
INCREASING CITIZEN PREPAREDNESS THROUGH APPLIED RESEARCH

PROCEEDINGS OF A RESEARCH ROUNDTABLE

**FEBRUARY 21, 2007
WASHINGTON, DC**

Sponsored by:

THE DEPARTMENT OF HOMELAND SECURITY

Science and Technology Directorate
Human Factors Division

Federal Emergency Management Agency (FEMA)
National Preparedness Directorate
Community Preparedness Division, Citizen Corps

The Department of Homeland Security, Science and Technology Directorate and the Federal Emergency Management Agency, would like to express their appreciation to all of the attendees for their thoughtful participation in the roundtable, and a special thanks to all of the panel presenters for setting the stage and sparking the group's rich discussions.

BACKGROUND

Citizen Corps was created to help bring government and non-government community leaders together to coordinate emergency planning, education, training, exercises, and volunteer activities for the public. By working together, government and civic leaders can engage all community residents in making our communities safer, stronger, and better prepared to respond to any emergency situation. Coordinated by the Federal Emergency Management Agency (FEMA), Citizen Corps leadership is actively engaged in examining and synthesizing the landscape of research related to all-hazards preparedness in an effort to focus resources strategically to achieve greater preparedness. As part of this effort, FEMA partnered with the Science and Technology Directorate to invite researchers and practitioners to attend a Research Roundtable.

The Research Roundtable, *Increasing Citizen Preparedness Through Applied Research*, held on February 21, 2007 in Washington, D.C., brought together two critical communities involved in disaster preparedness: those that conduct primary research and those that direct outreach and communication initiatives to increase the level of citizen preparedness. Approximately 35 invited attendees were present, representing a range of research disciplines, national, state, and local government centers, institutes and offices, and non-profit organizations currently engaged in disaster preparedness work.

The day began with presentations from DHS leadership, who spoke about current preparedness research initiatives funded by the Department, and two structured panel presentations. The first panel was comprised of research scientists who shared findings and interpretations of their specific research and the second panel presented "in-the-field" practitioners currently engaged in public outreach and communication related to disaster preparedness. Using the panel presentations as a springboard, the remainder of the day included roundtable discussions focused on identifying priority research needs related to target audience segments; framing what preparedness means; and evaluation of successful outreach efforts.

Afternoon roundtable discussions examined key research on motivators and barriers to citizen preparedness, explored approaches to better sharing and utilizing research to inform outreach strategies, and sought to identify high-priority research needs for the future.

DHS CITIZEN PREPAREDNESS RESEARCH INITIATIVES

Corey Gruber, Acting Director

Grants and Training (Citizen Corps), National Preparedness Directorate

Citizen Corps Councils face a challenge in preparedness planning and communication, based on the recent *Report on the Findings and Recommendations of the Homeland Security Advisory Council, Future of Terrorism Task Force*. An important focus of this report – and particularly relevant to the research roundtable – is to forge partnerships between the government, the public media, educational institutions, and an engaged public. An excerpt from the report describing its recommendation in this area follows:

Public Engagement: Communicating Trustworthy and Accurate Messages

The Department should partner with the media and educational institutions to engage the public in prevention and response efforts – developing consistent, accurate, realistic, persuasive and actionable messages as well as evidence-based strategies for communicating the same.

It is critical that the American public become engaged in understanding and preparing for terrorism. Over the next five years, the public must learn about the choices faced by the nation, communities, families, and individuals. It must become a partner with its government, sharing the burden. For that to happen, it is vital that DHS be seen as trustworthy. DHS will need to work with multiple messengers, trusted within diverse communities, to effectively communicate its messages. Additionally, it will require DHS communications to be scientifically sound and rigorously evaluated. <http://www.dhs.gov/xlibrary/assets/hsac-future-terrorism-010107.pdf>

Sharla P. Rausch, Ph.D., Director

Human Factors Division, Science and Technology Directorate

The Department of Homeland Security's Human Factors Division emphasizes a three-tiered focus – knowing our enemies, understanding ourselves, and putting the human in the equation. Currently, there are a number of programs being implemented in various regions throughout the U.S. that are helping to systematically prepare our communities for disasters. Only a few of those mentioned include TOPOFF exercises, a 2-1-1 telephone system that replaces dozens of 1-800 numbers so that people have a central contact for various types of information and services in times of need, geo-spatial mapping techniques, and social, behavioral, and economic index development for disaster response so that in the event of a catastrophic event, the government and practitioners will be aware of an expected set of events to follow (e.g., a run on anti-anxiety or other pharmaceuticals).

PERSPECTIVES FROM CURRENT RESEARCH

David Abramson, PhD

Director of Research at Columbia University’s National Center for Disaster Preparedness

Columbia University’s National Center for Disaster Preparedness (NCDP) fielded surveys from 2002 to 2006 to evaluate citizen preparedness. These surveys were a collaboration between the NCDP, the Children’s Health Fund, and the Marist College Institute for Public Opinion. Across these surveys, the main barriers to having a complete family emergency plan include time, lack of knowledge, and the belief that having a complete family emergency plan will not make a difference.

In order to examine how different groups adopt personal preparedness, Prochaska’s Stages of Change framework¹ was utilized to describe where individuals lie on a continuum of behavior change, ranging from not even contemplating preparation for a disaster, through the maintenance stage (being prepared for six or more months). A 2006 survey found that 40% of respondents were in the pre-contemplation stage: they had not prepared for disasters, and they did not plan on doing so.

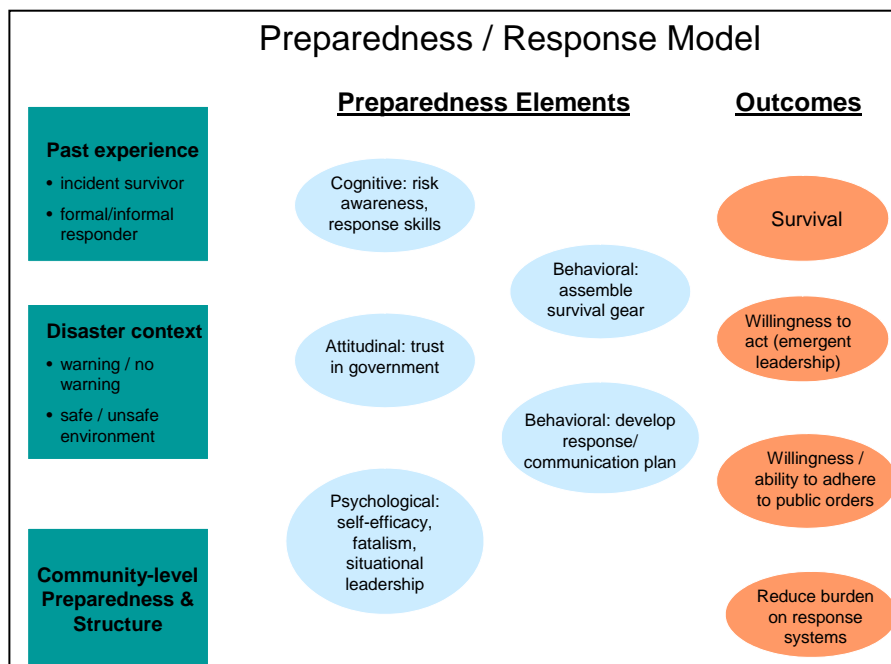
Prochaska’s Stages of Change		
In thinking about preparing yourself for a major disaster, which could include gathering surplus food, medicine, or other supplies, or developing a plan such as having emergency contacts and meeting points, which of the following best represents your preparedness for a major disaster ...	Stage	%
<i>I am not planning to do anything about preparing</i>	Pre-contemplation	40
<i>I have not yet prepared, but I intend to in the next 6 mo.</i>	Contemplation	15
<i>I have not yet prepared, but I intend to in the next month</i>	Preparation	5
<i>I have just recently begun preparing</i>	Action	12
<i>I have been prepared for at least 6 months</i>	Maintenance	28

Of great concern is that the August 2006 survey showed that despite recent events and education campaign, 33 percent of respondents believes that a first responder will arrive within one hour of an emergency. This percentage is even greater among people from Hurricane Katrina-impacted counties in Mississippi as well as from New York (37 percent and 47 percent, respectively).

¹ Prochaska, J.O. & DiClemente, C.C. (1982) Transtheoretical therapy: Toward a more integrative model of change. *Psychotherapy: theory, research and practice*, 19, 276-288.

These findings highlight that individuals are not taking on the personal responsibility of preparing for a disaster and are continuing to rely on emergency responders to provide necessary assistance. Further, this research also shows a negative correlation between dependence on one's community and personal action, meaning that the more a person believes s/he can rely on her/his community for help, the less likely s/he is to take personal preparedness action.

The NCDP has also developed a Preparedness/Response Model. First, the model delineates the antecedents to personal preparedness: *past experience*; *disaster context*, which describes the type of physical and social environment in which an individual is living, such as whether there are emergency warning systems available in the area; and *community-level preparedness and structure*, which includes the extent to which a community supports or deters individual preparedness behaviors.



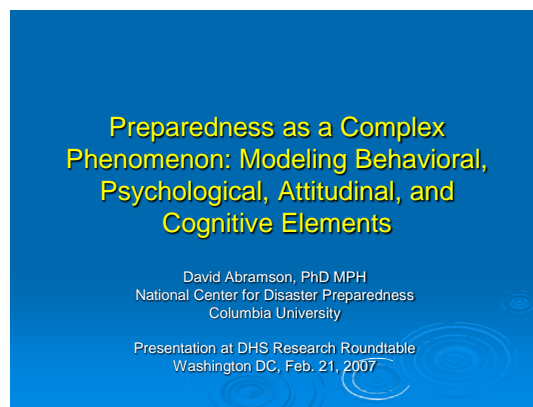
The Preparedness/Response Model then incorporates personal-level cognitive, attitudinal, psychological, and behavioral variables that comprise an individual's level of personal preparedness. These preparedness elements are: *cognitive*, including risk awareness and response skills; *attitudinal*, including trust in government; *psychological*, including elements like self-efficacy, fatalism, and situational leadership; and *behavioral*, including assembling survival gear and developing a response communication plan. Lastly, the Preparedness/Response Model outlines the various outcomes that result from individual disaster preparedness. These are survival; willingness to act (in the form of emergent leadership); willingness or ability to adhere to public orders; and the reduction of individual burden on response systems.

Dr. Abramson suggested that future research should focus on understanding the factors within the model that comprise each of the primary phases of preparedness. Research should also attempt to create path models between these variables in order to explain the different relationships that exist between the antecedents, preparedness elements, and outcomes (i.e.,

which mix of antecedents and preparedness elements lead to which outcomes). Furthermore, specific types of public messages and social marketing strategies should be investigated for their relative utility, such as helping citizens visualize a disaster response, increasing the trust in messenger and message, addressing potential barriers (e.g., just-in-time preparedness, dependents, resources), and educating about community structures that can be activated in a disaster (e.g., CERTs, Red Cross, volunteer responders, faith-based, etc). Finally, research should engage in more empirical studies to demonstrate the impact of preparedness on outcome.

For more information about Columbia University's National Center for Disaster Preparedness, please see <http://www.ncdp.mailman.columbia.edu/index.html>

Double click on the introductory slide below to view the full presentation:



**Kathleen Tierney, PhD, Professor of Sociology
Director of the Natural Hazards Research and Applications Information Center
University of Colorado at Boulder**

Sociology is the study of social relations, and a sociological perspective of disaster preparedness would focus on the social relations that impact individual-level disaster preparedness. The traditional approach to understanding individual preparedness behavior has been to understand

Distinctive Contributions of Sociology As a Discipline

- **Emphasis on Social (as Opposed to Psychological) Influences on Behavior**
- **Downplaying of Notion that Attitudes, Motivations “Cause” Behavior**
- **Recognition that Attitude-Behavior Linkages Are Complex**
- **Recognition that Individual & Group Agency, ---Ability to Freely Choose and Act---Is Shaped by Social-Level Forces**

how people's attitudes impact their behaviors. In this vein, individual-level interventions – such as enforcing mandates or offering incentives to influence change – have displayed limited effectiveness. Instead, sociological principles suggest to disaster preparedness managers that social forces largely impact individuals' senses of efficacy, autonomy, and group membership. These social forces then may influence the extent to which individuals, small groups, and communities prepare for disasters. Therefore, in order to improve overall

disaster preparedness, communicators should implement interventions among larger social units, using participatory and public engagement strategies.

Participatory and public engagement strategies begin with identifying the assets and advantages that exist within a community's social networks. These include availability of relevant information; extent of social support and social solidarity; amount of civic engagement; type and characteristics of political influence; depth of trust; access to monetary resources; and capacity for collective action.

Specifically for pre- and post-disaster resilience, inequalities across different social strata should be carefully considered when identifying community assets. For example, the National Research Council's report, *Facing Hazards and Disasters: Understanding Human Dimensions* (2006; http://books.nap.edu/catalog.php?record_id=11671), argued that social capital is important for enabling not just households but neighborhoods, social classes, racial and ethnic groups, and community sectors to reduce loss from disasters. This is especially important when certain groups within a community do not have ready access to preparedness information or resources, and therefore, the same preparedness strategy will not be appropriate for all groups within one community. Therefore, this approach seeks to build and strengthen social capital within various sectors (e.g., neighborhoods, business groups, non-profits) and employs those networks in disaster loss reduction strategies.

For example, by identifying the needs of marginalized groups and communicating with disparate groups using "bonding" and "bridging" strategies, managers can link at-risk groups with information, material resources, and emotional support. Community preparedness communicators can also change the framing of preparedness discussions from being individual-oriented to community-oriented. This re-framing might include persuading community, business, and civil leaders to incorporate preparedness concerns into their own agendas. Results of these strategies include trust across disparate groups (rather than suspicion), a stronger group influence over individual behavior, extra-community collaborations, and collective action for disaster loss reduction.

For more about this sociological perspective to disaster preparedness from the National Hazards Center, please see <http://www.colorado.edu/hazards/>.

Social Capital and Disaster Resilience

- **Includes "Bonding" and "Bridging" Forms**
- **Promotes Information Dissemination**
- **Provides Material & Emotional Support**
- **Helps Identify Needs**
- **Links At-Risk Groups With Resources**
- **Results in Trust, Not Suspicion**
- **Strengthens Group Influence Over Individual Behavior**
- **Can Facilitate Extra-Community Collaborations**
- **Can Promote Collective Action for Disaster Loss Reduction**

Double click on the introductory slide below to view the full presentation:



Disaster Preparedness: Concepts, Guidance, & Research



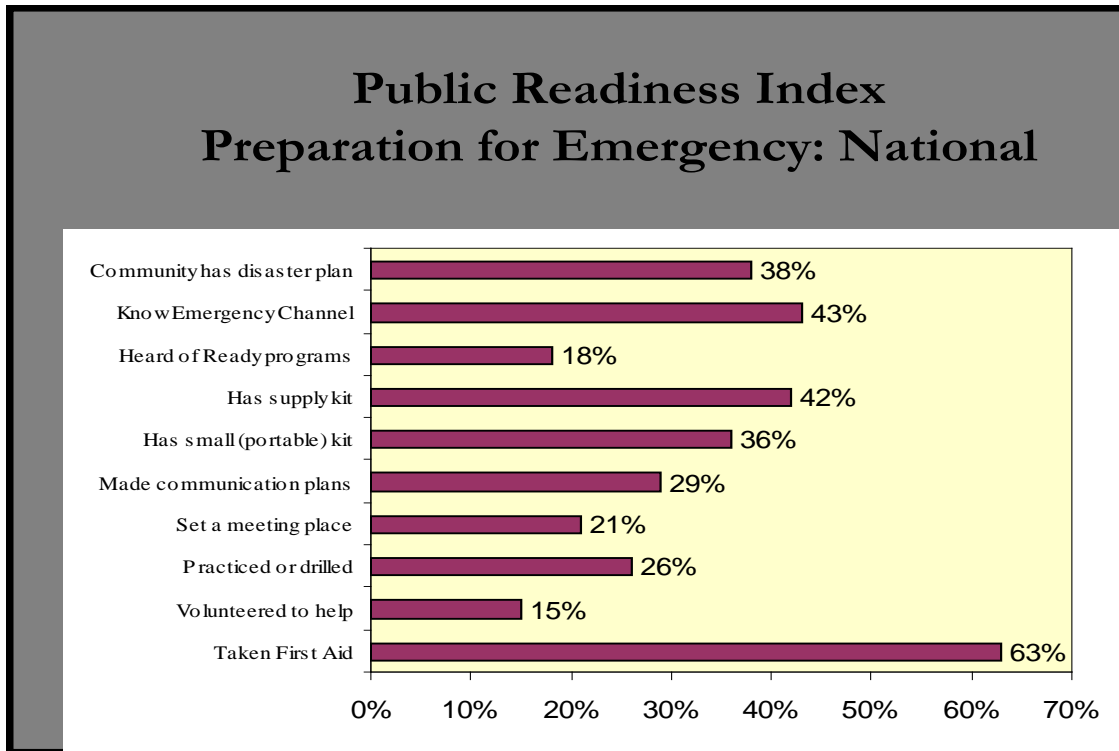
Kathleen Tierney
Natural Hazards Center
University of Colorado at Boulder
Working Group Leader & Co-PI
START Homeland Security COE

Dr. John Boyle, Senior Partner Schulman, Ronca & Bucuvalas Inc.

In order to inform the development of the Public Readiness Index (PRI) – which measures over time the public preparedness at any geographic level – SRBI conducted a number of studies for the Council for Excellence in Government to establish ten readiness items that form a simple but useful metric. In addition to literature reviews, focus groups, and cognitive testing, data from a national survey and four local surveys were used to develop the PRI. Communities can use this tool to assess the effectiveness of their programs and outreach efforts to prepare the public. The PRI contains 20 questions and assesses the extent to which the public is aware of emergency messages and resources as well as the how much individuals have actually completed steps to preparedness.

The data show that age, education, income, and race play a vital role in an individual's readiness index. Also, employment status is positively correlated with an individual's PRI; however, this finding is influenced by an employee's awareness of a workplace emergency plan and experience practicing that plan in the past 12 months. If an employee is not aware of any workplace emergency plan, her/his PRI is no higher than those who are not employed full-time.

A similar relationship exists around school emergency plans. There is a strong positive correlation between an individual's PRI score and having a school-aged child at home. If individuals are aware of emergency plans at their children's schools as well as if they know if those plans have been practiced in the last 12 months, individuals are likely to be better prepared than individuals who are not aware of school emergency plans.



The PRI is available for any group leader to use in order to guide informational/educational campaigns. For example, local and state government leaders can use the PRI to identify disparities in preparedness among their various constituents. Businesses and schools can use the PRI to ready their employees, students, parents, and local partners. For more information about the PRI, please see www.WhatsYourRQ.org.

Double click on the introductory slide below to view the full presentation:

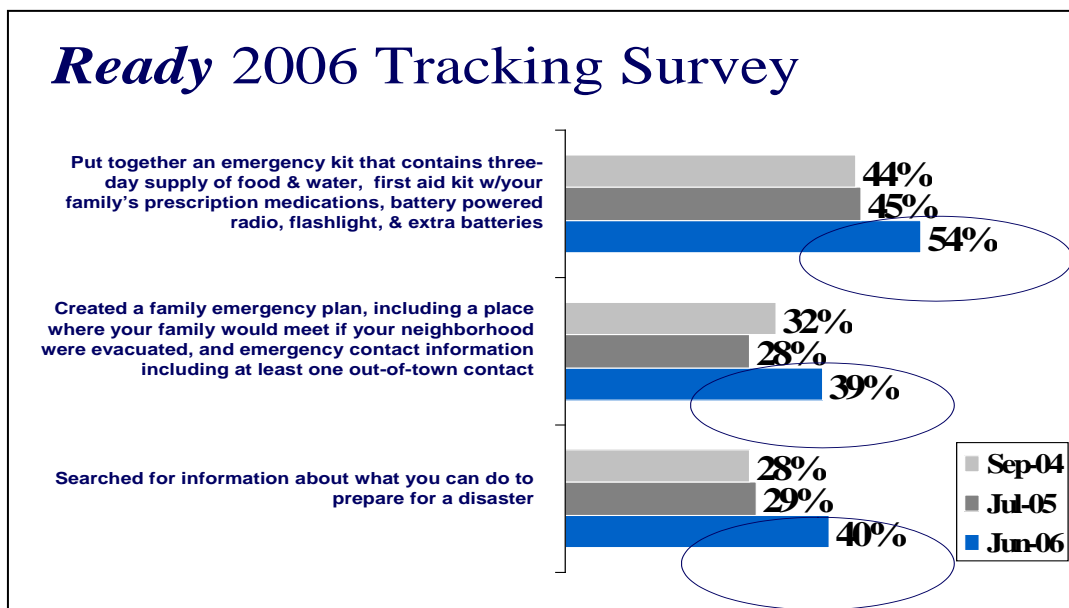


PERSPECTIVES FROM THE FIELD

Kristin Gossel, Director of the Ready Campaign (Ready.gov)

In order to assess the effectiveness of the individual-level *Ready* campaign, The Advertising Council annually conducts a national tracking survey to gauge trends in individual awareness, recognition of the advertising, attitudes towards preparedness, and behaviors around preparedness. Findings from the June 2006 survey indicated that 54% of individuals had put together an emergency kit; 39% of individuals had created a family emergency plan; and 40% of individuals had searched for information about how to prepare for a disaster. All of these percentages increased since the previous two years in which the survey was conducted.

In order to explain why individuals do not prepare, *Ready* also conducted exploratory research to discover individual perceptions about preparedness. For instance, individuals said they felt like the disaster threat was not proximate enough (apathy); that whatever they may do to prepare, it would not help in the event of a real disaster (fatalism); that they don't like to think about disasters (avoidance); that they don't have the money or time to prepare (lack of resources); that they don't know how to prepare (lack of information); and that they have not taken the time to think about preparing (not on radar).



Ready's exploratory research findings suggest that communication messages should: focus on personal responsibility (e.g., You are your family's first line of defense); reach out to parents, particularly mothers; strike an emotional chord (i.e., don't simply rely on logic); provide a clear call to action while also giving solutions (e.g., Get a kit, make a plan, be informed via Ready.gov); and present the right tone through positive, relatable, straightforward, and not fear-based messages. For more information about the *Ready* campaign, please visit www.ready.gov.

Double click on the introductory slide below to view the full presentation:



Tom Groat, Emergency Management Coordinator for the Confederated Tribes of the Umatilla Indian Reservation

This case study describes the Chemical Stockpile Emergency Preparedness Program (CSEPP) developed by the Umatilla Indian Reservation in Oregon, in conjunction with the U.S. Department of Homeland Security. This population lives near a chemical stockpile of lethal nerve agents (GB, VX, and HD), and therefore must be prepared specifically for a chemical emergency. At a policy level, a Congressional mandate was passed in 1989 to provide a maximum level of protection for the people who live and work around the Umatilla Chemical Depot, which amounts to 35,000 people. Since 1989, \$110M has been invested in response resources as well as skills-building. For example, funding supports a 6-part public warning system that consists of highway advisory radio, highway reader boards, pagers for special populations, 76 outdoor sirens, and 16,700 Tone Alert Radios in every occupied structure.

School Planning

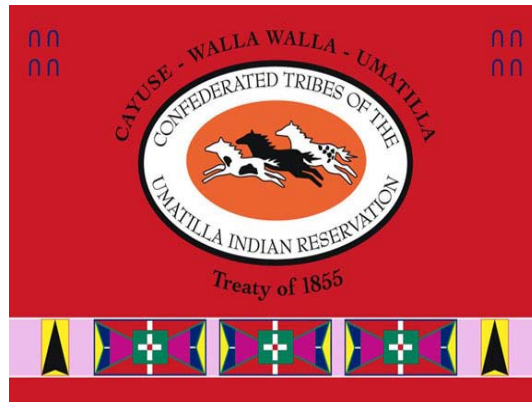
- 34% have children in the schools
- 46% w/students in non-over pressurized schools know where to get the kids
- 41% will go to school to get the kids during the event

Education and information programs have also been widely implemented in order to (a) overcome people's misconceptions about responses to a chemical event, and (b) help them practice skills to properly respond to a chemical event. Sheltering-in-place (e.g., students staying at schools in a properly secured, safe environments) and staying in a positive pressurized environment are the priority

safety behaviors in this emergency. It has been difficult for the team to convince individuals that using plastic, duck tape, towels, and a radio – as well as leaving their children at school – will actually save their lives.

Based on intensive communication tactics that included evacuation planning programs (including signage and route improvement), disseminating information and materials to schools, workplaces, and homes, and partnering with neighboring emergency groups), the Umatilla County Emergency Management team has seen an increase in public confidence about preparedness as well as awareness around sheltering-in-place. For example, 80% of citizens are confident they would be notified in a chemical event (72% by siren, 64% by Tone Alert Radio), 87% know what to do in a chemical event, and 76% feel they would be able to protect themselves and families. However, some challenges still exist. For instance, only 46% of individuals with students in non-over pressurized schools know where to get their children in the case of an event. Additionally, 41% of individuals with children in schools responded they would go to the school to get their children during a chemical event. For more information about the chemical stockpile emergency preparedness program, please visit www.csepp.net.

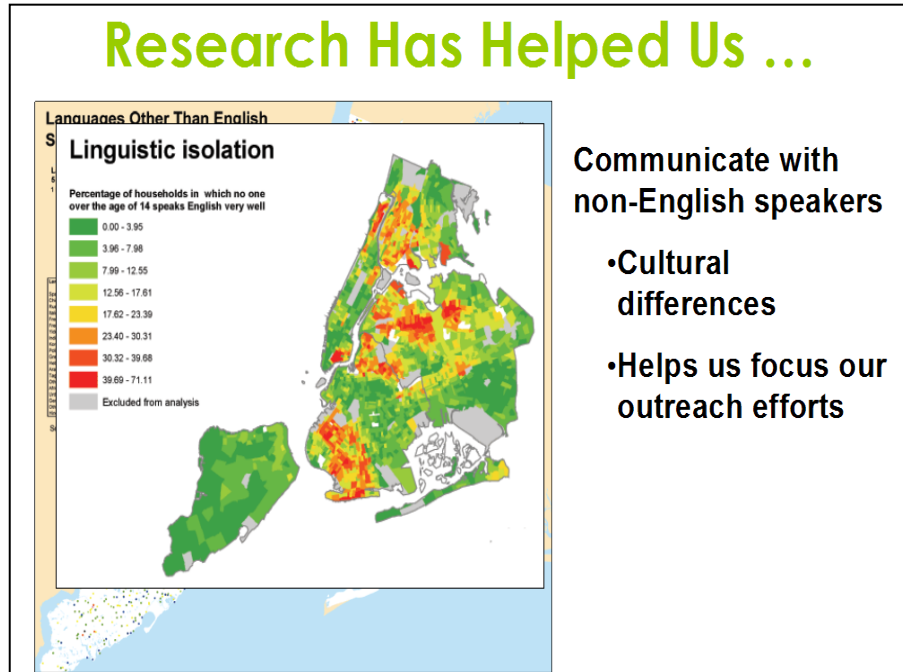
Double click on the introductory slide below to view the full presentation:



Judith Kane, Director of Communications
New York City's Office of Emergency Management

New York City is a vastly unique cultural, politico-economic, and social space. For example, there are about 1 million residents of New York City, but on a daily basis during a workweek, the city greatly expands in size with more than 8 million commuters. Additionally, with a steady influx of immigrants, large numbers of disparate cultures are located within a single region of NYC, which means that many different languages are spoken, varying levels of literacy exist, wide-ranging attitudes are held, and important yet contrasting perceptions are held around disaster preparedness. Thus, the emergency management challenges of NYC are complicated and require significant technologies, research, and communication innovations to achieve all-hazards preparedness among its residents, communities, workplaces, and commuters.

To gather information about this diverse and dynamic public, the New York Office of Emergency Management uses geo-mapping technology to identify linguistic isolation at a granular level of the different areas of NYC. For example, this mapping technology can describe the percentage of households in which no one over the age of 14 speaks English very well.

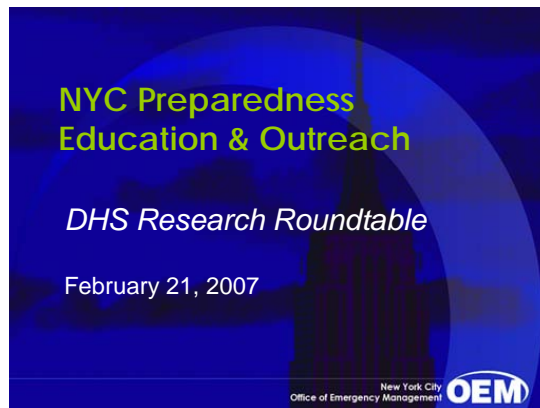


Communicate with non-English speakers

- Cultural differences
- Helps us focus our outreach efforts

In conjunction with other exploratory research like cultural focus groups, the preparedness team has been able to adapt its communication techniques to be more culturally competent. For instance, informational materials are translated into up to 12 languages including Braille, and presentations, trainings, and community fairs are modified according to various cultural groups and regions of New York City. For more information about the New York Office of Emergency Management program, please visit <http://www.nyc.gov/html/oem/html/home/home.shtml>.

Double click on the introductory slide below to view the full presentation:

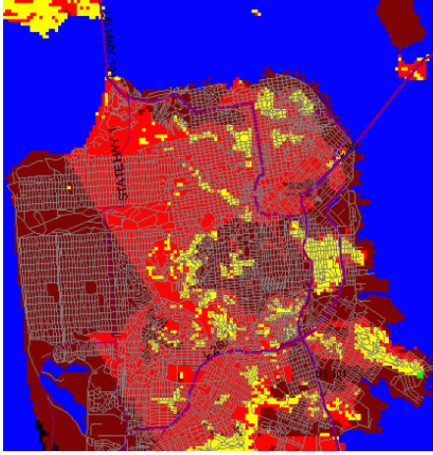


Amy Ramirez, Emergency Planner
San Francisco Department of Emergency Management

San Francisco is another exceptional locale for disaster preparedness because of the multitude of potential disasters including earthquakes, fires, landslides, and tsunamis; the significant racial and ethnic diversity among its residents; and the fact that 17% of San Franciscans speak a language other than English at home. This presents difficulties when it comes to presenting a coordinated messaging campaign aimed at encouraging San Franciscans to prepare for all disasters, which prompted the new www.72hours.org and AlertSF campaigns. These programs have been readily translated, adapted to local cultural interests, and funneled through various technologies, such as text messaging and outdoor public warning systems. Other preparedness programs in San Francisco that have helped spread the preparedness message are Neighborhood Emergency Response Teams (NERT), Disaster Service Worker Program, Housing Authority Presentations, Community Agencies Responding to Disaster (SFCARD), and Community Disaster Planning.

San Francisco: Hazards

- Earthquakes
- Fires
- Weather Related (Flooding, Landslides)
- Hazardous Material Spills
- Terrorist Acts
- Tsunamis
- Power Outages
- Pandemic Influenza



Shake Map for 1906 Earthquake

In the development of these campaigns, the San Francisco management team focused on four key outreach strategies that they believed would resonate with their public on a large-scale basis: avoiding fear-based messaging, creating simple messages; capitalizing on windows of opportunity (e.g., communicating around anniversaries of past major hurricanes and earthquakes); and building upon existing community resources. Although they have had success with past campaigns, future research could help to inform better campaigns. Some areas that warrant future research are: discovering the triggers to action; employing a cultural competency-based approach to message design, particularly to vulnerable populations; learning how positive versus negative messaging affects the effectiveness of a campaign; and translating research findings and analyses into usable campaign strategies and messages. For more information about the San Francisco Department of Emergency Management's program, please visit www.72hours.org.

Double click on the introductory slide below to view the full presentation:



Group Discussions

The presentations in the morning provided insight into the complex nature of disaster preparedness. The afternoon session consisted of several smaller discussion groups with the goal of brainstorming research ideas and identifying priority research needs. The following is a description of key themes that emerged in one or more small discussion groups and sparked considerable discussion and interest when reported to back to the entire group of attendees. Several group discussion built off of the meta-issues that arose during the panel presentations.

■ ***The focus on preparedness and preparedness research is worthwhile***

During the course of the small-group discussions, many groups felt the need to re-validate the importance of the current focus and resources on preparedness. This big-picture discussion arose primarily in relation to the need for more outcome evidence that can demonstrate and convince people that they will in fact be better off if they prepare. The attendees ultimately agreed that having citizens that are prepared is important to survival. They also indicated that knowing which preparedness measures give people the greatest likelihood for survivability *and* continuity of functioning would help focus resources and ensure that the most accurate and valuable messages are being disseminated.

■ ***The term “preparedness” needs to be better defined and framed appropriately?***

Related to the previous theme, the group agreed that the public lacks a clear definition and agreement of the problem, the solution and, acceptable standards for evaluating our preparedness. A first step should be more uniformly defining what it means to be prepared. Another suggestion was to reframe preparedness as insurance for peace of mind, economic responsibility, and care for loved ones. This would be a shift away from thinking of preparedness as a “matter of life and death,” which seems to evoke unproductive levels of fear and apathy among the public over time.

■ ***Research and Communications should focus on Communities as well as Individuals***

Building off of the research findings presented in the morning, and specifically, Dr. Tierney's presentation on the sociology of preparedness, participants agreed that we need to look beyond research and communications focused on individuals to also understand and incorporate community-/organizational-level research, models, and outreach approaches. Attendees stressed the importance of building/enhancing broad-based community infrastructures to support preparedness initiatives.

■ ***Inclusion of other organizations including faith-based organizations***

As part of the discussion about engaging communities in research activities, many people mentioned the faith-based organizations as critical community levers. One participant cautioned the group that faith-based organizations are called on for a lot these days, and we should be careful not to put too much pressure on them alone.

■ ***Researchers and practitioners need more opportunities to collaborate and learn from each other.***

Another over-arching theme was that there needs to be closer collaboration between researchers and on-the-ground practitioners. Terms like "community-based participatory research" were used, as well as "bottom-up approach" to preparedness in which communities assess their own priority needs and capacities. For this model, participants agreed that the role for researchers and government is to provide practical, research-based tools, templates and assistance. These research-based support can help practitioners better mobilize and communicate to their communities about particular capacities, needs, and measures.

Priority Research Areas of Focus

As part of the days discussion participants were asked to identify priority areas of future research on preparedness. The following research needs were identified.

■ ***A multi-disciplinary research approach.*** A multi-disciplinary research approach would support understanding of individual and community preparedness from various relevant aspects. An interdisciplinary approach would pool together research from psychology, public policy, information management, risk communication, sociology, social marketing, health, public administration, education, and anthropology, among others. With a multi-disciplinary approach, researchers and communicators can better identify the complex dynamics of individual and community preparedness in order to identify strategies that will increase preparedness.

■ ***Message testing specific to different audiences and related to different risk situations.*** Many participants felt the need to better understand how specific messages affect different communities. For example, messages advocating "shelter in place" may be difficult for communities that are used to banding together in times of need, as suggested by Tom Groat in his presentation on the Confederated Tribes of

the Umatilla Indian Reservation. Research also needs to address unanticipated barriers and facilitators to following situation-specific recommendations.

- ***Research on underserved populations.*** Many questions were asked by participant about how to better reach underserved populations and how to overcome barriers such as low literacy. Many participants evinced concern for, and want strategies to support, populations that do not have the resources to prepare in advance for disasters.
- ***Research to improve efficient use of resources.*** Participants suggested more research and resources that would help practitioners in the field better focus scarce resources. Areas of interest included understanding the most effective channels to reach individuals. Participants also suggested analysis of best practice projects as well as those that had limited impact so that lessons can be learned.
- ***Evaluation research and tools.*** Participants, especially those developing and implementing communications campaigns expressed a need to better understand how to evaluate their work, especially the impact on preparedness. This research could then help determine that the preparedness actions we are advocating actually save lives, decrease recovery time, or maintain continuity in communities

APPENDIX I: Speaker Bios

Host Speakers

Corey Gruber, Acting Director, Grants & Training, Preparedness Directorate, FEMA
Sharla P. Rausch, Ph.D., Director, Human Factors Division, Science & Technology Directorate

Speakers representing research on disaster preparedness

**David Abramson, Ph.D., M.P.H., Director of Research
National Center for Disaster Preparedness, Columbia University**

David Abramson, PhD MPH, is the Director of Research at the National Center for Disaster Preparedness and an Associate Research Scientist at Columbia University's Mailman School of Public Health. He is presently the principal investigator of the Katrina Child and Family Health Study, an examination of displaced and impacted families in Louisiana and Mississippi encompassing a cohort of 1,245 households, as well as the lead investigator on a study of the unanticipated consequences of pandemic flu and the lead researcher on the center's national preparedness poll. From 1993 through 2005 Abramson was co-investigator and project director of a longitudinal HIV cohort study, and has written over fifty reports analyzing the system of HIV/AIDS care in the metropolitan area. He also served as a staff consultant to the Institute of Medicine Committee on Perinatal Transmission of HIV. Prior to entering the field of public health in 1990, Abramson worked for a decade as a national magazine journalist, having written for Rolling Stone, Esquire, Outside, and the San Francisco Examiner, among other publications. He holds a Doctorate in socio-medical sciences with a specialization in political science, and a Masters of Public Health degree, both from Columbia University.

**John Boyle, Ph.D., Senior Partner
Schulman, Ronca & Bucuvalas, Inc.
SRBI for the Council for Excellence in Government**

John M. Boyle, Ph.D., is a Senior Partner and Director of SRBI's Washington area office. He is a specialist in public policy surveys and has directed many major studies for federal agencies. His study areas include epidemiology, health care utilization and outcomes, violence and post-traumatic stress disorder, service quality assessment, transportation, tax and veterans issues, program evaluation, and policy analysis. His studies are particularly notable for the high response rates achieved on exceedingly difficult subjects. For example, Dr. Boyle achieved a 95% response rate on the Air Force Agent Orange Health Survey and an 85% response rate on the Veterans' Administration Post-Traumatic Stress Disorder Study.

Dr. Boyle's Ph.D. was awarded by Columbia University, where he subsequently served on the research faculty at the School of Public Health and conducted research on drug abuse among adolescents and young adults. Dr. Boyle has taught at the University of Maryland and several universities in New York City. He has numerous professional publications. He has also served as a member on an FDA advisory committee.

**Kathleen Tierney, Ph.D. Professor of Sociology and
Director, Natural Hazards Research and Applications Information Center
University of Colorado at Boulder**

Kathleen Tierney is Professor in the Department of Sociology and the Institute of Behavioral Sciences and Director of the Natural Hazards Center at the University of Colorado at Boulder. Funded by the National Science Foundation and by a consortium of federal agencies, the Natural Hazards Center has served since 1976 as the main U. S. clearinghouse for information on the societal dimensions of hazards, disasters, and risk. She is also co-director of the National Consortium for the Study of Terrorism and Responses to Terrorism (START), a DHS academic Center of Excellence that was established in 2005. Tierney is responsible for coordinating the activities of the START working group on the societal dimensions of terrorism, which focus on such topics as risk perception and communication; household, organizational, and community terrorism preparedness within the U. S.; and behavioral and psychosocial consequences of extreme events. Prior to her move to Colorado in 2003, she was Professor of Sociology and Director of the Disaster Research Center at the University of Delaware.

With over twenty-five years of experience conducting research on social and behavioral responses to extreme events, she has studied the social dimensions of many major disasters, including the Loma Prieta, Northridge, and Kobe earthquakes; Hurricanes Hugo and Andrew; the 1993 Midwest floods, and the September 11 terrorist attack on the World Trade Center; and other large-scale natural and technological disaster events. Her current and recent research includes studies on risk communication, business preparedness and the business impacts of disasters, the use of information technologies in disaster response, and the structure of homeland security preparedness networks in U. S. cities.

Tierney is the author of dozens of publications, including articles in The International Journal of Mass Emergencies and Disasters, The Journal of Contingencies and Crisis Management, Sociological Spectrum, Sociological Forum, Research in Social Problems and Public Policy, Prehospital and Disaster Medicine, and the Natural Hazards Review. Her publications also include Disasters, Collective Behavior, and Social Organization (1994), co-edited with Russell Dynes, and Facing the Unexpected: Disaster Preparedness and Response in the United States (2001), co-authored with Michael K. Lindell and Ronald W. Perry. She is currently collaborating with Prof. William Waugh on the second edition of the International City and County Management Association's volume on Emergency Management: Principles and Practice for Local Government. Her publications on Hurricane Katrina include a book chapter in the edited volume On Risk and Disaster: Lessons from Hurricane Katrina (2005) and an article that appeared in the March, 2006 special Katrina issue of the Annals of the American Academy of Political and Social Science. Tierney's other new publications include chapters in the Handbook of Disaster Research, focusing on businesses and disasters and on the ways in which post-September 11th policies have affected emergency management in the U. S.

Tierney is a member of the National Construction Safety Team Advisory Committee, which oversaw the National Institute of Standards and Technology's investigation of the World Trade Center disaster. She also served on the National Academy of Sciences/National Research Council Committee on Disaster Research in the Social Sciences.

Speakers representing practitioners in disaster preparedness communications

Kristin Gossel, Director, Ready.gov

Department of Homeland Security

Kristin L. Gossel is the Director of *Ready*, the U.S. Department of Homeland Security's national public service advertising campaign designed to educate and empower Americans to prepare for and respond to emergencies including natural disasters and potential terrorist attacks. In this position, Mrs. Gossel leads the operations and outreach strategy of the campaign which includes *Ready America*, *Ready Business*, *Ready Kids*, *Listo*, the Spanish version of the campaign and the National Preparedness Month initiative. In addition, she serves as *Ready* campaign spokesperson and has appeared on national radio and television programs including CBS' *Early Show*, Fox News' *Weekend Live* and NPR's *All Things Considered*.

Mrs. Gossel joined Homeland Security in March of 2003, shortly after the Department was created. Before joining Homeland Security she was the Special Assistant to Assistant Secretary for Legislation at the U.S. Department of Health and Human Services. During the 2000 presidential election, Mrs. Gossel was an Advance Representative for the Bush Cheney 2000 campaign. Earlier in her career, she held positions with the Health Insurance Association of America, March of Dimes Birth Defects Foundation and U.S. House of Representatives.

Mrs. Gossel earned her Bachelor of Arts degree in economics from The George Washington University. A native of Erie, Pennsylvania, she is married to John Gossel and currently resides in Arlington, Virginia.

Tom Groat, Emergency Management Coordinator

Confederated Tribes of the Umatilla Indian Reservation (CSEPP site)

Tom Groat currently serves as the Emergency Management Coordinator for the Confederated Tribes of the Umatilla Indian Reservation near Pendleton Oregon. Tom served as Public Information Officer for the Chemical Stockpile Emergency Preparedness Program and as Emergency Operations Supervisor for Umatilla County Emergency Management for a total of 12 years. Prior to entering Emergency Management he was News Director for KUMA AM-FM in Pendleton for 13 years.

Judith Graham Kane, Director of Communications

New York City Office of Emergency Management

Judith Graham Kane serves as Director of Communications for the New York City Office of Emergency Management, where she oversees external communications and public education programs. She also manages the agency's print publications, electronic communications via web, e-mail and the City's 311 hotline, event planning, advertising and promotions, and market research. Highlights from her career at OEM include launching the Ready New York preparedness program in 2003, managing the Ready New York advertising campaigns in 2004 and 2006, and coordinating the city's 2005 National Preparedness Months efforts at Grand Central Terminal and Gracie Mansion. Before joining OEM's Communications team in 2003, Judith worked as an editor at America Online and as a staff writer at Individual Investor Group. She lives in Brooklyn, New York, with her husband, Tim.

Judith Kane, Director of Communications, New York City Office of Emergency Management
Amy Ramirez, Emergency Planner, San Francisco Department of Emergency Management

**Amy Ramirez, Emergency Planner, Public Education/Outreach
San Francisco Department of Emergency Management**

Amy Ramirez is an Emergency Planner with the San Francisco Department of Emergency Management. Amy is responsible for coordinating the agency's Community Outreach and Education program. The program provides information and resources to San Francisco residents and visitors in order to increase their ability to assist themselves, their families and their communities in a disaster. Amy's expertise lies in the areas of disaster volunteer management, community organizing and project management. In 2005, she co-founded 72hours.org, San Francisco's innovative personal preparedness website.

APPENDIX II: Research Roundtable Attendees

William Anderson, Associate Executive Director, National Academies of Science
Joe Becker, Senior Vice President, Preparedness and Response, American Red Cross
Ern Blackwelder, Senior Vice President, Business Force, Business Executives for National Security
Joseph Bruno, Commissioner of the New York Office of Emergency Management, Emergency Management, Citizen Corps
Bob Connell, Homeland Security Grants Program Manager, State of South Carolina
Susan Cutter, Researcher, Director of Hazards Research Lab, University of South Carolina
Josh Dozor, Director of Preparedness Policy, White House - Homeland Security Council
Lauren Fernandez, DHS, Office of Grants and Training, Preparedness Programs Division
Tony Foleno, Research Director, Advertising Council
Carol Freeman, Principal, Macro International
Claudia Gordon, Senior Policy Advisor, DHS, Office of Civil Rights and Civil Liberties
Ryan Hagen, Research Associate, Center for Catastrophe Preparedness and Response, New York University
William Hooke, Researcher, Senior Policy Fellow, & Director AMS Policy Program/Disaster Roundtable, American Meteorological Society
Bill Jenkins, Director of Homeland Security and Justice Issues, Government Accountability Office
Lynn Jennings, Researcher, Emergency Preparedness and Homeland Security Initiative, PRI, Council for Excellence in Government
Stephanie Kamin, Project Manager, Macro International
Michelle Keeney, Researcher, Manager of the Social and Behavioral Research Program within the Threat Awareness Portfolio, DHS, Science and Technology
Howard Koh, Harvard School of Public Health, Preparedness Research
Lisa Koonin, Chief, Private and Public Partners Branch/ Pan Flu Business Focus, CDC
Tiffany Lightbourn, Manager - University Programs, DHS, Science and Technology, Office of Research and Development, Program
Anne Mathews-Younes, Director, Division of Prevention, Traumatic Stress and Special Programs, SAMHSA
Pat McGinnis, President and CEO, Council for Excellence in Government
Teresa Nastoff, Researcher, Health Education Specialist, Pan Flu Focus, CDC, Agency for Toxic Substances and Disease Registry
Kirstjen Nielsen, Special Assistant to the President for Prevention, Preparedness and Response Policy, Homeland Security Council, White House - Homeland Security Council
David O'Keefe, Naval Postgraduate School Acting Director, Center for Homeland Defense and Security
K. Bradley Penuel, Director, Center for Catastrophe Preparedness and Response, New York University
Keith Robertory, Manager, Community Disaster Education, American Red Cross
Susan Robinson, Associate Director of Communication, National Center for Environmental Health, CDC, ATSDR
Keith Rothfus, Director, DHS, Center for Faith-based and Community Initiatives
Jeffrey Runge, Chief Medical Officer, DHS

Desiree T. Sayle, Director, USA Freedom Corps
Joscelyn Silsby, Senior Associate, Preparedness and Response, Research and Evaluation,
American Red Cross
John Sorensen, Oak Ridge National Labs
Paul Stockton, Senior Research Scholar, Center for International Security and Arms Control,
Stanford University
Hillary Styron, Director of Emergency Preparedness Initiative, National Organization on
Disability
Dan Sullivan, Director, DHS, Office of Civil Rights and Civil Liberties
Ralph Swisher, DHS, FEMA Program and System Development Branch, Preparedness Division
Cindy Taylor, Public Affairs Deputy Director, DHS, FEMA, Public Affairs
Jana Telfer, Associate Director, Office of Communication, Agency for Toxic Substances &
Disease Directory, CDC
Michael Vermuth, Director, Homeland Security Program, RAND Corporation
Vish Vishwanath, Harvard School of Public Health, Preparedness Research
Christine Wormuth, Senior Fellow, International Security Program, Center for Strategic and
International Studies

Citizen Corps Subcommittee Chairs

Kathleen Henning, Board Member, IAEM
Chet Lunnar, Director, Office of State and Local Government Coordination
Al Martinez-Fonts, Director, DHS, Private Sector Office
Ande Miller, Executive Director, National Voluntary Organizations Active in Disaster
John Minnick, DHS, Private Sector Office
Diana Rothe-Smith, Director, Disaster Initiatives, Points of Light Foundation
Heather Schafer, Director, National Volunteer Fire Council
Michelle Shaw, DOJ, BJA
Rob Tosatto, MRC Director, (CDR) HHS, Office of the Surgeon General
Eric Tysarczyk, Special Assistant, Office of State and Local Government Coordination