Behavior Change for Clean Cooking Panel Discussion: Current Knowledge and Next Steps

Monday, May 4, 2015
1:00PM – 2:30PM
Lima, Peru
Translating Research into Action Project (TRAction)

- TRAction supports implementation science related to maternal, newborn, and child health
  - Gives awards to institutions and organizations to carry out research on priority health problems
  - Goal is to generate evidence and recommendations for program implementers and policy makers to scale-up successful strategies around the world
  - TRAction disseminates lessons learned and best practices to encourage adoption of research findings in practice

- TRAction is funded by the U.S. Agency for International Development (USAID), and is managed under a Cooperative Agreement by University Research Co., LLC (URC) in collaboration with its partner, the Harvard University School of Public Health.
Panelists

- Jay Graham, George Washington School of Public Health
- Julia Rosenbaum, USAID WASHplus Project, FHI 360
- Sumi Mehta, Global Alliance for Clean Cookstoves
- Michael Johnson, Berkeley Air
- Debbi Stanistreet, University of Liverpool
- Subhrendu Pattanayak, Duke University
- Anita Shankar, Johns Hopkins School of Public Health
Behavior Change Approaches To Facilitate Clean Cooking & Reduce HAP

Julia Rosenbaum
USAID WASHplus Project
FHI 360
Behavior change approaches from WASH relevant to stove adoption, clean cooking and reducing HAP
Complex behaviors
Up and down the value chain
We need to systematically understand what motivates a particular behavior / segment
Some Common Determinants of Behavior

*across many theories of change*

- Knowledge
- Perceived risk
- Perceived consequences
- Self-efficacy
- Perceived social norms
- Attitudes
- Intentions

- Access to products
- Availability & quality of services
- Policy
- Skills
- Culture and traditions

Develop a hypothesis of change
A word about knowledge

Knowledge is **necessary**, but **not sufficient**!

- Identify key information
  - Skills like fuel prep
  - Place to buy
  - XXX
- … and then what else ???
**Find the feeling! Health is rarely the strongest motivator for behavior**

Significant Statistical Differences in Perceptions of Latrine Owners and Open Defecators in Amhara, Ethiopia  
*USAID Hygiene Improvement Project/WSP*

<table>
<thead>
<tr>
<th>Perception Areas</th>
<th>Specific Content</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal/Family Image</td>
<td>Makes you popular</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Gets you community respect</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Makes you respected by visitors</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Makes you look modern</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Makes your family proud</td>
<td>✓</td>
</tr>
<tr>
<td>Comfort/Safety</td>
<td>Provides safety to women all day long</td>
<td>✓</td>
</tr>
<tr>
<td>Cleanliness</td>
<td>Keeps compound clean</td>
<td>✓</td>
</tr>
<tr>
<td>Health</td>
<td>Reduces diarrhea</td>
<td>✗</td>
</tr>
<tr>
<td></td>
<td>Reduces disease</td>
<td>✗</td>
</tr>
</tbody>
</table>
Framework for Impact – HAP

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

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

Promotion & Demand Creation

Improved Air Quality
Sustained and Consistent Stove Use
Sustained Clean Cooking Behaviors??

Enabling Environment
- Policy improvement
- Institutional strengthening
- Financing and cost-recovery
- Cross-sectoral coordination
- Partnerships
Learning from Sanitation
Community Led Total Sanitation / CLTS

Social Mobilization, Interpersonal Communication, Improved Supply and Finance, Governance

Led to dramatic changes in latrine coverage and BEHAVIOR

BUT.... Parallel issues around >>

Quality of latrines – what is improved, what are minimum standards?

Does ENTIRE family use it? Over TIME?

<table>
<thead>
<tr>
<th>Category</th>
<th>Prevalence of Latrine (%)</th>
<th>Prevalence of diarrhoea (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open defecation prevalent villages</td>
<td>29</td>
<td>38</td>
</tr>
<tr>
<td>Almost open defecation-free villages</td>
<td>95</td>
<td>26</td>
</tr>
<tr>
<td>Open defecation-free villages</td>
<td>100</td>
<td>7</td>
</tr>
</tbody>
</table>

Source: WSP, 2007. An approach that works, Field Notes, February.
Identify, promote and facilitate improved behaviors that...

- Have significant **positive impact** on health
- Are **feasible** to achieve, (people both willing and able to make changes)
Small Doable Actions to Improve Indoor Air Quality

**Illustrative examples**

<table>
<thead>
<tr>
<th>Pollution Behavioral cluster</th>
<th>Possible Small Doable Actions/Improved Practices</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tending fires</td>
<td>• Dry wood/dung before burning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Use smaller pieces of wood</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Reduce duration of burning</td>
<td></td>
</tr>
<tr>
<td>Stove maintenance and use</td>
<td>• Fix holes in stove and/or flues</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Clean and maintain stoves and flues</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Use pots that correctly fit stove openings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Use more efficient fuel burning stove</td>
<td></td>
</tr>
<tr>
<td>Ventilation use</td>
<td>• Construct eaves spaces for roofline release of smoke</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Promote cross ventilation, using doors and windows as appropriate.</td>
<td></td>
</tr>
<tr>
<td>Safer child location practices while fires are burning</td>
<td>• Keep children away from fires (but still attended)</td>
<td></td>
</tr>
</tbody>
</table>
Bangladesh Study Objectives

- Understand recognized and desired attributes of ICS
- Elicit problems and perceived solutions using stoves
- Assess new and traditional stove use, including fuel consumption
- Gauge value of stoves based on ‘willingness to pay’
- Begin to apply a “4Ps” analysis (product, place, price and promotion) to the potential ICS Bangladesh cookstove market: product, place, price and promotion for each segment
Methodology
Consumer preference trials
in-home testing over time

120 households =
5 stove types x 3 homes each x 2 divisions x 4 villages

Barisal (South) villages: Billobari, Bihangal, Ichakathi, and Gonpara
Sylhet (NW) villages: Jangail, Kewa, Tilargaon, and Kunarchor

• Households representative of potential ICS consumer
  ✔ use wood as primary fuel, have some income
• Semi-structured questionnaires- qualitative and quantitative ?s
  @ stove installation / baseline including demographics
  @ 3 day initial assessment / problem solving visit
  @ 21 day final survey and WTP
• Willingness to pay assessment included 2 methods
• Kitchen Performance Tests
• SUMS monitoring
• IAP monitoring
Key Findings

- Households felt ALL STOVES WERE GOOD STOVES and recognized many benefits.
- NONE of the 5 stoves (as currently produced) meet all -- or even most -- consumer needs.
- NONE would completely replace traditional stoves.
- Cook satisfaction with the improved stoves DECREASED over the 3 week trial when compared to their responses after 3 days of use.
- Few people willing to pay anything close to market value for stoves, but when ‘acquisition barriers’ removed, people clearly VALUED to stoves.
- Households using all but one model of improved stove (alongside their traditional stove) used 16-30% less fuel.
- All stoves reduced IAP.
Problems encountered & user solutions

Problems

Solutions suggested by Users

- Not stable while stirring
  - Make the stove stable

- Ash builds up quickly
  - Add ash tray

- Cannot cook in second pot due to lack of heat
  - Increase heat in the second pot by placing fuel chamber between first and second pot

- Cannot cook large quantities of food like rice and takes longer to cook large quantities
  - Larger sizes of stoves should be available

- Fuel chamber small so wood fall off the opening and charred wood and embers fall out
  - Fuel chamber should be larger

- Cannot use large pieces of wood
  - Address problems related to wood size

- Flame does not spread
  - Flame should reach vessel and be visible

Cooking Problems

<table>
<thead>
<tr>
<th>Problem</th>
<th>Greenway</th>
<th>Eco-Chula</th>
<th>EcoZoom</th>
<th>Envirofit</th>
<th>Prakti</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficult to add small pieces from top</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Not stable while stirring</td>
<td>8</td>
<td>3</td>
<td>7</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Ash builds up quickly</td>
<td>16</td>
<td>19</td>
<td>21</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Longer to cook larger amounts</td>
<td>11</td>
<td>8</td>
<td>13</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>Can't cook rice in large quantities</td>
<td>15</td>
<td>12</td>
<td>17</td>
<td>14</td>
<td>16</td>
</tr>
<tr>
<td>Pots become black/difficult to clean</td>
<td>10</td>
<td>13</td>
<td>11</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Fuel chamber small</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Can't use large pieces of wood</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Don't like/difficult to chop wood into small pieces</td>
<td>11</td>
<td>8</td>
<td>13</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>Difficult to ignite (smoky)</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Charred wood/embers fall out of tray</td>
<td>8</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Wood falls out of opening</td>
<td>10</td>
<td>7</td>
<td>10</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>*Flame doesn't spread</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Number of responses

# of stoves: Greenway = 24  Eco-Chula = 24  EcoZoom = 23  Envirofit = 24  Prakti = 23
Concerning Behavioral Implications of Findings:

- Confirmation of stove stacking and ICS not meeting all needs. This is the norm: aim to better meet all needs, at least the most fuel-intensive needs?

- Consumers not willing to buy, but willing to keep over $$. How to translate this into programmatic practice?

- Key promotional issues around proper use. Consumers *think* stoves should function differently than they actually do. Educating consumers so stove ‘delivers’ benefits.

- Behavior change means changing the product as well as ‘promoting’ in focused ways.

Concerning Methodology:

- Many! No time to review. Find complete study docs at [http://www.washplus.org/technical-areas/indoor-air-pollution](http://www.washplus.org/technical-areas/indoor-air-pollution)
Advancing Communication and Behavior Change Strategies for Cleaner Cooking

Sumi Mehta, Global Alliance for Clean Cookstoves and other guest editors: Brendon Barnes (U of Johannesburg), Jay Graham (George Washington U), Julia Rosenbaum (USAID WASHplus, FHI360)
HAP is Among the Top Global Health Risk Factors

~ 4 M deaths per year
> 6% of global deaths

Main causes of death:
- Child pneumonia
- COPD
- Lung cancer
- Cardiovascular disease

Lancet, Dec 2012
Sustained Adoption of Clean Cooking is What Will Save Lives -- this requires Behavior Change Communication!
Why Health Communication and Behavior Change?

• Public health is a major policy driver, but does not necessarily motivate behavior change.
• Tangible benefits most likely to influence behavior change include
  – Economics / cost savings
  – Convenience
  – Reduced ‘drudgery’
  – Comfort
• Access to clean cooking technologies alone are not sufficient in improve public health
  – Correct, sustained use
  – Displacement of lesser performing technologies
What’s New in this Special Issue?

Until recently, few improved stove programs have explicitly used behavior change theories or frameworks to guide their initiatives.

These articles demonstrate:

- **Stronger Theoretical Orientation**: explicit focus on social marketing, stages of change / diffusion of innovation, value expectancy, socioecological and other theories
- **Stronger Methodological Focus**: mixed methods, formative research, small-scale pilots, and randomized control trials
- **Increased Focus on Implementation Research and Delivery Science**
  - opportune as global efforts focus on scaling clean cooking
- **Continued Interdisciplinary Efforts** to facilitate monitoring and evaluation needed to sustain and demonstrate progress over time
Article Highlights

• The Need to Consider Technology and Behavior Change Communication
  – modeling of stove use to ensure health benefits
  – understanding cultural practices in Indonesia
  – consumer design preferences and willingness to pay in Bangladesh
  – determinants of stove acquisition in India

• Complex Drivers of and Barriers to the Acquisition and Use of Clean Cooking Technologies
  – literature review on the use and effectiveness of behavior change and communication approaches
  – impact of peer influence on stove uptake in Uganda
  – agency-based empowerment training strategy in Kenya
  – behavior change interventions in Uganda

• Research Methods and Frameworks
  – mixed methods research on effectiveness and acceptability in Kenya
  – multilevel framework to inform design, implementation and evaluation in Honduras
Piloting Improved Cookstoves in India

Subhrendu Pattanayak
JJ Lewis, M Jeuland
Project Surya & DHEHI
Overview

- Designed set of 8 pilots to sell ICS
- Used social marketing framework to test:
  - **Promotion** *(Demonstration, Household visit, Informational campaign: poster, pamphlet, Messaging about ICS: Saves wood, Saves time, Reduces smoke)*
  - **Product** *(Natural draft ICS, Forced draft ICS, Electric stove, or choice)*
  - **Price** *(Installments for 1/3 of stove price, Rebates if stove used, Optional stove return)*
  - **Place** *(Gangetic Plains of UP, Tropical Odisha, Mountains of Uttarakhand)*
- Varied factors to find successful mix, to inform a larger intervention
### Table 1. Summary of pilot intervention features

<table>
<thead>
<tr>
<th>Pilot</th>
<th>Product</th>
<th>Pricing plan</th>
<th>Place</th>
<th>Promotion: Social marketing/behaviour change communication</th>
<th>Total sales (sales in random sample)</th>
<th>% HH purchase (% purchase in random sample)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Forced</td>
<td>Natural</td>
<td>Full upfront payment</td>
<td>Rebates conditional on use</td>
<td>Optional stove return</td>
<td>State</td>
</tr>
<tr>
<td></td>
<td>draft</td>
<td>draft</td>
<td>Electric</td>
<td>Installments</td>
<td></td>
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</tr>
<tr>
<td>A</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>B</td>
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</tbody>
</table>

*Note. NGO = nongovernmental organization.*

*Basic: pamphlets and household demonstration; Basic Plus: pamphlets (in advance), village posters, community and household demonstration; Intensive: new pamphlets and extended household visit (in advance), community and household demonstration.*
Results: ICS Purchase (% households)

- **Forced Draft**
- **Natural Draft**
- **Electric**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Draft</td>
<td>Electric</td>
<td>Natural Draft</td>
<td>Electric</td>
<td>Natural Draft</td>
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<td>Electric</td>
<td>Natural Draft</td>
</tr>
</tbody>
</table>
Results from Intervention (after Pilot)

1) personalized demos, 2) installment payment, 3) stove choice, 4) partial subsidy, & 5) NGO goodwill

Possible to achieve high ICS adoption in low income settings!

(Pattanayak et al., in prep.)
Results from Intervention

- Ownership does not guarantee use
- Households use multiple stoves
Lessons Learned

• Demand side: Not easy to sell stoves to poor rural households, but we got to 40-70% in pilots with:
  – Choice of attractive, affordable stoves (particularly electric)
  – Personalized demonstrations / visits, and detailed explanations (limited knowledge prior to info provision)
  – Installment payment options critical (cost is an obstacle)
  – Rebates or option of stove return (perhaps)
  – Use % at follow-up visits was high

• Supply: Getting stoves into villages was no easy task!
  – No existing ICS supply networks; we had to establish these
  – Maintenance concern
  – Implementing organization must be trusted and effective
Guidance for linking stove usage with impacts

Michael Johnson, Berkeley Air Monitoring Group
mjohnson@berkeleyair.com

Ranyee Chiang, Global Alliance for Clean Cookstoves
rchiang@cleancookstoves.org
We have performance guidance to help us define clean, efficient, and safe. - ISO International Workshop Agreement  
- WHO Air Quality Guidelines

But we have not had much guidance on...

How much clean stove use is used enough?

and

How much traditional stove displacement is displaced enough?
What guidance can be provided which relates usage with impacts?

Technical paper which models air quality, fuel, and health impacts based on ISO Tiers of Performance and stove usage:


How can behavior change efforts be informed by this guidance?

Specific guidance for behavior changed-focused programs – emphasis on ventilation.


\[
C_t = \frac{G_f}{\alpha V} (1 - e^{-\alpha t}) + C_0 (e^{-\alpha t})
\]
Impact of traditional stove on air quality

- Takes very little traditional stove use to exceed WHO AQGs (~1 TSF use per week).

- Difficult to reach WHO AQGs if the traditional stove is not almost completely displaced.
Air quality across performance-usage scenarios

- Takes very little traditional stove use to exceed WHO AQGs (~1 TSF use per week).

- Difficult to reach WHO AQGs if the traditional stove is not almost completely displaced.
Air quality, ventilation and performance-usage scenarios

- Ventilation has large impact on indoor air quality.
- Can be altered by opening windows/doors, or changing location of stove.
- Tier 3 stoves estimated to reach WHO AQGs at high ventilation rates when completely displacing traditional stove.
- Larger potential impacts on air quality moving from lower ventilation rates.
Integrating performance-usage guidance into implementation efforts

- **Identify targets** for air quality and/or fuel use
- **Select stove/fuel** based on performance, usability, accessibility, affordability
- **Usage-Performance-Ventilation Model** to identify levels of usage, displacement, ventilation that are needed
- **Select behavior change strategies** to achieve these goals
- **Implementation and Monitoring** to provide feedback on future modeling and behavior change efforts
Uptake and use of clean cookstoves and fuels: Behavior change approaches – Uganda

Allen Namagembe, Nancy Muller, Lisa Mueller Scott, Greg Zwisler, Michael Johnson, Jennifer Arney, Dana Charron, Emmanuel Mugisha
Project Overview

Location:
• Peri-urban sub counties, Wakiso District, central Uganda

Study population:
• Community leaders and households, village health team (VHT) members, sales agents, Top-Lit UpDraft (TLUD) stove purchasers

Partners:
• PATH
• Berkeley Air Monitoring Group and CIRCODU
• Joint Energy and Environment Projects

Technology: Top-lit-updraft stove

Behavior change approaches:
• Training VHTs on household indoor air pollution messaging
• Cooking demonstrations, referrals, and information flyers
• Fuel access interventions
What worked

Community cooking demonstrations
- Most effective behavior change strategy.
  - Observe and experience the benefits of the TLUD.
  - Observe fuel preparation and correct stove use.
  - Able to ask questions.
  - Generate excitement/demand.

Village Health Team as educators
- VHT helped raise awareness on:
  - Risks of household air pollution.
  - Benefits of improved cookstoves.
  - Purchasing information.
  - Correct use practices.
What worked
Increasing access to processed fuel

- 42% relative increase in TLUD usage among group that had access to pre-processed fuel or bow saw for cutting wood.
- Absolute usage level is still low.
- Caveat: interventions were time-limited and numbers were small.
What did not work

**Stove cost and fuel access**
- TLUD contributed to just 7% of the recorded stove usage events.
- Primary barriers to consistent stove use:
  - Cost (in money and time).
  - Lack of access to TLUD-sized firewood.
- Current TLUD stove design too expensive to manufacture, especially considering added cost of fuel, rendering TLUD commercially unviable.

**Stove not fully compatible with cooking practices**
- Stove stacking
- Mixed feedback on stove’s ability to cook staple foods (e.g., matoke, posho, and rice).
Recommendations

• **Integrate community cooking demonstrations** into cookstove interventions to convey benefits and correct use.

• **Pair access** to fuel with introduction of improved cookstoves.

• Consider **training community health workers** as powerful, trusted voices for changing cooking behaviors.

• **Map out** true manufacture cost of new/improved stove designs.
The role of mixed methods in improved cookstove research

Debbi Stanistreet, Lirije Hyseni, Michelle Bashin, Ibrahim Sadumah, Daniel Pope, Michael Sage, Nigel Bruce
Methods, concepts and integration

<table>
<thead>
<tr>
<th>Quantitative</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>• HAP</td>
<td>• Views and perceptions</td>
</tr>
<tr>
<td>• Exposure</td>
<td>• Context</td>
</tr>
<tr>
<td>• Stove use (e.g. SUMS)</td>
<td>• Insights into reasons which</td>
</tr>
<tr>
<td>• Fuel use and efficiency</td>
<td>can explain observed behaviours</td>
</tr>
<tr>
<td>• Health outcomes</td>
<td>• Etc.</td>
</tr>
<tr>
<td>• Etc.</td>
<td></td>
</tr>
</tbody>
</table>

Without integration, the knowledge yield is equivalent to that from a qualitative study and a quantitative study undertaken independently, rather than achieving a whole greater than the sum of the parts.

O’Cathain et al (2010)

Clean Cooking Behavior Change Panel
Study design considerations in a mixed methods study

<table>
<thead>
<tr>
<th>Study design model</th>
<th>Priority</th>
<th>Implementation</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploratory</td>
<td>Priority qualitative</td>
<td>Sequential with qualitative first</td>
<td>Connecting</td>
</tr>
<tr>
<td>Convergent</td>
<td>Equal</td>
<td>Concurrent</td>
<td>Embedding or merging</td>
</tr>
<tr>
<td>Transformative</td>
<td>Equal, Priority quantitative or qualitative</td>
<td>Concurrent or sequential</td>
<td>Merging, connecting or embedding</td>
</tr>
<tr>
<td>Explanatory</td>
<td>Priority quantitative</td>
<td>Sequential with quantitative first</td>
<td>Connecting</td>
</tr>
<tr>
<td>Nested</td>
<td>Priority quantitative or qualitative</td>
<td>Concurrent or sequential</td>
<td>Embedding</td>
</tr>
</tbody>
</table>
## Methods used to study ICS uptake

Table 1 in Stanistreet et al

<table>
<thead>
<tr>
<th>Theme</th>
<th>Item (examples)</th>
<th>Pollutant monitor, SUMS, etc.</th>
<th>Time activity diary</th>
<th>Survey</th>
<th>Qualitative interviews</th>
<th>Focus groups</th>
<th>Observation</th>
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<td>X</td>
<td>B</td>
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<td>Gender ...</td>
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<td>B</td>
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<tr>
<td>Fuel and technology</td>
<td>PM2.5; CO</td>
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<td>B</td>
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<td>User behaviour</td>
<td>Stacking</td>
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<td>X</td>
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<td>B</td>
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<td>Burns</td>
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RQ’s and analytical approach

• How effective are ICS in reducing HAP in everyday use?
• How acceptable are ICS to users?
• What is relationship between user acceptability and user behaviour?

• Analysis of quantitative (HAP, etc.) and qualitative data (themes)
• Merged findings, e.g. rankings vs. # of times used/day
• Convergent analysis* to study between perceptions and use

*Convergence coding matrix (Farmer et al)
Some key findings

• For convergence analysis, we selected:
  – Group A: 6 HH with large reductions with ICS
  – Group B: 6 HH with small/no reductions with ICS

• Some of the findings:
  – Group A reported continued ICS use during monitoring
  – Higher ranking did not mean more exclusive use
  – ‘Stacking’ frequent, multiple reasons
  – Most women worked outside the home; children often cooked when women absent
  – ICS was ‘added’ to use of traditional stove

• Checked case study findings against full dataset
Conclusions

• From this work:
  – Mixed methods feasible and useful
  – Need to plan from design stage
  – Case oriented approach useful to study behaviour in context
  – Triangulation useful (e.g. TAD vs. SUMS vs. FGDs)
  – Can refer back from case studies to full data set to check findings

• Future work:
  – More examples and methods development needed
  – Suggest equal weight (at design stage) to both methods → allows variation later for different research questions
  – Extend to all stakeholders (across ‘value chain’)
Panel and Audience Discussion

Facilitated by Jay Graham

Assistant Professor
George Washington School of Public Health and Health Services
Thank you!

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