

# Are you still pouring your Post-2015 water investments down the drain?

Stockholm World Water Week

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Hanna Woodburn, Global Public-Private Partnership for Handwashing

Orlando Hernandez, USAID WASHplus Project

Jane Wilbur, WaterAid

Corrie Kramer, Plan USA

#KeepTheHinWASH

# WASH Pre- and Post-2015

## Water & Sanitation in the Millennium Development Goals

- Target: Halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation

## WASH Post-2015 (as of July 19)

- Goal 6: Ensure availability and sustainable management of water and sanitation for all



# Joint Monitoring Programme's Proposed Target

By 2030:

- to eliminate open defecation;
- to achieve universal access to basic drinking water, sanitation and hygiene for households, schools and health facilities;
- to halve the proportion of the population without access at home
- to safely managed drinking water and sanitation services; and to progressively eliminate inequalities in access.



# How to get a full return on your WASH investment

**Hygiene** = Handwashing with Soap  
Menstrual Hygiene Management

- Not *just* a behavior
- Not *just* an afterthought
- **An essential**



# Agenda

## The “H, N & 3E” approach to hygiene

Hygiene has positive impacts on:

- *Health & Nutrition*
- *Economic development*
- *Equity*
- *Educational achievement*

Call to Action

Q&A



# Hygiene = Good health & nutrition

## Role of WASH in Diarrheal Disease Prevention, A Known Meta-analysis

WASH Component	Studies Reviewed (random or quasi-random control trials)	Self-reported diarrheal disease in different age groups
Water quality improved (treatment at source or at point of use)	38 studies	15-61% separate studies <b>17% pooled effect</b>
Sanitation (any measure to hygienically dispose of human feces)	8 studies Bangladesh, China, Ivory Coast, Kenya, Nigeria, USA	8-63% separate studies <b>36% pooled effect</b>
Handwashing with soap	17 studies Australia, Burundi, China, Peru, Malawi	42-48% separate studies <b>43% pooled effect</b>

Cairncross S., C. Hunt, S. Boisson, K. Boesten, V. Curtis, I. Fung y, and W. Schmidt.  
2010. Water, sanitation and hygiene for diarrhea prevention.  
*International Journal of Epidemiology*, 39: i193-i205.



Supportive Environments for Healthy Communities

# Making an Economic Case for Investing in Handwashing with Soap

Orlando Hernandez, John Bratt and Mackenzie Green

Stockholm World Water Week

September 2014

# Outline of Presentation

- Not washing hands ends up being costly for a country
- Methodology
- Findings for example country: Kenya
- Conclusion



# Introduction

- Make the case that poor handwashing practices can have negative economic consequence for a country
- Adapt the Economics of Sanitation Initiative (ESI) approach to do a cost/benefit analysis of handwashing practices in countries
- Apply the ESI approach in two steps, first to determine costs and second to establish cost/benefit
- Focus on countries where WASHplus has programs: Bangladesh, Benin, Kenya, Mali and Zambia

# Elements of Methodological Model for Calculations

		Types of Costs Considered		
		Health Care	Productivity	Premature Mortality
Diseases Averted	Diarrhea	✓	✓	✓
	Respiratory Tract Infections	✓	✓	✓

# Health Care Cost per Disease

Element of Algorithm	Source	Kenya	
		Diarrhea	ARI
1. Population at risk, <5	World Bank	7,051,217 children	
2. Incidence rate of disease per person/year	Latest DHS/MICS	3.45	1.32
3. # of annual cases in population at risk	#1 x #2	21,424,869 (88% of fecal-oral route)	4,644,402 (50% to fecal oral-route)
4. Proportion may be seeking care at facility for disease of interest	Latest DHS/MICS	0.486	0.559
5. Number of visits per episode	Hutton, WASH 2012	1.2	1 (value unknown)
6. Cost per visit	WHO-CHOICE (cost estimates)	US\$1.73	US\$1.73
7. Proportion of episodes avoided by handwashing (low and high)	Schmidt 2014 citing: Curtis and Cairncross 2003; Clasen et al., 2007; Ejemot et al. 2008	Low 30% Intermediate 40% High 50%	Low 10% Intermediate 20% High 30%

Total cost without handwashing = 1 x 2 x 4 x 5 x 6 = \$ 26.1 m  
 Total cost with handwashing = previous value by 7 = \$12.2 m

# Productivity Costs per Disease

Element of algorithm	Source
1. Population at risk, <5	World Bank
2. Incidence rate of disease per person/year	Latest DHS/MICS
3. # of annual cases in population	#1 x #2
4. Number of productivity days lost per episode of disease	WSP, Hutton WASH 2012
5. Proportion of episodes avoided by handwashing (low and high)	Schmidt 2014 citing: Curtis and Cairncross 2003; Clasen et al., 2007; Ejemot et al. 2008

Total cost without handwashing = 3 x 4

Total cost with handwashing = previous value by 5

# Premature Mortality Cost

Element of algorithm	Source
1. Estimated annual number of premature deaths associated with disease in vulnerable population segment	WHO World Statistics, WSP in country
2. Value imputed to premature death	World Bank World Databank; Hutton WASH 2012
3. Proportion of episodes avoided by handwashing (low and high)	Schmidt 2014 citing: Curtis and Cairncross 2003; Clasen et al., 2007; Ejemot et al. 2008

Total cost without handwashing = 1 x 2

Total cost with handwashing = previous value by 3

# Preliminary Calculations for Kenya:

## Total Costs of Diarrhea Incidence without and with Handwashing (High Impact) in US\$ millions

		Types of Costs Considered			Total
		Health Care	Productivity	Premature Mortality	
Handwashing Practices	Without	21.42	11.09	173.96	206.47
	With	10.81	5.54	86.98	103.32
Cost savings		10.62	5.55	86.98	103.15

# Preliminary Calculations for Kenya:

## Total Costs of ARI Incidence without and with Handwashing (High Impact) in US\$ Million

		Types of Costs Considered			Total
		Health Care	Productivity	Premature Mortality	
Handwashing Practices	Without	4.49	6.01	156.57	167.07
	With	3.14	4.21	109.59	116.94
Cost savings		1.35	1.8	46.98	50.13

# Total Savings

## Kenya Preliminary Estimates

- Premature mortality is driving the costs (similarly to finding of ESI)
- US\$103.15 m from diarrhea + US\$50.13 m from ARI = US\$153.28 m
- USAID's development assistance to Kenya was US\$261 m in FY 2013, 58% of the hw savings
- 2013-14 estimated public sector expenditures in the health sector was US\$404 m, savings generated by hw represents 37% of that budget
- Cost/benefit analysis is next, if we find funding

# Breaking the silence



## Menstrual Hygiene Management & WASH

Jane Wilbur

Equity and Inclusion Advisor

WaterAid



# The importance of MHM

- Females menstruate for approximately 3000 days (>8 years) during their life.
- They need:
  - Water to wash their body and materials used.
  - Proper disposal of used materials in a safe and dignified way.
- Yet, there is no mechanism for the international community to track this issue.
- And menstruation is surrounded by stigma, silence and taboo.



# Myths

**Bangladesh:** women must bury menstrual cloths to banish evil spirits.

**Zambia, Nigeria, Tanzania:** a woman will be cursed if anyone sees the menstrual cloth.

**UK:** if you use a tampon, you will lose your virginity

Menstruating females may not be allowed to touch water points, or household sanitation facilities.



# Social exclusion



“When people come and see us at the Chhaupadi, I feel ashamed. I feel so ashamed”. Thyra Khuri Bishwa Karma, 16. (Narsi village, Nepal).

# Impacts on education



Ethiopia: 50% of girls in one school missed between 1-4 days of school per month due to menstruation



# Economic impacts

- Bangladesh: 60% of female factory workers used rags from the factory floor as menstrual cloths.
- Subsequent infections led 73% of these women to miss c. 6 days a month of work.
- With MHM, this dropped to 3%.
- Result: economic gains for workers and the factory owner.

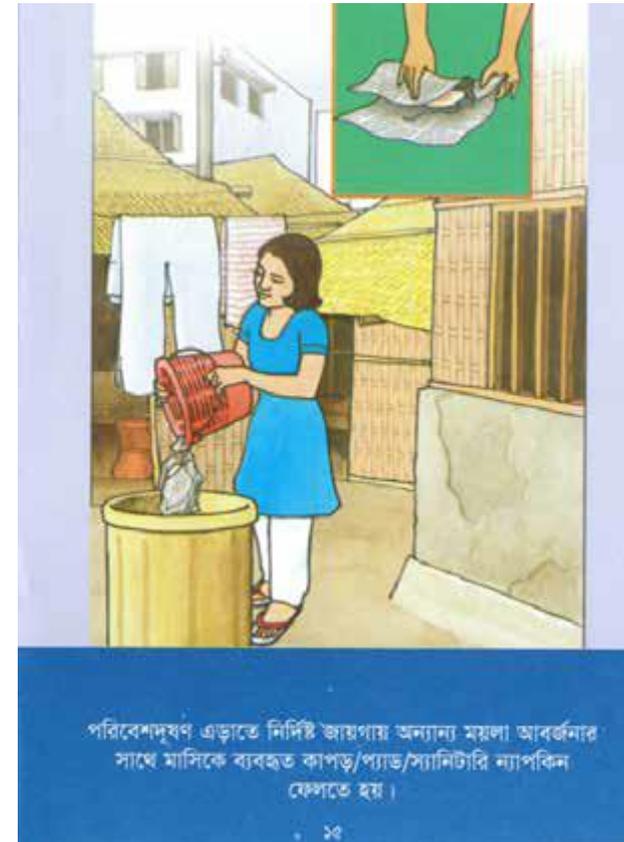


# WASH programmes

- WASH projects focus on women as managers who ensure proper use and maintenance.
- Sanitation and hygiene facilities ignore the need for menstruation hygiene management.
- This reinforces the stigma and shame surrounding menstruation.



# Menstrual Hygiene requires: 1) access to accurate and pragmatic information



- Girls' books in different countries, local languages, culture and stories
- IEC materials – pictures for those who cannot read – depicting local context

# Work with both genders

“

When my first daughter experience[d] her menstruation I was very mad and punished her hard because I thought she was raped or got into some kind of sexual intercourse with boys. As a father I had very limited knowledge about it. Now I truly regret it after getting this knowledge about the subject.

Father in Ethiopia, 2014

## 2) Access to menstrual hygiene materials



A community worker holds a packet of sanitary towels in India.

### 3) Access to water and soap within a place that provides an adequate level of privacy for washing body, cloths and clothes



Photo: WaterAid/ James Kiyimba

School girls bathrooms have water containers and buckets to wash their bodies, clothes and menstrual hygiene materials (Uganda).

#### 4) Access to facilities that provide privacy for changing materials and washing and drying menstrual cloths



Photo: WaterAid/ James Kiyimba

School bathroom have places to dry pants and menstrual hygiene materials after washing (Uganda).

## 5) Access to disposal facilities for used menstrual materials



Integral incinerator with girl-friendly toilet block, Afghanistan (UNICEF)

Latrine block with incinerator, changing room with mirror so women can check their dress for stains.

# Progressively reducing inequalities

**Vision:** by 2030 basic drinking water, adequate sanitation, handwashing and menstrual hygiene management in schools and health centres; basic water at home; handwashing at home

**Indicators:** Percentage of primary and secondary schools, hospitals, health centres and clinics with a private place for washing hands, private parts and clothes; drying re-usable materials; and safe disposal of used menstrual materials.

This indicator should be included under the sexual and reproductive health and reproductive rights goal.

# Menstrual education and hygiene for all

There can be  
no excuses.  
Leave no-one  
behind!



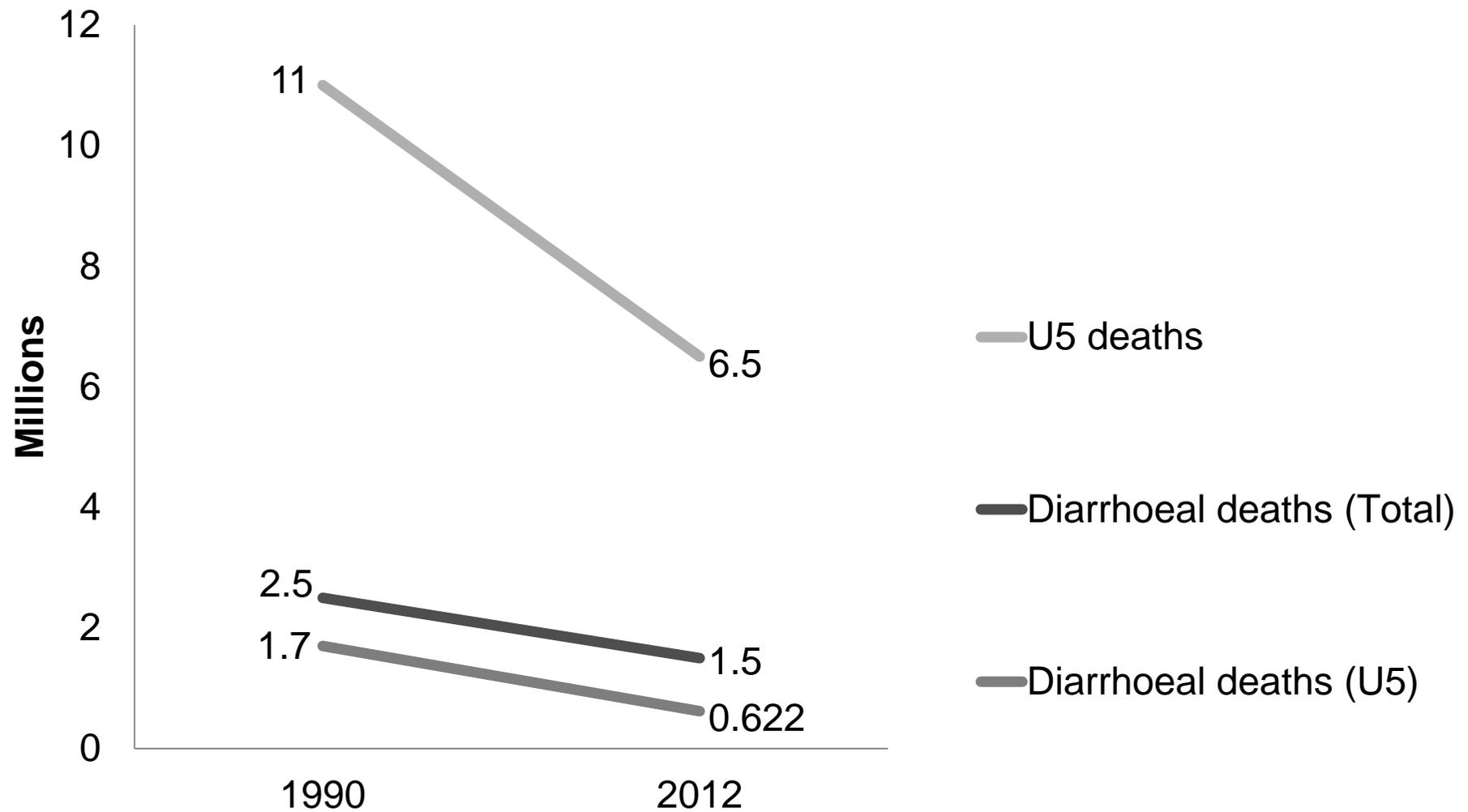


# Are you still pouring your post-2015 water investments down the drain? Hygiene and education

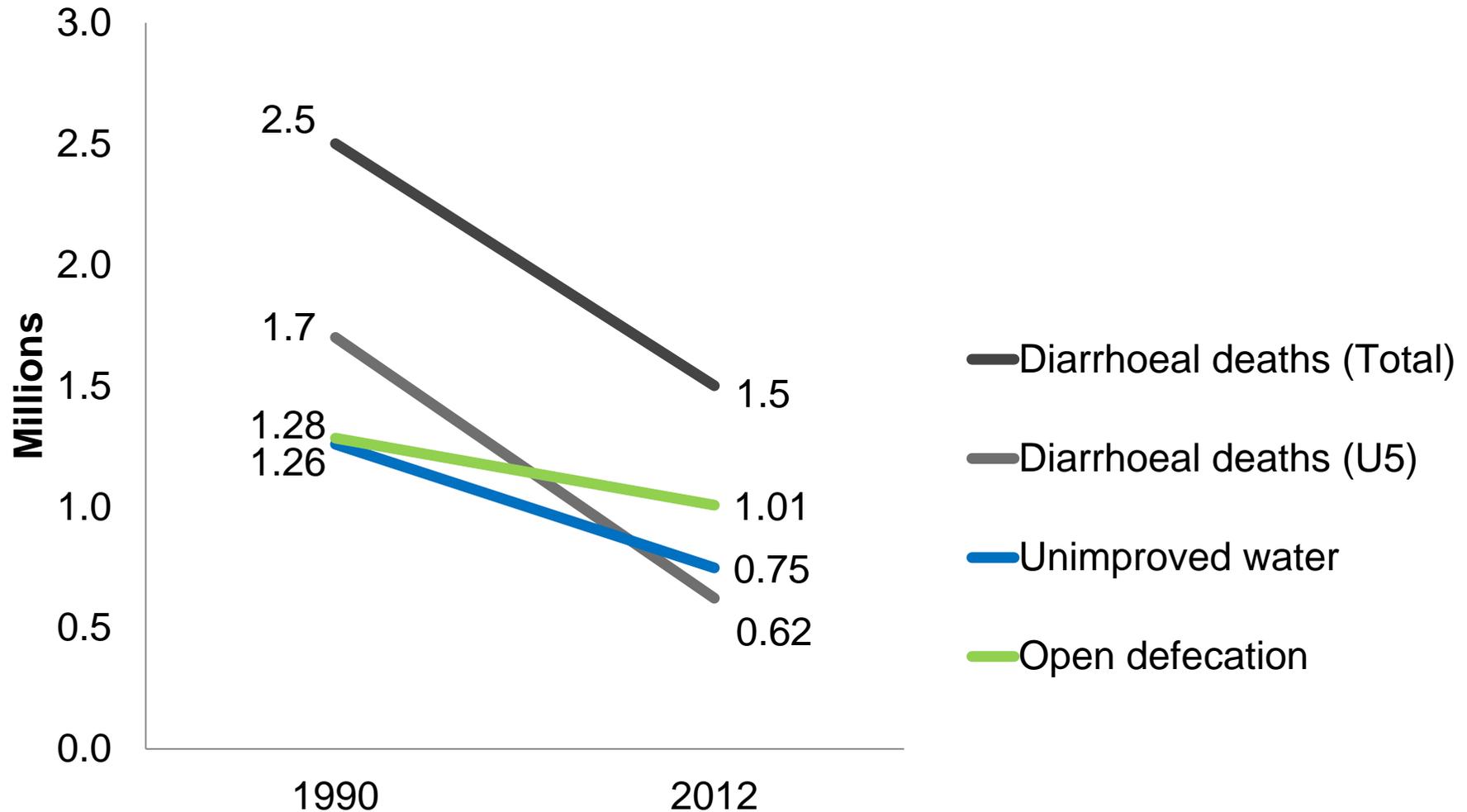
Corrie Kramer  
Plan International USA



# The good news

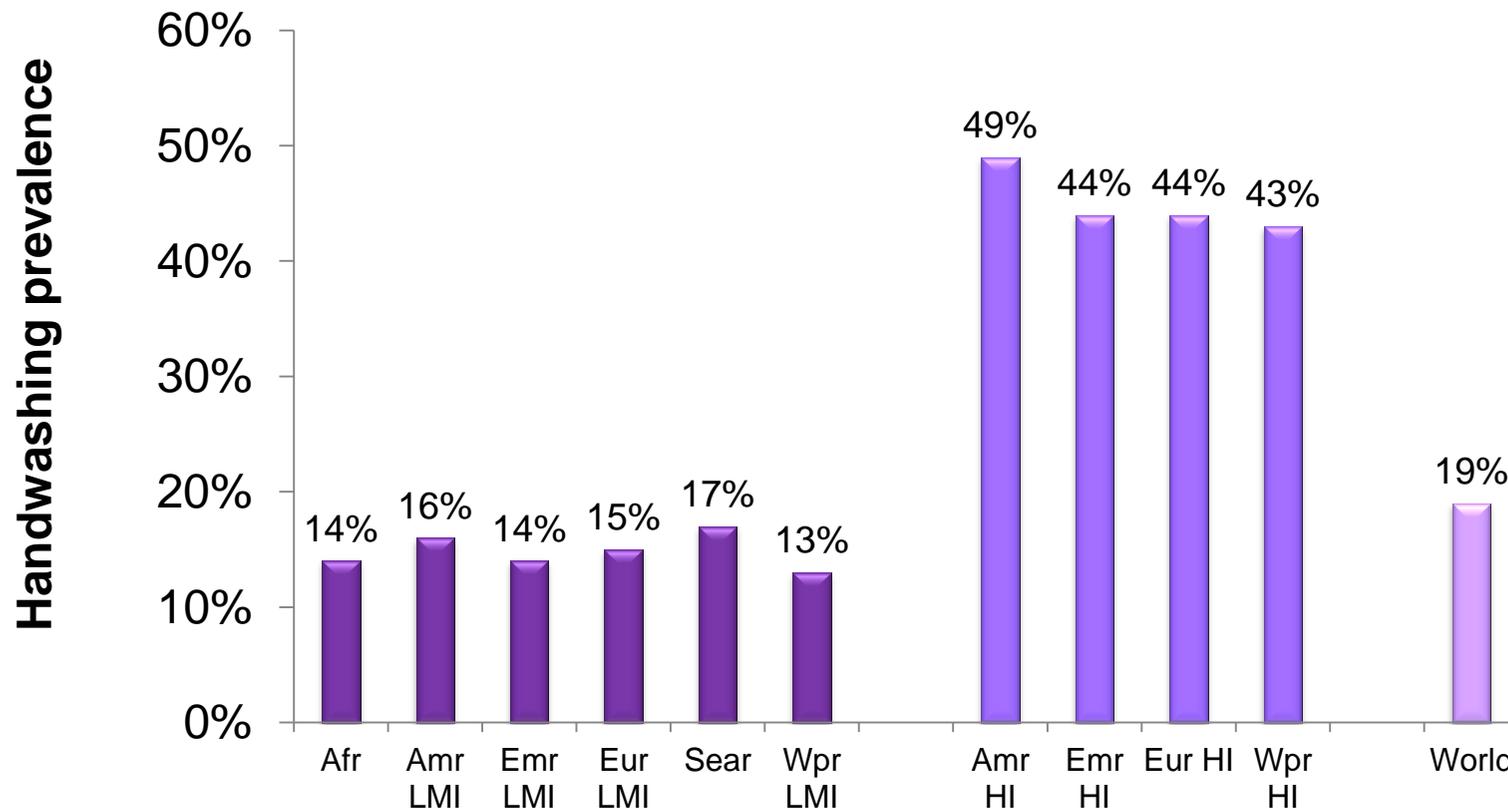


# Diarroedal Deaths and WASH



# Impacts of handwashing

- Impact: reduction of diarrhoea by 23%



Freeman et al. 2014

# Girls in school

- ▶ 23% of poor, rural girls in sub-Saharan Africa complete primary school
- ▶ Gender disparities more prevalent at higher levels of education

# OWG proposed goals

- ▶ 4.1: free, equitable and quality primary and **secondary** education
- ▶ 4.5: eliminate gender disparities in education
- ▶ 4.a: education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all
- ▶ 6.2: access to adequate and equitable sanitation and hygiene for all

# Education and behavior change

- ▶ Education, health and hygiene are closely interlinked: good health and proper hygiene keep children in school and improve performance and learning.
- ▶ On its part, the school is a strategic venue for instilling life-long health and hygiene behaviour among schoolchildren, who, themselves, become agents of behaviour change in their households and communities.

# WASH in schools

- ▶ In a cluster randomized trial, Freeman and colleagues found children from 20 Kenyan government primary schools who received a school-based water treatment, hygiene and sanitation program had 44% lower odds of reinfection of *Ascaris Lubricoides* compared to children from 20 control schools.
- ▶ Girls from intervention schools had lower odds of reinfection and lower egg count compared to girls from control schools. There was no difference between boys. There was no significant effect of the intervention on the reinfection of 3 other soil-transmitted helminths. (Freeman et al. 2013)

# WASH and absenteeism

- ▶ Joshi and colleagues reviewed recent evidence of the impact of access to safe water, handwashing facilities and **hygiene education on absenteeism** and health outcomes among school-aged children.
- ▶ Of the **5 studies that assessed WASH and absenteeism**, the authors found that incorporating an educational component in interventions was very effective in reducing absenteeism. Access to handwashing instructions and facilities improved primary school attendance during flu season.
- ▶ The benefits of **handwashing appeared greater in female students** who had the highest absence rates. These studies relied on self-report for compliance and illness. Those with a lower socioeconomic index had worse access to safe water and improved sanitation and hygiene infrastructure compared to higher indices. (Joshi and Amadi 2013)

# Fewer absences

- ▶ In a randomized controlled trial among urban Indian households, authors found that children from intervention households had 25% fewer diarrheal episodes, 15% fewer ARI episodes and **27% fewer school absences** due to illness, and 46% fewer eye infections compared to controls. Families of intervention children also had fewer episodes of illness compared to families of control children. (Nicholson et al. 2014)



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### About Essential Health Care Package

The Essential Health Care Package (EHCP) combines three evidence-based preventive interventions to increase child health: **Daily Handwashing with soap**, **Toothbrushing with fluoride toothpaste** and **Bi-annual deworming**.




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# Hygiene is the missing link in achieving the full benefits of your WASH investments



## Governments

- Measure access
- Create hygiene-friendly policies
- Support hygiene in the Post-2015 agenda

## NGOs

- Integrate hygiene into correlated projects
- Advocate for better hygiene policies at the country level

## Donors

- Fund comprehensive WASH projects
- Promote hygiene integration





# Questions & Answers

# Thank you!

Hanna Woodburn

PPPHW

[HWoodburn@fhi360.org](mailto:HWoodburn@fhi360.org)

Orlando Hernandez

USAID WASHplus/FHI 360

[OHernandez@fhi360.org](mailto:OHernandez@fhi360.org)

Jane Wilbur

WaterAid

[JaneWilbur@wateraid.org](mailto:JaneWilbur@wateraid.org)

Corrie Kramer

Plan USA

[Corrie.Kramer@planusa.org](mailto:Corrie.Kramer@planusa.org)