Tackling pneumonia and diarrheal disease through program and policy coordination

A case study of PATH's integrated approach in Cambodia

EXECUTIVE SUMMARY

Childhood pneumonia and diarrheal disease are the two leading causes of preventable deaths among children in Cambodia, accounting for 38 percent of the mortality of children under five years old. Focused attention on these two diseases has helped reduce the number of childhood deaths each year, yet the problems remain especially detrimental in poor, rural communities. To address this disparity, PATH, in collaboration with the Cambodia Ministry of Health (MOH), the World Health Organization (WHO), United Nations Children's Fund (UNICEF), and other nongovernmental organizations (NGOs), implemented the Enhanced Diarrheal Disease (EDD) Initiative in Cambodia from June 2011 to August 2012. The initiative focused on program and policy integration as a tool to overcome barriers to ensure increased prevention and treatment of diarrhea and pneumonia.

The integrated approach resulted in coordinated policies, improved access to care at the community level, and the implementation of integrated trainings for Village Health Volunteers (VHV). PATH, alongside key partners, successfully advocated for oral rehydration solution (ORS) and zinc to be deregulated and made available at the community level. To increase the health impact, PATH also brought together the MOH and partners to update health worker trainings to improve service delivery at a community level.

The program, piloted in one district, consisted of a two-pronged approach to build the political will to strengthen policies related to diarrhea and pneumonia, and then to implement a new integrated package of services within communities. The program demonstrated the importance of updated and appropriate national policies, and it provided a model for the translation of these policies into action plans and interventions that can be implemented within communities integrated approach as an effective tool to addressing two of the leading killers of children under five years old.

PATH/Heng Chiovan

PATH reaches caregivers in rural Cambodia with integrated health programs that seek to prevent and treat pneumonia and diarrheal disease.

Today, the EDD Initiative provides a model for a comprehensive integrated approach that could be easily replicated in other districts in Cambodia and even other countries across the world. The success of the program is tied to the holistic approach that was adopted to address key policy gaps and thus expand the availability of and access to important prevention, treatment, and care interventions within communities, thereby mitigating the impact of childhood diarrhea and pneumonia.

There are a number of key lessons learned from the introduction and initiation of the program:

- National policy must be translated into action at the community level to be effective.
- Coordinated and strategic working relationships between ministries, technical agencies, NGOs, and local organizations ensure support at all levels.
- Comprehensive integration—including prevention and treatment—improves programming effectiveness and broadens the scope of reach.

- Capacity building is an ongoing process; trained village health volunteers need monitoring, supervision, and opportunities for continued learning.

- Health systems strengthening must be holistic, working to overcome financial, governmental, operational, and capacity constraints.

- Changing provider behavior at all levels is integral to improving access to ORS and zinc.

Following the marked success of the EDD Initiative, PATH intends to expand the model in Cambodia, to demonstrate the increased effectiveness of integrated diarrhea and pneumonia programs.

DESPITE OVERALL PROGRESS, HEALTH AND WEALTH DISPARITIES GROW IN CAMBODIA

Cambodia is a small country in Southeast Asia, nestled between Thailand, Laos, and Vietnam. After years of war and political unrest, Cambodia experienced immense progress in the health sector during the last two decades. The mortality rate of children under five years old decreased from 83 per 1,000 live births in 2005 to 54 per 1,000 live births in 2010.[1] General government expenditures on health have nearly tripled from US$4 per person in 2000 to US$11 in 2009.[1]

Despite this progress, Cambodia remains one of the poorest and least developed countries in Asia, and inequities between the wealthiest and poorest Cambodians continue to grow. As of 2008, the most affluent 25 percent of households shared almost 52 percent of total Cambodian wealth, while the poorest 25 percent of Cambodians struggled to share just 6.6 percent.[2]

The country's wealthier classes have greater access to electricity, improved water sources and toilet facilities, and trained health care professionals. More than 90 percent of wealthier urban residents have electricity, compared to just 19 percent in poor rural areas. Similarly, 57 percent of rural households have no toilet facility.[1]

Access to quality health services is still beyond the reach of most Cambodians, especially those living in poor rural or remote communities. Among the wealthiest 25 percent of Cambodians there are 30 deaths per 1,000 live births. That rate triples to 90 deaths per 1,000 live births among the poorest 25 percent.[1]

Despite some improvements, the mortality rate for children under five years old remains high in Cambodia: 16,000 children die every year. After accounting for neonatal deaths, pneumonia and diarrhea are the leading causes of death among children under five years old, contributing to a combined 38 percent of mortality.[3] Rotavirus and pneumococcal vaccines are not scheduled for introduction until 2015, leaving other prevention methods and proper treatment as the best tools to reducing illness and deaths.

Still, many children in Cambodia do not receive appropriate care when they become sick. In the two weeks preceding the 2010 Cambodian Demographic and Health Survey, only 63 percent of children who suffered a fever were taken to a health facility or received treatment from a trained health care provider. Similarly, 64 percent of children experiencing acute respiratory symptoms were treated at a health facility or by a health provider. Only 39 percent of those children received antibiotics for pneumonia.

The story of diarrhea is similar: only 59 percent of children who had diarrhea in the two weeks before the survey were taken to a health provider, and only 53 percent of those children were then treated with oral rehydration solution, or increased fluids. Zinc for the treatment of diarrhea is relatively new in Cambodia, and only 2.4 percent of children are reported to have received zinc treatment. Twenty percent of children with diarrhea received no treatment at all.

One promising improvement is the increase in the practice of breastfeeding, which can help prevent pneumonia and diarrhea among young children. About 96 percent of Cambodian children are breastfed at some point between birth and six months, and 74 percent are exclusively breastfed. Still, stunting remains a major problem in Cambodia, where about 40 percent of children are stunted and 28 percent are underweight. These complications are often a result of inadequate nutrition and repeated bouts of illnesses such as diarrhea.

INTEGRATING APPROACHES THROUGH THE ENHANCED DIARRHEAL DISEASE INITIATIVE

For more than two decades, PATH has been collaborating with the Cambodia Ministry of Health and local partners to combat diarrheal disease, especially among children under five years of age. Most of the programming has focused on improving knowledge and awareness among health workers of new, effective interventions for the prevention and treatment of diarrheal disease, including low osmolarity ORS, zinc, and rotavirus vaccines. At the national level, PATH has broadened and enhanced awareness of the diarrhea burden and treatment tools to strengthen the policy environment so that effective interventions and appropriate and reliable supplies could be made available throughout public and private health sectors, as well as in the community.

Recognizing that some risk factors and interventions for diarrhea overlap with those for pneumonia, an integrated approach to address these two childhood illnesses was identified as an effective and efficient use of resources in Cambodia.

In June 2011, PATH, in partnership with the MOH, launched the Enhanced Diarrheal Disease Initiative in Cambodia, an integrated and comprehensive package of activities to address childhood pneumonia and diarrheal disease in the Baray-Suntuk Operational District of the Kampong Thom province. PATH, in collaboration with the MOH's National Acute Respiratory Infection and Diarrheal Disease Control Program, among others, advocated for national policy changes, and tested an integrated package of activities at a district level. PATH sought to improve policies to support widespread accessibility and use of proven prevention and treatment interventions, like zinc.

The EDD Initiative strengthened the policy landscape and sustained national commitment, while the district-level demonstration pilot simultaneously provided an opportunity to put the revised policy into practice and monitor and evaluate the outcome. Pilot outcomes also helped to inform

STRENGTHENING THE POLICY ENVIRONMENT FOR PNEUMONIA AND DIARRHEA: ACTIVITIES AND OUTCOMES

KEY ACTIVITIES	PURPOSE	OUTCOME
Support the Cambodia Ministry of Health (MOH) to re-establish a technical working group for pneumonia and diarrhea.	Increase the effectiveness of interventions that address pneumonia and diarrhea by improving coordination across the disease interventions, and by increasing communication and engagement among partners, including the MOH, technical agencies, and civil society organizations.	Technical working group members meet regularly, leading to increased dialogue on integrated programming and operational implementation at facility and community levels. The group guides annual and multiyear planning, monitors programs, coordinates programming and resource mobilization, jointly problem solves, and makes decisions.
Provide technical support to MOH to coordinate and produce an updated policy for diarrhea and pneumonia.	Update prevention and treatment policies established in 1998, and include cost-effective interventions that were not being considered or utilized.	In December 2011 the MOH signed the National Policy on the Control of Acute Respiratory Infection and Diarrheal Disease among children under the age of five. The policy reclassifies oral rehydration solution (ORS) and zinc as over-the-counter, leading to increased access of ORS and zinc at the community level.
Provide technical support to the MOH to develop a national zinc distribution plan that guides both procurement and distribution to ensure access at the community level.	Improve coordination of the supply, demand, and distribution of zinc in Cambodia to avoid stockouts and low utilization.	A comprehensive zinc distribution plan was developed to help ensure consistent supply and restocking at facilities and among village health volunteers at the community level. The plan also addresses information gaps around zinc efficacy and the appropriateness for children under five years old with diarrhea.
Work with the MOH and partners to develop a multi-year strategic plan for diarrhea and pneumonia.	Include ORS and zinc into the annual operating plans, and improve community awareness of village health volunteers and the new pneumonia and diarrhea treatments.	The MOH worked with partners to improve the supply chain to ensure adequate supply of ORS and zinc. Community knowledge of prevention and treatment increased through the work with village health volunteers, and funding is available to continue promoting zinc at the community level until 2013.

further revisions to the policy. By engaging with policymakers, community members, public- and private-sector providers and distributors through coordinated advocacy and consultations, the project aimed to improve access to and utilization of quality treatment and prevention interventions.

STRENGHTENING THE POLICY ENVIRONMENT

The first component of the EDD Initiative in Cambodia focused on improving the policies impacting childhood diarrhea and pneumonia. Before June 2011, there were several gaps in policies that impeded progress towards reducing childhood morbidity and mortality. Policies were out of date and targeted pneumonia and diarrhea separately and key interventions—including ORS and zinc—were not available at the community level. Zinc was registered as a drug, which meant that its use was limited to trained medical professionals. PATH undertook a detailed gap analysis of the existing policy landscape and then, in conjunction with the MOH and a range of partners, worked to develop an action plan to correct these gaps.

An integral part of the EDD Initiative's success was the focused effort to engage with, influence, and strengthen the health policy change process at all levels. At a national level, the partnership with the MOH, technical agencies including the WHO and UNICEF, and partner organizations provided a platform where policies related to diarrhea and pneumonia were reviewed and updated to reflect recent advances in treatment and prevention options as well as global best practices. At a district level, the engagement with health facility managers, professional health care workers, and village health volunteers ensured that the revised policies and guidelines were appropriately implemented for comprehensive impact at the community level.

COMMUNITY ENGAGEMENT AND IMPLEMENTATION

The second component of the EDD Initiative focused on implementation. PATH, in collaboration with the MOH, identified the Baray-Santuk Operational District of the Kampong Thom Province as the demonstration site of the pilot project. The Baray-Santuk Operational District contains 247 villages and has a total population of 280,000, of which 12 percent are children less than five years old.

Baray-Santuk was identified as a strategic pilot district because the population is spread across both urban and remote rural areas, and also includes floating villages. Eighty-one villages were selected based on their remote location and distance from health centers and hospitals, as well as the heightened risk for pneumonia and diarrhea.

PATH'S APPROACH TO HEALTH SERVICES INTEGRATION

Integration of health services within communities, health organizations, broader health systems, and across sectors is one way PATH works to improve global health.

We consider nine attributes when developing integrated approaches in client- and operations-level programming, overall health system organization, and intersectoral initiatives, such as the EDD Initiative in Cambodia. These include:

- Planning and budgeting
- Organization of health services
- Staffing
- Training
- Supervision
- Logistics
- Community Outreach
- Referral Services
- Monitoring, evaluation and research

The urban-rural mix tested the applicability and suitability of training materials and provided an opportunity to pilot interventions among communities that had varying levels of access to health care. In addition, the project was able to address key issues around equity, with a strong focus on equipping hard-to-reach communities with trained VHVs, and improved information and services for the prevention and pre-referral treatment of pneumonia and diarrhea.

PATH, the MOH, and local partners undertook a range of implementation activities that focused on training and supervising providers, as well as strengthening the linkages between the VHVs and public health facilities, including referral hospitals and health centers. PATH held orientation meetings with local governors, including district and commune chiefs, as well as operational health district and health center staff on integrated pneumonia and diarrhea interventions.

COMMUNITY LEVEL ACTIVITIES IMPLEMENTED

Trained facility-based health staff. PATH provided technical support to the MOH to develop a package of integrated pneumonia and diarrhea guidelines and training materials to be used by health workers at all levels. Through a training-of-trainers approach, PATH identified and developed a cadre of national, provincial, and district health workers to serve as trainers.

Health facility staff members were trained under the new guidelines to improve prevention, diagnosis, and treatment

protocols for diarrhea and pneumonia. Staff members also learned how to better support VHVs to increase the referrals made to the local clinic. In turn, the health facility staff members trained VHVs and provided guidance on how to conduct pre-referral treatment or treat a child in the community.

The VHVs also learned how to conduct mother classes in their villages. These classes focused on sharing lessons and messages about health care practices with mothers to prevent children from getting sick. Importantly, topics in mother classes addressed some of the key socioeconomic and environmental determinants of health among young children. Key messages focused on safe water, sanitation, good hygiene, and nutrition, as well as vaccinations, and the signs and symptoms of severe dehydration and pneumonia. In order to more effectively address some of the socioeconomic and environmental determinants the EDD Initiative collaborated directly with water, sanitation, and hygiene (WASH) programs to market water filters to households.

Incorporated supportive supervision into the village health volunteer structure. The project guided the provincial and operational district teams to conduct supportive supervision to encourage the ongoing implementation of best practices in childhood pneumonia and diarrheal disease treatment. Training was provided to facility supervisors to ensure that their knowledge of childhood pneumonia and diarrheal diseases was current, and that they were familiar with new material and new treatments. There were quarterly meetings between health center staff and VHVs to discuss progress and challenges.

What is supportive supervision?

Supportive supervision is a process that promotes sustainable and efficient program management by encouraging two-way communication, as well as performance planning and monitoring. This process provides guidance and mentorship on problem-solving and performance improvement, and it helps village health volunteers establish goals, monitor performance, and identify and correct problems to improve their quality of services.

Implemented a community case management strategy. PATH worked with provincial and national partners to identify the most effective mechanisms to enable VHVs to provide diarrhea and pneumonia case management services, including referral and treatment, in the community. Specific activities involved the educational classes for mothers, the establishment of reporting and referral systems, and the extension of supportive supervision activities to the community. The program also established areas in all 19 health centers in Baray-Suntuk that were dedicated to oral rehydration therapy. There, caregivers received information on pneumonia and diarrhea. In addition, oral rehydration therapy corners were established in six facilities where caregivers could access clean water, ORS, and zinc and as well as receive help administering treatment to their children.

The community engagement and implementation component of the project demonstrated how policy revisions made at a national level translated into improvements in health practices and health seeking behavior at the community level. The increased knowledge and skills around prevention, diagnosis, and treatment of childhood diarrhea and pneumonia among healthcare workers cascaded down to VHVs and ultimately had an impact at household level.

RESULTS AND IMPACT

The strength and success of the EDD Initiative stemmed from the two-pronged approach focused on advocacy and policy change as well as improved services at the community level. Work to strengthen the national policy landscape with the MOH, the WHO, and UNICEF, and other NGOs, provided the appropriate platform for revisions and updates to policies to reflect recent advancements in both prevention and treatment products and protocols for pneumonia and diarrhea. As national policy is integral to guiding community-level care, the EDD Initiative applied and piloted the new policies. The two-way communication between the national level and community level allowed policy and clinical guideline refinements to be informed through practical application.

There were 114 VHVs from 81 villages trained on prevention, treatment, and referral mechanisms for diarrhea and pneumonia. The VHVs, who were identified by their communities as strong leaders and nominated to participate in the training program, learned the signs and symptoms of pneumonia and diarrhea in children under five years old. In the case of diarrhea, VHVs are equipped with ORS and zinc, which is provided to a caregiver free of charge. In the case of pneumonia, VHVs are trained to provide a referral to the nearest public health facility, and to urge family caregivers to take their child for care immediately.

The engagement and training of VHVs was integral to the effective implementation of the project. These frontline health workers provide invaluable reach into rural communities and are a key resource for dissemination of

information and services. The VHVs are typically the first point-of-contact for community members living in rural areas, making them a crucial conduit between sick children and access to quality care.

Cambodia is one of a growing number of countries across the world that currently allows VHVs to provide ORS and zinc at the community level, and this has resulted in improved access and availability of critical treatment commodities in rural areas. Health center staff report that the number of episodes of moderate to severe diarrhea presenting at health centers has fallen significantly in Baray-Santuk.

Rather than reacting to children who are already symptomatic and ill, the health center staff worked with the VHVs to be proactive in sharing prevention messages and care options with mothers and caregivers within communities. During the course of the project (June, 2011 to August, 2012) the VHVs hosted more than 450 mother classes, reaching more than 11,400 pregnant women and caregivers of children under five years old. The strong focus on prevention empowered community members and provided households with practical advice and tools to protect the health of their children.

LESSONS LEARNED AND MOVING FORWARD

The launch of the EDD Initiative in Cambodia demonstrated that an integrated program implemented at the community level can successfully improve access to quality health care for rural and poor families. While this program was launched as a small pilot, the implementation and replication in additional districts in Cambodia, and in other countries, is feasible. During the course of this pilot, several important lessons emerged relevant to launching an integrated pilot and the possibilities to improve future iterations.

Lesson 1: National policy must be translated into action at the community level to be effective.

As part of the EDD Initiative, PATH began working with the MOH to deregulate ORS and zinc to make it available as an over-the-counter treatment, thereby increasing accessibility at the community level. Once the new national policy was released, PATH, in collaboration with the MOH, worked to ensure the policy was translated into action. In conjunction with the MOH and local partners, PATH updated health worker guidelines, developed an ORS and zinc distribution strategy, and ensured ORS and zinc were procured and made available to VHVs.

HEALTH VOLUNTEER HIGHLIGHT: SVAY'S STORY

PATH/Heng Chiovan

In rural Kampong Thom Province, more than four hours north of Phnom Penh, Svay Yem teaches preschool, tends to her own rice paddies, and works as a village health volunteer—a job she took to help her community develop.

Svay recognizes that pneumonia is the biggest challenge for her community, followed by diarrhea. In 2011, Svay attended a training session led by PATH and the Cambodia Ministry of Health (MOH), during which she learned to conduct educational classes for mothers, identify the symptoms of diarrhea and pneumonia, and correctly treat or refer children to a health facility, depending on their condition.

To help reduce the number of children who become sick and die from pneumonia and diarrhea, Svay conducts mother classes every two months in her community. About 25 mothers come to learn about prevention, symptoms, and treatment for diarrhea and pneumonia, breastfeeding, hygiene, water, and sanitation. When a child comes to her with diarrhea, Svay has oral rehydration solution (ORS) and zinc on hand and instructs mothers to continue feedings. When a child has symptoms of pneumonia, she fills out a referral slip to the nearest public health facility.

Svay is proud to provide a necessary service to her community, but she admits there are challenges. Sometimes getting mothers to attend the classes is difficult because they are busy with their rice fields and small businesses. She would like more regular training and supervision. Svay could also use a bicycle so that she can more quickly travel the long distance between her home and the clinic, where she hands in her referral slips and restocks her ORS and zinc.

The MOH recognizes that one of the most strategic ways to minimize inequities and improve universal access to health care is to continue training Svay and her fellow village health volunteers, and to ensure national policy equips community health volunteers to provide the most comprehensive care possible.

Lesson 2: Coordinated and strategic working relationships between ministries, technical agencies, NGOs, and small local organizations ensure support at all levels.

PATH has strong working relationships with the Cambodia Ministry of Health, and partnered with technical agencies and local organizations, maintaining strong working ties with all. Strong relationships at the national level, paired with strong partnerships within communities allow for a mutually beneficial and supportive approach where each organization is invested as part of the overall program.

Lesson 3: Comprehensive integration—including prevention plus treatment—improves programming effectiveness and broadens the scope of reach.

The EDD Initiative first focused on integrated diarrhea and pneumonia treatment. VHVs received messages on vaccines, safe water, improved sanitation, and hygiene which were incorporated into mother classes. As the project progressed, the EDD Initiative collaborated directly with a WASH program marketing water filters to households. Therefore, this integrated project linked prevention of diarrhea and pneumonia with WASH and treatment including ORS, zinc, and referrals for amoxicillin.

Lesson 4: Capacity building is an ongoing process; trained village health volunteers need monitoring, supervision, and opportunities for continued learning.

VHVs are very effective in providing children and caregivers with ORS and zinc, and making referrals to health facilities when appropriate. Outreach to the VHVs cannot end after the initial training sessions. In order to effectively utilize the VHVs there needs to be a strong system of monitoring and evaluation at the community level to ensure messages are reinforced, and VHVs are empowered to increase their capacity and ability to solve problems. Additionally, professionally trained medical staff should receive ongoing training to ensure they effectively utilize VHVs for follow-up and continued care.

Lesson 5: Health systems strengthening must be holistic, working to overcome financial, governmental, operational, and capacity constraints that can impede access to and use of priority health services.

Health systems strengthening must be focused on improving the equity, efficiency, quality, and effectiveness of priority health services. VHVs have a vital role to play in this system; they reach caregivers and children in their homes, providing a first line of care, and easing the burden on doctors and nurses. As VHVs are empowered to take on primary health care responsibilities, so too must the whole health system—government included—move forward to strengthen the systems in which the health sector functions including the critical community systems that operate outside of health facilities.

Lesson 6: Changing provider behavior at all levels is integral to improving access to ORS and zinc. Providers must be trained and incentivized to provide ORS and zinc.

Despite global recommendations on the use of ORS and zinc for diarrhea treatment, some practitioners mistakenly continue to recommend intravenous fluids or antibiotics alongside ORS. Some providers are unfamiliar with ORS and zinc recommendations, and some hold misconceptions about their efficacy and are reluctant to recommend them. There needs to be more focus on improving provider behaviors through training and education. An incentive structure to encourage ORS and zinc use may be effective. VHVs can also encourage caregivers to ask for ORS and zinc specifically when they seek care at a facility or pharmacy.

CONCLUSION

Through its approach to tackling pneumonia and diarrhea in Cambodia, PATH demonstrated that comprehensive integrated programming can have a measureable impact at the community level. 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 and around the world.

The EDD Initiative demonstrated that through coordinated and strategic partnerships—including with national government partners, as well as the public and private sectors—significant advancements can be made to improve integrated programming. The VHVs are a critical component to the community health care sector, and are vital to increasing access to care at the community level; their engagement, participation, and buy-in must be central to ongoing efforts to increase integrated programs. PATH continues to work with the MOH and other key partners in Cambodia and intends to expand the model of the EDD Initiative more broadly within the country.

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