Examining the Communication of Environmental Health Risks among State Agencies, Community Activists and the Public

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The Problem

- Citizens concerned about the environmental health effects of an industrial source in their community often feel that state environmental service agencies are not adequately addressing their concerns regarding risk.
Key Stakeholders

- Claremont, NH Environmental Activists
- Concord, NH Environmental Activists
- New Hampshire Department of Environmental Services
- The Public
Objectives

- **Assess** the communication and effectiveness of environmental health information, including risk, from NHDES to community activists and the general public.

- **Examine** perceptions of risk by the involved community activist groups and the general public.

- **Develop** a set of recommendations to improve the communication of environmental health risks and to facilitate the acceptance of environmental health investigation findings.
Sandman’s Risk Communication Model:

Risk = Hazard + Outrage

Outrage Factors:

Trust
Familiarity
Methods

• Part I - Surveys of the host communities, Claremont, NH and Concord, NH
  - Examine the sources and believability
  - Convenience sampling method
  - Five-hundred surveys were distributed, a response rate of 22%
  - Analyzed using statistical software, SPSS version 16

• Part II - Twelve individual structured interviews with community activists and NHDES
  - An open guide interview tool consisting of structured open-ended questions was used for the interviews
  - The structured interviews were analyzed using qualitative software, QSR NVivo7
## Results

### Demographic Differences by Community

<table>
<thead>
<tr>
<th></th>
<th>Claremont, NH</th>
<th>Concord, NH</th>
<th>P Value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>College Education</td>
<td>53.0%</td>
<td>92.2%</td>
<td><strong>0.000</strong></td>
</tr>
<tr>
<td>Annual Income Over $25,000</td>
<td>55.5%</td>
<td>98.2%</td>
<td><strong>0.000</strong></td>
</tr>
<tr>
<td>Lived in Community More than 10 Years</td>
<td>51.9%</td>
<td>76.4%</td>
<td><strong>0.008</strong></td>
</tr>
<tr>
<td>Active in Community Issues</td>
<td>42.6%</td>
<td>65.5%</td>
<td><strong>0.017</strong></td>
</tr>
<tr>
<td>Rank the Priority of Environmental Issues Higher than Other Community Issues</td>
<td>38.5%</td>
<td>64.2%</td>
<td><strong>0.008</strong></td>
</tr>
<tr>
<td>Familiar with Incineration as Trash Disposal Method</td>
<td>75.5%</td>
<td>92.6%</td>
<td><strong>0.015</strong></td>
</tr>
</tbody>
</table>

*P Value < .01 is indicated in yellow font; P Value < .05 is indicated in pink font*
### Sources of Information by Community

<table>
<thead>
<tr>
<th>Source</th>
<th>Claremont, NH</th>
<th>Concord, NH</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Agencies</td>
<td>24.1%</td>
<td>61.1%</td>
<td>0.000</td>
</tr>
<tr>
<td>Environmental Groups</td>
<td>18.5%</td>
<td>50.0%</td>
<td>0.001</td>
</tr>
</tbody>
</table>

### Believability of Sources of Information by Community

<table>
<thead>
<tr>
<th>Source</th>
<th>Claremont, NH</th>
<th>Concord, NH</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Agencies</td>
<td>42.3%</td>
<td>67.3%</td>
<td>0.030</td>
</tr>
<tr>
<td>Media Sources</td>
<td>46.0%</td>
<td>28.3%</td>
<td>0.042</td>
</tr>
</tbody>
</table>

### Useful Media Sources for Obtaining Environmental Health Information by Community

<table>
<thead>
<tr>
<th>Source</th>
<th>Claremont, NH</th>
<th>Concord, NH</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television Programs</td>
<td>56.6%</td>
<td>18.5%</td>
<td>0.000</td>
</tr>
</tbody>
</table>

*P Value < .01 is indicated in yellow font; P Value < .05 is indicated in pink font*
## Results

### Involvement in Community Issues

<table>
<thead>
<tr>
<th></th>
<th>Less Active</th>
<th>More Active</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ever Attended a Community Meeting</td>
<td>44.0%</td>
<td>81.0%</td>
<td><strong>0.000</strong></td>
</tr>
<tr>
<td>Familiar with Incineration as Trash Disposal Method</td>
<td>75.5%</td>
<td>91.4%</td>
<td>0.025</td>
</tr>
</tbody>
</table>

### Level of Education

<table>
<thead>
<tr>
<th></th>
<th>No College</th>
<th>College</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Groups as Source of Environmental Health Information</td>
<td>4.0%</td>
<td>43.4%</td>
<td><strong>0.000</strong></td>
</tr>
<tr>
<td>Television as Useful Media Source for Obtaining Environmental Health Information</td>
<td>70.8%</td>
<td>27.7%</td>
<td><strong>0.000</strong></td>
</tr>
<tr>
<td>Informational Websites as Useful Media Source for Obtaining Environmental Health Information</td>
<td>20.83%</td>
<td>43.37%</td>
<td><strong>0.045</strong></td>
</tr>
<tr>
<td>Ever Attended a Community Meeting</td>
<td>41.67%</td>
<td>70.24%</td>
<td><strong>0.010</strong></td>
</tr>
<tr>
<td>Familiar with Incineration as Trash Disposal Method</td>
<td>66.67%</td>
<td>89.16%</td>
<td><strong>0.008</strong></td>
</tr>
</tbody>
</table>

### Length of Time Lived in Community

<table>
<thead>
<tr>
<th></th>
<th>Less than 10yrs</th>
<th>More than 10yrs</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active in Community Issues</td>
<td>38.5%</td>
<td>62.9%</td>
<td><strong>0.014</strong></td>
</tr>
<tr>
<td>Well Informed about Community Environmental Health Issues</td>
<td>39.5%</td>
<td>62.3%</td>
<td><strong>0.023</strong></td>
</tr>
</tbody>
</table>

*P Value <.01 is indicated in yellow font; P Value <.05 is indicated in pink font*
Survey Summary Results

- Concord citizens are:
  - more educated, affluent, and attentive to community environmental issues
  - more familiar with incineration as trash disposal method
  - more likely to obtain information from State agencies and Environmental Groups
  - more likely to believe information from State agencies

- Claremont citizens are:
  - more likely to obtain information from television programs
  - more likely to believe information from media sources

- Outrage differences:
  - Claremont is less trusting of State agencies which increases outrage
  - Concord is more familiar with trash incineration which decreases outrage
Results: Open Guide Interviews

• Activists
  - Feel there is more that should be done
  - Inadequate attention to the issue
  - Distrust of State and industry involvement

• State Regulators
  - No acknowledgment given to requests that are pursued on behalf of activists
  - Outcomes not well received
  - Direct questions and concerns are more effective than emotional propaganda from activists

• Unanimous support for a position that could be an unbiased third party who would facilitate communication between State regulators and community activists
Conclusions/Recommendations

• Exploring *multiple approaches* for communicating environmental health information to diverse communities

• Efforts to *reduce outrage factors*, such as familiarity and trust, are as significant as efforts to reduce hazard

• *Disseminating* all information to community activists lets them know the specifics of the situation

• Development, implementation, and evaluation of a *Community Health Liaison* position for communities and state government
Acknowledgments

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• Susan Doody, CLEARNH Activist
• New Hampshire Department of Environmental Services
• Citizens Leading for Environmental Action and Responsibility in New Hampshire (CLEARNH)
• Working on Waste (WOW)
• Mink Hills Center for Sustainability
• New Hampshire Toxic Actions Center
• Claremont Walmart
• Claremont and Concord Churches
• Fisherville Animal Hospital
• Bread and Chocolate Bakery