WHO/UNICEF JOINT STATEMENT

Integrated Community Case Management (iCCM)

An equity-focused strategy to improve access to essential treatment services for children

World Health Organization

unicef

This statement presents the latest evidence for integrated community case management (iCCM) of childhood illness, describes the necessary programme elements and support tools for effective implementation, and lays out actions that countries and partners can take to support the implementation of iCCM at scale.

Bringing treatment closer to home

Despite the progress made in reducing under-five mortality, three quarters of under-five deaths are still due to a handful of causes – specifically, pneumonia, diarrhoea, malaria and newborn conditions. Malnutrition is associated with about one third of the deaths.

The correct treatment of childhood pneumonia, diarrhoea and malaria is one of the most powerful interventions to reduce mortality.[1] However, in most high-mortality countries, facility-based services alone do not provide adequate access to treatment,[2,3] and most importantly, not within the crucial window of 24 hours after onset of symptoms. If child mortality is to be adequately addressed, the challenge of access must be taken on.

Community health workers – appropriately trained, supervised and supported with an uninterrupted supply of medicines and equipment – can identify and correctly treat most children who have the conditions mentioned above.[4,5] In 2004, the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) issued joint statements on the management of pneumonia in community settings[6] and the clinical management of acute diarrhoea,[7] both of which highlighted the important role of community-based treatment. A recent review by the Child Health Epidemiology Reference Group (CHERG) estimated that community management of all cases of childhood pneumonia could result in a 70 per cent reduction in mortality from pneumonia in children less than 5 years old.[8] Community case management (CCM) of malaria can reduce overall and malaria-specific under-five mortality by 40 and 60 per cent, respectively, and severe malaria morbidity by 53 per cent.[9,10] Oral rehydration salts (ORS) and zinc are effective against diarrhoea mortality in home and community settings, with ORS estimated to prevent 70 to 90 per cent of deaths due to acute watery diarrhoea,[11] and zinc estimated to decrease diarrhoea mortality by 11.5 per cent.[12]

For these reasons, UNICEF, WHO and partners working in an increasing number of countries are supporting the iCCM strategy to train, supply and supervise front-line workers to treat children for both diarrhoea and pneumonia, as well as for malaria in malaria-affected countries, using ORS and zinc, oral antibiotics, and artemisinin-based combination therapy (ACT). In addition, the availability of high-quality rapid diagnostic tests for malaria (RDTs) has made it possible to test for malaria at the community level. RDT use will make the need for high-quality integrated treatment, including iCCM, even more pressing, to ensure adequate health worker response to febrile children with or without malaria. Finally, iCCM also enables community health workers to identify children with severe acute malnutrition through the assessment of mid-upper-arm circumference (MUAC).

Current context

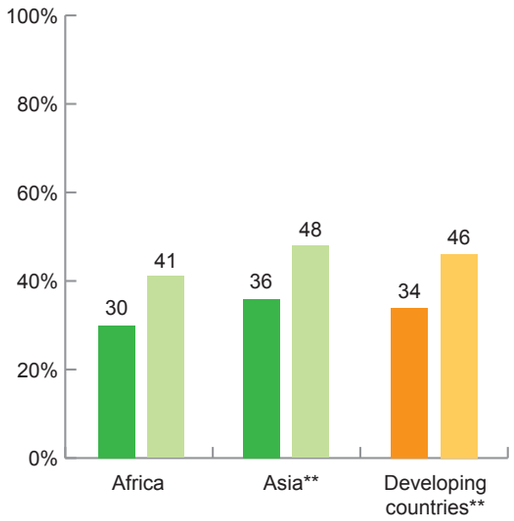
The number of children dying worldwide continues to decrease, and while this is encouraging, the decline has been slow, stagnating or even reversing in many countries, particularly in sub-Saharan Africa. While new preventive interventions – especially pneumococcal conjugate and rotavirus vaccines – will also help reduce mortality, prompt and effective treatment of pneumonia, diarrhoea and malaria remains essential.

The delivery of health services is often weakest where the needs are greatest, and low coverage of the most needed interventions results in a significant unmet need for treatment of these major child killers. In developing countries, current treatment levels are unacceptably low:

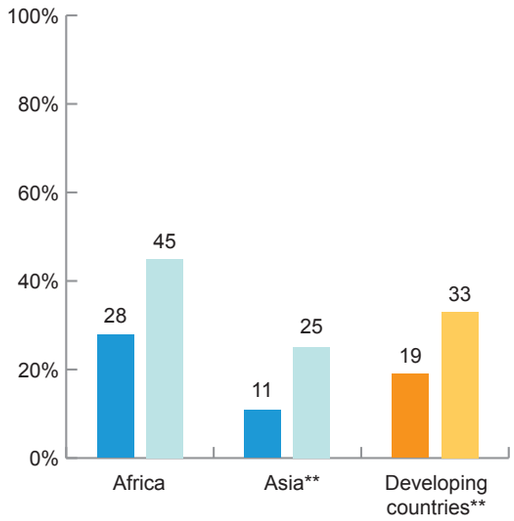
- Only 39 per cent of children receive correct treatment for diarrhoea.[13]
- Only 30 per cent of children with suspected pneumonia receive an antibiotic.[14]
- Less than 20 per cent of children with fever in sub-Saharan Africa received a finger/heel stick for malaria testing, in 11 out of 13 countries with available data in the region.[15]

Poor and disadvantaged children without access to facility-based case management are at even greater risk, as shown in the following figure.

Proportion of children aged 0–59 months with diarrhoea receiving oral rehydration therapy* with continued feeding, 2006–2011



Proportion of children aged 0–59 months with suspected pneumonia receiving antibiotics, 2006–2011



Notes: Estimates are based on a subset of 59 countries for ORT+CF and 34 countries for the antibiotics indicator, with wealth data for the period 2006–2011 covering 65 per cent and 50 per cent, respectively, of the total under-five population in developing countries (excluding China, for which comparable data are not available).

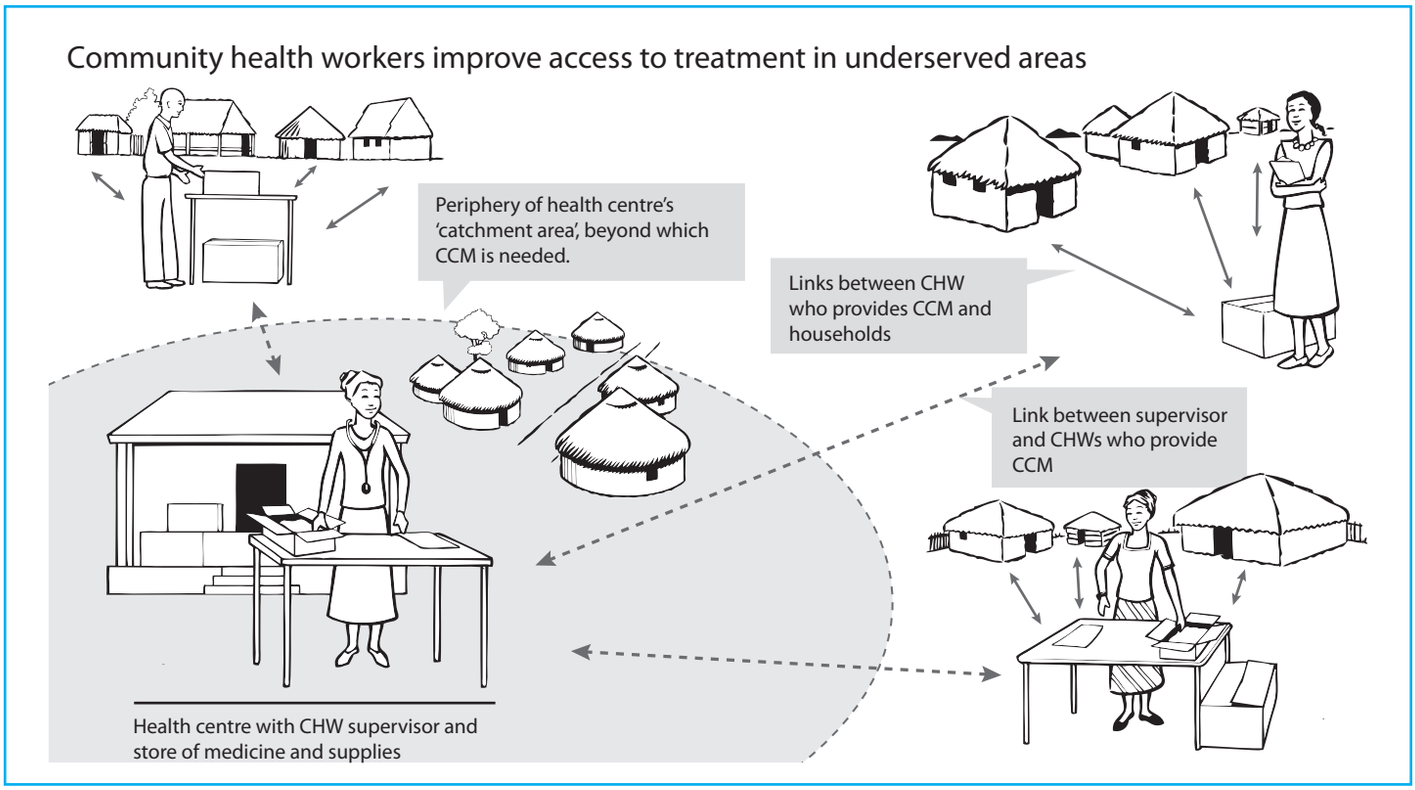
* Refers to ORS packets, recommended home-made fluids or increased fluids.
** Excludes China.

Source: UNICEF global databases, 2012.

Justification for iCCM

Programmatic experience shows that an integrated strategy can be effective in achieving high treatment coverage and delivering high-quality care to sick children in the community. In Nepal, which has more than 20 years of experience in community-based management of child illness, 69 per cent of the under-five population has access to treatment,[16] and both the case fatality rate for acute diarrhoea and the proportion of severe pneumonia among acute respiratory infection cases across the country have decreased significantly.[17] In Ghana, 92 per cent of caregivers of sick children sought treatment from community-based agents trained to manage pneumonia and malaria. Indeed, most sought care for their children within 24 hours of onset of fever.[18] In Zambia, a CCM study on pneumonia and malaria found that 68 per cent of children with pneumonia received early and appropriate treatment from community health workers, and that overtreatment of malaria significantly declined.[19] In Ethiopia, workers deployed in remote communities delivered two and a half times as many treatments for the three diseases than all the facility-based providers in the same district.[20] The proportion of children receiving ACTs globally is also increasing, although significant gaps remain.[21]

With adequate training and supervision, community health workers can retain the skills and knowledge necessary to provide appropriate care. In Malawi, 68 per cent of classifications of common illnesses by Health Surveillance Assistants were in agreement with assessments done by physicians, and 63 per cent of children were prescribed appropriate medication.[22]



Deploying community health workers can increase coverage and access to treatment

Community health workers are an effective option for investment as part of a comprehensive primary health care system. However, community case management should not be viewed as an inexpensive or low-cost measure. Effective implementation requires policy support, training, supervision, performance maintenance and regular supplies. In addition, community health workers are increasingly responsible for many health and development tasks, and expansion of their duties needs to be carefully considered in this light.

Countries that decide to deploy community health workers to increase coverage of iCCM should:

Examine the policy options: Existing policies may need to be modified, or new policies put in place, to allow non-medical community health workers to administer antibiotics.

Build on existing programmes and initiatives: In many countries, community-based programmes for single diseases, such as malaria, have been institutionalized and even scaled up. In these cases, the experience gained from malaria management can serve as a foundation to which the case management of pneumonia and diarrhoea can be added.

Ensure the quality of care: Community health workers need support to maintain and enhance their skills in assessing and managing child illness. Refresher training should be undertaken at periodic intervals, and supportive supervision needs to be planned and carried out on a regular basis. New approaches – such as peer supervision, clinical mentoring and the use of electronic devices (e.g., cell phones and DVDs) – are being used or tried out in some situations.

Ensure adequate and uninterrupted supplies and medicines: It is critical that medicines for iCCM meet the particular needs of young children and their families, and that appropriate formulations, dosages and packaging designed to improve adherence are utilized. Coordinated efforts to consolidate systems and support the supply chain management function can be aided by a functioning logistics management information system.

Monitor and assess: A systematic approach to gathering, aggregating, analysing and reporting data will serve to map and identify key gaps in treatment coverage. Analysis of national and sub-national data related to causes of death, patterns of care-seeking, coverage of interventions, quality of care and other key indicators can help identify where deployment of community health workers for iCCM may be most effective.

Implementation support tools

Training in clinical skills: WHO and UNICEF have developed an integrated package to train community health workers to manage illness in children 2 to 59 months of age. *Integrated Management of Childhood Illness: Caring for Newborns and Children in the Community* is the 'gold standard' training package for iCCM. The interventions require the use of four low-cost medicines and one test: an antibiotic, an antimalarial, ORS, zinc treatment and RDTs. In addition, the guidelines support an assessment using the MUAC strip. The sequence to be followed by the community health worker is based on the principle that 'one observation leads to one action', and does not depend on individual judgment.

Programme management: The CORE Group of non-governmental organizations (NGOs), with support of the United States Agency for International Development (USAID), published *Introduction to Community Case Management Essentials: A guide for program managers*, which contains guidance for iCCM. WHO produced a five-day training course, 'Managing Programmes to Improve Child Health', which includes CCM as a crucial ingredient in national child health programming.

These and other tools are available online at <www.CCMCentral.com>. This website, set up by the global CCM Task Force, is a virtual resource centre for iCCM tools and information, including relevant publications and case studies.

Current treatment recommendations

☐ If **diarrhoea** (less than 14 days AND no blood in stool)	☐ **Give oral rehydration salts (ORS).** Help caregiver give child ORS solution in front of you until child is no longer thirsty. ☐ **Give caregiver 2 ORS packets to take home.** Advise to give as much as child wants, but at least 1/2 cup of ORS solution after each loose stool. ☐ **Give zinc supplement.** Give 1 dose daily for 10 days: ☐ Age 2 to 6 months — 1/2 tablet (total 5 tabs) ☐ Age 6 months to 5 years — 1 tablet (total 10 tabs)
☐ If **fever** (less than 7 days) in a malaria-endemic area	☐ **Do a rapid diagnostic test (RDT).** __Positive __Negative ☐ **If RDT is positive, give oral antimalarial artemether-lumefantrine (AL).** Give twice daily for 3 days: ☐ Age 2 months to 3 years — 1 tablet (total 6 tabs) ☐ Age 3 to 5 years — 2 tablets (total 12 tabs)
☐ If **fast breathing**	☐ **Give oral antibiotic** (250 mg amoxicillin tablet). Give twice daily for 5 days: ☐ Age 2 to 12 months — 1 tablet (total 10 tabs) ☐ Age 12 months to 5 years — 2 tablets (total 20 tabs)

Source: Adapted from World Health Organization, *Integrated Management of Childhood Illness: Caring for Newborns and Children in the Community*, WHO, Geneva, 2011.

One potential model for such an approach is the Expanded Programme of Immunization's 'Reaching Every District' strategy. Through this approach, data on the number of children receiving appropriate treatment for pneumonia, diarrhoea and malaria could be made available to respond to surges in the number of cases and to assess performance, adjust strategies and monitor supplies.

WHO, UNICEF and partners will support ministries of health in all these steps

A systematic set of benchmarks is shown on page 6. These will, among other things, help identify research priorities, determine the support needed for operational and implementation research activities, and document and disseminate good practices from current and emerging iCCM implementation.

Benchmarks for implementation

Country-level planning, implementation, monitoring and assessment of iCCM activities can be facilitated using a set of benchmarks (available at <www.CCMCentral.com>) that were developed by an inter-agency team.[23] These benchmarks are organized according to eight system components, each of which contains key activities and milestones to guide the process:

1. **Coordination and policymaking:** Needs assessment and situation analysis for community-based treatment services, including geographical mapping of communities suitable for iCCM; national policies and guidelines in place to allow treatment at the community level; mapping of current CCM activities and partners; and a national coordination mechanism for iCCM.
2. **Costing and financing:** Costing exercise to ensure that necessary financing is secured.
3. **Human resources:** Clear and well-articulated roles and expectations for community health workers and communities; comprehensive basic and refresher training plan for community health workers; and strategies for retention and motivation.
4. **Supply chain management:** Appropriate 'child-friendly' medicines and supplies for iCCM included in the national essential medicines list; and procurement plan, inventory control, resupply logistics system and logistics management and information system (LMIS) for iCCM, with standard operating procedures.
5. **Service delivery and referral:** Appropriate guidelines for clinical assessment, diagnosis, management and referral, including plans for rational use of medicines (and RDTs where applicable); and referral and counter-referral system for iCCM.
6. **Communication and social mobilization:** Communication and social mobilization plan and strategy; and materials and messages for iCCM.
7. **Supervision and performance quality assurance:** Plan and appropriate tools to support effective supervision; trained supervisors; and resources (e.g., vehicles, fuel) to conduct supervision and provide skills coaching to community health workers.
8. **Monitoring and evaluation and health information systems:** Comprehensive monitoring framework and system for all CCM components, integrated within the national health sector plan and health information system; and operational research agenda for iCCM.

Conclusion

Accelerated action against the main child killers is imperative as countries work to reduce the under-five mortality rate by two thirds in order to achieve the fourth Millennium Development Goal by 2015. Action includes reaching out to underserved populations to provide them with the essential health services they need. Appropriately trained and equipped community health workers, provided with the necessary system supports, can deliver iCCM for malaria, pneumonia and diarrhoea as an effective intervention that increases access to and availability of treatment services for children. WHO and UNICEF support iCCM as an essential strategy that can both foster equity and contribute to sustained reduction in child mortality.

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Community case management worker and supervisor with a mother and child in Kantenje village clinic in Ntchisi District, Malawi. © Save the Children, Essau Mwale

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