



TRACIE

HEALTHCARE EMERGENCY PREPAREDNESS
INFORMATION GATEWAY

Pharmacy
Topic Collection
10/2/2015



Topic Collection: Pharmacy

Prescription medications are often a critical part of effective healthcare. Shortages can arise from manufacturing or distribution issues, an increase in demand, or, in a disaster situation, a lack of available distribution locations. Medication shortages can cause inadequate treatment, and may require triage and crisis care strategies. These situations are occurring more frequently in non-disaster situations due to various production and inventory factors. Hospitals and pharmacies face numerous challenges when attempting to prepare for these shortages, particularly during emergency situations.

Community members with acute or chronic conditions may face challenges accessing their medicine before, during, and after disasters due to insurance or access issues. These barriers can exacerbate their medical conditions, which can also increase the vulnerability of a population and the number of preventable medical care and emergency room visits. The resources in the Topic Collection can help healthcare providers prepare for and respond to shortages and other pharmaceutical-related challenges that may arise during and after a disaster.

Each resource in this Topic Collection is placed into one or more of the following categories (click on the category name to be taken directly to that set of resources). Resources marked with an asterisk (*) appear in more than one category.

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[News and Other Media Articles](#)

[Plans, Tools, and Templates](#)

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Must Reads

Association of State and Territorial Health Officials. (2012). [Coping with and Mitigating the Effects of Shortages of Emergency Medications.](#)

This guidance provides background into the scope and issues surrounding medication shortages and encourages use of a conventional, contingency, and crisis framework, which may be applied in disaster and non-disaster situations. It provides practical

recommendations for hospital pharmacies and other stakeholders affected by medication shortages.

Association of State and Territorial Health Officials. (2014). [Pharmacy Legal Toolkit: Guidance and Templates for State and Territorial Health Agencies when Establishing Effective Partnerships with Pharmacies during Routine and Pandemic Influenza Seasons.](#)

This resource addresses legal issues, including the legal barriers faced by state and territorial health departments, pharmacists, and physicians that continue to hinder the expansion and inclusion of pharmacist vaccinators during routine and pandemic influenza seasons.

Bell, C., and Daniel, S. (2014). [Pharmacy Leader's Role in Hospital Emergency Preparedness Planning.](#) Hospital Pharmacy. 49(4): 398–404.

The objective of this article is to provide healthcare system pharmacy leaders with a practical approach in developing an emergency operations plan (EOP) that can be activated and help meet patient-centered needs in the event of a disaster. The authors address how pharmacy leaders should: 1) review government and community disaster responses and understand the movement of drug supply for each response; 2) create a pharmacy disaster plan; 3) list the essential medications and determine their inventory levels; and 4) establish a staff training program to enhance understanding and implementation of the EOP.

Brown, D.W., Young, S.L., Engelgau, M.M., and Mensah, G.A. (2008). [Evidence-Based Approach for Disaster Preparedness Authorities to Inform the Contents of Repositories for Prescription Medications for Chronic Disease Management and Control.](#) (Abstract only.) Prehospital and Disaster Medicine. 23(5):447-57.

The authors of this study provide the first step in an evidence-based approach to inform the planning, periodic review, and revision of repositories of chronic disease medications, which would be helpful for rapid response to public health emergencies. The article identifies the most-prescribed medication classes of drugs as a start to outpatient planning.

Capper, S., Hogue, M., and Thomas, C. (2010). [The Pharmacist's Role in Disasters.](#) (Requires free registration.) South Central Preparedness and Emergency Response Learning Center.

This training course addresses the changing role of pharmacists in the public health system, and their specific roles during a public health emergency response. The presenters also discuss experiences of the pharmacy community during the aftermath of Hurricane Katrina.

Carameli, K.A., Eisenman, D.P., Blevins, J., D'Angona, B., and Glik, D.C. (2010). [Planning for Chronic Disease Medications in Disaster: Perspectives from Patients, Physicians, Pharmacists, and Insurers](#). (Abstract only.) Disaster Medicine and Public Health Preparedness.

The authors of this study discuss the current imbalance between the high proportion of chronically ill Americans who depend on prescription medications and their lack of medication reserves for disaster preparedness. They examined barriers that Los Angeles County residents with chronic illness experience within the prescription drug procurement system to achieve recommended medication reserves.

Centers for Medicare and Medicaid Services. (2015). [Getting Medical Care and Prescription Drugs in a Disaster or Emergency Area](#).

This fact sheet is intended for Medicare patients and provides information about how to see doctors and other providers, get prescription drugs and extended day supplies, pay Medicare premiums, and receive dialysis or chemotherapy. It also describes how to replace a Medicare card, or lost or damaged durable medical equipment or supplies that Medicare paid for.

Healthcare Ready (formerly Rx Response). (2014). [Rx Open](#).

This website helps emergency management teams and the general public locate operating pharmacies in areas affected by natural disasters or public health emergencies. The tool provides maps to identify the location of open and closed pharmacies using Google Maps. The website is free to the public when activated at the request of state or federal officials.

Hogue, M.D., Hogue, H.B., Lander, R.D., et al. (2009). [The Nontraditional Role of Pharmacists After Hurricane Katrina: Process Description and Lessons Learned](#). Public Health Reports. 124(2): 217–223.

The authors of this article discuss the how Jefferson County (AL) Department of Health worked with a local school of pharmacy to develop a novel pharmacy plan to address gaps in service for evacuees after Hurricane Katrina. This plan may serve as a model for other municipalities and/or states interested in preparing a pharmacy response to future natural disasters.

Jhung, M.A., Shehab, N., Rohr-Allegrini, C., et al. (2007). [Chronic Disease and Disasters: Medication Demands of Hurricane Katrina Evacuees](#). American Journal of Preventive Medicine. 33(3):207-210.

The authors of this study assess the relationship between actual medication demands and medical relief pharmaceutical supplies in a population of 18,000 evacuees relocated to San Antonio, TX after Hurricane Katrina struck the Gulf Coast in August 2005.

National Association of County and City Health Officials. (2014). [Local Health Department and Pharmacy Partnerships for Enhancing Medication Dispensing During Emergencies: Statement of Policy.](#)

This document offers eight recommendations for local health departments on collaborating with pharmacy partners for public health emergency preparedness and response. It discusses how strong relationships between local health departments and pharmacy partners can increase the safe, fast, effective, and equitable distribution of medical countermeasures during a public health emergency, and are crucial to effective public health emergency response.

Pincock, L.L, Montello, M.J., Tarosky, M.J., et al. (2011). [Pharmacist Readiness Roles for Emergency Preparedness.](#) (Requires log in to Medscape.) American Journal of Health-System Pharmacy. 68(7):620-623.

The authors describe the various roles pharmacists could have in disaster readiness and divide them into two categories: "clinical" and "other." Clinical roles would primarily be fulfilled by ambulatory care readiness pharmacists, pharmacotherapy readiness pharmacists, and critical care readiness pharmacists. The "other" category includes specialized clinical roles and nonclinical activities carried out by weapons of mass destruction/pandemic readiness pharmacists, pharmacy readiness logisticians, and pharmacist readiness managers.

Seattle and King County Advanced Practice Center. (2010). [Developing Effective and Sustainable Medication Dispensing Strategies: The Collaborative Drug Therapy Agreement \(CDTA\).](#) (Requires free registration.)

This toolkit provides information about the process for utilizing pharmacies as medication dispensing and vaccination sites during emergencies by building effective partnerships between local health departments and community pharmacists before a disaster strikes. A user guide, tabletop exercise, decision flow chart, and information about communicating with the public are also included.

Stergachis, A., Arnold, J., and Elsenboss, C. (2013). [CDC \(Centers for Disease Control and Prevention\) Science Seminar: Partnering for Emergency Medical Countermeasure Distribution.](#) University of Washington, Northwest Center for Public Health Practice.

This one-hour “CDC Science Seminar” describes a toolkit developed to help public health agencies work with key stakeholders, such as pharmacies and healthcare facilities, to develop methods for the dispensing of medical countermeasures (e.g., antibiotics, antivirals, vaccines, and supplies) during public health emergencies.

Drug Shortages

*Association of State and Territorial Health Officials. (2012). [Coping with and Mitigating the Effects of Shortages of Emergency Medications.](#)

This guidance provides background into the scope and issues surrounding medication shortages and encourages use of a conventional, contingency, and crisis framework, which may be applied in disaster and non-disaster situations. It provides practical recommendations for hospital pharmacies and other stakeholders affected by medication shortages.

*U.S. Food and Drug Administration. (n.d.). [Managing Drug Shortages.](#) (Accessed 9/15/2015.)

This webpage provides links to a video and written transcript addressing the U.S. Food and Drug Administration (FDA) Safety and Innovation Act. The Act was passed by Congress in 2012, and provides new authorities for the FDA to manage drug shortages. In the video, FDA Drug Info Rounds pharmacists discuss the management of drug shortages and how the FDA's role has changed in recent years.

Education and Training

Capper, S., Hogue, M., and Thomas, C. (2010). [The Pharmacist's Role in Disasters.](#) (Requires free registration.) South Central Preparedness and Emergency Response Learning Center.

This training course addresses the changing role of pharmacists in the public health system, and their specific roles during a public health emergency response. The presenters also discuss experiences of the pharmacy community during the aftermath of Hurricane Katrina.

National Association of County and City Health Officials. (2014). [Local Pharmacies May Save the Day in the Next Pandemic Event.](#) (Requires free registration.)

This podcast describes the benefits of incorporating pharmacists into public health emergency response, given their diverse skills and capabilities, and also addresses ways to overcome barriers – including legal barriers – to partnering with pharmacies.

Stergachis, A., Arnold, J., and Elsenboss, C. (2013). [CDC \(Centers for Disease Control and Prevention\) Science Seminar: Partnering for Emergency Medical Countermeasure Distribution.](#) University of Washington, Northwest Center for Public Health Practice.

This one-hour “CDC Science Seminar” describes a toolkit developed to help public health agencies work with key stakeholders, such as pharmacies and healthcare facilities, to develop methods for the dispensing of medical countermeasures (e.g., antibiotics, antivirals, vaccines, and supplies) during public health emergencies.

*Stergachis, A., Arnold, J., and Oberle, M. (2013). [Creating Strong Partnerships: Local Health Departments and Pharmacy Work Together in Emergencies.](#) (Requires free registration.) University of Washington, Northwest Center for Public Health Practice.

The speakers in this webinar discuss the importance of and tools for establishing partnerships between local health departments and healthcare organizations, such as pharmacies and hospitals, to dispense drugs, vaccines, and other medical countermeasures during public health emergencies. They address the roles of public health and pharmacy personnel with regards to emergency response, and share a novel mechanism for formalizing these relationships.

University of Washington, Northwest Center for Public Health Practice. (2007). [Emergency Distribution of Pharmaceuticals.](#) (Requires free registration.)

This one-hour online course provides instruction on what is involved in the process of mass dispensing of medications, vaccines, or other medical supplies. After completing this course, participants should be able to: describe the role of medical countermeasures in response to a public health emergency; list and describe the pharmaceutical resources available for public health crises (and how they could be used locally); and describe the purpose, flow, and roles of public health staff and volunteers in a mass dispensing clinic or point of distribution.

*University of Washington, Northwest Center for Public Health Practice. (2012). [Collaborative Drug Therapy Agreement for Influenza Antivirals in Washington State.](#)

This toolkit can be used by local health officers and individual authorized prescribers to allow pharmacists to prescribe antiviral medications in case of an influenza outbreak. Toolkit documents include training materials for pharmacists and a Collaborative Drug Therapy Agreement Template.

*University of Washington, Northwest Center for Public Health Practice. (2013). [Partnering for Medical Countermeasure Distribution in Emergencies.](#)

This toolkit helps users work with key stakeholders to develop methods for the dispensing of medical countermeasures (e.g., antibiotics, antivirals, vaccines, and supplies) during public health emergencies. It includes multiple resources such as documents, videos, and slide sets that can be modified to meet individual needs during a variety of disasters.

Woods, J. (2013). [Emergency Preparedness: The Role of the Pharmacist.](#) (Requires free registration.) South Central Preparedness and Emergency Response Learning Center.

This course familiarizes pharmacists and pharmacy technicians with the basic components of public health emergency preparedness and the role pharmacists play in disaster events. It addresses basic policies and directives related to public health emergencies, and reviews the federal and state resources available, with a specific look at the organizations involved in responding to a public health event in Mississippi.

Electronic and Novel Prescribing, and Pharmacy Information Sharing

*McCloskey, P. (2007). [Pharmacies Launch Emergency Rx History Service](#). Government Health IT.

This article describes Emergency Rx History, which was a nationwide data service that gave individual physicians and healthcare organizations electronic access to the prescription drug histories of people suddenly dislocated by natural disasters or other emergencies. It allowed healthcare providers to link via an electronic records system or web portal to the prescription drug records of people who use the nation's leading pharmacies, such as Wal-Mart, Walgreen's, and CVS. (*Note: The system described by the author is no longer available. However, the resource is included in this Topic Collection as the elements and framework may prove to be valuable for future efforts.*)

*Spaulding, A., Radi, D., Macleod, H., et al. (2012). [Design and Implementation of a Statewide Influenza Nurse Triage Line in Response to Pandemic H1N1 Influenza](#). Public Health Reports. 127(5): 532–540.

The Minnesota Department of Public Health developed several tools to support healthcare providers during the 2009 H1N1 influenza pandemic, including the MN FluLine – a nurse triage and information line. This article describes the use of this telephone information and prescribing line for anti-viral medication during the pandemic. Use of telehealth resources and novel prescribing mechanisms may provide critical support to overwhelmed or unavailable traditional infrastructure.

Weisfeld, V.D. (2006). [Lessons from KatrinaHealth](#). Markle Foundation.

This report describes how KatrinaHealth, an online service developed to help Hurricane Katrina survivors, worked with their healthcare providers to access their own electronic prescription medication records. It provides background information on the system, lists challenges faced by KatrinaHealth, and provides recommendations in anticipation of future disasters.

Evaluation and Studies: General

Bell, C., and Daniel, S. (2014). [Pharmacy Leader's Role in Hospital Emergency Preparedness Planning](#). Hospital Pharmacy. 49(4): 398–404.

The objective of this article is to provide healthcare system pharmacy leaders with a practical approach in developing an emergency operations plan (EOP) that can be activated and help meet patient-centered needs in the event of a disaster. The authors address how pharmacy leaders should: 1) review government and community disaster responses and understand the movement of drug supply for each response; 2) create a pharmacy disaster plan; 3) list the essential medications and determine their inventory

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The authors of this study discuss the current imbalance between the high proportion of chronically ill Americans who depend on prescription medications and their lack of medication reserves for disaster preparedness. They examined barriers that Los Angeles County residents with chronic illness experience within the prescription drug procurement system to achieve recommended medication reserves.

Fletcher, M., Puerini, R., Caum, J., and Alles, S.J. (2014). [Efficiency and Effectiveness of Using Nonmedical Staff during an Urgent Mass Prophylaxis Response.](#) (Abstract only.) *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science*. 12(3):151-9.

The Philadelphia Department of Public Health tested the readiness of a nonmedical closed point-of-dispensing (POD) site, using a simulated anthrax scenario, to see how rapidly and accurately it could provide medication to its internal population. The authors concluded that nonmedical closed PODs are a valuable strategy during a public health emergency that requires large segments of a population to receive medication rapidly; they also provided related recommendations.

Hogue, M.D., Hogue, H.B., Lander, R.D., et al. (2009). [The Nontraditional Role of Pharmacists After Hurricane Katrina: Process Description and Lessons Learned.](#) *Public Health Reports*. 124(2): 217–223.

The authors of this article discuss the how Jefferson County (AL) Department of Health worked with a local school of pharmacy to develop a novel pharmacy plan to address gaps in service for evacuees after Hurricane Katrina. This plan may serve as a model for other municipalities and/or states interested in preparing a pharmacy response to future natural disasters.

Howe, E., Victor, D., and Price, E.G. (2008). [Chief Complaints, Diagnoses, and Medications Prescribed Seven Weeks Post-Katrina In New Orleans](#). (Abstract only.) *Prehospital and Disaster Medicine*. 23(1):41–47.

The authors examined associations between patient characteristics, chief complaints, final diagnoses, and medications prescribed at a post-Katrina clinic to better inform strategic planning for post-disaster healthcare delivery (e.g., charitable donations of medications and medical supplies). Results of the study indicated donations of certain classes of medications were more useful than others.

Jhung, M.A., Shehab, N., Rohr-Allegrini, C., et al. (2007). [Chronic Disease and Disasters: Medication Demands of Hurricane Katrina Evacuees](#). *American Journal of Preventive Medicine*. 33(3):207-210.

The authors of this study assess the relationship between actual medication demands and medical relief pharmaceutical supplies in a population of 18,000 evacuees relocated to San Antonio, TX after Hurricane Katrina struck the Gulf Coast in August 2005.

Klepser, M.E., Adams, A.J., and Klepser, D.G. (2015). [Antimicrobial Stewardship in Outpatient Settings: Leveraging Innovative Physician-Pharmacist Collaborations to Reduce Antibiotic Resistance](#). *Health Security*. 13(3):166-73.

The authors discuss pilot projects launched in three states, which pair physicians and community pharmacists under a Collaborative Practice Agreement (CPA) to treat patients with influenza and group A Streptococcus pharyngitis. CPAs can be used in daily practice and can potentially provide surge capacity for infectious disease outbreaks.

Rosenthal, M.S., Klein, K., Cowling, K., et al. (2005). [Disaster Modeling: Medication Resources Required for Disaster Team Response](#). *Prehospital and Disaster Medicine*. 20(5):309–315.

The objective of this study was to develop a model that can help determine supply requirements for the National Disaster Medical System, Disaster Medical Assistance Teams, or other responding disaster medical teams in a civilian environment. Results proved that the model predicted the proportion of patient complaints and, therefore, the medicine and supplies needed for the management of these patients.

Rottman, S.J. (2008). [Pharmaceuticals and Chronic Diseases in Disaster Preparedness](#). (Abstract only.) *Prehospital and Disaster Medicine*.

The authors conducted a study to identify the kinds of medications that might be needed during and after a disaster. They analyzed national ambulatory hospital data on the prescription medication needs of patients who visited emergency departments in non-disaster circumstances. Their findings can help pharmacies plan and stockpile medication.

*Rutkow, L., Vernick, J.S., Wissow, L.S., et al. (2012). [Prescribing Authority during Emergencies Challenges for Mental Health Care Providers](#). *The Journal of Legal Medicine*. 32(3): 249–260.

This article addresses the issues associated with the prescribing abilities of mental health providers after a disaster and the implications for acute and chronic management of behavioral health issues.

See, S. (2013). [Rediscovering Community—Reflections after Hurricane Sandy](#). *Annals of Family Medicine*. 11(6): 571–573.

The author of this essay describes how she, as a faculty member in a family medicine residency, helped with relief efforts in Hoboken, NJ after Hurricane Sandy. She recounts her experiences with managing the medication needs of community residents in the hurricane's aftermath.

Seib, K., Gleason, C., Richards, J.L., et al. (2013). [Partners in Immunization: 2010 Survey Examining Differences among H1N1 Vaccine Providers in Washington State](#). *Public Health Reports*. 128(3):198-211.

The authors of this study surveyed healthcare providers (e.g., traditional vaccine providers, pharmacists, and healthcare providers in correctional facilities) in Washington State to examine: differences in experiences administering H1N1 vaccine during a public health emergency, participation in preparedness activities, and communication with public health agencies. Pharmacists reported higher patient volumes and higher patient-to-practitioner ratios, and said that they rely on federal sources for public health information (versus local health departments). Pharmacists were also less likely to have participated in training, actual emergency response, or surge capacity initiatives.

Sylvester, K., Rocchio, M., Belisle, C., et al. (2014). [Pharmacy Response to the Boston Marathon Bombings at a Tertiary Academic Medical Center](#). (Abstract only.) *The Annals of Pharmacotherapy*. 19;48(8):1082-1085.

The authors (from a tertiary academic medical center) discuss the pharmaceutical response to the Boston Marathon bombing, which focused on staffing, supplies, and communication.

Tomio, J., Sato, H., and Mizumura, H. (2010). [Interruption of Medication among Outpatients with Chronic Conditions after a Flood](#). (Abstract only.) *Prehospital and Disaster Medicine*. 25(1):42-50.

In July 2006, a flash flood affected more than 3,000 households in southwest Japan. The authors conducted a study to describe the prevalence of the interruption of medication among the outpatients in the flood-affected area and to determine associated risk and preventive factors. They found that among the evacuated, the elderly and those receiving

long-term care services were at high risk for interruption of medication. They also discovered that “preparing to go out with medication” had a preventive effect.

Evaluation and Studies: Pandemic

Fain, B.A., Koonin, L.M., Stoto, M.A., et al. (2014). [Facilitating Access to Antiviral Medications and Information during an Influenza Pandemic: Engaging With the Public on Possible New Strategies](#). *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science*. 12(1):8-19.

The Institute of Medicine, with technical assistance from the Centers for Disease Control and Prevention (CDC), convened public engagement events in three demographically and geographically diverse communities to assess public perception of the alternative strategies for prescribing, distributing, and dispensing antivirals and disseminating information about influenza and its treatment. Participants at all three locations expressed high levels of acceptance for each of the proposed strategies. Key findings from these sessions are discussed further in this article.

National Association of County and City Health Officials. (2010). [Partners in Preparedness - Innovative Practices in Public-Private Partnerships for Pandemic Influenza Preparedness: Case Study #1: Local Health Departments Partner with Community Pharmacies for H1N1 and Seasonal Influenza Prevention, Vaccination, and Response](#).

This case study describes the collaboration between the Palm Beach County (FL) Health Department and the medical and hospital community, responding partners, and community pharmacies that facilitated a mass influenza vaccination campaign during the H1N1 influenza outbreak in 2009. The partnership enabled information and vaccines to flow from the health department to hundreds of area supermarkets and community pharmacies and their in-store health clinics, ensuring the public had access to credible and timely influenza information.

O'Hagan, J.J., Wong, K.K., Campbell, A.P., et al. (2015). [Estimating the United States Demand for Influenza Antivirals and the Effect on Severe Influenza Disease during a Potential Pandemic](#). (Abstract only.) *Clinical Infectious Diseases*. 60 (Suppl 1):S30-41.

Following the detection of a novel influenza strain A (H7N9), the authors modeled the use of antiviral treatment in the U.S. to mitigate severe disease across a range of hypothetical pandemic scenarios. The model included estimates of attack rate, healthcare-seeking behavior, prescription rates, and other related data. Based on these inputs, the total antiviral regimens estimated to be available in the U.S. (as of April 2013) were deemed sufficient to meet treatment needs for the scenarios considered.

Rubin, S.E., Schulman, R.M., Roszak, A.R., et al. (2014). [Leveraging Partnerships among Community Pharmacists, Pharmacies, and Health Departments to Improve Pandemic Influenza Response](#). (Abstract only.) *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science*. 12(2):76-84.

This article provides recommendations on how local health departments can most effectively develop and maintain relationships with community pharmacies. It also addresses how pharmacists can help provide a more coordinated and resourceful public health response to emergencies, specifically to pandemic influenza outbreaks.

*Spaulding, A.B., Radi, D., Macleod, H., et al. (2012). [Design and Implementation of a Statewide Influenza Nurse Triage Line in Response to Pandemic H1N1 Influenza](#). Public Health Reports. 127(5): 532–540.

The Minnesota Department of Public Health developed several tools to support healthcare providers during the 2009 H1N1 influenza pandemic, including the MN FluLine – a nurse triage and information line. This article describes the use of this telephone information and prescribing line for anti-viral medication during the pandemic. Use of telehealth resources and novel prescribing mechanisms may provide critical support to overwhelmed or unavailable traditional infrastructure.

Guidelines and Protocols: Ebola

Healthcare Ready (formerly Rx Response). (2014). [Pharmacy Owner Guidelines for Ebola: How to Prepare your Business for Ebola and Other Infectious Diseases](#).

This two-page checklist can help pharmacy owners prepare their businesses for Ebola and other infectious diseases. It includes recommendations, procedure reviews, and action steps.

Healthcare Ready (formerly Rx Response). (2014). [Pharmacist Guidelines for Ebola: What to do if a Sick Patient comes to the Pharmacy](#).

This two-page checklist can help pharmacists work with potential Ebola patients. The checklist describes how to evaluate the patient, and provides steps to take if Ebola criteria are met.

Healthcare Ready (formerly Rx Response). (2014). [Team Member Guidelines for Ebola: How to Keep Your Risk of Exposure to Ebola and Other Infectious Diseases Low](#).

This one-page checklist provides guidelines for pharmacy team members on maintaining a low risk of exposure to Ebola and other infectious diseases.

Guidelines and Protocols: General

Centers for Medicare and Medicaid Services. (2015). [Getting Medical Care and Prescription Drugs in a Disaster or Emergency Area](#).

This fact sheet is intended for Medicare patients and provides information about how to see doctors and other providers, get prescription drugs and extended day supplies, pay

Medicare premiums, and receive dialysis or chemotherapy. It also describes how to replace a Medicare card, or lost or damaged durable medical equipment or supplies that Medicare paid for.

*Healthcare Ready (formerly Rx Response). (2015). [Stability of Refrigerated Drugs](#).

This chart details the stability of the most commonly dispensed refrigerated drug products (based on the U.S. top 200 prescription medications in 2014), and over-the-counter insulin products. The chart includes proper storage data, allowable temperature excursions and the length of time such excursions are permitted, and contact information for product manufacturers.

*National Association of Boards of Pharmacy. (2006). [Emergency and Disaster Preparedness and Response Planning: A Guide for Boards of Pharmacy](#).

This guidance document was developed for the Boards of Pharmacy. It provides an overview of federal, state, and local governments in preparedness and response management to enable Boards to develop robust emergency and disaster plans that compliment local efforts. It also includes several appendices, which contain guidance information and templates for issues such as emergency planning, maintaining operations, and communications.

National Association of County and City Health Officials. (2013). [Building and Sustaining Strong Partnerships between Pharmacies and Health Departments at State and Local Levels](#).

This report encourages building public-private partnerships between health department and pharmacies to help distribute and dispense critical medications or vaccines during a public health emergency. It offers actionable steps for pharmacists and public health professionals to begin laying the foundation of long-lasting, mutually beneficial partnerships. It also provides information about the benefits of partnership, partnerships best practices, and a checklist for building partnerships.

National Association of County and City Health Officials. (2014). [Local Health Department and Pharmacy Partnerships for Enhancing Medication Dispensing During Emergencies: Statement of Policy](#).

This document offers eight recommendations for local health departments on collaborating with pharmacy partners for public health emergency preparedness and response. It discusses how strong relationships between local health departments and pharmacy partners can increase the safe, fast, effective, and equitable distribution of medical countermeasures during a public health emergency, and are crucial to effective public health emergency response.

*Pharmacist's Letter. (n.d.). [Dosage Comparison Charts](#). (Subscription required. Accessed 8/25/2015.) Therapeutic Research Center.

This dosage comparison chart provides information on how to switch medications.

Pincock, L.L, Montello, M.J., Tarosky, M.J., et al. (2011). [Pharmacist Readiness Roles for Emergency Preparedness](#). (Requires log in to Medscape.) American Journal of Health-System Pharmacy. 68(7):620-623.

The authors describe the various roles pharmacists could have in disaster readiness and divide them into two categories: "clinical" and "other." Clinical roles would primarily be fulfilled by ambulatory care readiness pharmacists, pharmacotherapy readiness pharmacists, and critical care readiness pharmacists. The "other" category includes specialized clinical roles and nonclinical activities carried out by weapons of mass destruction/pandemic readiness pharmacists, pharmacy readiness logisticians, and pharmacist readiness managers.

U.S. Food and Drug Administration. (2014). [Disposal of Contaminated Devices](#).

This resource provides tips on checking medical devices for contamination and disposing of contaminated products in order to help pharmacies return to business as soon as possible following flooding or loss of power.

Hospital Pharmacy Preparedness

*Association of State and Territorial Health Officials. (2012). [Coping with and Mitigating the Effects of Shortages of Emergency Medications](#).

This guidance provides background into the scope and issues surrounding medication shortages and encourages use of a conventional, contingency, and crisis framework, which may be applied in disaster and non-disaster situations. It provides practical recommendations for hospital pharmacies and other stakeholders affected by medication shortages.

*Stergachis, A., Arnold, J., and Oberle, M. (2013). [Creating Strong Partnerships: Local Health Departments and Pharmacy Work Together in Emergencies](#). (Requires free registration.) University of Washington, Northwest Center for Public Health Practice.

The speakers in this webinar discuss the importance of and tools for establishing partnerships between local health departments and healthcare organizations, such as pharmacies and hospitals, to dispense drugs, vaccines, and other medical countermeasures during public health emergencies. They address the roles of public health and pharmacy personnel with regards to emergency response, and share a novel mechanism for formalizing these relationships.

*University of Washington, Northwest Center for Public Health Practice. (2013). [Partnering for Medical Countermeasure Distribution in Emergencies.](#)

This toolkit helps users work with key stakeholders to develop methods for the dispensing of medical countermeasures (e.g., antibiotics, antivirals, vaccines, and supplies) during public health emergencies. It includes multiple resources such as documents, videos, and slide sets that can be modified to meet individual needs during a variety of disasters.

Legal/ Regulatory Resources (*Note: For a list of legal and regulatory issues related to healthcare, refer to the [Regulatory and Legal Issues for Healthcare Systems in Disasters Topic Collection.](#)*)

Association of State and Territorial Health Officials. (n.d.). [Scope of Practice Issues in Public Health Emergencies.](#) (Accessed 9/16/2015.)

This fact sheet discusses the mechanisms used by states to modify healthcare worker scope of practice during emergencies and analyzes the types of activities and control measures associated with modified scope of practice. It provides an example of how prescription authority was expanded to include pharmacists and EMS providers during the H1N1 epidemic.

Healthcare Ready (formerly Rx Response). (2014). [A Review of State Emergency Prescription Refill Protocols.](#)

This blog notes that in order for pharmacists to adequately prepare for potential disasters, it is imperative for all states (and the District of Columbia) to clearly define emergency prescription refill protocols and allow pharmacists to dispense an emergency 30-day supply of medications, specifically during times of a public health emergency, and to make this information readily available and accessible to pharmacists and the public. Maps depicting the emergency prescription refill laws by state, and the number of days' supply allowed by emergency prescription laws is also provided.

*Rutkow, L., Vernick, J.S., Wissow, L.S., et al. (2012). [Prescribing Authority during Emergencies Challenges for Mental Health Care Providers.](#) *The Journal of Legal Medicine.* 32(3): 249–260.

This article addresses the issues associated with the prescribing abilities of mental health providers after a disaster and the implications for acute and chronic management of behavioral health issues.

Task Force on Emergency Preparedness, Response, and the US Drug Distribution System. (n.d.). [Report of the Task Force on Emergency Preparedness, Response, and the US Drug Distribution System.](#) (Accessed 9/16/2015.)

This report includes a Model State Pharmacy Act as well as other recommended State Boards of Pharmacy actions and background information.

The Florida Senate. (2012). [2012 Florida Statutes: 465.0275 – Emergency Prescription Refill.](#)

This Florida statute states that “In the event a pharmacist receives a request for a prescription refill and the pharmacist is unable to readily obtain refill authorization from the prescriber, the pharmacist may dispense a one-time emergency refill of up to a 72-hour supply of the prescribed medication.” However, in areas or counties included in an emergency order or proclamation of a state of emergency declared by the Governor, the pharmacist may dispense up to a 30-day supply given certain circumstances as indicated in this statute.

*U.S. Food and Drug Administration. (n.d.). [Managing Drug Shortages.](#) (Accessed 9/15/2015.)

This webpage provides links to a video and written transcript addressing the U.S. Food and Drug Administration (FDA) Safety and Innovation Act. The Act was passed by Congress in 2012, and provides new authorities for the FDA to manage drug shortages. In the video, FDA Drug Info Rounds pharmacists discuss the management of drug shortages and how the FDA’s role has changed in recent years.

News and Other Media Articles

Express Scripts. (2015). [Emergency Preparedness for Prescription Medications.](#)

This post provides quick tips and recommendations on how individuals can manage preparations for chronic medications when planning for severe weather emergencies.

Hayes, H. (2008). [CMS Activates Emergency System to Fill Evacuees Prescriptions.](#) Government Health IT.

The author of this article discusses how the Centers for Medicare and Medicaid Services (CMS) activated the Emergency Prescription Assistance Program (EPAP) after Hurricanes Gustav and Ike. EPAP provides financial assistance to uninsured disaster victims to cover one refill of existing prescriptions. It may also be used to replace equipment (e.g., walkers and wheelchairs) left behind or lost as people evacuated.

Healthcare Ready (formerly Rx Response). (n.d.). [Stability of Refrigerated Drugs: When Proper Storage is Not Possible during Emergencies and Disasters.](#) (Accessed on 8/25/2015.)

This post addresses the importance of planning and preparing for lengthy or widespread power outages during disasters, which may impact supplies of life-sustaining medications requiring refrigeration. It provides a link to a chart detailing the stability of common refrigerated drug products, which can also be accessed the Plan, Tools, and Templates section of this Topic Collection.

Khrais, R. (2012). [For Some Sandy Survivors, Medicine's the Big Worry](#). NPR.

The author of this article (and webcast) discusses the medical issues that some Superstorm Sandy survivors experienced after the storm. The storm caused many pharmacies to close, kept home healthcare aides from getting to their patients, and flooded many of the clinics people rely on. The article also describes one doctor's mission to get medicine to people who did not have access to their doctors or could not get out of their homes.

*McCloskey, P. (2007). [Pharmacies Launch Emergency Rx History Service](#). Government Health IT.

This article describes Emergency Rx History, which was a nationwide data service that gave individual physicians and healthcare organizations electronic access to the prescription drug histories of people suddenly dislocated by natural disasters or other emergencies. It allowed healthcare providers to link via an electronic records system or web portal to the prescription drug records of people who use the nation's leading pharmacies, such as Wal-Mart, Walgreen's, and CVS. (*Note: The system described by the author is no longer available. However, the resource is included in this Topic Collection as the elements and framework may prove to be valuable for future efforts.*)

Plans, Tools, and Templates

Association of State and Territorial Health Officials. (2014). [Pharmacy Legal Toolkit: Guidance and Templates for State and Territorial Health Agencies when Establishing Effective Partnerships with Pharmacies during Routine and Pandemic Influenza Seasons](#).

This resource addresses legal issues, including the legal barriers faced by state and territorial health departments, pharmacists, and physicians that continue to hinder the expansion and inclusion of pharmacist vaccinators during routine and pandemic influenza seasons.

Healthcare Ready (formerly Rx Response). (2013). [Rx On the Run](#).

This online tool can be used by the general public and enables users to print a personalized medication wallet card that documents prescriptions, dosages, and other important medical information. These cards can help people access their medical records or refill prescriptions after a disaster or public health emergency.

Healthcare Ready (formerly Rx Response). (2014). [Rx Open](#).

This website helps emergency management teams and the general public locate operating pharmacies in areas affected by natural disasters or public health emergencies. The tool provides maps to identify the location of open and closed pharmacies using Google Maps. The website is free to the public when activated at the request of state or federal officials.

*Healthcare Ready (formerly Rx Response). (2015). [Stability of Refrigerated Drugs.](#)

This chart details the stability of the most commonly dispensed refrigerated drug products (based on the U.S. top 200 prescription medications in 2014), and over-the-counter insulin products. The chart includes proper storage data, allowable temperature excursions and the length of time such excursions are permitted, and contact information for product manufacturers.

*National Association of Boards of Pharmacy. (2006). [Emergency and Disaster Preparedness and Response Planning: A Guide for Boards of Pharmacy.](#)

This guidance document was developed for the Boards of Pharmacy. It provides an overview of federal, state, and local governments in preparedness and response management to enable Boards to develop robust emergency and disaster plans that compliment local efforts. It also includes several appendices, which contain guidance information and templates for issues such as emergency planning, maintaining operations, and communications.

*Pharmacist's Letter. (n.d.). [Dosage Comparison Charts.](#) (Subscription required. Accessed 8/25/2015.) Therapeutic Research Center.

This dosage comparison chart provides information on how to switch medications.

Seattle and King County Advanced Practice Center. (2010). [Developing Effective and Sustainable Medication Dispensing Strategies: The Collaborative Drug Therapy Agreement \(CDTA\).](#) (Requires free registration.)

This toolkit provides information about the process for utilizing pharmacies as medication dispensing and vaccination sites during emergencies by building effective partnerships between local health departments and community pharmacists before a disaster strikes. A user guide, tabletop exercise, decision flow chart, and information about communicating with the public are also included.

*University of Washington, Northwest Center for Public Health Practice. (2012). [Collaborative Drug Therapy Agreement for Influenza Antivirals in Washington State.](#)

This toolkit can be used by local health officers and individual authorized prescribers to allow pharmacists to prescribe antiviral medications in case of an influenza outbreak. Toolkit documents include training materials for pharmacists and a Collaborative Drug Therapy Agreement Template.

*University of Washington, Northwest Center for Public Health Practice. (2013). [Partnering for Medical Countermeasure Distribution in Emergencies.](#)

This toolkit helps users work with key stakeholders to develop methods for the dispensing of medical countermeasures (e.g., antibiotics, antivirals, vaccines, and

supplies) during public health emergencies. It includes multiple resources such as documents, videos, and slide sets that can be modified to meet individual needs during a variety of disasters.

Yale New Haven Health System, Center for Emergency Preparedness and Disaster Response. (n.d.). [Pre-Storm Checklist](#). (Accessed 8/19/2015.)

This checklist provides steps (broken into time periods) healthcare providers can take prior to a storm's arrival. It is categorized into a number of departments: administrative, clinical laboratory, clinical services, facilities, food and nutrition, IT/MIS, materials management, pharmacy, respiratory care, and safety and security.

Agencies and Organizations

Note: The agencies and organizations listed in this section have a page, program, or specific research dedicated to this topic area.

Centers for Medicare and Medicaid Services. [E-Prescribing](#).

Centers for Medicare and Medicaid Services. [Getting Medical Care & Prescription Drugs in a Disaster or Emergency Area](#).

Healthcare Ready (formerly Rx Response). [Homepage](#).

The New York City Department of Health and Mental Hygiene. [Healthcare Providers: Pharmacy](#).

U.S. Food and Drug Administration. [Drugs](#).

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