

Considerations for the Use of Temporary Surge Sites for All-Hazards Incidents

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A wide range of incidents may result in a temporary surge of patients seeking healthcare services in a community. These include large-scale mass casualty incidents, seasonal illness spikes and other disease outbreaks, natural disasters resulting in damaged healthcare infrastructure or displaced patient populations, and large planned events (e.g., sporting events, political conventions, music festivals, and other mass gatherings).

Some of these incidents occur with little or no warning while other events allow for extensive advance planning. While some healthcare surge incidents resolve within hours of their onset, others require months of management. Healthcare facility planners should consider what types of incidents may cause a patient surge in their communities and what factors would initiate establishment of temporary sites or systems to manage demand.

This [ASPR TRACIE](#) tip sheet describes the major considerations healthcare facility emergency planners should account for when developing patient surge management solutions. For the purposes of this document, the term “hospital” is used to describe acute care hospitals with emergency departments and critical access hospitals with emergency management capability. The term “temporary surge site” is used to describe a range of solutions, including the use of non-patient care areas (e.g., waiting rooms), tents, and mobile facilities to triage and/or treat patients. Please contact your state licensing agency and Centers for Medicare & Medicaid Services (CMS) Regional Office for

Access our [COVID-19 resources page](#) for related resources, including:

- [ACS Funding Summary: Establishment and Operationalization](#)
- [Alternate Care Sites \(ACS\) Sources of Additional Staff](#)
- [Alternate Care Site Resources](#)
- [Alternative Care Sites-The Federal Experience in New York City](#)
- [Baltimore Convention Center Field Hospital: One State's Experience during COVID-19](#)
- [COVID-19 Alternate Care Site Resources](#)
- [COVID-19 Alternate Care Strategies \(Webinar\)](#)
- [Funding Sources for the Establishment and Operationalization of Alternate Care Sites](#)
- [Telehealth in Alternate Care Sites: Ensuring Patient Care and Staff Safety in Massachusetts](#)
- [Use of Telemedicine in Alternate Care Sites \(Webinar\)](#)

information about your specific licensing and certification requirements for such temporary surge sites.

Prevention/ Mitigation

There is little an individual hospital or health system can do to prevent patient surge, but a region or healthcare coalition can use coordinated strategies to help provide situational awareness to support patient surge management throughout the community. These strategies could include implementing the use of telehealth, telephone prescribing, virtual information, community paramedicine programs, and risk communications. Hospitals could coordinate with community health centers, primary care providers, urgent care clinics, and other primary care locations to expand their hours of operation to provide service to individuals who may otherwise seek care in the emergency department during non-business hours. When patient surge results from a communicable disease, public information campaigns encouraging vaccinations, respiratory and hand hygiene, and other good public health measures have also proven helpful. Other key messages can include when to seek care in the emergency department, when to go to urgent care or a primary care provider, and when to stay home and treat with over-the-counter medications or first aid products. Regardless of the incident, the media – both traditional and social media – can be an important partner in communicating actionable and accurate information to the affected community. A combination of these efforts may reduce unnecessary patient visits and direct those who do need medical care to the most appropriate treatment site.

This document does not include further specific strategies that may be critical to successful decompression of healthcare facilities not involving in-person patient care that include use of telephone triage, telephone information systems, risk communication, virtual medical care, and other systems. Please see our Topic Collections on [Virtual Medical Care](#) (including telemedicine) and [Risk Communications/ Emergency Public Information and Warning](#).

Preparedness

There are steps individual healthcare facilities can take to prepare for surge and to initially mitigate the effects.

An underlying assumption is that hospitals are part of a healthcare coalition and that patient loads are diffused across the healthcare system in the area to the degree possible. Moving patients, moving staff, or moving resources may help augment surge capacity at specific facilities and will help reduce the need for temporary surge facilities. Good information sharing, coordination, and a coalition approach to alternate care sites (particularly for those based in

the community) is important to assure that patient surges are diffused across the available healthcare system resources.

All hospitals must have an emergency operations plan and these plans should include immediate bed availability and patient surge strategies. Strong consideration should be given to activating these plans and implementing incident management whenever usual strategies to manage patient demand are inadequate. Surge is never an “emergency department” problem, but should be addressed through facility-wide strategies, including in-patient and out-patient services.

Internal Surge

As part of their emergency operations plans, hospitals should have a plan to internally increase their ability to manage a surge of patients. There are several resources available that describe conventional and contingency internal surge strategies. These strategies include:

- Increasing/ expanding normal clinic hours to include evenings and weekends to keep clinic patients from coming to the emergency department
- Planning for early discharge, including using discharge holding areas
- Canceling elective procedures to free up beds for emergency department admissions
- Transitioning some patients to care in observation areas or surgical areas such as same day surgery or the Post Anesthesia Care Unit (PACU), for example
- Using “geri-chairs” rather than beds for short-term/ observation admissions and for administering hydration, bronchodilators, and similar treatments
- Reviewing patient care plans to determine which patients could be moved safely to other units for ongoing care (e.g., moving patients from monitored to non-monitored beds)
- Converting private rooms to semi-private rooms
- Opening closed but licensed additional beds or units
- Using supervisors or teaching staff to provide direct patient care or otherwise changing staffing and responsibilities
- Canceling training or classes to increase staffing
- Changing documentation requirements (e.g., fast-track paper charts for rapid evaluation and treatment of ambulatory patients)
- Being able to flex staff to changing needs – particularly for specialty patient surge (e.g., pediatric, burn) – how will providers with specialty training be most effectively used?
- Converting specialty clinic areas to general acute outpatient care and/or referring emergency department patients directly to clinics after screening (e.g., sending non-

emergent orthopedic injuries to the orthopedics clinic, eye injuries to the eye clinic, non-emergent minor injuries to family medicine, etc. or re-purposing an ENT clinic area to see general acute ambulatory patients)

Related Resources

ASPR TRACIE Topic Collections:

- [Alternate Care Sites](#)
- [Crisis Standards of Care](#)
- [Emergency Operations Plans/Emergency Management Program](#)
- [Ethics](#)
- [Healthcare-Related Disaster Legal/Regulatory/Federal Policy](#)
- [Hospital Surge Capacity and Immediate Bed Availability](#)
- [Incident Management](#)
- [Influenza Epidemic/Pandemic](#)
- [Information Sharing](#)
- [Risk Communications/ Emergency Public Information and Warning](#)
- [Virtual Medical Care](#)

Other ASPR TRACIE Resources:

- [ASPR TRACIE Healthcare Coalition Influenza Pandemic Checklist](#)
- [Patient Surge Strategies: 2018 Lehigh Valley Health System](#)
- [Patient Surge Strategies: NYC Health and Hospitals](#)
- [ASPR Health Care Coalition Surge Test](#)
- ASPR TRACIE Healthcare Coalition Surge Estimator Tool: [Hospital Data Collection Form](#) and [Aggregator](#)
- ASPR TRACIE [Engaging Healthcare System Partners in Medical Surge Resource Page](#)
- [Mass Violence/Active Shooter Incidents: Hospital Triage, Intake, and Throughput](#)

Use of Temporary Surge Sites on Facility Property

Many hospitals developed surge management plans that involve the traditional options described in the preparedness section above. However, some hospitals have not found these strategies to be sufficient to address the increased demand during previous patient

In [this interview with ASPR TRACIE](#), doctors from NYC Health + Hospitals discuss the development of surge sites, tents, and mobile medical units to help decompress their emergency departments during the 2017-2018 seasonal illness surge.

surge incidents. ASPR TRACIE received several inquiries for information related to establishing “surge sites” such as tents or mobile facilities located adjacent to emergency departments to augment existing patient care areas or providing patient care in non-traditional areas of the hospital (e.g., converting conference rooms to either inpatient care or ambulatory patient outpatient care).

In [this interview with ASPR TRACIE](#), Ryan Hay, Director of Emergency Preparedness for Lehigh Valley Health System, describes their surge management strategies for the 2017-2018 seasonal illness surge.

The following information has been gathered from open-source materials, discussions with ASPR TRACIE Subject Matter Expert Cadre members, and interviews and site visits conducted with facilities that have deployed temporary surge sites.

Planning Considerations

Hospital-wide Engagement

Many of the facilities ASPR TRACIE interviewed discussed using a hospital-wide approach for addressing surge that integrates with the incident command structure (usually as part of the planning section as well as possibly having a designated supervisor under the operations branch depending on the structure). Partners include emergency management, nursing leadership (chief nursing officer or representative), physician leadership (chief medical officer or representative), emergency department leadership, inpatient clinical leadership, daily nurse supervisor, infection control practitioner, pharmacy, environmental services, supply chain and facility management, and patient registration.

During longer duration surge incidents, daily meetings (huddles) with these partners to discuss census and actual volume versus expected volume, coordinate discharge planning, and address staffing issues will help leadership forecast surge needs and strategies. For integrated health systems, data from primary care and internal medicine clinics as well as urgent care clinics could also be used to anticipate surge. As the intensity of the response increases, these daily huddles may need to occur more frequently. Other information that may inform the surge response includes emergency department wait times, chief complaints, and numbers/percentage of patients who left without being seen (tracked over time).

During shorter duration surge incidents and planned events, frequent communication with these partners provides situational awareness of the changing dynamics within the facility or health system. These partners are key decision-makers when determining whether conventional internal surge strategies are sufficient or if a temporary surge site should be

established. During a no-notice incident, pre-determined plans may need to be implemented (e.g., parking lot operations during an earthquake) prior to formal deliberation and the operational tempo may be significantly more accelerated.

Activating the hospital incident command structure will assist in providing a coordinating entity to manage patient surge. Once activated, implement on site positions, such as Surge Unit Leader, with physical identification (e.g., vests) so all staff can easily see and find staff in each position.

Thresholds and Triggers

Every facility will have different thresholds and trigger points related to activating surge sites. Considerations may be based on emergency department volume only or could be affected by the inpatient volume and need to board admitted patients beyond the emergency department. Lack of flex space may also contribute to the need to surge outside the facility. However, solutions that involve existing infrastructure are almost always preferable to temporary structures such as tents as long as the building is safe for occupancy. Advance planning for large-scale events should include analysis of data and lessons learned from previous similar events to establish thresholds and triggers for initiating surge space. Temporary facilities are part of a continuum of surge capacity solutions that should be implemented in proportion to the demands and characteristics of the incident. Pre-identifying your facility's thresholds and triggers for different types of incidents, then integrating them in hospital-wide plans and exercises, can ensure all parties can support the strategies and decisions.

Regulatory and Legal Considerations

ASPR TRACIE cannot provide legal or regulatory advice on federal or state regulations, but we have compiled information that may be helpful in considering the use of non-traditional space or locations to address patient volume. Waivers of section 1135 of the Social Security Act are only possible when a federal-level emergency has been declared by either the President or the Secretary of Health and Human Services. CMS has provided considerable information on ways to increase inpatient and outpatient capacity **without the need for 1135 waivers**. Inpatient surge activities include early discharge planning, opening already certified beds or units, and the use of remote locations. Outpatient surge activities include the use of tents or mobile facilities located on/within the hospital's campus as a temporary means of allowing for the management of outpatient surge. These temporary facilities must meet all the conditions of participation for CMS AND must comply with all state and county licensure and life safety code requirements.

This information is described in detail in the fact sheet [Hospital Alternative Care Sites during H1N1 Public Health Emergency](#) starting on page 7 of 14 for inpatient surge and page 9 of 14 for outpatient surge actions and impacts on conditions of participation permissible without waivers. Pages 13 and 14 of this fact sheet describe implications of surge sites on Life Safety Code and discuss degraded but safe conditions.

As always, when using surge strategies for inpatient care that will last more than a few hours, facilities should notify their state licensing agency and CMS Regional Offices to discuss the specifics of the facility's solution.

Resources

[ASPR TRACIE CMS and Disasters: Resources at Your Fingertips](#)

[ASPR TRACIE EMTALA and Disasters](#)

[ASPR TRACIE Healthcare-Related Disaster Legal/ Regulatory/ Federal Policy Topic Collection](#)

ASPR TRACIE Healthcare Coalition Surge Estimator Tool: [Hospital Data Collection Form and Aggregator](#)

[Emergency Medical Treatment and Labor Act \(EMTALA\) Requirements and Options for Hospitals in a Disaster](#)

[Hospital Alternative Care Sites during H1N1 Public Health Emergency](#)

Notification and Coordination

Internal communication to staff ensures everyone understands what the temporary surge site is and is not intended to do. For integrated health systems, communication and coordination with corporate headquarters should be ongoing during the surge incident and be in accordance with emergency plans and policies and procedures. In addition to facility-wide engagement and communication, external communication and coordination is required for a successful surge response. Hospitals should notify their state licensing agencies and CMS Regional Offices of the use of temporary surge sites.

Hospitals should also notify their local emergency medical services providers, especially if the location of the temporary surge site will impede the traditional flow of traffic or is designed as an initial triage point. Hospitals should notify and work with their primary care providers in their community as well as local free-standing urgent care centers to attempt to off load patient surge by educating patients about alternative options to the emergency department. Hospitals should coordinate with their local healthcare coalition, public health agency, and emergency management agency as well to address consistency of care strategies and distribution of patient demand across the regional facilities. If local emergency operations centers are activated, Joint Information Centers can be a helpful coordinating point for public

messaging. Finally, hospital executive leadership should be visible to the public through personal visits to the temporary surge site and through media interviews and appearances.

Hospitals enacting surge management strategies should also communicate with other healthcare facilities or agencies that may be impacted (e.g., early discharges that require additional homecare support). Long-term care facilities and home health agencies that might be asked to surge their staff to accommodate additional patient volume in the hospital should be engaged to ensure remaining staffing levels are sufficient to accept the discharges.

Behavioral Health Considerations for Staff and Patients

Surge incidents are stressful for patients, loved ones, and staff. People are tired, worried, and may not be feeling well. If the surge incident results from a mass casualty incident or natural disaster, people without physical injuries may arrive seeking information on their loved ones while dealing with their own exposure to a

traumatic incident. Patients injured at a mass event may be from another geographic area and they and their loved ones may be under additional stress navigating healthcare decisions in an unfamiliar environment. Patients are concerned about their health and their healthcare. They may be worried about being in the hospital in the first place and being treated in a non-traditional setting may exacerbate their stress and fear. Patients' loved ones likely have the same concerns about safety and quality of care. Staff are likely tired, may be working extended or extra shifts, and, in some cases, may know the patients. Being told they need to provide care in an environment in which they are not familiar can add to this stress. Plans for surge events must include how to handle both patient and staff behavioral health needs.

Monitoring staff absenteeism rates is

recommended to ensure that continuity of care

can be provided. Employees who are ill should remain home for adequate rest and recovery, without being penalized or feeling shamed. Support should also be provided to employees who have been personally affected by the surge incident. Training, exercising, and good

Supporting Staff Working a Surge Incident

- Encourage and support short breaks
- Stock the break room with:
 - Healthy snacks and drinks
 - Calming music or areas where staff can listen to short stress management podcasts or music
 - Antibacterial wipes, spray, and gel
 - Posters that encourage self-care and hand and respiratory hygiene
- Provide on-site behavioral healthcare/ faith-based support for staff (and patients)
- Maintain adequate supply of protective gear and encourage its use
- Offer on-site childcare for staff working extra hours

communication about expectations and available resources are key to mitigating these stressors.

Resources

[ASPR TRACIE COVID-19 Behavioral Health Resources](#)

[ASPR TRACIE Disaster Behavioral Health Resources at Your Fingertips](#)

[ASPR TRACIE Disaster Behavioral Health Self Care for Healthcare Workers Modules](#)

[ASPR TRACIE Mental/Behavioral Health Topic Collection](#)

[ASPR TRACIE Tips for Retaining and Caring for Staff after a Disaster](#)

[Psychological First Aid – Healthcare Professionals](#)

[Disaster Behavioral Health](#)

[Applying the Lessons of SARS to Pandemic Influenza](#)

[The Mental Health of Hospital Workers Dealing with Severe Acute Respiratory Syndrome](#)

[Psychosocial Effects of SARS on Hospital Staff: Survey of a Large Tertiary Care Institution](#)

Operationalizing a Surge Site

These issues should be taken into consideration when deciding to open an on-site surge facility to manage outpatient care.

- 1. Will use of a temporary surge site positively impact patient care and flow?**
- 2. Can you provide safe and effective clinical care in a temporary site that is appropriate for your patients and staff?**
- 3. Will the demand be sustained long enough to warrant set up?**
 - For shorter duration incidents, other surge management strategies may be adequate to address the immediate needs and the effort to establish a temporary surge site may distract from or even hinder the response
 - For planned events, consider whether a temporary surge site may be beneficial and how it will contribute to patient flow
- 4. Have you exhausted other options?**
 - Expanded to other areas of the hospital/campus (e.g., creating additional outpatient capacity in on-site clinics, same-day surgery, or observation/ short-stay areas)
 - Increased and/or redeployed staff
 - Increased throughput by reducing length of stay (e.g., expedited charting, moving patients to “results pending” area after tests obtained)
 - Expanded hours and capabilities of on-site clinics
 - Augmented virtual medical capabilities including triage lines, information lines, telemedicine, app-based/web-based care
 - Encouraged, through public education, that patients utilize the proper level of care through urgent care centers, local clinics, or primary care physicians. This must be

done proactively, as once they arrive to the emergency department they must be evaluated.

- Planned early/ coordinated discharge for both inpatients and outpatients
- Coordinated with local healthcare coalition, emergency operations center, emergency medical services dispatch or communications system, if possible, to manage patient distribution throughout the community

5. What are the costs?

- Do you own or will you need to rent/ borrow the tent or mobile unit?
- How much will it cost to operate the temporary surge site in addition to your normal operations (e.g., rentals, overtime, additional staffing, generator fuel, lighting, security)?
- Would the change in treatment site affect reimbursement rates?
- If renting the structure, will staff come with the rental to set up and operate the generator, HVAC, and other systems and to assemble and take down the structure?
- For planned events, does establishing a temporary surge site offer training benefits that offset the operational costs?

6. What are the “optics” of the on-site temporary surge site?

- Plan for working with the media and managing community expectations.
- Prepare for patient perceptions.

Consider having a “media day” that allows the press and local leadership the opportunity to look around prior to opening the facility for patient care. This could also provide the opportunity to message your community about wait times and where to seek care. Such a media day can also be incorporated into your timeline when planning an exercise and can similarly be used to familiarize your community with your capabilities.

- Assure that if the facility is used only for specific conditions that these are not perceived as receiving “sub-standard” care in the temporary site due to their illness.
 - i. All of the facilities interviewed by ASPR TRACIE indicated that patient perception of the temporary surge site was mostly positive, with an appreciation of shorter wait times. The “left without being seen” numbers dropped dramatically after these facilities initiated a temporary surge site. Some of the specific negative comments included:
 1. Concerns about receiving lower level of care
 2. Fear or perception of being placed in an “Ebola tent” or “quarantine or isolation”

- 3. Some patients (including people experiencing homelessness) felt “pushed out” quickly
 - ii. Establish patient expectations at the initial point of care; tell them their experience may include being seen in a temporary surge site, and that this may decrease their wait time. Emphasize that patients are directed to the temporary surge site based solely on their symptoms and not other factors, such as ability to pay.
- Inform employees – those working in the emergency department as well as those staffing the temporary surge site – of the purpose of the surge site and the types of patients that can be seen.

7. Do you have plans and procedures in place?

- Does your hospital emergency operations plan or emergency department standard operating procedures include the use of a temporary surge site to manage emergency department surge?
- Have your staff been trained in how to set up and then function in a temporary surge facility? Consider a staff training day if you have the time and ability. Otherwise, ensure there is adequate time for on the job training. Incorporate establishment of a temporary surge site in your exercise plan to test your staff and identify gaps in your plans and procedures.
- Are your staff trained in incident command? Have you identified who will fill the incident command system roles?
- Have you considered use of your temporary surge site in your evacuation protocols and other situations where the campus may not be safe for patient care?
- Are you considering any changes in clinical care for the patients to be seen in the temporary site? (e.g., not running labs on everyone, treating based on symptoms)?
- How are you ensuring patient and staff safety? Are your law enforcement and fire partners familiar with the temporary site?

8. Do you have an appropriate location for the temporary surge site?

- What is the purpose of the temporary surge site (e.g., waiting room, triage only, decontamination and assessment, isolation, treatment)?
- What is the size of the footprint of the temporary surge site and all of its associated equipment?
- How safe/ convenient is the location for employee and patient movement between the temporary surge site and the emergency department?
- Is it possible to provide overhead cover to employees and patients moving between an exterior temporary surge site and the emergency department?
- What is your extreme weather plan (e.g., snow, high winds, electrical storms), especially if using temporary structures?

- Have you identified other potential hazards and mitigated them (e.g., minimizing wind from helipad take-offs/ landings)?
- What security mechanisms are in place to restrict access to the temporary surge site?
 - i. How will you provide security services to the temporary surge site during operational hours?
 - ii. How will you secure the site during non-operational hours if you are not planning round-the-clock operations?
- Will the proposed location impede access to the emergency department or other entry points to the hospital?

If considering purchasing a mobile facility versus temporarily renting or borrowing, do so with respect to modular scalability and compatibility with other locally owned assets. This would allow the equipment to be combined in future emergency situations, if necessary.



Exhibits 1 and 2. Different views of a mobile tent adjacent to an emergency department main entrance.

In our discussions with facilities that used these sites for seasonal illness surge, they all elected to use them for all low acuity patients regardless of whether they have ILI, making triage similar to that of a Fast Track unit that is already in place in their emergency departments with a few additional restrictions outlined in question 4.

Clinical Care Delivery in a Temporary Surge Site

1. Will you use electronic or paper charting and documentation?

2. Will you need to modify your electronic medical records (EMR) system to allow for additional beds or a new pod?

3. Which patients will be treated?

Determine what types of patients are appropriate for the temporary surge site. Options include:

- Any low acuity, regardless of chief complaint
- Influenza-like illness (ILI) only (to reduce transmission risks) during seasonal illness outbreaks
- Fast track only

4. Which patients will be excluded?

Determine whether some types of patients may be inappropriate for the temporary surge site. The facilities ASPR TRACIE talked with all excluded patients with the following conditions/ symptoms from their temporary surge sites:

- Behavioral health complaints
- Diarrheal illness (those who will require frequent use of a restroom if one is not available in the temporary surge site)
- Obstetric or gynecological complaints or pregnant patients
- Certain complaints such as eye or orthopedic depending on the equipment and supplies may be excluded
- Extreme ages, such as under 8 or over 80 years of age

5. What will your operating hours be?

Determine whether you will operate the site 24/7, only during pre-defined hours, or on an as-needed basis. Consider the following questions:

- Does your census data suggest times when the temporary surge site is most needed?
- If operating the temporary surge site as part of a planned event, does experience with previous similar events suggest appropriate operating hours?
- If you do not operate the surge site 24/7, what is your plan for securing and maintaining the temporary surge site during non-operational hours?

- If you plan to operate the temporary surge site on an as-needed basis, what is your procedure to determine the need and how will staffing be shifted to accommodate the need?

6. How will you integrate the temporary surge site with the hospital?

Consider the following questions to implement efficient patient flow.

- Where/ how will patients be registered?
 - i. Will this include a “mini-registration” at check-in and a full registration at the bedside in the temporary surge site?
 - ii. Should a full registration occur at check-in based on available staffing?
- Will your facility be able to manage discharge from within the temporary surge site?
- Will the patient stay in the cube/ examination area waiting for test results or is there a “flow” from care space to waiting space?
- Do you have sufficient signage? If not, have you considered how to maximize the use of volunteers?
- How will accompanying family members/ friends of patients be managed or restricted in the temporary surge site?



Exhibit 3. Ensure there is adequate space for movement and patient care areas.

7. What capabilities are available at the temporary surge site?

Consider whether the following capabilities will be available in the temporary surge site. If not, determine how your hospital can support them and if you need to limit the types of patients you care for at the temporary surge site.

- Power
 - i. Is power supplied by generator or electrical connections? If using generator power, are you able to switch from one generator to another when they reach their hourly maximum capacity?
 - ii. Are there sufficient charging stations for cell phones and other devices?
 - iii. Is there lighting capability both inside and on the exterior of the temporary surge site?
- Climate control with regular monitoring from staff familiar with portable equipment
- Staffing (if the temporary surge site is acquired via a contract, are any personnel included?)
- Laboratory capabilities (e.g., basic point-of-care urine, urine pregnancy, blood glucose, rapid strep and influenza testing, and point-of-care blood tests)
- Radiology services
- Oxygen
- ECG
- Equipment for obtaining vital signs and oxygen saturation
- Suction
- Crash cart
- IV fluids/ lab draw cart/ materials
- Pharmaceuticals
 - i. Frequently used medications on hand (e.g., acetaminophen, ibuprofen, anti-emetics tailored to the incident)
 - ii. Ability to get other medications from main emergency department or pharmacy
 - iii. Secure location for medication
- Negative airflow area(s)
- Layout
 - i. How many beds?
 - ii. Waiting/ discharge areas?
 - iii. Is there adequate storage space?
 - 1. Is there an ability to keep a limited amount of resupply for frequently used items (e.g., linen, gloves, masks)?
 - iv. Is there staff space or desk space for sitting or charting?
 - v. Are there restrooms? If not, can they be accessed close to the location?

One facility we interviewed suggested using tool storage or utility carts from hardware stores rather than medical grade carts, since you need durability in an austere environment.

vi. Can you protect patient privacy?

vii. How are you preventing cross-contamination/ cross-infection?

- Computer access and other information technology and biomedical technology needs including wi-fi
- Overhead paging/ signboards/ other communications
- Whiteboards/ flow tracking (if EHR not used or as backup)
- Hospital phones/ radios
- Carts and other equipment appropriate for the environment
- Personal Protective Equipment (PPE)
- Handwashing stations or hand sanitizer dispensers
- TV/ radio in waiting area, if separate from main area
- Trash cans, biohazard receptacles, sharps containers, and laundry bins
- Chairs in treatment area for visitors
- Beds, elevated cots or geri-chairs for patients



Exhibits 4 and 5. Consider heavy duty carts for austere environments

8. How will you support the temporary surge site with staffing and other resources?

- Clinical staff
 - i. The facilities we interviewed had temporary surge sites in the range of 12-14 additional beds which they staffed with roughly 1-2 registered nurses (RNs), 1 technical partner (nursing assistant, patient care technician), and 1 provider (nurse practitioner, physician assistant, or physician). No facility used residents in the surge site.
 - ii. An adequate number of providers should be present to maintain maximal throughput. With relatively low acuity and templated charting, patient turnover can be very rapid. Provider/RN teams often can “tag-team” visits within minutes, particularly if strategies such as those described under the next bullet are implemented.
- Registration/ charting/ discharge
 - i. Expedited registration
 - ii. Templated clinical charts on EMR or paper forms
 - iii. Custom discharge instructions and pre-printed prescriptions
 - iv. Default billing/ coding
 - v. Use of scribes should be considered when the providers are not accustomed to managing high throughput

Ensure a plan to integrate data from the temporary surge site back into EMRs.

- Environmental services
 - i. Will the nursing staff turn over the rooms or will environmental services handle? Do you have the supplies available to clean and turn over without environmental services?
 - ii. What are the cleaning expectations?
 - iii. How do you plan to manage laundry, garbage, and biohazard disposal?
 - iv. Have you reviewed the temporary surge site for essential environmental health standards relating to management of the water supply, sanitation, hygiene, and waste?
- Laboratory services
 - i. Will you adjust protocols to limit labs on these patients or adjust triage?
- Diagnostics
 - i. Can your nursing staff use standing orders to order a variety of urinalysis, labs, and radiological tests prior to the patient being placed in the temporary surge site?
- Pharmacy

- i. What is the location and what are the protocols for the administration of common medications?
 - ii. Can you expedite prescription medications?
 - iii. Can your medication carts/machines be repositioned near or in the temporary surge site?
- Social work
 - i. Set up a separate “desk” to avoid consultation in clinical spaces
- Resupply

Maintenance of Temporary Surge Site Operations

Ongoing communication and monitoring are needed to ensure smooth functioning of the temporary surge site. Consider the following to assess your daily functioning as well as to inform decision-making on when to deactivate/ demobilize the temporary surge site.

- Establish key metrics and review data from multiple sources (e.g., lab results, x-rays, admissions, syndromic surveillance).
- Ensure there is a strong grounding and understanding among hospital leadership and staff of potential impacts on facility operations. This information should be shared during shift changes, operational period briefings and any daily “huddles”.
- Compare key metrics and data with previous time periods to identify trends and indicators on the need for the temporary surge site.
- Hold daily (or more frequently as needed) calls or huddles with multi-disciplinary teams to quickly identify and solve challenges such as staffing, pharmaceuticals, and supply shortages or distribution disruptions.
- Collect and retain operational documentation, daily logs, etc. for use during the after action review process.
- Collect and retain capital, staffing, and general cost records associated with the incident.

Deactivation

When planning to activate a temporary surge site, it is also important to consider what your process will be for deactivation. The following steps can help guide your deactivation planning:

- Identify the criteria by which you will make the decision to close the temporary surge site.
- Define the term “temporary” for your facility. The general consensus among those interviewed by ASPR TRACIE is that this is less than 30 days, at which point there may be regulatory considerations and other factors for continued operation.

- Notify in advance of the closure the partners/ authorities you contacted when establishing the surge site.
- Inventory supplies/ equipment.
 - If the supplies came from your disaster cache, replenish as needed prior to storage.
 - If supplies came from your normal inventory, replace and restock as needed.
 - Return all temporary surge site supplies to their designated containers for future use.
- Turn off the surge module of your EMR.
- Conduct a terminal cleaning of the temporary surge site.
- When using a tent as your temporary surge site, cleaning and drying are important to longevity. Those ASPR TRACIE interviewed recommended storage in a temperature-controlled warehouse or other space.
- Complete an after-action review to capture lessons learned and areas for improvement.

Use of Temporary Surge Sites in the Community

Many of the same considerations about the logistical and planning requirements apply to facilities located in the community but operated to either replace damaged healthcare infrastructure or augment current capacity. Alternate care site clinical considerations have some overlap with shelter medical planning (refer to entries in ASPR TRACIE's [Alternate Care Sites](#) Topic Collection relevant to shelter care) but the mission is different. The facility may provide additional outpatient ambulatory screening and minor care or overflow for lower acuity non-ambulatory hospital patients.

When the community hospital is damaged, a staged process of alternate care sites may be required. Mercy Medical Center in Joplin, Missouri provides an excellent example of a staged approach that first utilized non-medical facilities in the community, then tent-based medical care facilities, then temporary structures in transition to a new hospital campus. Ongoing strategic decision-making is required to determine the proper sequence and logistics of these sites with the goal to always provide the best care possible in the community.

Community sites should be planned and exercised in advance of an incident, so they are part of the surge “toolbox.” This needs to be jointly planned with healthcare coalition partners, as emergency management, EMS, healthcare, and public health all have key roles to play – though the specific responsibilities may vary depending on the community and the role of each.

Key factors to consider:

- Potential sites
- Pathway to initiate use of the sites (healthcare request to emergency management or public health, etc.)
- Who has authority to open those sites (emergency management, public health)
- Legal, liability, and regulatory issues
- Level of care to be provided
- How the sites integrate with any Federal or regional resources (e.g., Federal Medical Stations)
- Source of staffing (e.g., Medical Reserve Corps, hospital compact, state teams)
- Supplies (including beds, medications, linens, etc.) – Where will they come from? Who pays?
- Record-keeping and expectations
- Intake and discharge processes
- Staff orientation and training
- Security and infrastructure considerations
- Oxygen use (refer to ASPR TRACIE’s documents on oxygen distribution systems in the [Alternate Care Sites](#) Topic Collection)
- Medication stocking, storage, dispensing, ordering, and administration
- Laboratory capabilities
- Imaging capabilities
- Transportation
- Liaison – emergency management, public health, social work, non-governmental organizations, etc.

The operation of a community-based alternate care site can provide valuable capacity but requires careful planning and exercising to assure that plans are operationally and procedurally sound, and that healthcare coalition partners are able to fulfill their roles and understand the capabilities, limitations, and potential timelines for opening and operating such a facility across a range of options for the care provided (from first aid to essentially inpatient care).

Additional Resources

ASPR TRACIE Resources

Topic Collections

- [Alternate Care Sites](#)
- [Crisis Standards of Care](#)
- [Ethics](#)
- [Healthcare-Related Disaster Legal/ Regulatory/ Federal Policy](#)
- [Hospital Surge Capacity and Immediate Bed Availability](#)
- [Incident Management](#)
- [Influenza Epidemic/ Pandemic](#)
- [Information Sharing](#)
- [Risk Communication/ Emergency Public Information and Warning](#)
- [Virtual Medical Care](#)

Other Resources

- [Disaster Behavioral Health Self Care for Healthcare Workers Modules](#)
- [Healthcare Coalition Influenza Pandemic Checklist](#)
- Healthcare Coalition Surge Estimator Tool: [Hospital Data Collection Form](#) and [Aggregator](#)
- [Tips for Retaining and Caring for Staff after a Disaster](#)
- [EMTALA and Disasters](#)
- [Engaging Healthcare System Partners in Medical Surge Resource Page](#)
- [Healthcare Coalition Involvement in Mass Gatherings Webinar](#)
- [Mass Violence/Active Shooter Incidents: Hospital Triage, Intake, and Throughput](#)
- [*The Exchange, Issue 8: Supporting Hospital Surge – Meeting Patient and Staff Needs*](#)

External Resources by Agency

British Columbia Provincial Health Services Authority

- [The Mobile Medical Unit: A Unique Program in British Columbia](#)

California Department of Public Health

- [CHPH Guidance: Approval for Health Care Facility Use of Surge Tents](#)
- Standards and Guidelines for Healthcare Surge During Emergencies: [Volume 1: Hospitals](#) and [Volume 2: Government-Authorized Alternate Care Sites](#)

Florida Department of Health, Bureau of Preparedness and Response

- [Alternate Care Site Standard Operating Procedure](#)

Joint Commission

- [Surge Hospitals: Providing Safe Care in Emergencies](#)

New York City Department of Health and Mental Hygiene, Office of Emergency Preparedness and Response

- [Emergency Department Capacity Expansion Tool \(EDCET\)](#)

Northern New England Metropolitan Medical Response System

- [Mobile Medical Unit Field Operations Guide](#). (Must contact necep@dartmouth.edu for guide.)

Office of the Assistant Secretary for Preparedness and Response, U.S. Department of Health and Human Services

- [Medical Assistance: Federal Medical Stations](#)

Summit County Health District, Summit County Emergency Management Agency, Akron Regional Hospital Association

- [Development of an Alternate Care System: A Workbook for Community Planners Preparing for Medical Surge](#)

Taylor, M., Stokes, W., et al.

- [Mobilizing Mobile Medical Units for Hurricane Relief: The United States Public Health Service and Broward County Health Department Response to Hurricane Wilma, Broward County, Florida](#)

Texas Department of State Health Service, Emergency Medical Task Force

- [Mobile Medical Unit Standard Operating Guideline](#)

Wisconsin Disaster Medical Response Team

- [Field Operations Guide](#)