

Northwest Preparedness and Emergency Response Research Center

Preparedness-Related Publications and Presentations

Publications

Karasz H, Eiden A, & Bogan S. Text Messaging to Communicate with Public Health Audiences: How the HIPAA Security Rule Impacts Practice. *American Journal of Public Health* (in press).

Abstract: Text messaging is a powerful communication tool for public health purposes, particularly because of the potential to customize messages to meet individuals' needs. However, using text messaging to send personal health information requires analysis of laws addressing the protection of electronic health information. The Health Insurance Portability and Accountability Act (HIPAA) Security Rule is written with flexibility to account for changing technologies. In practice, however, the rule leads to uncertainty about how to make text messaging policy decisions. Text messaging to send health information can be implemented in a public health setting through 2 possible approaches: restructuring text messages to remove personal health information and retaining limited personal health information in the message but conducting a risk analysis and satisfying other requirements to meet the HIPAA Security Rule.

Karasz, H., Li-Vollmer, M., Bogan, S., & Offenbecher W. Targeting Young Adult Texters for Public Health Emergency Messages: A Q-study of Uses and Gratifications. In R. Ahmed & B. Bates (Eds) *Health Communication and Mass Media: Applying Research to Public Health Policy and Practice* (in press).

Abstract: This chapter in the forthcoming text describes the methods and results of our Q study among a general population of young adult texters. In the discussion, we describe the four texting "types," that emerged from the research, and offer suggestions for how practitioners can use this information to market emergency text messaging programs to the public, and how to potentially improve the content of a emergency text messaging program to assure maximum effectiveness.

Karasz, H., & Bogan, S. Txt 2 Improve Health: Public Health – Seattle & King County's SMS Texting Initiative. *NACCHO Exchange* (In Press).

Abstract: The term "mHealth" is the use of mobile devices to improve health outcomes with tools such as text messaging with health emergency information, disease management apps, and personal sensors that collect health data in real time. The implementation of mHealth has been spreading quickly in consumer health and clinical medicine, yet its adoption by LHDs has been much more limited. Reasons for this may include a lack of understanding of potential applications of mHealth in the public health setting; inadequate scientific evidence about effective mHealth solutions; and uncertainty regarding the value of mHealth. We describe key findings in our research on

audience, technical issues and costs, and legal and compliance issues that complicate implementation of text messaging programs.

Karasz H, Bogan S. Investing in a text messaging system: a comparison of three solutions. *Northwest Public Health*. Spring/Summer 2012;29(1):20-21.

Abstract: We describe the benefits and costs of three potential bulk text messaging systems that could be employed by local health departments, including vendor hosted, commercial off-the-shelf system, and a system that is developed in-house by the local health jurisdiction's Information Technology department. Understanding the different options available is important if we expect this potentially powerful technology to be adopted by health departments.

Karasz H, Bogan S. What 2 know b4 u text: Short Message Service Opportunities for Local Health Departments. *Washington State Journal of Public Health Practice*, 2011, 4(1), 20-27.

Abstract: Text messaging (SMS) is a mobile technology now used by hundreds of thousands of Washingtonians. The technology is also being used around the country and world to deliver timely, customized, and relevant health information to end-users right to their cell phones. Text messaging holds tremendous potential to protect and promote the health of many Washingtonians and do it efficiently and at a low cost. But there is much for local health departments to learn before they can employ this technology to best effect. Research by communications practitioners at Public Health – Seattle & King County is examining how text messaging may be used by local health departments to engage audiences, as well as legal, fiscal, and logistical issues that should be considered before program implementation.

Offenbecher W. What Community Members Want from Public Health Texts. *NACCHO Preparedness Brief*. January 18, 2012.

Abstract: We describe results of a survey we conducted among different target audiences. Interviewees reported that text messages from public health would be particularly effective in emergencies. Survey results revealed that 89% of participants were likely or very likely to sign up for text messages about severe emergencies, such as information about how to respond after an earthquake. Interviewees were less interested in alerts about moderate emergencies such as a flu outbreak or a food recall. <http://newsmanager.commpartners.com/nacchoa/issues/2012-01-18/email.html>

Li-Vollmer M. Can u txt me now? Text Messaging to the Deaf for Emergencies. *NACCHO Preparedness Brief*, 2011, Edition 55 (February/March).

Abstract: The lack of ASL interpreters, technology, or community connections at health departments has hindered LHD's ability to communicate effectively with the deaf and hard-of-hearing, especially during emergencies. Video phones, TTY, and interpreters are not always available and can sometimes be cumbersome. But the recent growth in text messaging technologies offers promise. Audience research found that texting has been widely adopted by deaf and hard-of-hearing individuals of all ages and has become integrated into deaf culture and has opened up communication possibilities. This article describes some of the results of the qualitative research we conducted among the Deaf and Hard of Hearing population.

In process of submission:

Li-Vollmer, M., Kendall, L., Madrano, J., Offenbecher, W., Bogan, S., Karasz, H. Public Health Texting: A Persona Framework to Inform Emergency Preparedness and Response Communication with the Deaf Community. In manuscript development, intended publication: *Disaster Medicine and Public Health Preparedness*.

Abstract: The deaf and hard of hearing communities have been underserved with emergency preparedness information and warnings in public health emergencies. SMS text messaging offers potential as a communication channel to this community, but enrolling deaf and hard of hearing individuals into an emergency texting program and ensuring that messages are relevant and appropriate for the target audience requires a better understanding of the population. A persona framework can be useful to provide guidance on the goals, desires, and behaviors to improve the implementation and marketing of texting programs. Through qualitative interviews, we developed three personas based on evidence of uses and gratifications of texting within the deaf community. Our research provides insight into the diversity of texting preferences within the deaf and hard of hearing community that can be used to inform the design of public health messaging systems and message content.

Painter, I., Bogan, S., Karasz, H. Public Health TXT: SMS text messages to reach communities with public health emergency information. In manuscript development, intended publication: *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science*.

Abstract: The rapid adoption of short message service (SMS) text messaging (texting) suggests new avenues for communication with public health audiences, particularly for emergency communications. SMS offers some distinct advantages over other communication methods, especially in disasters and when communicating with traditionally underserved populations. In an effort to promote the health of county residents, researchers at Public Health- Seattle & King County conducted a randomized wireless and landline phone survey with 402 texters to understand how they currently

use text messaging and how public health agencies could effectively utilize text messaging to enhance emergency communication. We found that most residents are willing to receive text messages alerting them of emergencies or disasters. Subjects were generally less interested in receiving other types of health information via text message. The cost of receiving text messages was much less important to subjects than the risk of receiving excessive messages from the local health department. Examining texting use more closely, researchers found that those who use their mobile phones for a variety of purposes are more likely to state their willingness to opt-in to receive messages from a local health department than those who use their phones for a limited number of activities. Implications for public health emergency communicators are discussed including targeting those most willing to opt-in, and ensuring the infrequency and relevancy of messages to the target audience.

Karasz, H. & Bogan, S. Developing a public health emergency text messaging system for employees: Considerations for program design and marketing. In manuscript development, intended publication: *Journal of Public Health Practice & Management*.

Abstract: Text messaging continues to grow as a preferred method of communication for adult cell phone users. Preparedness and response organizations like public health can use this technology to communicate effectively with their workforce and increase response capacity. This article describes results from formative research with employees and employers and the subsequent steps a large metropolitan health agency took to implement a volunteer text messaging program to communicate emergency information with employees.

Presentations

Karasz H. SMS Text Messaging for Public Health Preparedness and Response. Poster presented at NACCHO Annual 2009 Conference, Orlando, FL, Jul 29-31, 2009.

Abstract: The purpose of this project is to gain an understanding of texting technologies and the know-how to implement their use for emergency preparedness and response communications. For this technology to be useful and effective, public health practitioners need to know what capabilities are required to set up a text messaging system, how and why the public uses the technology, and how text messaging can best be used for emergency communications. It's an exciting project that could potentially provide public health agencies with another strong means to communicate their messages.

Karasz, H. Text Messaging for Emergency Preparedness and Response. Plenary presentation at the National Public Health Information Coalition, Miami, FL October 20, 2009.

Abstract: We provided an introduction to text messaging to a national conference of public health communications professionals, including the utility of text messaging for public health emergency communication, particularly among vulnerable audiences.

Allan S, Bogan S, Tu SP. Effective Emergency Communication with Vulnerable Populations and Healthcare Providers. Presented at NACCHO Preparedness Summit 2010, Atlanta, GA, Feb 16-19, 2010.

Abstract: This session presents practical research for public health emergency communications. How can emergency call centers communicate more effectively with limited English proficient (LEP) callers? What communication methods are most effective for reaching health care providers with public health alerts? How can texting work for emergency preparedness communication and surveillance? These are some of the key questions public health academic and practice research teams at the Northwest Preparedness and Emergency Response Research Center are investigating. Although each project has a different focus, all share a goal of creating evidence-based strategies to improve the timeliness and credibility of public health emergency communication with vulnerable populations and health care providers. Presenters will share the context of their research and will give a brief overview of study methods. The group discussion will identify topics for further critical research for communication with key populations during emergencies, and will also solicit suggestions for how to make the research results readily usable by public health practitioners.

Kendall L. In case of emergency . . . text? Presentation to Microsoft Corporation, Redmond, WA, April 23, 2011.

Abstract: The goal of this session is to communicate the challenges and opportunities of using text messaging for mass communication, particularly as it relates to emergency and disaster situations. Specifically, we will review the rationale for text messaging, explain the user, device and network advantages and limitations of SMS messaging, and discuss alternative approaches to SMS mass messaging

Bogan S. Harnessing the Power of Mobile: SMS TEXT Messaging to Promote Health. Presented at the Washington State Association of Local Public Health Officials Meeting, Spokane, WA, June 8, 2010.

Abstract: This session will provide local public health officials with an overview of ways the power of SMS text messaging can be harnessed to benefit local public health audiences. Participants will learn how SMS can be used to benefit local public health departments. Participants will gain an understanding of how much it typically costs to implement a texting program. We will also share resources about texting vendors and contacts for these vendors.

Karasz H. SMS Text Messaging for Emergency Public Health Communications: A local public health agency's approach. Presented at mHealth Summit 2010, Washington DC, Nov 8-10, 2010.

Abstract: Short message service (SMS) text messaging programs have shown promise for reaching vulnerable populations with critical health information, and local public health departments are interested in adopting this technology for a variety of uses. Before launching into a full-scale SMS program, however, local public health departments need information about the needs of their audiences, along with the technical, legal, and logistical implications of local-scale interventions. This five-year study has several aims: First is examining the uses and gratifications of SMS among a variety of young adult populations and Deaf and Hard of Hearing persons in order to better understand how to reach them before and during an emergency with health information. We used a mixed-method approach using Q methodology, intensive in-person interviews, and a telephone survey among residents of King County, Washington. A second aim is to understand technical, legal, and logistical issues as they apply to implementation on the local level. We have conducted extensive interviews with a variety of vendors, institutions, and legal sources. Finally, we have conducted several emergency pilot projects with the aim of better understanding how to market and promote SMS campaigns. This poster will describe the use of Q methodology and present findings from our audience research about uses of text messaging among specific groups, as well as information how to effectively structure text programs to reach audiences with relevant public health emergency information. The findings have ramifications for public health agencies interested in developing texting systems. This study is being funded by the CDC's Office of Public Health Preparedness and Response and is in partnership with the Northwest Public Health Systems & Services Research Center (NW PERRC) at the University of Washington School of Public Health's Northwest Center for Public Health Practice.

Karasz H, Bogan S. SMS Text Messaging for Public Health Emergencies. Presented at NACCHO Preparedness Summit 2011, Atlanta, GA, February 22-25, 2011.

Abstract: How do you break through language barriers, sensory disabilities, and social isolation to deliver critical emergency communications? Text messaging offers new possibilities for communicating with certain vulnerable populations. In this session, we will share findings from research that address benefits and challenges of using text messaging for public health emergencies. Insights will be offered on the use of text messaging by immigrant Latino, Native American, and deaf and hard-of-hearing populations. Participants will "meet" different types of text message users, and then develop strategies for marketing public health emergency texting programs and writing effective texts for these audiences. Finally, we will offer practical tips for implementing texting programs.

Bogan S. SMS in Local Public Health: Our Reality Check. Invited presentation at the Stanford University Mobile Health Conference, Palo Alto, CA, May 4-5, 2011.

Abstract: At Public Health-Seattle & King County, we have learned a great deal about working through some of the legal issues of using SMS within a local public health department. We piloted a program to send customized text messages to parents reminding them to have their children receive a second dose of flu vaccine. Through this pilot, we were able to explore audience needs and working through legal issues to reach the communication needs of our communities. This session will focus on the necessary processes to implement a texting program within a local public health department while abiding by HIPAA and state security laws.

Karasz H. (2011, June 7). SMS emergency text messaging: An employee pilot at Public Health – Seattle & King County. Developing a Resilient Communications and Information Sharing Capability workshop at the Washington State Homeland Security Region 6 Critical Infrastructure Workgroup meeting of the Pacific Northwest Economic Region, June 7, 2011.

Abstract: Public Health – Seattle & King County designed an employee emergency texting program in which employees receive text messages during emergency situations that affect their ability to work. Opt in is strictly optional; to date over 500 (about 36% of all staff) have signed up on their personal phones. Response to texts has been very positive. This session will provide participants with lessons learned from implementing a public health employee emergency text messaging program.

Offenbecher W, Karasz H, Bogan S, Li-Vollmer M. Txt Me L8 Breaking Health News: A Q Methodological Exploration of Audiences for Test-Based Emergency Information. University of Washington Department of Health Services Annual Research Meeting, Seattle WA, June 15, 2011.

Abstract: Short message service (SMS) text messaging programs are popping up all over the country. Given the widespread use of texting, public health organizations may make good use of this technology to connect with communities. However, prior to implementation, we need to know when, where, and how often people text, as well as understand why and how they use texting. Knowledge of the uses and gratifications of this technology will help health agencies design texting programs that fit the needs of users and will produce the desired response. We will present findings from our audience research about uses of text messaging among specific groups such as “On-the-go Texters,” “Social Texters,” and “Security Texters,” and discuss guidelines to approach using SMS for these audiences.

Bogan S, Li-Vollmer M. Txt me L8 breaking health info: Text Messaging for Public Health Emergencies. Presented via Webinar to Los Angeles County Health Department, July 27, 2011.

Abstract: This interactive webinar will provide participants with knowledge to implement a texting program. The webinar will focus on research findings from Public Health – Seattle & King County about what various audiences want from texting programs. We will share research findings about the various types of texters. We will also share specifics about how to set up a texting program including working with vendors, costs and sending text messages via software. We will discuss some of the legal issues when sending sensitive information via SMS text message.

Li-Vollmer M, Bogan S. Communication Tools for Your Vulnerable Populations Planning Needs. Presented at Advanced Practice Center Toolkits Training, Burlington, WA, September 16, 2011.

Abstract: Researchers at Public Health – Seattle & King County have researched ways that SMS text messaging can be used to reach a variety of public health audiences. In this session, researchers will explain the benefits and limitations of text messaging for public health emergencies. We will describe the Q-sort audience research method and we will identify legal and logistical considerations with text messaging programs.

Karasz H, Bogan S.R U Ready 2 Text? Using SMS Text Messaging in a Public Health Setting. Presented at Public Health - Seattle & King County Department Brown Bag, Seattle, WA, October 11, 2011.

Abstract: This session will provide participants with information about the Communications Team research focused on SMS text messaging for public health purposes. Team members will share findings about the various types of texters and the implications for public health practice. We will also share specifics about how to set up a texting program including working with vendors, costs and sending text messages via software. We will discuss some of the legal issues when sending sensitive information via SMS text message.

Madrano J. Building Community Resilience through Mobile Technology. Presented at Washington State Public Health Association Joint Conference on Health, Vancouver, WA, Oct. 17-18, 2011.

Abstract: The lack of American Sign Language interpreters and adaptive technology at health departments has hindered our ability to communicate effectively with Deaf and hard of hearing populations, especially during public health emergencies. Fortunately, the recent growth in mobile technologies offers promise for reaching these communities in new ways. We utilized a mixed-method approach, Q methodology, to investigate the uses and gratifications of text messaging among the Deaf and hard of

hearing, and identified different types of text message users, such as “Convenience Texters”, “Informational Texters” and “Social Texters.” We then developed and tested sample text messages that can be used during public health emergencies to learn more about how to craft messages that will be effective for this population. This interactive session will present findings from our audience research about the uses of text messaging among Deaf and hard of hearing populations and address strategies to build community resilience by reaching these populations with better, more reliable information about how to prepare for, respond to, and recover from public health emergencies. A hands-on exercise will model audience research methods as participants evaluate their own opinions of text messaging. Participants will also practice developing culturally competent messages for Deaf and hard of hearing populations.

Karasz HN. Txt me L8 breaking health news: A Q methodological exploration of audiences for text-based emergency information. American Public Health Association Annual Meeting, October 29, 2011, Washington, DC.

Abstract: Short message service (SMS) text messaging programs are popping up all over the country. Given the widespread use of texting, public health organizations have an opportunity to take advantage of this technology to connect with communities. However, prior to implementing texting programs, we need to know when, where and how often people use texting, as well as understand why and how they use it to ensure that texting applications fit the needs of users and will produce the desired response.

Public Health – Seattle & King County researchers are utilizing a mixed-method approach, Q methodology, to investigate the uses and gratifications of text messaging among demographic groups who have been more difficult to reach through mainstream media, such as Spanish speakers, deaf persons and other young adults. The Q method is particularly effective in engaging participants in a research topic as well as uncovering different viewpoints about an issue. In this session, we will describe the use of Q methodology and present findings from our audience research about uses of text messaging among specific groups. We will also share findings about how to effectively structure texting programs to reach audiences with relevant public health emergency information. The findings have significant ramifications for public health agencies interested in developing texting systems.

Li-Vollmer M. Improving Preparedness of Underserved and At-Risk Populations: Can U reach me now? Evidence-based text messaging strategies for vulnerable populations. Presented at NACCHO Public Health Preparedness Summit 2012, Anaheim, CA, February 22, 2012.

Abstract: Text messaging played heroic and high-profile roles in search and rescue missions and other large scale efforts pulled off by teams of tech savvy volunteers in Haiti and Japan. But text messaging is equally useful in smaller scale emergency

preparedness and response efforts and can be deployed by staff without great technical skills. In this session, we will share findings from our research with the Northwest Preparedness and Emergency Response Research Center that address benefits and challenges of using text messaging for public health emergencies. Insights will be offered on the use of text messaging by diverse populations and how to get them to opt-in to your text messaging programs. A hands-on exercise will model audience research methods as participants evaluate their own opinions of text messaging. Through a short video segment, participants will “meet” different types of text message users, and then develop strategies for marketing public health emergency texting programs and writing effective texts for these audiences. Finally, we will offer practical tips for implementing texting programs based on our research on the legal, financial, and logistical requirements for texting at public health departments.

Participants will be able to weigh the benefits and limitations of text messaging for preparedness and response. They will understand the importance of marketing text messaging programs and learn how better understanding of the text messaging audience can assist in that effort. Participants will become more aware of legal, cost, and logistical consideration when setting up text messaging programs.

Madrano J. Building Community Resilience through Mobile Technology. Presented to Berkeley PERRC, March 6, 2012 (webinar).

Abstract: How do you break through language barriers, sensory disabilities, and social isolation to deliver critical emergency communications? Text messaging offers new possibilities for communicating with certain vulnerable populations who have adopted this technology at even higher rates than the general public. In this session, we will share findings from our ongoing practice-based research with the Northwest Preparedness and Emergency Response Research Center that address benefits and challenges of using text messaging for public health emergencies. Insights will be offered on the use of text messaging by deaf and hard-of-hearing populations.

Li-Vollmer M. Texting for employee emergency communications. Pacific Northwest Cross Border Conference, Tacoma, WA, May 17, 2012.

Abstract: Researchers at Public Health – Seattle & King County designed an employee emergency texting program in which employees receive text messages during emergency situations that affect their ability to work. Opt in is strictly optional; to date over 500 (about 36% of all staff) have signed up on their personal phones. Response to texts has been very positive. In January, 2012, our region was hit by a large snow and ice storm. We used the employee emergency texting program for the first time on a wide scale. We sent 15 messages over 5 days. This session will present findings from the

implementation of this system and share lessons learned for other health departments interested in improving emergency employee communication.

Karasz H, Bogan S. Text messaging for Public Health Communication. National Association of County and City Health Officials webinar, mHealth: Practical Applications of Text Messaging and Phone Apps for LHDs, June, 28, 2012.

Abstract: In Public Health we have a responsibility to assure healthy communities for all our residents. Our mission is to bring efficient, effective, and customer-oriented mobile public health information and services to close communication gaps and reduce health disparities. To do this we need a whole toolbox of tools to reach people. We need to reach people where they're at, with tools that will be as useful as possible to them. This session will present key findings from research conducted at Public Health – Seattle & King County on the ways local health departments can harness the power of SMS to meet health communication gaps, particularly during emergencies, for some of the most vulnerable populations.

Karasz H, Bogan S. SMS text messaging for influenza vaccination reminders. Presented to Maleeka Glover, CDR US Public Health Service, CDC Influenza Coordination Unit and Jo Ellen Warner, Senior Analyst, National Association of County and City Health Officials (NACCHO), August 15, 2012. (Webinar)

Abstract: In this session, we will share findings from our research with the Northwest Preparedness and Emergency Response Research Center that address benefits and challenges of using text messaging for public health emergencies. Insights will be offered on the use of text messaging by diverse populations and how to get them to opt-in to your text messaging programs. We will share information from our pilot project sending flu reminders to patients within a local health department context. Participants will be able to engage in discussion about how text messaging may be used at the national level for influenza vaccine reminders.

Bogan S, Karasz H. Text for TB: Content and Legal Considerations for using Text Messaging in TB Control Settings. Presented to clinical providers at the Curry International Tuberculosis Center TB Clinical Intensive Workshop, October 5, 2012.

Abstract: Researchers at Public Health – Seattle & King County have explored the ways text messaging can be used for public health emergency preparedness and response. Many of their findings can be applied to other areas of public health, including for use in tuberculosis control. Presenters will provide information on ways text messaging can be used in TB control settings. Participants will gain an understanding of considerations for implementing text messaging containing protected health information. Finally,

participants will utilize session content and text messaging evidence as a catalyst to explore the use of text in their TB programs.

Karasz, H. Developing an emergency communication system for employees. Presented to the quarterly meeting of the King County Emergency Support Function 8 – Public Health and Medical Services working group. October 31, 2012.

Abstract: Communications researchers at Public Health – Seattle & King County will describe how SMS text messaging can be used to improve communications with your employees in the event of an emergency. We will share experiences from our own pilot, describe the benefits of such an employee text messaging system, how and when to deploy such as system, and how to maximize opt-in.

Karasz, H. The value proposition in mHealth: the Public Health perspective. Invited presenter. Robert Wood Johnson sponsored panel at the mHealth Summit, Washington, DC. December 4, 2012.

Abstract: Is the boom in investment in mobile health going to benefit the most vulnerable audiences that public health serves? For mobile health to truly make an impact on health and healthcare, value must be understood, demonstrated and acted upon. However, to avoid a mHealth version of the “digital divide,” and to reduce inequities and improve population health, public health audiences must be considered in planning mHealth investments. Culturally and linguistically appropriate cell-phone based mHealth solutions are required to address the health conditions of the most vulnerable people, solutions that take into account culturally-bound values may benefit health, such as community building, cultural resilience, and family.