

ASPR TRACIE Technical Assistance Request

Request Receipt Date (by ASPR TRACIE): 2 March 2020

Response Date: 3 March 2020

Type of TA Request: Standard

Request:

The requestor asked for resources specific for healthcare system emergency preparedness planners and healthcare workers to use while preparing for and responding to staff absenteeism related to the COVID-19 outbreak.

Response:

The ASPR TRACIE Team reviewed existing resources, including those on our [Infectious Disease Resource Page](#) and in the [Coronaviruses](#), [Influenza Epidemic/Pandemic](#), and [Responder Safety and Health](#) Topic Collections. We also conducted a search online for relevant materials.

Please refer to the Centers for Disease Control and Prevention's [Coronavirus Disease 2019 webpage](#) for the most up-to-date clinical guidance on COVID-19 outbreak management.

I. Resources Related to Staff Absenteeism

Adams, L. and Berry, D. (2012). [Who Will Show Up? Estimating Ability and Willingness of Essential Hospital Personnel to Report to Work in Response to a Disaster](#). Online Journal of Issues in Nursing. 17(2):8.

The authors provide a brief review of the literature related to adequate disaster staffing, and share the methodology and results of their study that assessed the ability and willingness of healthcare personnel to report to work during a disaster. They note that healthcare personnel experience multiple barriers affecting ability and willingness to report to work during a disaster (responsibility for children being the most significant), and offer strategies for addressing these barriers. Differences between clinical and non-clinical staff responses were observed.

Aoyagi, Y., Beck, C., Dingwall R., and Nguyen-Van-Tam, J. (2015). [Healthcare Workers' Willingness to Work During an Influenza Pandemic: A Systematic Review and Meta-analysis](#). Influenza and Other Respiratory Viruses. 9(3):120-130.

The authors reviewed literature through to 2013 that discussed healthcare workers' willingness to work during an influenza pandemic, and found that willingness to work ranged from 23.1% to 95.8%, depending on the context. Male gender, physicians and

nurses, full-time employment, perceived personal safety, awareness of pandemic risk and clinical knowledge of influenza pandemics, role-specific knowledge, pandemic response training, and confidence in personal skills were statistically significantly associated with increased willingness. Childcare obligations were significantly associated with decreased willingness.

ASPR TRACIE. (2018). [Tips for Retaining and Caring for Staff after a Disaster](#). U.S. Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response.

This tip sheet provides general promising practices—categorized by immediate and short-term needs—for facility executives to consider when trying to retain and care for staff after a disaster.

ASPR TRACIE. (2020). [Training and Workforce Development Topic Collection](#).

The resources in this TC include those that discuss competencies for disaster medicine; experiences with different methods and models for health professional training and workforce development; selected general training resources to support all-hazards preparedness; tools to support training and workforce development; and considerations related to U.S. workforce development, including research on training’s effects on willingness to work during a disaster. **NOTE:** The [Willingness to Work and Other Workforce Considerations](#) section may be particularly useful. Several of these resources are also included in this document for convenience.

Balicer, R.D., Barnett, D.J., Thompson, C.B., et al. (2010). [Characterizing Hospital Workers' Willingness to Report to Duty in an Influenza Pandemic through Threat- and Efficacy-Based Assessment](#). BMC Public Health. 10:436.

The authors administered an anonymous online survey about attitudes and beliefs toward emergency response to 18,612 Johns Hopkins Hospital employees in 2009. Surveys were completed by 3,426 employees (18.4%); approximately one third of respondents were health professionals. Overall results indicated that 28% of respondents were not willing to respond to an influenza pandemic scenario if asked but not required to do so. Only an additional 10% were willing to report to duty if required. Thirty-two percent of survey participants indicated they would be unwilling to respond in the event of a more severe pandemic influenza scenario. The authors noted that response rates were consistent across various hospital departments and were one-third lower among nurses as compared with physicians.

Barnett, D., Levine, R., Thompson, C., et al. (2010). [Gauging U.S. Emergency Medical Services Workers' Willingness to Respond to Pandemic Influenza Using a Threat- and Efficacy-Based Assessment Framework](#). PLoS One. 5(3):e9856.

The authors discuss findings of a nationally representative survey of Emergency Medical Services (EMS) providers that indicated that hazard-specific education; an understanding of one's response role; and confidence in occupational safety positively influence respondents' willingness to respond during a pandemic. However, the authors note that EMS workers indicated they were less likely to respond if they felt their family was in danger, particularly if risk of disease transmission to family members was high.

Brand, R. (2016). [When Disaster Strikes: Nurse Leadership, Nursing Care, and Teamwork Save Lives](#). Charting Nursing's Future, a Robert Wood Johnson Foundation Collection.

This issue brief discusses how recent disasters have highlighted gaps, lack of training, and resource constraints related to disaster preparedness for nurses. The author notes that nurses want, and need, access to more training, and acknowledges the challenges to preparedness presented by declining funding and lack of regular engagement of nurses in exercises and training.

Chaffee, M. (2009). [Willingness of Health Care Personnel to Work in a Disaster: An Integrative Review of the Literature](#). Disaster Medicine Public Health Preparedness. 3(1):42–56.

The author conducted a literature review (25 quantitative and 2 qualitative studies) on willingness to work and listed the barriers (e.g., type of disaster, concern for loved ones) and motivators (e.g., perception of the importance of one's role, "belief in duty to care). Comprehensive tables that summarize each study are also available.

Charney, R., Rebmann, T. and Flood, R. (2015). [Hospital Employee Willingness to Work during Earthquakes Versus Pandemics](#). The Journal of Emergency Medicine. 49(5):665-74.

The authors surveyed 1,822 hospital employees (clinical and non-clinical) to determine willingness to work during an earthquake versus a pandemic. They found that willingness to work may be increased by considering care for dependent family members, and by providing greater worker protection, cross training, and job importance education for staff.

Columbia Mailman School of Public Health. (2010). [Less Than Half of Essential Workers Are Willing to Report to Work During a Serious Pandemic](#). Environmental Health, Healthcare Policy, Infectious Disease.

In a study of first responders and other essential workers, researchers found that more than 50% of the respondents stated that they would be absent from work during a serious pandemic, even if they were healthy. Workers reported that they would be more willing to report to work if their employer provided them with respirators and a vaccine and had an established pandemic plan.

Cowden, J., Crane, L., Lezotte, D., et al. (2010). [Pre-Pandemic Planning Survey of Healthcare Workers at a Tertiary Care Children's Hospital: Ethical and Workforce Issues. Influenza and Other Respiratory Viruses](#). 4(4):213-22.

The authors surveyed clinical and non-clinical support staff at the Children's Hospital in Denver in 2007. Willingness to respond was associated with higher levels of professionalism, and non-clinical support staff were found to be significantly less likely to report during a pandemic, suggesting the need for additional training for these staff members to help them understand the value of their roles

Devnani, M. (2012). [Factors Associated with the Willingness of Health Care Personnel to Work During an Influenza Public Health Emergency: An Integrative Review](#). (Abstract only; free registration required to access full text.) *Prehospital and Disaster Medicine*. 27(6):551-66.

The author evaluated 32 peer-reviewed, quantitative articles published from January 2001-June 2010 to determine willingness to work during an influenza public health emergency. He found that "factors associated with a willingness to work during an influenza public health emergency include: being male, being a doctor or nurse, working in a clinical or emergency department, working full-time, prior influenza education and training, prior experience working during an influenza emergency, the perception of value in response, the belief in duty, the availability of PPE, and confidence in one's employer." Preferential treatment of healthcare workers and their families for the receipt of vaccines and antivirals were noted as the interventions that most positively influenced willingness to work.

Errett, N., Barnett, D., Thompson, C., et al. (2012). [Assessment of Psychological Preparedness and Emergency Response Willingness of Local Public Health Department and Hospital Workers](#). (Abstract only; free registration required for access to full text.) *International Journal of Emergency Mental Health*. 14(2):125-33.

The authors surveyed hospital and public health workers to assess their willingness to respond to a pandemic influenza emergency scenario and a radiological 'dirty' bomb scenario. They found that respondents that felt psychologically prepared were more willing to respond, and self-reported willingness to respond was influenced by perceived self-efficacy and perceived family preparedness.

Garrett A.L., Park, Y.S., and Redlener, I. (2009). [Mitigating Absenteeism in Hospital Workers during a Pandemic](#). *Disaster Medicine and Public Health Preparedness*. Suppl 2:S141-7.

The authors conducted focus groups followed by an online survey to assess hospital workers' willingness to work during a disaster. A total of 2,864 responses were analyzed. The top barrier cited was safety concerns, followed by issues of dependent care and transportation. The authors also found that an employee's willingness to work increased

when mitigation strategies were provided (e.g., preferential access to antiviral medication or personal protective equipment for the employee and their immediate family).

Gershon, R.R.M., Magda, L.A., Qureshi, K.A., et al. (2010). [Factors Associated with the Ability and Willingness of Essential Workers to Report to Duty During a Pandemic](#). (Abstract only.) *Journal of Occupational and Environmental Medicine*. 52 (10), 995-1003.

The authors conducted six workgroups and a cross-sectional survey of 1,103 workers to assess their ability and willingness to work during a pandemic. Eighty percent of the participants stated they would be able to work; however, 65% reported they would be willing to report to duty, and only 49% said they would be both able and willing. The authors noted that organizational preparedness efforts should focus on worker protection programs to help facilitate the attendance of healthy workers.

Goodhue, C., Burke, R., Ferrer, R., et al. (2012). [Willingness to Respond in a Disaster: A Pediatric Nurse Practitioner National Survey](#). *Journal of Pediatric Health Care*. 26(4):e7-20.

The authors conducted a national survey of pediatric nurse practitioners to learn about their personal preparedness plans, disaster training, prior disaster experience, and likelihood of responding in the event of a disaster. They found that those who were male, had prior military experience and disaster training, and had a defined role in response plans were most likely to respond during a disaster.

Hayanga, H., Barnett, D., Shallow, N., et al. (2017). [Anesthesiologists and Disaster Medicine: A Needs Assessment for Education and Training and Reported Willingness to Respond](#). (Abstract only; free registration required to request full text.) *Anesthesia and Analgesia*. 124(5):1662-1669.

A web-based survey of anesthesiologists was conducted to assess self-reported perceptions of knowledge and skills, as well as attitudes and beliefs regarding education and training, employee development, professional obligation, safety, psychological readiness, efficacy, personal preparedness, and willingness to respond during a natural disaster, pandemic flu, and a radiological event. Few respondents indicated that they think they receive sufficient education for disaster response, and most think that their hospitals should provide this training to them. The authors recommend that additional training be provided, and support for staff to meet family obligations be put in place to encourage providers to come to work during disasters.

Huntington, M. and Gavagan, T. (2011). [Disaster Medicine Training in Family Medicine: A Review of the Evidence](#). *Family Medicine*. 43(1):13-20.

The authors discuss disaster response requirements for Family Medicine residents, and note that there is little outcomes-based evidence to support them in the literature.

Irvin, C., Cindrich, L., Patterson, W., Southall, A. (2008). [Survey of Hospital Healthcare Personnel Response During a Potential Avian Influenza Pandemic: Will They Come to Work?](#) Prehospital and Disaster Medicine. 23(4):328-35.

Doctors, nurses, and nonclinical hospital staff were surveyed to determine how likely they would be to report to work during an influenza pandemic. Doctors were found to be most likely to come to work, as were male respondents. For those unsure about reporting for work, their personal safety was the most significant concern, and the authors note the importance of ensuring workers' confidence in adequate personal protections.

Johns Hopkins University, Bloomberg School of Public Health. (2017). [Effect of Variations in State Emergency Preparedness Laws on the Public Health Workforce's Willingness to Respond in Emergencies.](#)

This webpage provides information and related publications about a project that assesses whether state laws influence the public health workforce's willingness to respond in emergencies. The project's aims include identifying and classifying variations in emergency response laws in the 50 U.S. states, and assessing the association between specific state emergency preparedness laws and willingness to respond during emergencies among the public health workforce.

Labrague, L., Hammad, K., Gloe, D., et al. (2017). [Disaster Preparedness Among Nurses: A Systematic Review of Literature.](#) (Abstract only; free registration required to request full text.) International Nursing Review. March 14.

The authors conducted a review of scientific articles conducted from 2006 to 2016 on nurses' preparedness for disasters, and found that nurses are insufficiently prepared and do not feel confident responding effectively to disasters. Previous disaster response experience and disaster-related training were found to increase preparedness. The authors note that more, realistic disaster exercises are needed to further prepare nurses.

Lesperance, A. and Miller, J. (2009). [Preventing Absenteeism and Promoting Resilience Among Health Care Workers in Biological Emergencies.](#) Pacific Northwest National Laboratory.

The authors interviewed managers and emergency planners at hospitals and public health agencies to determine factors associated with health worker absenteeism during a biological emergency. They present data on expected absenteeism rates and individual determinants of absenteeism, and provide recommendations for hospitals, emergency medical services organizations, public health organizations, and government agencies to minimize absenteeism. Though not specific to COOP, this document provides guidance on a key facet of maintaining hospital operations.

Mackler, N., Wilkerson, W., and Cinti, S. (2007). [Will First-Responders Show Up for Work during a pandemic? Lessons from a Smallpox Vaccination Survey of Paramedics](#). *Disaster Management & Response*. 5 (2), 45-8.

The authors conducted a survey of 300 first responders and paramedics to assess if fear of infection would compromise their ability to care for persons potentially infected with smallpox. Of the 95 survey respondents (32%), over 80% of paramedics reported that they would not report to duty if a vaccine and protective gear were not available.

Madrigano, J., Chandra, A., Costigan, T., and Acosta, J. (2017). [Beyond Disaster Preparedness: Building a Resilience-Oriented Workforce for the Future](#). *International Journal of Environmental Research and Public Health*. 14(12): 1563.

The authors conducted a literature review to “determine key components of a resilience-oriented workforce, with a focus on organizational structures, training and education, and leadership models.” They note that additional research is needed to develop strategies to support workforce resilience across disciplines.

Mercer, M., Ancock, B., Levis, J., and Reyes, V. (2014). [Ready or Not: Does Household Preparedness Prevent Absenteeism Among Emergency Department Staff During a Disaster?](#) (Abstract only.) *American Journal of Disaster Medicine*. 9(3):221-32.

The authors administered a survey to emergency department staff to determine if household preparedness correlates with likelihood of reporting to work during a disaster. Household preparedness did not have an effect on self-reported likelihood of reporting during a disaster. Having dependents in the home; female gender; past disaster relief experience; having a spouse or domestic partner; and not owning pets were factors found to be associated with predicted absenteeism, though this varied based on disaster type.

Park, Y.S., Behrouz-Ghayebi, L, and Sury, J.J. (2015). [Do Shared Barriers when Reporting to Work during an Influenza Pandemic Influence Hospital Workers' Willingness to Work? A Multilevel Framework](#). (Abstract only; free registration required to access full text.) *Disaster Medicine and Public Health Preparedness*. 9(2):175-85.

The authors identified interventions and barriers that influence healthcare workers' willingness to report for duty during an influenza pandemic. Results indicated that the biggest motivator for staff to report to duty was providing protection for their family.

Patel, R., Wattamwar, K., Kanduri, J. and Nahass, M. (2017). [Health Care Student Knowledge and Willingness to Work in Infectious Disease Outbreaks](#). (Abstract only; free registration required to request full text.) *Disaster Medicine and Public Health Preparedness*. June 19:1-7.

This study explored willingness to work among medical, nursing, and pharmacy students. Medical students indicated they were most willing to work, and greater willingness to work was associated with prior disaster training. The authors cite the “remarkable underemphasis on disaster preparedness in health care curricula,” and note how important it is to prepare health professional students, who will become the healthcare workforce.

Patel, V. and Dahl-Grove, D. (2016). [Disaster Preparedness Medical School Elective: Bridging the Gap Between Volunteer Eagerness and Readiness](#). (Abstract only; free registration required to request full text.) *Pediatric Emergency Care*. July 23.

Medical students were asked to participate in an online disaster training consisting of 4 modules to determine if the training helped them feel more prepared to respond during a disaster, and if it would affect their willingness to volunteer during an emergency. Pre- and post-survey results showed a significant increase in perceptions of preparedness among participants, though the course did not affect the initially high level of willingness to volunteer.

Rutkow, L., Vernick, J.S., Thompson, C.B., et al. (2014). [Emergency Preparedness Law and Willingness to Respond in the EMS Workforce](#). (Abstract only; free registration required to access full text.) *Prehospital and Disaster Medicine*. 29(4):358-63.

In 2009, the authors conducted a survey of 421 emergency medical services (EMS) workers which included questions about willingness to report to duty during an influenza pandemic. Results indicated that EMS workers in states that permitted public health emergency declarations were more likely to report to duty than those in states that did not allow the government to declare such declarations.

Stergachis, A., Garberson, L., Lien, O., et al. (2011). [Health Care Workers' Ability and Willingness to Report to Work during Public Health Emergencies](#). (Abstract only; free registration required to access full text.) *Disaster Medicine and Public Health Preparedness*. 5(4):300–308.

The authors conducted a county-wide survey of 9,211 healthcare workers selected from the Washington state licensure database and healthcare agencies to assess their ability and willingness to report to work during a pandemic influenza and a severe earthquake. They also identified barriers and strategies that would encourage employees to report to work. For the influenza pandemic scenario, 95% of survey respondents indicated that they would be able and 89% reported that they would be willing to report to their usual place of work.

Qureshi, K., Gerson, R., Sherman, M., et al. (2005). [Health Care Workers' Ability and Willingness to Report to Duty During Catastrophic Disasters](#). *Health Care Workers' Ability and Willingness to Report to Duty During Catastrophic Disasters*. (Abstract only.) *Journal of Urban Health*. 82(3): 378–388.

A survey of more than 6,400 healthcare workers (HCW) in New York City revealed that “in terms of willingness, HCWs were most willing to report during a snow storm (80%), MCI (86%), and environmental disaster (84%) and least willing during a SARS outbreak (48%), radiological event (57%), smallpox epidemic (61%), and chemical event (68%).” Barriers included childcare, elder care, and pet care, but the authors noted that many barriers were also open to interventions.

Reilly, M. and Markenson, D. (2009). [Education and Training of Hospital Workers: Who Are Essential Personnel during a Disaster?](#) (Abstract only; free registration required to request full text.) *Prehospital and Disaster Medicine*. 24(3):239–245.

The authors surveyed bioterrorism coordinators and emergency managers for 31 hospitals in a suburban area to determine which staff members were considered “essential” for disaster response, and if essential staff had been trained on their emergency response roles. Emergency physicians, nurses, and support staff were the 3 categories of staff most often cited, and some hospitals noted that these staff members had not been trained in their roles.

Rowel, R. and Barnett, D. (2013). [Disaster Preparedness: Public Health Infrastructure and Perspectives on Community Resilience](#). Johns Hopkins University, Bloomberg School of Public Health, MidAtlantic Public Health Training Center.

This presentation discusses research conducted to identify influences of perceived threat and efficacy on willingness to respond in public health emergencies. Emergency-specific patterns of response willingness are reviewed, and recommendation for improving response willingness are provided.

SteelFisher, G., Blendon, R., Brulé, A., et al. (2015). [Physician Emergency Preparedness: A National Poll of Physicians](#). (Abstract only.) *Disaster Medicine and Public Health Preparedness*. 9(6):666-80.

Researchers conducted a national poll among 1,603 practicing physicians in a range of specialties in hospital and nonhospital settings to assess their preparedness and training for emergency response (among other things). Results indicated that there were significant gaps among physicians’ preparedness for public health emergencies, and their participation in trainings and other institutional preparedness activities. The authors recommend collaboration between hospitals and public health agencies to develop useful educational tools, and incorporate online resources into training.

Trainer, J. and Barsky, L. (2011). [Reporting for Duty?: A Synthesis of Research on Role Conflict, Strain and Abandonment Among Emergency Responders During Disasters and Catastrophes](#). University of Delaware, Disaster Research Center.

The authors reviewed over 100 reports, articles, documents, and analyses related to whether or not responders would be willing to report to work during a disaster. They summarize the research, and present conclusions pertaining to role conflict, role strain and role abandonment, emphasizing worker safety, family support and safety, and communicating expectations and a culture of responsibility in the workplace.

Valdez, C. and Nichols, T. (2013). [Motivating Healthcare Workers to Work During a Crisis: A Literature Review](#). *Journal of Management Policy and Practice*. 14(4):43-51.

The authors reviewed published literature on healthcare workers' willingness to work during a disaster or public health emergency to identify related motivation factors. One key finding from their review was that healthcare workers are more likely to come to work if they understand their anticipated response role, and feel prepared to carry it out. The authors recommend frequent training of health care workers in disaster response, as well as the integration of such information into health professional educational curricula.

Veenema, T.G., Griffin, A., Gable, A.R. (2016). [Nurses as Leaders in Disaster Preparedness and Response—A Call to Action](#). (Abstract only; free registration required to request full text.) *Journal of Nursing Scholarship*. 48(2):187–200.

The authors discuss the future of nursing in disaster preparedness and response, and provide recommendations for nursing practice, education, policy, and research to enhance preparedness among nurses. Current barriers and opportunities to advance professional disaster nursing are also included.

Watson, C., Barnett, D., Thompson, C., et al. (2011). [Characterizing Public Health Emergency Perceptions and Influential Modifiers of Willingness to Respond Among Pediatric Healthcare Staff](#). *American Journal of Disaster Medicine*. 6(5):299-308.

The authors surveyed hospital-based pediatric staff in 2009 to characterize their perceptions of, and willingness to respond during, public health emergencies, with the goal of developing a methodology for an institution-specific training package to improve response willingness. The vast majority of respondents indicated a need for more training to respond to the survey scenarios (pandemic influenza and radiological dispersal device), and the authors found six “distinct perceived attitudes/beliefs that had an institution-specific high impact on response willingness: colleague response, skill mastery, safety getting to work, safety at work, ability to perform duties, and individual response efficacy.”