DESIGNING A HANDWASHING STATION

using the integrated behavioral model for water, sanitation and hygiene interventions (IBM-WASH)

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Overview

- Study overview
- Theoretical framework
  - IBM-WASH
- Findings
- Implications for program assessment
Study overview

- Purpose:
  Design an acceptable and feasible handwashing station for low-income urban and rural household use in Bangladesh.

- Formative research
  - Trials of Improved Practices (TIPs)

- Inform 2 subsequent randomized controlled trials
Behavior + Technology

Photo credit http://www.washinghands.net/proper-methods-procedures.php
Context of handwashing

- Access to water nearby households
  - Rural:
    - Tubewell
    - Compound latrines (familial)
  - Urban:
    - Shared pump (electrical)
    - Communal latrines (non-familial)
- No running water in households
Handwashing designs

Handwashing stations: water storage, spout, soap

Soap delivery: Used at well/pump

- 30 L
- 2 L
- 2.25 L
- 40 L
- 15 L
- 1.5 L soapy water bottle with pump
- 1.5 L with pump
TIPs methodology

- Study enrollment and lottery
- Installation of HWS with CHP
- Follow-up interviews, observations, negotiation

No behavioral messaging – focus on user feedback at this stage
Analysis Using IBM-WASH Framework

- Why use a theoretical framework?
  - Structure field guides
  - Develop an analysis plan
  - Analyze data
Analysis Using IBM-WASH Framework

- Conceptual models for WASH
  - RANAS Model (Mosler 2012)
    - Risk, attitude, norm, ability, self-regulation factors
  - FOAM (Coombes and Devine 2010)
    - Opportunity, ability, motivations

**TECHNOLOGY is underrepresented in behavior change models**

- IBM-WASH: A *range* of factors affect behavior
  - 3 dimensions – Contextual, Psychosocial, Technological
  - 5 levels – Societal/structural, Community, Interpersonal, Individual, Behavioral
<table>
<thead>
<tr>
<th>Levels</th>
<th>Contextual</th>
<th>Psychosocial</th>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Societal/Structural</td>
<td>Policy and regulations, climate and geography</td>
<td>Leadership/advocacy, cultural identity</td>
<td>Manufacturing, financing, and distribution of the product; current and past national policies and promotion of products</td>
</tr>
<tr>
<td>Community</td>
<td>Access to markets, access to resources, built and physical environment</td>
<td>Shared values, collective efficacy, social integration, stigma</td>
<td>Location, access, availability, individual vs. collective ownership/access, and maintenance of the product</td>
</tr>
<tr>
<td>Interpersonal/Household</td>
<td>Roles and responsibilities, household structure, division of labour, available space</td>
<td>Injunctive norms, descriptive norms, aspirations, shame, nurture</td>
<td>Sharing of access to product, modelling/demonstration of use of product</td>
</tr>
<tr>
<td>Individual</td>
<td>Wealth, age, education, gender, livelihoods/employment</td>
<td>Self-efficacy, knowledge, disgust, perceived threat</td>
<td>Perceived cost, value, convenience, and other strengths and weaknesses of the product</td>
</tr>
<tr>
<td>Habitual</td>
<td>Favourable environment for habit formation, opportunity for repetition of behaviour</td>
<td>Existing water and sanitation habits, outcome expectations</td>
<td>Ease/Effectiveness of routine use of product</td>
</tr>
</tbody>
</table>
3 Interacting dimensions

Contextual

Technology

Psychosocial
5 Levels

- Behavioral
- Individual
- Interpersonal
- Communal
- Structural / Societal
IBM-WASH for Handwashing Stations

We used this framework to structure our analysis

<table>
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<th>Contextual</th>
<th>Psychosocial</th>
<th>Technology</th>
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<tbody>
<tr>
<td>Similarities</td>
<td>Gender</td>
<td>Self efficacy</td>
<td>Ease of use</td>
</tr>
<tr>
<td>between designs</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Differences</td>
<td>Age (acceptability)</td>
<td>Disgust</td>
<td>Capacity</td>
</tr>
</tbody>
</table>
Key Contextual factors

- **Individual Level – Age, Gender**
  - Who is at home to use the handwashing station?
  - How usable is it for children?
  - Who refills and maintains?

- **Community Level - Access to water, built environment**
Key Psychosocial Factors

- Habitual Level – developing frequent handwashing practice

“In the last few days we are becoming habituated to hand washing, and now if we don’t wash our hands then we feel bad.”

- Individual Level - Knowledge, self efficacy, attitude
- Affect behavior, did not distinguish between technologies
Key Technology Factors

- Behavioral level - Cues to action / visual reminder
- Individual Level – Strengths and weaknesses
  - Convenience, ease of use / ease of refilling
  - Adequate capacity
  - Attractiveness / quality
- Interpersonal Communal Level – Shared access
  - individual vs. collective responsibility
Selected handwashing station design
Selected design

- Large water storage capacity
- Durable materials
- Basin collects used water
- Tap allows both hands to be washed together
- Soapy water bottle – inexpensive, easy to make
IBM-WASH Implications for assessment

- Comprehensive – represents a broad range of factors at multiple levels
- Used for quantitative and qualitative analysis
- Useful in comparing any behavior associated with technology
- More detail on the IBM-WASH in Session 24
Acknowledgements

Development of IBM-WASH & Handwashing study

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- Steve Luby, Pavani Ram
References

