FROM NEW EVIDENCE TO BETTER PRACTICE—
FINDING THE SANITATION SWEET SPOT

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HISTORICAL EVIDENCE: WASH IS GOOD FOR YOU

1991
Esrey et al: Relationship between water and sanitation interventions and morbidity

2005
Cutler and Miller: Water chlorination and filtration. 13% reduction in mortality overall 50% reduction in child mortality

2013
Hatton: Determinant of the 11cm average growth in height of European adult men from the 1850’s to 1980 is largely driven by decrease in exposure to fecal pathogens
Recent evidence on improving sanitation appears contradictory

Confusing when designing a program: worst case: ignore evidence, go for own preference

Questions:
If we understand what drives latrine use, and what drives OD, can we find the right combination of approaches in each context and consistently achieve the potential benefits of sanitation?

If so, how?
WE NEED MORE THAN A HAMMER

Too many false “either / or” choices:

• Economist: we need subsidies
• MBA: we need marketing
• Sociologist: we need collective action
• Engineer: we need better technology
• Designer: we need aspirational things

All are right some of the time, but single issue approaches lead to bad programs
### DECISION TO USE A LATRINE

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Public</th>
<th>Private</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beliefs about behavior of others living in same environment</td>
<td>Individual beliefs (such as purity/pollution)</td>
</tr>
<tr>
<td>Hardware</td>
<td>Affordability (subsides)</td>
<td>Affordability (financing) Design that responds to user preferences</td>
</tr>
</tbody>
</table>
THE NEW EVIDENCE

4 recent peer-reviewed published studies (~last 12 months)

- Pickering et al, Mali (2015)
- Clasen et al, India (2014)
- Patil et al, India (2014)
- Guiteras et al, Bangladesh (2015)

Measure impacts of particular sanitation interventions.

Quality and intensity representative for regular project implementation.

Funded by WSH strategy of BMGF
<table>
<thead>
<tr>
<th>Study</th>
<th>Methodology</th>
<th>Geography</th>
<th>Approach</th>
<th>Length of exposure</th>
<th>Baseline Latrine Usage</th>
<th>Endline Latrine Usage</th>
<th>Annualized Rate of Change in Latrine Usage</th>
<th>Change in Height-for-Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pickering et al. (2015)</td>
<td>Single-arm RCT</td>
<td>Mali</td>
<td>CLTS</td>
<td>18 months</td>
<td>35%</td>
<td>65%</td>
<td>20%</td>
<td>0.16 SD increase</td>
</tr>
<tr>
<td>Clasen et al. (2014)</td>
<td>Single-arm RCT</td>
<td>India: Orissa</td>
<td>Subsidies and mobilization campaign</td>
<td>21 months</td>
<td>9%</td>
<td>36%</td>
<td>15%</td>
<td>No change</td>
</tr>
<tr>
<td>Patil et al. (2014)</td>
<td>Single-arm RCT</td>
<td>India: Madhya Pradesh</td>
<td>Subsidies and mobilization campaign</td>
<td>0-6 months (estimated)</td>
<td>17%</td>
<td>27%</td>
<td>20%</td>
<td>No change</td>
</tr>
<tr>
<td>Guiteras et al. (2015)</td>
<td>Multi-arm RCT</td>
<td>Bangladesh</td>
<td>Combined: CLTS, subsidies, marketing</td>
<td>12 months</td>
<td>49%</td>
<td>62%</td>
<td>14%</td>
<td>Not measured</td>
</tr>
</tbody>
</table>
Mali CLTS

RCT including 121 villages (61 + 60)
Standard CLTS triggering by village, plus:

- Videotaping of commitments
- Groups of villages close by shown each others’ videos and maps

ODF status awarded on full “latrineization” plus water and soap

Outcomes:

- Private latrine use 65% (vs 35% control)
- OD rates fell by 46%-70%
- Improved quality of latrines
- Children under 5 taller by 0.16 SD and 13% less likely to be stunted than in control villages
INDIA: ORISSA TSC

Impact evaluation of latrine construction and promotion program (100 villages-50+50)

Subsidy plus promotion campaign. Subsidy ~50% of total latrine cost. Campaign sets up committee, door to door mobilization, etc.

Process evaluation found campaign badly implemented

Outcomes:

- Latrine access up from 9% to 63% (8%-12% in control)
- Latrine use only 36% (9% in control)
- No impact on health or environment
- Effective at building toilets, not at changing behavior.
INDIA: MADHYA PRADESH TSC

TSSM (WSP evaluation in 2 of 10 districts; RCT in 80 villages
2 levels of government subsidy + CLTS type mobilization
No data on implementation of awareness campaign

Outcomes:
- Latrine access up from 22% to 41%
- Latrine use only up from 17% to 27%
- Reduction in OD very small, especially among children
- Among latrine owners, OD higher in intervention than control villages
- No change in water quality, diarrheal disease, parasite infection, growth, etc.
BANGLADESH 3 ARM RCT

Starting premise: relative importance of CLTS, subsidy and marketing not fully understood.

Test which combination is most effective at increasing latrine use:

- Latrine promotion program (LPP)
- LPP + subsidy
- Marketing intervention
- Marketing + LPP + subsidy

Outcomes

- LPP + subsidy increases use from 49% to 62%, OD down from 40% to 31%
- Other interventions no effect relative to control, or no additional effect
Subsidy only not included as an arm in Bangladesh study, on basis of India findings (not effective)

But findings informative:

- Lottery losers invest as often as those where subsidy not offered (no negative impact on behavior)
- Lottery losers in high intensity villages more likely to invest than losers in low intensity villages

Findings specific to context; not necessarily universally applicable (goes for all studies)
WHAT DOES IT ALL MEAN?

Various reactions:

1. Can sanitation improve health? (it didn’t in MP and Orissa…)

2. Focus on high quality implementation; ODF, not increasing toilet access

3. Constant and linear relationship between quality of implementation ("ODF-ness") and health (child height)

Our subjective interpretation:
Understanding of local context is a strong predictor of program quality (and thus attainable outcomes)
DECISION TO USE A LATRINE

- Individual beliefs (such as purity/pollution)
- Beliefs about behavior of others living in same environment
- Affordability (financing)
- Design that responds to user preferences
- Affordability (subsidies)
- Availability

Sanitation sweet spot
## USING THESE STUDY RESULTS

### CONSISTENTLY ACHIEVING THE POTENTIAL BENEFITS OF SANITATION

<table>
<thead>
<tr>
<th>Data Collection and Analysis</th>
<th>Design and Implement</th>
<th>Measure and Adjust</th>
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<tbody>
<tr>
<td><strong>Use Secondary Data: “Who else work(ed) here?”</strong></td>
<td><strong>The devil is in the details; one size does not fit all</strong></td>
<td><strong>“You treasure what you measure”</strong></td>
</tr>
<tr>
<td><strong>Some form of primary data collection: baseline data, KAP study, RCT, etc.</strong></td>
<td><strong>“How” you do something is as important as “what” you do</strong></td>
<td><strong>Focus on behavior and ODF</strong></td>
</tr>
<tr>
<td><strong>Do not expect success without investing in understanding the issues</strong></td>
<td><strong>Helpful information is likely to be available</strong></td>
<td><strong>Do not confuse good outcomes with good decisions</strong></td>
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</tbody>
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THANK YOU