Maine

HOSPITAL MEDICAL SURGE TOOLKIT

Medical Surge Planning Tool for Maine Hospitals

Table of Contents

Acknowledgements 4
Medical Surge Toolkit Overview 4
Background 4
Purpose and Objectives 4
The Medical Surge Toolkit 6
How to Use this Toolkit 7
Toolkit Part I: Medical Surge Toolkit 8
Medical Surge Planning Assumptions 8
Medical Surge Planning Tiers 9
Space: Expanding Clinical Care Areas 9
Staff: Expanding the Workforce 10
Stuff: Supplies and Equipment for Expanding Clinical Areas 10
Systems and Census Management: Technology and Management of Expanded Patient Census 10
Establishing a Medical Surge Planning Team 11
Toolkit Part II: Medical Surge Planning Worksheets 12
Space: Expanding Clinical Care Areas 13
Space Worksheet 1: Hospital-Wide Planning 14
Space Worksheet 2: Unit-Based Planning 20
Space Worksheet 3: Support Services 25
Staff: Expanding the Workforce 27
Staff Worksheet 1: Hospital-Wide Planning 28
Staff Worksheet 2: Unit-Based Planning 36
Staff Worksheet 3: Support Services Department 39
Stuff: Supplies and Equipment for Expanding Clinical Areas 41
Stuff Worksheet 1: Hospital-Wide Supplies and Equipment 42
Stuff Worksheet 2: Unit-Based Supplies and Equipment 47
Stuff Worksheet 3: Support Services Supplies and Equipment 50
Systems and Census Management: Technology and Management of Expanded Patient Census 52

Systems and Census Management Worksheet 1: Hospital-Wide Systems 53
Systems and Census Management Worksheet 2: Unit-Based Systems 56
Systems and Census Management Worksheet 3: Support Services Systems 59
Toolkit Part III: Medical Surge Planning Master Spreadsheet 61
Tab 1: Space Clinical Areas 63
Tab 2: Space Assessment 63
Tab 3: Staff Assessment 66
Tab 4: Stuff Assessment 67
Tab 5: Stuff for Expansion 68
Tab 6: Systems and Census Management 69
Toolkit Part IV: Instructional Webinars 70
Toolkit Part V: Tabletop in a Box 71
Toolkit Part VI: Medical Surge Planning Resources 72
Basic Equipment Checklist for Clinical Areas 76
Advanced Equipment Checklist for Critical Care Areas 77
Infection Control Supplies Checklist 77
Additional Infection Control Considerations 78
Appendix A: Acronyms 79

Acknowledgements

The U.S. Department of Health and Human Services (DHHS) Administration for Strategic Preparedness and Response (ASPR) provided a total of $350 million in emergency supplemental funding to support the preparedness and response activities and needs of hospitals, health systems, and healthcare providers on the front lines of the Coronavirus Disease (COVID) pandemic.

This publication was supported by Maine's Supplemental COVID Funding provided by ASPR. All Clear Emergency Management Group was subcontracted by the Maine Department of Health and Human Services, Centers for Disease Control and Prevention to develop this publication's content and accompanying resources.

Medical Surge Toolkit Overview

Background

Throughout the COVID pandemic, Maine hospitals experienced severe staffing shortages amid higher-than-usual demand for services from COVID patients and others. This Toolkit is designed to help healthcare providers plan for optimal care of an influx of patients regardless of the cause. Information in this Toolkit is derived from national best practices in medical surge planning and lessons learned from healthcare providers throughout the COVID-19pandmeic.

Maine has a land area of 30,836.6 square miles and a water area of 4,538.8 square miles[1]. It is the 39th largest state by area. Maine's population grew 2.6% last decade[2]. Maine has a population of 1,362,359[3].

The Maine healthcare system comprises 44 hospitals, 90 nursing homes[4] , 56 home health agencies[5], and 26 hospice agencies[6] . Essential public health services are available across the state through nine public health districts (including one tribal public health district). The local offices work in their communities to enhance effective and efficient delivery of public health services.

Purpose and Objectives

The purpose of this Hospital Medical Surge Toolkit is to plan for the optimal care of patients during a medical surge in the most appropriate healthcare setting without causing undue hardship on other sectors in the healthcare system.

---

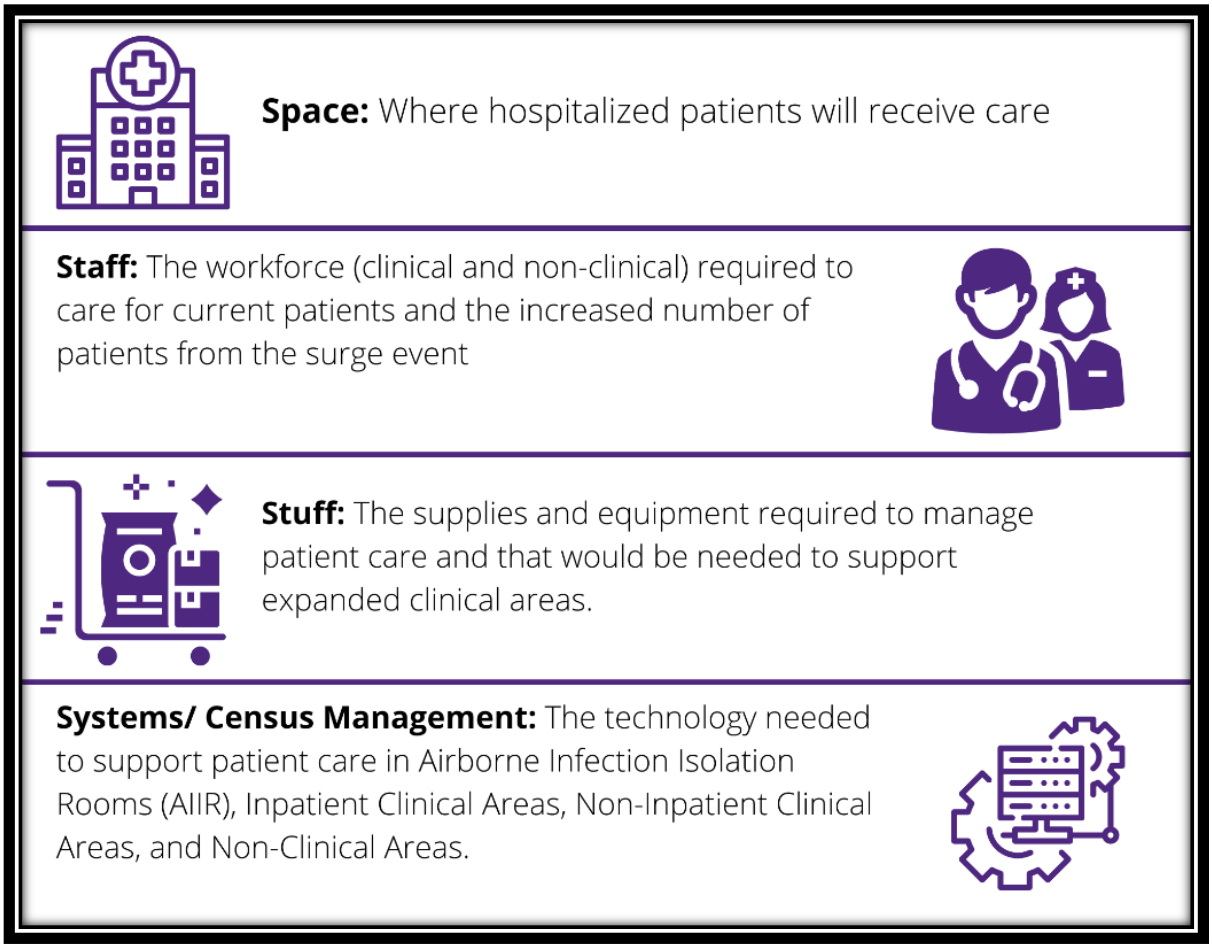
[1] https://content.govdelivery.com/accounts/USCENSUS/bulletins/30ed08f
[2] https://www.census.gov/library/stories/state-by-state/maine-population-change-between-census-decade.html?utm_campaign=20220315mscups1ccstame&utm_medium=email&utm_source=govdelivery
[3] https://www.census.gov/library/stories/state-by-state/maine-population-change-between-census-decade.html?utm_campaign=20220315mscups1ccstame&utm_medium=email&utm_source=govdelivery
[4] https://gateway.maine.gov/dhhs-apps/aspen/county_town.asp
[5] https://gateway.maine.gov/dhhs-apps/aspen/type_pop_services.asp?types=3
[6] https://gateway.maine.gov/dhhs-apps/aspen/county_town.asp

The goals of the Toolkit:

- Ensure optimal patient care at the most appropriate healthcare setting.
- Increase capacity and capability to meet the anticipated increased demand due to a medical surge.
- Ensure the continuity of business operations at all healthcare organizations.

To meet these overarching goals, the surge strategies in this Toolkit fall under four main elements:

1. **Space**: Expand and/or repurpose space to care for current and/or additional patients.
2. **Staff**: Expand the workforce to assist with the response.
3. **Stuff**: Procure adequate medical and non-medical supplies and equipment for expanded and/or repurposed spaces.
4. **Systems and Census Management**: Ensure technology, census management tactics, and other operational support is in place for expanded areas.



The Medical Surge Toolkit

The Toolkit includes:

1. **The Hospital Medical Surge Toolkit** provides an overview of medical surge planning and guides hospitals through the process of planning for a medical surge in varying target capacity levels and to assist in the load balancing during a medical surge event.
2. **The Hospital Medical Surge Planning Worksheets** can be used to facilitate conversations, track planning progress, and make decisions for surge capacity within hospitals. The worksheets can be used to capture hospital-wide planning efforts, unit-based planning efforts, and support services department planning efforts.
3. **The Medical Surge Planning Master Spreadsheet** is designed to centralize medical surge planning information gathered from the Worksheets.
4. **Instructional Webinars** provide topic-specific information about medical surge planning and practical advice on how to use the Toolkit.
5. **The "Tabletop in a Box"** is a collection of templates that can be customized to test newly developed medical surge plans in a discussion-based exercise.
6. **Medical Surge Best Practices** A curated list of medical surge planning resources and best practices to assist hospital systems in their medical surge planning efforts. Toolkit Part VI: Medical Surge Planning Resources.

Tip: Print the accompanying worksheets and complete them for your hospital as the Workbook is reviewed.

The purpose of the Toolkit is to provide manageable and practical tools for hospitals to develop an internal medical surge plan. Planners are encouraged to utilize this Toolkit to plan for:

1. A medical or infectious surge such as pandemic influenza.
2. A mass casualty incident (e.g., trauma) from either natural or human-made events.
3. Adult, pediatric, and geriatric patients with a variety of care needs.

The Toolkit is systematically organized around four (4) common medical surge planning elements: Space, Staff, Stuff, Systems/ Census Management. Planning within this simple framework will address the critical elements of medical surge and facilitate an organized approach to surge planning.

A common strategy for medical surge is the use of community-based alternate care sites (ACS) that may be used for patient screening or to care for additional patients without a place in a hospital . This toolkit is focused on internal surge hospital surge and does not address ACS in the community.

Throughout the document you will find keys that point out items to note such as accreditation standards (Joint Commission Emergency Management (EM) Standards 2022), special considerations, videos, and instructions. The key map is noted below:

Identifies areas where the 2022 Joint hospitals may be represented.

Identifies special considerations or tips and tricks.

Identifies areas of Instruction for the completing the Workbook.

Identifies information is included in a webinar.

How to Use this Toolkit

The Hospital Medical Surge Toolkit includes a variety of tools to assist hospitals with medical surge planning. Completing the Toolkit and documenting the results of medical surge planning efforts will help prepare a hospital to care for a sudden influx of patients. Successful use of this Toolkit will assist with coordinating medical surge planning efforts, defining hospital-wide strategies, and allow different operational departments in a hospital to develop plans that are aligned and ready to use. In an emergency response, the information compiled from this Toolkit will support a medical surge response and the hospital's incident command system.

Implementation

The surge strategies described in this Toolkit were identified and approved by a collaboration of hospital stakeholders. In the review of these strategies, some local, state, and federal policies and regulations may be identified as potential barriers to full implementation of possible surge strategies particularly in some sectors. While this Toolkit identifies surge strategies that may be implemented during an emergency response, some program or policy flexibility or authorization may be required for full implementation.

Toolkit Part I: Medical Surge Toolkit

Maine hospitals should plan to provide care each day of a response for a patient census up to two times its average daily census. A Medical Surge Plan may be incorporated into Emergency Operations Plans (EOPs); be an addendum to the EOP; or a collection of Standard Operating Procedures (SOPs), policies, and/or protocols referenced in the EOP. Hospitals should also be prepared to help with load balancing to allow for the most critical patients to access care at hospitals. The intent of this Toolkit is not to duplicate what already exists but to centralize planning efforts and cross-reference documents in your organization's current Medical Surge Plan.

EM.12.01.01- EOP is written all Hazards, including several plans.

Medical Surge Planning Assumptions

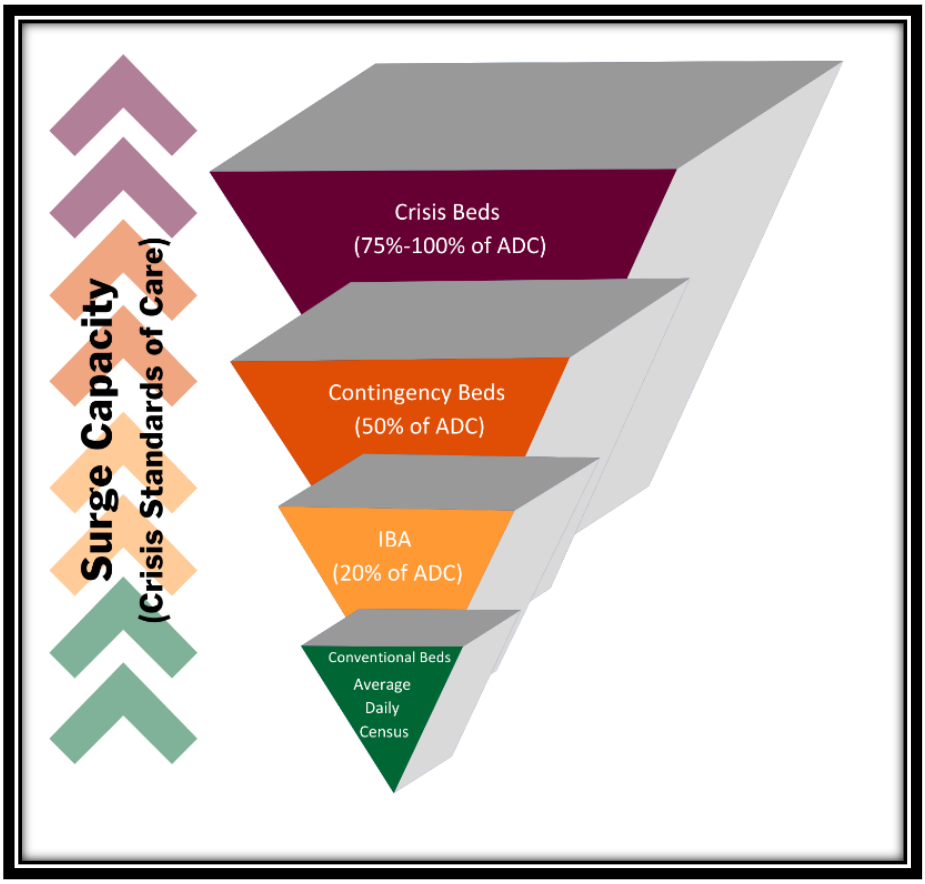
1. Pre-planning issues include operational considerations such as hospital bed capacity as well as clinical, diagnostic, and support services capabilities.
2. A traumatic mass casualty incident or natural disaster will likely produce high acuity patients in a short duration (24-48 hours) with a long-term effect; expect that the local response will be overwhelmed by the time a regional or state response is activated.
3. An epidemic or pandemic will likely be a long-term event with moderate to high acuity patients and lower initial surge numbers.
4. In Maine, hospitals are often at or near capacity regularly.
5. In Maine, a major portion of hospital bed capacity is in urban areas; therefore, medical surge thresholds will vary significantly across the state.
6. Inter-agency collaboration outside the hospital walls with groups such as the Healthcare Coalition of Maine (HCCME) and/or all-hazards group is necessary for a coordinated response.

EM.12.01.01- EOP includes process to cooperate and collaborate.

7. Assistance from outside the impacted area, if available, may be needed to care for or provide resources for patient care.
8. All responding agencies should incorporate Incident Command System (ICS) or the Hospital Incident Command Systems (HICS) into their incident management structure in accordance with National Incident Management System (NIMS).
9. Optimizing medical care during a long-term communicable and community-wide disease outbreak is more difficult to plan for and provide than during an acute non-communicable incident.
10. There will be an inaccurate picture of available staffing as many staffing resources may be listed on multiple registries or work in multiple locations.
11. A need for rapid authorization of waivers of certain regulatory requirements, statutes, or regulations to support a hospital's ability to expand their clinical services. The ability of a hospital to expand clinical services in a time of surge may be limited by concerns about reimbursement of those services.
12. Senior Leaders provide oversight and support for medical surge planning.

Medical Surge Planning Tiers

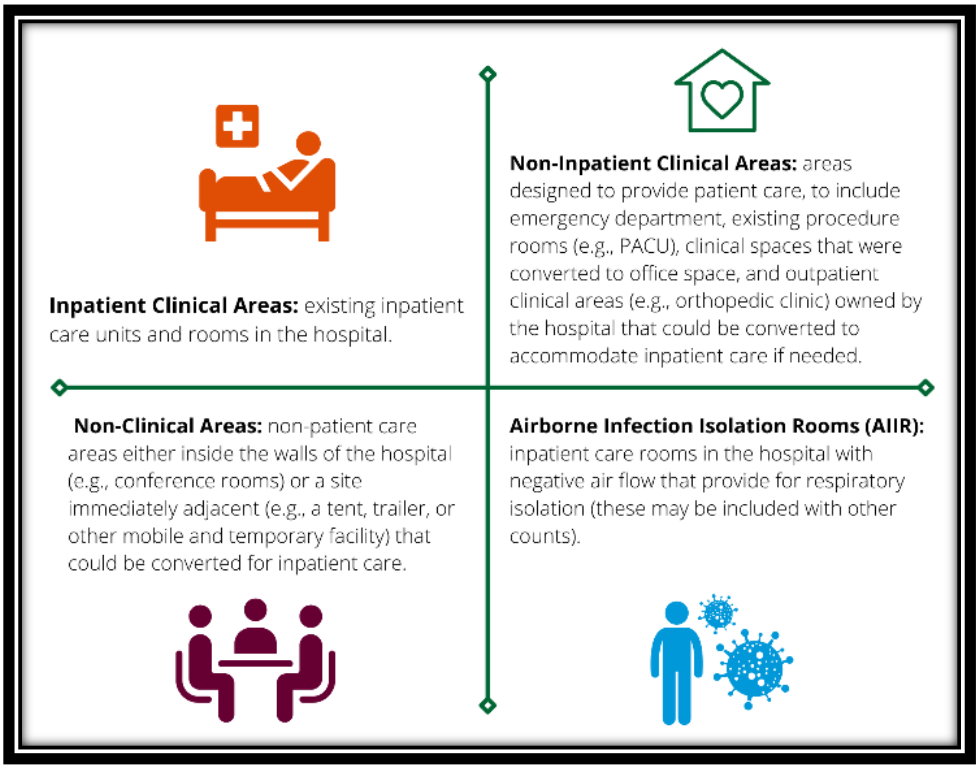
This Toolkit is framed around four tiers for medical surge planning. These tiers have been established to anticipate a surge that will dramatically change the patient care environment. Therefore, the decisions and actions required by hospital leaders during conventional (or day-to-day) operations will need to be re-examined and altered during a medical surge event.



Space: Expanding Clinical Care Areas

"Space" refers to where patients receive care.

The strategies outlined in this Toolkit will help surge planners identify space(s) that can be used to expand clinical care areas. Strategies should increase the ability to adapt during a disaster by using traditional space and repurposing use of other space. Figure 3 defines space types discussed throughout this Toolkit.



Staff: Expanding the Workforce

"Staff" refers to the workforce (clinical and non-clinical) required to care for current patients and the increased number of patients from the surge event. "Staff" is also used broadly to describe anyone that works in or volunteers in the hospital regardless of employment type, privileges, or credentials. With an increase in patients:

EM.12.02.03-Staffing plan to manage staff.

1. Usual staffing ratios will be more difficult to maintain.
2. Other hospital providers in the hospital or outpatient setting may be needed to support the increased number of patients.
3. It may be necessary to staff expanded patient care areas with personnel less experienced in hospital care.

The strategies outlined in this Toolkit will help surge planners expand the workforce to support the medical surge.

Stuff: Supplies and Equipment for Expanding Clinical Areas

"Stuff" refers to the medical and non-medical supplies and equipment required to manage patient care and that would be needed to support expanded clinical areas. This includes supplies and equipment that are durable and consumable; pharmaceuticals; and for patient comfort. The strategies outlined in this Toolkit will help surge planners assess supplies and equipment to support a medical surge.

EM.12.02.02- EOP written plan to obtain, allocate, mobilize, replenish, etc.

Systems and Census Management: Technology and Management of Expanded Patient Census

"Systems" refers to the technology needed to support patient care in expanded areas. "Expanded Patient Census" refers to administrative, financial, and census management tactics needed to support an expanded patient census during medical surge. The strategies outlined in this Toolkit will help surge planners support medical surge with the appropriate technology, operations, and census management tactics. Census Management expands on strategies already in place with considerations for an increased number of patients in expanded areas. This includes cohorting infectious patients, utilization management, surge discharge, and alternate admissions criteria for expanded areas. Surge planners should work with hospital operations, clinicians, support departments, and Information Technology (IT) to determine which strategies are most appropriate for expansion of services in their hospital.

EM.12.02.02- EOP written plan for managing resources and assets.

Establishing a Medical Surge Planning Team

Because every component of hospital operations is impacted during a medical surge response, a Medical Surge Planning Team is the most efficient way to centralize planning efforts, determine the planning timeline, assign tasks, and track progress. A team approach allows hospitals to divide surge planning tasks, bring creativity and innovation to the planning effort; and establish a planning routine so processes established during the planning phase are used during an event.

EM.10.01.01- Multidisciplinary committee provides input.

A Medical Surge Planning Team can lead the planning efforts. Since different types of emergencies require different kinds of expertise, the first step in medical surge planning is to identify key stakeholders and subject matter experts for the team. Consider:

1. A small but focused team with support from Executive Leadership and including clinicians and non-clinicians with an array of experience.
2. A core team could be composed of 5-8 members such as representatives from Nursing, Physicians, EM, Facilities, Executive Leadership, and IT. This core team can focus planning efforts and assign planning tasks.
3. Supplementing the core team with additional subject matter experts (SMEs) as needed from:
    a. Materials Management
    b. Infection Control and Prevention
    c. Environmental Services (EVS)
    d. Safety/Security
    e. Bed Management
    f. Discharge Planning
    g. Social Work/Case Management
    h. Clinical Specialty Areas (e.g., burn or pediatrics)
4. Using an existing committee (e.g., Emergency Management Committee, Environment of Care Committee, or Safety Committee) or create a sub-committee of an existing committee.
5. Representatives from leadership and frontline staff.

Toolkit Part II: Medical Surge Planning Worksheets

The Hospital Medical Surge Planning Worksheets can be used to facilitate conversations, track planning progress, and make decisions for surge capacity within hospitals. The worksheets can be used to capture hospital-wide planning efforts, unit-based planning efforts, and support services department planning efforts.

There are three worksheets for each medical surge planning element and corresponding tab(s) in the Medical Surge Planning Master Spreadsheet to capture the data documented from the worksheets.

Planning Element	Medical Surge Planning Worksheets	Medical Surge Planning Master Spreadsheet
Space	1. Hospital-Wide Space Planning 2. Unit-Based Space Planning 3. Support Services Space Planning	Tab 1: Space – Clinical Area Tab 2: Space – Assessment
Staff	1. Hospital-Wide Staff Planning 2. Unit-Based Staff Planning 3. Support Services Staff Planning	Tab 3: Hospital Staff Assessment
Stuff	1. Hospital-Wide Stuff Planning 2. Unit-Based Stuff Planning 3. Support Services Stuff Planning	Tab 4: Hospital Stuff Assessment Tab 5: Stuff for Expansion
Systems and Census Management	1. Hospital-Wide Systems Planning 2. Unit-Based Systems Planning 3. Support Services Systems Planning	Tab 6: Systems and Operations

Purpose

The purpose of the Space Worksheets is to compile information from assessments of existing inpatient clinical areas and potential surge spaces within the hospital. These worksheets will aid planners in the development of strategies and tasks associated with expanding space to support surge capacity.

How to Use the Space Worksheets

The Space planning worksheets should be completed first as Staff, Stuff, and Systems and Census Management planning will be based on the identified surge areas. The Medical Surge Planning Team should use these worksheets to assess surge capacity in existing inpatient clinical areas and identify other areas of the hospital to expand clinical care.

The Example Space Worksheets have been pre-populated with information from an example hospital, unit, and support service department to provide samples of completed worksheets. There are three worksheets included in Space Planning:

- Space Worksheet 1: Hospital-Wide Planning
- Space Worksheet 2: Unit-Based Planning
- Space Worksheet 3: Support Services Planning

Conventional Beds: These are beds that are licensed, physically available, staffed, and could be occupied by a patient. This estimate should be based on the average daily census (ADC).
Note that licensed beds may differ from the unit's average daily census.

Immediate Bed Availability (IBA): IBA is the federal requirement to increase staffed beds by 20% of the average daily census within four hours. Identify areas on the unit where it is possible to provide care at a level functionally equivalent to usual care levels (first priority for surge).

Contingency Beds: These beds provide a unit with the ability to increase staffed beds up to 50% of the average daily census. Find areas where care could be provided when usual resources are overwhelmed (second priority for surge).

Crisis Beds: These beds allow a unit to increase staffed beds up to 75-100% of the average daily census. Consider Non-Inpatient Clinical Areas and non-Clinical Areas here, and areas where care could be provided when usual resources are overwhelmed (third priority for surge).

Space Worksheet 1: Hospital-Wide Planning

Space Worksheet 1: Hospital-Wide Planning helps the Medical Surge Planning Team identify a hospital-wide planning strategy and complete an assessment of potential surge spaces within the hospital. When planning to expand clinical areas, there are four main strategies to consider:

1. Expand inpatient clinical areas by adding beds to current inpatient rooms.
2. Consider non-inpatient clinical areas and non-clinical areas contiguous to the hospital that could support patient care.
3. Convert non-clinical areas for critical care patients.
4. Convert older patient care areas that are currently being used as administrative or storage areas.

Considerations for Converting Non-Critical Care Inpatient Clinical Areas to Critical Care

- Patient monitoring system is available for each bedside.
- Used to monitor the patient's vital signs, including EKG, SpO2, EtCO2, non-invasive and invasive BP. It should be monitored (auditory) at the bedside in accordance with standard monitoring protocols by a healthcare worker at the bedside or virtual monitor that has audio capability.
- A ventilator available for the bedside of each patient requiring ventilator support.
- Each critical care patient should be in the "line of sight" of healthcare providers to the extent possible.
- If patients are not directly visible, implement strategies for periodic reassessment (no less than every 4 hours).
- Virtual line of sight via monitor is acceptable.

Considerations for Converting Non-Inpatient Clinical Areas to Critical Care Clinical Areas

Some non-inpatient clinical care areas could be converted to increase critical care capacity and can often support more than one patient. Non-inpatient clinical areas to consider:

- ED Rooms
- Interventional Radiology Lab
- Cath Lab
- Outpatient Procedure/Ambulatory Surgery Units that are contiguous with the hospital.

Considerations for Converting Non-Clinical Areas into Critical Care

- Some non-clinical areas could be converted to increase critical care capacity but are often best for lower acuity patients. Often, non-clinical areas can support more than one patient.
- These areas would be supplied by portable equipment and would need medical supplies.

Non-clinical areas to consider:

- Hallways (hallways on clinical units may be more preferred than hallways in non-inpatient or non-clinical areas)
- Waiting rooms or lounges (waiting rooms/lounges on clinical units may be more preferred than waiting rooms/lounges in non-inpatient or non-clinical areas)
- Conference rooms (conference rooms on clinical units may be more preferred than hallways in non-inpatient or non-clinical areas)
- Shell space
- Dining Room
- Tents or other temporary shelters outside the hospital walls

Additional Considerations

- Headwalls will not be available.
- Portable gasses will be necessary.
- Use approved extension cords and power ports to expand electrical outlets.
- Alternate call system for patient assistance needs to be identified.
- A portable monitoring system should be placed at the bedside as needed.
- Beds in shared patient space should be spaced far enough from each other to allow patient providers to pass between the beds and administer care (ex: 2-3 feet; 6 feet for infectious disease).
- Each bed must be assigned and matched with the medical record (paper or electronic).
- Beds in shared patient space should be spaced far enough from each other to allow patient providers to pass between the beds and administer care (ex: 2-3 feet; 6 feet for infectious disease).
- Aerosolizing procedures should NOT be performed in shared patient spaces. Aerosolizing procedures should be performed in an airborne isolation room or a room with a closed door.
- A minimum of one operating room must be reserved for emergent/urgent OR cases. Some hospitals may be required to hold more than one OR.
- Each bed must be assigned and matched with the medical record (paper or electronic).

1. Review Space Worksheet 1 with the Medical Surge Planning Team.
2. Discuss the sample strategies with the Medical Surge Planning Team.
3. Approve, remove, or add hospital-wide strategies for the hospital.
4. Determine tasks for each strategy, make assignments, and select target dates for completion.
5. Document the strategies on a blank Space Worksheet 1: Hospital-Wide Planning for the hospital. Results should be incorporated into the hospital's medical surge plan.
6. Add details to the Medical Surge Planning Master Spreadsheet (tabs 1 and 2).

Example Hospital:

A rural acute care hospital has an average daily census of 15 patients (licensed for 25 beds). The hospital offers a variety of services including emergency department, critical care, general surgery, cancer treatment, primary care, and women and family services. The hospital is independently owned and does not have support from a hospital system.

EXAMPLE Space Worksheet 1: Hospital-Wide Planning				
Strategy	**Tasks to Achieve the Strategy**	**Assigned to:**	**Target Date for Completion**	**Actual Date of Completion**

Identify and approve a surge capacity strategy for the hospital.	• Confirm likely scenarios for medical surge based on hazard vulnerability analysis (HVA). Consider the following:
	  ○ What normal operations should be modified to reduce the need for space?
	  ○ What activities are sidelined temporarily?
	  ○ What resources can be done without?
	• Define patient care strategies during surge that maximize critical care beds and facilitate patient movement from ICU to med/surge beds.
	• Identify surge strategies for specialty populations (e.g., pediatrics or behavioral health).
	• Identify strategy for palliative care and crisis standards of care.
	• Identify/review strategies for surge discharge.
	• Develop SOP/strategy for surge capacity.
		Medical Surge Planning Team
		Hospital Administration
		Nursing Leader
		Physician Leader
		Emergency Preparedness		

EXAMPLE Space Worksheet 1: Hospital-Wide Planning				
Strategy	**Tasks to Achieve the Strategy**	**Assigned to:**	**Target Date for Completion**	**Actual Date of Completion**
Identify expanded space for surge capacity	• Identify potential spaces which could be utilized during a medical surge incident on the hospital floor plan. • Expand capacity in **Airborne Infection Isolation Rooms (AIIR)** • Expand capacity in **Inpatient Clinical Areas** (even more than licensed bed capacity). • Consider **Non-Inpatient Clinical Areas** contiguous to the hospital that could expand clinical care. • Convert **Non-Clinical Areas** for critical care patients. • Walk through identified areas to understand their capability. • Document in the Medical Surge Planning Master Spreadsheet (tabs 1 and 2) • Develop SOP for expanding clinical areas and priority units/locations.	Emergency Preparedness Facilities Nursing IT Infection Control		
Identify expanded space for surge capacity:	• Identify existing AIIR/isolation rooms. • Identify potential areas for cohorting infectious patients. • Compare proposed expansion options to ensure HVAC can support patients. Document in the Medical Surge Planning Master Spreadsheet (tabs 1 and 2). • Develop SOP for expanding isolation rooms for a surge of infectious patients.	Facilities Infection Control		

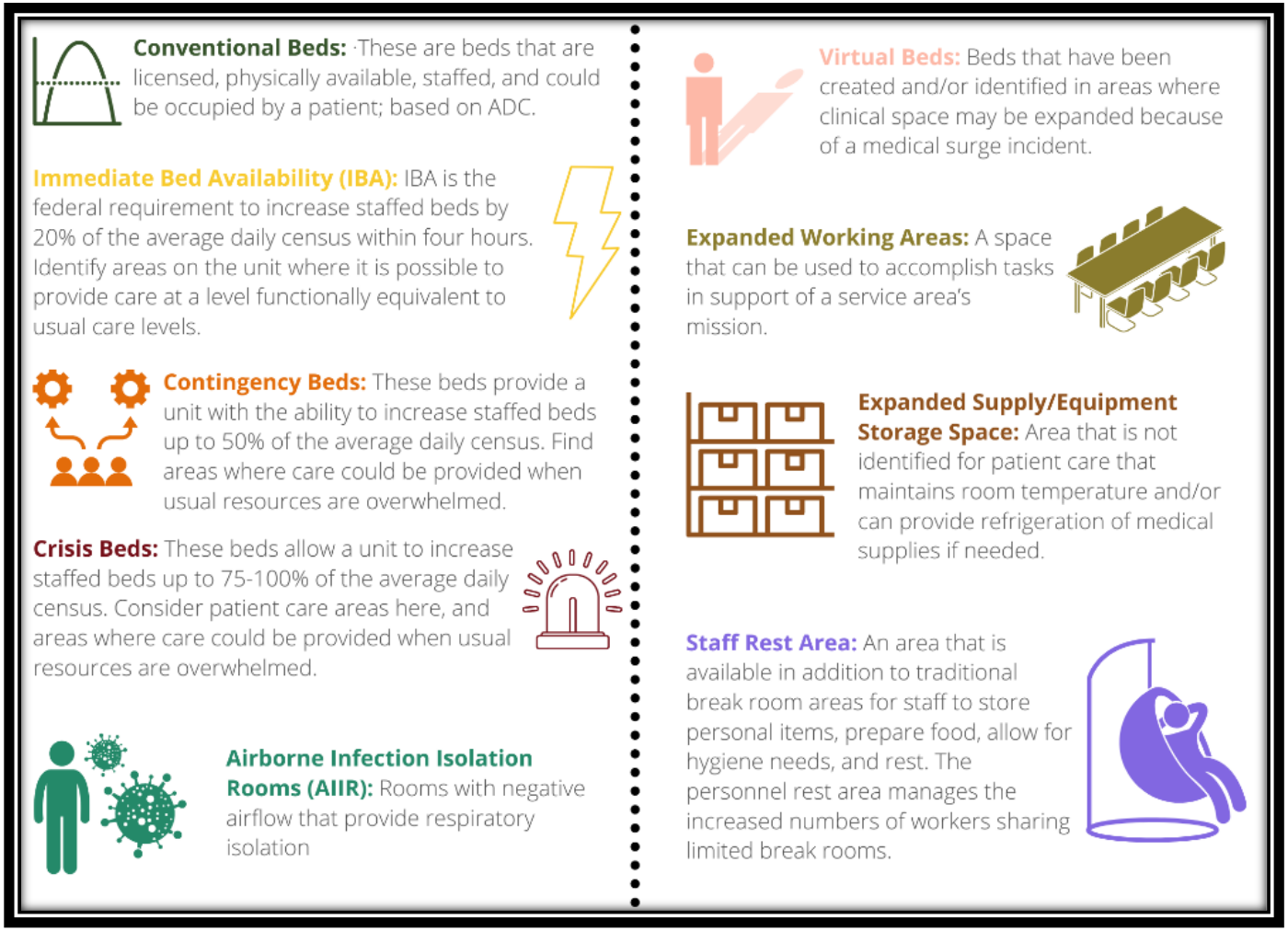
EXAMPLE Space Worksheet 1: Hospital-Wide Planning				
Strategy	**Tasks to Achieve the Strategy**	**Assigned to:**	**Target Date for Completion**	**Actual Date of Completion**
Use tents to create additional patient care areas outside the hospital.	• Determine if Centers for Medicare and Medicaid Services (CMS) 1135 waiver is in place or drafted. EM.12.01.01- EOP identifies 1135 waiver procedure. • Develop SOP for waiver creation/process/ submission. • Determine scope/level of care to provide at the tents. • Determine supply needs and storage requirements that match the level of care planned at tents. • Determine tent locations and logistics i.e., weather considerations, electrical supply, HVAC, etc. • Determine staffing for tent care based on level. • Consider different scenarios for the use of tents (medical surge, mass casualty triage, pediatric use, or adult use). Document in Medical Surge Planning Master Spreadsheet (tabs 1 and 2). • Develop SOP for activation, staffing, and setup.	Emergency Management Emergency Department Infection Control		

Next Step: *Please complete the Space Worksheet 2: Hospital-Wide Planning*

Space Worksheet 2: Unit-Based Planning

The Medical Surge Planning Team can work with inpatient unit leaders to facilitate conversations and decide how an individual unit can expand during a surge event. Inpatient unit leaders will need to understand the results of Space Worksheet 1 and the hospital-wide strategies to assist them in developing a unit-based strategy. Space Worksheet 2 in the Toolkit has been populated based on an acute care unit in an example hospital.

Note: This example worksheet has been created for inpatient clinical areas. Similar worksheets may be completed for non-inpatient clinical areas and non-clinical areas as necessary.



1. Review the sample Space Worksheet 2 with inpatient unit leader(s).
2. Assign inpatient unit leader(s) to complete a blank Space Worksheet 2: Unit-Based Planning with each unit's ability to provide surge capacity.
3. Calculate the unit's Surge Capacity Targets and enter it in the worksheet. Assume the unit will receive the same type of patients with the same acuity the unit cares for based on a normal day.
    - **Conventional Beds**: These are beds that are licensed, physically available, staffed, and could be occupied by a patient. This estimate should be based on the average daily census (ADC).
        - Note that licensed beds may differ from the unit's average daily census.
    - **Immediate Bed Availability (IBA):** IBA is the federal requirement to increase staffed beds by 20% of the average daily census within four hours. Identify areas on the unit where it is possible to provide care at a level functionally equivalent to usual care levels (priority for surge).
    - **Contingency Beds**: These beds provide a unit with the ability to increase staffed beds by up to 50% of the average daily census. Find areas where care could be provided when usual resources are overwhelmed (second priority for surge).
    - **Crisis Beds**: These beds allow a unit to increase staffed beds up to 75-100% of the average daily census. Consider Non-Inpatient Clinical Areas and non-Clinical Areas here, and areas where care could be provided when usual resources are overwhelmed (third priority for surge).
4. Based on the Surge Capacity Targets, complete the worksheet with potential surge locations.
5. Unit leader(s) should submit their completed worksheet to the Medical Surge Planning Team.
6. The Medical Surge Planning Team will file the unit's worksheet and add the information from the worksheet to the Medical Surge Planning Master Spreadsheet (tabs 1 and 2).

Example Unit:

This 6-bed unit is a medical/surgical unit that cares for a range of patients. Patients may include Gastrointestinal (GI), renal, endocrine, rheumatology, and other medical conditions. There is a charge nurse in the leadership position on the unit. The unit's nursing staffing includes Registered Nurses (RNs) and Certified Nursing Assistants (CNAs). Physician coverage is mostly provided by local physicians and some specialty consultants as needed.

Example Space Worksheet 2: Unit-Based Planning					
Unit Name:	**Conventional Beds (ADC)**	**IBA (20% of ADC)**	**Contingency Beds (50% of ADC)**	**Crisis Beds (75-100% of ADC)**	**Max Total Beds for this Unit**
Surge Capacity Targets (From Step 3)	6	+1	+3	+4	10[7]
Additional bed in Inpatient Clinical Areas	N/A	Double patient room 310 = 1 bed	Double patient rooms 310, 311, 312 = 3 beds	Double patient rooms 310, 311, 313, 315 = 4 beds	4
Additional beds in Non-Inpatient Clinical Areas	N/A	N/A	N/A	N/A	1
Additional beds in Non-Clinical Areas	N/A	N/A	N/A	Conference room 340A for 9 more patients	9
Airborne Infection Isolation Rooms (From Step 2)			Room 312		
Additional Notes on Space:			Conference room 340A can accommodate up to 9 patients based on the following criteria from the Hospital Associated Infections		

[7] Calculated by adding the number of Conventional beds (6) and the number of Crisis beds (4) for each unit.

Example Space Worksheet 2: Unit-Based Planning	
	Organization: Each patient bed must be equipped with one oxygen outlet and one vacuum outlet; Each patient bed must be spaced at least 6 ft apart from another bed and each patient room must have access to hand-washing sinks and privacy partitions. ADC is less than licensed beds – I would need additional staffing to reach our licensed bed capacity. All patient rooms on the unit are single rooms and can be doubled - there is oxygen, power, and med gas for 2 patients.
Preferred expanded supply spaces for the unit:	The current supply room is room 320. The Soiled utility room is 322. There is no more room in either room for more supplies. Increased supply deliveries from Materials Management would keep our current space full. The same for pharmaceuticals in the PYXIS. Additional supply carts can be added behind the nurses' station (open access) or in our break room (secure room). The nurse manager office could be used for additional supply storage.
Considering what you will store, what capabilities should the expanded storage space have (restricted access, refrigeration, shelving, power outlets)?	Restricted access would be preferable. Oxygen tanks need secure storage. Shelves would be best but rolling supply carts would work for storage and access.
Preferred expanded working areas for the unit.	The nurse's station could hold two more staff workstations if computers were provided. Consider mobile workstations i.e., workstations on wheels (WOWs) or laptops. Physician work areas could be shared with nursing staff (currently it is saved for residents and physicians). The nurse manager's office could be used for more staff workspace. One more

Example Space Worksheet 2: Unit-Based Planning	
	computer could be added in the office. Two more computers could be added to the staff break room for more workspace.
Considering what job functions will be performed, what capabilities would the expanded working space have (restricted access, computers, power outlets)?	Computer, network access, full clinical applications, printer, PYXIS.
Identify a space for a staff break area that is NOT the current break room.	We do not have space on the unit but there is a family consultation room shared with another unit that could be used (room 348). We will need additional space away from the unit for staff breaks.
What capabilities should this space expanded break area have (microwaves, power, dimming lights, cots, table/chairs, showers)?	No public access, no windows into hallways for staff privacy, table, chairs, power, lockers, microwave, coffee pot, refrigerator. A TV, magazines, headphones, fidget toys, earplugs and a variety of phone chargers would be nice.

Next Step: *Please complete the Space Worksheet 2: Unit-Based Planning*

Space Worksheet 3: Support Services

The Medical Surge Planning Team can work with support services department leaders to facilitate conversations and decide how their departments can support additional patients in expanded clinical areas. Additional space may be needed for support services to provide care to these expanded areas. Planners may use the expected surge numbers calculated in the hospital-wide and unit-based worksheets to assess additional needs for support services. Space Worksheet 3 in the Toolkit has been populated based on an example RT department in an example hospital.

Note: for the purpose of this toolkit, support services include departments that will provide care on inpatient units such as RT, lab, radiology, environmental services, facilities, food services, and pharmacy.

1. Review the sample Space Worksheet 3 with support services department leader(s).
2. Assign leader(s) to complete the Space Worksheet 3: Support Services Planning, with space needs for their department.
   - **Expanded Supply/Equipment Storage Space**: A space that is not identified for patient care that maintains room temperature and/or has the ability to provide refrigeration of medical supplies if needed.
   - **Expanded Working Areas**: Space that can be used to accomplish tasks in support of a service area's mission. (For example, a pharmacy may need more compounding space, a laundry may need space for folding tables or additional machines, and a dietary unit may need extra food prep areas.)
   - **Staff Rest Area**: Space that is available in addition to traditional break room areas for staff to store personal items, prepare food, allow for hygiene needs, and rest. This space manages the increased numbers of workers sharing limited break rooms.
3. Department leader(s) should submit their completed worksheet to the Medical Surge Planning Team. The Medical Surge Planning Team will file the department's worksheet and add the information from the worksheet to the Medical Surge Planning Master Spreadsheet (tabs 1 & 2)

Example Space Worksheet 3: Support Services Planning	
Department: RT	
Preferred expanded supply spaces for the department:	Family Room on 2nd Floor (next to chapel)
Considering what you will store, what capabilities should the expanded storage space have (restricted access, refrigeration, shelving, power outlets)?	Shelving, power outlet/charging stations, medical gas storage.
Preferred expanded working areas for the department.	None needed.
Considering what job functions will be performed, what capabilities would the expanded working space have (restricted access, computers, power outlets)?	N/A
Identify a space for a staff break area that is NOT the current break room.	Unsure of options, please assist.
What capabilities should this space expanded break area have (microwaves, power, dimming lights, cots, table/chairs, showers)?	Cots, microwave, refrigerator

Next Step: *Please complete the Space Worksheet 3: Support Services Planning*

Staff: Expanding the Workforce

Purpose

The purpose of the Staff Worksheets is to compile information from the assessment of potential workforce expansion across the hospital and to document potential staffing targets. These worksheets will aid planners in the development of strategies and associated tasks to expand clinical areas.

How to use the Staff Planning Worksheets

The Staff Planning Worksheets have been pre-populated with information from an example hospital, unit, and support service department to provide samples of completed worksheets. There are three worksheets included in Staff Planning:

- Staff Worksheet 1: Hospital-Wide Planning
- Staff Worksheet 2: Unit-Based Planning
- Staff Worksheet 3: Support Systems Planning

Example Hospital:

A rural acute care hospital has an average daily census of 15 patients (licensed for 25 beds). The hospital offers a variety of services including emergency department, critical care, general surgery, cancer treatment, primary care, and women and family services. The hospital is independently owned and does not have support from a hospital system.

Staff Worksheet 1: Hospital-Wide Planning

Staff Worksheet 1: Hospital-Wide Planning helps planners identify a hospital-wide planning strategy and complete an assessment of potential workforce expansion options across the entire hospital. When planning to expand the clinical workforce, there are five primary strategies to keep in mind:

1. Consider clinical teams and tiered levels of staffing, including expanding staff patient ratios and adjusting shift times.
2. Identify all available clinical staff, including licensed staff not currently working in clinical roles.
3. Expand scope of practice for students and expedite credentialing and privileging processes for surge events.
4. Cross-train staff to work on other units (pre-event and Just-in-Time Training).
5. Identify other sources of clinical workforce from outside the hospital/system.

1. Review Staff Worksheet 1 with the Medical Surge Planning Team.
2. Discuss the sample strategies with the Medical Surge Planning Team. Approve, remove, or add hospital-wide strategies for the hospital.
3. Determine tasks for each strategy, make assignments, and select target dates for completion.
4. Document the strategies on the Staff Worksheet 1: Hospital-Wide Planning for the hospital. Results should be incorporated into the hospital's medical surge plan.

Example Staff Worksheet 1: Hospital-Wide Planning				
Strategy	**Tasks to Achieve the Strategy**	**Assigned to:**	**Target Date for Completion**	**Actual Date of Completion**
Consider re-formatting existing clinical teams and tiered levels of staffing.	• Create teams with experienced staff that can provide supervision/ instruction to staff (or students/residents) working out of their normal units. • Use mid-level providers or medical subspecialists to assist with physician rounding. • Determine hospital staffing strategy in disasters; provide overtime to employees or increase use of agency staffing. • Develop SOP for creating clinical teams during an emergency. • Creatively change shift duration for clinical and nonclinical teams. • Consider floating staff between Adult and Pediatric units or between critical care and medical/surgical units. • Utilize physicians to address identified clinical care gaps. • Identify outpatient providers to work in inpatient areas. • Review labor contracts for "disaster" clauses/ information.	Nursing Leader Physician Leader Human Resources		

EM.12.02.03-Staffing plan to manage staff.

Example Staff Worksheet 1: Hospital-Wide Planning				
Strategy	**Tasks to Achieve the Strategy**	**Assigned to:**	**Target Date for Completion**	**Actual Date of Completion**
	• Review staff call trees and update accordingly.			
Identify available clinical staff in administrative positions that could serve in a clinical role.	• Identify administrative staff who hold active nursing/medical licenses that could provide care in a surge environment. • Identify the critical skills they may need, including equipment use. • Determine if clinical duties in an emergency is in their job description. • Determine how these pre-identified staff maintain their skills outside of licensing requirements. • Develop SOP describing activation process/ request to activate these staff members.	Nursing Leader Human Resources Medical Staff Office Regulatory		
Expand scope of practice for and expedited credentialing and privileging processes for surge events.	• Develop an understanding of the scope of practice during routine operations for all members of medical and nursing staff. • Refer to the surge pyramid; determine which staff types can support Conventional, • IBA, Contingency Care and Crisis levels of operations. • Develop Memorandum of Understanding (MOU) with medical training and academic institutions to use students as surge support for key roles.	Human Resources Legal Nursing Leader Physician Leader Regulatory		

Example Staff Worksheet 1: Hospital-Wide Planning				
Strategy	**Tasks to Achieve the Strategy**	**Assigned to:**	**Target Date for Completion**	**Actual Date of Completion**
	• Develop precepting standards to support the use of students in an emergency setting. • Ensure rapid credentialing process and onboarding process for surge staffing. • Understand liability coverage for surge staffing in the hospital. • Based on the care provided in various units, expand/change ratios to manage staffing. • Review the current Maine's Crisis Standards of Care document to help inform these decisions. • Develop an SOP for expanding scope of practice in an emergency. EM.12.02.03-Granting disaster privileges.			
Cross-train existing clinical staff	• Determine criteria and competencies of a "cross trained" staff member. • Identify potential staff for cross-training (e.g., a CRNA or anesthesia provider can learn to provide critical respiratory support; nursing can learn to use nebulizers). • Prioritize critical skills and equipment for cross-training. EM.15.01.01-Written education and training program	Nursing Leader Physician Leader Nurse Educators Biomed/Health Information Technology		

Example Staff Worksheet 1: Hospital-Wide Planning				
Strategy	**Tasks to Achieve the Strategy**	**Assigned to:**	**Target Date for Completion**	**Actual Date of Completion**
	• Assess staff training gaps on prioritized skills and equipment. • Develop a training program for critical equipment. • Develop an SOP for cross-training staff.	Regulatory		
Identify other sources of clinical workforce from outside the hospital/system.	• Obtain a list of staffing agencies used by the hospital and their 24/7 contact info. Identify what skills you would ask for in the staffing request. • Review agency contracts for "disaster" staff support content. • Consider use of unconventional staff (i.e., volunteers, paramedics, dentists, veterinarians, retired health professionals with an active license, retired health professionals or individuals whose license has lapsed) EM.12.02.03-Managing volunteer licensed practitioners. • Identify what scenario(s) for which you would use unconventional staffing in the hospital. • Identify volunteers through Disaster Medical Assistance Teams (DMAT), or Maine Volunteers.	Nursing Leader Medical Staffing Office Legal Regulatory Human Resources Finance		

Example Staff Worksheet 1: Hospital-Wide Planning				
Strategy	**Tasks to Achieve the Strategy**	**Assigned to:**	**Target Date for Completion**	**Actual Date of Completion**
	• Determine what caregiving duties a family member can do to relieve strain on nursing staff. • Determine where non-caregiving volunteers are best utilized in the operation. • Develop SOPs.			
Develop procedures to accept and assign non-caregiving volunteers.	• Determine what roles best fit which volunteers. Consider all surge operations (e.g., parking, call center, childcare, laundry, food service) and include them in planning. • Determine the administrative burden required to manage and oversee volunteers in the work area to determine appropriateness. • Identify supervision standards that are required for each job. • Determine minimum standards for information required to serve as a volunteer in a disaster (e.g., will you use spontaneous volunteers or only pre-planned/clearance sources. • Develop SOP and related checklists.	Human Resources Support Service Departments Departments that need help/would use volunteers		

Example Staff Worksheet 1: Hospital-Wide Planning				
Strategy	**Tasks to Achieve the Strategy**	**Assigned to:**	**Target Date for Completion**	**Actual Date of Completion**
Develop and implement just-in-time training for staff assigned to expanded clinical areas.	• Identify just-in-time training content. • Develop just-in-time training material. • Deliver training to identified staff, as appropriate, in expanded clinical areas. EM.12.02.02- EOP written plan to obtain, allocate, mobilize, replenish, etc.	Nursing Leader Human Resources Medical Staff Office Regulatory		
Plan for dependent care for staff.	• Identify staff support programs (such as child or elder care). • Identify pet support programs. • Develop messaging to emphasize personal preparedness planning for staff family care. (Hospital day care should be the last resort) • Develop SOP. EM.12.02.03- Providing employee assistance and support.	Emergency Preparedness Committee Social Work		

Example Staff Worksheet 1: Hospital-Wide Planning				
Strategy	**Tasks to Achieve the Strategy**	**Assigned to:**	**Target Date for Completion**	**Actual Date of Completion**
Establish a preparedness and resiliency program for staff.	• Provide all staff a foundational knowledge of emergency response and procedures. • Develop an emergency resiliency program. • Consider Psychological First Aid training for staff. EM.12.02.03- Providing employee assistance and support.	Human Resources Emergency Preparedness Nurse Educators		

Next Step: *Please complete the Staff Worksheet 1: Hospital-Wide Planning*

Staff Worksheet 2: Unit-Based Planning

The Medical Surge Planning Team may work with inpatient unit leaders to facilitate conversations and decide on how an individual unit can expand its ability to care for patients during a surge event. Inpatient unit leaders will need to understand the results of previously completed worksheets to assist them in developing a unit-based strategy.

Note: This worksheet has been created for inpatient clinical areas. Similar worksheets may be completed for non-inpatient clinical areas and non-clinical areas as necessary.

Example Unit:

This 6-bed unit is a medical/surgical unit that cares for a range of patients. Patients may include GI, renal, endocrine, rheumatology, and other medical conditions. There is a charge nurse in the leadership position on the unit. The unit's nursing staffing includes RNs, and CNAs. Physician coverage is mostly provided by local physicians and some specialty consultants, as needed.

1. Review the sample Staff Worksheet 2 with inpatient unit leader(s).
2. Assign inpatient unit leader(s) to complete Staff Worksheet 2: Unit-Based Planning with each unit's ability to provide surge capacity.
3. Complete the worksheet with each unit's ability to expand its workforce.
4. Unit leader(s) should submit their completed worksheet to the Medical Surge Planning Team.
5. The Medical Surge Planning Team will file the unit's worksheet and add the information from the worksheet to the medical Surge Planning Master Spreadsheet (tab 3).

Conventional Beds: These are beds that are licensed, physically available, staffed, and could be occupied by a patient. This estimate should be based on the average daily census (ADC).
Note that licensed beds may differ from the unit's average daily census.

Immediate Bed Availability (IBA): IBA is the federal requirement to increase staffed beds by 20% of the average daily census within four hours. Identify areas on the unit where it is possible to provide care at a level functionally equivalent to usual care levels (first priority for surge).

Contingency Beds: These beds provide a unit with the ability to increase staffed beds up to 50% of the average daily census. Find areas where care could be provided when usual resources are overwhelmed (second priority for surge).

Crisis Beds: These beds allow a unit to increase staffed beds up to 75-100% of the average daily census. Consider Non-Inpatient Clinical Areas and non-Clinical Areas here, and areas where care could be provided when usual resources are overwhelmed (third priority for surge).

Example Staff Worksheet 2: Unit-Based Planning					
Unit Name:	**Conventional Beds (ADC)**	**IBA (20% of ADC Beds)**	**Contingency Beds (50% of ADC Beds)**	**Crisis Beds (75-100% of ADC)**	**Max Total Beds for this Unit**
Surge Capacity Targets [8]	6	+1	+3	+4	10[9]
Staffing Ratio	3:1 on days 3:1 on nights	3:1 on days 3:1 on nights	4:1	5:1	N/A
Additional Nursing Staff Needed from The Unit	N/A	None – we can support 3 more patients with current staffing levels on shift	1 Additional RNs	1 Additional RNs, 2 CNAs	5 RNs 2 CNAs
Additional Staff Needed from Other Units or Sources	N/A	None	None	1 RNs, 2 CNAs	5 RNs 2 CNAs

[8] Carried forward from Space Planning Worksheet.

[9] Calculated by adding the number of Conventional beds (6) and the number of Crisis beds (4) for each unit.

Example Staff Worksheet 2: Unit-Based Planning					
Additional Support	N/A	N/A	Pharmacy, Housekeeping	Pharmacy, Housekeeping	1 Pharmacist, 1 Housekeeping
What are the **MINIMUM** clinical skills/ certifications requirements to care for the patients in this unit?			American Heart Association (AHA) Basic Life Support for Hospital Provider Certification/CPR. Active Licensed Practical Nurse (LPN) License.		
What are the **PREFERRED** clinical skills/certifications requirements needed to care for the patients on this unit?			Dialysis, wound care experience		
What other units may have the skills to care for the unit's patients?			Any acute care or med/surg		
How does Physician/Provider coverage change with increased patient numbers?			Consult with Medical Leadership regarding ratios of hospitalists to pt. increases.		
Any additional staffing concerns?			Most of our staff live more than 30 minutes from the hospital. There could be a time lag before more arrive to assist.		

Next Step: *Please complete the Staff Worksheet 2: Unit-Based Planning*

Staff Worksheet 3: Support Services Department

The Medical Surge Planning Team can work with support services department leaders to facilitate conversations and decide how their departments can support additional patients in expanded clinical areas. Additional staff may be needed for support services to provide care to these expanded areas. Planners may use the expected surge numbers calculated in the hospital-wide and unit-based worksheets to assess additional needs for support services. Staff Worksheet 3 in the Toolkit has been populated based on an example RT department in an example hospital.

Note: for the purpose of this Toolkit, support services include departments that will provide care or service on inpatient units such as RT, lab, radiology, environmental services, facilities, food services, and pharmacy.

1. Review the sample Staff Worksheet 3 with support services department leader(s).
2. Assign leader(s) to complete the Staff Worksheet 3: Support Services Planning. Based on Target numbers for each inpatient unit (from Space Worksheet 2), determine staffing goals that support an increased number of patients on each unit.
3. Calculate the department's Surge Capacity Targets and staffing ratios and enter those numbers into the worksheet. Assume for this assessment that the department will be responsible for the same areas, type of patients with the same acuity, or services as a normal day.
    - **Conventional (Average Daily Census) Levels**: The average number of staff working in the department for routine operations. This is typically in proportion to the average daily census of staffed beds in the inpatient units.
    - **IBA Staffing Surge**: The level of staffing above the daily or conventional levels needed to provide care or services to inpatients in support of a hospital surge for IBA. IBA is a federal requirement that inpatient hospital units should be able to increase the number of beds by no less than 20% of staffed beds within four hours of an occurring disaster.
    - **Contingency Staffing Surge**: The level of staffing above the IBA levels that is needed to provide care or services to inpatients in support of a hospital surge for a 50% increase in beds based on the ADC.
    - **Crisis Staffing Surge**: The level of staffing above the Contingency levels that allows for the maximum number of patients that can be cared for on a unit in support of a hospital surge for a 75-100% increase in beds based on the ADC.
4. Describe factors that would impact care and identify strategies to expand the workforce.
5. Department leader(s) should submit their completed worksheet to the Medical Surge Planning Team.
6. The Medical Surge Planning Team will file the department's worksheet and add the information from the worksheet to the Medical Surge Planning Master Spreadsheet (tab 3).

Example Staff Worksheet 3: Support Services Departments				
Department: RT	Conventional Beds (ADC)	IBA (20% of ADC Beds)	Contingency Beds (50% of ADC Beds)	Crisis Beds (75-100% of ADC)
Surge Capacity Targets:	1 Adult RTs 0 Pediatric RTs	1 Adult RTs 0 Pediatric RTs	2 Adult RTs 0 Pediatric RTs	2 Adult RTs 0 Pediatric RTs
Staffing ratios:	6:1 Adult	6:1 Adult	8:1 Adult	8:1 Adult
How would care be impacted by a surge?	Care is routine for Conventional and IBA. Contingency and Crisis would Likely need standards of care changes to manage staffing assignments/ratios and modify care/treatment plans due to staffing or supply challenges.			
Strategies for additional staff needed for the department:	There are only 3 RTs on staff for the entire hospital. Consider outreaching to RT schools in the area for emergency credentialing to support contingency operations. Consider RT students in support of crisis operations			
Additional staff dependencies for the department from other units/sources:	N/A			

Next Step: *Please complete the Staff Worksheet 3: Support Services Planning*

Stuff: Supplies and Equipment for Expanding Clinical Areas

Purpose

The purpose of the Stuff Worksheets is to aid planners in the development of strategies and tasks associated with identification and procurement of supplies and equipment needed for the identified expanded clinical areas.

How to Use the Stuff Planning Worksheets

The Stuff Worksheets have been pre-populated with information from an example hospital, unit, and support service department to provide samples of completed worksheets. There are three worksheets included in Stuff Planning:

- Stuff Worksheet 1: Hospital-Wide Planning
- Stuff Worksheet 2: Unit-Based Planning
- Stuff Worksheet 3: Support Services Planning

Example Hospital:

A rural acute care hospital with an average daily census of 15 patients (licensed for 25 beds). The hospital offers a variety of services including emergency department, critical care, general surgery, cancer treatment, primary care, and women and family services. The hospital is independently owned and does not have support from the hospital system.

Stuff Worksheet 1: Hospital-Wide Supplies and Equipment

Stuff Worksheet 1: Hospital-Wide Supplies and Equipment helps planners identify a hospital-wide planning strategy to equip expanded clinical areas. When planning to procure or maximize the use of supplies and equipment, there are four main strategies to keep in mind:

1. Identify the most likely and necessary equipment and supplies for expanded clinical areas.
2. Determine a strategy for procuring supplies and equipment pre-event and storing on-site.
3. Execute agreements with vendors to support the procurement strategy.
4. Create conservation strategies to use limited resources to the maximum extent possible.

EM.12.02.03- The hospital has a plan for managing resources and assets during an emergency or disaster incident.

1. Review Stuff Worksheet 1 with the Medical Surge Planning Team.
2. Discuss the sample strategies with the Medical Surge Planning Team.
3. Approve, remove, or add hospital-wide strategies for the hospital.
4. Determine tasks for each strategy, make assignments, and select target dates for completion.
5. Document the strategies on Stuff Worksheet 1: Hospital-Wide Planning
6. Results should be incorporated into the hospital's medical surge plan.
7. Add details to Medical Surge Planning Master Spreadsheet (tabs 4 and 5).

Basic Equipment Checklist for Clinical Area

Advanced Equipment Checklist for Critical Care Areas

Infection Control Supplies

Example Stuff Worksheet 1: Hospital-Wide Supplies and Equipment				
Strategy	**Tasks to Achieve the Strategy**	**Assigned to:**	**Target Date for Completion**	**Actual Date of Completion**
Identify the most likely and necessary equipment and supplies for expanded clinical areas.	• List the bare minimum equipment for an inpatient bed. • List additional needs for a critical care bed. • List general patient care supplies (e.g., linen and bath wipes). • List consumable supplies needed for critical equipment (e.g., ventilator disposables). • List reusable supplies acceptable in a clinical area. • Apply bare minimum to selected expanded care areas. • Develop SOP. EM.12.02.09 - EOP written plan to obtain, allocate, mobilize, replenish, etc.	Material Management Finance Nursing Leader Physician Leader		
Determine a strategy for procuring supplies and equipment pre-event and storing on-site.	• Based on expanded clinical areas, assess the necessary equipment the hospital owns.	Materials Management Finance Facilities		

Example Stuff Worksheet 1: Hospital-Wide Supplies and Equipment				
Strategy	**Tasks to Achieve the Strategy**	**Assigned to:**	**Target Date for Completion**	**Actual Date of Completion**
	• Identify available regional caches for example regional peer facilities, neighboring region peer facilities, healthcare coalition (HCC), public health, emergency management, and medical surge trailers. • Identify processes for resource requests through local Emergency Support Function (ESF) 8 and/or EM. • Document contact information for starting the Resource Request process and where a blank 213-RR is located and/or designated resource request form per local ESF 8/EM. • Determine how much surge supplies and equipment the hospital is willing and able to store on-site. • Determine limits and authorities for emergency procurement of surge supplies and equipment. • Determine ownership and maintenance schedule for equipment on-site. • Develop SOP.			
Notify vendors regarding needs and determine alternates	• Understand how vendors prioritize orders during an emergency.	Materials Management		

EM.12.02.02- EOP written plan to obtain, allocate, mobilize, replenish, etc.

Example Stuff Worksheet 1: Hospital-Wide Supplies and Equipment				
Strategy	**Tasks to Achieve the Strategy**	**Assigned to:**	**Target Date for Completion**	**Actual Date of Completion**
to support keeping the supply chain intact. Significant focus on critical supplies/equipment (i.e., ventilators	• Determine when the last supply chain assessment was conducted and discuss what the largest vulnerabilities identified were. • Work to diversify supply sourcing for both clinical and non-clinical supply vendors. • Identify vulnerabilities in the supply chain for additional contracts (by supply type). • Consider joint partnerships with other local hospital organizations for buying power. • Determine prioritization criteria for critical supplies (which is most important - patient care, hospital safety, etc.). • Identify other agreements already in place with other community partners. • Determine activation process for emergency orders. • Consider non-traditional ways to obtain needed supplies. • Develop SOP.	Facilities Finance		
Create conservation strategies to use limited resources to	• Develop an understanding of the routine operations standard of care. • Identify places to make resource conservation, based on risk information.	Nursing Leader Physician Leader		

Example Stuff Worksheet 1: Hospital-Wide Supplies and Equipment				
Strategy	**Tasks to Achieve the Strategy**	**Assigned to:**	**Target Date for Completion**	**Actual Date of Completion**
the maximum extent possible.	• Understand use patterns (by unit) of Personal Protective Equipment (PPE) and other non-medical supplies. • Determine how the different medical surge planning tiers will change PPE utilization. • Determine staff work that is a "must do" vs. "nice to do" and determine when/if changes to care functions need to be communicated to nursing and other staff. • Consider strategies for conserving, reusing, and sterilizing used supplies and equipment. • Identify if changes to the standard of care require regulatory waivers or exemptions. • Understand how families can fill in the gap in care/services. • Develop SOP.	Support Services Depts. Materials Management		

Next Step: *Please complete the Stuff Worksheet 1: Hospital-Wide Planning*

Stuff Worksheet 2: Unit-Based Supplies and Equipment

The Medical Surge Planning Team may work with inpatient unit leaders to facilitate conversations and decide what stuff an individual unit needs to expand its ability to care for patients during a surge event. Stuff Worksheet 2: Unit-Based Supplies and Equipment in the Toolkit has been populated based on an example acute care unit in an example hospital.

EM.12.02.09- Written plan to obtain, allocate, mobilize, replenish, etc.

Note: This worksheet has been created for inpatient clinical areas. Similar worksheets may be completed for non-inpatient clinical areas and non-clinical areas as necessary.

1. Review the sample Stuff Worksheet 2 with inpatient unit leader(s).
2. Assign inpatient unit leader(s) to complete the Stuff Worksheet 2: Unit-Based Planning with each unit's necessary supplies and equipment.
3. Unit leader(s) should submit their completed worksheet to the Medical Surge Planning Team. The Medical Surge Planning Team will file the unit's worksheet and add the information from the worksheet to the Medical Surge Planning Master Spreadsheet (tabs 4 and 5).

Example Unit:

This 6-bed unit is a medical/surgical unit that cares for a range of patients. Patients may include GI, renal, endocrine, rheumatology, and other medical conditions. There is a charge nurse in the leadership position on the unit. The unit's nursing staffing includes RNs, and CNAs. Physician coverage is mostly provided by local physicians and some specialty consultants as needed.

Example Stuff Worksheet 2: Unit-Based Supplies and Equipment					
Unit Name:	**Conventional (ADC)**	**IBA (20% ADC)**	**Contingency (50% ADC)**	**Crisis (75-100% ADC)**	**Max Total Beds for this Unit**
Surge Capacity Targets:[10]	6	+1	+3	+4	10[11]
What critical supplies/ equipment will you need?		1 bed and/or cots, sheets, blankets	3 beds and/or cots, sheets, blankets Crash cart 1 sharps container	4 beds and/or cots, sheets, blankets Crash cart PYXIS access 1-2 sharps containers	
What strategies can the unit employ to conserve critical supplies/equipment?			Use only one mask per patient, reducing waste. Inject fluids via syringe rather than hanging a bag. Limit change of linens. Limit patient bathing. Use of wet wipes for bathing instead of showers (or maybe showers instead of wet wipes). Minimize staff flow in and out of patient rooms.		
Additional considerations for PPE during a medical surge incident:			Incident type. Patient type. PPE Burn Rate. Discuss just in time inventory management with procurement and/or supply chain leads. What is the PPE amount needed per patient?		
How do you get more supplies to the unit?			Supply ordered daily, delivered the next day. Materials Management monitors supplies levels.		

[10] Carried forward from the Space Planning Worksheet.
[11] Calculated by adding the number of Conventional beds (6) and the number of Crisis beds (4) for each unit.

Example Stuff Worksheet 2: Unit-Based Supplies and Equipment	
Additional concerns about supplies or equipment?	With more patients, we will use more supplies. More frequent deliveries to the unit would let us use our current space without expanding supply space. We see a variety of patients and our usage and needs vary each day. We primarily treat orthopedic, cardiac, and GI patients.

Next Step: *Please complete the Stuff Worksheet 2: Unit-Based Planning*

Stuff Worksheet 3: Support Services Supplies and Equipment

EM.12.02.02- EOP written plan to obtain, allocate, mobilize, replenish, etc.

The Medical Surge Planning Team can work with support services department leaders to facilitate conversations and decide how their departments can support additional patients in expanded clinical areas. Additional stuff may be needed for support services to provide care to these expanded areas. Planners may use the expected surge numbers calculated in the hospital-wide and unit-based worksheets to assess additional needs for support services. Stuff Worksheet 3 in the Toolkit has been populated based on an example RT department in an example hospital.

Note: For this Toolkit, support services include departments that will provide care or service on inpatient units such as RT, lab, radiology, environmental services, facilities, food services, and pharmacy.

1. Review the sample Stuff Worksheet 3 with support services department leader(s).
2. Assign leader(s) to complete the Stuff Worksheet 3: Support Services Planning with space needs for their department.
3. Department leader(s) should submit their completed worksheet to the Medical Surge Planning Team. The Medical Surge Planning Team will file the department's worksheet and add the information from the worksheet to the Medical Surge Planning Master Spreadsheet (tabs 4 and 5).

Additional Infection Control Considerations

Example Stuff Worksheet 3: Support Services Supplies and Equipment				
Department: RT	**Conventional (ADC)**	**IBA (20% ADC)**	**Contingency (50% ADC)**	**Crisis (75-100% ADC)**
Surge Capacity Targets:[12]	1 Adult RTs 0 Pediatric RTs	1 Adult RTs 0 Pediatric RTs	2 Adult RTs 0 Pediatric RTs	2 Adult RTs 0 Pediatric RTs
What critical supplies/equipment will you need to provide patient care or support patient care needs?	Suction machines, BiPAP Oxygen Nebulizers Oxygen Concentrators Spirometers Tracheostomy supplies Air Purifiers	Same materials as Average Daily Staffing, just increase the volume	Same materials as Average Daily Staffing, just increase the volume	Same materials as Average Daily Staffing, just increase the volume
What are some strategies you could implement to conserve supplies?		Mask reuse; open to technical advice from materials management or vendors.		
How do you get more supplies for the department?		Materials Management continually stocks common items and staff can access as needed. BioMed rotation of machinery. Pharmacy fills PYXIS for any RT medications.		
Additional concerns about supplies/equipment?		If we are running low on a critical supply or equipment, how do we request more?		

Next Step: *Please complete the Stuff Worksheet 3: Support Services Planning*

[12] Carried forward from Staff Planning Worksheet.

Systems and Census Management: Technology and Management of Expanded Patient Census

Purpose:

The purpose of the Systems and Census Management Worksheets are to compile information from assessments of existing IT systems, and census management processes. These worksheets will aid planners in the development of strategies and tasks associated with sustaining or expanding IT systems, operations, and census management processes for expanded patient census.

How to Use the Systems and Census Management Planning Worksheets

The Systems and Census Management Worksheets have been pre-populated with information from an example hospital, unit, and a support services department to provide samples of completed worksheets. There are three worksheets included in Systems and Census Management Planning:

- Systems and Census Management Worksheet 1: Hospital-Wide Planning
- Systems and Census Management Worksheet 2: Unit-Based Planning
- Systems and Census Management Worksheet 3: Support Services Planning

Example Hospital:

A rural acute care hospital with an average daily census of 15 patients (licensed for 25 beds). The hospital offers a variety of services including emergency department, critical care, general surgery, cancer treatment, primary care, and women and family services. The hospital is independently owned and does not have support from a healthcare system.

Systems and Census Management Worksheet 1: Hospital-Wide Systems

The Systems and Census Management Worksheet 1: Hospital-Wide Planning helps planners identify a hospital-wide planning strategy and complete an assessment of the systems and operations for increased census management needed to support the expanded clinical areas and an expanded patient census. When planning the systems, operations and increased census management needed to support the expanded clinical areas and an expanded patient census, there are four main strategies to keep in mind:

1. Plan for an expanded patient census and the necessary medical record (paper or electronic) and patient care applications for expanded clinical areas.
2. Determine a strategy to prioritize patient care activities and procedures (e.g., labs, inpatient procedures) and consider limiting or canceling elective procedures.
3. Develop a procedure to streamline admissions process and admissions criteria for expanded clinical areas.
4. Identify surge discharge procedures and consider integration of additional community referral resources to open more beds for an expanded census.

1. Review Systems and Census Management Worksheet 1 with the Medical Surge Planning Team.
2. Discuss the sample strategies with the Medical Surge Planning Team. Approve, remove, or add hospital-wide strategies for the hospital.
3. Determine tasks for each strategy, make assignments, and select target dates for completion.
4. Document the strategies on Systems and Census Management Worksheet 1: Hospital-Wide Planning for the hospital. Results should be incorporated into the hospital's medical surge plan.
5. Add details to the Medical Surge Planning Master Spreadsheet (tab 6).

Example Systems and Census Management Worksheet 1: Hospital-Wide Systems and Census Management				
Strategy	**Tasks to Achieve the Strategy**	**Assigned to:**	**Target Date for Completion**	**Actual Date of Completion**
Plan for an expanded patient census, the necessary medical record (paper or electronic), and clinical applications for expanded clinical areas.	• Create and assign a medical record (paper or electronic) for the expanded beds identified in Space planning[13]. • Link the virtual beds to printers, PYXIS, computers, etc. in the expanded clinical areas. • Implement virtual monitoring systems for virtual beds. • Develop SOP.	IT Medical Records Nursing		
Determine a strategy for prioritizing or canceling patient care activities and procedures.	• Review existing strategies for allocating limited services or resources. • Develop or revise strategies for prioritizing inpatient care services. • Identify the threshold and process for canceling elective procedures. • Develop SOP.	Hospital Administration Nursing Leader Physician Leader		
Streamline admissions process and develop admissions criteria	• Develop a rapid admissions process for expanded areas.	Admissions Nursing Leader Utilization Management		

[13] During your Space planning, you have identified where to put additional patients in your hospital, and each of these will need a medical record. For example, room 110 is an inpatient clinical room for Patient A. During your Space planning, you've identified that you can add an additional patient to room 110 (Patient B). You will need to create a medical record for Patient B (these beds are sometimes call "virtual beds" or "shadow beds").

Example Systems and Census Management Worksheet 1: Hospital-Wide Systems and Census Management				
Strategy	**Tasks to Achieve the Strategy**	**Assigned to:**	**Target Date for Completion**	**Actual Date of Completion**
for expanded clinical areas.	• Review admissions criteria for potential placement in expanded areas instead of inpatient clinical areas. • Define patient type and criteria for each expanded non-inpatient or non-clinical area. • Expedite consults to admit ED patients quickly during a surge event.	Social Work		
Identify surge discharge procedures and consider integration of additional community referral resources to open more beds for an expanded census.	• Develop a surge discharge process. • Review discharge criteria for potential placement in alternative facilities or venues for short-term placement. • Determine process for physicians to expedite early discharge orders. • Establish a discharge lounge as a waiting area for patients finishing the discharge process. • Consider increasing DME stock to accelerate the discharge process.	Nursing Leader Physician Leader Materials Management		

Next Step: *Please complete the Systems and Census Management Worksheet 1: Hospital-Wide Planning*

Systems and Census Management Worksheet 2: Unit-Based Systems

The Medical Surge Planning Team may work with inpatient unit leaders to identify existing IT systems/applications needed to expand clinical areas to support patient care during a surge event. Systems and Census Management Worksheet 2 in the Toolkit has been populated based on an example acute care unit in an example hospital.

EM.12.02.07-Tracking on-duty staff and patients

Note: This worksheet has been created for inpatient clinical areas. Similar worksheets may be completed for non-inpatient clinical areas and non-clinical areas as necessary.

1. Review the sample Space Worksheet 2 with inpatient unit leader(s).
2. Assign inpatient unit leader(s) to complete the Systems and Census Management Worksheet 2: Unit-Based Planning with each unit's required systems and technology.
3. Unit leader(s) should submit their completed worksheet to the Medical Surge Planning Team. The Medical Surge Planning Team will file the unit's worksheet and add the information from the worksheet to the Medical Surge Planning Master Spreadsheet (tab 6).

Example Unit:

This 6-bed unit is a medical/surgical unit that cares for a range of patients. Patients may include GI, renal, endocrine, rheumatology, and other medical conditions. There is a charge nurse in the leadership position on the unit. The unit's nursing staffing includes RNs, and CNAs. Physician coverage is mostly provided by local physicians and some specialty consultants as needed.

Example Systems and Census Management Worksheet 2: Unit-Based Systems					
Unit Name:					
List essential IT systems/ applications for the Unit.	**Would loss impact the health and/or safety of patients or staff? (Y or N)**	**How long can the unit function without this system/ application?**	**Require specific equipment to function? (Y or N)**	**Strategies to leverage and extend existing IT systems/applications**	**Additional Concerns**
Our Internet Service	Y	30 minutes	Y	• Consider alternatives to cable provider/Satellite • Request priority service from provider	
Our Electronic Health Record	Y	Unknown	Y	• Develop down-time procedures • Print downtime procedure forms with anticipated outage up to 2 weeks • Off-site backup system • Desktop application for down-time use	
Our Care Documentation	Y	Unknown	Y	• Develop down-time procedures • Print downtime procedure forms with anticipated outage up to 2 weeks • Off-site backup system • Desktop application for down-time use	Cross training CNAs how to perform and document patient vitals with manual devices

Example Systems and Census Management Worksheet 2: Unit-Based Systems	
Comments or concerns about managing the expanded census on this unit?	Unknown how many staff are proficient in manual patient care i.e., taking manual blood pressures, calculating insulin based on Blood Glucose Levels, etc. Overall, patient care has been automated in many ways and any deviation from these processes and devices create a significant potential for near miss and actual harm events for both patients and staff. Ensuring staff are able to maintain as near as possible to their normal patient care routines will ensure better patient outcomes.
What potential solutions do you have for your census management concerns?	Ensure bed management can support increased patients – could be more staff. Messaging for families if their loved one is moved from an inpatient unit to a surge bed in the cafeteria.

Next Step: *Please complete the Systems and Census Management Worksheet 2: Unit-Based Planning*

Systems and Census Management Worksheet 3: Support Services Systems

The Medical Surge Planning Team can work with support services department leaders to facilitate conversations and decide how their departments can support additional patients in expanded clinical areas. Additional access to systems, operational considerations, and census management strategies may be needed for support services to provide care to these expanded areas. Planners may use the expected surge numbers calculated in the hospital-wide and unit-based worksheets to assess additional needs for support services. Systems and Census Management Worksheet 3 in the Toolkit has been populated based on an example RT department in an example hospital.

Note: For the purpose of this Toolkit, support services include departments that will provide care or service on inpatient units such as RT, lab, radiology, environmental services, facilities, food services, and pharmacy.

1. Review the sample Space Worksheet 3 with support services department leader(s).
2. Assign leader(s) to complete Systems and Census Management Worksheet 3: Support Services Planning with IT requirements to expand surge capacity.
3. Department leader(s) should submit their completed worksheet to the Medical Surge Planning Team.
4. The Medical Surge Planning Team will file the department's worksheet and add the information from the worksheet to the Medical Surge Planning Master Spreadsheet (tab 6).

Example Systems and Census Management Worksheet 3: Support Services Planning	
Department: RT	
What IT systems/applications are critical to your department?	Electronic medical record (EMR); intranet; MAR/TAR; telemetry monitoring; nurse call system; overhead system; telephone system; PYXIS
What strategies can be employed to leverage and extend existing IT systems/applications?	A unit point of contact (POC) will be identified to assist with inputting requests into non-clinical systems. A unit POC will be identified to assist with inputting requests into clinical systems. A unit POC will be pre-identified within the IT team to aid, training, and troubleshoot areas of concern specific to the unit.
Additional concerns about IT systems or applications for your department?	Down time procedures.
Comments or concerns about managing the expanded census for your department?	Ability of the therapists to complete care notes within the timeframe needed for expedited discharge practices. What should expedite intake of a new patient look like in a medical surge event? How is that captured in the medical record? Will this affect coding and billing?
What potential solutions do you have for your census management concerns?	We have to assess the number of critical/vent patients and only scale up accordingly. More critical patients means more RTs. Cohorting them on one unit would help my staff not be spread too thin.

Next Step: *Please complete the Systems and Census Management Worksheet 3: Support Services Planning*

Toolkit Part III: Medical Surge Planning Master Spreadsheet

The Medical Surge Planning Master Spreadsheet is the master "holding tank" for all the information gathered through the medical surge process from hospital leadership, inpatient units, and support services department leadership. In the Medical Surge Planning Master Spreadsheet, multiple tabs are available for review and use, as described below. The Medical Surge Planning Team will review submitted worksheets, identify any conflicting plans, and resolve them across the entire hospital enterprise.

This tab is the master location for all information regarding the number of beds available in various units throughout the hospital. The information sources are the Unit-Based Space Worksheets completed by unit leaders. The Microsoft Excel document has an example illustrating how the worksheet information populates in the worksheet.

INTRODUCTION - HOSPITAL MEDICAL SURGE SPREADSHEET	
This excel document is the "holding tank" for all the information gathered through the worksheet process. This document has multiple tabs as described below. The Medical Surge Planning Team will review the submitted information, deconflict as necessary, and resolve issues across the entire hospital enterprise. Below are descriptions of each tab and an example on how to collect and place information in them.	
Tab 1: Space-Clinical Areas	This is the central location for all information regarding the number of beds available and that can be created throughout the hospital. This information comes from the Unit-Based worksheets submitted by inpatient unit leaders. **SOURCE: Unit-Based Space Planning Worksheets**
Tab 2: Space-Assessment	In the course of medical surge planning, non-inpatient or non-clinical spaces can converted to expand clinical areas. This tab assesses characteristics of any proposed spaces identified, information about the intended patient type, and the staffing needs to make an area equipped for clinical care. **SOURCE: Hospital-Wide Space Assessment**
Tab 3: Staff Assessment	Each inpatient unit will assess how best to use staff to care for the maximum number of patients. This tool lists a unit's baseline staffing ratio, its target ratios for expanding the workforce, and a place to centralize minimum and preferred skills/certifications. Identifying staffing needs can support the Medical Surge Planning Team to revise standards of care, manage resources appropriately, and identify alternate sources to fill staffing needs. **SOURCE: Unit-Based Staff Worksheets**
Tab 4: Facility Stuff Assessment	This assessment divides which supplies are critical and preferred for each level of facility surge. Managers will identify critical supplies, strategies on how to manage challenging inventory levels, and address any concerns regarding necessary products. (For example, alternate methods of providing treatment, older versions of equipment, or changes to the standards of care for the supply to be used.) **SOURCE: Unit-Based Stuff Worksheets**
Tab 5: Stuff for Expansion	This inventory summary is used by managers to detail potential equipment needed to expand care to non-traditional or non-clinical spaces. It is heavily dependent on information provided in Tab 2, the Facility Expansion Assessment. For each proposed space in Tab 2, a supply expansion list should be developed and placed in Tab 5. **SOURCES: Existing Inventory List(s) and/or Management Program**
Tab 6: Systems and Census Management	This assessment identifies IT Systems and/or applications that are required to perform essential functions. It is heavily dependent on information provided by units and support services. For each system and/or application identified maximum down time should be recorded as well as specific equipment required to utilize the system and/or application. Strategies to leverage and extend the system and/or application should also be identified. Additionally, this section identifies strategies that could assist with managing an increased census at the hospital. This could include assessing admissions procedures, rapid discharge plans, and other patient flow strategies. **SOURCES: Hospital-Wide, Unit-Based, and Support Services Worksheets, Hospital COOP Plan, Admissions Policy, Rapid Discharge Plan**

Tab 1: Space Clinical Areas

In the course of medical surge planning, non-inpatient or non-clinical spaces can be converted to expand clinical areas. This tab helps hospitals assess the characteristics of any proposed spaces identified, information about the intended patient type, and the staffing needs to make an area equipped for clinical care.

Tab 2: Space Assessment

During surge planning, non-inpatient clinical areas and non-clinical areas are considered for their usefulness in the expansion of patient care. This spreadsheet assesses characteristics of proposed spaces identified, information about the intended patient type, and staffing needs to make an area equipped for patient care.

Tab 1: Clinical Areas Space

SPACE - CURRENT AND EXPANDED CLINICAL AREAS

Hospital Name: **Date of Completion:**

This is the central location for all information regarding the number of beds available and that can be created throughout the hospital. This information comes from the Unit-Based Space worksheets submitted by inpatient unit leaders. Adjust each section or definitions as needed.

SURGE INPATIENT CLINICAL

Unit Name					
Adult ICU / Critical Care	**Conventional**	**IBA**	**Contingency**	**Crisis**	**Max**
					0
					0
					0
					0
					0
					0
Total Adult ICU/Critical Care Beds	0	0	0	0	**0**
Adult Medical / Surgical Beds	**Conventional**	**IBA**	**Contingency**	**Crisis**	**Max**
					0
					0
					0
					0
					0
					0
					0
					0
					0
					0
Total Med/Surge Beds	0	0	0	0	**0**
Burn Beds	**Conventional**	**IBA**	**Contingency**	**Crisis**	**Max**
					0
					0
					0
Total Burn Beds	0	0	0	0	**0**
Pediatric ICU / Neonatal ICU	**Conventional**	**IBA**	**Contingency**	**Crisis**	**Max**
					0
					0
					0
Total PICU/NICU Beds	0	0	0	0	**0**
Pediatrics	**Conventional**	**IBA**	**Contingency**	**Crisis**	**Max**
					0
					0
Total Pediatrics Beds	0	0	0	0	**0**
Psychiatric	**Conventional**	**IBA**	**Contingency**	**Crisis**	**Max**

SURGE 2: NON-INPATIENT CLINICAL

Unit / Room Number	Beds
SURGE 2 TOTAL	**0**

SURGE 3: NON-CLINICAL

Unit / Room Number	Beds
SURGE 3 TOTAL	0

SURGE 4: AIIR

Unit / Room Numbers	Beds

INPATIENT SURGE ASSESSMENT INSTRUCTIONS

Use the Space Planning Worksheets to gather appropriate information from each unit. Enter bed numbers onto this sheet.

SURGE 1: INPATIENT CLINICAL AREAS

Definition: The number of inpatient beds that can be added to a unit's average daily census.
Use the following definitions for bed types (from HAvBED)
Adult Intensive Care Unit (ICU): Beds that can support critically ill/injured patients, including ventilator support.
Medical/Surgical: Also thought of as Adult "Ward" beds.
Burn: Thought of as Burn ICU beds (these beds are not to be included in other ICU bed counts).
Pediatric / Neonatal ICU: Similar to Adult ICU Beds but for patients 17 years of age an younger.
Pediatric: "Ward medical/surgical" beds for patients 17 years of age and younger.
Psychiatric: "Ward" beds on a locked psychiatric unit or ward beds where a patient will be staffed by an attendant.
Other Inpatient Units: Other inpatient units/beds that are not captured in the categories above.

SURGE 2: NON-INPATIENT CLINICAL AREAS

Definition: Existing procedures / outpatient clinical areas that could accommodate inpatients if needed.
Use Tab 2 to assess non-traditional areas for inpatient surge.

SURGE 3: NON-CLINICAL AREAS

Definition: Non-Clinical areas that could be used for inpatients.
Use Tab 2 to assess non-clinical areas for inpatient surge.

SURGE 4: AIRBORNE INFECTION ISOLATION ROOMS (AIIR)

Airborne Infection Isolation: Beds with negative airflow, providing respiratory isolation (may be included with other counts).

EMERGENCY DEPARTMENT

Emergency Department Beds include adult ED, pediatric ED, fast track, and urgent care.

Tab 2: Space Assessment

EXAMPLE ASSESSMENT FOR EXPANDED CLINICAL AREAS (NON-INPATIENT OR NON-CLINICAL AREAS)

In the course of medical surge planning, non-inpatient or non-clinical spaces can converted to expand clinical areas. This tab helps hospitals assessed the characteristics of any proposed spaces identified, information about the intended patient type, and the staffing needs to make an area equipped for clinical care.

	FACILITY ASSESSMENT													PATIENT CARE		STAFFING NEEDS								
Expansion Area	Bathrooms	Emergency Power	HVAC	Medical Gases	Negative Pressure	Sinks	Ventilators	Patient Access	IT / Wi-Fi/ Communications	24/7 Access	Workspace	Other:	Other:	What type of patients can be cared for in this space?	How many?	Physicians	Mid-Levels (PA, NP, APN)	Registered Nurses	CNAs	Unit Clerk	Respiratory Therapy	Pharmacist	Other:	Other:
Surge 2: Non-Inpatient Clinical Areas																								
Non-Inpatient Totals	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
Surge 3: Non-Clinical Areas																								

Tab 3: Staff Assessment

Each unit and department need to determine how it will best use their staff to care for the maximum number of patients. This assessment lists a unit's baseline staffing ratio, and what its ratios expand to for surges. It also provides a place to capture minimum skills/certifications needed to care for patients in a unit, and their preferred requirements.

	FACILITY STAFF ASSESSMENT					
Instructions: Facility Staff Ass	staffing ratios in all clinical areas of the hospital.					
Adult ICU / Critical Care						
Adult Medical / Surgical						
Burn						
Pediatric ICU / Neonatal ICU						
Pediatrics						
Psychiatric						
Other Inpatient Units						

Tab 4: Stuff Assessment

This assessment divides which supplies are critical and preferred for each level of hospital surge that may occur. Leadership will identify critical supplies, strategies on how to manage challenging inventory levels, and address concerns regarding necessary products.

	FACILITY STUFF ASSESSMENT						
Instructions: Facility Supply Assessment can be used by the emergency management coordinator to identify and record needed equipment and supplies for all surge capacity levels. The Facility Supply Assessment is also used to identify conservation strategies and additional concerns.							
Unit Name	**Critical Supplies / Equipment needed for IBA:**	**Critical Supplies / Equipment Needed for Contingency:**	**Critical Supplies / Equipment Needed for Crisis:**	**Conservation Strategies:**	**Additional considerations for PPE during a medical surge incident:**	**How do you get more supplies?**	**Additional Concerns about Supplies / Equipment:**
Adult ICU / Critical Care							
Adult Medical / Surgical							
Burn							
Pediatric ICU / Neonatal ICU							
Pediatrics							
Psychiatric							
Other Inpatient Units							

Tab 5: Stuff for Expansion

This tab captures the list of potential equipment needed to expand care to AIIRs, non-inpatient clinical areas, and non-clinical areas by providing an inventory summary. For each proposed space in Tab 2, a supply expansion list should be developed and placed in Tab 5.

EQUIPMENT AND SUPPLY EXPANSION CHECKLIST				
For Capacity Expansion into Non-Inpatient & Non-Clinical Space				
Instructions: The Equipment and Supply Expansion Checklist can be used by the emergency management coordinator to record supplies, storage locations and identify gaps related to equipment and supplies.				
Expansion Area & Location:				
Maximum Surge Capacity:			**Patient Type:**	
	Adequate Supply?	**Additional Needed**	**Storage Location**	**Notes**
BP Machines				
Cardiac Monitors - Portable/Adult				
Cardiac Monitors - Portable/Peds				
Communication Equipment				
Crash Cart				
Cribs				
Dialysis Machines				
Documents				
Food Refrigerators				
Hand Cleaner				
HEPA Unit - Portable				
Infusion Pumps				
IV Poles / Pumps				
Linens (Clean & Soiled)				
Medication Refrigerators				
Patient Gowns				
PCA Pumps				
Peritoneal Dialysis Kits				
Personal Protective Equipment (PPE)				
Pharmaceuticals				
Portable 0_2				
Portable Suction				
Portable X-ray				
Pulse Oximeter				
Regulated Waste Container				
Sharps Container				
Slit Lamp				
Stretchers				
Supply Carts				
Telemetry Boxes				
Thermometers				
Ventilators - Portable/Adult				

Tab 6: Systems and Census Management

This tab captures all the applications utilized at the unit level and may be used as a compilation point for the organization to map and prioritize applications. Unit managers will identify: if health and/or safety would be impacted if the application were inoperable; how long the unit is able to function without the identified application and specific equipment needed for the application to function.

SYSTEMS & CENSUS MANAGEMENT						
CRITICAL SYSTEMS						
Instructions: Each unit and department should identify which systems they will required to perform essential functions.						
Unit/Department Name	**List essential IT systems/**	**Would loss impact the health and/or safety of patients or staff? (Y on N)**	**How long can the unit function without this system/ application?**	**Require specific equipment to function? (Y or N)**	**Strategies to leverage and extend existing IT systems/applications**	**Additional Concerns**
CENSUS MANAGEMENT CONCERNS						
Unit/Department Name	**Census Management Concerns**			**Potential Solutions**		

Toolkit Part IV: Instructional Webinars

Instructional webinars are located on the HCCME Website and can be accessed here.

Webinar 1: How to Use this Toolkit

Webinar 2: Space, Staff, Stuff, and Systems Planning

Toolkit Part V: Tabletop in a Box

The Medical Surge Tabletop Exercise in a Box was created to make it easy for hospital organizations to conduct their own exercise to test current or newly developed plans.
The Tabletop in a Box will contain the following supporting documents and templates:

- Situation Manual
- Facilitator Evaluator Handbook
- Exercise Conduct Checklist
- Exercise Evaluation Guide
- Participant Handout
- Facilitator PowerPoint
- Facilitator Evaluator Briefing PowerPoint
- After-Action Report/Improvement Plan Template
- Participant Feedback Form
- Sign in sheet

Medical Surge Tabletop in a Box can be accessed here.

Toolkit Part VI: Medical Surge Planning Resources

Equity

Promoting Health Equity in Resource Constrained Events (2022)

Quick Summary: This document developed by Oregon Health Authority outlines principles in promoting health equity during resource constrained events. The planning process resulted in a new and inclusive process with the goal of developing revised crisis care guidance centered on health equity. The document is primarily focused around COVID but many of the principles identified should be considered in medical surge planning.

Real World Lessons Learned

A Day Like No Other- Las Vegas Mass Shooting (2018)

Quick Summary: This report provides supplemental hospital emergency management educational material via the case study.

Surge Capacity Logistics (2014)

Quick Summary: This journal article describes strategic planning from a systems perspective and includes focused intensive care abilities and requirements.

Bracing for the Storm: One Health Care System's Planning for COVID-19 Surge

Quick Summary: This report covers a rapid transition of a health care system to account for projected aCOVID-19 and usual patient care, while balancing patient and staff safety and conservation of resources.

Planning

Regional Medical Surge Plan Healthcare Preparedness Coalition of Utah/ Wasatch Counties

Quick Summary: This document describes the surge plan utilized by counties in Utah. It outlines the various aspects that inform the region's medical surge plan in emergency situations.

California DPH Hospital Surge Planning Volume 1: Hospitals (2007)

Quick Summary: This document is a healthcare surge planning standards and guidelines manual developed by California Department of Public Health. The manual was developed to assist healthcare providers develop plans for responding to a healthcare surge. The manual contains strategies, checklists, incident command considerations and many more tools for planning.

Regional Medical Surge Plan, HCC of Utah/Wasatch Counties

Quick Summary: This healthcare coalition medical surge plan defines how health care and related organizations within the region will work together to prevent, mitigate, respond to and recover from a disaster of any origin.

Michigan Surge Plan

Quick Summary: This document is intended to provide guidance in the use of Relief Hospitals (including Relief Hospitals and Relief Long-Term Acute Care Facilities and Relief Skilled Nursing Homes) and Alternate Care Sites (ACS). This guidance may change as resource availability and demands for healthcare services change. Please be alert for revisions.

Space

Hospital Capacity Strategies

Quick Summary: Considerations for generating additional space in hospital planning efforts to prepare for a surge of patients. Considerations in this document assume the hospital has converted rooms to semi-private as possible and is maximizing available inpatient space.

Staff

Expanding Traditional Roles

Quick Summary: As part of their no-notice incident planning, hospitals should consider planning for specialty providers and other personnel to assume non-traditional roles to help address the surge in patients. In some cases, these personnel may be available to meet their traditional roles as well as supplement other critical activities. This tip sheet describes the non-traditional role some anesthesiologists assumed following the October 2017 mass shooting in Las Vegas. It also lists possible non-traditional roles other providers (e.g., pediatric) can assume similar incidents.

Creating a Caring Workforce Culture: Practical Approaches for Hospital Executives

Quick Summary: This resource highlights workforce challenges that have emerged during COVID-19 and provides concrete practical approaches that hospital management and executives have utilized during COVID surges to support and retain their workforce. This resource provides common practices that can inform hospital management and executives in workforce retention and resilience strategies.

Health Workforce Baseline and Surge Ratios (2022)

Quick Summary: This is a HealthForce Center at UCSF rapid response resource and is a living document last updated March 21, 2020. This document reflects the best available literature, when possible, and crowd sourced information. This list is limited to an abbreviated list of health

workers supporting direct patient care and is not intended to be comprehensive of all team members or all settings.

Healthcare Provider Shortages: Resources and Strategies for Meeting Demand (2021)

Quick Summary: This document identifies resources and strategies that decision makers can use to optimize healthcare workforce assets, assess ongoing staffing needs, and identify resources to meet those needs.

Tips for Retaining and Caring for Staff after a Disaster

Quick Summary: This document summarizes various tips for taking care of staff after an emergency situation in order to remain operational while ensuring staffing needs are met, both in terms of immediate needs and short-term needs.

Helping the Helpers: Building Responder Resilience

Quick Summary: This document discusses potential mental and behavioral health obstacles that first responders may face during a disaster and provides links to information and suggestions of how to provide support.

Stuff

Patient Care Strategies for Scarce Resource Situations (2021)

Quick Summary: This document covers strategies for managing scarce resources during disasters. Strategies are further broken down by capacity levels of conventional, contingency and crisis. This resource is designed to help hospitals and hospitals identify surge capacity strategies for their planning initiatives.

Systems and Census Management

Surge Discharge Template

Quick Summary: This document outlines recommendations and provides an assessment template surrounding large scale, rapid patient discharge in order to make room for incoming patients.

Creation of Surge Capacity by Early Discharge of Hospitalized Patients at Low Risk for Untoward Events

Quick Summary: This study was conducted to analyze the surge capacities, at a few hospitals, to determine any potential adjustments and benefits of reverse triage. What was found, through the analysis of various variables, was that if appropriately used reverse triage for the purposes

of early discharge can positively contribute to the potential surge capacity in emergency situations.

Reverse Triage to create hospital surge capacity (2018)

Quick Summary: This report analyses the impact of reverse triage to rapidly assess the need for continuing inpatient care and to expedite patient discharge to create surge capacity for disaster victims.

Making Telehealth Flexibilities Permanent

Quick Summary: This fact sheet represents what actions would be necessary to maintain or ext3end telehealth flexibilities that were implemented during the COVID-19 public health emergency.

Basic Equipment Checklist for Clinical Areas

- ☐ Oxygen Source (wall supply or portable oxygen tank with regulator)
- ☐ Electrical outlets (suggest 6/ICU bed; 4/Tele bed)
- ☐ Hospital Bed
- ☐ Patient call system
- ☐ Medical record (paper or electronic)
- ☐ Privacy curtains or screens between patients if shared space
- ☐ Lighting/Examination/Procedure Light
- ☐ Staff workstations (prefer desktop) or workstations on wheels on the network and mapped to beds and printers (ideally 1 for every 2 patients)
- ☐ Waste disposal (sharps containers, biohazard containers, pharmaceutical/RCRA waste container, universal waste container)
- ☐ Crash cart with defibrillator, code medications, intubation tray, aspirator, video laryngoscope
- ☐ Medication area (PYXIS preferred) based on patient acuity.
- ☐ Consider locked medication carts/cabinets as alternative to PYXIS
- ☐ Emergency medication supplies
- ☐ IV equipment (poles, pumps, extra channels)
- ☐ Patient Care Supplies
- ☐ Linen cart with sheets, towels, washcloths, pillowcases
- ☐ Pillows
- ☐ Patient Positioning/Lifting Equipment
- ☐ Gauze/dressings/wound care
- ☐ Oral care supplies
- ☐ Bath wipes/shampoo caps
- ☐ Urinals/bedpans/urinary catheter supplies
- ☐ Lab Supplies
- ☐ Patient monitoring system
- ☐ Monitor requirement of EKG, NIBP, SpO2
- ☐ Monitors with capability for 1-2 pressure lines preferred
- ☐ Pressure cables
- ☐ EKG cables and electrodes
- ☐ SpO2 cable
- ☐ EtCO2 tubing
- ☐ Modules as applicable
- ☐ Alarms set and audible
- ☐ Central monitoring station
- ☐ Antenna System/Access Points (system to include all antennae/access points, amplifiers, and couplers as necessary for uniform coverage over the Telemetry Care Area)

Advanced Equipment Checklist for Critical Care Areas

- [ ] Monitor:
- [ ] Minimum requirement: EKG, SPo2, ETc02, noninvasive BP
- [ ] Intermediate requirement: EKG, BP, SPo2, ETc02, invasive arterial BP, SG catheter (invasive line x1)
- [ ] Complex requirement: EKG, BP, SPo2, ETc02, invasive arterial BP, SG catheter (invasive line x2+)
- [ ] Wall supply oxygen
- [ ] Wall supply medical air or compressors and medical air flowmeter
- [ ] Suction and vacuum regulator (plus tubing and kits, closed/in-line suction kits)
- [ ] Ventilator and associated equipment
- [ ] Noninvasive Positive Airway Pressure Unit
- [ ] High-flow Nasal Cannula System with Humidifier (Nasal Cannula, Oxygen mask, O2 Connectors)
- [ ] Patient beds with pressure relieving surfaces
- [ ] Sink
- [ ] Central line cart, kits, and dressing kits
- [ ] Glucometer(s)
- [ ] Language matters tablet
- [ ] Bedside commodes
- [ ] Optional: NICOM
- [ ] Optional: Ultrasound, bladder scanner
- [ ] Optional: scale, enteral feeding pump

Infection Control Supplies Checklist

- [ ] Isolation cart(s) with Droplet + Contact precautions + eye protection
- [ ] Disposable thermometers
- [ ] Disposable stethoscopes
- [ ] Hand sanitizer on top of cart
- [ ] Donning and doffing checklist
- [ ] Droplet and contact precautions signage
- [ ] High risk/aerosolized procedure cart (ideally located in closed room)
- [ ] Gowns
- [ ] Gloves
- [ ] N95/PAPR/CAPR
- [ ] Face shields/eye protection
- [ ] Disinfectant wipes
- [ ] Hand sanitizer on top of cart
- [ ] Video Laryngoscope
- [ ] (Optional: Bronchoscope)

Additional Infection Control Considerations

- Identified hot zone/cold zone (for cohorted infectious patients)
- Hot zone: the area within 6 feet of each patient where PPE is required
- Biohazard trash can and hand hygiene station doffing
- Providers change gloves between patients
- Providers change gowns and gloves and perform hand hygiene between PUIs
- Masks and eye protection do not need to be changed
- Cold zone: at least 6 feet from each patient where staff do not require PPE
- Isolation cart at the edge of cold zone for donning
- Trash can at the edge of cold zone for doffing
- Hand hygiene at the edge of cold zone for doffing
- Consider marking division with tape on the floor
- Maintain 6 feet between uninfected or PUI patients
- Maintain 3 feet between confirmed patients

Appendix A: Acronyms

Acronym	Term
ACS	Alternate Care Site
ADC	Average Daily Census
AHA	American Heart Association
AIIR	Airborne Infection Isolation Rooms
ASPR	Administration for Strategic Preparedness and Response
CMS	Centers for Medicare & Medicaid Services
CNA	Certified Nursing Assistant
CPR	Cardiopulmonary Resuscitation
DHHS	Department of Health and Human Services
DMAT	Disaster Medical Assistant Team
EM	Emergency Management
EOP	Emergency Operations Plan
ESF	Emergency Support Function
EVS	Environmental Services
GI	Gastrointestinal
HCC	Healthcare Coalition
HCCME	Healthcare Coalition of Maine
HCCME	Healthcare Coalition of Maine
HICS	Hospital Incident Command System
HVA	Hazard Vulnerability Assessment
HVAC	Heating, Ventilation, and Air Conditioning
IBA	Immediate Bed Availability
ICS	Incident Command System
IT	Information Technology
LPN	Licensed Practical Nurse
NIMS	National Incident Management System
POC	Point of Contact
PPE	Personal Protective Equipment
RN	Registered Nurse
RT	Respiratory Therapy
SME	Subject Matter Expert
SOP	Standard Operating Procedure
WOW	Workstation on Wheels