Putting Research Into Action

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The challenge of behavior change
The Public Health Model

1. Define the problem
2. Identify risk and protective factors
3. Develop and test prevention strategies
4. Assure widespread adoption
Define the problem
Each day, there are more than 8 killed and 1,160 injured in crashes involving a distracted driver.

Nearly one in five injury crashes involve a distracted driver.
Defining the Problem: What is distracted driving?

- Adjusting dashboard controls
- Drinking
- Adjusting other controls (e.g. windows)
- Eating
- Texting
- Looking at a roadside object
- Reaching for a cell phone
- Reaching for an inanimate object
- Dialing a cell phone

Source: Klauer et al., 2014, NEJM
## Frequency of distracted driving behavior (never to > 5 times/ trip)

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Teens</th>
<th>Parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read or send text</td>
<td>1.42</td>
<td>1.74</td>
</tr>
<tr>
<td>Deal with passengers</td>
<td>2.13</td>
<td>1.94</td>
</tr>
<tr>
<td>Eat/ drink</td>
<td>2.13</td>
<td>2.05</td>
</tr>
<tr>
<td>Use electronic music device</td>
<td>1.17</td>
<td>2.12</td>
</tr>
<tr>
<td>Check internet/ social media</td>
<td>1.05</td>
<td>1.15</td>
</tr>
<tr>
<td>Look for something in vehicle</td>
<td>2.10</td>
<td>2.25</td>
</tr>
</tbody>
</table>

Source: Bingham et al., 2015, JSR
Identify risk and protective factors
Risk and protective factors

- community
- organizational
- legislative
- peer, family
- technology
- individual
Example risk & protective factors

- Belief in low probability of negative consequences
- Belief in benefits to calls (keep up with friends)
- Belief and actual greater prevalence from friends and family
- Confidence in ability to multitask
- Little enforcement

- Organization safety culture – policy and practice
- Legislation + enforcement (with relevant consequences)
- Having friends that disapprove of distracted driving behaviors

Example sources: Hill et al., 2015; Chen et al., 2016; Knowlden et al., 2012; Rozario et al., 2010; Benson et al., 2015; Wang, 2016; Waddell et al., 2014; Gould et al., 2015; Watters et al., 2016
Develop and test prevention strategies
Design Considerations

- Audience
- Format
- Duration
- Language
- Resources
- Delivery Source
Why theory?

- Logic
- Internal consistency
- Guide selected targets for change based on research
- Guides design principles

Source: Buckley & Sheehan, 2004
What to consider in selecting a theory?

- Parsimony
- Demonstration it works - prediction of the outcome among target individuals, behavior, and context
Understand the context for change

- Gender
- Age
- Ethnicity
- Personality
- Neurological processes
- Automaticity
What theoretical constructs have been used in research

- Theory of Planned Behavior
- Health Belief Model
- Extended Parallel Process Model
- Self-determination Theory
- Social Cognitive Theory
- Norms
- Prototype Willingness Model
What are the common constructs?  
Attitudes

- May be affective or cognitive
- Weighing of the costs and benefits
- Consideration given to how important that cost/benefit is to a target audience at any given time
- Typically interventions focus on costs and merely present costs to the audience
What are the common constructs?

Norms

- Includes both injunctive and descriptive
- Injunctive: internalize others’ expectations
- Descriptive: perceived prevalence of behavior by others
- Defining ‘other’ can vary
What are the common constructs? Confidence

- A belief that it’s easy to perform a particular behavior
- Research evidence suggests those confident in their ability to multi-task increases poor performance
- Other possible considerations might be about turning a phone off before getting in the car or putting it out of reach
What are the common constructs?
Self-representation

- Reflects identity, internalized values or standards that one holds or aspires to.
- For example, being a law abiding citizen or being a good friend.
## Youtube PSAs: Review of theory

<table>
<thead>
<tr>
<th>Construct</th>
<th>% used</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk</td>
<td>89</td>
<td>Increased risk of death/ crashing</td>
</tr>
<tr>
<td>Barriers</td>
<td>86</td>
<td>Guidelines of non-distracted driving</td>
</tr>
<tr>
<td>Modeling</td>
<td>61</td>
<td>General information about non-distracted driving or depicts actual behavior</td>
</tr>
<tr>
<td>Knowledge</td>
<td>38</td>
<td>Links to websites</td>
</tr>
<tr>
<td>Benefits</td>
<td>30</td>
<td>Benefits of alternative – e.g. arrive safely</td>
</tr>
<tr>
<td>Social norms</td>
<td>22</td>
<td>Celebrity endorsement, or social information re not responding</td>
</tr>
<tr>
<td>General information</td>
<td>20</td>
<td>Driving statistics</td>
</tr>
<tr>
<td>Skill building</td>
<td>14</td>
<td>Talks about skills and how to do it</td>
</tr>
<tr>
<td>Social support</td>
<td>14</td>
<td>Community resources, pledges</td>
</tr>
</tbody>
</table>

Source: Steadman et al., 2014
Effectiveness in mass media approaches

- Formative research (understand the target behavior and audience) and pre-test messages
- Use a theory
- Combined with other activities (e.g., enforcement, legislation)
- Segment the audience meaningfully (e.g., age, risk)
- Use widely viewed channels relevant to the target audience
- Evaluate!

Source: Delhomme et al., 2009; Noar et al., 2006
What’s success?

- Identify goals and objectives
- Choose best method for evaluation
- Choose how to carry out the evaluation
- Undertake the evaluation
- Feedback
Assure widespread adoption
Challenges in translation

- Getting the message out
- Resources
- Community commitment
- Champion
- Research provides very little background to provide best practice
ANY QUESTIONS?