the evaluations followed the steps recommended in the WHO Regional Office Guide to Evaluation of IMCI pre-service education, including the preparation and review of all the necessary documents on teaching.

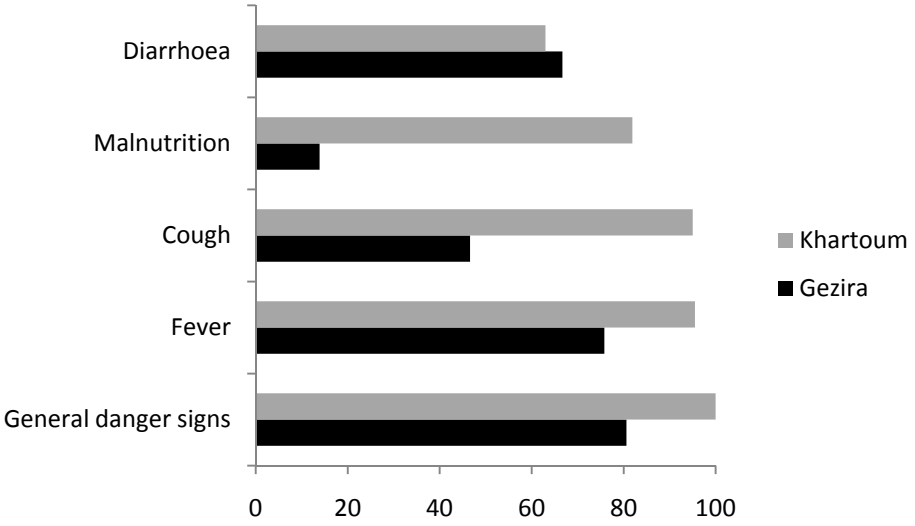


Figure 5. Assessment of student clinical skills (agreement of student classification of cases with observers) in Gezira and Khartoum Universities, Sudan

The results of student clinical performance (Figure 5 shows selected results on student classification of clinical cases) were interpreted together with the results on the quality of teaching in the two institutions and teacher and student attitudes towards IMCI teaching. At both universities, there was very good didactic and clinical teaching, although the need was identified for linking it more with classical teaching as a teaching continuum. At Khartoum University, some innovations had been introduced, with the skills laboratory training, students' seminars and assignments. At Gezira University, the need was found for young staff to be oriented for more focused teaching and use of WHO learning resources and for more coordination in teaching between the paediatric department and the community medicine department. Teachers' attitudes towards IMCI were in general positive: IMCI was seen to improve teaching sessions and student communication skills, provide standard, clear guidelines and standardization of child management approach, reduce admissions, and strengthen inter-departmental coordination and coordination with the ministry of health. Some duplication in teaching between paediatric and community medicine was reported, together with an inadequate outpatient set-up and lack of supervised activities at health centres. Students' attitudes were very positive: through IMCI they realized the importance of primary health care interventions and felt that the IMCI approach stimulated logical thinking. They also felt that outpatient sessions enabled them to face "real-life" situations and gain confidence in dealing with sick children and their caretakers. Students appreciated the variety of the teaching methods used, learning counselling skills and the conceptual framework which helped when studying other paediatric subjects. They also felt that the time allocated for counselling skills was inadequate and pointed to the lack of availability of learning materials.

The evaluation experience in the two universities was much appreciated and was deemed necessary to improve the teaching process. It included challenges such as the availability of funds, trained evaluators, coordination with the teaching programme for the preparation of the

evaluation schedule, and finally, the feasibility of conducting it periodically at regular intervals. The evaluations showed that IMCI improves the quality of teaching, quality of care and student communication skills. It was evident that, to succeed, IMCI teaching needed a supportive environment. Improved interdepartmental coordination and synchronization of activities was seen as useful for more effective IMCI teaching, together with making training materials, aids and references more available to students. The inclusion of IMCI in student examinations was a must to reinforce the perception of its importance. Regular updates on IMCI-related topics were critical as was training of teaching staff, improvement of outpatient set-up and supervised practice to complement outpatient sessions.

The evaluations led to some important actions. At the University of Khartoum, student assignments in the outpatient department in the evenings are supervised, IMCI learning resource materials are available in the library and skills laboratory, IMCI case scenarios are included in written examinations, OSCE stations and partnership with the ministry of health has been strengthened. At the University of Gezira, evaluation findings were discussed at the department board meeting, coordination between the department of paediatrics and the department of community medicine has been better organized, demonstrations sessions have been introduced to students before they start outpatient teaching sessions, teaching staff have been oriented to IMCI as paediatric outpatient teaching to be linked to classical teaching and, as in Khartoum University, IMCI has been introduced in student assessment in the form of multiple-choice questions and case scenarios.

6. REGIONAL AND GLOBAL UPDATES ON CHILD HEALTH

6.1 Regional work

Over the years, the Child and Adolescent Health programme of the Regional Office has conducted a substantial amount of development work to respond to needs expressed by countries in the Region. This work has led to the preparation of the “District planning guide” to guide planning workshops for IMCI implementation at district level, the implementation level, building capacity for planning at this level, involving district teams in decision-making on IMCI implementation and ensuring ownership of plans at this level.

Another important product has been the seven-day regional training course on counselling on infant and young child feeding, in Arabic, covering breastfeeding, complementary feeding and feeding of children in difficult circumstances (e.g. mothers with tuberculosis, AIDS, etc.). The course emphasizes skill acquisition, allocating more time to supervised practical and clinical sessions than other courses on feeding.

A remarkable new product resulting from a few years of developmental work and experience in the Region is the IMCI pre-service education package, described earlier (5.1), to guide countries and teaching institutions in their efforts to introduce IMCI into their teaching programmes.

Among the recent initiatives launched and supported by the Regional Office is the initiative on tele-consultation and continued medical education through videoconferences. This initiative which is currently being carried out in Siwa Oasis, in partnership with Alexandria University, the Ministry of Health of Egypt, ICT Trust Fund (a partnership between the Ministry of Communications and Information Technology and United Nations Development Programme or UNDP). UNDP and Vodafone Foundation aims at improving child care services in remote areas and strengthening paediatric teaching through e-health. It involves expanding the role of teaching staff beyond the walls of medical schools and provides continued medical education for physicians in remote areas.

6.2 Global updates

The updates given concerned the “Countdown to 2015: Tracking progress in maternal, newborn and child survival”, indicators on infant and child feeding practices and the child health financial situation. “Countdown” is a global movement which, through the use of country-specific data, tracks country progress towards MDG 4 and 5, including monitoring selected indicators (also for policies and health systems, financial flows and equity), and coverage of effective interventions to reduce maternal, newborn and child mortality. Through trend analysis, it makes recommendations on actions to accelerate progress towards the two MDGs. It brings together a variety of partners, from individuals (scientists, policy-makers, public health providers, communication experts, teachers, etc.), governments (policy-makers, members of parliament, etc.) and organizations (nongovernmental organizations, United Nations agencies, donors, medical journals, etc.). Countdown has produced a number of publications, such as reports, country profiles and published articles in medical journals, and held global conferences periodically. The country profiles are the core of Countdown monitoring efforts. They summarize in an effective, concise and graphic way latest coverage data and other key information (e.g. policies), showing the current situation and rate of progress and areas needing attention. Coverage indicators have been selected among those showing clear evidence of impact on maternal, neonatal and child mortality and which are also more easily understood by policy-makers.

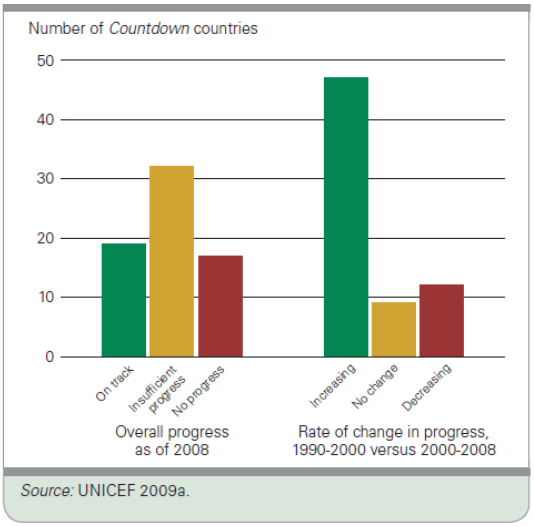


Figure 6. Number of "Countdown" countries

Data come from sources such as population-based surveys, interagency adjusted estimates (mortality, immunization, water and sanitation) and other sources. Countdown currently focuses on 68 countries in which 97% of maternal and child deaths occur world-wide. So far, Countdown data show that 19 (28%) of the 68 priority countries are on track to achieve MDG 4, 17 have been able to reduce child mortality by at least 50% and 47 have accelerated progress in mortality reduction since 2000.

Indicators to assess infant and young child feeding practices have been updated recently. These indicators play an important role, as feeding practices directly affect the child nutritional status of children under two years of age, ultimately impacting on child survival, growth and development. A core of key indicators is recommended, including those shown below. Another set of indicators is presented as "optional". Some definitions of existing indicators have been modified while new indicators have been added. The publication "Indicators for assessing

Key indicators

- Early initiation of breastfeeding
- Exclusive breastfeeding under six months
- Continued breastfeeding at 1 year (12–15 months)
- Introduction of solid, semi-solid or soft foods
- Minimum dietary diversity
- Minimum meal frequency
- Minimum acceptable diet
- Consumption of iron-rich or iron-fortified foods.

Optional indicators

- Children ever breastfed
- Continued breastfeeding at 2 years (20–23 months)
- Age-appropriate breastfeeding
- Predominant breastfeeding under 6 months
- Duration of breastfeeding
- Bottle feeding
- Milk feeding for non-breastfed children.

infant and young child feeding practices"[4] provides definitions (Part I: "Definitions"), tools for collection and calculation of the indicators (Part II: "Measurement") and information on feeding practices in 46 countries (Part III: "Country profiles").

There is no doubt that this is an age when there is a high commitment to child health, as shown for example by the MDG 4, WHO resolutions, national strategies and policies and UN strategies on women and children, and partnerships. Greater resources are being pledged, or allocated, to address neonatal and child health. An internal, informal analysis of trends in funds which came in to the Child and Adolescent Health programme from 2004 to 2011 (four financial biennia) shows overall a significant decrease, starting from the biennium 2006–2007, further accentuated in the last biennium. Another negative trend within this context of reduced funding has been, among voluntary contributions, the dramatic reduction of unspecified funds–those managed by WHO based on identified priorities–with a proportional increase in specified funds–those provided by donors for a specific purpose, a trend which substantially limits WHO's flexibility in using available resources to respond to country needs. In this scenario, it becomes increasingly important to access other funding sources which may be used also to support child health activities, e.g. The Global Fund to fight AIDS, Tuberculosis and Malaria, GAVI-health system strengthening, etc. Countries should increasingly be looking for these funding opportunities, be creative and proactive.

7. MOVING THE CHILD HEALTH AGENDA FORWARD IN THE REGION: CONCLUSIONS AND RECOMMENDATIONS

- There has been progress towards MDG 4 in the Region with an overall reduction of 30% in under-five mortality between 1990 and 2009. Three countries, notably Egypt, Lebanon and Oman, have already surpassed MDG 4, five countries are on track and the rest are making insufficient progress (some countries in the Region have already achieved a low level of under-five mortality).

- Overall, there is progress in IMCI implementation in the Region. Five countries are close to achieving universal coverage. However, progress of IMCI implementation in other countries is slow and it would take many years for them to achieve universal coverage at the current pace of implementation.

- Lack of supportive child health policies and of action-oriented commitment to child health, including IMCI implementation, inadequate country plans to achieve universal coverage, high turnover of programme managers, insufficient data and lack of human and financial resources are main factors that have adversely affected IMCI scaling up.

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[4] Indicators for assessing infant and young child feeding practices, WHO, 2008, available at http://www.who.int/child_adolescent_health/documents/9789241596664/en/index.html (accessed 15 March 2011).

- There has been a decreasing trend of funds allocated to child health, by countries and given to WHO, while on the other hand, more opportunities to access funds for child health have become available in countries through bilateral cooperation and global initiatives.

- Data are often not perceived as an important element of programming and are not adequately used to guide prioritization and decision-making.

- The web-based IMCI information system developed by the Regional Office is an initiative that has been welcomed by the participants.

- Child health country profiles developed by national teams are useful tools to monitor progress of child health interventions, and for advocacy and resource mobilization.

- The community health worker-based initiative and the integrated outreach activities–as in the Yemen experience–have been recognized by the country representatives as effective interventions to increase access to quality child health care.

- Establishing effective partnership is critical for the development of one national plan, to harmonize interventions and maximize the use of available resources to achieve national goals.

- There is consensus that incorporating IMCI into pre-service education is a key approach to sustaining IMCI implementation and strengthening outpatient teaching and community medicine.

- Lack of attention and support to the recommendations made by country delegations in WHO meetings based on a thorough review of situation and intensive discussions of possible solutions is likely to contribute to the lack of progress in child health and towards MDG 4.

- By the end of the meeting, country, WHO and partner delegations agreed on the following recommendations.

To Member States

1. Make policy decisions to position and support child health, including IMCI, as a top priority in their public health agenda within primary health care and incorporate IMCI into national health/development plans and strategies.
2. Develop one national plan to achieve IMCI universal coverage and accelerate progress towards MDG 4.
3. Be creative and proactive in tapping resources available within countries and negotiate to incorporate IMCI into projects and initiatives funded by international and bilateral partners, e.g. GAVI-health system strengthening, Global Fund to Fight AIDS, Tuberculosis and Malaria.

4. Improve data collection on IMCI implementation and child health interventions from the district and provincial levels to enhance planning at implementation level, also using the Regional Office web-based IMCI information system after sharing updated electronic maps.
5. Plan for the expansion and sustainability of IMCI pre-service education, improve its quality, support coordination mechanisms and integrate IMCI into the internship programme.
6. Review and finalize specific actions identified in the meeting and incorporate them into existing national plans.

To WHO Regional Office

7. Advocate with ministers of health through a Regional Director's letter and during ministerial meetings to reconfirm their commitment to child health and support to IMCI implementation to achieve universal coverage by 2015.
8. Support countries in mobilizing resources for child health.
9. Assist countries in gathering the evidence of effectiveness of IMCI through reviews and surveys and share success stories, such as those of countries that have achieved IMCI universal coverage and MDG 4, so that other countries can benefit from those experiences.
10. Finalize the web-based IMCI information system and the related guidelines and train national teams on its use.
11. Provide the required technical assistance, including guidelines, to update or develop national child health country profiles.
12. Finalize the community health worker implementation framework and training package and make it available to countries by the beginning of 2011.
13. Provide required technical support to evaluate and strengthen IMCI pre-service education and distribute the IMCI pre-service education package to interested countries and teaching institutions in 2011.
14. Continue providing required technical support to countries through country visits and coordinate an exchange of experience among countries.
15. Follow-up the finalization and implementation of the country plans and recommendations of this meeting.

Annex 1

Programme

Monday, 6 December 2010

08:00–09:00	Registration
09:00–10:30	Inauguration session: Regional Director's message Minister of Health's speech Introduction to the meeting (Dr Haifa Madi, DHP/EMRO) Progress and challenges of child health in the Region (Dr Suzanne Farhoud, RA/CAH/EMRO)

Session 1. Data: key to monitoring progress, planning and advocacy

11:00–12:00	Progress towards MDG 4, Dr Sergio Pièche, MO/CAH/EMRO
12:00–12:30	Documentation of IMCI: an experience from Egypt (Dr Mona Rakha, MOH/Egypt) Discussion Child health country profiles (Dr Cynthia Boschi-Pinto, CAH/HQ) Discussion
12:30–15:00	Group work 1a: reporting data: tools and mechanisms Presentation of the tools (Eng. Ahmad Bayoumi, EST/EMRO) Group work
15:00–16:30	Group work 1b: preparatory steps for the development of child health country profiles Introductory presentation Group work

Tuesday, 7 December 2010

Session 2. Increasing access to child health care (including universal coverage) and sustaining achievements:
1. Community-based child health care
2. Integrated mobile child health team

09:00–09:15	Community-based child health care: framework for implementation (Dr Suzanne Farhoud, RA/CAH/EMRO)
09:15–09:30	Community-based child health care: regional training package (Dr Sergio Pièche, MO/CAH/EMRO) Discussion
09:30–10:30	Country experience in increasing access to child care: reaching out to the community (Dr Najeb Khalil Al-Qubati, MoPHP/Yemen) Discussion
10:30–11:30	Regional updates (Dr Suzanne Farhoud, RA/CAH/EMRO) Discussion
11:30–12:00	Global updates: Countdown to 2015, feeding indicators and perspectives on child health financial situation (Dr Samira Aboubaker, CAH/HQ) Discussion

3. Partnership

12:00–12:15	Regional experience on partnership (Dr Suzanne Farhoud, RA/CAH/EMRO)
12:15–13:00	Experiences with partnership: country experience on partnership (Dr Ahmed Shadoul, MO/WHO/Pakistan) Discussion
13:00–14:00	Group work 2: overcoming challenges to partnership
15:00–16:00	Group presentations Discussion

Wednesday, 8 December 2010

4. IMCI pre-service education

09:00–09:30	-	IMCI pre-service education: regional updates (Dr Suzanne Farhoud, RA/CAH/EMRO)
	-	Discussion
09:30–10:00	-	Evaluation of IMCI pre-service education for undergraduates: guide and progress (Dr Sergio Pièche, MO/CAH/EMRO)
	-	Discussion
10:00–11:00	-	Country experience in evaluation of IMCI pre-service education: Progress and implications (Professor Zein Karrar, Chairperson, National IMCI Pre-service Education Task Force, Sudan)
	-	Discussion
11:00–13:00	-	Group work 3: Ensuring sustainability and quality teaching in IMCI pre-service education.
13:00–15:00	-	Group presentations

5. Concrete actions to addresses challenges

15:00–16:30	Group work 4:	
	-	Introduction to the group work: challenges in achieving and sustaining universal coverage (CAH/EMRO)
	-	Group work
	-	Group presentations

Thursday 9 December 2010

09:00–09:30	-	Moving forward the child health agenda in the Region (CAH/EMRO)
	-	Discussion
09:30–12:00	-	Group work 5: How to move forward – Country teams
12:00–13:00	-	Preparation of conclusions and recommendations
13:00–14:00	-	Conclusions and recommendations
14:00–14:30	-	Closing

Annex 2

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* Unable to attend

Annex 3

INDICATORS FOR ASSESSING INFANT AND YOUNG CHILD FEEDING PRACTICES

Core indicators

1. **Early initiation of breastfeeding:** Proportion of children born in the last 24 months who were put to the breast within one hour of birth.
2. **Exclusive breastfeeding under 6 months:** Proportion of infants 0–5 months of age who are fed exclusively with breast milk.
3. **Continued breastfeeding at 1 year:** Proportion of children 12–15 months of age who are fed breast milk.
4. **Introduction of solid, semi-solid or soft foods:** Proportion of infants 6–8 months of age who receive solid, semi-solid or soft foods.
5. **Minimum dietary diversity:** Proportion of children 6–23 months of age who receive foods from 4 or more food groups.
6. **Minimum meal frequency:** Proportion of breastfed and non-breastfed children 6–23 months of age who receive solid, semi-solid, or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more.
7. **Minimum acceptable diet:** Proportion of children 6–23 months of age who receive a minimum acceptable diet (apart from breast milk).
8. **Consumption of iron-rich or iron-fortified foods:** Proportion of children 6–23 months of age who receive an iron-rich food or iron-fortified food that is specially designed for infants and young children, or that is fortified in the home.

Optional indicators

9. **Children ever breastfed:** Proportion of children born in the last 24 months who were ever breastfed.
10. **Continued breastfeeding at 2 years:** Proportion of children 20–23 months of age who are fed breast milk.
11. **Age-appropriate breastfeeding:** Proportion of children 0–23 months of age who are appropriately breastfed.
12. **Predominant breastfeeding under 6 months:** Proportion of infants 0–5 months of age who are predominantly breastfed.
13. **Duration of breastfeeding:** Median duration of breastfeeding among children less than 36 months of age.
14. **Bottle feeding:** Proportion of children 0–23 months of age who are fed with a bottle.
15. **Milk feeding frequency for non-breastfed children:** Proportion of non-breastfed children 6–23 months of age who receive at least 2 milk feedings.