Requestor: [Redacted]
Requestor Phone:
Requestor Email:
Request Receipt Date (by ASPR TRACIE): 29 December 2017
Response Date: 29 December 2017
Type of TA Request: Standard

Request:
[Redacted] asked ASPR TRACIE for resources on best practices and lessons learned related to the use of temporary hospital facilities after disasters.

Response:
The ASPR TRACIE team searched through existing ASPR TRACIE resources and online for materials related to temporary hospital facilities. Resources gathered are listed below. Section I includes a legal authorities document from CMS. Section II provides best practices and lessons learned resources. Finally, Section III includes other related materials (e.g., recovery guidance and repopulation assessments).

Additionally, we are actively reaching out to subject matter experts that may have additional information. The [Redacted] will reach out to the point of contact for [Redacted] regarding the request submitted to their primary contractor for the blueprints of the temporary facility.

The following was provided by the Region VII HPP Field Project Officer:

- **Johnson Portables** was the company that set up the temporary hospital at Joplin. The blueprint for St John’s Regional Medical Center: [https://johnsonportables.com/our-work/joplin-blueprint](https://johnsonportables.com/our-work/joplin-blueprint).
- There were several stages of temporary facilities before Mercy Hospital was rebuilt and I think recognizing that and the phases they went through is very important – it wasn’t a quick fix but a long road to recovery. A week after the tornadoes, the hospital staff moved from the civic center to a tented field hospital. That August, the components of a modular facility arrived, providing room for 60 beds. Then (about 9 months out) the 224 sections were put together for the component built facility – before the Mercy rebuild began in 2015. This last was donated in 2016 (once the final re-construction of Mercy was complete) to KU School of Medicine.
I. Legal Authorities


This document addresses the CMS requirements regarding the temporary hospitals that have been established in the U.S. Virgin Islands and Puerto Rico due to hospital closures impacted by Hurricanes Irma and Maria. It also provides information on payment and billing issues.

II. Best Practices and Lessons Learned


This article discusses how St. John’s Regional Medical Center joined its parent company Mercy’s electronic medical record system just three weeks prior to the tornado to back up the paper records. However, the tornado scattered the paper records for miles, with some being found up to 75 miles away. Privacy waivers are also discussed in the article, which were invoked after Hurricane Katrina.


This document compiles stories of those that were part of the response and recovery efforts after the Joplin tornado in 2011. The firsthand accounts include stories of how schools reopened, working together to open surge medical clinic and volunteer coordination points, coordination of thousands of volunteers, and others from first responders and residents. NOTE: Lessons learned from healthcare facilities are addressed in pages 55-73.


This article addresses the mobile hospital that was set up in Louisville, MO after a tornado damaged the local hospital. It will remain operational until 2018 when construction of a new hospital is planned to be complete. It provides lessons learned from nurses and other staff managing the temporary hospital (e.g., showers should be wheelchair accessible, patients need more private rooms, and doctors require improved access to electronic medical records).


This document provides information for healthcare planners at the community, state, and federal level about what surge hospitals are, and the kind of planning they require. It discusses types of surge hospitals, how to plan for and establish, issues to consider such as legal and sufficiency of care, and how to ensure long-term surge hospitals can offer
safe care. It also offers real-life examples of how surge hospitals were established on the Gulf Coast after Hurricanes Katrina and Rita in 2005.


The authors review the use of temporary hospitals to augment the healthcare system as a solution for dealing with a surge of patients for various disasters. They highlight experiences from North Carolina over the past 150 years, including the 9/11 attacks.


This slide deck provides an overview of the impact of the tornado on Joplin, with a focus on the destruction of the hospital. Slides outline evacuation, triage, emergency care, tracking, EMS operations, and challenges. It also includes the Missouri Hospital Association’s response roles, public health response, ongoing challenges, and lessons learned.

III. Other Resources

The following ASPR TRACIE Topic Collections may also be useful: Alternate Care Sites and Recovery Planning.


This article addresses the temporary hospital that was set up in Florida after Hurricane Irma caused local hospitals to shut down. Although it does not provide lessons learned or best practices, the article does address the services that were provided in the temporary hospital.


This page provides information to assist healthcare facilities with the tasks involved during clean-up and reopening healthcare facilities after a natural disaster. It includes checklists for mold remediation and structural recovery, water and electrical utilities, ventilation system, structural building materials, medical equipment, certification for occupancy, and post reoccupation surveillance.

This document helps hospitals prepare to manage recovery from all types of events. Recovery planning benchmarks are included starting on page 34 to help hospitals independently assess their recovery capabilities. The benchmarks are drawn from a variety of sources including the ASPR Healthcare Preparedness and Response Capabilities, Joint Commission Hospital Accreditation Standards, the NDRF, and lessons learned from both recovery-focused exercises and real-world disasters. The document also includes questions to consider during recovery planning starting on page 38.


This guidance document provides tools and recommendations to help planners determine if and how to utilize an abandoned or shuttered hospital for surge capacity needs during a mass casualty or other similar event. It provides staffing requirements, safety checklists, supplies and equipment needs, and regulatory/legal issues to consider.

Illinois Medical Emergency Response Team. (n.d.). Alternate Care Site Planning Temporary Medical Treatment Station Planning.

This site provides tools, planning considerations, and supply and equipment information for TMTS (temporary medical treatment stations). Though these are not specific to temporary hospitals, it may provide some useful information regarding sample pharmaceutical caches, medical supplies and equipment, site selection, etc.


Four years after the tornado hit St. John Regional Medical Center, it has rebuilt and reopened as Mercy Hospital Joplin. FEMA provided $33 million of the $434 million needed to rebuild the new hospital. The CFO noted a 20% drop in market share during the transition/rebuilding. Also, the South Nassau Communities Hospital took two years to finalize their insurance claim, but only 6 months to rebuild ($4-$5 million). The hospital lost approx. $4 million in operations in 2012, which was the only year in its 8 year existence it lost money.


This report shows the findings of the potential environmental impacts of the temporary medical center built as a result of the tornado that damaged St. John’s Regional Medical
This report may provide information helpful for other locations building temporary medical facilities.


This guide is designed to help organize the initial assessment of a hospital after an evacuation/closure due to an emergency event. The guide is divided into 11 sections, each with its own team and assessment assignment: Administration, Facilities, Security and Fire Safety, Information Technology and Communications, Biomedical Engineering, Medical, Ancillary Services, Materials Management, Building and Grounds Maintenance/Environmental Services, and Support Services.