INFLUENCING FLU VACCINATION BEHAVIOR:
Identifying Drivers & Evaluating Campaigns for Future Promotion Planning
H1N1 Flu Media Coverage

Source: aenfroy87, 2009, April 29. Swine Flu: Pandemic or Propaganda?
Retrieved from http://www.youtube.com/watch?v=yAbWbAe3Y04
Planning and Decision Making

- Need for information
- Staff
- Student insights
- University leadership and budgeting
- Next event and quick knowledge gaining
What is needed

Roles

Training
Needs

- Theory-based practice
- Evidence-based practice
- Continuing professional development
- Collaboration
- Health Promotion

- Marketing Research -- Measuring and Understanding Preventative Health Behaviors
- Marketing -- Influencing, Social and Behavioral Change
- Beyond silos -- cross-disciplinary training and collaboration
Overview

- The development of a new **theory-based** valid and reliable scale for predicting vaccination behaviors
- The use of the web as a survey **tool** for supplying large volumes of valid and reliable data
- Assessment of messaging and media used in a campus communication campaign and usable items
- **Evidence-base** for beliefs and other factors showing significance to the choice to take the shot for H1N1
- **Collaboration**, on-campus and in the community; and continued **professional development** with a focus on core competencies
Utility and Application

- Scale
- Framework
- Individual Items, particularly for the campaign
- Instrument

- Pointing out utility throughout the presentation
- These tools are available for your use.
- The instrument as it appeared on the web is part of the presentation of the Summary Report, Frequencies which can be downloaded from link on closing page. Useful as a template for the instrument design or for gathering specific items.
- Scale is in this slide show. The survey can be downloaded so that you can have the web instrument as it was used.
Campus Campaign

Posters

What is this Flu Thing?
- ILLI, or influenza-like illness, can be caused by seasonal flu, swine flu, and other viruses. It shows up as fever (greater than 100°F), cough, and/or sore throat, and usually body aches.
- Flu medication, Tamiflu or Relenza, will generally NOT be used to treat flu in otherwise healthy people.
- If you don’t have a fever, you don’t have the flu. You most likely have a cold. It will take a week and it will be gone.

What should I do?
- Stay at home!
- Wash your hands frequently or use hand sanitizer.
- If you cough or sneeze, do so into your sleeve or into a tissue.
- Plan to receive the seasonal flu and H1N1 vaccine. SHS will be offering a series of flu vaccine clinics, and we also offer the vaccine in the office.
- Make a “fluffy”—a friend who will check on you and help to care for you while you are sick.
- If you are sick, and must go out, wear a mask.
- Stay isolated until you are fever free for 24 hours without the use of fever-lowering medication. This will take at least 4 days in most cases. (Masks, hand sanitizer, and thermometers are available in Residence Offices for students who are ill.)
- Don’t forget to take care of yourself. Stay in bed! Get lots of fluids, rest, and take fever reducers like Tylenol or Advil.

www.bu.edu/shs

Check out the SHS website if you have questions about ILLI.

Boston University Student Health Services
881 Commonwealth Avenue
Boston, MA 02215

www.bu.edu/shs
Phone: 617-353-3575

Bus Placards

If you don’t have a fever, you don’t have the flu.
(So don’t risk catching it by stopping by SHS.)

Video at BU Today

Other

Email, Postcards, Website
Campus Campaign – Posters

Boston University created a cartoon superhero, Flu Buddy, and used him on posters.

Posters were printed in a variety of sizes from 8 1/2” x 11” to 40” x 60” and placed in dorms and dining halls; high-traffic areas on campus; and outside buildings along the major roadway going through campus. They included information about flu symptoms, treatment, and recommended responses, among them the vaccine for the seasonal and H1N1 flu. Backlit posters were highly visible from the street in the evening.

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Campus Campaign – Bus Placards

Placards were displayed in campus shuttle busses.

Designs were targeted to the young adult audiences. Each placard contained a single strategy to reduce a student’s chances of catching or spreading the flu, including requesting a friend to be a “Flu Buddy.”

Once the vaccine was available, the placards suggested getting the shot.
Development
Theory-Based Study Design

- Value of theory-based design
- Theory of Reasoned Action, Social Cognitive Theory, Stages of Change Model, Extended Parallel Processing Model, Elaboration Likelihood Model, and others
Health Belief Model

**INDIVIDUAL PERCEPTIONS**

- Perceived susceptibility/seriousness of disease

**MODIFYING FACTORS**

- Age, sex, ethnicity
- Personality
- Socio-economics
- Knowledge

**LIKELIHOOD OF ACTION**

- Perceived benefits vs barriers to behavioural change

- Likelihood of behavioural change

- Cues to action
  - education
  - symptoms
  - media information

Factor Groupings, Deconstructed Model

BELIEFS → MODIFYING FACTORS → CUES TO ACTION (communication) → DEMOGRAPHICS → OUTCOME = ACTION (not likelihood)
Why a scale? What a scale?

- What a scale?
- Measurement of variables usually used for concepts that are less readily observable
- Ex. (perception of effectiveness of handwashing vs actual numbers of handwashing)
- Single item or multi-item measures
Why a valid scale?

- What is validity?
- Why validity?
- Where does reliability fit in?
Ex. Peer Influence

- I ask my friends for advice when making health decisions.
- I usually do what my friends do when it comes to health choices.
- Most of my friends got the shot for H1N1.
- My friends thought it was important to get the H1N1 shot.

Measured using a 5 point-Likert scale on level of agreement with statement from 1 Strongly Disagree to 5 Strongly Agree
Indicators within the Scale

- Sources of indicators
- Wording of items
  - Understanding audience
  - Word choice
  - Sentence structure (esp. getting H1N1 vs shot)
  - Assumed knowledge
- Level of measurement
Planned Constructs in the Scale

- Perceived Susceptibility for the Disease
- Perceived Severity for the Disease
- Perceived Benefits
- Perceived Barriers
- Perceived Benefits vs Barriers
- Parental Influence
- Peer Influence
- Health Expert Influence
Health-related Items, non-scale

- Single-item measures
- Customary
- Have value but not rigor that comes from testing for validity and reliability
- Dependent variable, Taking the Shot for H1N1
Communication

- Mass Media
- Campus Campaign

Measuring for
- Exposure
- Awareness
- Recall
- Message Comprehension
- Perceived Quality
- Perceived Utility
Framework

Health Related

- Scale (multi-item measures)
- Nonscale (single-item measures)

Communication

- Mass Media
- Campus Campaign

Demographics

Outcome

Take the shot for H1N1
The Questionnaire

- Self-report measure
- Range of response types
- 70 items
- Care in composition, framing questions, priming, order
- Skip patterns
- Tested internally
Web-based Survey

- Addresses Needs
  - Sample size
  - Cost of data gathering
- Benefits
  - Uniformity in delivery
  - Replication
  - Speed
  - Monitoring of live responses
  - Reporting and statistical processing
Survey Tools – Using Survey Monkey
Survey Tools – The Survey as It Appeared Online

Answer the following REGARDLESS of whether or not you have already taken THE SHOT for H1N1 flu.

1. During the fall semester, what were your thoughts about the H1N1 flu?

   - My chances of getting H1N1 were high.
   - The thought of getting H1N1 scared me.
   - If I got H1N1 I would not be able to get done all the things I needed to do.
   - BU's Student Health Services did not provide much information about H1N1.

2. Did someone in your family get the H1N1 flu during the past year?

   - Yes
   - No

3. Did a friend of yours get the H1N1 flu during the past year?

   - Yes
   - No
Sample

- Sampling Pool = 27,709
- Reaching the Target
  - Email invitations
  - Collaboration on campus
Results & Analysis
Responses

Of the 27,709 students who received the email invitation to participate in the survey,

Responses:
1376 responded (5%).

Completed surveys:
1074 completed the survey (78%); (4% of sample pool).
Web Surveys as a Data Gathering Tool

- Gathered valid and reliable data
- Large sample size administration
- Easy to create reader-friendly reports
- Statistical capabilities
  - frequencies
  - crosstabs
  - Filtering
- Output to statistical software
Who Responded?
### 28. What year of school are you in?

<table>
<thead>
<tr>
<th>Year</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>11.4%</td>
<td>122</td>
</tr>
<tr>
<td>Sophomore</td>
<td>15.4%</td>
<td>165</td>
</tr>
<tr>
<td>Junior</td>
<td>15.0%</td>
<td>161</td>
</tr>
<tr>
<td>Senior</td>
<td>16.2%</td>
<td>174</td>
</tr>
<tr>
<td>Graduate</td>
<td>41.4%</td>
<td>445</td>
</tr>
<tr>
<td>None of the above</td>
<td>0.7%</td>
<td>7</td>
</tr>
</tbody>
</table>

- **Answered question**: 1,074
- **Skipped question**: 302
## Status

Demographics, Frequencies

<table>
<thead>
<tr>
<th>29. What is your status as a student?</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time</td>
<td>88.7%</td>
<td>953</td>
</tr>
<tr>
<td>Part-time</td>
<td>11.0%</td>
<td>118</td>
</tr>
<tr>
<td>N/A</td>
<td>0.3%</td>
<td>3</td>
</tr>
<tr>
<td><strong>answered question</strong></td>
<td></td>
<td>1,074</td>
</tr>
<tr>
<td><strong>skipped question</strong></td>
<td></td>
<td>302</td>
</tr>
</tbody>
</table>
# Gender

**Demographics, Frequencies**

<table>
<thead>
<tr>
<th>32. What is your gender?</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>24.7%</td>
<td>265</td>
</tr>
<tr>
<td>Female</td>
<td>75.3%</td>
<td>809</td>
</tr>
</tbody>
</table>

- **answered question**: 1,074
- **skipped question**: 302

Cathy St. Pierre, MS  ACHA 2011 Annual Conference  June 1, 2011
### Ethnicity

**Demographics, Frequencies**

31. What is your ethnicity? Select the ethnicity with which you most closely identify yourself.

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>72.9%</td>
<td>783</td>
</tr>
<tr>
<td>Black or African American</td>
<td>2.6%</td>
<td>28</td>
</tr>
<tr>
<td>American Indian or Native American</td>
<td>0.2%</td>
<td>2</td>
</tr>
<tr>
<td>Asian</td>
<td>13.6%</td>
<td>146</td>
</tr>
<tr>
<td>Native Hawaiian or other Pacific Islander</td>
<td>0.4%</td>
<td>4</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>4.8%</td>
<td>52</td>
</tr>
<tr>
<td>Middle Eastern</td>
<td>0.8%</td>
<td>9</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>4.7%</td>
<td>50</td>
</tr>
</tbody>
</table>

answered question: 1,074  
skipped question: 302
Age Frequencies by Collapsed Categories

How old are you (in years)?

- 20-25 (54%)
- 26-35 (21%)
- 19 (14%)
- 18 and younger (6%)
- 36+ (5%)

N=1057

Open-ended response
Collapsed categories*
1 = 18 and younger
2 = 19
3 = 20-25
4 = 26-35
5 = 36+

* The item response was originally open-ended with numeric values revealing that age was linearly related. Due to the concentration of responses within the young adult ranges, testing for significant differences and odds ratios were conducted using responses collapsed into 5 categories.
Single-Event Vaccination (SEV) Scale for use with H1N1
Scale – Testing, Analysis, Results

• Validity and reliability of the scale were confirmed using PASW 18.0 (formerly SPSS).

• Construct validity for the scale was tested through confirmatory factor analysis. The principal component analysis was conducted using Varimax rotation listwise (n=1021).

• Cronbach’s alpha was used to test for internal consistency reliability.

• Twenty-three of the twenty-four items loaded across eight components, with coefficients for each factor >.50.
## Factor Loading Matrix

<table>
<thead>
<tr>
<th>Components</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>The H1N1 shot is effective in preventing the disease.</td>
<td>1</td>
</tr>
<tr>
<td>I believed that taking the H1N1 shot would keep away that illness.</td>
<td>.843</td>
</tr>
<tr>
<td>The H1N1 shot would protect my health.</td>
<td>.839</td>
</tr>
<tr>
<td>I felt I had a lot to gain by taking the shot for H1N1.</td>
<td>.802</td>
</tr>
<tr>
<td>The benefits of taking the H1N1 shot outweighed any difficulties from the shot.</td>
<td>.651</td>
</tr>
<tr>
<td>My chances of getting H1N1 were high.</td>
<td>.140</td>
</tr>
<tr>
<td>The thought of getting H1N1 scared me.</td>
<td>.153</td>
</tr>
<tr>
<td>If I got H1N1 I would not be able to get done all the things I needed to do.</td>
<td>.148</td>
</tr>
<tr>
<td>I thought that the shot for H1N1 had many side effects.</td>
<td>-.375</td>
</tr>
<tr>
<td>I was worried that the shot for H1N1 was going to make me feel sick.</td>
<td>-.074</td>
</tr>
<tr>
<td>I was concerned about feeling ill after taking the H1N1 shot.</td>
<td>-.066</td>
</tr>
<tr>
<td>I was bothered by the possibility that getting the shot was going to hurt.</td>
<td>-.036</td>
</tr>
<tr>
<td>I was afraid of the pain from getting the shot.</td>
<td>-.003</td>
</tr>
<tr>
<td>Flu shots are more painful than they are worth.</td>
<td>-.382</td>
</tr>
<tr>
<td>My parents thought that taking the shot for H1N1 was a good idea.</td>
<td>.276</td>
</tr>
<tr>
<td>My parents thought that I should take the H1N1 shot.</td>
<td>.273</td>
</tr>
<tr>
<td>I ask my friends for advice when making health decisions.</td>
<td>.012</td>
</tr>
<tr>
<td>I usually do what my friends do when it comes to health choices.</td>
<td>.074</td>
</tr>
<tr>
<td>Most of my friends got the shot for H1N1.</td>
<td>.117</td>
</tr>
<tr>
<td>My friends thought it was important to get the H1N1 shot.</td>
<td>.168</td>
</tr>
<tr>
<td>Student Health Services gives good health advice.</td>
<td>.154</td>
</tr>
<tr>
<td>I pay attention to what Student Health Services recommends.</td>
<td>.263</td>
</tr>
<tr>
<td>BU's Student Health Services did not provide much information about H1N1.</td>
<td>.026</td>
</tr>
</tbody>
</table>

* Extraction Method: Principal Component Analysis. Varimax Rotation.*
Construct changes based on factor analysis

- Susceptibility and Severity => single construct/factor
- Barriers vs Benefits merged with Benefits
- Split in Peer Influence
  - Peer Influence, toward Health Choices
  - Peer Influence, toward H1N1 vaccination
Construct Validity

Items were measured on a 5-point Likert scale ranging from Strongly Disagree to Strongly Agree.
Single-Event Vaccination (SEV) Scale, H1N1

- Perceived Susceptibility/Severity for the Disease
- Perceived Benefits to Behavioral Change
- Perceived Barriers, Sickness
- Perceived Barriers, Pain
- Parental Influence
- Peer Influence in Health Choices
- Peer Influence toward H1N1 Vaccination
- Perception of Student Health Services Information
Framework

Health Related

Scale (multi-item measures)

Nonscale (single-item measures)

Communication

Mass Media

Campus Campaign

Demographics

Outcome

Take the shot for H1N1
The SEV Scale as part of Framework

<table>
<thead>
<tr>
<th>SCALE (Multi-item Measures)</th>
<th>Single-item Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Beliefs</strong></td>
<td><strong>Communication</strong></td>
</tr>
<tr>
<td>PERCEIVED THREAT</td>
<td>Mass Media</td>
</tr>
<tr>
<td>(susceptibility/severity)</td>
<td>Television</td>
</tr>
<tr>
<td>PERCEIVED BENEFITS</td>
<td>Radio</td>
</tr>
<tr>
<td>PERCEIVED BARRIERS, SICKNESS</td>
<td>Newspaper</td>
</tr>
<tr>
<td>PERCEIVED BARRIERS, PAIN</td>
<td>Social Media Sites</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARENTAL INFLUENCE</td>
</tr>
<tr>
<td>PEER INFLUENCE</td>
</tr>
<tr>
<td>toward H1N1 inoculation</td>
</tr>
<tr>
<td>PEER INFLUENCE</td>
</tr>
<tr>
<td>IN HEALTH CHOICES</td>
</tr>
<tr>
<td>PERCEPTION OF STUDENT</td>
</tr>
<tr>
<td>HEALTH SERVICES</td>
</tr>
</tbody>
</table>

| **Perceived Barriers, Misc.** |
| Confusion on timing of shot |
| Convenience of location     |
| Finding the time            |
| Availability of the shot    |

| **Modifiers**               |
| Expert Opinion              |
| Influence of Physician      |
| Influence of Student Health Services Information |
| Knowledge                   |
| Friend got H1N1             |
| Family got H1N1             |
| Prior Action,               |
| Seasonal flu shot           |
| School Year 2009-2010       |
| School Year 2008-2009       |

| **Campus Campaign**         |
| Posters                     |
| Video                       |
| Website                     |
| Postcard                    |
| Shuttle Bus                 |
| Email                       |

| **Outcomes**                |
| Taking the shot for H1N1    |

| **Demographics**            |
| Year in School              |
| Status in School            |
| Age                         |
| Ethnicity/Race              |
| Gender                      |

Cathy St. Pierre, MS  ACHA 2011 Annual Conference  June 1, 2011
Taking Shots:
Modifying Variables, Prior Action and Outcome
# Seasonal Flu Shot

## Modifier, Prior Action

### 8. I took the shot for the regular flu (not H1N1) during this school year (September 2009–present).

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>49.3%</td>
<td>550</td>
</tr>
<tr>
<td>No</td>
<td>49.5%</td>
<td>552</td>
</tr>
<tr>
<td>I don't remember</td>
<td>1.2%</td>
<td>13</td>
</tr>
</tbody>
</table>

Answered question: 1,115
Skipped question: 261

### 9. I took the shot for the regular flu (not H1N1) during last school year (Sept 2008-May 2009).

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>33.1%</td>
<td>369</td>
</tr>
<tr>
<td>No</td>
<td>63.1%</td>
<td>704</td>
</tr>
<tr>
<td>I don't remember</td>
<td>3.8%</td>
<td>42</td>
</tr>
</tbody>
</table>

Answered question: 1,115
Skipped question: 261
## H1N1 Flu Shot Outcome

<table>
<thead>
<tr>
<th></th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>38.3%</td>
<td>427</td>
</tr>
<tr>
<td>No</td>
<td>61.7%</td>
<td>688</td>
</tr>
<tr>
<td>I don't remember</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td><strong>answered question</strong></td>
<td></td>
<td>1,115</td>
</tr>
<tr>
<td><strong>skipped question</strong></td>
<td></td>
<td>261</td>
</tr>
</tbody>
</table>
Communication: 
Mass Media & 
Campus Campaign
Basic stats value

- Summative
- Reporting
- Assessment
- Benchmarking
- Formative
- Guiding future efforts
- Targeting Improvements
## Mass Media, Communication

### Table: How often did you hear or read information about the H1N1 flu from the following mass media sources?

<table>
<thead>
<tr>
<th>Source</th>
<th>Never (%)</th>
<th>Seldom (%)</th>
<th>Occasionally (%)</th>
<th>Frequently (%)</th>
<th>Very Frequently (%)</th>
<th>Rating Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television</td>
<td>8.0% (87)</td>
<td>8.3% (91)</td>
<td>25.4% (278)</td>
<td>39.3% (430)</td>
<td>18.9% (207)</td>
<td>3.53</td>
</tr>
<tr>
<td>Radio</td>
<td>23.5% (253)</td>
<td>21.4% (231)</td>
<td>29.8% (321)</td>
<td>17.7% (191)</td>
<td>7.5% (81)</td>
<td>2.64</td>
</tr>
<tr>
<td>Newspaper (print)</td>
<td>9.7% (105)</td>
<td>11.5% (124)</td>
<td>29.3% (317)</td>
<td>36.7% (397)</td>
<td>12.8% (139)</td>
<td>3.32</td>
</tr>
<tr>
<td>Social Media Sites Online (ex. Facebook)</td>
<td>21.5% (232)</td>
<td>28.9% (312)</td>
<td>28.9% (312)</td>
<td>14.2% (153)</td>
<td>6.6% (71)</td>
<td>2.55</td>
</tr>
<tr>
<td>Websites (NOT including social media sites like Facebook)</td>
<td>12.1% (131)</td>
<td>19.1% (206)</td>
<td>31.1% (336)</td>
<td>26.8% (289)</td>
<td>10.8% (117)</td>
<td>3.05</td>
</tr>
<tr>
<td>Tweets</td>
<td>67.9% (708)</td>
<td>16.5% (172)</td>
<td>10.1% (105)</td>
<td>3.3% (34)</td>
<td>2.2% (23)</td>
<td>1.55</td>
</tr>
</tbody>
</table>

Other mass media sources (please specify) NOTE: Do NOT include conversations with friends/family; do NOT include information you received from BU
### Website Campaign Component & Split Patterns

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
<th>Percent</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>16. Did you know there was a place on the BU website that had information about the flu?</td>
<td>Yes</td>
<td>68.2%</td>
<td>748</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>31.8%</td>
<td>348</td>
</tr>
<tr>
<td></td>
<td>answered question</td>
<td></td>
<td>1,096</td>
</tr>
<tr>
<td></td>
<td>skipped question</td>
<td></td>
<td>280</td>
</tr>
</tbody>
</table>
### 17. Did you visit that site for information?

<table>
<thead>
<tr>
<th></th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>29.5%</td>
<td>220</td>
</tr>
<tr>
<td>No</td>
<td>70.5%</td>
<td>525</td>
</tr>
</tbody>
</table>

*answered question*: 745

*skipped question*: 631
### Website Campaign Component & Split Patterns

<table>
<thead>
<tr>
<th>18. Did you find the information there helpful?</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>87.3%</td>
<td>193</td>
</tr>
<tr>
<td>No</td>
<td>12.7%</td>
<td>28</td>
</tr>
</tbody>
</table>

- **answered question**: 221
- **skipped question**: 1,155
### Video and Postcard, Campaign Component

#### Question 19:
Did you watch the video about the flu that was featured in BU Today?

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>7.2%</td>
<td>78</td>
</tr>
<tr>
<td>No</td>
<td>92.8%</td>
<td>1,012</td>
</tr>
</tbody>
</table>

answered question: 1,090
skipped question: 286

#### Question 20:
Did you receive a postcard from Boston University about how to prevent the flu?

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>42.5%</td>
<td>463</td>
</tr>
<tr>
<td>No</td>
<td>57.5%</td>
<td>627</td>
</tr>
</tbody>
</table>

answered question: 1,090
skipped question: 286
21. Do you recall seeing any information on the BU Bus about the flu?

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>29.5%</td>
<td>322</td>
</tr>
<tr>
<td>No, I don't take the BU Bus</td>
<td>55.2%</td>
<td>602</td>
</tr>
<tr>
<td>No, I have taken the BU Bus but never saw any info about the flu in it.</td>
<td>15.2%</td>
<td>166</td>
</tr>
</tbody>
</table>

answered question: 1,090
skipped question: 286
### Posters, Campaign Component

22. Did you see any posters or flyers about the flu hanging up around campus?

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>72.5% 790</td>
</tr>
<tr>
<td>No</td>
<td>27.5% 300</td>
</tr>
<tr>
<td>answered question</td>
<td>1,090</td>
</tr>
<tr>
<td>skipped question</td>
<td>286</td>
</tr>
</tbody>
</table>
### Posters, Campaign Component

23. Where and how often did you see posters or flyers hanging up around campus? IF YOU DO NOT GO TO A LISTED LOCATION, check "Not Applicable" for that location.

<table>
<thead>
<tr>
<th>Location</th>
<th>Never</th>
<th>Seldom</th>
<th>Occasionally</th>
<th>Frequently</th>
<th>Very Frequently</th>
<th>N/A</th>
<th>Rating Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>At the George Sherman Union</td>
<td>5.0%</td>
<td>10.7%</td>
<td>33.9% (262)</td>
<td>23.1% (179)</td>
<td>8.0% (82)</td>
<td>19.3% (149)</td>
<td>3.23</td>
</tr>
<tr>
<td>In the dining hall</td>
<td>4.7%</td>
<td>5.3%</td>
<td>16.2% (125)</td>
<td>16.2% (125)</td>
<td>8.0% (82)</td>
<td>49.7% (384)</td>
<td>3.35</td>
</tr>
<tr>
<td>In my dorm building</td>
<td>3.9%</td>
<td>5.2%</td>
<td>10.4% (80)</td>
<td>22.0% (169)</td>
<td>15.4% (118)</td>
<td>43.0% (330)</td>
<td>3.70</td>
</tr>
<tr>
<td>When I walked down Commonwealth Avenue</td>
<td>12.5%</td>
<td>24.4%</td>
<td>34.1% (262)</td>
<td>15.7% (121)</td>
<td>4.3% (33)</td>
<td>9.0% (69)</td>
<td>2.72</td>
</tr>
<tr>
<td>In the library</td>
<td>13.4%</td>
<td>17.4%</td>
<td>20.6% (159)</td>
<td>7.1% (55)</td>
<td>1.9% (15)</td>
<td>39.5% (304)</td>
<td>2.45</td>
</tr>
<tr>
<td>Lit up poster at night</td>
<td>30.1%</td>
<td>16.3%</td>
<td>9.8% (76)</td>
<td>6.1% (47)</td>
<td>1.9% (15)</td>
<td>35.8% (276)</td>
<td>1.97</td>
</tr>
<tr>
<td>On the BU Bus</td>
<td>11.7%</td>
<td>6.3%</td>
<td>8.4% (64)</td>
<td>11.3% (88)</td>
<td>14.7% (112)</td>
<td>47.6% (362)</td>
<td>3.21</td>
</tr>
</tbody>
</table>

Other (please specify)

- **answered question**
- **skipped question**
## Email, Campaign Component

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>I read every one of them.</td>
<td>28.3%</td>
<td>304</td>
</tr>
<tr>
<td>I read some but not all of them.</td>
<td>56.1%</td>
<td>604</td>
</tr>
<tr>
<td>I read only one of them.</td>
<td>4.1%</td>
<td>44</td>
</tr>
<tr>
<td>I saw by the subject line that it was about the flu but didn't open it.</td>
<td>9.8%</td>
<td>105</td>
</tr>
<tr>
<td>I don't remember receiving any email from BU about the flu.</td>
<td>1.8%</td>
<td>19</td>
</tr>
</tbody>
</table>

**answered question** 1,076

**skipped question** 300
# Email, Campaign Content

27. Please indicate your level of agreement with the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Feel Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Rating Average</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>The emails were clear about when the regular seasonal flu shot was being given out.</td>
<td>0.4% (4)</td>
<td>1.6% (15)</td>
<td>7.3% (69)</td>
<td>56.9% (540)</td>
<td>33.8% (321)</td>
<td>4.22</td>
<td>949</td>
</tr>
<tr>
<td>The emails were clear about when the H1N1 shot was being given out.</td>
<td>1.2% (11)</td>
<td>5.3% (50)</td>
<td>9.3% (88)</td>
<td>53.9% (509)</td>
<td>30.3% (286)</td>
<td>4.07</td>
<td>944</td>
</tr>
<tr>
<td>Emails kept me informed about how the flu was affecting the campus.</td>
<td>2.5% (24)</td>
<td>15.3% (145)</td>
<td>26.7% (253)</td>
<td>43.9% (416)</td>
<td>11.5% (109)</td>
<td>3.47</td>
<td>947</td>
</tr>
<tr>
<td>Emails were helpful in letting me know how to treat flu symptoms.</td>
<td>1.3% (12)</td>
<td>9.6% (91)</td>
<td>28.7% (271)</td>
<td>49.8% (470)</td>
<td>10.6% (100)</td>
<td>3.59</td>
<td>944</td>
</tr>
</tbody>
</table>

answered question 950

skipped question 426
### Recommending Shot, Recall, Campaign Content

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Count</th>
<th>Response Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>879</td>
<td>80.1%</td>
</tr>
<tr>
<td>No</td>
<td>34</td>
<td>3.1%</td>
</tr>
<tr>
<td>I don’t know</td>
<td>185</td>
<td>16.8%</td>
</tr>
</tbody>
</table>

**Total answered question**: 1,098

**Total skipped question**: 278
### Graphic and Acronym, Recall, Campaign Content

24. Who was the cartoon figure in the posters about the flu that were hanging around campus?

<table>
<thead>
<tr>
<th>Cartoon Figure</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freddy the Flu Germ</td>
<td>0.5%</td>
<td>4</td>
</tr>
<tr>
<td>Sam the Swine Flu Slayer</td>
<td>1.3%</td>
<td>10</td>
</tr>
<tr>
<td>The H1N1 Buster</td>
<td>4.5%</td>
<td>35</td>
</tr>
<tr>
<td>The Flu Buddy</td>
<td>41.9%</td>
<td>324</td>
</tr>
<tr>
<td>I don't remember there being any cartoon figure.</td>
<td>47.9%</td>
<td>370</td>
</tr>
<tr>
<td>I don't remember seeing any posters about the flu.</td>
<td>3.9%</td>
<td>30</td>
</tr>
</tbody>
</table>

*Answered question: 773*

*Skipped question: 603*
25. Many of the messages from BU about the flu included the acronym SHS. Do you know what that means?

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>84.7%</td>
<td>657</td>
</tr>
<tr>
<td>No</td>
<td>9.0%</td>
<td>70</td>
</tr>
<tr>
<td>Not certain</td>
<td>6.3%</td>
<td>49</td>
</tr>
</tbody>
</table>

*answered question* 776

*skipped question* 600
Significant Factors
Influencing the Outcome
To Take the Shot for H1N1
## Variables in Framework x Outcome, Univariate

### SCALE
**(Multi-item Measures)**

<table>
<thead>
<tr>
<th>Perceived Threat</th>
<th>Perceived Barriers, Misc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Susceptibility/severity</td>
<td>Confusion on timing of shot</td>
</tr>
<tr>
<td>Perceived Benefits</td>
<td>Convenience of location</td>
</tr>
<tr>
<td>Perceived Barriers, Sickness</td>
<td>Finding the time</td>
</tr>
<tr>
<td>Perceived Barriers, Pain</td>
<td>Availability of the shot</td>
</tr>
</tbody>
</table>

### Beliefs

<table>
<thead>
<tr>
<th>Parental Influence</th>
<th>Expert Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influence of Physician</td>
<td>Influence of Student Health Services Information</td>
</tr>
<tr>
<td>Influence of Student Health Services Information</td>
<td>Knowledge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Peer Influence</th>
<th>Perceived Barriers, Misc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior Action, Seasonal flu shot</td>
<td>Confusion on timing of shot</td>
</tr>
<tr>
<td>School Year 2009-2010</td>
<td>Convenience of location</td>
</tr>
<tr>
<td>School Year 2008-2009</td>
<td>Finding the time</td>
</tr>
<tr>
<td>Family got H1N1</td>
<td>Availability of the shot</td>
</tr>
</tbody>
</table>

### Modifiers

<table>
<thead>
<tr>
<th>Demographics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year in School</td>
</tr>
<tr>
<td>Status in School</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>Ethnicity/Race</td>
</tr>
<tr>
<td>Gender</td>
</tr>
</tbody>
</table>

### Communication

<table>
<thead>
<tr>
<th>Mass Media</th>
<th>Social Media Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television</td>
<td>Websites</td>
</tr>
<tr>
<td>Radio</td>
<td>Tweets</td>
</tr>
<tr>
<td>Newspaper</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Campus Campaign</th>
<th>Mass Media</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posters</td>
<td>Television</td>
</tr>
<tr>
<td>Postcard</td>
<td>Radio</td>
</tr>
<tr>
<td>Video</td>
<td>Newspaper</td>
</tr>
<tr>
<td>Shuttle Bus</td>
<td>Website</td>
</tr>
<tr>
<td>Email</td>
<td></td>
</tr>
</tbody>
</table>

### OUTCOME

Taking the shot for H1N1

Significance was measured through univariate logistic regression (p<.05). N=935. Probability modeled is shot = “yes”.

---

Cathy St. Pierre, MS  ACHA 2011 Annual Conference  June 1, 2011
Variables in Framework x Outcome, Multivariate

SCALE
(Multi-item Measures)

Beliefs

PERCEIVED THREAT
(susceptibility/severity)

PERCEIVED BENEFITS

PERCEIVED BARRIERS, SICKNESS

PERCEIVED BARRIERS, PAIN

Modifiers

PARENTAL INFLUENCE

PEER INFLUENCE
toward H1N1 inoculation

PEER INFLUENCE
IN HEALTH CHOICES

PERCEPTION OF STUDENT HEALTH SERVICES

Perceived Barriers, Misc.

Confusion on timing of shot

Convenience of location

Finding the time

Availability of the shot

Communication

Mass Media

Television

Social Media Sites

Radio

Websites

Newspaper

Tweets

Campaign Campaign

Posters

Postcard

Video

Shuttle Bus

Website

Email

Demographics

Year in School

Status in School

Age

Ethnicity/Race

Gender

Multivariate model using stepwise selection; entry criterion p=.20, staying criterion p=.05. N=935. Probability modeled is shot = “yes”.

Cathy St. Pierre, MS   ACHA 2011 Annual Conference   June 1, 2011
Drivers to take the shot, Multivariate Model

- Parental Influence
- Peer Influence toward H1N1 Vaccine
- Perceived Benefits
- Perception of Student Health Services
- Availability of the Shot for H1N1
- Finding the Time
- Friend got the H1N1 flu
- Taking the shot for the Regular Flu ('09-'10 season)

Outcome
Taking the shot for H1N1
Parental Influence

The items comprising the factor “Parental Influence”:

- My parents thought that getting the shot for H1N1 was a good idea.
- My parents thought that I should get the H1N1 shot.

For each single unit increase in average score for the factor Parental Influence there is a 2 1/2 times greater likelihood to take the shot for H1N1.

For example, those who Disagree with those statements are 2 1/2 times more likely to take the shot for H1N1 than those who Strongly Disagree.

Factor levels based on average scores for levels of agreement on statements across the items comprising the factor. Adjusted odds ratios from multivariate model using stepwise selection.
Overall p-value < 0.0001. N=935. Probability modeled is shot = “yes”.
Point Estimate = 2.651. 95% Confidence Interval = 2.028 to 3.465.
Peer Influence

The items comprising the factor “Peer Influence”:

- Most of my friends got the shot for H1N1.
- My friends thought it was important to get the H1N1 shot.

For each single unit increase in average score for the factor Parental Influence there is a \( 1\frac{1}{2} \) times greater likelihood to take the shot for H1N1.

For example, those who Disagree with those statements are \( 1\frac{1}{2} \) times more likely to take the shot for H1N1 than those who Strongly Disagree.

Factor levels based on average scores for levels of agreement on statements across the items comprising the factor. Adjusted odds ratios from multivariate model using stepwise selection.
Overall p-value = 0.0060. N=935. Probability modeled is shot = “yes”.
Point Estimate = 1.514. 95% Confidence Interval = 1.126 to 2.035.
Availability of Shot

By the time the H1N1 shot was available, I no longer thought that I would catch H1N1.

Those who Strongly Disagree with the statement are 5 times more likely to take the shot for H1N1 than those who Strongly Agree.

Please indicate your level of agreement with the following statement.

1 = Strongly Disagree
2 = Disagree
3 = Feel Neutral
4 = Agree
5 = Strongly Agree

Adjusted odds ratios from multivariate model using stepwise selection.
Overall p-value = 0.0008. N=935. Probability modeled is shot = "yes".
Point Estimate = 5.405. 95% Confidence Interval = 1.56 to 18.52.
Perceived Benefits

The items comprising

the factor “Perceived Benefits”:

- The H1N1 shot is effective in preventing the disease.
- I believed that taking the H1N1 shot would keep me from getting that illness.
- The H1N1 shot would protect my health.
- I felt I had a lot to gain by getting the shot for H1N1.
- The benefits of taking the H1N1 shot outweighed any difficulties from taking the shot.

For each single unit increase in average score for the factor Perceived Benefits there is a **10 times greater likelihood** to take the shot for H1N1.

For example, those who **Disagree** with those statements are 10 times more likely to take the shot for H1N1 than those who **Strongly Disagree**.

Factor levels based on average scores for levels of agreement on statements across the items comprising the factor.

Adjusted odds ratios from multivariate model using stepwise selection.

Overall p-value < 0.0001.  N=935.  Probability modeled is shot = “yes”.
Point Estimate = 10.324.  95% Confidence Interval = 6.469 to 16.479.
Finding the Time

Finding the time to go for the shot was difficult.

Those who Strongly Disagree with the statement are 123 times more likely to take the shot for H1N1 than those who Strongly Agree.

<table>
<thead>
<tr>
<th>Effect</th>
<th>Point Estimate</th>
<th>95% Confidence Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 vs 5</td>
<td>123.780</td>
<td>32.476</td>
</tr>
<tr>
<td></td>
<td></td>
<td>471.781</td>
</tr>
<tr>
<td>2 vs 5</td>
<td>61.510</td>
<td>21.113</td>
</tr>
<tr>
<td></td>
<td></td>
<td>179.203</td>
</tr>
<tr>
<td>3 vs 5</td>
<td>29.421</td>
<td>9.466</td>
</tr>
<tr>
<td></td>
<td></td>
<td>91.440</td>
</tr>
<tr>
<td>4 vs 5</td>
<td>8.339</td>
<td>2.950</td>
</tr>
<tr>
<td></td>
<td></td>
<td>23.571</td>
</tr>
</tbody>
</table>

Adjusted odds ratios from multivariate model using stepwise selection.
Overall p-value < 0.0001. N=935. Probability modeled is shot = “yes”.

Please indicate your level of agreement with the following statement.
1 = Strongly Disagree
2 = Disagree
3 = Feel Neutral
4 = Agree
5 = Strongly Agree
Univariates of Interest

Certain influencers that did not remain in the multivariate model are worth note as univariates that show significance to the outcome, taking the shot for H1N1.
### Ethnicity

#### Demographics, Frequencies

31. What is your ethnicity? Select the ethnicity with which you most closely identify yourself.

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>72.9%</td>
<td>783</td>
</tr>
<tr>
<td>Black or African American</td>
<td>2.6%</td>
<td>28</td>
</tr>
<tr>
<td>American Indian or Native American</td>
<td>0.2%</td>
<td>2</td>
</tr>
<tr>
<td>Asian</td>
<td>13.6%</td>
<td>146</td>
</tr>
<tr>
<td>Native Hawaiian or other Pacific Islander</td>
<td>0.4%</td>
<td>4</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>4.8%</td>
<td>52</td>
</tr>
<tr>
<td>Middle Eastern</td>
<td>0.8%</td>
<td>9</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>4.7%</td>
<td>50</td>
</tr>
</tbody>
</table>

*answered question: 1,074  skipped question: 302*
Ethnicity/Race  
Collapsed, univariate

What is your ethnicity?

When categories were collapsed from 4 to 8 (i.e. white, Asian, Hispanic or Latino, and other), the p-value, based on chi square testing, showed significance toward the outcome Taking the Shot for H1N1 (p = 0.0052).

When categories were collapsed from 8 to 2, (i.e. black, non-black), the p-value, based on chi square testing, showed significance toward the outcome Taking the Shot for H1N1 (p = 0.0081). “Blacks” are significantly less likely to get the shot for H1N1 than “non-Blacks”

N=1074.
Ethnicity/Race  

Collapsed, univariate

What is your ethnicity?

Hispanics were .241 times as likely to get the shot as whites. Other were .631 times as likely to get the shot as whites. Asians were not significantly less likely than whites.

<table>
<thead>
<tr>
<th>Effect</th>
<th>Point Estimate</th>
<th>95% Confidence Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>asian vs white</td>
<td>0.807</td>
<td>0.559</td>
</tr>
<tr>
<td>Hispanic vs white</td>
<td>0.241</td>
<td>0.083</td>
</tr>
<tr>
<td>Other vs white</td>
<td>0.631</td>
<td>0.415</td>
</tr>
</tbody>
</table>

Adjusted odds ratios from multivariate model using stepwise selection. Overall p-value < 0.0001. N=935. Probability modeled is shot = “yes”.

Collapsed categories, 8 to 4

White
Asian
Hispanic or Latino
Other (combined Other, Black or African American, American Indian or Native American, Native Hawaiian or other Pacific Islander, Middle Eastern)
Communication

Cues to Action, Univariate

- Television, Mass Media
- Email, Campus Campaign
- Bus, Campus Campaign

- Limited effects
  - Content of campaign materials
  - Indirect vs direct influence
Model Testing for the Future

- Modifying Factors
- Beliefs
- Cues to Action (communication)
- Demographics
- Likelihood of Action
- Outcome = Action (not likelihood)
Application & Utility:
Use of the Tools, Results & Data
The SEV Scale

Use of the Tool

- Researchers
  - Communication
  - Public Health
  - College Student, Young Adult
  - Health Promotion

- As a whole or as constructs

- Adaptable
  - Ex. Parental Influence
  - Ex. Perceived Barriers, pain

- Limitations

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>INDICATORS</th>
</tr>
</thead>
</table>
| Perceived Susceptibility/Severity for the Disease | • My chances of getting H1N1 were high. (adapted from Champion, 1984; Vernon, 1997)  
• The thought of getting H1N1 scared me. (adapted from Champion, 1984)  
• If I got H1N1 I would not be able to get done all the things I needed to do. |
| Perceived Benefits | • The H1N1 shot is effective in preventing the disease.  
• I believed that taking the H1N1 shot would keep me from getting that illness.  
• The H1N1 shot would protect my health.  
• I felt I had a lot to gain by getting the shot for H1N1. (adapted from Champion, 1994)  
• The benefits of taking the H1N1 shot outweighed any difficulties from taking the shot. (adapted from Vernon, 1997) |
| Perceived Barriers, Sickness | • I thought that the shot for H1N1 had many side effects.  
• I was worried that the shot for H1N1 was going to make me feel sick.  
• I was concerned about feeling ill after getting the H1N1 shot. |
| Perceived Barriers, Pain | • I was bothered by the possibility that getting the shot was going to hurt. (adapted from Vernon, 1997)  
• I was afraid of the pain from getting a shot.  
• Flu shots are more painful than they are worth. |
| Parental Influence | • My parents thought that getting the shot for H1N1 was a good idea.  
• My parents thought that I should get the H1N1 shot. |
| Peer Influence in Health Choices | • I ask my friends for advice when making health decisions.  
• I usually do what my friends do when it comes to health choices. |
| Peer Influence toward H1N1 Vaccination | • Most of my friends got the shot for H1N1.  
• My friends thought it was important to get the H1N1 shot. |
| Perception of Student Health Services Information | • Student Health Services gives good health advice.  
• I pay attention to what Student Health Services recommends.  
• BU’s Student Health Services did not provide much information about H1N1. (R) |
### The SEV Scale

| Perceived Barriers, Sickness | • I thought that the shot for H1N1 had many side effects.  
• I was worried that the shot for H1N1 was going to make me feel sick.  
• I was concerned about feeling ill after getting the H1N1 shot. |
|-----------------------------|-----------------------------------------------------------------|
| Perceived Barriers, Pain    | • I was bothered by the possibility that getting the shot was going to hurt. (adapted from Vernon, 1997)  
• I was afraid of the pain from getting a shot.  
• Flu shots are more painful than they are worth. |
The Framework

- An adaptable modular approach for developing research design, from simple to complex
- Simplifies reducing numbers of variables while confirming aspects covered

Use of the Tools
Model Testing for the Future

- **Modifying Factors**
  - Beliefs
    - Cues to Action (communication)
      - Outcome = Action (not likelihood)
  - Demographics
    - Likelihood of Action
Use of Campaign Indicators

• Adapt survey questions from provided framework for specific campus campaigns

• Utility of each item

• Reasons for maintaining wording and level of measurement as is

• Items usable as is for any flu campaign

• Items usable by substituting campus specifics

• Using items for different health issue focus
### Use of Results

#### Actionable Takeaways

<table>
<thead>
<tr>
<th>Target audience</th>
<th>Medium</th>
<th>Message</th>
<th>Location</th>
<th>Availability Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>promotion</td>
<td>promotion</td>
<td>Benefits, availability of shot and related perception of vulnerability</td>
<td>Program change</td>
<td>Program change</td>
</tr>
<tr>
<td>Parental influence</td>
<td>Email, tv</td>
<td>outreach</td>
<td>in dorms, more clinic times</td>
<td></td>
</tr>
</tbody>
</table>
Use of the Dataset

**SCALE**
(Multi-item Measures)

**Single-item Measures**

**Beliefs**

- Perceived Threat
  - (susceptibility/severity)
- Perceived Benefits
- Perceived Barriers, Sickness
- Perceived Barriers, Pain

**Modifiers**

- Parental Influence
- Peer Influence toward H1N1 inoculation
- Peer Influence in Health Choices
- Perception of Student Health Services

**Perceived Barriers, Misc.**

- Confusion on timing of shot
- Convenience of location
- Finding the time
- Availability of the shot

**Expert Opinion**

- Influence of Physician
- Influence of Student Health Services Recommendation

**Knowledge**

- Friend got H1N1
- Family got H1N1

**Prior Action, Seasonal flu shot**

- School Year 2009-2010
- School Year 2008-2009

**Communication**

**Mass Media**

- Television
- Radio
- Newspaper

**Social Media Sites**

- Websites
- Tweets

**Campus Campaign**

- Posters
- Video
- Website

- Postcard
- Shuttle Bus
- Email

**OUTCOME**

- Taking the shot for H1N1

**Demographics**

- Year in School
- Status in School
- Age
- Ethnicity/Race
- Gender
INFLUENCING FLU INOCULATION BEHAVIOR:
Identifying Drivers and Evaluating Campaigns for Future Promotion Planning

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