Exploring Water, Sanitation, and Hygiene Practices in Gatineau Haiti

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By the end of this session the learner will be able to:

• Recognize the current state of water and sanitation in a rural region of Haiti.

• Identify two strategies for assessing clean water, sanitation, and hygiene among underserved populations in resource-poor settings.

• Identify 2 two strategies for successful implementation as well as monitoring and evaluation of community education programs.
The aim of the Global Established Multidisciplinary Sites (GEMS) is to encourage faculty and students from across the Johns Hopkins University to work together to solve global health problems.

Our GEMS Haiti project brought together a multidisciplinary team from the School of Nursing, School of Public Health and School of Engineering to better understand the current state of water, sanitation, and hygiene practices and inform feasible interventions to improve water sanitation for residents.
Introduction
Background

Cap-Haïtien: Citadelle, Labadie

Jérémie: Clinic location

Port-au-Prince: Nation’s Capital
• GEMS team partnered with Friends For Health in Haïti (FHH) Centre de Sante De Gatineau
• FHH Clinic located about 1 hour from city of Jérémie in the village of Gatineau
• Centre de Sante De Gatineau implemented water and sanitation project in 2013
• 6 communities with 2 trained community promoters each
• Promoters trained on how to deliver;
  – Education to community members
  – Implementation of tippy tap
  – Latrine building projects
What do community members use to wash their hands?

- **87%** use Savon Ak Dlo (Soap and Water)
- **9%** use Alo Pou Kont Li (Water Alone)
- **3%** use Dlo Ak Clorox (Water and Clorox)
- **1%** use Refize (Refuse)
- **>1%** use Lôt (Other)

*these data represent the first 6238 households sampled

*Household survey data collected by the Centre de Sante de Gatineau Census Project 2015*
Where do community members defecate?

- Hole in the ground: 51% (n = 4042)
- Brush: 28% (n = 2184)
- Own latrine: 19% (n = 1507)
- Someone else’s latrine: 1% (n = 66)
- Missing: 1% (n = 95)

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Inadequate sanitary facilities for 79% of the population

*Household survey data collected by the Centre de Sante de Gatineau Census Project 2015*
• Waterborne illnesses, such as typhoid, cholera, and chronic diarrhea, are the cause of more than half of the deaths every year
• Contaminated water is also one of the leading causes of childhood illness
• 51% of the rural population has access to an improved water source in 2010
• 10% of the rural population had access to improved sanitation facilities in 2010

Methods

Three-pronged approach
1. Review of the literature surrounding hand washing treatment, hygiene and sanitation
2. Survey data collection through community assessments to better understand some of the barriers and opportunities for sustainable WaSH projects to improve health
3. Review of training materials, data collection and monitoring and evaluation of the Centre de Sante Community Promotor Project
## Methods

### 1. Household Survey

**Purpose:** this tool is to be used at baseline and endline to assess the community’s knowledge, attitude, and practices related to specific WaSH topics addressed by CHP. Additionally, the tool will provide evidence of effectiveness of the CHP intervention.

**Data:**

- Household Name: __________________________________________________________
- Community: ________________________________________________________________
- Name of CHP working in their community: ______________________________________

| 1. How many total people live in this household? | 1. Yes | 2. No |
| 3. In the past month, have any adults in the household had diarrhea? **clarify the definition of diarrhea with participant** | 1. Yes | 2. No |
| 4. In the past month, have any children in the household had diarrhea? **clarify the definition of diarrhea with participant** | 1. Yes | 2. No |
| 5. What do you believe is the biggest health issue for you and your household? | 1. Yes | 2. No |
| 6. Does your household have a latrine? | 1. Yes | 2. No |
| 6A. Observations: If Yes, please specify | | |
| 7. Do your children use a latrine? | 1. Yes latrine | 2. No |
| 3. Do not have | 2. No |
| 4. Do not have | |
| 8. How often does your household use the latrine? | 1. All the time | 2. No |

### 2. Latrine Observations Checklist

- **Purpose:** this tool is to be used at baseline and endline to assess the state of a random number of community household latrines before and after CHP intervention.
- **Who:** Either the CHP’s are trained on how to use this tool, or Gemi, or students from JHU use this tool to collect data.
- **When are Where:** It will need to be decided if the same latrines are observed at baseline and endline or if the latrines observed at baseline are different than those observed at endline. This is a question of feasibility, but the most rigorous option would be to measure the same latrines at baseline and endline.
- **After:** Add data to the corresponding column of the attached excel spreadsheet.

<table>
<thead>
<tr>
<th>Description</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Does the latrine have ventilation pipe?</td>
<td>1. Yes</td>
<td>2. No</td>
</tr>
<tr>
<td>2. Does the latrine have a cover?</td>
<td>1. Yes</td>
<td>2. No</td>
</tr>
<tr>
<td>3. Are the latrine located in relation to a water source?</td>
<td>1. Yes</td>
<td>2. No</td>
</tr>
<tr>
<td>4. Is there a visible tippy tap within 1.5 meters of the latrine?</td>
<td>1. Yes</td>
<td>2. No</td>
</tr>
<tr>
<td>5. Is there no tippy tap?</td>
<td>3. Yes</td>
<td>2. No</td>
</tr>
</tbody>
</table>
Results: Water Sources
Water Treatment

- Aquatabs
- Chlorine, liquid bleach
- Boiling water
- Solar treatment
- Capped sources
Sanitation

- Open defecation
- Latrines
- Waste management
Hygiene: Tippy Taps

- Wood, Soap, Pedal and water jug
- Pros:
  - No cross contamination between users
  - Hands free—water is streaming
  - Low cost (local materials)
  - No waste technology
- Cons:
  - Animals eat the soaps
  - Behavior change: sometimes no soap attached
Hygiene

• Lit Review shows that there are poor hygiene practices in low to middle income countries, especially Haïti post earthquake-cholera crisis  (Gelting et al, 2013; McLennan, 1998)
• Poor adherence to WaSH interventions
• Disgust factor: WaSH strategies should focus on changing attitude and norms
• Integration of WaSH practices into nutrition programming helps motivate improved hygiene behaviors
• Limitations
  – Financial constraints → cannot buy chlorine products such as Aquatabs
  – Lack of access to safe water storage containers
  – Lack of funding and infrastructure losses  (Walton DA, Ivers LC., 2011)
Conclusions

• Majority of water sources are scarce
• Limited water access linked to poor WaSH practices
• Women and children walk up to 1 hour to access water several times a day
• WaSH practices may be impacted by cultural norms
• Community-based education is necessary
Conclusions

Major Barriers

– Lack of funding
– Poor infrastructure
– Rainy season, climate-related disasters

Opportunities:

– Water testing
– Continue monitoring and evaluation

Further research is necessary to explore behaviors that can improve water treatment, sanitation, and hygiene practices communities.


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