



WASH in HCF

Global Learning Event

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Scaling up an Evidence-Based Package for Water, Sanitation and Hygiene (WASH) in Zambia to Mitigate healthcare-associated infections (HAI)

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MoH ZAMBIA – with UNICEF support

Scope of work

Context and background

Zambia=Lower Middle Income Country, in Southern Africa

Population = 15.5mio (2015); 17.4 people/km²

Annual growth rate=2.8%

Key indicators:

- Maternal Mortality Ratio = 398 /100,000 live
- <5yrs Mortality Rate = 75 / 1,000 live births
- Top ten causes for <5yrs mortality/morbidity incl.
Diarrhea & Respiratory infections
- **>90%** of infrastr. for **water supply**, for **sanitation** and **97% of HC waste disposal** need REPAIR or REPLACEMENT (1)



Zambia has 1,690 public HCF: approx. 80% health posts/rural health centres
198 urban health centers
78 hospitals



Scope of work: Aims and objectives

Provide WASH-IPC (Infection Prevention Control) package

1. To 55HCF in Copperbelt / Lusaka Provinces

11 Districts

between 2015-2018

EU funded with UNICEF support



2. Plan to scale up to all 1,620HCF using *same WASH-IPC package*

expected from 2018 on...

Government funded

European Investment Bank loan under negotiation [project document developed]; other donors to be defined



THEORY OF CHANGE – BASIS OF THE INTERVENTION

Interventions

- **WASH-IPC package implementation**
SOP, training, CPU, Chlorine dosers, water supply, sanitation

Outputs

- **Chlorine produced on-site**
- **Surfaces routinely cleaned and disinfected**
- **Clean water is available**
- **Handwashing facilities & adequate handwashing practice**

Outcomes

- **Reduced water-based risk of contamination**
- **Reduced risks of contamination from "hand-touch sites"**

Impact

- **Increased quality and safety of maternal, neonatal and child health in Zambia**
- **Reduced maternal & neonatal morbidity and mortality**

APPROACH: PROCESS of implementation

Phase1: defining & validation IPC-WASH package

Pilot
Coupled to research

1 yr

Phase2: Scale up to 55

1. Training, SOP,
2. Assessment
3. equipment & supplies
4. Works

1 yr

Phase2: Scale up to 55

Support phase
(monitoring & Operation & mainten.)

1 yr

Learning & documentation

Preparation & further NATIONAL scale up

FUNDING: EU

Government of Zambia
(50% EIB loan), other donors TBD

IMPLEMENTING PARTNERS

Phase 1:
local research NGO with UNICEF support;
Government steering

Phase 2
Implementation led by MoH with UNICEF support
Strong private sector involvement

By MoH with TA (to be defined)

APPROACH: Phase 1 = DEFINING THE IPC-WASH PACKAGE

Phase 1: Pilot in 4 Health Facilities (9 months) in Lusaka & Ndola

Ethical approval for research
FEB 2015

IPC WASH assessm. + Baseline

Package impl. (Training, SOP, works, equipment & supplies)

Monitoring including tools

End line

Validation & WASH package by MoH
NOV 2015

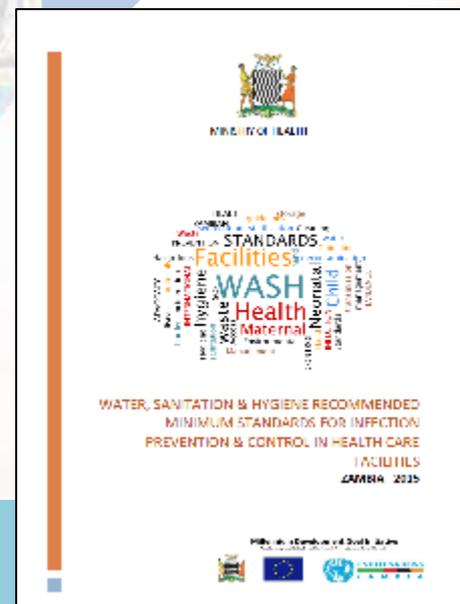
USEFUL FOR: (i) Evidence-based development of **WASH-IPC in Health package**
(ii) **Advocacy** for implementation and further scale up

Zambia IPC Guidelines Policy Standards TWG

Updated IPC/WASH in HCF Package

Internat. and 3rd country WASH in Health guidelines

Pilot findings / Research



APPROACH: A COMPREHENSIVE PACKAGE

BARRIERS TO DISEASE TRANSMISSION	INTERVENTIONS (Soft+Hard)	Infection Prevention EFFECTIVENESS	COST
Disinfection & cleaning	Liquid chlorine production units + training	+++++	+
Safe drinking Water	Water supply, Storage, Treatment (chlorine dosing)	+++	+++
Hand washing	Supply hand washing stations and sanitizers, practice	+++++	+
Sanitation - toilets	Build / rehabilitate toilets, maintenance	++++	+++
Sanitation medical wastes	Equipment for solid waste collection, storage and disposal (pits, incinerators)	++	++++ +
Standard Operating Procedures	IPC committee; develop simple standards + capacity building	+++++	+

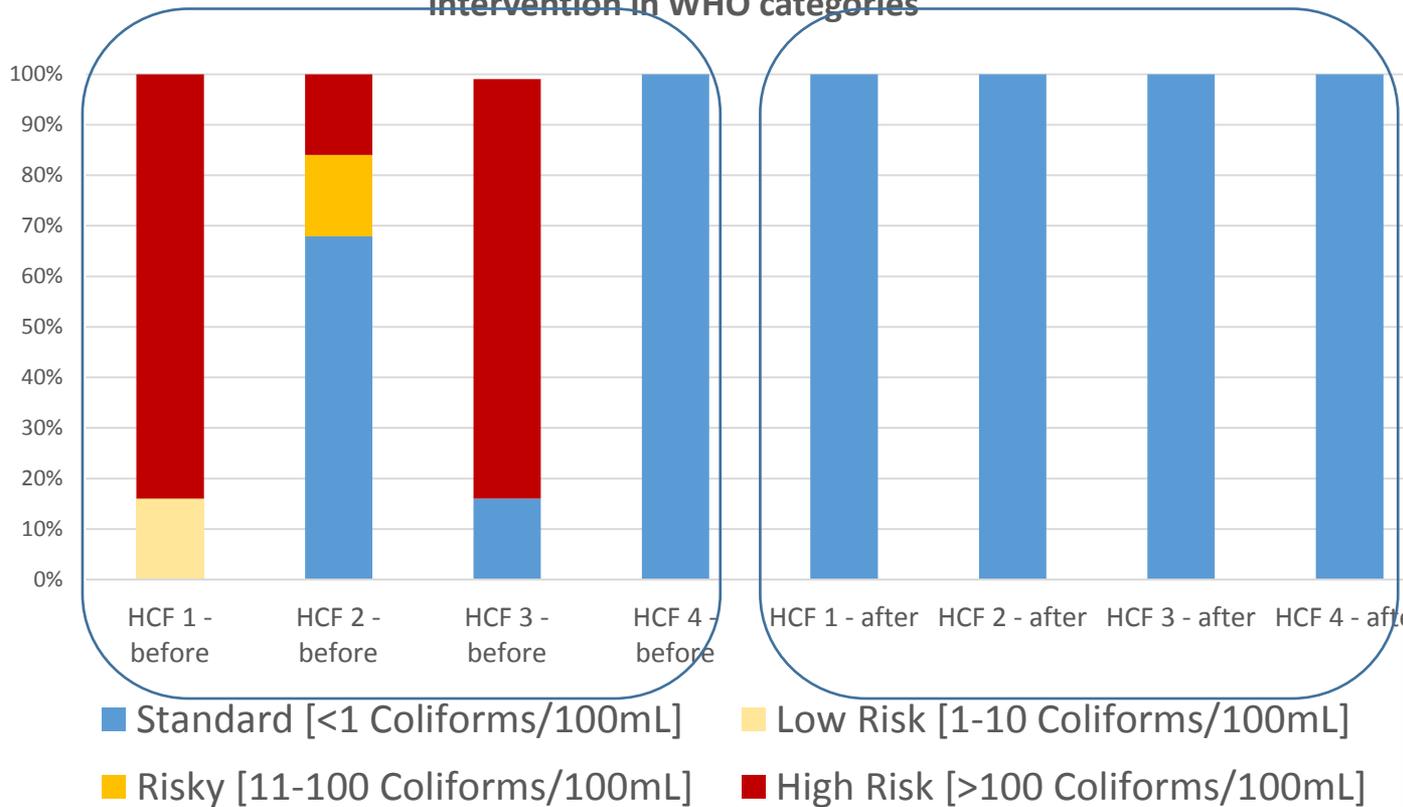
MILLENNIUM DEVELOPMENT GOAL INITIATIVE

A Joint Programme Accelerating the Reduction of Maternal, Neonatal and Child Mortality



Outcomes: Phase 1 pilot – water quality

Water Quality Results - % of Samples per site at baseline and after intervention in WHO categories



BEFORE pilot

AFTER Chlorination/flushing

- Sampled water points in 4 pilot HCF;
- All 4 HCF with borehole + water utility water;
- Leakages found 4 HCF – repaired to extent possible

Learning:

- **RESIDUAL CHLORINE REQUIRED = most feasible 100% safe solution**
- **through ON-SITE CHLORINATION: using Chlorine dosing pumps**



Outcomes: Phase 1 pilot findings – Hygiene status

Hygiene Status: proportion of key surfaces-hand touch sites that "passed" [$<5\text{cfu}/\text{cm}^2$]



Total Aerobic Colony Count (ACC)

- 2.5 to 5 Colony forming Units (cfu)/ cm^2 is classified as hygiene failure^[1,2,3]
- A pass is defined as having <2.5 cfu/ cm^2

	Baseline	Endline	Improvement
Kanyama	15.8	27.3	73%
Chipata	45.7	52.2	14%
Chipokota	26.3	60.7	131%
Chipulukusu	21.7	55.5	156%

Baseline Findings for 4 indicator bact.

(Staphylococcus, Acinetobacter, Klebsiella, Pseudomonas)

>50% of samples showed drug resistance to 10 commonly used antibiotics

Outcomes: Pilot research on Hand Washing / handrub practice

- **In same 4 HCF: observations**

OUT of all 800 observed hand hygiene opportunities, **ONLY 8 (1%)** hand hygiene practiced!

- **Reasons: focus group discussions+interviews**

Lack of facilities, water, soap

Lack of motivation

Lack of monitoring



Outcomes: Policy/standards

- **National Infection Prevention Control Guidelines** reviewed beginning 2017; dissemination pending
 - now include WASH-IPC package [WASH-IPC standards, SOPs, training curriculum]
- **National O&M framework** under development
 - Certification of equipment operators
 - Clear accountability definition (Central-Prov-Distr-HCF)
 - Operation-maintenance-servicing rules defined
 - Reporting/logging protocols defined



Outcomes: Monitoring

- **Key WASH-IPC indicators** inclusion in **HMIS**;
SELECTION OF INDICATORS also related to top 10 causes <5yrs mortality/morbidity [Diarrhea & Respiratory infections]

Monthly reporting:

- water availability + quality
- hand hygiene (facilities with water/cleaning agent)
- cleaning/decontamination of surfaces
- solid/medical waste management

6-monthly reporting:

- O&M & functionality of equipment (indicators/protocols still under development); nb of IPC meetings



Outcomes: Capacity strengthening

WASH-IPC – software & practices

- Training (ToT) of **pool of 24 national/provincial trainers** WASH-IPC; 5 Training Videos
- Training of **District Environmental Health Technologists(EHT)** in charge of **monitoring/supervision** in 11 districts
- **IPC committees** constituted in 55 HCF –daily monitoring – and **HCF staff training**: > 50% of staff trained (still ongoing), ground & medical staff

WASH equipment – operation, maintenance & servicing

- Training of **Medical Equipment Officers – Nat/Prov/District** for O&M + supervision of Chlor Prod Units & Dosing Pumps, Incinerators
- Training of EHT, in-charge and operators in each HCF

In 55 HCF: 1 yr package implementation & training + 1 yr support/TA

Private sector capacity building – namely CPU supplier received training from Antenna (now supplier is developing LOW COST CHLORINE production plant using same Antenna Chlorine Production Units)

SCALING UP: SERVICE DELIVERY MODEL SUPPORT AT ALL LEVELS

Central

MoH Disease Surveillance and
Public health department

MDGi WASH UNICEF team for
support

Central level at MoH + UNICEF: **coordination role**, facilitating the implementation of package, policy & guidelines

Provinces

2 full time WASH
Supervisors

Lusaka Province
[PMO/CEHO]

Copperbelt Province
[PMO/CEHO]

2 full time WASH
Supervisors

**Provincial Medical Office/CEHO supported by
4 Full time Provincial WASH Supervisors**

Two dedicated fulltime staff from each Province will coordinate and monitor WASH package implementation both financially and programmatically [organization of training, quality assurance, day to day mentoring and capacity building]

Districts



**District Medical Office/EHO provide IPC WASH
supervision**

Pool of 22 IPC trainers/coaches

From District/province level; trained as IPC and Handwashing coaches to implement **training + certification** at HF level and provide mentoring and support to HF staff



HCF



LESSONS LEARNED & TAKE-AWAYS to ADDRESS MAIN CHALLENGES

Evidence based implementation – through PILOT+Research

IS IMPORTANT in order to

- **Convince stakeholders** at all levels: HCF, District, Provincial, Nat
If people believe in package = much easier
- **Advocacy for additional FUNDS/partners** (example EIB)
- **Develop standardised package** – national WASH-IPC standards, guidelines, SOPS et

Institutional strengthening

- Align implementation with **MoH structure**
- Minimum standards in ***National Infection Prevention guidelines***
- Create Pool of National trainers [ToT] (soft+hardware)



LESSONS LEARNED

Monitoring and Supervision

- Feed into HMIS (use existing structure)
- -> LINK WITH top 10 causes of mortality / morbidity

Equipment management

- Focus on maintenance and servicing
- Operator certification: only trained operators can operate equipment
- Allocate budget for supplies: fuel, electricity, salt...

Quarterly joint meetings – for exchange and learning

- To ensure harmonized approach through Districts/Provinces and HCF



Next steps & Recommendations

- Inclusion of WASH-IPC in Nat/Province/District plans
- Include IPC in training curriculum of Environmental Health Technologists (EHT)

- **National**

- MoH
- Stren



- **Additio**

- Impact of WASH-IPC on target scale
- On sustainable operation and maintenance of WASH equipment – WITH ANTENNA for Chlorine Prod Units
- On cost effective hand hygiene surveillance using ATP – **call for funding!**



References / contact



IPC IN WASH TRAINING OF TRAINERS

🔒 | Tobias Tembo • 5 videos • 8 views • Last updated on Jan

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+ Save

- Dr Leah Namonje – District Health Director Chilanga, Zambia
dnamonjel@yahoo.com



1 Hand Hygiene
by Tobias Tembo



2 What is the importance of Waste Management in IPC
by Tobias Tembo

- Lavuun Verstraete – UNICEF WASH Zambia



3 How to keep medical instruments safe to use
by Tobias Tembo

lverstraete@unicef.org



4 What make a good trainer?
by Tobias Tembo

https://www.youtube.com/playlist?list=PLuX PkKa9vOKckGm4Rsnr5iWqpkvV1awfy&feature=em-share_playlist_user



5 What is the importance of PPE in IPC?
by Tobias Tembo