



Combining forces in Cambodia to overcome childhood diarrhea and pneumonia

In Cambodia, an anxious mother brings her sick child to a rural health center, miles away from her village, desperate for a solution. She has tried the local healer, and any home remedy she can think of, yet her little one loses strength by the minute. Even before symptoms are assessed, chances are high that the culprit is either diarrhea or pneumonia—the two leading causes of child illness and death worldwide and the diseases responsible for more than one-third of deaths under age five in Cambodia.

At the rural health center, there is good news. A new project has recently equipped health workers with comprehensive insight and simple yet powerful tools for treating these threats. Urgent rehydration and zinc for diarrhea, a course of antibiotics for pneumonia, and education on nutrition, sanitation, and home care that can prevent severe illness in the future—all of these are now in place to benefit the health worker, the mother, her children, and her community.

Despite a resilient mortality burden of diarrhea and pneumonia in the world's poorest settings, simple solutions both at home and in the clinic can make a tremendous impact in saving young lives and even preventing severe infections in the first place. Every year in Cambodia, about 9,100 children under the age of five die from pneumonia, and 2,300 die from diarrhea.¹ But proven, affordable tools can make a major difference. Seizing an opportunity for dramatically improving child health in their country, Cambodian officials have embarked on a mission to integrate diarrhea and pneumonia control, specifically targeting rural communities where child



A health worker teaches a young mother how to prepare and administer oral rehydration solution, which she can give her child at home to prevent severe dehydration from diarrhea.

deaths due to these two illnesses are the highest in the country. Policy changes at the national level are cascading to provincial, district, and village levels, and empowering volunteers and caregivers to spark change. Through an integrated approach to community health, Cambodia is addressing the two most dangerous threats to its children and is already making a significant and lasting impact.

TACKLING TWO MAJOR THREATS

The vast majority of deaths from diarrhea and pneumonia occur in low-resource countries like Cambodia, where



A Village Health Support Group volunteer discusses environmental factors of diarrhea and pneumonia with a mothers' group in her community.

poor sanitary conditions, dependence on unsafe water, and limited access to lifesaving treatment place families at high risk. Malnutrition among poor children also plays a key role, triggering a tragic cycle of weakened immune systems and repeat infections. A general lack of understanding among parents about the causes, symptoms, and treatment of diarrhea and pneumonia remains a significant obstacle.

The first step on a path toward improved health for Cambodia's children began with improving awareness at all levels. Starting in 2005, PATH worked with local partners to increase knowledge among health workers of new interventions—such as zinc, low-osmolarity oral rehydration solution (ORS), and rotavirus vaccine—for the prevention and treatment of diarrheal disease. At the national level, we broadened and enhanced awareness of diarrhea burden and treatment tools to strengthen the policy environment so that effective interventions and appropriate and reliable supplies are made available throughout public- and private- health sectors, as well as in the community.

Some risk factors and interventions for pneumonia overlap with

those for diarrheal disease. In addition to risk factors specific to pneumonia—like household air pollution—malnourishment and gaps in sanitation and hygiene that can lead to diarrheal disease also leave children vulnerable to pneumonia. Recognizing that a comprehensive approach to address pneumonia and diarrheal disease is likely to prove both an effective and an efficient use of resources, PATH and the Cambodian Ministry of Health (MOH) enhanced ongoing efforts to strengthen the policy for diarrheal disease by integrating a concurrent focus on prevention and treatment of childhood pneumonia.

PATH and the MOH's National Acute Respiratory Infection (ARI) and Diarrheal Disease Control Program, along with crucial input from the World Health Organization (WHO) and UNICEF, launched two major initiatives in tandem to address the spectrum of need and opportunity for improving child health. A focus on strengthening the policy landscape would sustain national commitment, while a district-level demonstration project would put the policy into practice and inform expansion throughout the country.

STRENGTHENING THE POLICY ENVIRONMENT

Recognizing that clinical care and community awareness rely on guidance from national health authorities, PATH and the MOH convened a technical working group in 2010 to update the national policy, which had not been updated in over a decade. From officials within the National ARI and Diarrheal Disease Control Program to local authorities to village health volunteers, the technical working group gathered comprehensive input, based on varied experiences along the health care spectrum. This feedback helped identify best practices of how all health levels can

work together to address diarrhea and pneumonia, what an improved system would look like, and the specific roles of each level.

A new national policy, approved by the MOH on December 5, 2011, reflects these discussions and provides a general framework. Health worker guidelines, an ORS and zinc distribution plan, and a five-year strategy are currently in development to supplement the national policy and detail objectives and activities integrating diarrhea and pneumonia at

“Many families spend a lot of money on medicines that do not prevent and properly treat their children. If parents knew the signs of these illnesses and when to bring them to the health centers to get proper care, many children would not have to die. Good health also means families have to spend less money on medicines that don't work, and helps reduce their poverty.”

—Chea Yeksim, Vice Chief of Duan Tom village—and village health volunteer in Baray operational district.

each health level. The updated clinical guidelines, adapted from the UNICEF/WHO Integrated Management of Childhood Illness guidelines, will incorporate proven yet underused interventions for the prevention and clinical management of both diarrheal disease and childhood pneumonia (see sidebar).

Collaboration between MOH departments and partnerships throughout the country were important focal points early on in the strategy, and these connections will remain critical for sustaining the priority of reducing diarrheal disease and childhood pneumonia over the long term. PATH is providing ongoing mentorship to the MOH and its partners to encourage and facilitate constructive engagement.

DEMONSTRATING IMPACT

The next step of the project involved working with the MOH to demonstrate the feasibility and impact of complementing existing child health programs with an additional and integrated package of activities to address childhood pneumonia and diarrheal disease. Baray-Santuk Operational Health District in Kampong Thom Province was identified as a suitable location for the demonstration activities (see sidebar, next page). This experience would help officials further refine the policy and clinical guidelines from a practical context.

The demonstration project, initiated in July 2011, aims to strengthen case management and health worker supervision at public health facilities. The project also promotes prevention and homecare messages as well as referral services from village health volunteers to the community clinic. This in turn will improve caretakers' health-seeking behaviors and equip them with

Interventions in Cambodia's clinical guidelines for treatment and prevention of childhood diarrhea and pneumonia

- Low-osmolarity ORS
- Zinc
- Handwashing with soap
- Exclusive breastfeeding
- Antibiotics (for pneumonia and bacterial diarrhea)
- Education to caregivers on
 - Nutrition
 - Sanitation
 - Home care



Gaps in sanitation and hygiene contribute to high rates of diarrhea and pneumonia among Cambodia's children.

information on tools for prevention and treatment in the home.

As national policy plays a primary role in guiding community-level care, feedback from the villages where the new policy will be put into practice is also critical. An emphasis on two-way communication within the policy will ensure routine supervision visits for health workers and volunteers while also soliciting their input and suggestions for continued refinement of clinical guidelines.

Along with health center staff, Village Health Support Group (VHSG) members were a key training target in Baray-Santuk. VHSGs are composed of volunteer village health workers who are primary contacts with caretakers in the community, providing education on health issues and referrals, when needed, for care at health centers or hospitals. At community meetings, VHSGs who attended the PATH-MOH training in turn have brought crucial tools and training to caretakers in their own villages. This element adds to the comprehensive effort by bridging improved clinical care with greater general awareness to prevent needless child deaths from diarrhea and pneumonia.

SUSTAINING COMMITMENT AND OVERCOMING OBSTACLES

Policy development and the demonstration project have set a firm foundation, but sustained efforts will ensure long-term improvements in the health of Cambodia's children. Resilient obstacles such as supply challenges and lack of awareness at many levels must be overcome

through further strengthening of the National ARI and Diarrheal Disease Control Program. In addition, greater disease surveillance is needed to measure impact on morbidity and mortality. Systems in place to supply zinc and low-osmolarity ORS to clinics throughout the country will be critical, as will refresher trainings for health staff and volunteers. Collaboration with the private sector, including pharmacists, health kiosks, manufacturers, and distributors will be important for scale-up and sustainability.

PATH is committed to building on the momentum of these integrated efforts to reduce the burden of diarrheal disease and pneumonia among children in Cambodia. Future opportunities will allow further collaboration with national government partners, as well as the public and private sectors, on initiatives to advance the integrated approach, such as the introduction of rotavirus and pneumococcal vaccines; innovation to improve case management; expansion of water, sanitation, and hygiene programs; reduction of household air pollution; and integration of maternal and childhood nutrition activities. Additionally, building on PATH projects in Cambodia and Vietnam, we are assessing the applicability of this broad-based and integrated approach for expansion to other countries of the Mekong region, such as Myanmar and Laos.

1 Black RE, Cousens S, Johnson HL, et al. Global, Regional, and National Causes of Child Mortality in 2008: A Systematic Analysis. *The Lancet*. 2010;375(9730):1969-1987.

Key elements of the model project in Baray-Santuk

- Orientation meetings with health district and commune chiefs and health center staff on integrated childhood pneumonia and diarrheal disease interventions.
- Orientation sessions with health volunteers on community prevention, pre-referral treatment, and referral for pneumonia and diarrhea.
- Establishment of dedicated areas in selected health centers for education to caregivers on pneumonia and diarrhea.
- Equipment of VHSGs for education sessions in the community on prevention, treatment, and care-seeking for childhood pneumonia and diarrhea.
- Facilitation of quarterly meetings between health center staff and health volunteers to discuss progress and challenges.
- Establishment of oral rehydration therapy corners at selected health centers.
- Strengthening of monitoring and supportive supervision.

Visit www.defeatDD.org/cambodiablogs to gain a first-person perspective on the integrated approach to childhood diarrhea and pneumonia in Cambodia.



PATH is an international nonprofit organization that creates sustainable, culturally relevant solutions, enabling communities worldwide to break longstanding cycles of poor health. By collaborating with diverse public- and private-sector partners, PATH helps provide appropriate health technologies and vital strategies that change the way people think and act. PATH's work improves global health and well-being.

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