

WHO/UNICEF JOINT STATEMENT



MANAGEMENT OF PNEUMONIA IN COMMUNITY SETTINGS



World Health
Organization

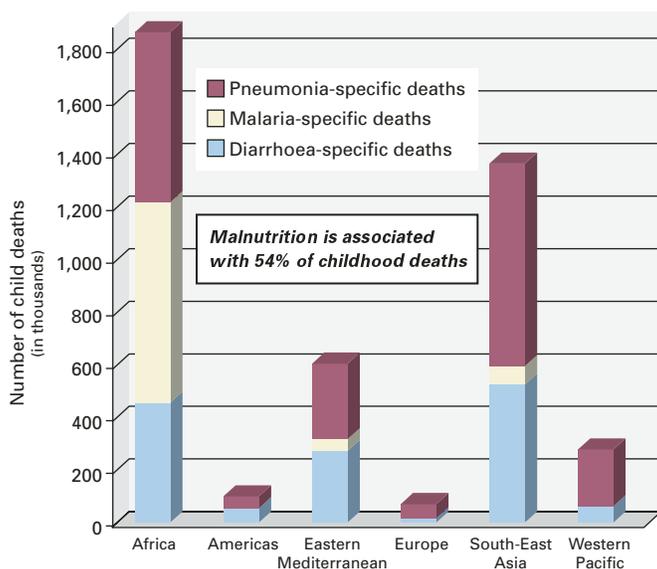


Pneumonia remains a major killer of children under five years of age. The best way to reduce pneumonia-related mortality is to provide effective treatment promptly. A meeting of experts, national and international agencies, a meta-analysis of trials, and a comprehensive review of community treatment programmes all came to the same conclusion: Pneumonia can be effectively treated in the community. UNICEF and WHO therefore recommend that community-level treatment be carried out by well-trained and supervised community health workers.

LEADING CAUSE OF DEATH AMONG UNDER-FIVES

Pneumonia accounts for nearly one fifth of childhood deaths worldwide, with approximately 2 million children under five dying each year. The majority of deaths occur in Africa and South-East Asia.

Annual child deaths from pneumonia, malaria and diarrhoea, by WHO region



Sources: For total mortality, estimates from 'Proportionate mortality among under fives by region, 2000', Ahmad, O. B., A. D. Lopez and M. Inoue, 'The Decline in Child Mortality: A reappraisal', *Bulletin of the World Health Organization*, vol. 78, no. 10, 2000. For proportionate mortality, estimates from *The World Health Report 2003*, World Health Organization, Geneva, 2003. For malnutrition, Pelletier, D.L., E.A. Frongillo, and S.P. Habicht, 'Epidemiological evidence for a potentiating effect of malnutrition on child mortality', *American Journal of Public Health*, vol. 83, no. 8, August 1993, pp. 1130-1133.

Note: The figures for proportionate mortality related to children under five are currently under review by UNICEF and WHO.

THREE STRATEGIES TO REDUCE PNEUMONIA MORTALITY

In addition to preventive interventions such as routine vaccination, exclusive breastfeeding and complementary feeding, three main treatment strategies that rely on community capacity development can reduce pneumonia mortality in developing countries.

- **Improving quality of care at first-level public health facilities and ensuring they are financially, logistically and geographically accessible.** Even then, there may be barriers preventing parents from using the facilities.
- **Improving quality of care in the private sector.** In many settings, especially in urban areas, children are often treated in the private sector. Although active collaboration between public and private sector is a relatively new strategy, and there is no conclusive evidence showing which approach is most effective, interventions involving private practitioners should continue to be pursued.
- **Increasing access to quality care can be achieved through community-based care.** Community health workers can be trained to assess sick children for signs of pneumonia; select appropriate treatments; administer the proper dosages of antibiotics; counsel parents on how to follow the recommended treatment regimen and provide supportive home care; and follow-up sick children and refer them to a health facility in case of complications. There is

strong scientific and programmatic evidence to support the effectiveness of this approach.

MANY SICK CHILDREN ARE NEVER BROUGHT TO HEALTH FACILITIES

Utilization of health facilities remains low in many parts of the world and children are treated at home, through the informal sector or by traditional healers. Studies consistently confirm that many sick children do not reach health facilities, and children from poorer families are even less likely to obtain care. In **Bangladesh**, for example, only 8 per cent of sick children are first taken to appropriate health facilities.¹ A study in **Bolivia** found that 62 per cent of children who subsequently died had not been taken to a formal health-care provider while ill²; a similar study in **Guinea** found that of children who died, 61 per cent had not been seen by a formal health-care provider.³ A recent study found that in **the United Republic of Tanzania**, 41 per cent of sick children are taken to appropriate health facilities, and that children of poorer families are less likely to receive antibiotics for pneumonia or antimalarials.⁴

NEED FOR PROMPT TREATMENT

Prompt and effective treatment with antibiotics often involves bringing treatment closer to where the sick children are. Preventive measures such as vaccination against measles, pertussis and *Haemophilus influenzae* type b, and improved nutrition – including breastfeeding and micronutrient supplementation – can help decrease the incidence and lessen the severity of respiratory infections. Newer vaccines against respiratory infections are not widely available in developing countries and target only a limited spectrum of causes of pneumonia. However, more effective prevention measures are currently being sought.

TREATMENT IN THE COMMUNITY SIGNIFICANTLY REDUCES MORTALITY

When children suffering from pneumonia are treated promptly and effectively with antibiotics their chances of survival increase significantly. Early intervention



studies and subsequent research show that case management by community health workers has a significant impact on both overall and pneumonia-specific under-five mortality. A recent meta-analysis of community-based pneumonia case management studies estimated a 20 per cent reduction in all-cause under-one mortality, and a 24 per cent reduction in all-cause under-five mortality.⁵

Studies show that community health workers can effectively manage uncomplicated pneumonia in the community. The case management they performed included classifying respiratory infections based on respiratory rates and lower chest indrawing, treating non-severe pneumonia with antibiotics, and referring severe pneumonia cases, where possible.

PROGRAMME COMPONENTS REQUIRED

Effective community treatment of pneumonia requires knowledge of the community, adequate training of community health workers, support, supervision and close links with functional health centres that have skilled professional staff, and adequate drug supplies. National policies are needed that support identification and treatment of pneumonia by community health workers, authorize the use of appropriate antibiotics in the community, and reinforce the link between community health workers and health facilities. Supervision structures, health information systems, referral mechanisms and drug supply chains all require strong relationships between health systems and community health workers. Programme activities must include procedures for monitoring the coverage and quality of services provided by community health workers.

USE OF ANTIBIOTICS IN THE COMMUNITY

Health specialists are often concerned about whether antibiotics can be safely given in the community, specifically:

- Can community health workers classify and differentiate among conditions requiring antibiotic treatment?
- Can they dispense antibiotics appropriately?
- Do caregivers provide children with the full course of treatment?

Community-based programmes that treat pneumonia have shown that monitoring the quality of care to ensure that antibiotics are being used appropriately is effective and feasible. In a large-scale programme in **Nepal**, quality of care is monitored through record reviews and direct observation of community-based workers' assessment and treatment of sick children. In 80 per cent of cases appropriate care was given, including the correct treatment regimen, and in less than 3 per cent of cases antibiotics were incorrectly recommended.⁶

Approaches to promoting the appropriate use of antibiotics in the community, including adherence to treatment regimens in the home, need further evaluation. In community-based malaria programmes, providing caregivers with clear, illustrated instructions describing the required drug regimens has improved compliance. Pre-packaged antibiotic treatment or blister packs, which contain the full drug regimen, may be an effective strategy to increase appropriate dispensing practices and facilitate adherence to treatment at home.

Adherence may also improve if community health workers counsel caretakers on how to administer drug regimens and on the importance of taking the full course of antibiotics. Ongoing evaluations and operational research will help identify and improve strategies that encourage the appropriate use of antibiotics and improve access to quality care.

LARGE-SCALE, SUSTAINABLE COMMUNITY-LEVEL TREATMENT

Community-level treatment of pneumonia can be widely implemented and is sustainable. Below are examples of community-based programmes that include pneumonia treatment and cover large proportions of the target population. Strong government commitment and solid collaboration between communities and external partners have helped these programmes achieve greater scale.

- In Africa, **the Gambia** has a nationwide programme addressing pneumonia in the community. In the Siaya District of **Kenya**, a non-governmental organization-led programme includes the treatment of pneumonia and other childhood diseases by community health workers and operates effectively. In other African countries, operational research to demonstrate the feasibility and efficiency of community management of acute respiratory infections is being conducted.
- In **Honduras**, pneumonia treatment has been incorporated into the national integrated community

child-care programme (Atención Integral a la Niñez en la Comunidad, AIN-C). Community volunteers provide growth monitoring, health education and treatment of pneumonia and diarrhoea in more than 1,800 communities.

- In **Nepal**, the ARI Strengthening Programme was implemented by the Ministry of Health in 1993. The programme, based in the community, uses trained female community health volunteers to detect and treat pneumonia. Supported by donors and non-governmental organizations, the programme has expanded to cover more than one third of the country's under-five population.
- The Lady Health Worker programme in **Pakistan** employs some 69,000 women who work in communities providing education and health services, including management and treatment of childhood pneumonia, to over 30 million people.

Programmes that provide treatment of pneumonia in the community can be sustainable. The programmes in Nepal and Pakistan have both been in operation for more than 10 years.

OTHER COMMON CHILDHOOD ILLNESSES

CLINICAL OVERLAP OF PNEUMONIA AND MALARIA

In areas where malaria is also a major cause of sickness and death among young children, there is a substantial overlap in the clinical presentations of malaria and pneumonia. For both diseases, fever is present in the majority of cases. A fever or a history of fever may be sufficient criteria to treat with antimalarials in malaria-endemic areas, but these



treatment criteria are not specific enough to rule out other diseases such as pneumonia. A raised respiratory rate is used to classify the severity of respiratory infections. However, malaria episodes may also be associated with a cough and a raised respiratory rate in some children. In malaria-endemic areas, a child classified as having pneumonia, based on a raised respiratory rate or chest indrawing, or both, might also have malaria.

CHILDREN MAY HAVE MORE THAN ONE ILLNESS

Episodes of pneumonia commonly occur along with diarrhoeal illnesses, and mortality in children sick with both pneumonia and diarrhoea is greater than mortality from either illness alone. In areas where malaria is common, children may have concurrent malaria and pneumonia infections that both require treatment. For example, in **Uganda**, 30 per cent of children under five years old who came to a health centre had symptoms compatible with both pneumonia and malaria, necessitating treatment for both illnesses. Of those children with a fever, which in a high-risk setting like Uganda means a diagnosis of malaria, 37 per cent also satisfied the case definition for pneumonia.⁷

WHAT COUNTRIES CAN DO

COUNTRIES CAN REDUCE PNEUMONIA-RELATED MORTALITY IN COMMUNITY SETTINGS BY:

1. Adopting and promoting policies that

- Support the role of community health workers to identify and treat pneumonia with antibiotics under appropriate monitoring and supervision, promoting close linkages with health facilities
- Authorize the use of antibiotics by trained community health workers
- Strengthen regulatory and quality controls for the distribution and appropriate use of antibiotics
- Encourage families to seek care from trained community health workers for management of children with pneumonia.

2. Providing the resources needed for community health programmes for

- Training of existing or new community health workers in pneumonia case management, counselling and referral
- Adequately supervising community health workers' pneumonia case-management activities
- Strengthening drug supply systems, ensuring the consistent availability of antibiotics and monitoring their use
- Monitoring and evaluating community health worker programme activities.

3. Defining and clarifying

- The role of community health workers within the health system, including providing treatment and promoting care-seeking
- The overlap between pneumonia and malaria treatment at the community level
- Guidelines for the types and dosages of antibiotics and other medicines to be used for different age groups
- The appropriate sources for obtaining antibiotics.



Joy Phumaphi
Assistant Director General
Family and Community Health
World Health Organization
Geneva

4. Integrating community pneumonia treatment activities

- With other efforts and initiatives that promote child health, especially malaria and diarrhoea treatment, at the household and community levels.

5. Strengthening family and community practices related to pneumonia prevention and treatment by

- Improving care practices such as recognition of signs and symptoms, knowing when and where to seek care, compliance with treatment and recognition of danger signs
- Developing effective communication or information, education and communication strategies related to family and community practices
- In areas where IMCI activities are being conducted, integrating community capacity development for pneumonia with community IMCI programming.

6. Partnering with non-governmental and community-based organizations to

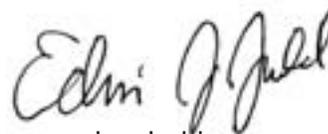
- Identify, recruit and train community health workers and monitor their performance
- Ensure the integration of pneumonia case management with other disease management and health-promotion activities in the community.

7. Developing a three- to five-year plan for pneumonia mortality reduction that includes

- Improving case management at first-level facilities
- Training, supervising and equipping community health workers with appropriate supplies
- Strengthening the links between communities, community health workers and health facilities.

If an IMCI training package for health workers is already being implemented, programme staff should:

- Review the quality of services provided
- Evaluate the coverage and identify first-level facilities not covered by the IMCI health worker training
- Integrate the IMCI training plan with the 3- to 5-year plan for pneumonia mortality reduction, avoiding duplication of effort.



Joe Judd
Director
Programme Division
United Nations Children's Fund
New York

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Page 3: A health-care worker of the Aini indigenous group takes the temperature of a child suffering from pneumonia in Yunan Province, China, ©UNICEF/HQ93-1692/Roger LeMoyne;

Page 5: This young girl in Nepal can benefit from an existing government-implemented programme that uses female community health volunteers to detect and treat pneumonia, ©UNICEF Nepal/2003/Amatya.

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Copies of this statement and further information may be requested from:



**World Health
Organization**

World Health Organization
Department of Child and Adolescent Health and Development
Family and Community Health
20 Avenue Appia
1211 Geneva 27
Switzerland
Tel: 41-22-791-3281
Fax: 41-22-791-4853
Email: cah@who.int
www.who.int



United Nations Children's Fund
Programme Division
3 United Nations Plaza
New York, NY 10017
USA
Tel: 1-212-326-7554
Fax: 1-212-303-7924
www.unicef.org