

WaSH and Nutrition – The Evidence Gap and other Environmental Linkages to Nutrition.

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19th May 2015
Nutrition and WaSH Integration, Research and Future Challenges

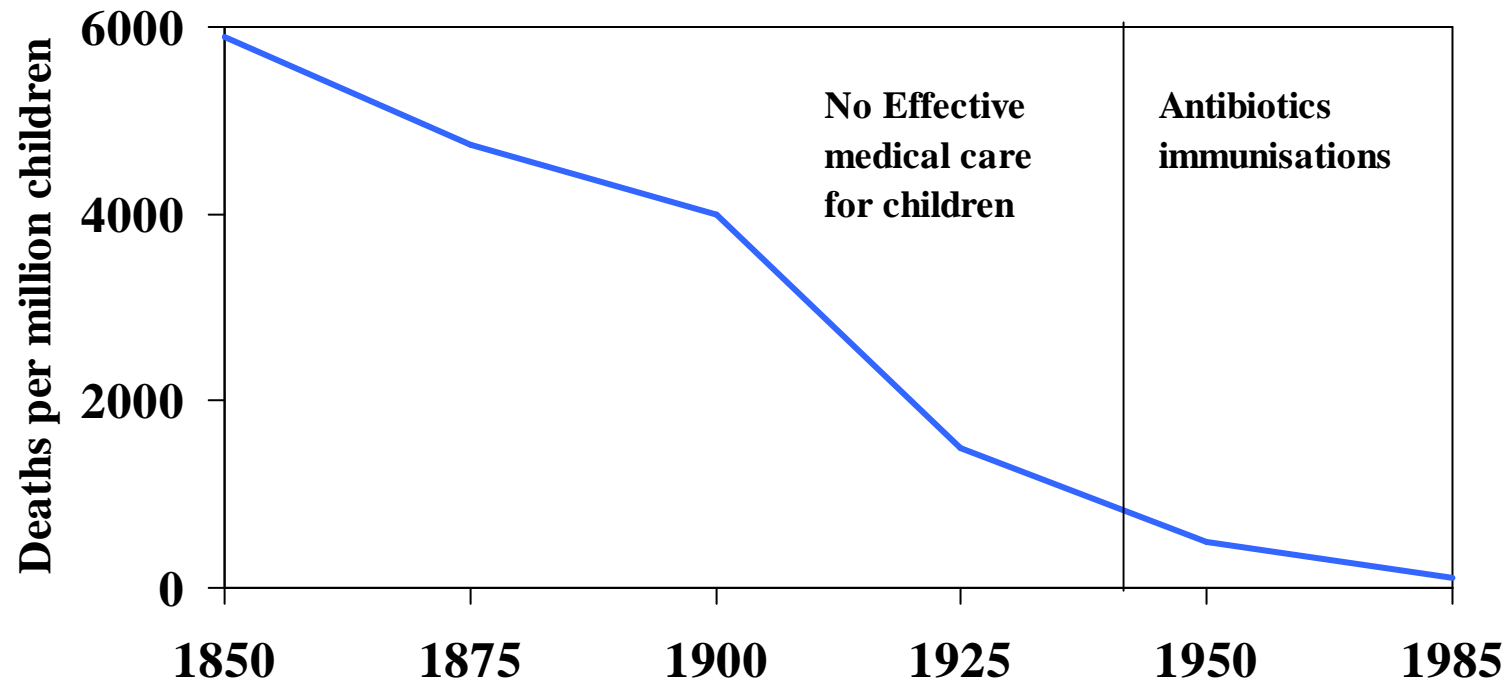
Blindspots!



The Know Do Gap!

Decline in Infectious Diseases

Deaths below 15 years attributed to scarlet fever, diphtheria, whooping cough and measles, England and Wales



Source: Morley, D. and Lovel, H. My Name is Today, TALC, 1986

Decline in infectious diseases

➤ Reasons for the Decline

1. Improved Nutrition
2. Improved Housing
3. Improved Water and Sanitation

Note: 29% reduction in child mortality in 10 years between 1898 and 1908

The Current Evidence Base!

2013 Cochrane Review

1. Interventions to improve water quality and supply, sanitation and hygiene practices, and their effects on the nutritional status of children (Review) , Dangour AD, Watson L, Cumming O, Boisson S, Che Y, Velleman Y, Cavill S, Allen E, Uauy R, The Cochrane Collaboration 2013



[Cochrane Database Syst Rev. 2013 Aug 1;8:CD009382. doi: 10.1002/14651858.CD009382.pub2.](#)

Interventions to improve water quality and supply, sanitation and hygiene practices, and their effects on the nutritional status of children.

[Dangour AD](#)¹, [Watson L](#), [Cumming O](#), [Boisson S](#), [Che Y](#), [Velleman Y](#), [Cavill S](#), [Allen E](#), [Uauy R](#).

Cochrane Review 2013

- Author's conclusion
- "The available evidence is suggestive of a small benefit of WaSH interventions (specifically solar disinfection of water, provision of soap, and improvement of water quality) on length growth in children under 5 years of age"
- "SHIT STUNTS"

DFID Evidence Paper May 2013

2. Water, Sanitation and Hygiene, Evidence Paper, May 2013, Department for International Development, Ukaid.

Provides evidence graded as 'good', 'suggestive' or 'weak'.



DFID Evidence Paper May 2013

“There is good evidence that the health impacts of WaSH extend far beyond diarrhoea to include many other important diseases including acute respiratory infections, undernutrition, soil-transmitted intestinal helminth infection (ascaris, trichuris and hookworm), schistosomiasis, guinea worm, trachoma”

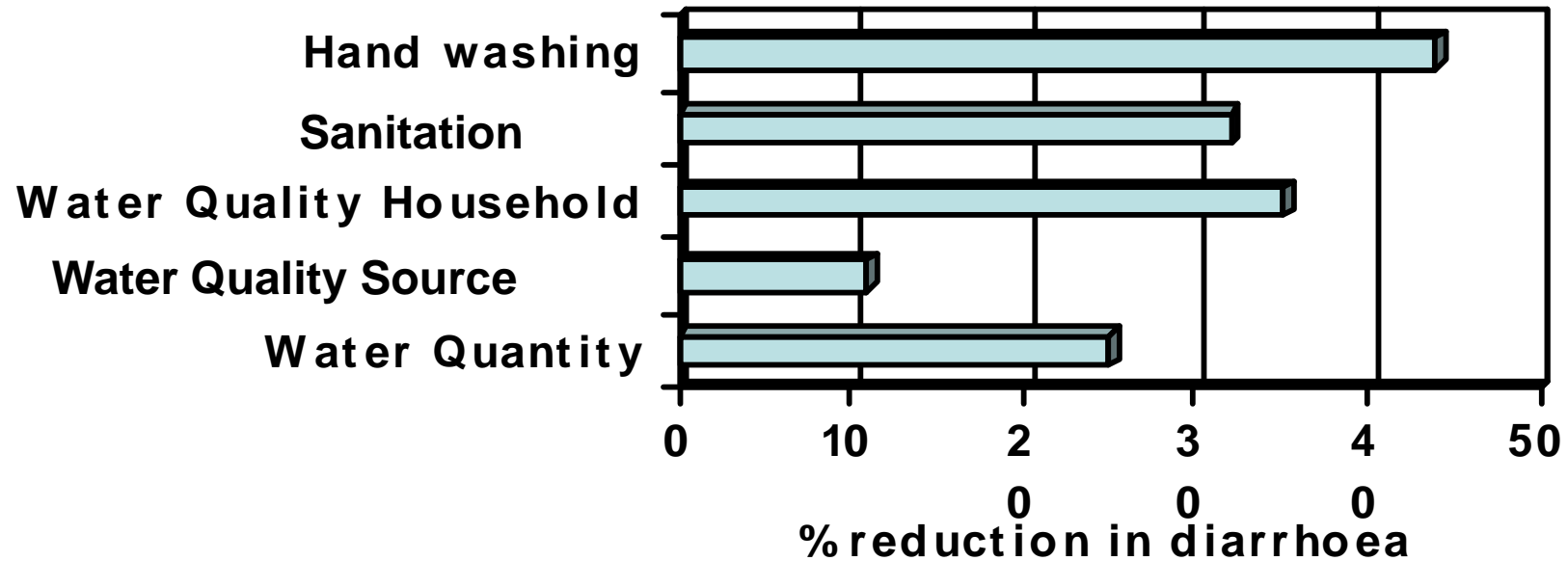
“There is suggestive evidence that diarrhoea (as a consequence of inadequate WaSH) contributes to undernutrition but there is currently weak evidence for casual links to tropical enteropathy. ”

Second Cochrane Review

- There is a second Cochrane Review currently underway looking at Nutrition and Sanitation specifically!
- Not sure there is a clear understanding of the term “Sanitation”.

Which bit of WaSH
is most effective?

Water, sanitation, and hygiene interventions to reduce diarrhoea in less developed countries: a systematic review and meta-analysis, Fewtrell et al (2005)



Taken from Hygiene Promotion Briefing Paper prepared for the WASH cluster meeting in February 2008

What is WaSH?

Are there Gaps in Emphasis and Sub-Sectors?

WaSH Chapter of Sphere (2011 edition)

- Hygiene Promotion
- Water Supply
- Excreta Disposal
- Vector Control
- Solid Waste Management
- Drainage

Defining Sanitation

- Excreta Disposal from toilets to final deposit site or treatment: Solid Waste Management; Drainage and Vector Control.
- Source: Gap Analysis in Emergency Water, Sanitation and Hygiene Promotion, Andy Bastable and Lucy Russell, Oxfam GB, July 2013.
- Note: Report also gave definitions for Hygiene Promotion and Water

Defining Sanitation

- Determined during the International Year of Sanitation 2008 and defined by the Water Supply and Sanitation Collaborative Council and approved by the UN-Water Task Force on Sanitation.
- **Sanitation is:**
- **“the collection, treatment and disposal or reuse of human excreta, domestic wastewater and solid waste, and associated hygiene”**

Mass Sanitation Module

British Red Cross

- safe excreta disposal,
- solid waste disposal,
- medical waste disposal,
- vector control,
- provision of hand washing, bathing and laundry facilities,
- promotion of good hygiene practices,
- household water treatment, and
- advice on the management of dead bodies.

Env. Health Training in Emergency Response (EHTER)

- Food safety
- Potable water
- Wastewater
- Shelters
- Vector control
- Responder safety
- Disaster management
- Solid waste and hazardous materials
- Building assessments
- Radiation
- View CDC's Emergency and Terrorism Preparedness for Environmental Health Practitioners website at <http://www.cdc.gov/nc/eh/ehs/ETP/>

Vector Control

- “The relationship between malnutrition and malaria is controversial. On the one hand malaria may cause malnutrition, whereas on the other hand, malnutrition itself may modulate susceptibility to the disease”
- Malaria and nutritional status in children living on the coast of Kenya (Am J Clin Nutr: 2004 Dec;80(6): 1604-10)



Air Pollution



Maimu IDP camp, Liberia, 2004
Photo: Niall Roche



Uganda, 2009
Photo: Niall Roche

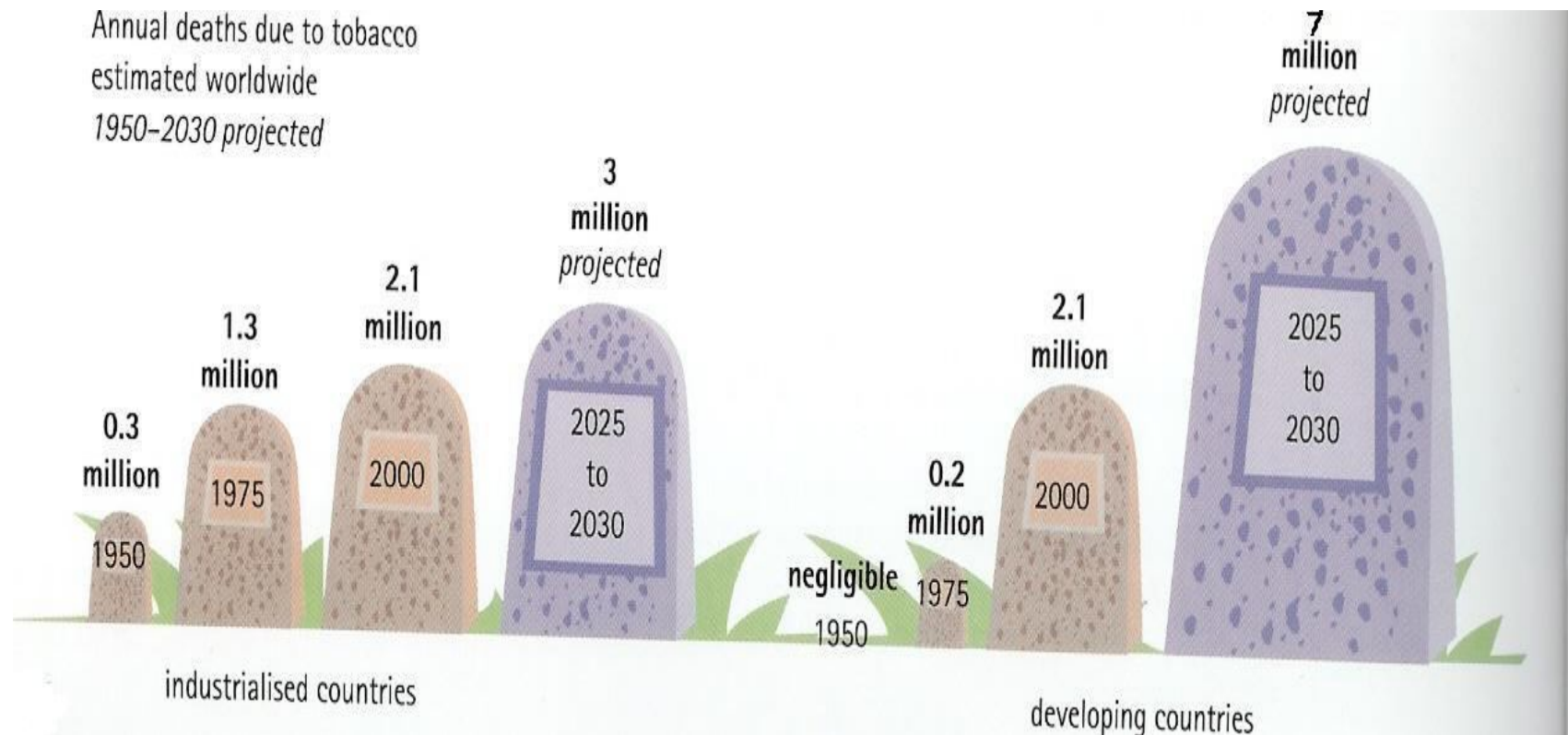
WHO estimated for 2012, 7 million deaths (1 in every 8 globally as a result of exposure to air pollution, 3.7 million from ambient air pollution and 4.3 million from household air pollution).

In Africa alone there were 581,000 deaths from Household Air Pollution.

Tobacco Control

growing markets and deaths in developing countries

A direct nutrition intervention!



Slide courtesy of Dr. Maurice Mulcahy, Regional Env. Health Officer.

Thank You

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