Behavior Change
Frameworks, Models and Techniques

Photo: Amanda Northcross

Jay P. Graham, PhD
Milken Institute School of Public Health, George Washington University
The **framework** gives a broad structure for behavior change
The *model/theory* explores multiple determinants of behavior at the individual, interpersonal, group, organizational, and/or community levels.
The **behavior change technique** is the specific activity used to affect behavior change.
Improved Air Quality

Frameworks for adoption, maintenance and use

Theory of Change

- Strengthen Supply of Sanitation Products At Scale
- Generate Demand for Improved Sanitation At Scale
- Strengthen Enabling Environment
- Learning and Knowledge

Promotion & Demand Creation

Access to Hardware and Services
- Improved Stoves
- Chimneys
- Efficient fuels
- “Crib” for small children

Communication
- Social mobilization
- Community participation
- Social marketing
- Training

Enabling Environment
- Policy improvement
- Institutional strengthening
- Financing and cost-recovery
- Cross-sectoral coordination
- Partnerships

Improved Air Quality

Toilet acquisition, maintenance & use

Supply chains
User demand
Institutional & Policy Environment
The Enabling Environment

“...interrelated conditions—legal, bureaucratic, fiscal, informational, political, and cultural—that affect the ability of different stakeholders to engage in development processes in a sustained and effective manner.”
Who is responsible for what?

More complex environment:
- Ministry in Charge of WSS
- Appraisal
- Grant Agreement
- Affermage Contract
- Operator
- Performance Monitoring
- Provincial WSS Utility
- Delegation Agreement
- Provincial Government
- Public Lending Agency
- Loan Agreement
- Water Entitlement
- WRM Agency

Less complex environment:
- Ministry in Charge of WSS
- Tariff Setting
- Municipal WSS Utility
- Applications
- Municipal Government
- Customer Contract
- Customers
- Delegation Agreement
- Financing Agreement
- Water Entitlement
Government’s Role in the Enabling Environment

- **Mandating**: enforce policies
- **Facilitating**: Assuring transparent policies
- **Resourcing/Supporting**: Promotional activities
- **Partnering**: Public-private partnerships
- **Endorsing**: protect consumers
- **Coordinating**: who is doing what and where?
How does the market function?
Which specific Behavior Change theory/model is the most effective?

- It depends on who you ask
  - Many behavioral theories explain human behaviors and behavior change

- No single behavior change theory/model has emerged

- Depends on context

- May need to adjust activities to specific target groups, locations and seasons
# Stages of Change: Are people ready to improve their cooking practices?

<table>
<thead>
<tr>
<th>Stages</th>
<th>Description/Definition</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precontemplation</td>
<td>Recognition of the problem is avoided, and ignorance is maintained.</td>
<td>Participant is <strong>unaware</strong> of the need to change often through avoidance or rationalization.</td>
</tr>
<tr>
<td>Contemplation</td>
<td>Change is recognized but has yet to occur.</td>
<td>Participant is <strong>aware</strong> of the need to change but is still stuck.</td>
</tr>
<tr>
<td>Preparation</td>
<td>Plans, sets time to change and makes it known to others.</td>
<td>Participant <strong>plans</strong> and makes ready for change to occur in the <strong>near future</strong>.</td>
</tr>
<tr>
<td>Action</td>
<td>Change occurs as action is taken by modifying the environment and instituting rewards and social supports.</td>
<td>Participant <strong>begins</strong> by taking small steps and progressing towards goal. <strong>Cues, reminder, and rewards</strong> are in place.</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Commitment is stressed, and rewards are internalized while being aware of what tempts us to relapse.</td>
<td>Participant <strong>overcomes</strong> hassles of hand hygiene by using <strong>prompts</strong> and <strong>rewards</strong>.</td>
</tr>
<tr>
<td>Termination</td>
<td>Not appropriate since behavior is maintained, not terminated.</td>
<td>Not appropriate</td>
</tr>
</tbody>
</table>
Social marketing model (4-6 Ps)

- **Product** (‘what’)  
- **Price** (‘in exchange for what’)  
- **Place** (‘where’)  
- **Promotion** (‘how’)  
- **Partnerships**  
- **Policy**
Commonly reported in research

- **Social Cognitive Theory** (Bandura, 1997) designates four modalities as influencing behavior change:
  - Performance enactment
  - Vicarious learning
  - Verbal persuasion
  - Emotional arousal

- **Expectancy-value theory** predicts increases in a behavior if:
  - important or valued by target audience; and
  - if the link between performance of the behavior and expected outcome is recognized
Social Norms

A Focus Theory of Normative Conduct: Recycling the Concept of Norms to Reduce Littering in Public Places

Robert B. Cialdini and Raymond R. Reno
Arizona State University

Carl A. Kallgren
Pennsylvania State University, Behrend College

- **Descriptive norms**: perceptions of which behaviors are typically performed
- **Injunctive norms**: perceptions of which behaviors are typically approved or disapproved
## Water, Sanitation and Hygiene

<table>
<thead>
<tr>
<th>Authors</th>
<th>WASH behaviors</th>
<th>Elements in model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainey and Harding</td>
<td>Household water treatment</td>
<td>Health Belief Model: individual perceptions, perceived severity, perceived susceptibility</td>
</tr>
<tr>
<td>Curtis et al.</td>
<td>Handwashing</td>
<td>Planning, motivations and habits</td>
</tr>
<tr>
<td>Figueroa &amp; Kincaid</td>
<td>Handwashing</td>
<td>Indiv, HH &amp; Comm levels, Cognitive elements, emotional factors, social interactions</td>
</tr>
<tr>
<td>World Bank WSP</td>
<td>Handwashing, sanitation</td>
<td>SaniFOAM: Focus, Opportunity, Ability, Motivation</td>
</tr>
<tr>
<td>Wood et al.</td>
<td>Filters in Malawi</td>
<td>Prochaska: Stages of Change</td>
</tr>
<tr>
<td>Jenkins &amp; Scott</td>
<td>Sanitation in Ghana</td>
<td>Prochaska: Stages of Change</td>
</tr>
<tr>
<td>Mosler et al.</td>
<td>WASH practices (general)</td>
<td>Risk factors, Attitudinal factors, Normative Factors, Ability Factors, Self-regulation Factors</td>
</tr>
<tr>
<td>Environmental Health Project</td>
<td>Diarrhea prevention</td>
<td>Access to hardware, Hygiene Promotion, Enabling Environment</td>
</tr>
</tbody>
</table>
SaniFOAM

- **Focus of the program**
  - Who are the target audiences and what are the behavior(s) to be adopted?

- **Opportunity for change**
  - Is it possible to practice the behavior in the specific physical and social environment?
  - Does the practice fit into people’s own knowledge system?
  - Do others, such as opinion leaders, support the change?
SaniFOAM

- **Ability to change**
  - Are people themselves capable of carrying out the behavior(s)?
  - Can they afford the new practices in terms of money, effort and time?

- **Motivation to change**
  - Do the target groups want to carry out the new practice(s)?
  - Positive or negative attitudes of people to change?
  - Readiness to change based on earlier experiences and competing priorities
Examples of how to measure behavioral concepts?

- **Norms-related question**: How many of your relatives use LPG for cooking?

- **Ability-related question**: How often does it happen that there is no LPG in your home?
How many behaviors?

- One behavior at a larger scale?
- Several behaviors that take much longer to change
  - Need to build organizational and human capacity for planning and management
# Behavior change techniques

<table>
<thead>
<tr>
<th>Technique (theoretical framework)</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Provide information about behavior-health link. (IMB)</td>
<td>General information about behavioral risk, for example, susceptibility to poor health outcomes or mortality risk in relation to the behavior. Information about the benefits and costs of action or inaction, focusing on what will happen if the person does or does not perform the behavior.</td>
</tr>
<tr>
<td>2. Provide information on consequences. (TRA, TPB, SCogT, IMB)</td>
<td>Information about what others think about the person’s behavior and whether others will approve or disapprove of any proposed behavior change.</td>
</tr>
<tr>
<td>3. Provide information about others’ approval. (TRA, TPB, IMB)</td>
<td>Encouraging the person to decide to act or set a general goal, for example, to make a behavioral resolution such as ‘I will take more exercise next week.’ Identify barriers to performing the behavior and plan ways of overcoming them.</td>
</tr>
<tr>
<td>4. Prompt intention formation. (TRA, TPB, SCogT, IMB)</td>
<td>Praising or rewarding the person for effort or performance without this being contingent on specified behaviors or standards of performance.</td>
</tr>
<tr>
<td>5. Prompt barrier identification. (SCogT)</td>
<td>Set easy tasks, and increase difficulty until target behavior is performed.</td>
</tr>
<tr>
<td>6. Provide general encouragement. (SCogT)</td>
<td></td>
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<tr>
<td>7. Set graded tasks. (SCogT)</td>
<td></td>
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</tbody>
</table>

**A Taxonomy of Behavior Change Techniques Used in Interventions**

Charles Abraham  
University of Sussex

Susan Michie  
University College London
Total Sanitation Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Triggering</th>
<th>Post-Triggering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shit calculation</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>OD Mapping</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Transect walk (walk of shame)</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Calculating health expenses</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>ODF pledge/commitment</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Natural leader selection</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Action plan</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Strand of hair</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Fecal-oral Transmission route</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>ODF government support/certification</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Self-talk</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Triggering questions</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Follow-up monitoring</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Latrine construction options</td>
<td>4</td>
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<tr>
<td>Latrine construction marketing</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Handwashing education</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>CLTS committee</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Health promotion and sanitation</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Marketing</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Education</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Poor household subsidies</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

Legends:
- Africa
- Middle East
- Asia
Critical need to understand interventions to improve practice

- Specific activities of the intervention
- Characteristics of those delivering the intervention
- Characteristics of the recipients/communities
- Setting of the intervention
- Mode of delivery (e.g., community gatherings)
- Intensity or contact time
- Duration or number of sessions over
- Adherence to delivery protocols

Abraham & Michie, 2008