

Spotlight on ORS/Zinc and Amoxicillin for Diarrhea and Pneumonia

In 2011, pneumonia claimed the lives of about 1.24 million children under five—18 percent of all child deaths worldwide. Although deaths due to diarrhea among children under five dropped to 760,000 that same year, diarrheal diseases still caused approximately 11 percent of child deaths worldwide (UN Interagency Group, 2012). World Health Organization recommended treatments for diarrhea and pneumonia—Oral Rehydration Salts (ORS), zinc and amoxicillin—that are highly effective and affordable. However, they remain underutilized and as such, have been identified by the UN Commission on Life-Saving Commodities for Women’s and Children’s Health as three of 13 commodities that if more widely accessed and properly used, could save the lives of more than six million women and children worldwide.

A review was conducted to analyze and synthesize current key evidence in order to understand the social and behavioral drivers of ORS, zinc and amoxicillin demand and utilization, examine effective practices in implementing demand generation programs, and inform future programming. The evidence review found 108 documents related to ORS and zinc that met the inclusion criteria, including those from Africa (66), Asia (38), Latin America and the Caribbean (2), the Middle East (1), and regional or global studies (3). The review found 37 documents related to amoxicillin, including studies from Africa (28), Asia (5), as well as multiple country studies (3).

Social and Behavioral Drivers

At the individual level, knowledge gaps were found common among health care providers regarding the pathology of childhood diarrhea, the causes and severity of pneumonia, and effective treatments for both. Perceived ineffectiveness of ORS and zinc among caregivers and providers can lead to inappropriate treatment. Low perceived threat of diarrhea also may limit care seeking. However, studies in Nigeria and Kenya indicated that when knowledge and perceived product efficacy are in place, caregivers request specific, appropriate treatments (Brieger et al., 2004).

Although women may be socially identified as care providers, in some contexts their ability to treat diarrhea is dependent on their husband’s approval to seek care or spend money on treatment. For example,

the lack of male involvement in childcare and lack of community health education about pneumonia emerged as barriers to care seeking for pneumonia. However, the literature generally contained limited examination of the influence of family and peer networks on demand for the commodities.

At the social and structural level, a range of factors facilitated successful demand generation for ORS and zinc, including a supportive political environment, in-country manufacturing and respected project leadership. Problems with equitable access to commodities and services for the three commodities, including distance, cost and availability, and product packaging, were also found to be important considerations for uptake.



© 2008 Lisa Basalla, Courtesy of Pforoshare

Demand Generation Interventions

Research and pilot programs have demonstrated effective approaches to scaling-up treatments, and a growing number of countries are scaling up integrated community case-management (CCM) programs; however, these programs require significant system support in order to reach the majority of children in need. The integrated Global Action Plan for Pneumonia and Diarrhea (GAPPD) provides an integrated framework of key interventions proven to effectively prevent and treat childhood pneumonia and diarrhea (WHO, & UNICEF, 2013).

The evidence review found a variety of methods used to increase the uptake of ORS, zinc and amoxicillin. For ORS and zinc, social marketing programs have increased the perceived availability and administration,

while mass media was identified as a key element in several initiatives to increase demand. In Benin, mass media raised awareness among mothers and increased the likelihood of treatment with ORS and zinc (MacDonald, Banke, & Rakotonirina, 2010). Yet, few studies explored the use or impact of social networks in diffusion of knowledge, attitudes or practices related to care seeking, or use of the commodities.

Community Integrated Management of Childhood Illnesses (c-IMCI), which takes an integrated approach to child health and focuses on the well being of the whole child, has shown considerable success in a variety of settings. For example, a phased c-IMCI intervention in Ethiopia resulted in increases in caregiver knowledge about signs and symptoms of pneumonia, and increases in appropriate care-seeking behavior (Degefe et al., 2009). Management by community health workers (CHWs) has also shown to increase knowledge and uptake of ORS and zinc, especially in rural areas with limited access to public health services (Littrell et al., 2012; Winch et al., 2008). Proper training, support and consistent availability of antibiotics are requirements for effective CCM of pneumonia by CHWs.

Health care provider promotion and education has been used in a number of countries through outreach visits, face-to-face trainings, and the development and distribution of educational and promotional materials. Public-private partnerships have also been leveraged to successfully increase uptake of ORS and zinc. For example, in India, private partnerships were demonstrated as a sustainable way to ensure a long-term, competitively priced supply of zinc (USAID, 2010).

Conclusions and Recommendations

The literature review identified important topics to consider when planning future demand generation activities and highlighted gaps in knowledge, especially with regard to understanding the shift from awareness to action to sustained behavior change. More monitoring and evaluation of demand generation programs is needed to expand the evidence base.

Key recommendations to increase the use of ORS and zinc include: (1) utilizing all available channels for demand generation and consider complementary activities; (2) using a two-stage knowledge and behavior approach where appropriate; (3) tailoring messages to different audiences; (4) ensuring that messages aimed at caregivers address key barriers or behavioral challenges; (5) increasing education for

providers about ORS and zinc; (6) repositioning ORS and zinc as legitimate “medicines” for diarrhea among both caregivers and providers; and (7) considering the product and packaging.

Recommendations to increase the demand and use of amoxicillin for childhood pneumonia include: (1) increasing use of mass media and other channels to educate caregivers; (2) expanding education efforts to increase knowledge and care-seeking behavior among all caregivers, including fathers and grandparents; (3) addressing caregiver and provider preference for home remedies to treat pneumonia; (4) targeting health education programs to both informal and formal providers working in the private sector; (5) instituting a permissive policy to allow CHWs to deliver amoxicillin in the community or home setting; and (6) improving quality of care as a means to increase demand for services.

To read the full report, visit <http://sbccimplementationkits.org/demandrmnch/evidence-synthesis/>.

For tools and resources on demand generation for life-saving commodities, visit <http://sbccimplementationkits.org/demandrmnch/>.

References

- Brieger, W. R., Osamor, P. E., Salami, K. K., Oladebo, O., & Otusanya, S. A. (2004). Interactions between patent medicine vendors and customers in urban and rural Nigeria. *Health Policy and Planning*, 19(3), 177-182.
- Degefe, T., Marsh, D., Gebremariam, A., Tefer, W., Osborn, G., & Waltensperger, K. (2003). Community case management improves use of treatment for childhood diarrhea, malaria and pneumonia in a remote district of Ethiopia. *The Ethiopian Journal of Health Development*, 23(2), 120-126.
- Littrell, M., Moukam, L. V., Libite, R., Youmba, J. C., & Baugh, G. (2013). Narrowing the treatment gap with equitable access: Mid-term outcomes of a community case management program in Cameroon. *Health Policy and Planning*, 28(7), 705-716.
- MacDonald, V., Banke, K., & Rakotonirina, N. (2010). A public-private partnership for the introduction of zinc for diarrhea treatment in Benin results and lessons learned. *Country Brief*. Bethesda, MD: Abt Associates.
- United Nations Inter-agency Group for Child Mortality Estimation (UN-IGME). (2012). Levels and trends in child mortality. Report 2012. New York: UNICEF.
- U.S. Agency for International Development (USAID), & Academy for Educational Development (AED). (2010). Treating childhood diarrhea in India with ORT and zinc: Engaging with pharmaceutical industry and private providers. Lessons learned from the POUZN/AED project. Washington, DC: AED Center for Private Sector Initiatives.
- Winch, P. J., Gilroy, K. E., Doumbia, S., Patterson, A. E., Daou, Z., Diawara, A., et al. (2008). Operational issues and trends associated with the pilot introduction of zinc for childhood diarrhoea in Bougouni district, Mali. *Journal of Health, Population, and Nutrition*, 26(2), 151-162.
- World Health Organization (WHO), & United Nations Children's Fund (UNICEF). (2013). Ending preventable child deaths from pneumonia and diarrhoea by 2025: The integrated Global Action Plan for Pneumonia and Diarrhoea (GAPPD). Geneva, Switzerland: WHO.

