

An Illustrative Communication Strategy for ORS and Zinc

Step 1: Analyze the Situation

Health and Commodity Context

**The majority of the information in this section is a global-level analysis for purposes of illustration. The country-specific situation analysis should be focused on the local context.*

Health Context

Globally, 2.5 million cases of diarrhea occur in children every year, and children 24 months or younger are at the greatest risk of death from diarrheal disease (UNICEF, 2009). Diarrheal diseases cause approximately 11% of deaths among children under five worldwide, or 0.7 million deaths in 2011, mostly in developing countries. More than half of these deaths occur in just four countries: India, Nigeria, the Democratic Republic of the Congo and Pakistan (UNICEF Reanalysis, 2012).

The World Health Organization (WHO) recommended treatment for diarrhea is ORS and zinc, products that are highly effective and affordable. Low osmolarity ORS (L-ORS) and zinc prevent a majority of deaths and cost approximately US \$1 per treatment course.¹ Despite the existence of these simple, life-saving treatments and the low cost of the treatments, many children with diarrhea are not receiving these products in developing countries: only 38% of children receive ORS and less than 5% receive zinc (Black, 2010; UNICEF SOWC, 2011).

The WHO definition of diarrhea is “three or more loose or liquid stools per day (or more frequent passage than is normal for the individual).” Diarrhea is often caused by bacteria, viruses and parasites found in human feces and is transmitted to humans when contaminated food or water is ingested.

Dehydration is the most severe threat posed by diarrhea. If fluids are not replaced at the first signs of diarrhea, dehydration can result in

¹ Members of the Diarrhea and Pneumonia Working Group found that the cost to consumers for ORS and zinc is US \$1.

death or other severe consequences. In young children, diarrhea may lead to reduced food intake and nutrient absorption, malnutrition, reduced resistance to infection, and impaired physical growth and cognitive development (UNICEF, 2007). There is a cyclical relationship between diarrhea and under-nutrition. Under-nutrition reduces the immune system's ability to defend against diarrhea-causing pathogens and, subsequently, diarrhea deprives a child's body of essential nutrients necessary for growth, development and a healthy immune system, which increases the likelihood of repeat infections. (World Bank, 2006)

Commodity Context

The WHO recommended treatment for diarrhea is **oral rehydration solution (ORS) and zinc**. The WHO specifically recommends low-osmolarity ORS.

ORS

Formulation: WHO's and UNICEF's standard formulation for low-osmolarity ORS is:

Powder for dilution in 200 ml; 500 ml; 1 L.

Reduced osmolarity ORS	grams/litre	Reduced osmolarity ORS	mmol/litre
Sodium chloride	2.6	Sodium Chloride	75
Glucose, anhydrous	13.5	Glucose, anhydrous	75
Potassium chloride	1.5	Potassium Citrate	10
Trisodium citrate digydrate	2.9		
		Total Osmolarity	245

Dose:

- At no signs of dehydration: 50-100 ml (or a quarter to half a large cup of fluid) for children under two years until diarrhea stops; 100-200 ml (one half to one large cup of fluid) for children ages 2-10 years until diarrhea stops.

- At signs of some dehydration: dosing scheme as indicated in WHO diarrhea treatment guidelines or the amount of the child's weight (kg) multiplied by 75 ml. (http://www.who.int/maternal_child_adolescent/documents/9241593180/en/index.html)

Average Cost: Approximately US \$0.15 – \$0.25 / sachet (price ranges may be even wider depending on the size of the sachet) (Diarrhea & Pneumonia Working Group, 2013)

Packaging: Airtight packet preferably made of aluminum laminate.

Manufacturing: ORS is manufactured in many countries and is commonly available without a medical prescription.

Zinc

Formulation: 20mg scored, taste-masked, dispersible tablet or oral solutions at concentration of 10mg/5ml.

Dose: 20 mg daily for 10 days (or 10mg daily for 10 days for children under 6 months).

Average Cost: Approximately US \$0.50 per treatment course (Diarrhea & Pneumonia Working Group, 2013)

Manufacturing: There are 55 manufacturers of zinc products on the zinc Task Force supply list, but not all meet standards required for international tenders. The majority of manufacturers are in South Asia.

Zinc reduces the severity and the duration of diarrheal episodes and, when given for 10-14 days, reduces the incidence of diarrhea for the following 2-3 months.

(Product profiles taken from Every Woman Every Child website: <http://www.everywomaneverychild.org/resources/un-commission-on-life-saving-commodities/life-saving-commodities/oral-rehydration-salts>)

ORS can prevent 93% of deaths from diarrhea. Zinc can shorten the episode of diarrhea and prevent 23% of deaths from diarrhea. Therefore, increasing access to and use of ORS and zinc will help to achieve MDG 4 of reducing child mortality by two-thirds by 2015 (Zinc Task Force, n.d.).

ORS is on the WHO model list of essential medicines and is on most countries' list of essential medicines (WHO, 2013) and is available in many public and private clinics and shops. However, coverage remains insufficient, especially for the most vulnerable populations: rural, lower income people. Only 40% of children receive ORS for the treatment of diarrhea (UNICEF, 2010).

Research and pilot programs have demonstrated effective approaches to scaling-up diarrhea treatment programs, and a growing number of countries are scaling up integrated community case management programs. Yet, these programs require significant systems support in order to reach the majority of children in need. Additional attention and investment in comprehensive and ambitious programs can significantly improve access to these simple, low-risk products. Efforts to scale up zinc treatment for diarrhea have had more mixed results and availability of zinc remains a problem. However, successful examples are available. For example, Bangladesh had success scaling up zinc with a sustained mass media campaign combined with provider training, advocacy and product availability. (Global Evidence Review, Diarrhea & Pneumonia Working Group, 2013)

Acceptability of the cost of co-packaged ORS and zinc is not yet established. Several co-packaged products, such as OraselZinc in Benin and Cambodia, have been successful when widely promoted. However, co-packaging has additional costs, and co-packaged products have relied on donor support to keep the prices low. There is a need to better understand acceptability and demand for co-packaged products.

Audience and Communication Analysis

Many factors determine the health situation of communities and individuals, including where people live, levels of income, social status and education, and access to health care. To have a positive impact, demand generation efforts must promote factors that facilitate demand and use of ORS and zinc, while assisting the intended audiences to overcome barriers.

A review of global evidence on ORS and zinc found 108 documents that specifically addressed communication and demand generation initiatives, of which 42 were peer-reviewed (Health Communication Capacity Collaborative, 2013). Sixty-six documents focused on Africa (12 were from Kenya and 17 from Nigeria); 38 documents focused on Asia (18 were from India and 10 from Bangladesh); two documents were from Latin America and the Caribbean; one document was from the Middle East; and three documents were regional or global studies.

The literature identified the following **key facilitators** for ORS and zinc demand and utilization:

Supportive Policy Environment: At the society level, a range of factors have been identified as key facilitating factors in successful demand generation for ORS and zinc. These include a supportive national and international political environment, in-country manufacturing, and respected project leadership (BMGF, various).

The literature identified the following **key barriers** to ORS and zinc demand and utilization:

Perceived threat of diarrhea: In many contexts, the perceived threat of diarrhea is low, leading to limited uptake of appropriate treatments. Diarrhea may be perceived as a common, non-threatening condition, and caregivers lack knowledge about the potential dangers (CHAI, 2011; Ipsos, 2012; Tapa & Chepngeno, 2005; Ellis et al., 2006). Consequently, care-seeking for diarrhea is delayed until the presentation of severe or life-threatening symptoms.

Knowledge of most effective treatment: Knowledge gaps among healthcare providers in the public and private sectors on the pathology of childhood diarrhea and the most effective treatments, especially ORS and zinc, were found in many countries. In Nigeria, knowledge among private patent medicine vendors (PMVs) of causes, signs, and effects of diarrhea was good, but PMVs' knowledge of treatment of diarrhea among children was poor (Aguwa et al, 2010; CHAI, 2011). This is a major gap given that caregivers in Nigeria often seek care from drug vendors and private clinics for diarrhea treatment. Globally, caregivers' knowledge about ORS is higher than for zinc which programmers report is due to a lack of demand generation efforts for zinc (Shah et al., 2012; CHAI, 2012; among others).

Perceived effectiveness of ORS and zinc: Perceived effectiveness of ORS and zinc is also a factor in demand for the products, even when awareness is high. ORS may be perceived as weak or ineffective, possibly because of misperceptions about the purpose of ORS to avert dehydration rather than to stop diarrhea (CHAI, 2011). Even when caregivers do understand that ORS replaces fluid, caregivers may also feel the need to give "medicine" for diarrhea and thus seek and use additional treatment that they believe will have a curative effect, such as anti-diarrheals or antibiotics (Uchendu et al, 2009; Ellis et al., 2006). Poor perceptions of ORS and/or zinc effectiveness may also lead providers to co-prescribe ORS and/or zinc with ineffective treatments (Sanders, 2012; Borapich & Warsh, 2010; Shah et al., 2012).

Access to commodities: Problems with equitable access to commodities and services are also a factor in demand and utilization of ORS and zinc. These include high costs, long distances to health facilities, and perceived attitudes of health workers, highlighting the importance of

harmonized access and demand activities (PSI/Mali, 2009; Mbonye, 2003; Opwora et al, 2011). In Nepal, product availability was found to be one of the most reliable and valid determinants of zinc usage (PSI/Nepal, 2008).

Example of Table to Organize Key Information

	Current Behaviors	Primary Barriers to Desired Behavior	Primary Benefits of Desired Behavior
End-user/community members (e.g. caregivers of children under five)	<p>Annually, 2.5 million cases of diarrhea occur in children around the world, and children 24 months or younger are at the greatest risk of death from diarrheal disease.</p> <p>Diarrheal diseases cause approximately 11% of deaths among children under five worldwide, or 0.7 million deaths in 2011, mostly in developing countries.</p> <p>However, only 38% of children receive ORS and less than 5% receive zinc.</p>	<p>Poor availability of ORS and, especially, zinc</p> <p>Poor knowledge of ORS and, especially, of zinc by caregivers</p> <p>Low perceived risk of death from diarrhea; limited care-seeking behaviors</p> <p>Inconsistent uptake and use of ORS and zinc; poor perception of efficacy, or preference for other treatments (antibiotics, anti-diarrheals)</p> <p>Donor support may be needed to keep products, when they are available, affordable</p>	<p>ORS can prevent 93% of diarrheal deaths</p> <p>Zinc can shorten the duration of diarrhea episodes, and prevent 23% of related deaths</p> <p>Treatment course is economical</p>
Providers (incl. public and private, clinic- and community-based)	<p>Low levels of promotion and use of ORS and zinc</p> <p>Co-prescription with other</p>	<p>Low levels of knowledge about pathology of childhood diarrhea, and most effective treatments</p>	<p>Method easily incorporated into current MNCH counseling and IMCI strategies</p>

	inappropriate treatments	Perceived need to prescribe other treatments, such as antibiotics Poor availability	Administration of ORS is easy (once dosage is understood) Broad range of providers can distribute (CHWs, clinicians, shopkeepers, etc.)
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