Shelter & Health Learning Day

14th May 2020

Welcome from Professor Cathrine Brun, Director of CENDEP, Oxford Brookes University

Introduction: background and objectives of the day, the Global Burden of Disease, connections between shelter and health, self-recovery, knowledge and evidence gaps.
    Sue Webb. CENDEP
    Niall Roche. Environmental health consultant
    Bill Flinn. CARE International
    Jamie Richardson. Catholic Relief Services (CRS)
    Fiona Kelling. Humanitarian shelter consultant
    Enrique Sevillano Gutiérrez. CRAterre

Panel 1.   Physical health issues related to shelter/housing   Facilitator: Bill Flinn (CARE International)
    Lucy Tusting. London School of Hygiene and Tropical Medicine
    Elizabeth Berryman. Save the Children South Sudan
    Andy Bastable. Oxfam
    Jenny Lamb. CRS

Panel 2.   Measuring and mitigating health impacts in a variety of housing/shelter settings.   Facilitator: Charles Parrack (CENDEP)
    Emily Nix. University College London and Liverpool University
    Sarah Ruel Bergeron. ARCHIVE Global
    Ronita Bardhan. University of Cambridge
    Samuel Cai. University of Oxford

Panel 3.   Mental health issues related to shelter/housing in disasters and conflict.   Facilitator: Beth Simons (CARE International)
    Jamie Richardson and Melissa Tucker. CRS
    Olivia Nielsen. Miyamoto International
    Guglielmo Schininà. International Organization for Migration (IOM)
    Jill Baumgartner. McGill University and Imperial College, London

Panel 4.   Game-changing crises? The implications of COVID-19 and the climate emergency for shelter, housing and health .   Facilitator: Cathrine Brun (CENDEP)
    Ilan Kelman. University College London
    Cecilia Schmölzer. International Federation of Red Cross and Red Crescent Societies
    Brett Moore. The United Nations Refugee Agency (UNHCR)
    Niall Roche. Environmental health consultant

Breakout group discussions involving all participants   ***What have we learnt? What are the gaps? What are the next steps?***

Panel 1

Physical health issues relating to shelter

- Child mortality
- Household air pollution
- Sanitation
- Diarrhoeal diseases
- Epidemiology
- Evidence building

Facilitator: Bill Flinn (CARE UK)

Lucy Tusting, LSHTM

Elizabeth Berryman, SCI

Andy Bastable, Oxfam

Jenny Lamb, CRS

Lucy spoke about how epidemiologists measure effect. She pointed out that there is an accepted hierarchy of evidence, with randomized control trials at the top of the hierarchy. In addition, systematic reviews of intervention studies reach this 'gold standard'.

She then outlined the particular relevance of a focus on shelter and health now, especially in the context of Africa, where the population is expected to double by 2050. In parallel, the continent is urbanizing rapidly, with incremental housing changes widespread. These changes are hard to quantify, yet is important to understand how these changes may impact health of their inhabitants. Lucy referenced her paper in Nature (Tusting et al, 2019) which mapped housing improvements between 2000 and 2015 and found that 'improved housing' doubled in those years. Around 50% of urban populations in Africa still live in 'slum conditions'.

Lucy outlined the many ways that shelter affects child health with reference to her paper (Tusting et al 2020) which found that improved housing is associated with reductions in malaria, diarrhoea, anaemia and undernutrition. She explained 'odds ratios' to the audience. Shelter is associated with multiple health outcomes known to increase child mortality in Africa

In this study, there was insufficient evidence to link indoor air quality to children's respiratory infections and Lucy discussed the methodical reasons why that might have been the case.

Lucy summarized that Africa's housing transition is a prime opportunity for health – as people improve their homes, changes could be influenced that would improve health. She also made the point that many of these issues are similar in other regions of the Global South.

In sub-Saharan Africa 'improved housing' has doubled over 15 years
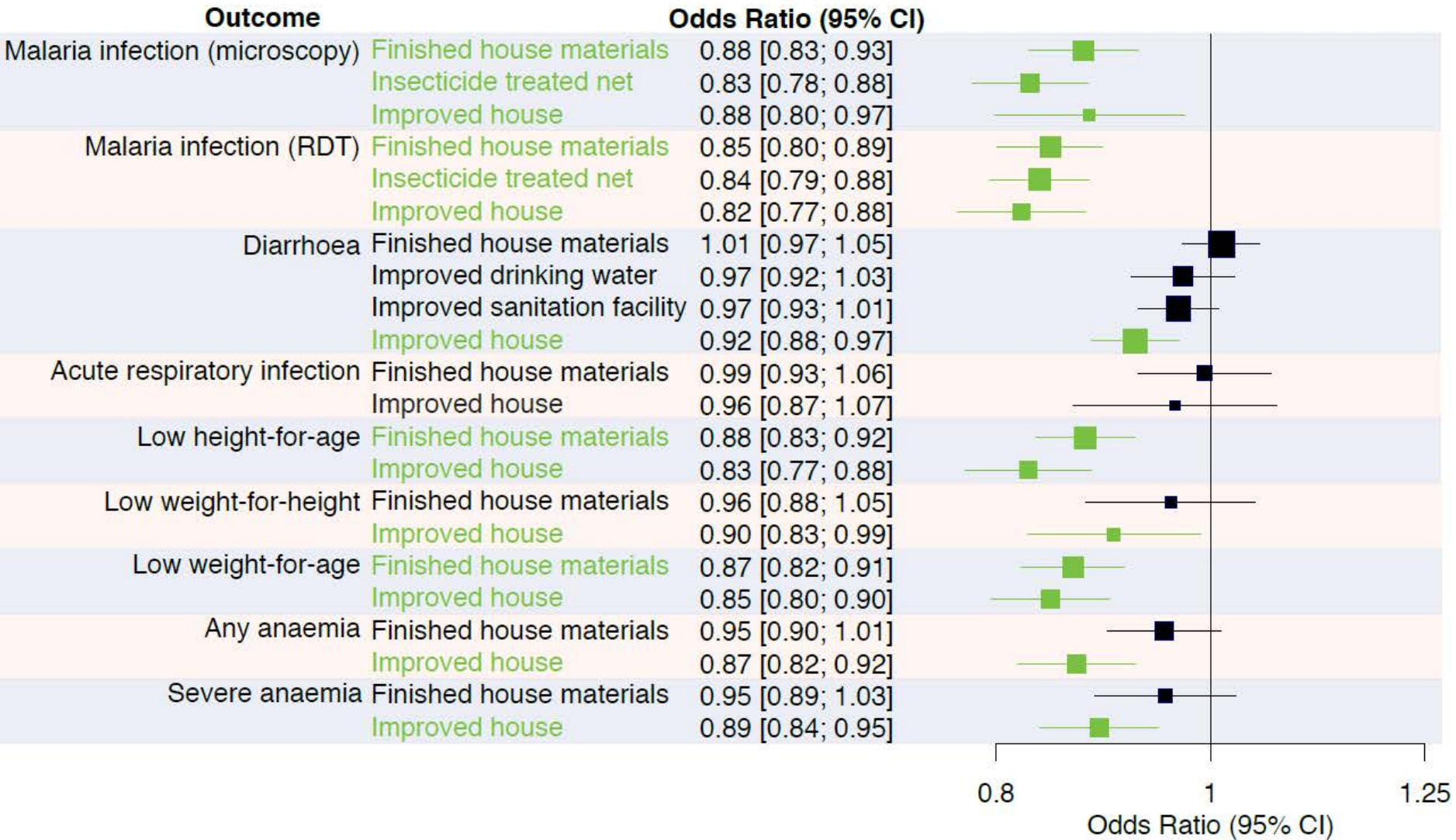
11% in 2000

23% in 2015

50% But nearly half the urban population still live in slum conditions

LONDON SCHOOL *of* HYGIENE &TROPICAL MEDICINE

Outcome		Odds Ratio (95% CI)	
Malaria infection (microscopy)	Finished house materials	0.88 [0.83; 0.93]	
	Insecticide treated net	0.83 [0.78; 0.88]	
	Improved house	0.88 [0.80; 0.97]	
Malaria infection (RDT)	Finished house materials	0.85 [0.80; 0.89]	
	Insecticide treated net	0.84 [0.79; 0.88]	
	Improved house	0.82 [0.77; 0.88]	
Diarrhoea	Finished house materials	1.01 [0.97; 1.05]	
	Improved drinking water	0.97 [0.92; 1.03]	
	Improved sanitation facility	0.97 [0.93; 1.01]	
	Improved house	0.92 [0.88; 0.97]	
Acute respiratory infection	Finished house materials	0.99 [0.93; 1.06]	
	Improved house	0.96 [0.87; 1.07]	
Low height-for-age	Finished house materials	0.88 [0.83; 0.92]	
	Improved house	0.83 [0.77; 0.88]	
Low weight-for-height	Finished house materials	0.96 [0.88; 1.05]	
	Improved house	0.90 [0.83; 0.99]	
Low weight-for-age	Finished house materials	0.87 [0.82; 0.91]	
	Improved house	0.85 [0.80; 0.90]	
Any anaemia	Finished house materials	0.95 [0.90; 1.01]	
	Improved house	0.87 [0.82; 0.92]	
Severe anaemia	Finished house materials	0.95 [0.89; 1.03]	
	Improved house	0.89 [0.84; 0.95]	

Odds Ratio (95% CI)

0.8   1   1.25

National survey data from 824,694 children aged 0-5 years in 33 countries.

Tusting et al *PLOS Medicine* 2020

Spotlight on Pneumonia

A CALL TO ACTION

Elizabeth Berryman Health Specialist Save the Children South Sudan

Wasting 55%

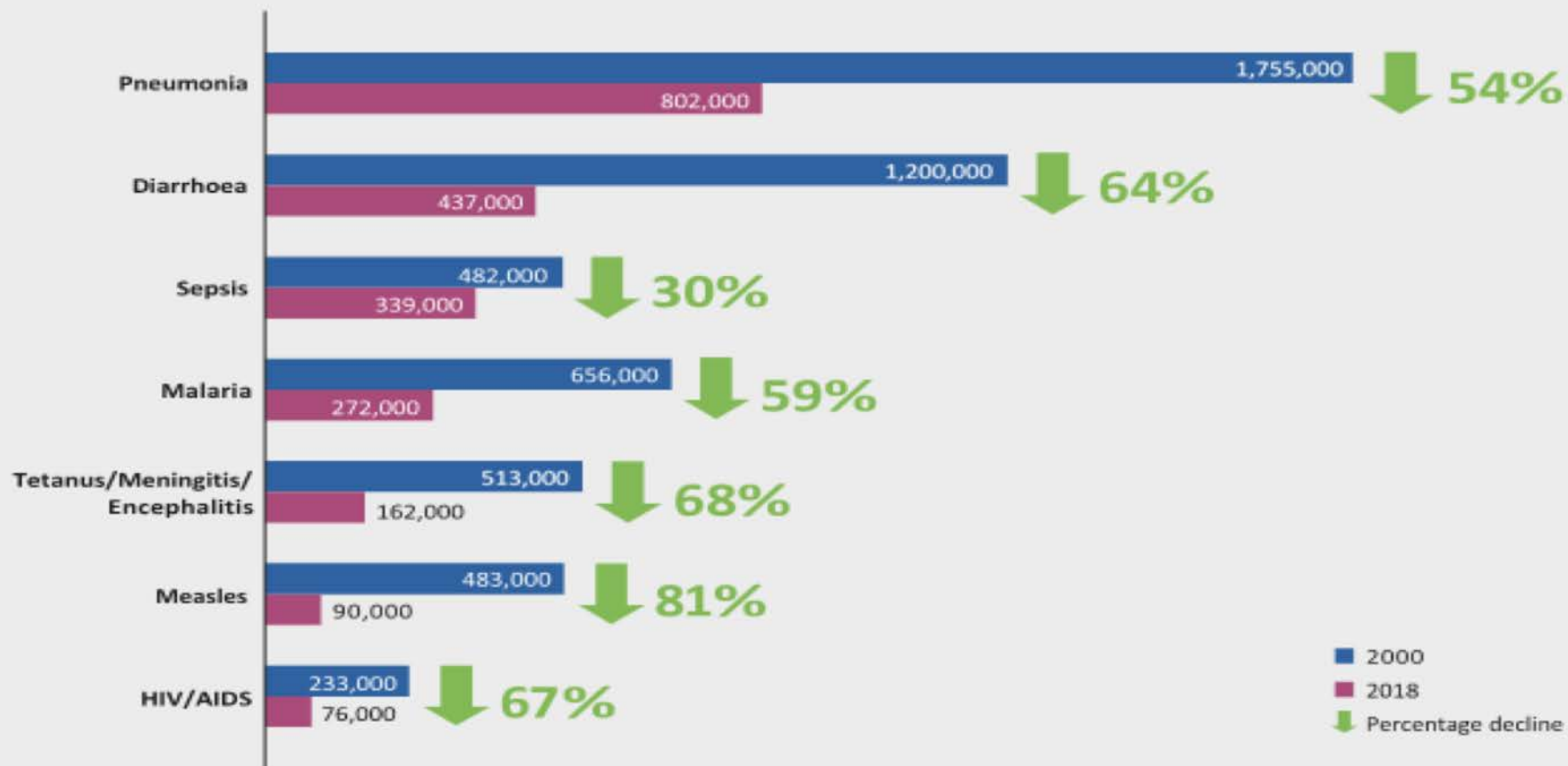**Pollution Outdoor 18% Indoor 12%**

Why do children die from pneumonia?

Stunting 15%

Prematurity 16%

Save the Children

Figure 1: Deaths of children under five by infectious disease, 2000 vs 2018

Pneumonia
- 2000: 1,755,000
- 2018: 802,000
- ↓ 54%

Diarrhoea
- 2000: 1,200,000
- 2018: 437,000
- ↓ 64%

Sepsis
- 2000: 482,000
- 2018: 339,000
- ↓ 30%

Malaria
- 2000: 656,000
- 2018: 272,000
- ↓ 59%

Tetanus/Meningitis/Encephalitis
- 2000: 513,000
- 2018: 162,000
- ↓ 68%

Measles
- 2000: 483,000
- 2018: 90,000
- ↓ 81%

HIV/AIDS
- 2000: 233,000
- 2018: 76,000
- ↓ 67%

Legend:
- 2000
- 2018
- ↓ Percentage decline

Source: UNICEF analysis based on WHO and Maternal and Child Epidemiology Estimation Group interim estimates produced in September 2019, applying cause of deaths for the year 2017 to United Nations Inter-agency Group for Child Mortality Estimation estimates for the year 2018

Save the Children

- 2,200 children < five die from pneumonia every day.
- 800,000 deaths in 2018
- 437,000 due to diarrhea
- 272,000 to malaria.
- Curable & preventable
- Cost-effective interventions exist.
- Funding lags far.
- 3% infectious disease research

allocated to pneumonia

Save the Children

2013 GAPD

Prevent
Exclusive Breastfeeding
Nutrition
Vitamin A

Reduce Pneumonia mortality morbidity & increase child survival

Protect
Vaccination - Measles.
Pentavalent Pneumococcal vaccine.
Prevention & management of HIV
WASH
Air pollution indoor & external

Increased health care seeking behavior & access to quality health care

Diagnose and Treat Children with Pneumonia

Supplies – Antibiotics & Oxygen
Zinc with ORS to treat diarrhea
Support to health workers
UHC.

Save the Children

to end Pneumonia deaths!

ODA

Source: Development Initiatives based on OECD/CRS
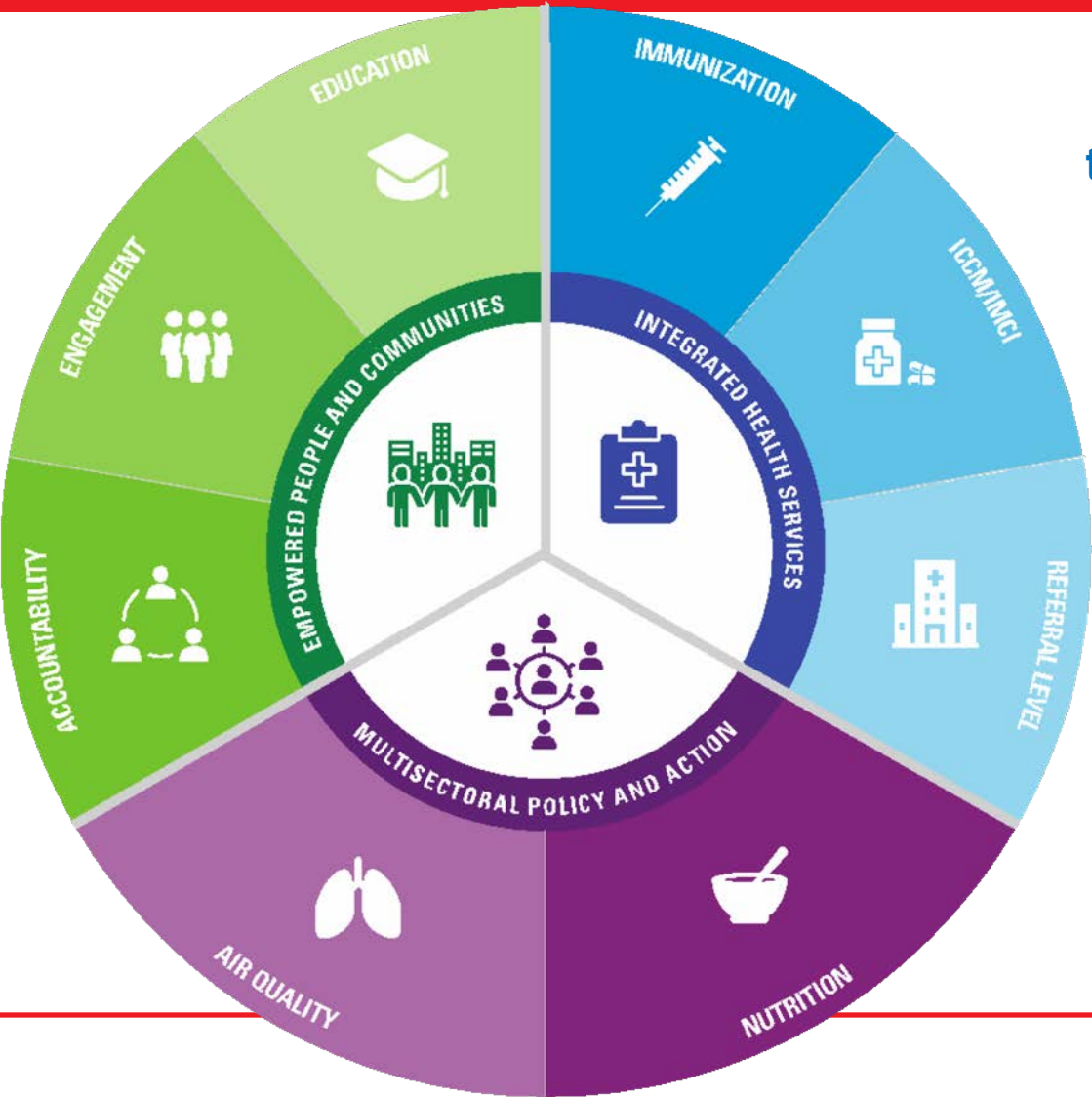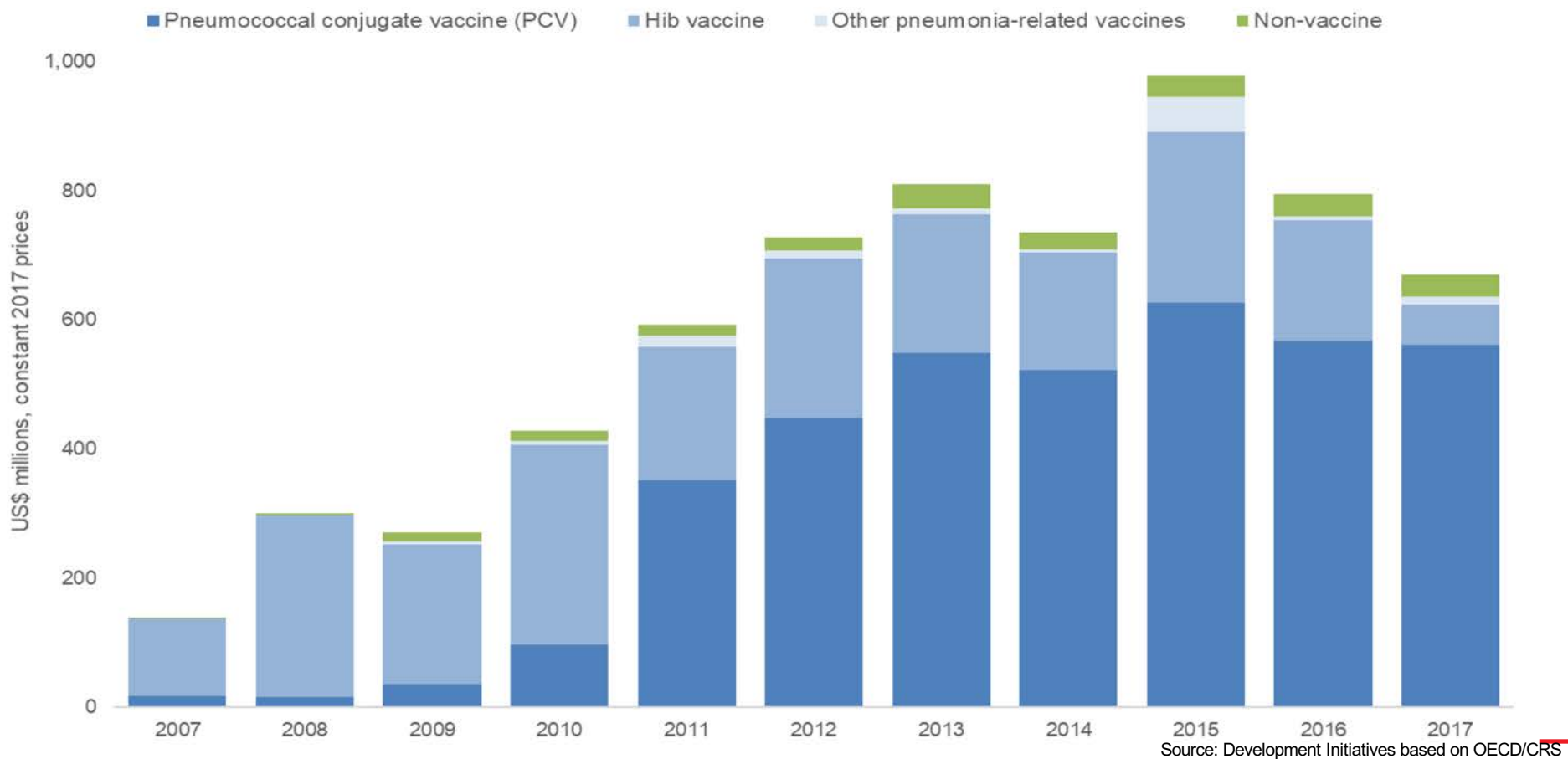
Non-vaccine ODA 2007 - 2017

Pie chart:
- Unspecified or other 4%
- Community-based management 17%
- Diagnosis-based intervention 1%
- Indoor...
- Information provision 3%
- Multiple areas of focus 9%
- Research & development (R&D) 35%
- Treatment-based intervention 30%
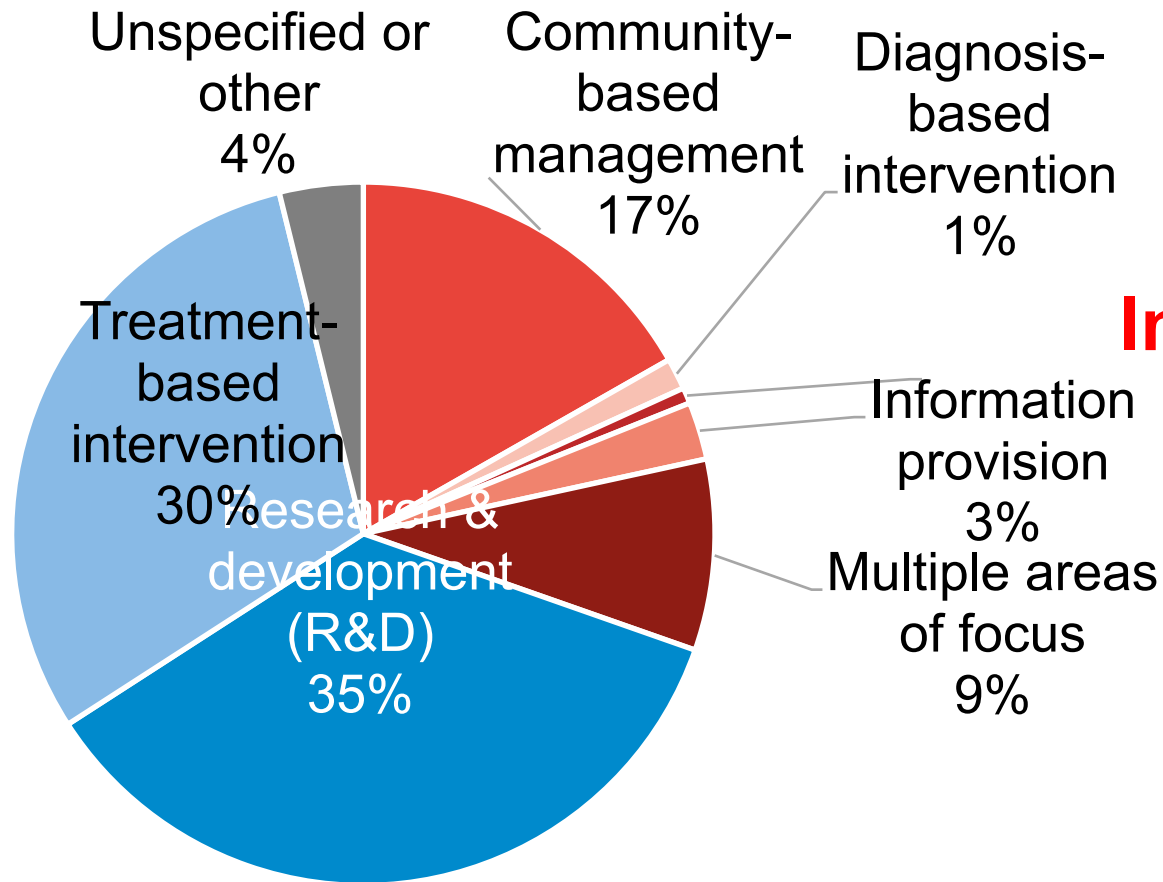
Source: Development Initiatives based on OECD/CRS

Save the Children

Figure 2: Child pneumonia mortality rate and average annual rate of reduction, 2000–18

Under-five deaths (in thousands) by country

0   40   80   120   160

- West and Central Africa
- Eastern and Southern Africa
- Middle East and North Africa
- South Asia
- East Asia and Pacific
- Latin America and Caribbean
- North America
- Eastern Europe and Central Asia
- Western Europe

Y-axis: Under-five mortality rate due to pneumonia per 1,000 live births, 2018

X-axis: Average annual rate of reduction in pneumonia under-five mortality, 2000–18 (%)

Chad
Somalia
Nigeria
South Sudan
Guinea
Central African Republic
Pakistan
Angola
Ethiopia
Democratic Republic of Congo
Indonesia
Tanzania
India
China

GAPPD target:
3 under-five deaths
per 1,000 live births

Source: UNICEF analysis based on WHO and Maternal and Child Epidemiology Estimation Group interim estimates produced in September 2019, applying cause fractions for the year 2017 to United Nations Inter-agency Group for Child Mortality Estimation estimates for the year 2018.

Save the Children

Pneumonia = 20% child mortality

EPI coverage is 48%

Stunting 18% , wasting 16.2%

38% access to water, 19% sanitation_

46% exposure to pollutants, < 5% clean fuels

40% access to health services.

46% access oxygen at functioning hospitals

Save the Children

HOUSEHOLD AIR POLLUTION

3.8 million die prematurely every year from household air pollution from cooking (2016). Household air pollution is mostly created by using kerosene and solid fuels such as wood with polluting stoves, open fires and lamps.

Women and children are the most at risk.

18% from stroke

27% from ischaemic heart disease

20% from chronic obstructive pulmonary disease (COPD)

8% from lung cancer

27% are due to pneumonia

CLEAN AIR FOR HEALTH   #AirPollution   World Health Organization

Save the Children

Prioritize: accelerated action on pneumonia as part of national and international child survival and infectious disease efforts,

A **sharpened focus** on equity and strong primary health care (PHC) systems;

Invest: in national **pneumonia control strategies** in the context of PHC and UHC;

Research: Endorse a program of **pneumonia research and development (R&D)**

Champion: Strengthen multi-sector pneumonia **partnerships**

Shelter and Health

Andy Bastable

WASH Lead

Oxfam

Major Issues from a PH perspective

▶ Health is not just an absence of illness   -   wellbeing / overcrowding / stress

▶ Consultation – consult / modify / consult – Sani Tweaks

- Inclusion

▶ Design to prevent - Most prevalent Public Health diseases
Respiratory infections
Malaria, dengue &
Snakes Scorpions

▶ Design for Privacy - Doors – that can be locked

CATHOLIC RELIEF SERVICES

Getting the basics right from the outset:

A call for action – small tweaks can make all the difference for the users

Jenny Lamb WASH Technical Advisor

faith. action. results.

Sanitation Infrastructure – Bangladesh context

Users

- "The latrines are not separate – so we don't know if it is a man or women using it. That's a big problem for us!"

- "We don't feel comfortable using the latrines here – so we either go at night, go in a group, make a whole in our shelter, or use the children's potties" said Nuru, adult female

Designers and Implementers

- "We did not have time – from the beginning, it was all about numbers and coverage of latrines (Nat M)

- "We only had time to ask people where to locate the latrines, and not about the intricacies and actual design based on their input" (Nat M)

- "We implement too much with a technical lens, and we have lost our emotional sense" (Nat F)

Issues

- Time (lack of strategic processing time and experience)

- Technical 'versus' emotional intelligence

- Gender and protection mainstreaming

Consequence – a compromised environment for healthy and dignified living

Sanitation-related psychosocial stressors

Sanitation-related psychosocial stressors lead to regulatory behaviours, such as: withholding food and drink, travelling in groups, going at dusk and dawn, or defecating within their home (in a bucket or makeshift latrine)

Environmental stressors	• Latrines built too far from their shelters; on steep hillsides; with no privacy screens, locks or lighting; not segregated in a meaningful way or where shared with many other people
Social stressors	• Humanitarian community did not ask how we wished to be consulted; nor understood the importance of gender segregated social spaces – it was rather transactional • Lack of privacy and dignity • Social restrictions for women and girls to move around • Social belief that blood is a symbol of impurity and associated with *jinn* spirits. MHM is a challenge given restrictions of space and privacy, and availability of suitable MHM materials
Sexual stressors	• Fear of gender-based violence • Compromised privacy and dignity • Concern of meeting unmarried men whilst at the latrine

Concept based on a study in India – Sahoo et all 2015, and data from Rohingya Cox Bazar context

CRS faith. action. results.

Social Architecture Project – Bangladesh

Project Aims:

➢ Put women and girls in the "designers shoes"

➢ Use expertise from architects to design spaces based on user feedback

➢ Advocate for design changes in the humanitarian response with the WASH, health and shelter sectors

➢ **A process** and not another cogwheel of standard designs being churned out and used by sector (did not wish for their designs to be "cookie cutters" and replicated everywhere)

Phase 1:

➢ Formative research on issues

➢ Concept designs

➢ Cross sectoral workshop

Phase 2:

➢ Adapting the concept designs

➢ Creating buildable structures

➢ Women as designers, constructors, monitors and evaluators

CRS faith. action. results.

Social Architecture Project
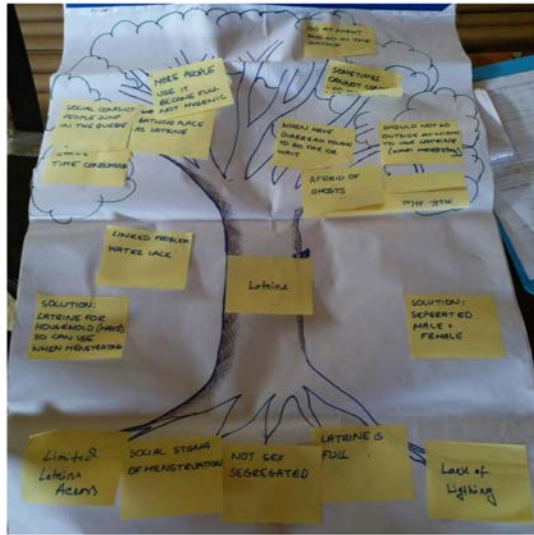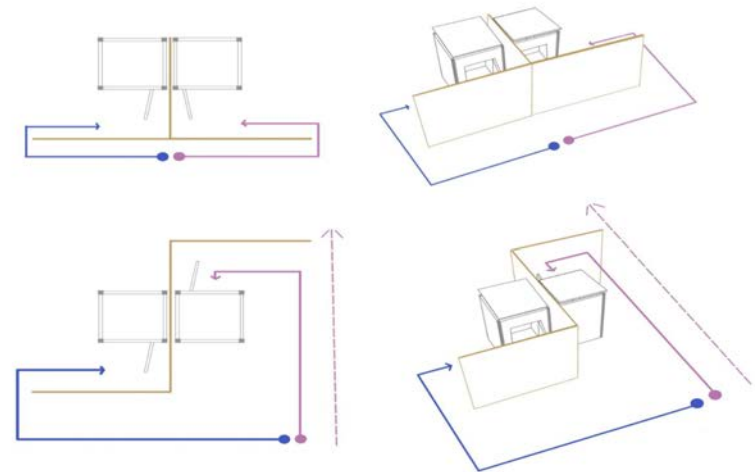

Figure 1: Problem Tree made with women in Unchiprang

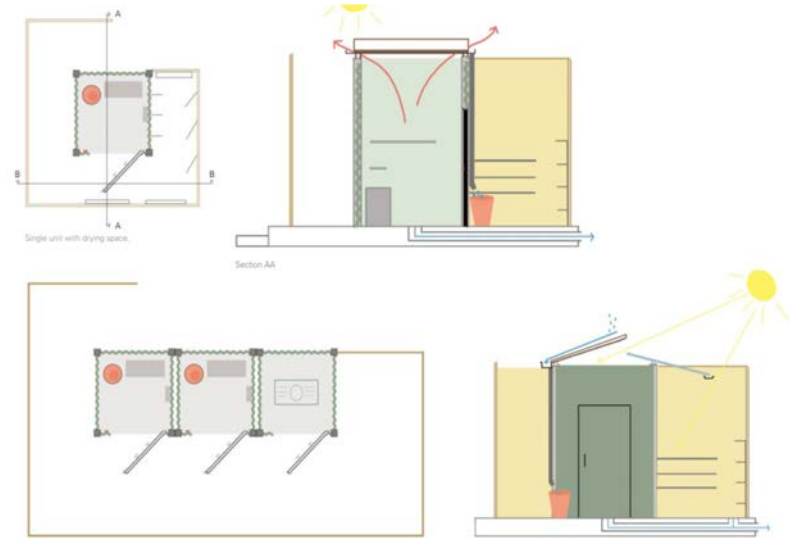Figure 3: Screen configurations for latrines and bathing spaces

Figure 7: Various layouts suggested for bathing and laundry facilities

CRS faith. action. results.

Menstrual Hygiene Management

- **Problem statement**

➢ MHM too often comes later in a humanitarian response

➢ Insufficient access to safe and private facilities for MHM

➢ Constraints of the environment on material use - safety, privacy, dignity, type of material used and MHM

➢ Among staff – there is a narrow interpretation of what a MHM response includes

➢ Humanity, compassion and respect – inadequate capacity to consult with women and girls

➢ Limited coordination between sectors

Menstrual Hygiene Management – Call for Action

➢ MHM response is not just the provision of sanitary materials – it needs to be mainstreamed into all sectoral response efforts – WASH, health, shelter, protection, education….

➢ Put yourself in their shoes – ask yourself what you would do if you needed to get up during the night to change your MHM materials

➢ Consult, modify and consult with women and girls to understand their preferences and practices – prioritise MHM from the outset and as a continuum

➢ Sustainability – women and girls may have to adapt their MHM and so should we in our approaches

CRS faith. action. results.

Handwashing

Water, sanitation, and hygiene interventions to reduce diarrhoea in less developed countries
Source: Fewtrell et al (2004), Curtis and Cairncross (2003)
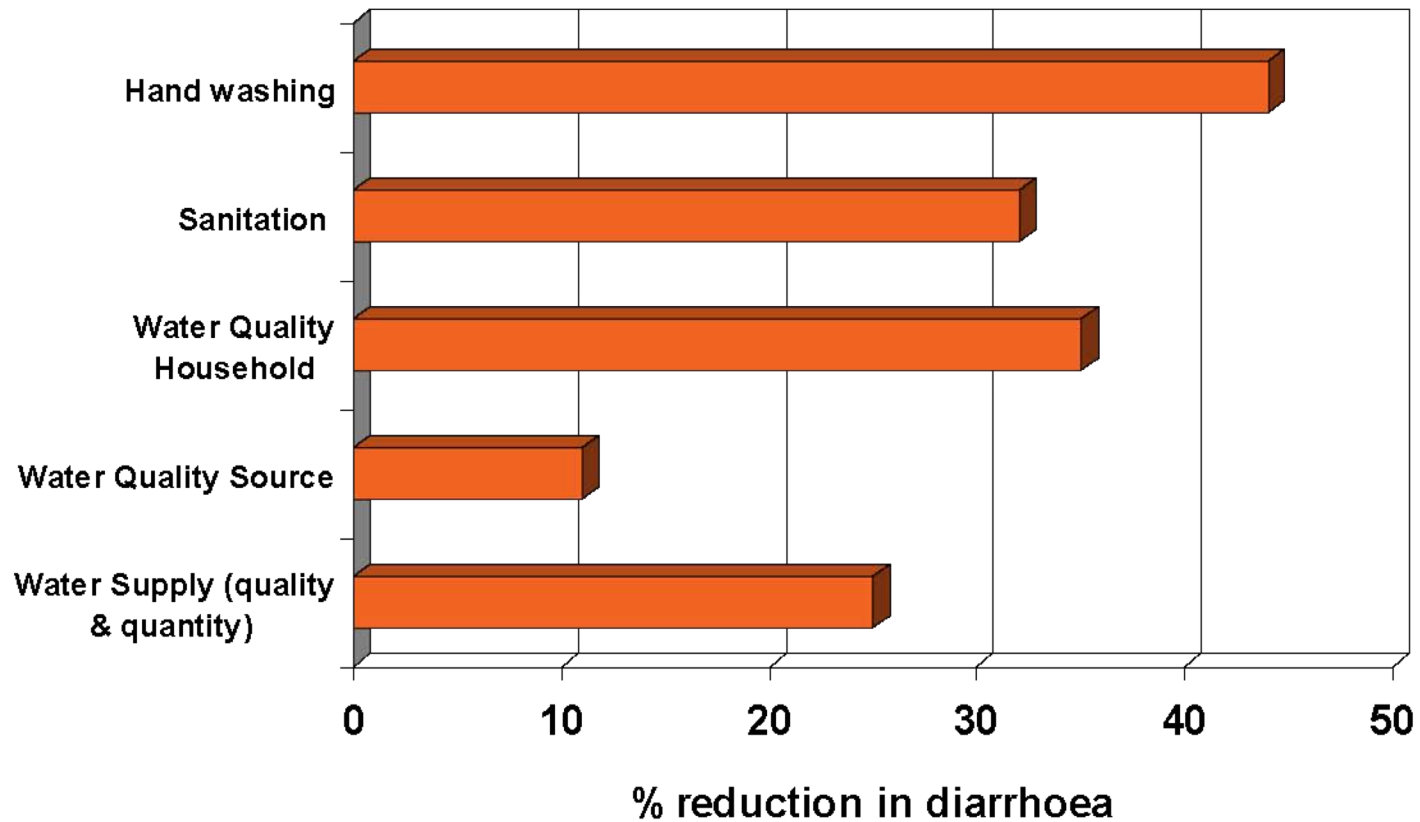
Handwashing

The future is in your hands • Don't get caught germy handed.• Drown a bug, save a life. • So you want to change the world – start by washing your hands! • Stop! Handwashing is practiced here.• Washed hands are caring hands.• What are the top ten carriers of infection? Answer: each one of your fingers.• Did you know germs can live on your hands for 3 days?• Lifesaving soap available here • Clean up your act • See sink? Use soap • Don't be a dirty soap dodger • Is the person next to you washing with soap?• Note: This soap is not just for decoration • Take a moment to refresh – wash hands with soap • Others are watching – better wash your hands • Happiness is: being around people who clean their hands • What have you just touched? • Did you know there are 3200 germs on your hands right now! • Unwashed hands. Eewww! • Clean hands deserve two thumbs up • Clean hands

Summary

- ✓ Put yourself in the shoes of the women, men, girls and boys

- ✓ Small design tweaks can make all the difference for users

- ✓ Consult-modify-consult

- ✓ We need **both** EMOTIONAL and TECHNICAL intelligence (capacity and approaches)

- ✓ Shelter - WASH - health – many qualitative outcomes to unpack (dignity, safety, humanity, privacy, cultural and social behaviours…)

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