Another piece of the jigsaw

Harnessing the potential contribution of water, sanitation and hygiene in the first 1000 days

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What is WASH?

Water
Sanitation
Hygiene
Why is WASH important for disease control?

## WASH is about more than undernutrition

<table>
<thead>
<tr>
<th>Health benefits:</th>
<th>Non-health benefits:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diarrhoeal disease</td>
<td>Time savings</td>
</tr>
<tr>
<td>Helminth infections</td>
<td>Convenience</td>
</tr>
<tr>
<td>Trachoma</td>
<td>Dignity</td>
</tr>
<tr>
<td>Maternal and newborn health</td>
<td>Safety</td>
</tr>
</tbody>
</table>
Nutrition is about more than WASH

One potentially important part of the jigsaw

SOURCE: Black et al 2013
Multiple and complex linkages

**Distant water source**: Less time to prepare food and care for children

**Expensive services**: Less money for food and other public goods

### DIRECT

- Low water quantity
- Poor water quality
- Poor hand washing

### INDIRECT

- Poor sanitation
- Faecal contamination of home and food

#### Soil Transmitted Helminth infections

#### Environmental Enteric Dysfunction

#### Diarrhoeal diseases

**Source**: Dangour et al. 2013

**Final Outcome**: Poor nutritional status in children
WASH and childhood undernutrition

Repeated bouts of diarrhoea associated with stunting — “Proportion of stunting attributable to five or more episodes of diarrhoea before 2 years of age was 25% (C.I. 8–38%)”

Parasitic worm infections associated with poor sanitation that limit growth & cognitive development

EED is a generally asymptomatic syndrome causing chronic inflammation, reduced nutrient absorption of the intestine & a weakened barrier function of the small intestine, associated with poor WASH & undernutrition.

**SOURCE:** Walker et al 2013; Bethony et al 2006; Keusch et al 2015

**SOURCE:** Cumming et al 2015
The effect of WASH on height

- Cochrane meta-analysis suggests that WASH improves HA by ~0.08 SD (0.23 SD <24 months)
- “Suggestive evidence of a small benefit”
- But… mostly PoU water treatment (1* HWWS) and no water supply or sanitation

SOURCE: Dangour et al 2013
Since 2013 new sanitation trials

5 randomised controlled trials* for the effect of sanitation on undernutrition

Mixed results: 3 studies found no effect on childhood stunting; 2 studies found large effect

Studies with no effect had very low uptake and compliance

Three large new studies** underway will answer new questions:

• Synergistic effects of WASH interventions delivered with nutrition interventions
• Effect of WASH interventions designed to address in utero and early life exposure
• Effect of WASH interventions on EED and enteric infections, alongside undernutrition
• Effect of urban sanitation intervention in high density settings

Process of stunting and burden of diarrhoeal disease is concentrated in the first two years of life = first 1000 days!

Design and deliver WASH interventions to prevent exposure among young children:

- Safe disposal of child faeces
- Infant food hygiene
- Management of animal waste
- Hygienic play areas

Target WASH services at high burden populations

Listen and learn from the nutrition sector
Thank you

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