Improving water, sanitation and hygiene in health care facilities

Zambia

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Disclaimer: the contents of this presentation do not necessarily represent the views of the Government of Zambia
Outline

- Zambia brief profile
- Health Policies & regulations
- Zambia initiative story
- Health facility, Health Worker & Patient assessment & findings
- Conclusions
- Expanded program to Government HCF
Zambia country profile

- Population: 13 million, 60% <25 young
- Health system based on 2030 vision: prioritize “equity of access to cost-effective quality health services, as close to the family as possible”
- Developed National Health Policy (2013)
Zambia Country Profile

• Access to safe drinking water: 48% (1992)
  – Increased to 58% in 2006.
• Sanitation: 6.6m no access to facilities out of which 2.5m practice open defecation.
• Waste disposal by dumping: 34% households
• Over 80% health conditions in HF are communicable diseases related to poor access to water and sanitation leading to public health problems
Policies and regulations

- WASH in HCF is integrated in policy and not specific
- Proposal to improve WASH in HCFs has been formulated & MoH/MCDMCH
- Proposed implementation and monitoring
  - Ministry of local governments
  - Ministry of Community Development for Mother and Child Health
  - Ministry of Health
  - Ministry of Education
- Implementation tied to donor support
Overview of Zambia initiative: safe water and hygiene program in rural health facilities, 2010

• Many health facilities in developing world lack supply of safe water in screening rooms and patient wards

• Consequences
  – Risk of health facility-acquired infections is 2-20 times higher than in developed countries*
  – Inability to administer oral medicines safely
  – Lack of teaching platform for health workers to model good hygiene practices to patients

• In response to these problems, we implemented an inexpensive, simple intervention designed for short to medium term
Objectives

- Assess use of drinking and handwashing stations in health facilities
- Evaluate impact on patient knowledge and practices
Overview of the initiative

- **Water stations**
  - Plastic containers with lids and taps
  - Metal stand
  - Basin for catching water

- **Water treatment**
  - Starter supply of bleach

- **Hand washing**
  - Starter supply of soap

- **Health worker training**
Patient Teaching

- At health facility

- In the community
  - Mobile water stations
Project Location

8 rural health facilities operated by CHAZ
Monitoring and Evaluation

- Baseline survey
- Implementation
- Follow-up survey
- Expansion
- Ongoing monitoring
Key players

- Ministry of Health (MOH)
- Ministry of Community Development, Mother & child health (MCDMCH)
- Ministry of local government & housing
- Tropical Diseases Research Centre
- Churches Health Association of Zambia (CHAZ)
- Centers for Disease Control and Prevention (CDC)
- Center for Faith-Based and Neighborhood Partnerships, Department of Health and Human Services (DHHS)
Roles and responsibilities

- **Financing:** United States DHHS
- **Training and installation of water stations**
  - TDRC
  - CHAZ
- **Implementation:** health workers in CHAZ and MOH HCFs
- **Logistics:** CHAZ and TDRC
Timeline

Baseline Survey

Implementation in 8 CHAZ Health Facilities

Feb 2010
Timeline

- Baseline Survey
- Implementation in 8 CHAZ Health Facilities
- Follow up Survey

2010
Timeline

Baseline Survey

Implementation in 8 CHAZ Health Facilities

Follow up Survey

Expansion

Feb
Mar
Apr
May
Jun
Jul
Aug

2010
Baseline Data Collection

- **Health Facility Assessment**
  - Personnel
  - Wards
  - Beds
  - Patient load
  - Access to water for drinking and hand washing
  - Residual chlorine in stored water
Baseline Data Collection

- **Patient Survey**
  - Exit Interview at health facility
    - Water handling and hand washing knowledge and practices
  - Home visit
    - Residual chlorine in stored water
    - Hand washing demonstrations
Follow-up Data Collection

- **Health facility assessment:**
  - *Structured assessment form (applied at baseline and after 4 months)*

- **Patient survey**
Health Facility Survey
Water Access at Health Facilities

- Piped water (24 hours a day): 1
- Intermittent piped water + stored water: 5
- Stored water only: 2
## Water Storage, Treatment, and Hand Washing in Eight Health Facilities

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Baseline</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Water storage container</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unimproved (bucket)</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Improved (bucket with tap)</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Project water station</td>
<td>--</td>
<td>7</td>
</tr>
<tr>
<td><strong>Water treatment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reported current treatment</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Chlorine bottles observed</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Positive chlorine residual in water</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td><strong>Soap present</strong></td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>
Patient Survey
### Water Storage, Treatment, and Handwashing Practices in Patient Homes

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Baseline $^a$ (n=63)</th>
<th>Follow-up (n=80)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved water storage container $^b$</td>
<td>15 (24%)</td>
<td>48 (61%)$^a$</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Water Treatment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clorin bottle observed in home</td>
<td>7 (12%)</td>
<td>18 (23%)</td>
<td>0.16</td>
</tr>
<tr>
<td>Positive chlorine residual in water</td>
<td>2 (3%)</td>
<td>12 (15%)</td>
<td>0.03</td>
</tr>
<tr>
<td>Hand Hygiene</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct handwashing procedure</td>
<td>25 (42%)</td>
<td>52 (65%)</td>
<td>0.02</td>
</tr>
<tr>
<td>Soap in house</td>
<td>50 (81%)</td>
<td>72 (90%)</td>
<td>0.23</td>
</tr>
</tbody>
</table>

$^a$ n does not equal total interviewed due to missing values.

$^b$ Jerrycans or containers with a tap were improved water storage containers.
Conclusions

- Improved water storage and treatment practices in health facilities
- Patient water storage and treatment improved
- Patient ability to demonstrate proper hand washing technique improved
Program Expansion

- TDRC, MOH, and CHAZ with support of DHHS implemented water station program in 150 additional health facilities in 5 provinces: of Zambia: Luapula, Copperbelt, Northwestern, Southern and Eastern provinces.
- MOH/MCDMCH provides Clorin to rural health facilities to distribute to patients and community.
- MCDMCH implementing pilot evaluation of impact of water stations on infection control in HCFs.
Challenges

• Logistical
  – Delivering water stations to remote sites
    • Long distances
    • Poor quality roads
    • Inaccessible HCF during rainy season
  – Obtaining transport for monitoring

• Financial
  – Although intervention is inexpensive, resources are scarce
  – Donor support required

• Communication: assuring that MOH/MCDMCH has access to information at central, provincial, and local level
Reflections and next steps

- Intervention was inexpensive but short to medium term solution
  - Enabled rapid response to HCF problem
  - Monitoring of expanded HCF intervention is ongoing
- Current plan for HCF infrastructure
  - Capacity strengthening: multi-sectoral (government, NGOs, donors)
  - Develop implementation program through 3 Ministries:
    - Health,
    - Local Government
    - Community Development, Mother and Child Health
    - Ministry of Education
Quick check on 2010 Expanded activities in 2015

- HIGHLIGHTS ON FOLLOW UP OF EXPANDED
YOUR ATTENTION ACKNOWLEDGED
MANY TONGUES YET ONE!

One World One People
• Thank you!
• Merci Beaucoup!
• Muchas Gracias!
• Asante sana

One Zambia One Nation
• Zikomo
• Taonga
• Natasha
• Twasanta mwane
• Twalumba
• Litumezi
• Tunasakili
• Twatota mwane