NH Environmental Public Health Tracking Program

2012 Risk Communication Strategy

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Background

The purpose of this report is to outline a strategy to communicate environmental health risks to key target audiences in New Hampshire, and to update the existing NH Environmental Public Health Tracking (EPHT) risk communication strategy. Risk communication efforts are important to public health officials in order to clearly present threats, while avoiding real or perceived crises through open collaboration with key stakeholders. Risk communication strategies will be used to convey the relevance of environmental threats to people living in New Hampshire, and assure that key messages in issue briefs or other reports are accessible, understandable, and useful to our stakeholders.

This report identifies two environmental hazards and health outcomes in NH specifies the target audience(s) of concern, and defines the key messages to be used for risk communication. The two separate issues include:

1. Air quality hazards in Keene NH
2. Melanoma risks for young women in NH.

This strategy report incorporates the general activities and principles presented in the original 2007 NH Risk Communication Strategy report. The appendices contain risk communication messages for residents of the Keene NH area who may be exposed to wood smoke, and UV exposure related to melanoma. In addition, it follows the CDC EPH Tracking risk communication guidelines to include: 'actions, words, and other messages, responsive to the concerns and values of the information recipients, intended to help people make more informed decisions about their health and safety'.

1.0 Defining the Risk Communication Issue

The NH EHPT has selected its risk communication issues based on a number of important criteria outlined below. The considerations for inclusion are the original requirements from our funders, the availability of source data, likely public health impacts, and availability of interested partners.

1.1 Respond to CDC Funding Requirements

The national EPHT Program requires grantees to focus its efforts on tracking and maintaining nine content areas for environmental hazards, exposures and health outcomes. As per the RFA, grantees are expected to: "Work with CDC and data partners to improve existing Tracking data and develop new NCDMs that may be adopted by CDC as Tracking standards. Ensure the availability and accessibility of data for development and reporting of these NCDMs on environmental hazards, exposures and health effects and other jurisdictional priorities." Table 1 below lists the content areas of interest.

Table 1: List of Nine Content Areas for EPHT Environmental Hazards, Exposures and Heath Outcomes. August 2011 – July 2014

1	Hospitalizations (inpatient) for Asthma, Acute Myocardial Infarction (AMI), Carbon Monoxide (CO) Poisoning, and other health outcomes established as NCDMs
2	Emergency Department Visits (as available)
3	Air pollutants
4	Drinking water
5	Birth defects
6	Cancer (14 specific tumor sites)
7	Child blood lead levels
8	Reproductive health outcomes from vital statistics
9	Mortality from vital statistics

In addition, the RFA requires grantees to develop a plan of analysis that analyzes the tracking data and include integration or linkage of data sources. The plan of analysis is a key aspect of the risk communication plan, as it provides a strategy for understanding and reporting on key environmental hazards, exposures and health outcomes. And finally, the RFA requires grantees to develop, implement and assess a state and/or local level Tracking-focused risk communication strategy in accordance with guidelines established by CDC's national Tracking Program. This report provides an overview of the

development of the risk communication strategy, while later plans will cover the implementation and assessment of the strategy.

1.2 Focus on Available Source Data

The goal of the NH EPHT Program is to choose issues that have high quality data that is available for both environmental hazards and health outcomes in the same time, place and populations. In addition, the issues should be relevant in contrast to the rest of the state or nation. Table 2 below summarizes the topical issues by source data and available years.

Table 2: List of Risk Communication Topics, August 1, 2011 – July 31, 2012

Issue/Burden	Source Data	Available Years
Wood-burning Stove Usage and Particulate Matter (PM2.5) in Keene. PM levels higher in Keene vs. NH.	Department of Environmental Services (DES)	2009 only.
Hospitalizations for Keene NH. No health outcome comparison at this time.	NH Department of Health and Human Services (DHHS)	1999-2008
Ultraviolet Radiation (UVR) UVR sunburns higher in NH vs. US.	CDC BRFSS Survey Data	1999 only.
Melanoma cases. Incidence is higher in NH vs US for young females.	NH State Cancer Registry	1992-2006
Arsenic in Private Well Water Arsenic levels higher in NH vs. US.	NH Drinking and Groundwater Bureau (DWGB). US Geological Survey.	2011.
Bladder cancer cases for NH	NH State Cancer Registry	1992-2006
Radon in indoor air, homes	NH DES, Radon data base	1987-2002
Lung cancer in NH. Lung cancer may be higher in high radon areas.	NH DHHS	1987-2001

1.3 Focus on Issues with Public Health Impacts

The goal of the EPHT program is to choose issues that have significant public health impacts on the NH population. Table 3 below summarizes the key public health impacts that might be appropriate for risk communication efforts.

Table 3: List of Potential Health Outcomes. August 1, 2011 – July 31, 2012

Issues/Burden	Source Data	Estimated Impact
Respiratory impacts, related to wintertime PM pollution events.	NH DES (continuous PM2.5 monitor)	~~Not known~~ Unknown at this time.
Melanoma of the skin, as related to UV exposure	NH Cancer Registry, as reported in EPHT Issue Brief, Melanoma in NH, 1992-2006. September 2010.	Melanoma incidence in young women was 38% higher in NH vs. US.
Bladder cancer, as related to arsenic in private well water	NH Cancer Registry. NH Cancer Data Report	Bladder cancer rates are 29% higher in NH vs. US.
Lung cancer, as related to radon in homes	NH Cancer Registry, as reported in EPHT issue brief	Lung cancer rates may be higher in high radon towns.

1.4 Collaborate with Available Partners

The NH EPHT program has identified key state partners, NH DHHS and NH DES, and external agency partners in order to join resources and to ensure consistent EPHT messaging to the public. A complete list of risk communication issues and affiliated key NH EPHT partner contacts are described in Table 4 below and further depicted in each selected issue template.

Table 4: Available Partners for Risk Communication Issues

Topic Area	NH EPHT Partner Agency	Contact Person	Interest	Availability
Keene winter air quality	NH DES Air Resources Division	Craig Wright	Air pollution levels	Craig meets with Keene contacts a few times a year. DES staff pursue outreach around woodstove use.
	Keene Health Officer	Medard Kopczynski	Community public health	Medard participates in Keene air quality meetings
UVR and melanoma	NH DPHS Cancer Control Pgm.	Karen Bugler, or other DPHS staff	Melanoma in young women	Karen participates in Sun Safety
	NH Sun Safety Committee	Judy Proctor, or other CCC staff.	Melanoma in young women	Sun Safety Committee meets once per month

2.0 Selecting Issues

The two specific risk communication issues, Air quality in Keene and Melanoma among young women, were selected and addressed in this risk communication update based on a number of key considerations. First, the availability of high quality source data allows data analysts to accurately evaluate any changes in environmental exposures and health outcomes over time. Second, the estimated health impacts from the air quality in Keene and the exposure to UVR among young women are significant. And finally, the level of interest among partners for these risk communication issues has been significant and involved for a number of years. The partners are active participants in the gathering and use of data and have worked on policy-level changes to address these risks. In addition, risk communication for these issues is in an advanced stage, with both NH DES and the Sun Safety Committee actively involved in messaging and marketing to specific target audiences. Of course, the final decision to pursue these issues will be made in consultation with the NH EPHT Advisory Council and other stakeholders during meetings planned for the autumn 2012.

The issue of arsenic in drinking water and related bladder cancer risk will be addressed in the coming year if additional data or modeling estimates are available. The issue of radon from indoor air and related lung cancer risks has been addressed in previous years, and will be updated in the coming year when additional lung cancer data is available and radon reports are posted to the NH EPHT web portal.

A template has been developed that details specific strategies and information about NH EPHT's methods to exchange information between partners, and for sharing resources and expertise in the development of communication messages. See a summary template for risk communication issues in Appendix C, the Risk Communication Strategy template. The template also includes steps used for developing key messages and supporting data to identify appropriate audiences that should be targeted for risk communication. The program managers and epidemiologists within NH DHHS and NH DES and external NH EPHT stakeholders who are knowledgeable about the particular environmental health issue and the specific populations at risk will be contacted to assist the NH EPHT program to develop the risk communication strategy.

3.0 Topic 1: Keene PM and Woodstoves

The NH EPHT program cooperated with the NH DES staff as part of its surveillance efforts to evaluate air quality hazards and public health impacts in New Hampshire. In December 2011, NH DES identified a problem in the city of Keene, NH when on certain winter nights particulate matter (PM) air pollution levels were higher than normal. Keene is a densely populated city located in a deep river valley surrounded by hills. Like most NH communities, there is a high use of wood stoves as a primary or secondary heating source. These combinations of factors result in elevated levels of PM2.5 on cold, calm winter nights in particular when temperature inversions occur. In order to understand the daily fluctuations, NH DES installed a continuous PM2.5 monitor in Keene to attain more precise hourly readings. Once in place NH EPHT program staff partnered with the NH DES epidemiologist and developed a plan of analysis to evaluate the patterns of PM hazards.

NH EPHT program staff member, John Colby, completed an analysis of the environmental hazard data that revealed that outdoor PM exposure potential is greatest to

Keene residents on calm winter nights between 6 p.m. and midnight. These are hours when many winter outdoor activities occur (e.g., ice skating, cross-country skiing, snow shoveling). An additional at-risk population includes thousands of college students who tend to engage in outdoor activities on winter evenings.

Indoor PM exposure through infiltration is greatest on the same calm winter nights from 6 p.m. to 11.a.m. the following day. Populations at greatest risk from exposure at this time are children, the elderly, and those with respiratory or heart disease. NH DES has already increased awareness by issuing air pollution event warnings that include recommendations to minimize the use of wood stoves during these events. A detailed message map strategy for Keene winter air quality has been developed and provides a detailed roadmap for this issue of air quality and wood stove use. See Appendix A for a full description.

In regard to our Keene plan of analysis and future risk communication efforts, the NH EPHT program has begun conducting an analysis of emergency-department and inpatient hospitalization data to determine if it's possible to create linkages between air quality and related health outcomes. The results may be completed in the spring 2013 and used to update the risk communication strategy.

4.0 Topic 2: Melanoma risk for young women

NH EPHT program staff member, John Colby, completed a descriptive analysis of melanoma incidence in September 2010 that evaluated the patterns of disease among young women in NH from 1992-2006. The first step was to determine if the evaluated rates of melanoma in NH were due to data quality, changes in surveillance, or comparison populations. The study confirmed that there were significant increases in melanoma incidence among all age-gender groups in NH, and that some of this increase was explained by changes in data collection methods, and the choice of denominator data for rates (i.e. whites vs. non-hispanic whites). It also determined that the 5-year incidence rate for 2000-2006 for younger women (aged 15-39) in NH was 38% higher as compared to similar populations at the national level. All of these results are important to target audiences in NH, and need to be communicated via evidence based practices that have been proven to be effective.

Findings of the melanoma analysis in 2010 were reported to the NH Comprehensive Cancer Collaboration (NHCCC) Sun Safety Committee and used to promote a risk communication conference for young women in 2011. A 'message map' about Melanoma risk for young women has been created and provides a detailed roadmap of NH EPHT messages to this key environmental health issues. See Appendix B for a full description.

In regard to our melanoma plan of analysis and future risk communication efforts, the NH EPHT program has begun updating the analysis of melanoma to evaluate if certain subgroups are more at risk than others. The results will be completed in Fall 2012, shared with collaborators, and used to update the risk communication strategy if needed.

5.0 Review and Testing

The NH EPHT program will review and test the draft messages provided in the appendices of this report with target audiences using different strategies, depending on the audience, the type of health risk, and the collaborative partners. Messages planned for community presentations will be tested by subject matter experts, communication experts, and key collaborators.

To ensure input on materials from technical and non-technical specialists, the NH EPHT program fully utilizes the expertise of the NH EPHT staff, our data utilization vendor (i.e. Community Health Institute), NH DPHS Public Information Office (PIO), NH DHHS subject matter specialists and public and health officials. The review process for NH EPHT risk communication messages and all message materials are prepared by the NH EPHT subject matter experts, reviewed by the program manager, and then vetted by the NH Public Health Director's office and PIO before publication or release.

6.0 Get The Message Out

The past strategies used by NH EPHT to get the message out was through direct oral presentations to target audiences, and written communications materials that was emailed or posted to our web page. These strategies were created by program staff in collaboration with internal NH EPHT partners and CDC staff. These strategies were accomplished through the communication channels of work group participation, issue

brief publication, oral presentations, and the NH EPHT web site (http://www.nh.gov/epht/).

The future strategies to get risk communication messages out will include a more direct 'message mapping' format that focuses on common messages presented in a consistent manner. The strategies will be implemented via expanded collaboration with key internal and external stakeholders. The NH EPHT program will use the risk communication strategy template (see Appendix C), which incorporates techniques to decide what communication channels are most appropriate for particular audiences and contacts. In addition, new channels of communication will be developed that incorporate piggybacking on the outreach efforts of existing public health and environmental programs, as well as, using traditional and new social media tools. Social media strategies are appropriate for efforts that seek informal feedback about whether the message has generated interest and word of mouth transfer of key messages. A user feedback system will be developed for risk communication messages to test if they are received and understood by the intended audience.

7.0 Evaluate Activities

The NH EPHT program risk communication issues and messages are developed through an iterative process to ensure the intended audiences are reached now and in the future. NH EPHT will evaluate the impact of its risk communication activities by gathering informal and formal feedback on its messaging activities. Informal feedback will come through measuring the number of messages delivered to key audiences. A more formal evaluation will come through the implementation of a user feedback system the gathers objective measures on key messages before and after they are implemented. To aid in the evaluation of risk communication, the NH EPHT staff will use the 'Evaluation Primer for Health Risk Communication Programs' (http://www.atsdr.cdc.gov/risk/evalprimer/index.html), guidelines from the Tracking Network Program Marketing and Outreach Risk Communication Team, and the National Cancer Institute (NCI) outcome evaluation plan (http://www.cancer.gov/pinkbook/page8) for standard and best practices in risk communication. In addition, the NH EPHT program will use programmatic evaluation using secondary data to establish a baseline, such as NH DES continuous

PM2.5 monitor or NH Cancer Registry, to evaluate the results of the communication with the affected populations. The results of evaluations conducted by the NH EPHT program will be communicated internally through staff meetings, agency meetings, ~~NH EPHT program~~ presentations, publications, e-mail correspondence and other social media channels identified.

Conclusion

In summary, this risk communication strategy provides a basis for the development of specific outreach projects for certain environmental health threats in New Hampshire. Two focus areas have been chosen for air quality risks and melanoma risks. Message maps have been drafted for these focus areas, and now need to be shared with available collaborators and tested with key audiences. The outcome of any risk communication efforts will need to be evaluated to determine their short-term acceptance by target audiences, and potential to impact public health outcomes in the long-term.

References:

Vincent T. Covello, Ph.D. (2003). Message Mapping, Risk and Crisis Communication. October 1, 2002. Retrieved August 20, 2012, from http://rcfp.pbworks.com/f/MessageMapping.pdf

NH Environmental Public Health Tracking Program. (2007). Risk Communication Strategy. Retrieved August 20, 2012 from http://www.nh.gov/epht/publications/documents/risk-communication-strategy.pdf

Resources:

https://ephtn.sharepointsite.net/pmo/Archived%20Teams%20No%20Longer%20Active/Risk_Communication/Reference_Documents/DraftTrackingRCGuidelines_11.17.06.doc

Guidelines for tracking focused risk communication strategy (2006)
https://ephtn.sharepointsite.net/pmo/Archived%20Teams%20No%20Longer%20Active/Risk_Communication/Reference_Documents/DraftTrackingRCGuidelines_11.17.06.doc
http://www.atsdr.cdc.gov/risk/evalprimer/index.html

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Appendix B: Message Map for UV and Melanoma