

## Healthy Start: WASH and child nutrition

**Healthy Start is WaterAid's four-year advocacy priority (2015-2019) focused on improving the health and nutrition of newborn babies and children. We will do this by advocating for access to water, sanitation, and hygiene promotion to be integrated into health policy and delivery locally, nationally and internationally.**

### Child nutrition

In 2013, 6.3 million children died before the age of five.<sup>1</sup> It is estimated that about 45% of these deaths were related to malnutrition.<sup>2</sup> Malnourished children are more likely to succumb to, as well as die from, the leading causes of child death such as pneumonia, diarrhoea and malaria.<sup>3</sup>

Children who survive chronic malnutrition in early life may go on to suffer stunted growth (short height for age).<sup>4</sup> According to the most recent data (2010), 171 million children under the age of five were stunted, of which 98% resided in low-income settings.<sup>5</sup> Approximately 40% of children in sub-Saharan Africa and South Asia are stunted.<sup>6</sup>

Stunting has long-lasting and irreversible effects on children's physical, cognitive, social and emotional development. This has significant educational and economic consequences – stunted children have been shown to perform less well in school than their non-affected peers, and earn 20% less later in life.<sup>7</sup> Economists estimate that this can cost countries up to 3% of their GDP.

Later in life, stunting has been shown to contribute to obstructed labour for women and girls, and to lead to a cycle of poor health outcomes across generations: maternal malnutrition leads to low newborn birth weight, resulting in a heightened risk of mortality, inhibited growth, cognitive impairment and heart disease.<sup>8</sup>

### WASH and nutrition

Nutrition has many underlying and often complex factors. Ultimately, it is directly underpinned by intake, absorption and use of nutrients. WASH plays a significant role in the absorption and use of nutrients.

WASH-related infections such as diarrhoea,<sup>9</sup> schistosomiasis,<sup>10</sup> soil-transmitted helminths (intestinal worms)<sup>11</sup> and environmental enteropathy (a condition of the small intestine)<sup>12</sup> all hinder the body's ability to absorb nutrients.<sup>13, 14, 15, 16</sup> These infections are highly prevalent among children in low- and middle-income countries, and represent a significant burden of child malnutrition.<sup>17</sup>

## The case for WASH and nutrition

The World Health Organization estimates that 50% of malnutrition is associated with repeated diarrhoea or intestinal worm infections as direct result of inadequate WASH.<sup>18</sup>

Approximately 25% of all stunting (short height for age – a sign of malnutrition) can be attributed to five or more episodes of diarrhoea before the age of two.<sup>19</sup> Meanwhile, 88% of cases of diarrhoea are directly related to inadequate WASH.<sup>20</sup>

According to a study conducted by the World Bank, open defecation accounts for most, if not all, child stunting in India.<sup>21</sup>

Open defecation explains 54% of international variation in child height; by contrast, countries' economic status explains only 29%.<sup>22</sup>

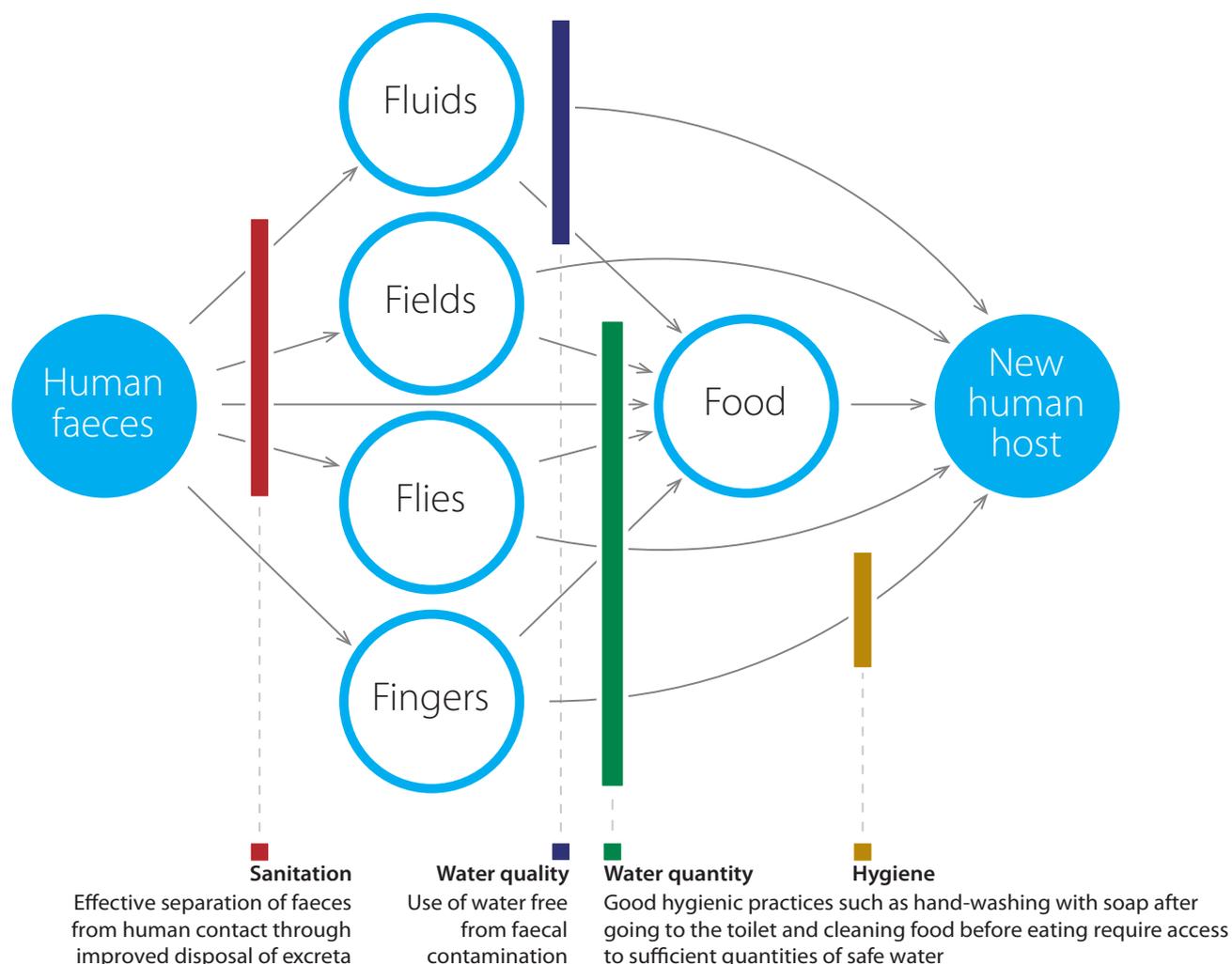
## WASH for better nutrition

Children become infected with diarrhoea, schistosomiasis, soil-transmitted helminths (intestinal worms) and environmental enteropathy through exposure to faeces (see Figure 1). Schistosomiasis is transmitted by contact with parasitic flatworms (schistosomes) that are hosted by aquatic snails and thrive in faecally contaminated environments (see Figure 2). It is assumed that environmental enteropathy, an inflammatory condition of the intestines that leads to reduced absorption of nutrients, is a result of chronic exposure to faecal pathogens.<sup>23</sup>

Figure 1 illustrates how WASH interventions can stop the transmission of such diseases. Importantly, sanitation – safe separation of faeces from human contact and the environment – is a primary barrier to transmission.

In addition to protecting children from disease, protecting mothers' health through improved WASH also plays a vital role in child health and nutrition. This is because maternal malnutrition threatens the health of newborns and compromises the nutritional benefits of breastfeeding.<sup>24</sup>

\* A pathogen is anything that causes a disease, including bacteria, parasites, fungi and viruses.



**Figure 1: The F diagram – the faecal-oral route of disease transmission and how WASH provision can prevent it**

## A child’s access to WASH

Worldwide, 748 million people lack access to adequate water, while 2.5 billion have no access to adequate sanitation.<sup>25</sup> This means that one in 10 children lack safe water, and one in three lack adequate sanitation. Without access to adequate

WASH, these children are at a significantly increased risk of infection and associated malnutrition.

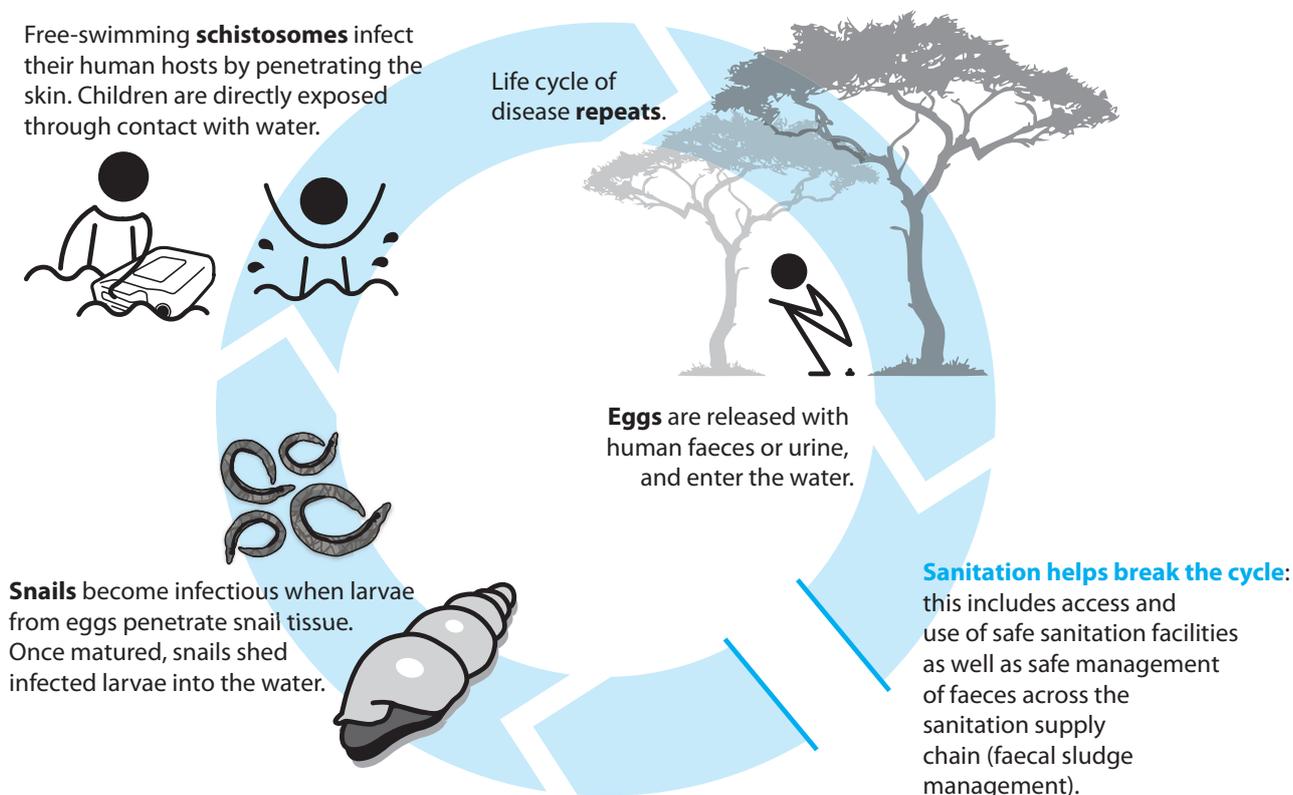


Figure 2: How WASH provision helps prevent the transmission of schistosomiasis

## WaterAid’s recommendations

To reduce the number of newborn deaths caused by lack of WASH, Healthy Start will work to ensure that:

1. Since WASH is already acknowledged as a key ‘nutrition sensitive’ intervention area, Governments include WASH in commitments made under Nutrition for Growth (N4G).
2. Donors incorporate support for WASH-related strategies in their pledges to national governments under Nutrition for Growth.
3. Influential actors within the Scaling Up Nutrition (SUN) movement promote knowledge and action on WASH for nutrition in global forums.
4. National-level SUN platforms develop nutrition plans that prioritise and cost WASH.
5. Nutrition accountability mechanisms, including the Nutrition for Growth accountability framework and the Global Nutrition Report, include WASH coverage, policy and finance indicators.
6. Children under the age of five must have WASH at home.
7. There is increased parental knowledge and action on demanding and actioning WASH within their homes and lives.
8. Food security programming for all children and national plans to prevent child undernutrition include plans for WASH, targeted as a priority at the population groups most in need.
9. All relevant actors come together to deliver nutrition plans that include WASH.

## Starting your advocacy plan

To see our demands met it is important to plan at country level. When developing your advocacy plans for child health, understanding the political landscape and your potential challenges is helpful. Exploring the situation, past and present, in relation to the following points may be of interest:

- Nutrition is often seen as, or is in effect, a separate ‘sector’ to health, with a distinct set of actors, policies and frameworks.
- 54 countries currently participate in Scaling up Nutrition.<sup>26</sup> The strategy identifies WASH as integral to improved child nutrition. Similarly, the Global Nutrition Report<sup>27</sup> makes repeated reference to the relevance of WASH for nutrition. Global strategies and monitoring influence country-level policy and planning in diverse ways, and to varying degrees of success. National plans do not always include WASH indicators or the necessary financing arrangements to encourage cross-sectoral action for improved child nutrition.
- Nutrition interventions are divided into two categories: ‘nutrition-specific’<sup>i</sup> and ‘nutrition-sensitive’.<sup>ii</sup> Nutrition-specific interventions such as nutrient supplements are often more highly prioritised in policies and programmes than nutrition-sensitive interventions such as WASH. This is further compounded by the scarcity of (and the difficulty in establishing) evidence on the impact of nutrition-sensitive interventions.
- Working with Scaling Up Nutrition and Generation Nutrition (the campaign to stop young child deaths due to acute malnutrition, of which WaterAid is a member) is proving successful for some country programmes.

- i. For example, support for exclusive breastfeeding, fortifying foods, providing micronutrient supplements or treating severe malnutrition.
- ii. For example, providing water and sanitation, education and employment, healthcare, and support to help families grow nutritious food.

1. Liu, L., Oza, S., Hogan, D., Perin, J., Rudan, I., Lawn, J., Cousens, S., Mathers, C. and Black., R. Global, regional, and national causes of child mortality in 2000–13, with projections to inform post-2015 priorities: an updated systematic analysis. *The Lancet*, 1 October 2014
2. WHO. (2014). Children: Reducing mortality factsheet. Retrieved from <http://www.who.int/mediacentre/factsheets/fs178/en/>
3. Save the Children. (2012). *Nutrition in the first 1,000 days: State of the world's mothers*.
4. Humphrey JH (2009) Child undernutrition, tropical enteropathy, toilets, and handwashing. *Lancet* 374(9694): 1032-5.
5. De Onis, M., Blossner, M. & Borghi, E. (2012). Global database on child growth and malnutrition: Prevalence and trends of stunting among pre-school children, 1990 – 2020. Retrieved from: [http://www.who.int/nutgrowthdb/publications/stunting1990\\_2020/en/](http://www.who.int/nutgrowthdb/publications/stunting1990_2020/en/)
6. WHO. (n.d.). WHA global nutrition targets 2025: Stunting policy brief. Retrieved from: [http://www.who.int/nutrition/topics/globaltargets\\_stunting\\_policybrief.pdf](http://www.who.int/nutrition/topics/globaltargets_stunting_policybrief.pdf)
7. Ibid
8. See e.g. Petri WA Jr, et al. (2008) Enteric infections, diarrhea, and their impact on function and development. *J Clin Invest* 118(4): 1277-90; Prüss A, Corvalan C (2006) *Preventing disease through health environments*. Geneva: World Health Organization; and World Bank (2006) *Repositioning nutrition as central to development*. Washington DC: World Bank.
9. World Health Organization. (2008). Safe Water, Better Health: Costs, benefits and sustainability of interventions to protect and promote health. Retrieved from: [http://whqlibdoc.who.int/publications/2008/9789241596435\\_eng.pdf](http://whqlibdoc.who.int/publications/2008/9789241596435_eng.pdf)
10. Grimes et al., (2014) The relationship between water, sanitation and schistosomiasis: A systematic review and meta-analysis. *PLOS Neglected Tropical Diseases*. 8(12), e3296.
11. Ziegelbauer K, Speich B, Mañusezahl D, Bos R, Keiser J et al (2012) Effect of sanitation on soiltransmitted helminth infection: Systematic review and meta-analysis. *PLoS Med*, 9(1): e1001162, doi: 10.1371/journal.pmed.1001162
12. The SHINE trial, Zimbabwe <http://clinicaltrials.gov/show/NCT01824940>
13. Checkley W, Buckley G, Gilman RH, Assis AM, Guerrant RL, Morris SS et al. (2008) Multi-country analysis of the effects of diarrhoea on childhood stunting. *Int.J.Epidemiol* 37: 816-30; and Lima AA, Moore SR, Barboza MS, Jr., Soares AM, Schleupner MA, Newman RD et al. (2000) Persistent diarrhea signals a critical period of increased diarrhea burdens and nutritional shortfalls: a prospective cohort study among children in northeastern Brazil. *J Infect Dis* 181:1643-51.
14. WHO. Intestinal worms. Retrieved from: [http://www.who.int/intestinal\\_worms/more/en/](http://www.who.int/intestinal_worms/more/en/)
15. Charles H King, Katherine Dickman, Daniel J Tisch (2005) Reassessment of the cost of chronic helminthic infection: a meta-analysis of disability-related outcomes in endemic schistosomiasis. *The Lancet* 2005; 365: 1561–69.
16. The SHINE trial, Zimbabwe <http://clinicaltrials.gov/show/NCT01824940>
17. World Health Organization (2008c) *Safer water, better health: Costs, benefits and sustainability of interventions to protect and promote health*. Available at: [http://whqlibdoc.who.int/publications/2008/9789241596435\\_eng.pdf](http://whqlibdoc.who.int/publications/2008/9789241596435_eng.pdf)
18. Ibid
19. Christa L Fischer Walker, Igor Rudan, Li Liu, Harish Nair, Evropi Theodoratou, Zulfiqar A Bhutta, Katherine L O'Brien, Harry Campbell, Robert E Black (2013) 'Global burden of childhood pneumonia and diarrhoea.' *The Lancet*. Apr 20;381(9875):1405-16. doi: 10.1016/S0140-6736(13)60222-6. Epub 2013 Apr 12. Childhood pneumonia and diarrhoea series.
20. World Health Organization. (2008). WHO (2008) op.cit.
21. Spears, D. 2013. *How Much International Variation in Child Height Can Sanitation Explain?* The World Bank Sustainable Development Network, Water and Sanitation Program, February 2013.
22. RICE Institute. (2013). *The nutritional value of toilets: how much international variation in child height can sanitation explain?* Retrieved from: <http://riceinstitute.org/research/the-nutritional-value-of-toilets-how-much-international-variation-in-child-height-can-sanitation-explain/>.
23. Petri, W.A., Naylor, C., Haque, R. *Environmental enteropathy and malnutrition: do we know enough to intervene?* Retrieved from: <http://www.biomedcentral.com/1741-7015/12/187>.
24. WHO. (n.d.). *WHA global nutrition targets 2025: Anaemia Policy Brief*. Retrieved from: [http://thousanddays.org/wp-content/uploads/2014/11/02\\_Anaemia2\\_Final.pdf](http://thousanddays.org/wp-content/uploads/2014/11/02_Anaemia2_Final.pdf).
25. WHO/UNICEF Joint Monitoring Programme (JMP) Report 2014 update.
26. Scaling Up Nutrition Movement Strategy. (2012). Retrieved from: <http://scalingupnutrition.org/wp-content/uploads/2012/10/SUN-MOVEMENT-STRATEGY-ENG.pdf>.
27. International Food Policy Research Institute. 2014. *Global Nutrition Report 2014: Actions and Accountability to Accelerate the World's Progress on Nutrition*. Washington, DC.

For more visit [www.wateraid.org/healthystart](http://www.wateraid.org/healthystart)