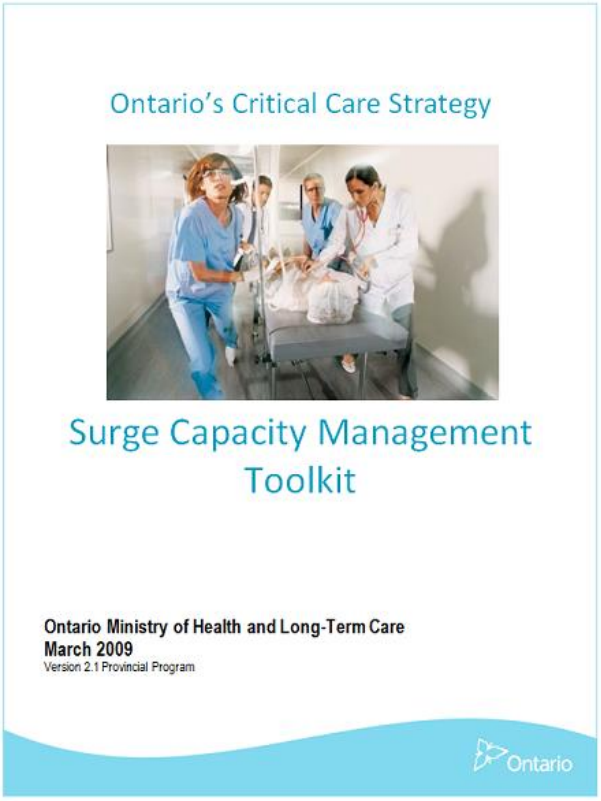
ONTARIO'S CRITICAL CARE SURGE CAPACITY MANAGEMENT PLAN

MINOR SURGE TOOLKIT

VERSION 2.1 (UPDATED JANUARY 2017)

CCSO Critical Care Services Ontario



Please Note: This document is the updated version of the previous toolkit from 2009 (*pictured above)*

Critical Care Surge Capacity Management Plan: Minor Surge Toolkit *(Formerly: Surge Capacity Management Toolkit)*	
Version 2.0	Created 2009
Version 2.1 [This version]	Updated January 2017
Next Review	Due January 2019
To be read in conjunction with	Ontario's Surge Capacity Management Plan: Moderate Surge Response Guide Ontario's Ventilator Stockpile Guidance Document
For more information contact	Critical Care Services Ontario (CCSO) Email: info@ccso.ca Phone: (416) 340-4800 ext. 8428

IMPORTANT: How to use this toolkit

This toolkit will take the reader through a step by step process for the implementation of surge capacity management plan in critical care. Each objective is aligned with the elements and principles of surge capacity management and will identify the transformation activities needed to meet the objectives.

The appendices section includes worksheets, templates and action plans that can be used by critical care units to implement Minor Surge plans. These tools are provided so that all Ontario critical care units will have similar templates for surge planning that are scalable as needed for a Moderate or Major surge event.

Table of Contents

Background

1

Background

Ontario's battle with Severe Acute Respiratory Syndrome (SARS) revealed several areas for improvement in Ontario's health care system, including a limited ability to manage critical care resources across hospitals in response to a sudden increase in demand.

Following SARS, the Ministry of Health and Long-Term Care (MOHLTC) asked a group of system leaders, including hospital administrators and health care providers to conduct a comprehensive review of Ontario's critical care services. This process culminated in the release of the Ontario Critical Care Steering Committee's Final Report in March 2005. This seminal report sets out a blueprint for the transformation of Ontario's critical care services. Five of the Report's 33 recommendations put forward an approach for improving hospital, Local Health Integration Network (LHIN) and provincial management of surges in demand for critical care services.

Acting on this report, in January 2006 the Minister of Health and Long-Term Care announced Ontario's Critical Care Strategy, a seven-fold strategy to improve access, quality and system integration. As a further evolution of this strategy, Critical Care Services Ontario (CCSO) provides ongoing support for a provincial Surge Capacity Management Program that provides Ontario hospitals with a standardized practice for managing spikes in patient volumes or demands for critical care services. The program was first implemented in all Ontario critical care units in 2008, after a successful pilot of the program in the Champlain LHIN.

The program provides critical care units and staff the tools needed to better handle increases in volume of patients who are in life-threatening situations. It also helps to ensure integrated communications plans, streamlined use of information technology and predetermined plans for human resources. In addition, it strengthens the capabilities to address surge events within hospitals, across the LHINs and throughout the province.

The purpose of this toolkit is to give each participating hospital access to information on strategies required to implement a surge capacity plan and management framework. This toolkit was developed to facilitate implementation and provide a consistent approach in the application of the surge capacity planning and management strategies. This will standardize the way hospitals across the province manage critical care surge events, and will help to improve communication between hospitals and LHINs.

Understanding Critical Care Surge Capacity Management

Surge capacity management incorporates standardized guidelines to manage minor, moderate and major surges. Access to critical care services cannot be ensured if patient volumes exceed the critical care bed capacity.

Alternative measures must be coordinated within organizations and the regional LHIN system to accommodate for increasing patient volumes.

Although the MOHLTC has made capacity investments by increasing the total number of critical care beds, consistent strategic elements to manage these resources improves the ability of critical care units to handle minor surges as a daily occurrence and provides a scalable framework to manage moderate and major surge events when they occur.

This toolkit establishes definitions and metrics that provide a common vocabulary for addressing surges and demand for critical care services (please refer to the glossary for terms found in this document). Surges are classified as "minor" if they can be managed by a single hospital, "moderate" if they require the collaboration of several hospitals across a LHIN and "major" if the response requires critical care resources from across the LHINs, province or nationally, and may involve EMAT (Emergency Medical Assistance Team).

The different levels of surges are described below:

Minor Surge: An acute increase in demand for critical care services, up to 15% beyond the normal capacity (>100% and <115%), where response is localized to an individual hospital. A Minor Surge could result in unplanned admissions from the OR, deteriorating patients on the ward, or going into a minor surge state for the purpose of accepting life or limb threatened patients from a referring hospital.

Moderate Surge: A larger increase (≥115%) in demand for critical services, that impacts on a LHIN level, where an organized response at the LHIN/regional network level is required. A Moderate Surge occurs when a hospital in Minor Surge is no longer able to maintain services and needs to rely on the resources of other hospitals to assist with managing the surge. A Moderate Surge could also result from a single event (infectious or casualty) requiring the response of several hospitals in a region to respond to the increase in demand.

Major Surge: An unusually high increase in demand that overwhelms the health care resources of individual hospitals and regions for an extended period of time, where an organized response at the provincial or national level is required.

Key Elements for Surge Management

Critical care surge capacity management requires the consistent application of 5 key surge management principles across all levels of surge:

1. Management:

   -Identify who is accountable for oversight of the surge event.
   -Define the level of response that is required.

2. Human Resources:

   -Establish pre-determined plans for utilization of human resources to meet patient needs during a surge event.
   -Build enhanced skill sets to meet patient needs during surge events.

3. Equipment & Technology:

   -Establish pre-determined plans for utilization of equipment and resources to meet the patient needs during surge events.

4. Physical Space :

   -Establish pre-determined plans for utilization of alternative physical space to meet the increased demand in patient volumes.

5. Processes to Address Surges:

   -Establish processes that will address each level of surge.

A more detailed explanation of these elements and the associated strategies for implementing them can be found in Appendix A. It is worth noting that the use of these elements and response principles will become the common practice for all levels of surge across the province. Application of a consistent approach with common principles enables the health care system to have a well-built infrastructure in responding to surge events. This common practice facilitates each level of surge planning to become a rehearsal for the next; minor surge responses become the rehearsals for larger scale responses that are required for moderate and major surges. This preparation becomes the key success factor in managing surge events.

Implementation of consistent guiding principles will ensure a continuum of coordinated care. This process will further develop and strengthen the LHIN system by providing coordinated efforts in surge capacity planning. Common principles and strategies implemented across the critical care network will strengthen communication, improve partnerships and increase access to critical care services for patients.

In utilizing industrial principles of system analysis and flow mapping methodology, this program quickly identifies process improvement needs of each organization and throughout the system. The Critical Care Surge Capacity Management Program will encourage hospital ownership and accountability for surge capacity planning.

Establishing a system of preparedness is necessary to ensure optimal care during dynamic surges into the hospital system. Critical care surge capacity planning becomes a part of each hospital's overall emergency response planning but with an emphasis on meeting the needs of critically ill patients.

Benefits of Critical Care Surge Capacity Management

1. Patients will gain access to safe and timely critical care services when they need it.

2. Critical care units will have designated plans to handle minor, moderate and major surges.

3. Hospitals will have established plans to manage minor, moderate and major surge events. Having pre-established plans will identify gaps and areas for improvement in existing processes. Establishment of a prepared system will also ensure appropriate and efficient use of resources in the event of a surge.

4. The LHINs will have established organized, systematic surge capacity plans that will enable coordinated efforts across boundaries to ensure timely access to care.

5. CCSO and MOHLTC will be prepared for the growing need for critical care services in the province.

Building a Surge Management Framework: A Step-by-Step Guide

2

Building a Surge Management Framework: A Step-by-Step Guide

Objective 1: Establish Corporate Sponsor and Steering Committee

Surge capacity planning requires organizations to adopt surge capacity management in their infrastructure. This initiative requires corporate support and commitment to be successful. A senior leader will play a pivotal role in facilitating change management. Corporate commitment will communicate the need for change, establish priorities and give direction to the process. Embedding this commitment in the organizational culture will give the necessary drive to change at the frontlines and provide the required ownership to make surge capacity planning a priority for the organization. A champion has the ability to define expectations of all medical and frontline staff for compliance with the initiative. Corporate commitment is essential for accountability in the organization and this accountability will ensure standardization in the application of surge capacity management principles across the province.

Complete the following activities to identify your Corporate Sponsor:

- Identify a Corporate Sponsor as the designated champion for surge
- Ensure the Corporate Sponsor is informed on the Critical Care Strategy and Surge Capacity Management principles to ensure consistency in communication
- Corporate Sponsor will co-chair the Corporate Steering Committee.

A key factor in closing the gap between best practice and common practice is the ability of health care providers and their organizations to rapidly spread innovations and new ideas[1]. Creation of organizational champions will enhance communication to varied departments and frontline staff. Champions ensure a collaborative approach is taken as project partners build organizations that have the ability to manage surges. This process will give an aerial view of what organizations require to integrate services and create a system that delivers access to services when patient volumes exceed normal capacity.

Critical care patients are complex and require a system-wide management model to ensure improved outcomes or survival. To be effective, implementing system-wide change requires coordinated and collaborative efforts from multi-disciplinary teams. Therefore, surge capacity management champions from across the organizational infrastructure are required to communicate with the frontline staff to ensure seamless coordination of services for critically ill patients. This can be achieved by participation on a Corporate Steering Committee. If a similar committee already exists in your organization, consider this committee as the forum for communicating the project objectives to other departments.

[1] Massoud MR, Nielsen GA, Nolan K, Schall MW, Sevin C. *A Framework for Spread: From Local Improvements to System-Wide Change.* IHI Innovation Series white paper. Cambridge, MA: Institute for Health care Improvement; 2006. (Available on www.IHI.org)

Complete the following activities to enhance communication among all areas and departments:

- Identify a champion from all of the following departments to participate on the Corporate Steering Committee

    - Medicine (Chief of Staff or Representative from Internal Medicine)
    - Nursing Administration
    - Peri-operative Services
    - Emergency Department
    - Infection Control
    - Material Management
    - Organized Labour Representatives
    - Frontline Staff Champions – Critical Care

- Members to provide an in-service training to their respective areas on the surge capacity management principles

Objective 2: Establish a Critical Care Surge Resource Team to Implement Surge Capacity Strategies and Coordinate Future Surge Events

The Surge Capacity Management Framework and required processes have been developed by Critical Care Services Ontario. Each organization will develop a central group that will be responsible for implementing the plan to establish preparedness within their own organization. The teams will be referred to as the Critical Care Surge Resource Teams. Teams may vary in size and composition depending on the availability of staff and the composition of the critical care units. Each organization will build a team to suit its own needs. A suggested framework for the teams is listed below.

The Critical Care Surge Resource Team will aim to establish preparedness in the organization by addressing all five of the principles of surge capacity management. The success of this project will depend on including the right people on the team who will champion the cause not only in the critical care environment, but throughout the organization. Teams will partner with their Corporate Sponsor to ensure accountability is maintained.

The overarching goal of this program is to ensure access to service in a timely manner for patients who require critical care. Each hospital is encouraged to be innovative with their communication plans and techniques. However, to ensure sustainability for the provincial program, a consistent application of each principle is needed.

Complete the following activities to begin implementation of the surge capacity management strategies:

- Identify a physician who will be the Physician Gatekeeper for critical care capacity
- The Physician Gatekeeper will co-chair the Corporate Steering Committee with the Corporate Sponsor
- The Physician Gatekeeper is accountable for managing critical care capacity for surge events

- Assemble a Critical Care Surge Resource Team. The suggested framework for the team includes the following members:
    - Physician Champion/Gatekeeper/Medical Lead
    - Nurse Manager
    - Nurse Educator
    - Four Frontline Staff (mix to include 2 senior RN, 1 junior RN, and 1 RRT)

Complete the following activities to implement surge capacity strategies:

- When the team is formed, identify roles and responsibilities and who will perform each task on the assigned Transformation Map
- Designate one member as the Site Lead
- Schedule a regular meeting time for your Critical Care Surge Resource Team
- Prepare a checklist for designate of critical care unit to facilitate in a time of surge. Refer to Appendix K for sample checklist and Appendix I for a sample of the Minor Surge Event Worksheet

Objective 3: Complete Comprehensive Hospital Assessments

Surge capacity is the ability to expand care in response to rapid or a more prolonged demand for health care services. Prior to beginning any action plan or process improvement map, it is critical to assess and document the current-state of the hospital. A key component to surge capacity management and forecasting is a quality indicator program. Quality indicators provide information that allows process improvement and evaluation. This data enables your organization to identify, review, analyze and feedback on areas for improvement.

The data collection framework involves the following assessments:

A. **Hospital, Capacity, and Service Assessment**

This initial assessment will give a clear and defined overview of the capacity and capability of your critical care unit and the organization. This initial building block will establish the framework for surge capacity plans in your organization. The purpose of the assessment is to identify existing plans and services in the organization and build on this infrastructure to ensure consistency and standardization of surge planning within organizations, across LHINs and throughout the province.

B. **Flow Mapping Process**

The next critical step for surge capacity management is to determine the flow of patients from the point of admission, to the clinical area, and finally to discharge. Flowcharts allow you to visualize how a process functions so that it can be understood and so that complex processes can be clarified. The goal of flow mapping in surge capacity planning is to identify system processes and improve system efficiencies.

C. **Patient Flow Monitoring**

The final piece of the hospital baseline assessment is patient flow monitoring. Patient flow monitoring will enable you to gain a snapshot view of the patient flow activities in your critical care unit(s). The goal is to improve efficiency while maintaining patient safety. This surveillance method will enable identification of staffing patterns and provide an opportunity to review admissions and discharges processes to better understand capacity in preparation for surges. Pairing this information with Critical Care Information System (CCIS) data will provide an opportunity to facilitate analysis of the processes and identify barriers to planning for and matching resource requirements.

D. **Updating the Critical Care Information System**

Throughout this implementation plan it is important that the Critical Care Information System (CCIS) is kept updated. Every effort must be made to ensure accountabilities to data entry are followed and that CCIS is kept current daily.

Complete the following activities to assess the current hospital state:

- The Critical Care Surge Resource Team to complete the Hospital, Capacity, and Service assessment worksheets (Forms A, B, and C; See also Appendix B)

- The Critical Care Surge Resource Team to complete a flow mapping exercise (a guide and sample worksheets can be found in Appendix C)
    - Encourage input from all members of the Critical Care team

- Complete the patient flow monitor record on a daily basis, for a period of three months (Form D found in Appendix D)

- When the comprehensive hospital assessments are completed, it is very important to identify any barriers or implications that would affect change management

Objective 4: Establish a System that is Knowledgeable about Surge Capacity Management

System change relies on communication within all levels of the organization. Care of the critically ill patient population requires coordination of services across the spectrum of care. In adopting the concept of seamless coordination of services for critically ill patients, each organization will establish a communication plan that will convey the understanding of the surge principles. The communication plan is the first step in management of surge events. With the proper tools, frontline staff will be prepared to coordinate care for critically ill patients at all levels of surge. The communication plan must involve all members of the organization ranging from frontline staff to medical staff.

The communication campaign that is recommended with this project is divided into two phases. Phase 1 will focus on education of frontline staff, administrator and medical staff of the surge capacity management framework. Phase 2 will focus on implementation of techniques and process that will strengthen communication during crisis or surge events.

Complete the following activities to establish a system that is knowledgeable about surge capacity management:

- Create a communications campaign that educates all frontline staff, administrative, and medical staff on:
    - The surge capacity management plan
    - Implementation strategies
    - The benefit to patients, families, staff, organizations and LHINs

- Consider using existing publications, newsletters, emails, lunch-and-learn and existing meetings at your individual communication departments

- Conduct information sessions for the following groups:
    - Medical Advisory Committee (MAC)
    - Senior Team
    - Frontline Staff
    - Other departments i.e. Surgical Services and Emergency Room

Objective 5: Establish a Critical Care Communication and Triage System

The critical care unit is a complex and dynamic environment that can be challenging, as patients require extensive monitoring and lifesaving interventions. A strong communication process and plan can minimize uncertainty while delegating daily tasks and during surge events. Effective communication and teamwork are essential for delivering high quality patient care and maintaining patient safety.

Communication failures are a common cause of errors resulting in inadvertent patient harm. The complexity of medical care make it very important that clinicians have standardized communication tools, create an environment in which individuals can speak up and express concerns, and share common ''critical language'' to alert team members to unsafe situations.[2] Establishing a standardized communications system in a critical care environment will provide a consistent mechanism of reporting between team members.

It is essential to establish a mechanism that quickly communicates the status of the critical care unit as a whole. To ensure a consistent approach to this communication method, it is necessary to triage patients daily on the basis of their acuity to provide a standardized practice in critical care units. This triage process will be communicated via the communication board (commonly known as the white board) that will be in a central location in the critical care unit. It will identify, which patients must remain in the unit (Red), patients that should be reassessed and potentially be transferred out of the unit (Yellow) and patients that could be transferred out of the unit (Green). The following is the triage methodology/traffic light system that will be used for this program:

RED	Patient remains in ICU as they require life-sustaining interventions
AMBER/YELLOW	Possibility of transfer within 36 hours
GREEN	Patient is ready to be transferred from the ICU

Complete the following activities to establish a critical care communication system :

- Utilize a white board and communication protocols to:
  - Triage patients daily utilizing a colour code to identify acuity
  - Identify the date the patient was placed for discharge to the ward
- Implement a communication tool (e.g. SBAR model) to be utilized on admission and discharge in normal capacity and in crisis and surge events. See Appendix J for SBAR: A Situation Briefing Model
- Identify communication plans to notify all levels of the organization during surge events (such as management/senior team, medical staff, frontline staff, patients and families, general public, etc.)
- Develop algorithms for critical care staff, prepare a checklist to utilize in minor surge events

[2] M Leonard, S Graham, D Bonacum The human factor: the critical importance of effective teamwork and communication in providing safe care, Qual Saf Health Care 2004; 13(Suppl 1):i85–i90.

Objective 6: Identify Essential Services and Functions Required to Sustain the Critical Care Service

Critical care medicine is a specialty that provides comprehensive and continuous care for adult and paediatric patients who are critically ill and who can benefit from treatment. This essential service can sustain and maintain life at critical moments of illness. The objective of surge capacity management is to establish preparedness prior to a surge event; ensuring health care providers have a controlled environment to provide care. This process will ensure patient safety is maintained.

To understand what resources are required, it is essential to identify which patient populations are served by each critical care unit in the organization. This information will provide the necessary information in planning for resource allocation to care for these patients, especially during minor, moderate and major surge events.

Note: Review flow mapping process outcomes (from objective 3) before beginning these steps. See Appendix C.

Complete the following activities to identify essential services and functions required to sustain the critical care service:

- Establish admission process for critical care patients:
  - Review flow mapping process
  - Identify how patients gain access to critical care
  - Develop an algorithm for the critical care staff on the admission process

- Identify the discharge process for critical care patients:
  - Identify who decides if patients are ready for transfer
  - Document the transfer process, inclusive of inter-unit transfer and discharge from the organization (and update CCIS)
  - For trending, follow the data collection to identify delays in discharge
  - Differentiate the transfer process for minor surge events
  - Coordinate early discharge planning for expediting the discharge of patients during minor surge events.
    Note: partner with Community Care Access Centres and Social Work to facilitate the process

- Develop criteria for shifting patients to alternative space to accommodate for surge events

Objective 7: Establish System Preparedness for Human Resource Capacity

Human resource compliments is the vital element to successful surge capacity management. It requires pre-existing plans for human resources to manage in a time of crisis. Identification of staff skill sets in both critical care and acute care will allow organizations to maximize and build on existing skill sets to secure staff resource for surge events.

In addition, documentation of existing skill sets will ensure organizations, staff, and patients are protected. This process will reduce the risk of a precarious response to surge events. Information on staff skill sets becomes vital information, especially when the surge event requires reallocation of staff to alternative space to manage patients. This information should be readily available to Nurse Managers.

Complete the following activities to review and maximize human resource capability and capacity:

- Identify who is accountable for staffing during a minor surge
- Define 'normal staffing capacity'
- Estimate and document minimum numbers and categories of personnel needed to care for a single patient or a small group of patients on a given day for each specific department
- Complete Staffing Inventory
- Document each staff member's skill set in ICU, CCU, PACU, and ER
- Define the necessary critical care skill set
- Identify an enhanced skill set that can be utilized during minor surge events
- Collaborate with local collective bargaining unit in defining the terms of the enhanced skill set
- Identify key strategies in implementing the educational process to establish an enhanced skill set
- Establish an alternative staffing model to increase staff complement during minor surge
- Introduce cross-training of personnel to provide for essential patient care areas at times of severe staffing shortages (e.g. ER, ICU or medical units)
- Define the role of multidisciplinary team members during a minor surge event
- See Appendix E– Planning for Human Resources

Objective 8: Establish System Preparedness for Alternative Physical Space for Surge Events

When critical care reaches capacity limits, alternative physical areas must be considered depending on the level of surge response that is required. Organizations should have pre-determined and documented alternative space where patients can over-flow to if necessary during a surge event. The alternative space can be utilized for a temporary or prolonged period as deemed necessary. The critical step in establishing alternative spaces for surge events is to pre-determine the functionality of these areas. Early identification of how this process will work, who will work in the area, where will the supplies come from and who will be the resource person for this area are key elements to this becoming a successful tool. It is recommended that the organization prepare portable supply carts, containing all the necessities to provide patient care, which can be mobilized quickly to alternative areas.

Complete the following activities to establish preparedness for alternative physical space for surge events:

- Include key stakeholders in the planning of alternate space areas including infection control, plant operations/facilities planning, etc.
- Identify areas for alternative physical space to be utilized during minor surge events
- If pre-determined areas exist, assess the current functionality of the designated area, particularly as it relates to patient care, work area/storage, equipment, supplies and utilities
- Identify the shared governance between critical care unit and this alternative space
- Establish where the equipment resource will come from
- Prepare an algorithm of the transfer process of patients to this area
- Implement an education plan for frontline staff on alternative physical space
- See Appendix F for an example on managing equipment and facilities for alternative space
- Prepare a checklist to ensure functionality of the alternative space during a time of surge and refer to Appendix K for a sample checklist

Objective 9: Establish System Preparedness for Equipment and Resources for Surge Events

Critical care medicine is concerned with the provision of life support or organ support to patients who are critically ill and who usually require intensive monitoring. Equipment and supplies are essential pieces of the puzzle in providing care for critically ill patients. Equipment and technology can ensure that patient care is delivered in a safe environment and quality of care is maintained.

Common equipment that can be found in an intensive care unit may include the following: ventilators, monitoring equipment, intravenous lines for drug infusions, nasogastric tubes, suction pumps, drains and catheters and a wide array of drugs including inotropes, sedatives, broad-spectrum antibiotics and analgesics. In some critical care units, hemofiltration equipment for acute renal failure is used to sustain organ function.

For a surge event to be managed successfully, it is vital the organization pre-establish inventories of equipment and supplies. This inventory will provide health care providers with an understanding of the capability of the hospital to provide safe care to patient populations and recognize the capability of the organization.

This pre-established inventory will also provide information on what resources are available at the time of the surge event. It is recommended that organizations prepare equipment carts that can be mobilized quickly to alternative areas which contain all the necessities to providing patient care.

What if additional ventilators are required?

As the number of patients requiring critical care services increases, hospitals may find that they have the capability to care for additional patients but lack sufficient ventilator capacity to accommodate them. To mitigate this, a provincial stockpile of ventilators was purchased by the Ministry of Health and Long-Term Care; and a process is in place, whereby hospitals can borrow additional ventilators from the Provincial Ventilator Stockpile.

If a hospital is approaching their maximum ventilator capacity, and has considered all site and corporation-level resources, the hospital CEO will notify CritiCall Ontario by calling 1-800-668-4357 (different from number to declare moderate surge), and formally request access to the Provincial Stockpile. Please refer to the '*Ontario Ventilator Stockpile Guidance*' document for details.

Complete the following activities to establish preparedness of equipment and resources during surge events:

- Establish an inventoried cache of equipment
- Set-up a portable supply cart that can moved to the surge area
- Identify how equipment is monitored for functionality
- Identify the location and accessibility of equipment for surge events (see Appendix F for example on managing equipment for alternative space)
- Prepare an organization resource checklist to be utilized to access equipment during minor surge events (see Appendix K for sample checklist)
- Collaborate with the LHIN to understand what regional equipment resources exist in other centers and how they can be accessed in surge events, including access to the Provincial Ventilator Stockpile
- Ensure preventative maintenance of the stockpile, rotation of the provincial stockpile and submission of the Quarterly Ventilator Tracking form to CCSO (if you are a host hospital).

Objective 10: Establish System Preparedness by Defining a Decantation Process for Surge Events

A common debate among hospital administrators is whether surgical cases should be cancelled to manage surges into the system. However, ensuring flexibility in the system, by pre-determining surgical volumes and making accommodations for a sudden increase in patients, prevents this situation from occurring.

During surge events, some patients will potentially be discharged to their homes or alternative organizations to accommodate for the increase in demand. Activities such as routine surgery and procedures will be reduced or eliminated to free staff and beds. Priorities and pathways need to be determined for each organization. It is recommended that each organization establish a decantation process to be used for surge events.

The specific recommendations to develop a decantation process and for building community partnerships that allow for coordination of services for patients who meet early discharge criteria can be found in Appendix G.

Complete the following activities to establish system preparedness, particularly for decantation processes:

- Establish a system in which planned expected date of discharge (EDD) is documented on all patients charts
- Establish the daily distribution of patient lists to all Clinical Managers indicating who may be discharged that day (based on EDD)
- Establish a discharge process to be utilized during minor surge events in critical care and acute care areas
- Prepare an organizational checklist for recommendations for building a decantation process during a minor surge (see Appendix G for Recommendations for Building a Decantation Process)
- Identify how transport services will be utilized during the decantation process

Objective 11: Build Partnerships to Determine How Patient Volumes from Other Clinical Areas Impact Critical Care

Partner with Surgical Services

The healthcare system has a responsibility to ensure healthcare services to the populations we serve. In recognition of the pressure on organizations to strive to achieve wait time targets for surgical cases, the impact of surgical cases on critical care delivery can be great. From the other perspective, it is vital to know how the lack of critical care capacity affects surgical services. Therefore, it is important to partner with surgical departments to identify potential barriers in accessing critical care services.

Complete the following activities to determine the required capacity of surgical services:

- Designate a champion from the operating room (OR) team to the Corporate Steering Committee (OR Manager/Director suggested)
- Partner with operating room services to determine required surgical access to critical care beds based-on service and surgical procedure
  - Identify and document routine method of booking critical care beds
  - Review surgical cases requiring critical care service post-operation
  - Develop a standardized booking process that will enable planning for critical care capacity
  - Establish necessary timelines for booking of critical care beds
- Determine a daily capacity for post-operative cases requiring critical care beds consider staffing, holidays, and resource availability (e.g. 3 OR cases maximum daily)
- Determine a process in which elective surgical cases are cancelled during minor surge events
- Determine who cancels surgical cases during a minor surge event
- Establish a collaborative process between critical care and operating theatre to evaluate the required daily critical care capacity

Partner with Emergency Department

The Emergency Department (ED) is often the initial point of entry for the critical care patient. A process for stabilizing and quickly transferring patients to critical care units should be delineated. This process will ensure the ED is decanted and available for other patients who require access. In addition, this process will ensure that critical care patients have the appropriate level of care. During a surge event, it is critical to know the source of the influx of patients to ensure the appropriate response is activated for the organization.

Complete the following activities to determine the required critical care capacity of the emergency department:

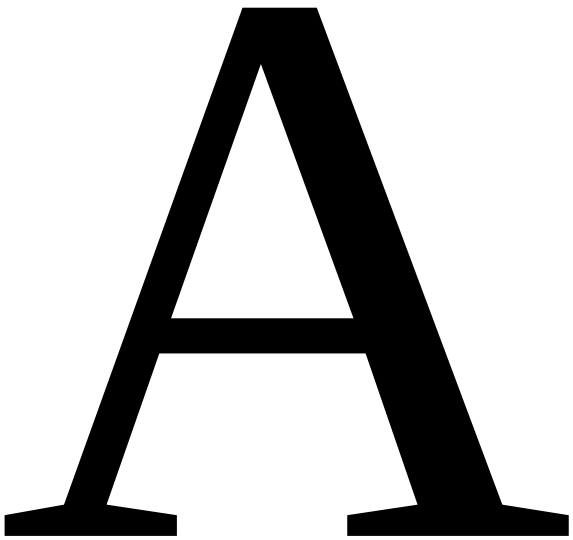
- Designate a champion of the ER team to the Corporate Steering Committee (ER Manager/Director suggested)
- Partner with the ER delegate to identify barriers in accessing critical care services

Objective 12: Evaluation

Upon completion of the Surge Capacity Management Plan, each organization will conduct rehearsals to test the efficiency of their plan:

- Have a yearly update to review and renew the policy procedures
- Evaluate the success, challenges, and potential risks
- Identify areas for improvement
- Identify next steps, and lessons learned

Appendix



Appendix A

Surge Capacity Management Elements

The Critical Care Surge Capacity Management Plan will adapt and refer to the definitions in the following tables:

Element	Minor Surge	Moderate Surge	Major Surge
Definition	▪ An acute increase in demand for critical care services – up to 15% beyond the normal capacity, (>100% and <115%), which is localized to an individual hospital.	▪ A larger increase in demand for critical services that impacts on a LHIN/region beyond the normal capacity (≥115%).	▪ An unusually high increase in demand that overwhelms the health care resources of individual hospital and regions for an extended period of time.
Management Level of Response	▪ A local response at the individual hospital level is sufficient.	▪ An organized response at the LHIN/ regional network level is required.	▪ An organized response at the provincial or national level is required.
Management Accountability (Oversight)	▪ Individual hospital boards are accountable for overseeing the surge response.	▪ Critical Care LHIN leaders are accountable for overseeing the surge response.	▪ The Chief Medical Officer of Health has powers in emergency situations but the Deputy Minister of Health and Long-Term Care is ultimately in charge.
Human Resources	▪ Human resources working in the hospital's critical care services should be sufficient to meet the surge. ▪ In some instances, more assistance may be provided. All local staff who have volunteered and have been trained in the EMAT will provide an excellent "pool" of human resources for the local hospital.	▪ Human resources working in critical care services within the LHIN or network's hospitals may be sufficient to meet demand. These staff will need to be mobile throughout the region. ▪ More assistance may be provided by other hospital staff members who have received additional acute and critical care training. All local staff who have volunteered and been trained in the EMAT will provide an excellent "pool" of human resources for the local hospital.	▪ Human resources that work in critical care services are not sufficient to meet demand. More assistance will be provided by hospital staff across the provinces who have received additional acute and critical care training. All staff across the province who have volunteered and been trained in the EMAT will provide an excellent "pool" of human resources.

Element	Minor Surge	Moderate Surge	Major Surge
Equipment and Technology	▪ Supplies in critical and acute care services will be sufficient to meet demand. ▪ The provincial ventilator stockpile may be utilized.	▪ Supplies in critical and acute care services may not be sufficient to meet demand. Specialized equipment and medications should be stockpiled to meet moderate surges. These caches should be centrally stored in the LHIN and have a structured process for access and maintenance. ▪ Technologies will be used to disseminate knowledge and skills as broadly as possible (e.g., digital radiography, tele/video consultation, eICU). ▪ The provincial ventilator stockpile may be utilized.	▪ Supplies in critical and acute care services will not be sufficient to meet demand. Specialized equipment and medications should be stockpiled to meet major surges. These caches should be centrally stored in the province and have a structured process for access and maintenance. The existing capabilities of EMAT will provide much of this cache, complemented by the EMU. ▪ Technologies will be used to disseminate knowledge and skills as broadly as possible (e.g., digital radiography, tele/video consultation, eICU). ▪ Emergency Medical Assistance Teams (EMAT) has its own medical equipment and supplies.
Physical Plant	▪ Physical plant resources in the hospital will be sufficient to meet demand however, the use of alternate space within the facility should be considered (e.g., PACU, emergency departments, and intermediate units). It is necessary for hospitals to evaluate, prepare and equip this space prior to a surge event.	▪ Physical plant resources in a LHIN/ critical care network will be sufficient to meet demand however, the use of alternate space should be considered (PACU, emergency departments, intermediate units). It is necessary for LHINs /region to evaluate, prepare and equip this space prior to surge events. ▪ A high degree of communication and collaboration between hospitals and transport medicine systems are necessary for the LHINs/regions to leverage the region's resources during surge events.	▪ Physical plant resources in a LHIN/critical care network are not sufficient to meet demand. Additional physical plant resources are needed through EMAT. ▪ A high degree of communication and collaboration between hospitals and medical transport systems are necessary for the province to leverage its provincial resources.

Element	Minor Surge	Moderate Surge	Major Surge
Processes to Address Surge	Process checklists will be used to help address minor surges: ▪ Alternate physical spaces, such as PACU, ED, acute care floor beds/step-down units have been accessed; ▪ Critical care admit and discharge criteria have been implemented; ▪ The potential to delay electives has been evaluated thoroughly taking into account the risks and benefits to overall patient care; ▪ Delays transferring to wards have been addressed; ▪ Alternate level of care patients have been transferred to long-term care or other appropriate facility; ▪ Transport systems have been appropriately engaged to support the above (where appropriate); ▪ Use of alternate staff have been considered; and ▪ Cache of appropriate equipment to support surge is available.	Process to address moderate surge as described in the moderate surge algorithm will be followed: • The index hospital initiates a moderate surge by notifying CritiCall. Index hospital is required to complete a SBAR Form prior to the preamble call. • CritiCall arranges a preamble call with CCSO, CC LHIN Leaders, Index Hospital CEO and medical & nursing director to review the situation and to generate mitigation strategies. At this point a decision is made whether a Moderate Surge is needed. • If a Moderate Surge response is activated, CritiCall will facilitate a LHIN-wide teleconference to review the Moderate Surge event and needs of the Index Hospital, confirm available resources from other LHIN hospitals and establish an action plan to manage to transfer patients as required. • A Follow – up teleconference may be scheduled to provide update on the situation	Process to address major surge: ▪ The MOHLTC Emergency Management Unit alerts the CEO of Ontario Air Ambulance (ORNGE) about a request for help. The Ministry ensures all deployment criteria have been met and then directs the CEO to dispatch EMAT. ▪ EMAT will assess, treat and triage cases. In the first 72 hours, EMAT will manage patients and transfer those most critical to a lead LHIN hospital. ▪ EMAT may continue to manage patients in the field as necessary, but will begin to transfer patients.

Appendix

B

Appendix B

Section I: Hospital Assessment Worksheet (Form A)

1. Who is the Critical Care Medical Director?

Name:
Contact Number:
Email Address:

2. Who is the Critical Care Nursing Director or Nurse Manager?

Name:
Contact Number:
Email:

3. Identify the person or group, who is currently accountable for planning responses for surge events in your organization (this could be the corporate sponsor and Steering Committee or the Critical Care Surge Resource Team). Please include name and title for each:

4. Identify the disciplines that are currently involved in surge capacity planning in your organization:

5. Describe the current organizational strategy to manage surge events (include the name and a brief description of all policies and procedures related to surge management):

6. Describe the communication mechanisms currently utilized in your organization as part of surge management:

7. Describe how the critical care unit currently manages a surge of critically ill patients in your organization:

8. In relation to minor surge, describe the process in place to manage the elements of:

A. Human Resources

B. Physical Plant or Capacity

C. Equipment and Technology

9. Describe how your organization manages a situation in which there is a lack of critical care resources, specifically for:

A. Human Resources

B. Physical Plant or Capacity

C. Equipment and Technology

11. Describe how the organization gains access to resources outside of your hospital?

Human Resource Capacity

12. Describe your organization's critical care skill set:

13. How is the critical care skill set maintained on a yearly basis?

14. Identify number of staff with existing critical care skill set to provide care of Level 3 patients:	
15. Identify number of staff with existing skill set to provide care for Level 2 patients:	

Section II: Capacity Assessment Worksheets (Form B)

Part I: Adult Services

Use this worksheet to help gather the required data.

	ADULT SERVICES	Emergency Department	Adult Critical Care level 3	Adult Critical Care level 2	Telemetry	General Med / Surg	Post-Acute Care Unit	Operating Room	Day Surgery Unit	Renal Dialysis Unit	Other Adult Areas (Please specify in cell)
1. Beds (#)	A. Routinely equipped & staffed										
	B. # Rooms with 1 bed and HEPA Filter and/or Negative Pressure System (Subset of 1.A.)										
	C. Immediate bed capacity that can be expanded to manage a minor surge event										
2. Medical Doctors	Number of staff required for these beds in 1.A.*										
	# additional staff required* to activate these beds in 1.C.*										
3. Residents/ Medical Students	Number of staff required for these beds in 1.A.*										
	# additional staff required* to activate these beds in 1.C.*										
4. Registered Nurses	Number of staff required for these beds in 1.A.*										
	# additional staff required* to activate these beds in 1.C.*										
5. Advanced Nursing Roles	Number of staff required for these beds in 1.A.*										
	# additional staff required* to activate these beds in 1.C.*										

	ADULT SERVICES	Emergency Department	Adult Critical Care level 3	Adult Critical Care level 2	Telemetry	General Med / Surg	Post-Acute Care Unit	Operating Room	Day Surgery Unit	Renal Dialysis Unit	Other Adult Areas (Please specify in cell)
6. Registered Practical Nurses	Number of staff required for these beds in 1.A.*										
	# additional staff required* to activate these beds in 1.C.*										
7. Personal Care Aids	Number of staff required for these beds in 1.A.*										
	# additional staff required* to activate these beds in 1.C.*										
8. Registered Respiratory Therapists	Number of staff required for these beds in 1.A.*										
	# additional staff required* to activate these beds in 1.C.*										
9. Allied Health	Number of staff required for these beds in 1.A.*										
	# additional staff required* to activate these beds in 1.C.*										
10.Administrative support	Number of staff required for these beds in 1.A.*										
	# additional staff required* to activate these beds in 1.C.*										
11. Other	Number of staff required for these beds in 1.A.*										
	# additional staff required* to activate these beds in 1.C.*										

Part II: Paediatric/Neonatal Services

	PAEDIATRIC/NEONATAL SERVICES	Paediatric ICU	Neonatal ICU	Telemetry	General Peds	Nursery	Other Paediatric/Neonatal Areas (please specify in cell)
1. Beds (#)	A. Routinely equipped & staffed						
	B. # Rooms with 1 bed and HEPA Filter and/or Negative Pressure System (Subset of 1.A.)						
	C. Immediate bed capacity that can be expanded to manage a minor surge event						
2. Medical Doctors	Number of staff required for these beds in 1.A.*						
	# additional staff required* to activate these beds in 1.C.*						
3. Residents/ Medical Students	Number of staff required for these beds in 1.A.*						
	# additional staff required* to activate these beds in 1.C.*						
4. Registered Nurses	Number of staff required for these beds in 1.A.*						
	# additional staff required* to activate these beds in 1.C.*						
5. Advanced Nursing Roles	Number of staff required for these beds in 1.A.*						
	# additional staff required* to activate these beds in 1.C.*						

	PAEDIATRIC/NEONATAL SERVICES	Paediatric ICU	Neonatal ICU	Telemetry	General Peds	Nursery	Other Paediatric/Neonatal Areas (please specify in cell)
6. Registered Practical Nurses	Number of staff required for these beds in 1.A.*						
	# additional staff required* to activate these beds in 1.C.*						
7. Personal Care Aids	Number of staff required for these beds in 1.A.*						
	# additional staff required* to activate these beds in 1.C.*						
8. Registered Respiratory Therapists	Number of staff required for these beds in 1.A.*						
	# additional staff required* to activate these beds in 1.C.*						
9. Allied Health	Number of staff required for these beds in 1.A.*						
	# additional staff required* to activate these beds in 1.C.*						
10. Administrative support	Number of staff required for these beds in 1.A.*						
	# additional staff required* to activate these beds in 1.C.*						
11. Other	Number of staff required for these beds in 1.A.*						
	# additional staff required* to activate these beds in 1.C.*						

Section III: Clinical and Support Services Inventory (Form C)

This worksheet documents urgent and emergent medical and support/diagnostic services available at each hospital site, the hours of operation for these services, and the current/preferred referral pattern for each hospital.

1. Indicate whether or not your hospital site provides the service and the hours of operation, in particular if the service is available to assist with urgent and emergent consultations
   *Hours of Operation Options include:
   a) 24/7 = 24 hours x 7 days/wk
   b) Business Hours = (e.g. 0800 to 1600), Monday to Friday
   c) After Hours = (e.g. 0800 to 2000), 7 days/wk
   d) N/A = Not applicable, this hospital site does not offer the service. If you choose this option please make sure to indicate which hospital you refer patients (in the next column).
2. Indicate the other hospitals where you normally refer patients from your hospital for the service. Use this option if the service is not offered at your site or in circumstances when the service is unavailable.

Clinical Services	Hours of Operation*	Preferred Referral Option	2nd Referral Option
Anaesthesia			
Burns			
Cardiac Surgery			
Cardiac Surgery: Angioplasty			
Cardiac Surgery: Temporary Pacemakers			
Cardiac Surgery: Permanent Pacemakers			
Cardiac Surgery: Balloon Pump			
Cardiology			
ICU – Level 2			
ICU – Level 3			

ENT			
Gastroenterology			
General Surgery			
Hyperbaric Chambers			
Internal Medicine			
Neonatology Level 1			
Neonatology Level 2			
Neonatology Level 3			
Nephrology			
Nephrology Haemodialysis			
Nephrology Peritoneal dialysis			
Neurology			
Neurosurgery			
Obstetrics			
Ophthalmology			
Orthopaedics Surgery			
Paediatrics Neurosurgery			
Paediatrics Trauma			
Paediatrics Surgery			
Paediatrics Cardiac			
Paediatrics ICU			
Plastic Surgery			

Psychiatry			
Respirology			
Spinal			
Telestroke			
Thoracic Surgery			
Trauma			
Urology			
Vascular Surgery			
Support Services	**Hours of Operation**	**Preferred Referral Option**	**2nd Referral Option**
Computerized Tomography			
Magnetic Resonance Imaging			
Echocardiogram			
Catheterization lab			
Angiography			
PACS (picture archiving communication system)			
ERCP (endoscopic retrograde cholangiopancreatography)			
IVC filters (inferior vena cava filter)			
TIPS (transjugular intrahepatic portosystemic shunt)			
Gluing (GI)			
Banding (GI)			

Appendix

C

Appendix C

Section I: Flow Mapping Process

I. Why use the flow mapping process?

Flow, value stream, or process mapping is a useful tool to give a graphic view of how care is provided from the patient perspective or how other work processes flow into and out of your unit/organization. The goal of the exercise is to improve efficiency and quality by reducing or eliminating errors, defects, unnecessary or non-value adding steps, delays, constraints and bottlenecks, duplications and rework.

A flow mapping process can:

- Increase productivity
- Improve patient care
- System Integration
- Streamline flow
- Identify opportunities for assistive technologies
- Identify personnel who are responsible for operations
- Confirm cross-functional or cross-departmental links or associations
- Validate the current process and identify areas that would benefit most from change

Specifically, **flow** refers to the progressive movement of products, information and people through a sequence of processes (NHS – Scotland)

> *"Without a clear understanding of the processes of care there is a risk of changing parts of a process which will not improve the service from the patients perspective and will actually lead to more waits and delays for patients"* – NHS Scotland.

II. How do we prepare?

Define the process you want to improve

This step is most likely already complete, however questions you may consider are:

- Is there anything that is currently time consuming?
- Does your organization have existing processes?
- Do your existing processes have notable errors?
- What has a strong potential for improvement?
- What will help build morale?
- Will fixing this process pave the way for mapping other processes?
- What are the limits of the process map i.e. the start and end points or the scope?
- What you are trying to achieve?

Assemble the team

In order to consider all viewpoints of the flow or process, all staff levels who are involved in operations should be included. The team should be given support and authority from Senior Management to also make changes in a timely fashion. Using existing teams that are working on other improvement projects may work, again as long as the membership includes people with a strong knowledge base on the process that is being mapped. Process mapping can be the first step in the improvement process and can inform the measures required for the improvement project as a whole.

Book Time, Venue and Equipment

The mapping exercise should take one day to complete. Share the responsibilities of the activity across the team, as it will take some time to transcribe some of the information in between steps.

Book a room that will accommodate the team as well as enough room to move around and see the walls. "Post-it" notes, pens, flipchart paper and tape are useful as well as a laser projector and computer to display important pieces of information.

III. Mapping the Current Workflow:

Day 1 - Create the Map

Step 1: Decide on team roles – recorders, facilitators etc.

Step 2: Show examples of what flow maps looks like and decide whether you will need to do a detailed or a high-level map or both

Step 3: Decide what the first step and the last step in the process is (your terminals) and get consensus

Step 4: Identify the next steps in between the terminals in order using post-its

- Do tasks/activities/operations first, then go back and add in time spent, distance traveled, decision-making branches, documentation, databases, etc.
- Use the basic shapes directory to guide your thoughts about what needs to be included.
- Some steps happen at the same time and some in parallel.

Step 5: Review the flow map process with team members to ensure there are no missing steps

Step 6: Assign someone to transcribe and draw the flow "picture" into a flowchart using a program that supports flow diagrams and shapes/symbols consider Excel, Visio, Smart Draw, UML, Edraw Flowchart Software, OpenOffice.org Draw).

- Note: For a how-to guide in excel go here: www.breezetree.com/articles/how-to-flow-chart-in-excel.htm
- Refer to attached chart for commonly used symbols and their meaning.
- Use clouds for unfamiliar steps.
- Do the branches last.

Day 2 - Validate and Analyze the Map

Step 1: Walk the team through the process again to check that all events are included.

- The process map must always depict the total number of steps taken ***as well as*** the number of people involved, the total time taken to perform the process step, and all documents used (NHS-Scotland).
- It may benefit the team to have the flowchart enlarged at a print shop in panels so that it can be posted on the wall.

Step 2: Identify the problem areas. Ask each other and yourself the following questions:

- Where are there significant delays/waits? Where are they built into the process? Which are the longest?
- Where are the bottlenecks?
- Which steps do not add value?
- What activities/documents etc. are being reworked or done more than once?
- Is there any unnecessary storage?
- Are there any unnecessary inspection steps?
- What is approximate time between each step?
- What is the approximate time between the first and last step?
- How many steps are there?
- Is work being batched?'
- Is there an inappropriate amount of staff working on an activity? Too many? Too little?

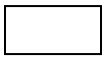
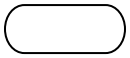
Step 3 (Concurrent with Step 2): Flag activities with different coloured "stickies" that a) do not add direct value or are unnecessary, b) cause waits or delays, c) are reworks, d) are timely, e) staffing issues.
Step 4: Summarize the improvement areas from your process mapping and simplify them into manageable tasks (see references below).

Step 5: Brainstorm about solutions in groups.

- There are no "bad" ideas in brainstorming i.e. there is no evaluation component in this step.
- If the team is large enough and there are many areas for improvement, break out into smaller groups for brainstorming session.

Step 6: Groups will be given an opportunity to share their flow mapping process with other like centers.

Commonly used Symbols for Process Mapping:

Symbol	Description
	Activity/operation/process
	Decision/Question or Branch
	Wait or Delay
	Database
	Data
	Unknown
	Permanent Storage
	Terminator
	Document
	Connector
	Flow Line

References: Centre for Change and Innovation www.cci.scot.nhs.uk; T he Modernisation Agency: www.modern.nhs.uk; The Institute for Health care Improvement: www.ihi.org; Toolpack Consulting www.toolpack.com; FlowBreeze Flowchart Software www.breezetree.com

Section II: Flow Mapping Process Worksheet

Use this worksheet to help gather the required data.
Flow mapping can show how processes actually happen at the ground level. This helps to illuminate the roles of those involved, and it enables those participating to see each other's' perspectives. It can also help with diagnosis of problems within the process, and can aid in the identification of areas for improvement. The goal of flow mapping in surge capacity planning is to identify system processes and improve efficiencies within the system. Identify the process strengths and barriers at each of the stages defined below:

Hospital Name	
Site Name	
Unit(s)	

Term	Definition
Inputs	The processes associated with the entry points for patients into the critical care unit. Which areas of the hospital do the patients come from? I.e. ER, OR, PACU, Wards What is the admission process to the critical care unit?
Throughputs	The processes involved in providing care for the critical care patients. i.e. staffing, rounds, care pathways etc.
Outputs	The processes associated with discharge process from the critical care unit. Where are your patients discharged to? Who is involved in the discharge process?

Inputs:

Strengths	Barriers

Throughputs:

Strengths	Barriers

Outputs:

Strengths	Barriers

Appendix

D

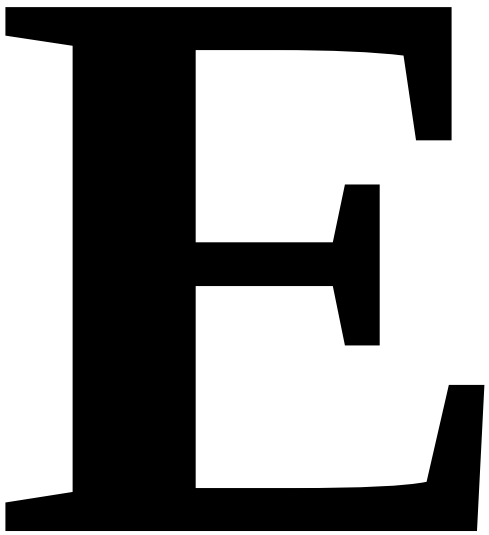
Appendix D
Patient Flow Monitor Worksheet (Form D)

This form will enable a snapshot view of the patient flow activities in each of the critical care units in your organization. The goal of this data collection process is to improve efficiency while maintaining patient safety.

Daily patient Flow Monitor Form	
To be completed by Team Leader/Charge Nurse daily for each participating Critical Care Area at 21:00 to reflect the prior to 24 hours	
Today's Date:	**Critical Care Unit:**
For the last 24 hours:	
Identify the number of **scheduled** RNs to provide direct patient care for the last 24 hours in the Critical Care unit	
Identify number of **actual** RNs available for the last 24 hours in the Critical Care unit (i.e. staff shortage due to illness)	
Identify the number of patients needing 1:1 care	
Identify the number of OR Cases that were cancelled due to lack of Critical Care capacity.	
Of the total number admissions from the PACU or OR how many were delayed for ≥ 4 hours	
Total number of ER patients admitted to the ICU	
Of the total number admissions from the ER how many were delayed for ≥ 4 hours	
How many admissions were from the WARD? Note: for organizations who have a CCRT this information will be identified from your CCIS indicators.	
If there was a delay (greater than four hours) in admission to the Critical Care Unit, identify the reason for delay i.e. capacity, staffing processes (waiting for other patients to be discharged from the unit, housekeeping, porter system, other):	

**** For questions that are not applicable to your organization place (N/A) for your answer.**
******* Form adapted from VHA'S 2002 Research Series – A practical Guide to measuring performance on the intensive care unit

Appendix



Appendix E

Planning for Human Resources (see Appendix K for checklist)

- ❑ Document minimum number and categories of personnel needed to care for a single patient or small group of patients on a given day for each specific department (normal staffing capacity)
- ❑ Complete Staffing Inventory and document each staff member's skill set
- ❑ Document existing standard critical care skill set*

**** Example:*** Existing standard critical care RN skill set includes basic & advanced nursing skills:

- Advanced airway management (Suctioning, ventilator parameters, ETT management, ABG interpretation etc.)
- Arrhythmia & pacing interpretation/monitoring
- Hemodynamic monitoring
- IV drug administration including the titration of vasoactive drugs
- Arterial, central venous & PA line management
- Comprehensive head-to-toe patient assessment
- ICP drain management
- Emergency arrest response
- Must include a complement of staff with additional advanced training such as CRRT & IABP

- ❑ Identified other sources of available staff with existing standard critical care skill set* (e.g. former critical care staff, agency, other hospital critical care unit staff etc.)
- ❑ Establish an enhanced skill** set in acute care staff

***** Example:*** Enhanced critical care RN skill set (staff with trained emergency response (EMAT pool), operating room, Level 1 and 2 intensive care units, telemetry experience, and previous critical care unit staff) includes basic & few advanced nursing skills:

- Arrhythmia interpretation
- Arterial & central venous line management
- Basic airway maintenance (Non-ventilated)
- IV drug administration
- Basic vital signs assessment (HR, BP, Temp, RR, O_2 Sat),
- IV insertion & phlebotomy

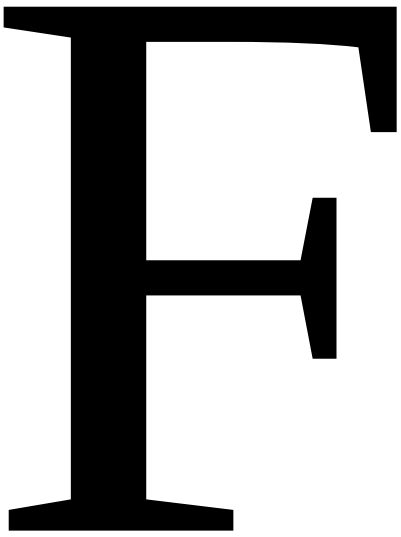
- ❑ Document key strategies and educational partners to implement enhanced skill set**
- ❑ Establish an alternative staffing model*** to increase staff complement during minor surge events

****** Example:*** Alternate staffing models are tiered systems where critical care staff expertise is used to oversee staff with non-critical care skill sets & provide advanced care needs to multiple patients

- Critical care RN oversees 2 telemetry floor staff & each with two critical care patients
- 1 intensivist oversees up to 4 non-intensivists

The above listed examples of skill sets are <u>recommendations</u> only. Each organization will be required to define a critical care skill set that is specific to their organization and dependent on the level of care that is required. Furthermore, each organization will be required to analyze the acute care staff and their skills and decide what enhanced skill set can be built from existing skill sets to enhance the organization cache of human resources.

Appendix



Appendix F

Managing Equipment and Facilities for Alternative Space (see Appendix K for checklist)

Conduct a 'walk-about' in all patient areas in the organization to assess each area for the following elements:

- ❑ Alternative physical space availability
- ❑ Equipment and technology supplies availability
- ❑ Determine the normal capacity for each area
- ❑ Determine the resource requirements to sustain a surge event that escalates up to 15% above normal capacity

Essential Transport Supplies:

Transport supplies should be available for transports between units and decantation outside of hospital.

Essential Patient Area Environmental Needs:

- ❑ Ability to directly or indirectly view patient
- ❑ Patient call system
- ❑ Adequate lighting
- ❑ Adequate space to accommodate equipment and personnel to meet patient needs
- ❑ Cardiac arrest equipment
- ❑ Emergency alarm system
- ❑ Bed/stretcher bed, over bed table, chair

Essential Utilities Required:

- ❑ Electrical power – adequate outlets for needs
- ❑ Oxygen- 2 outlets per bed
- ❑ Compressed air- one outlet per bed
- ❑ Vacuum system- 3 outlets per bed
- ❑ Water supply- hand washing sinks, toilet
- ❑ Lighting- adequate for patient care, emergencies and charting

Essential Patient Care Equipment/Supplies:

- ❑ Rapid retrieval of crash cart and portable monitor/defibrillator
- ❑ X-Ray viewing system, station or computer
- ❑ Physiologic monitoring with recording capability (ECG, 3 pressure lines, O2 sat monitor)
- ❑ Thermometers, glucometers, urine qualification devices
- ❑ Access to laboratory specimen transport –pneumatic tube, system, porter, Point-of-Care systems etc.
- ❑ 2 IV poles per bed, IV pumps/IV administration equipment
- ❑ Non-invasive blood pressure cuffs
- ❑ Required respiratory equipment – ventilators, O2 delivery equipment, intubation trays, suction equipment

Essential Work Area/Storage Needs:

- ❑ Portable cart for supplies
- ❑ Supplies for patient care
- ❑ Linens
- ❑ Medications, refrigerator for pharmaceuticals, double locking safe for controlled substances
- ❑ Medication preparation area
- ❑ A sink with hot and cold running water
- ❑ Telephone and/or other intercommunication system
- ❑ Computer access
- ❑ Space and seating for medical record charting by both nurse and physician
- ❑ Access to dirty utility room/hopper
- ❑ Bio-medical support available

Appendix

G

Appendix G

Building a Decantation Process and Community Partnerships

Recommendations for Building a Decantation Process

- ❑ Identify and document processes for triaging patients. Identify who qualifies for early discharge during an anticipated minor surge event
- ❑ Approve the decantation process by patient care and medical advisory committees
- ❑ Implement a triage colour-coding on all electronic patient charts and in collaboration with information technology department
- ❑ Establish a system in which the planned expected date of discharge (EDD) is documented on all patients charts
- ❑ Daily distribution to all Clinical Managers of patient list indicating who will be discharged that day (based on EDD)
- ❑ Review current discharge practices
- ❑ Review current transfer practices and inter-unit coordination with a focus on critical care
- ❑ Establish mock exercises to examine barriers in discharging patients
- ❑ Establish a discharge "team " of nurses, bed manager, social workers, and senior clinical decision makers to facilitate discharges during surge events
- ❑ Facilitate a method to ensure contact numbers for family members/significant others are documented

Recommendations for Building Community Partnerships

- ❑ Establish a process to contact Community Care Access Center (CCAC) staff to expedite community care for discharged patients

- ❑ Establish agreements with CCAC to provide service within 24-hours of discharge during surge

- ❑ Distribute a call back list for CCAC off-hour service

- ❑ Establish processes and algorithms for inter-facility air and land transport in surge events within the LHIN

- ❑ Contact external resources to establish collaborative relationships within the LHIN
    - Municipalities
    - Emergency management agencies
    - Regional hospitals and long-term care facilities
    - Public health agencies

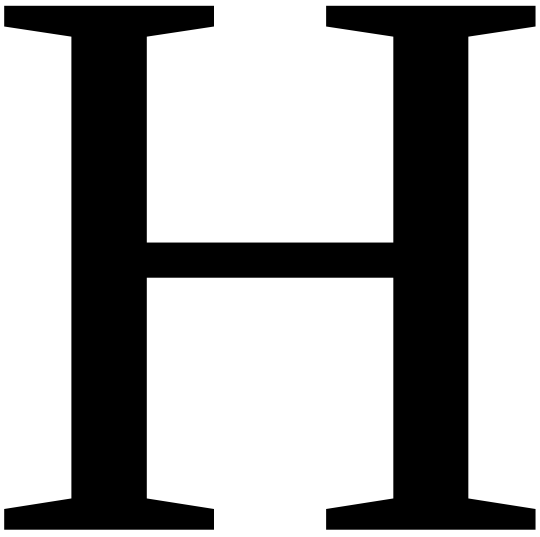
- ❑ Establish agreements with local EMS (Emergency Medical Services) and private inter-facility providers to facilitate transport of patients requiring paramedic care and non-ambulatory patients that are otherwise stable to other health care facilities or home during surge events

- ❑ Establish a memoranda of understanding with EMS, inter-facility providers and taxicab companies (can be part of existing contract) for rapid response (1-2 hour) during surge events

- ❑ Review and/or establish agreements with local long term care homes, complex continuing care centers and rehabilitation facilities to waive standard admission criteria at predefined surge threshold, in order to expedite placement of designated ALC patients

- ❑ Review and establish policies and procedures for rapid placement of patients (same day) during surge events

Appendix



Appendix H

Critical Care Surge Capacity Management Plan Transformation Map

CRITICAL CARE SURGE CAPACITY MANAGEMENT TRANSFORMATION MAP (LEVEL 3 & 2 UNITS)		
Activities	**Completed By:**	**Completed (mm/dd/yyyy)**
OBJECTIVE 1: Establish Corporate Sponsor and Steering Committee		
a. **Identify** a Corporate Sponsor as the designated champion for this initiative		
b. **Ensure** the Corporate Sponsor is aware of the Critical Care Strategy and surge capacity management principles to ensure consistency in communication		
c. **Identify** a champion from all of the following departments to participate on the Corporate Steering Committee: • Medicine • Nursing Administration • Emergency Department • Peri-operative Services • Infection Control • Material Management • Local Bargaining Unit • Front line staff Champions- Critical Care **Note:** If a similar committee exists, this committee could be utilized as the forum for communicating the plan		
d. Each Member of the steering committee to begin to **provide** an in-service on the surge management principles in their departments		
OBJECTIVE 2: Establish a Critical Care Surge Resource Team		
a. **Identify** a physician who will be the Gatekeeper for critical care capacity • The Physician Gatekeeper will co-chair the steering committee with the Corporate Sponsor. • The Physician Gatekeeper is accountable for managing critical care capacity for surge events		

CRITICAL CARE SURGE CAPACITY MANAGEMENT TRANSFORMATION MAP (LEVEL 3 & 2 UNITS)		
Activities	**Completed By:**	**Completed (mm/dd/yyyy)**
b. **Assemble** a Critical Care Surge Resource Team **Submit** a contact list for the resource team **Proposed Framework**: • Physician Champion/Gatekeeper/Medical Lead: • Nurse Manager: • Nurse Educator: • Four frontline staff (mix to include 2 senior RN, 1 junior RN, and 1 RRT)		
c. **Hold a meeting with your** Critical Care Surge Resource Team • When the team is formed, identify the roles and responsibilities and who will perform each task on the assigned transformation map. Designate one member as the Site Lead • Agree on a regular meeting time for your Critical Care Surge Resource Team		
d. **Prepare** a checklist for the Medical Director/designate of critical care unit to facilitate in a time of surge (see Appendix K for example)		
OBJECTIVE 3: Complete Comprehensive Hospital Assessments		
a. The Critical Care Surge Resource Team to **complete** the hospital, capacity, and services assessment worksheets (**Forms A, B, and C**; Appendix B) ▪ When the comprehensive hospital assessments are completed, it is very important to identify any barriers or implications that would affect change management		
b. The Critical Care Surge Resource Team to **complete** a flow mapping exercise (a guide and worksheet can be found in Appendix C) • Encourage input from all members of the critical care team • Complete a process mapping worksheet		

CRITICAL CARE SURGE CAPACITY MANAGEMENT TRANSFORMATION MAP (LEVEL 3 & 2 UNITS)		
Activities	**Completed By:**	**Completed (mm/dd/yyyy)**
c. **Collect data for Form D: Patient Flow Monitor** on a daily basis, for a period of three months (Refer to **Form D**, Appendix D for the patient flow monitor worksheet)		
OBJECTIVE 4: Establish a System that is Knowledgeable About Surge Capacity Management		
a. **Create/design** a communications campaign that educates all frontline staff, administrative, and medical staff on: ▪ The surge capacity management principles, information on the LHIN Demonstration Project, and the benefit to patients, families, staff, organizations and LHINs Consider using existing publications, newsletters, emails, lunch and learn and existing meetings; see communications starter kit on toolkit website		
b. **Conduct** information sessions for the following groups: a. Medical Advisory Committee (MAC) b. Senior team c. Frontline staff d. Other departments i.e. surgical services and emergency room		
OBJECTIVE 5: Establish a Critical Care Communication System		
a. **Utilize** a white board and communication protocols to: a. Triage patients daily utilizing a colour code to identify acuity b. Identify the date the patient was placed for discharge to the ward **Note: Consider patient confidentiality** ▪ **Red**- Patient remains in ICU ▪ **Yellow-** Possibility of transfer under 36 hours ▪ **Green-** Patient can be transferred		
b. **Implement** a communication tool to be utilized on admission and discharge in normal capacity and in crisis and surge events • Consider Situational Briefing Model-SBAR (see Appendix J on Situational Briefing Model)		
c. **Identify** communication plans to notify all levels of organization during surge events (such as management/senior team, medical staff, frontline staff, patients and families, general public, etc.)		
d. **Develop** algorithms for critical care staff to utilize in surge events • Identify how the surge plan is activated, prepare a checklist to utilize in minor surge events (see Appendix K for an example)		

CRITICAL CARE SURGE CAPACITY MANAGEMENT TRANSFORMATION MAP (LEVEL 3 & 2 UNITS)		
Activities	**Completed By:**	**Completed (mm/dd/yyyy)**
OBJECTIVE 6: Identify Essential Services and Functions Required to Sustain the Critical Care Service Note: Review flow mapping process result prior to beginning this section		
a. **Establish** admission process for critical care patients • Review flow mapping process • Identify how patients gain access to critical care • Develop an algorithm for the critical care staff on the admission process		
b. **Identify** the discharge process for critical care patients • Identify who determines patients are ready for transfer • Document the transfer process inclusive of inter-unit transfer and discharge from the organization • For trending review the data collection to identify delays in discharge • Differentiate the transfer process for minor surge events • Coordinate early discharge planning for expediting the discharge of patients in minor surge events. Note: partner with Community Care Access Centres and social work to facilitate the process		
c. **Develop** criteria for shifting patients to alternative space to accommodate for surge events		
OBJECTIVE 7: Establish System Preparedness for Human Resource Capacity (See Appendix E for Information on Planning for Human Resources for Surge Events)		
a. **Complete Minor Surge Event Worksheet** Complete the Minor Surge Event Worksheet (See Appendix I) as needed		
b. **Identify** who is accountable for staffing during a minor surge		
c. **Define** 'normal staffing capacity'		
d. **Estimate and document** minimum number and categories of personnel needed to care for a single patient or small group of patients on a given day for each specific department		
e. **Define** the necessary critical care skill set		

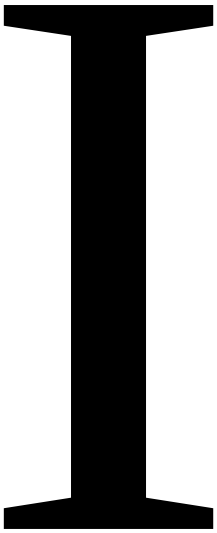
CRITICAL CARE SURGE CAPACITY MANAGEMENT TRANSFORMATION MAP (LEVEL 3 & 2 UNITS)		
Activities	**Completed By:**	**Completed (mm/dd/yyyy)**
f. **Complete** Staffing Inventory		
g. **Document** each staff member's skill set in ICU, CCU, PACU, and ER		
h. **Identify** an enhanced skill set that can be utilized in minor surge events		
i. **Collaborate** with local collective bargaining unit in defining the terms of the enhanced skill set		
j. **Identify** key strategies in implementing educational process to establish an enhanced skill set		
k. **Establish** an alternative staffing model to increase staff complement during minor surge		
l. **Introduce** cross training of personnel to provide for essential patient care areas at times of severe staffing shortages (e.g. ER, ICU or medical units)		
m. **Define** the role of multidisciplinary team members in a minor surge event		
n. **Prepare** a checklist to assist with the management of human resource compliment in a surge event (see Appendix K for a sample checklist)		
OBJECTIVE 8: Establish System Preparedness for Alternative Physical Space for Surge Events (See Appendix F for examples on managing equipment for alternative space)		
a. **Include** key stakeholders in the planning of alternate space areas including infection control, plant operations/facilities planning etc.		
b. **Identify** areas for alternative physical space to be utilized in minor surge events		
c. If pre-determined areas exist **assess** the current functionality of the designated area, particularly as it relates to patient care, work area/storage, equipment, supplies and utilities		

CRITICAL CARE SURGE CAPACITY MANAGEMENT TRANSFORMATION MAP (LEVEL 3 & 2 UNITS)		
Activities	**Completed By:**	**Completed (mm/dd/yyyy)**
d. **Identify** the shared governance between critical care unit and this alternative space		
e. **Establish** where the equipment resource will come from		
f. **Prepare** an algorithm of the transfer process of patients to this area		
g. **Implement** an education plan for frontline staff on alternative physical space		
h. **Prepare** a checklist to ensure the functionality of the alternative physical space in a time of surge (See Appendix F for example; see Appendix K for sample checklist)		
OBJECTIVE 9: Establish System Preparedness for Equipment and Resources for Surge Events (See Appendix F for examples on how to manage equipment for alternative space)		
a. **Establish** an inventoried cache of equipment		
b. **Set-up** a portable supply cart that can moved to surge area		
c. **Identify** how equipment is monitored for functionality		
d. **Identify** the location and accessibility of equipment for surge events		
e. **Prepare** an organization resource checklist to be utilized to access equipment in minor surge events (See Appendix K for sample checklist)		
f. **Collaborate** with the LHIN to understand what regional equipment resources exist in other centers and how they can be accessed in surge events (optional)		

CRITICAL CARE SURGE CAPACITY MANAGEMENT TRANSFORMATION MAP (LEVEL 3 & 2 UNITS)		
Activities	**Completed By:**	**Completed (mm/dd/yyyy)**
OBJECTIVE 10: Establish System Preparedness by Defining a Decantation Process for Surge Events (See Appendix G for recommendations on building a decantation process)		
a. **Establish** a system in which planned expected date of discharge (EDD) is documented on all patients charts		
b. **Establish daily distribution** to all Clinical Managers of patient lists indicating who may be discharged that day (based on EDD)		
c. **Establish** a discharge process to be utilized during minor surge events in critical care and acute care areas		
d. **Prepare** an organization checklist for decantation process in minor surge		
e. **Identify** how community and transport services will be utilized during the decantation process		
OBJECTIVE 11: Build Partnerships to Determine how Patient Volumes from other Clinical Areas Impact Critical Care		
a. **Designate** a champion from the operating room (OR) team to the Corporate Steering Committee (OR Manager/Director suggested)		
b. **Partner** with your operating room services delegate to determine required surgical access to critical care beds based on service and surgical procedure ▪ Identify and document routine method of booking critical care beds ▪ Review surgical cases requiring critical care service post-operation ▪ Develop a standardized booking process that will enable planning for critical care capacity ▪ Establish necessary timelines for booking of critical care beds		
c. **Determine** a daily capacity for post-operative cases requiring critical care beds consider staffing, holidays, and resource availability (for example 3 OR cases maximum daily)		
d. **Determine** a process in which surgical cases are cancelled in minor surge events		
e. **Determine** who cancels surgical cases in a minor surge event		
f. **Establish** a collaborative process between critical care and operating room to evaluate the required daily critical care capacity		

CRITICAL CARE SURGE CAPACITY MANAGEMENT TRANSFORMATION MAP (LEVEL 3 & 2 UNITS)		
Activities	**Completed By:**	**Completed (mm/dd/yyyy)**
g. **Designate** a champion of the ER team to the Corporate Steering Committee (ER Manager/Director suggested)		
h. **Partner** with the ER delegate to identify barriers in accessing critical care services		
OBJECTIVE 12: Evaluation		
a. Upon completion of the Surge Capacity Management Framework, each organization will: • Conduct rehearsals to test the efficiency of the plan • Identify areas for improvement • Have a yearly update to review and renew the policy procedures		

Appendix



Appendix I

Minor Surge Event Worksheet

Name and Title:

Surge Event

Surge Event Start date:_____ Approximate time:_____
Surge Event End date:_____ Approximate time:_____

In the space provided below, please describe the surge event
(Including the length of the event, cause, and who was notified of the events occurrence from designated leadership groups)

Patient Populations

In the space provided below, please describe the patient populations that brought about the surge event

Surge Interventions

Please indicate the interventions completed to accommodate capacity for up to 15% above normal capacity (>100% and <115%)

Describe use of alternative space to accommodate for the surge event

(This includes bed spacing patients to other areas from critical care (i.e. CCU, step-down))

Describe use of human resource compliment to accommodate for the surge event

Describe use of equipment cache to accommodate for the surge event

Did the surge event require a delay or cancellation of surgeries? (Yes/No)

If yes, what type of surgeries?

Major Risks and Issues

Describe the barriers in accommodating for the surge event, and describe the impact of the event and any actions taken

Identify interventions that were implemented during the surge event but were not effective

Recommendations and requests for decisions and support

In the event that barriers exist, identify what would have been helpful in overcoming the barriers to accommodate for the surge event

RAG STATUS: RED/AMBER(/YELLOW)/GREEN	
Red • Capacity requirement exceeds institutional capability • Both capacity and sustainability are at risk	
Amber/Yellow • Capacity required ≤ 15% normal capacity (115%) • Patient volumes remain under 115% capacity • Sustainability of critical care resource at risk • Remedial actions in place	
Green • Normal level of attention • Normal capacity • No actions required • Sustainable critical care service with institutional tolerance	

Appendix

J

Appendix J

SBAR: A Situation Briefing Model

Communication failures are a common cause of errors, resulting in inadvertent patient harm. The complexity of medical care, coupled with the inherent limitations of human performance, make it critically important that clinicians have standardized communication tools, create an environment in which individuals can speak up and express concerns, and share common ''critical language'' to alert team members to unsafe situations.[3] Effective communication and teamwork are essential for delivering high quality patient care and maintaining patient safety. A strong communication process and plan can eliminate uncertainty in daily functioning and during surge events.

SBAR

SBAR is a communication technique that helps members of the health care team organize and present critical information about a patient's condition in an efficient and effective way. The SBAR tool consists of a script template in which the patient's information is entered. The script is then used to guide the conversation between members of the health care team about a patient requiring a clinician's immediate attention and action.

SBAR is an acronym for:

- **S**ituation
- **B**ackground
- **A**ssessment
- **R**ecommendation

Situation	What is happening with the patient at the present time? This should include identifying yourself, the patient, and a statement of your concerns.
Background	What is the key clinical background leading up to this situation? The background is brief and pertinent history of the patient and may include admission diagnosis, treatment to date, current mediations or lab results.
Assessment	What do I think the problem is? Identify the key factors from your assessment.
Recommendation	What actions do we take to correct the problem? The recommendation should include any tests that need to be done and any issue that needs to be addressed immediately.

[3]M Leonard, S Graham, D Bonacum The human factor: the critical importance of effective teamwork and communication in providing safe care, Qual Saf Health Care 2004; 13(Suppl 1):i85–i90.

HCPro, Inc. (2006) SBAR: Situation, Background, Assessment, Recommendation A Communication Handbook for All Staff.

Modify the SBAR tool template for your organization

The SBAR tool can be modified to include information that is specific to and necessary for quality patient care in a critical care setting.

Using the SBAR tool

The SBAR tool is used most often when a nurse is communicating to a physician.

a. Prior to calling the physician, the nurse should:
   - Assess the patient
   - Know the admitting diagnosis and date of admission

b. Have available:
   - Patient's chart
   - List of medications
   - Lab results
   - Code status

c. Call the physician and follow the SBAR process
d. Document the discussion in the patient's chart

Suggested Readings:

- Visit the Institute for Healthcare Improvement website at www.ihi.org and search for a sample SBAR tool.
- K. Haig, *et al.* (2006) SBAR: A Shared Mental Model for Improving Communications Between Clinicians. Journal on Quality and Patient Safety 32: 167-175

Index Hospital SBAR Form

SBAR Report	Date:

Index Hospital & LHIN:

Name of Index Hospital CEO/delegate:

Title (of delegate): **Phone #:**

Situation: Please Provide Summary of the Situation in the section below

What is your current status? Please insert # :

_____ critical care capacity at Minor Surge level (≤115%)

_____ critical care bed capacity (insert bed occupancy rate from CCIS)

Confirm that CCIS is updated daily? ☐ **Yes** ☐ **No**

Confirm that the hospital's senior management team has been informed? ☐ **Yes** ☐ **No**

Background: What Factors Led to the Minor Surge Event?

Assessment: What are the threats to patients/operations (e.g. lack of vents/beds/staff)

What is your current patient compliment? (Please insert the # of patients in each category)

___ # patients are red (i.e. will remain in ICU)

___ # patients are yellow (i.e. possibility of transfer within 36 hours)

___ # patients are green (i.e. ready to leave ICU immediately)

What responses have been executed? (e.g. flexed up, activated fan-out/call-in, called other sites)

List of patients requiring possible transfer? Fill out section below:

NOTE: For patient privacy this portion of the form will be for internal use only

SBAR Reporting Form: Patients Needing Transfer

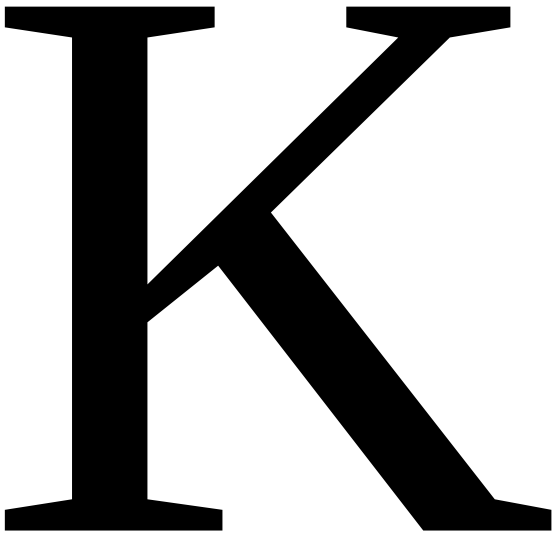
Pt #	Patient Identifier	Age	M/F	Diagnosis	Vented Y/N	Location	MRP Service	Necessity of Isolation? Y/N
1								
2								
3								
4								
5								

Recommendation

What are the recommended actions proposed to sustain and provide safe patient care?

End of Form

Appendix



Appendix K

Section I: Minor Surge Event Checklist Template

PROCESS CHECKLIST IN MINOR SURGE
Minor Surge Defined **An acute increase in demand for critical care services, up to 15% above normal capacity, that is localized to an individual hospital for which:** ○ A local level response at the individual hospital is sufficient ○ Individual hospital boards are responsible for overseeing the surge responsibility ○ Human resources in the hospital are sufficient to meet demand ○ Supplies in critical care and acute care services will be sufficient to meet the demand ○ Resources in the hospital are sufficient to meet the demand ○ Physical space resources meet the needs of the event ○ Use of alternative space is considered **Checklist will be used to address minor surge events**

DATE & TIME INTIATED	ASSIGNED DELEGATE	KEY ACTION ITEMS FOR MINOR SURGE EVENT
DEFINING SURGE		
		❑ Do you meet the above criteria for defining minor surge? ☐ YES ☐ NO ❑ Identify the cause of the surge event _____ _____ _____ ❑ Document the start/onset of the surge event _____ _____ _____ ❑ Prospectively define duration of the event _____ _____ _____

DATE & TIME INTIATED	ASSIGNED DELEGATE	KEY ACTION ITEMS FOR MINOR SURGE EVENT
ACTIVATE MINOR SURGE PROCESSES		
		❑ Appoint a lead to be accountable for the critical care unit during the surge event
		❑ Implement communication plan to alert organization of the escalation to minor surge
		❑ Activate Incident Command System per hospital policy
		❑ If the event is related to an infectious disease process: o Ensure notification of Infection Disease Department and activation of appropriate existing infectious disease plans o Ensure appropriate notification of local public health o Communicate findings to patients when confirmed by public health authorities
		❑ Distribute checklists for critical care unit physician and critical care unit manager to follow during minor surge process o ICU Medical Director/Delegate (Appendix K – Section III) o ICU Manager/Delegate (Appendix K– Section II)
DIRECT CAREGIVER PROTECTION		
		❑ Provide caregivers the highest necessary personal protective equipment and associated training
		❑ Provide support to meet mental health and personal needs of caregivers
		❑ Initiate communication process to ensure the frontline staff have access to information and are updated frequently regarding surge event
EVALUATE AND ASSESS THE CRITICAL CARE UNIT		
		❑ Assess the existing patient population in the critical care unit
		❑ Document expected admissions & discharges from the critical care unit: o Identify which patients are the priority & who is ready for transfer, using traffic light acuity system
		❑ Communicate the transfer process including inter-unit and out of hospital coordination o Initiate transfers if required
		❑ Assess and address transfer delays in and out of the critical care area
		❑ Adhere to admission and discharge criteria for minor surge events
		❑ Reassess and verify all admission and discharge of patients
		❑ Clearly identify and communicate surge admitting privileges in the critical care unit

DATE & TIME INTIATED	ASSIGNED DELEGATE	KEY ACTION ITEMS FOR MINOR SURGE EVENT
ASSESS HUMAN RESOURCE CAPACITY		
		❑ Assess the staffing needs of the critical care unit ○ Consider available staff ○ Consider alternate staffing/shift lengths
		❑ Access inventory of human resource capacity
		❑ Assess & access staff available from other intensive care areas (if applicable)
		❑ Assess & access staff available with floating skill set (ED, step-down units, PACU, cath labs, OR etc.)
		❑ Consider alternative staffing
PATIENTS AS THE PRIORITY		
		❑ Maintain the ability to provide safe and routine care to patient populations
		❑ Establish effective modes of direct communication for staff, patients and families
SUPPLIES		
		❑ Distribute Supply and Equipment Checklist to delegate to ensure supply meets demand
		❑ Assess medications and supplies required per designated unit starting with critical care for sustainability of event
		❑ If the surge event continues activate stockpiling of necessary medications and supplies
		❑ Activate designated team to ensure supplies reach the appropriate units
		❑ Activate designated housekeeping team to ensure beds turnover is less than 30 minutes
		❑ As appropriate assign a pharmacy delegate to ensure medication supply meets the required demand
		❑ Track distribution of inventory and location of supplies
		❑ In prolonged events, activate agreements with external providers for continuous supply of essential goods and services – i.e. food, medications, oxygen, biomedical services, lab and diagnostics as required
IDENTIFY ALTERNATIVE PHYSICAL SPACE FOR CRITICAL CARE PATIENTS		
		❑ Assess availability of pre-established areas within hospital for critical care overflow
		❑ Activate necessary processes to utilize alternative space(s): ○ Appropriate staffing**,** equipment and supplies ○ Transport needs
		❑ Refer to Alternative Physical Space Functionality Checklist (Appendix K – Section IV)
		❑ Identify one staff member to be conduit for two-way communication between the designated area and the critical care area

DATE & TIME INTIATED	ASSIGNED DELEGATE	KEY ACTION ITEMS FOR MINOR SURGE EVENT
EVALUATE THE SYSTEM		
		❑ Determine if other health services are experiencing similar surge events o Including clusters of staff illness (greater than 10% of staff ill)
		❑ Define the surge event across the region
		❑ Initiate common template for communication with external sources (external to critical care & organization) related to: o Admissions and discharges o Patient Identifying information & demographics o Underlying disease & symptom presentation
		❑ Identify staff member who will be the lead for communication during the surge event
		❑ Increase security measures as required
		❑ Initiate hospital-wide patient assessment and triage
ASSESS AND EVALUATE DEPARTMENT BED UTILIZATION – ALL REMAINING UNITS		
		❑ Identification of Senior Administrative Lead
		❑ Communicate with critical care unit Surge Capacity Lead
		❑ Review triaging of all in-hospital patients o Colour code patients charts to identify priority patients for transfer o Electronic coding through IT department

DATE & TIME INTIATED	ASSIGNED DELEGATE	KEY ACTION ITEMS FOR MINOR SURGE EVENT
		❑ **Implement bed utilization review system** **Example:** Bed management meeting for a global bed utilization review to establish/implement the following as appropriate: ○ Placement of over census and off service patients ○ Access repatriation agreements with sending hospitals ○ Closed rooms that can be converted to a patient room ○ Convert private to a semi-private for overflow ○ Review methods to expedite discharges: ■ Review discharge plan for every patient ■ Identify processes that are delaying transfers ■ Facilitate early discharges (discharge lounge(s); Social Work involvement for early discharge planning on all ALC patients etc.) ■ Early distribution of morning lists of patients who may be discharged that day (based-on EDD) ■ 'Discharge Team' of nurses, Bed Manager and Senior Clinical Decision-Makers to be mobilized
		❑ **Implement Decantation to Community Procedures** ○ Review Community Care Access Centre (CCAC) and Long-Term Care Home (LTCH) applications on patients charts ○ Contact CCAC staff to expedite community care for discharged patients ○ As per pre-agreements with CCAC to provide service within 24 hours of discharge during surge initiate call back list for CCAC after hours service ○ Review agreements with local LTCH's, Complex Continuing Care Centers and rehabilitation facilities to waive standard admission criteria at predefined surge threshold, to expedite Alternate Level of Care placement ○ Begin rapid placement of patients (same day) during surge ○ Initiate transport of triaged patient to other centers as per established guidelines with local EMS and private medical transport provider ○ If transport of patients requires longer than 1-2 hour during a surge event review documented memoranda and contact the transporting authority ○ Assign a delegate to contact family members of patients that are being transferred

DATE & TIME INTIATED	ASSIGNED DELEGATE	KEY ACTION ITEMS FOR MINOR SURGE EVENT
CONSIDER ELECTIVE SURGICAL DELAY		
		❑ Reassess critical care unit capacity
		❑ In collaboration with Chief of Surgery, determine the priority of surgical cases
		❑ Notify all surgical teams of the delay
		❑ Establish a priority system to identify by patient who requires access to the available critical care beds
		❑ Identify the timeline for surgical cases to process
		❑ Identify if all cases are on hold until further notice

Section II: Checklist Template for ICU Manager

PROCESS CHECKLIST IN MINOR SURGE FOR ICU MANAGER
Minor Surge Defined **An acute increase in demand for critical care services, up to 15% above normal capacity, that is localized to an individual hospital for which:** ○ A local level response at the individual hospital is sufficient ○ Individual hospital boards are responsible for overseeing the surge responsibility ○ Human resources in the hospital are sufficient to meet demand ○ Supplies in critical care and acute care services will be sufficient to meet the demand ○ Resources in the hospital are sufficient to meet the demand ○ Physical space resources meet the needs of the event ○ Use of alternative space is considered

DATE & TIME INTIATED	ASSIGNED DELEGATE	KEY ACTION ITEMS FOR ICU MANAGER
DEFINING SURGE		
		❑ Do you meet the above criteria for defining minor surge? ☐ YES ☐ NO ❑ Identify the cause of the surge event _____ _____ _____ ❑ Document the start/onset of the surge event _____ _____ _____ ❑ Prospectively define duration of the event _____ _____ _____

DATE & TIME INTIATED	ASSIGNED DELEGATE	KEY ACTION ITEMS FOR ICU MANAGER
ACTIVATE MINOR SURGE PROCESSES		
		❑ Notify Nursing Administration of surge event in Critical Care
		❑ In collaboration with Medical Director/Intensivist communicate the surge status to all staff in Critical Care areas
		❑ Delegate assigned duties to all staff members
		❑ Designate a staff member to communicate updates to staff
		❑ Notify Admitting/Registration department of existing surge even. Inform Admitting department Critical Care patients are being triaged for potential transfer
EVALUATE AND ASSESS THE CRITICAL CARE UNIT		
		❑ In conjunction with Medical Director/Intensivist review all patients in ICU to determine if any patients can be transferred
		❑ Assign a delegate in conjunction with Medical Director to triage all Critical Care patients
		❑ Identify to Admitting/Registration all patients that have a transfer order written and are priority for in-house bed placement
		❑ Review Human Resource capacity needs ❑ Delegate completion of Human Resource Capacity Checklist
		❑ Initiate Call-In of staff for surge event
		❑ Consider alternative staffing
		❑ Review requirement for Alternative Physical Space for ICU patients with Medical Director
		❑ Designate a staff member to being the Alternative Space Area checklist to assess the functionality of the area
		❑ Consult with Intensivist or ICU Physician-in-Charge o Notify OR Manager of delay of internal cases o Coordinate with ER Manager to prioritize influx of patients

Section III: Checklist Template for ICU Medical Director/Designate

PROCESS CHECKLIST IN MINOR SURGE FOR ICU DIRECTOR/DESIGNATE
Minor Surge Defined **An acute increase in demand for critical care services, up to 15% above normal capacity, that is localized to an individual hospital for which:** ○ A local level response at the individual hospital is sufficient ○ Individual hospital boards are responsible for overseeing the surge responsibility ○ Human resources in the hospital are sufficient to meet demand ○ Supplies in critical care and acute care services will be sufficient to meet the demand ○ Resources in the hospital are sufficient to meet the demand ○ Physical space resources meet the needs of the event ○ Use of alternative space is considered

DATE & TIME INTIATED	ASSIGNED DELEGATE	KEY ACTION ITEMS FOR ICU MEDICAL DIRECTOR/DESIGNATE
DEFINING SURGE		
		❑ Do you meet the above criteria for defining minor surge? ☐ YES ☐ NO ❑ Identify the cause of the surge event _____ _____ _____ ❑ Document the start/onset of the surge event _____ _____ _____ ❑ Prospectively define duration of the event _____ _____ _____

ACTIVATE MINOR SURGE PROCESSES		
		❑ Implement communication plan to alert organization of the escalation to minor surge
		❑ Activate Incident Command System as per Hospital Policy
		❑ If the event is related to an infectious disease process: o Ensure notification of Infection Disease Department and activation of appropriate existing Infectious Disease Plans o Ensure appropriate notification of Local Public Health o Communicate findings to patients when confirmed by Public Health authorities
		❑ Distribute Checklists for Surge Capacity Planning o ICU Medical Director/Delegate (Appendix K – Section III) o ICU Manager/Delegate (Appendix K – Section II) o Human Resource Capacity (Appendix K – Section V) o Equipment and Supplies (Appendix K – Section VI) o Alternative Physical Space (Appendix K – Section IV)
EVALUATE AND ASSESS THE CRITICAL CARE UNIT		
		❑ Collaborate with Nurse Manager
		❑ Document the existing patient population in the Critical Care unit
		❑ Document expected admissions and discharges from the Critical Care unit: o Identify what patients are the priority and who is ready for transfer o Triage patients with a colour code: ▪ Red- Stays ▪ Yellow-Possible transfer ▪ Green-Go
		❑ Assess all current ICU patients with ICU Manager/delegate and write transfer orders
		❑ Assess the transfer process including inter-unit and out of hospital coordination
		❑ Assess and address transfer delays in and out of the Critical Care area
		❑ Consider alternative beds in the hospital
		❑ Review pre-assigned alternative areas for Critical Care patients to be placed
		❑ Delegate a transfer team to facilitate the transfer process
		❑ Adhere to admission and discharge criteria for minor surge events o Review admission and discharge process with nursing staff
		❑ Reassess and verify all admission and discharge of patients
		❑ Clearly identify and communicate surge admitting privileges in the Critical Care unit

		❑ Notify all Medical departments of minor surge status
		❑ Determine physician Human Resource capacity and initiate call in of staff
		❑ Communicate with Chief of Surgery regarding the delay of internal elective cases
		❑ Assess repatriation of patients in the Critical Care unit (if Possible)
		❑ Notify CritiCall of status of hospital and inability to receive external patients
		❑ Verify the checklists have been completed and assess status
		❑ Reassess surge situation with frequent reporting to staff

Section IV: Alternative Physical Space Checklist Template

PROCESS CHECKLIST FOR ALTERNATIVE PHYSICAL SPACE
Minor Surge Defined **An acute increase in demand for critical care services, up to 15% above normal capacity, that is localized to an individual hospital for which:** ○ A local level response at the individual hospital is sufficient ○ Individual hospital boards are responsible for overseeing the surge responsibility ○ Human resources in the hospital are sufficient to meet demand ○ Supplies in critical care and acute care services will be sufficient to meet the demand ○ Resources in the hospital are sufficient to meet the demand ○ Physical space resources meet the needs of the event ○ Use of alternative space is considered

DATE & TIME INTIATED	ASSIGNED DELEGATE	KEY ACTION ITEMS FOR ALTERNATIVE PHYSICAL SPACE
DEFINING SURGE		
		❑ Do you meet the above criteria for defining minor surge? ☐ YES ☐ NO ❑ Identify the cause of the surge event _____ _____ _____ ❑ Document the start/onset of the surge event _____ _____ _____ ❑ Prospectively define duration of the event _____ _____ _____

DATE & TIME INTIATED	ASSIGNED DELEGATE	KEY ACTION ITEMS FOR ALTERNATIVE PHYSICAL SPACE
ASSESS ALTERNATE PHYSICAL SPACE FOR MINOR SURGE EVENTS		
		❑ Assess areas of the hospital that ICU patients can overflow to including post anaesthesia care units, areas adjacent to ICU, ED ❑ Assess the functionality of this area as it relates to patient area, work area/storage, equipment and supplies and utilities ❑ If pre-determined areas exist assess the current functionality of the designated area
ASSESS PATIENT CARE AREAS		
		Verify the following for the Patient Care Areas ❑ Ability to directly or indirectly view patient ❑ Patient call system ❑ Adequate lighting ❑ Adequate space to accommodate equipment and personnel to meet patient needs. ❑ Cardiac arrest equipment ❑ Emergency alarm system ❑ Bed/stretcher bed, over bed table, chair
ASSESS WORK AREA/STORAGE		
		❑ Portable cart for supplies ❑ Supplies for patient care ❑ Linen ❑ Medications including refrigerator for pharmaceuticals, double locking safe for controlled substances ❑ Medication preparation area ❑ A sink with hot and cold running water ❑ Telephone and/or other intercommunication system ❑ Computer access ❑ Space and seating for medical record charting by both nurse and physician ❑ Access to dirty utility room/hopper ❑ Bio-Medical support available

DATE & TIME INTIATED	ASSIGNED DELEGATE	KEY ACTION ITEMS FOR ALTERNATIVE PHYSICAL SPACE
IN COORDINATION WITH BIO-MEDICAL ENGINEERING ASSESS UTILITIES		
		❑ Electrical power – adequate outlets for needs ❑ Oxygen- 2 outlets per bed ❑ Compressed air- one outlet per bed ❑ Vacuum system- 3 outlets per bed ❑ Water supply- hand washing sinks, toilet ❑ Lighting- adequate for patient care, emergencies and charting
ASSESS ACCESSIBILITY TO NECESSARY EQUIPMENT AND SUPPLY		
		❑ Rapid retrieval of crash cart and portable monitor defibrillator ❑ X-Ray viewing system- station or computer ❑ Physiologic monitoring with recording capability ○ ECG ○ 3 pressure line ○ O2 sat monitor ❑ Thermometers ❑ Glucometer ❑ 2 IV poles per bed ❑ IV pumps/IV administration equipment ❑ Non-invasive blood pressure cuffs ❑ Urine qualification devices ❑ Pulse oximeters ❑ Set-up a portable supply cart that can moved to surge area ❑ Required Respiratory equipment ❑ Review your up-to-date list of all current ICU equipment including old equipment in storage. This list should include number of ventilators including transport ventilators, BiPap machines, anaesthetic machines, transport monitors

Section V: Human Resource Capacity Checklist Template

PROCESS CHECKLIST FOR HUMAN RESOURCES CAPACITY
Minor Surge Defined **An acute increase in demand for critical care services, up to 15% above normal capacity, that is localized to an individual hospital for which:** ○ A local level response at the individual hospital is sufficient ○ Individual hospital boards are responsible for overseeing the surge responsibility ○ Human resources in the hospital are sufficient to meet demand ○ Supplies in critical care and acute care services will be sufficient to meet the demand ○ Resources in the hospital are sufficient to meet the demand ○ Physical space resources meet the needs of the event ○ Use of alternative space is considered

DATE & TIME INTIATED	ASSIGNED DELEGATE	KEY ACTION ITEMS FOR HUMAN RESOURCES CAPACITY
DEFINING SURGE		
		❑ Do you meet the above criteria for defining minor surge? ☐ YES ☐ NO ❑ Identify the cause of the surge event _____ _____ _____ ❑ Document the start/onset of the surge event _____ _____ _____ ❑ Prospectively define duration of the event _____ _____ _____

DATE & TIME INTIATED	ASSIGNED DELEGATE	KEY ACTION ITEMS FOR HUMAN RESOURCES CAPACITY
ASSESS HUMAN RESOURCE CAPACITY		
		❑ Estimate & document minimum number and categories of personnel needed to care for the current patient population
		❑ Assess the staffing needs ○ Consider available staff ○ Consider alternate shift lengths
		❑ By the approval of the Critical Care Manager call in available staff
		❑ Obtain Staffing Inventory assess Human Resource capacity
		❑ Identify Staff with the pre-determined Critical Care Skill Set*
		***Example:** Existing Standard Critical Care RN Skill Set includes basic & advanced nursing skills: ▪ Advanced airway management (Suctioning, ventilator parameters, ETT management, ABG interpretation etc) ▪ Arrhythmia & Pacing interpretation/monitoring ▪ Hemodynamic monitoring ▪ IV drug administration including the titration of vasoactive drugs ▪ Arterial, central venous & PA line management ▪ Comprehensive head to toe patient assessment ▪ ICP drain management Emergency arrest response ▪ Must include a complement of staff with additional advanced training such as CRRT & IABP
		❑ Identify other sources of available staff with existing standard Critical Care Skill Set* (e.g. former Critical Care staff, agency, other hospital Critical Care unit staff etc.)
		❑ Review the floating skill set** in Acute Care staff
		** **Example:** Floating Critical Care RN Skill Set (Staff with trained emergency response (EMAT pool), Operating Room, level 1&2 Intensive Care units, telemetry experience, and previous Critical Care unit staff) includes basic & few advanced nursing skills: ▪ Arrhythmia interpretation ▪ Arterial & central venous line management ▪ Basic airway maintenance (Non-ventilated) ▪ IV drug administration Basic vital signs assessment (HR, BP, Temp, RR, O2 Sat) ▪ IV insertion & Phlebotomy
		❑ Review if Human Resource capacity exceeds the patient care needs ○ Review staffing needs with Medical Director and Nurse Manager

DATE & TIME INTIATED	ASSIGNED DELEGATE	KEY ACTION ITEMS FOR HUMAN RESOURCES CAPACITY
		Consider Alternative Staffing *** **Example:** Alternate staffing models are tiered systems where Critical Care staff expertise is used to oversee staff with non-Critical Care Skill Sets & provide advanced care needs to multiple patients ▪ Critical Care RN oversees 2 Telemetry floor staff & each with two Critical Care patients ▪ 1 Intensivist oversees up to 4 non-Intensivists
REPORT BACK TO MEDICAL DIRECTORY OF CRITICAL CARE AND NURSE MANAGER		
		❑ Report findings to Critical Care team Supplies for patient care

Section VI: Supplies and Equipment Checklist Template

PROCESS CHECKLIST FOR ASSESSING SUPPLIES AND EQUIPMENT
Minor Surge Defined **An acute increase in demand for critical care services, up to 15% above normal capacity, that is localized to an individual hospital for which:** ○ A local level response at the individual hospital is sufficient ○ Individual hospital boards are responsible for overseeing the surge responsibility ○ Human resources in the hospital are sufficient to meet demand ○ Supplies in critical care and acute care services will be sufficient to meet the demand ○ Resources in the hospital are sufficient to meet the demand ○ Physical space resources meet the needs of the event ○ Use of alternative space is considered

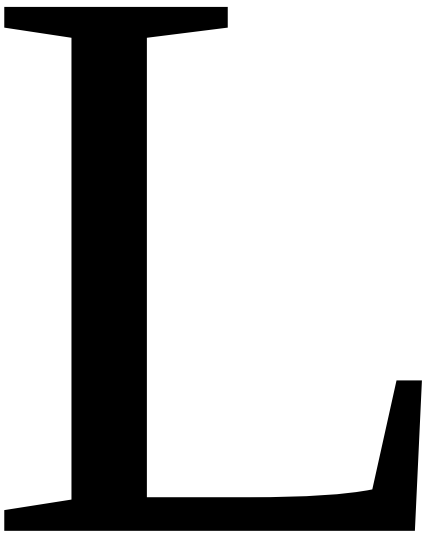
DATE & TIME INTIATED	ASSIGNED DELEGATE	KEY ACTION ITEMS FOR ASSESSING SUPPLIES AND EQUIPMENT
DEFINING SURGE		
		❑ Do you meet the above criteria for defining minor surge? ☐ YES ☐ NO ❑ Identify the cause of the surge event _____ _____ _____ ❑ Document the start/onset of the surge event _____ _____ _____ ❑ Prospectively define duration of the event _____ _____ _____

DATE & TIME INTIATED	ASSIGNED DELEGATE	KEY ACTION ITEMS FOR ASSESSING SUPPLIES AND EQUIPMENT
ASSESS CRITICAL CARE AREAS		
		❑ Assess medications & supplies required in Critical Care for sustainability of event ❑ If the surge event continues activate stockpiling of necessary medications and supplies ❑ Ensure supplies reach the appropriate units ❑ As appropriate, assign a Pharmacy delegate to ensure medication supply meets demand ❑ Collaborate with Housekeeping Supervisor to activate designated housekeeping team to ensure bed turnover is less than 30 minutes ❑ Ensure special order equipment will remain available for patient care ❑ Evaluate the need for physical beds ❑ Ensure the physical beds are available or accessible for the duration of the surge event ❑ Implement a process to track distribution of inventory and location of supplies
ASSESS PATIENT CARE AREAS		
		Verify the following for the Patient Care areas: Ability to directly or indirectly view patient ❑ Patient call system ❑ Adequate lighting ❑ Adequate space to accommodate equipment and personnel to meet patient needs ❑ Cardiac arrest equipment ❑ Emergency alarm system ❑ Bed/stretcher bed, over bed table, chair
ASSESS WORK AREA/STORAGE		

DATE & TIME INTIATED	ASSIGNED DELEGATE	KEY ACTION ITEMS FOR ASSESSING SUPPLIES AND EQUIPMENT
		❑ Portable cart for supplies ❑ Supplies for patient care ❑ Linen ❑ Medications including refrigerator for pharmaceuticals, double locking safe for controlled substances ❑ Medication preparation area ❑ A sink with hot and cold running water ❑ Telephone and/or other intercommunication system ❑ Computer access ❑ Space and seating for medical record charting by both nurse and physician. ❑ Access to dirty utility room/hopper ❑ Bio-Medical support available
IN COORDINATION WITH BIO-MEDICAL ENGINEERING ASSESS UTILITIES		
		❑ Electrical power – adequate outlets for needs ❑ Oxygen- 2 outlets per bed ❑ Compressed air- one outlet per bed ❑ Vacuum system- 3 outlets per bed ❑ Water supply- hand washing sinks, toilet. ❑ Lighting- adequate for patient care, emergencies and charting
ASSESS ACCESSIBILITY TO NECESSARY EQUIPMENT AND SUPPLY		

DATE & TIME INTIATED	ASSIGNED DELEGATE	KEY ACTION ITEMS FOR ASSESSING SUPPLIES AND EQUIPMENT
		❑ Rapid retrieval of crash cart and portable monitor defibrillator ❑ X-Ray viewing system- station or computer ❑ Physiologic monitoring with recording capability ○ o ECG ○ o 3 pressure line, ○ o O2 sat monitor, ❑ Thermometers ❑ Glucometer ❑ 2 IV poles per bed ❑ IV pumps/IV administration equipment ❑ Non-invasive blood pressure cuffs ❑ Urine qualification devices ❑ Pulse oximeters ❑ Set-up a portable supply cart that can moved to surge area ❑ Required Respiratory equipment ❑ Review the up-to-date list of all current ICU equipment including old equipment in storage. This list should include number of ventilators including transport ventilators, BiPap machines, anaesthetic machines, transport monitors
REPORT BACK TO MEDICAL DIRECTORY OF CRITICAL CARE AND NURSE MANAGER		
		❑ Report findings to Critical Care team Supplies for patient care

Appendix



Appendix L

Glossary of Terms

Algorithm – A type of effective method in which a list of well-defined instructions for completing a task will, when given an initial state, proceed through a well-defined series of successive states, eventually terminating in an end-state.

Avoidable Days – Hospital inpatient days that could have been avoided.

Champion – A champion provides leadership and has authority to affect change.

Community Care Access Centre (CCAC) – Local organizations that can help patients access government-funded home care services and long-term care homes. CCACs help people to navigate the array of community support and health agencies in their communities.

Corporate Sponsor – A representative from your Senior Management Team, at a minimum at the VP level, that holds corporate accountability for the success of the program in your hospital. They should be able to: help the Critical Care Surge Resource Team address barriers to implementing the program, be well versed in the 5 capacity management principles, have visibility as a champion of the program, and play a pivotal role in supporting and facilitating change management. They will work closely with the Site Lead and the Physician Champion.

Corporate Steering Committee –The Steering Committee will consist of champions from various departments related to critical care. The surge management champions from across the organizational infrastructure are required to communicate with the frontline staff to ensure seamless coordination of services for critically ill patients.

Critical Care – Critical care medicine is a specialty that provides comprehensive and continuous care for adult and paediatric patients who are critically ill and who can benefit from treatment. This essential service can sustain and maintain life at critical moments of illness.

Critical Care Information System (CCIS) – As the information management system for the Critical Care Strategy, CCIS collects data in real-time, providing clinicians, administrators, LHINs and the MOHLTC with secure and reliable information they can use to make better decisions about clinical practice and resource allocation.

Critical Care Response Teams (CCRTs) – CCRTs, also referred to as Medical Emergency Teams or Rapid Response Teams, are a major innovation in hospital practice gaining global recognition for their capacity to improve patient safety, critical care access, and the efficiency of hospital resource utilization. Comprised of intensive care physicians (intensivists), intensive care nurses and Respiratory Therapists, CCRTs bring the skills and expertise of a critical care unit beyond four walls to meet the needs of patients at risk wherever they are in the hospital.

Critical Care Skill Set –A determined collection of skills that the members of the critical care team must possess (i.e. critical care nursing skills).

Critical Care Strategy – Ontario's Critical Care Strategy is a seven-fold strategy to improve access, quality, system integration, and enhance the overall health system by addressing the policy, funding, and operational issues that contribute to wait times for critical care across the system. As a further evolution of this strategy, CCSO is supporting the implementation of a provincial program that will provide Ontario hospitals with a standardized practice for Surge Planning and Management.

Critical Care Surge Resource Team – Each organization will develop a central group that will be responsible for implementing the strategic elements of the plan to establish preparedness within their own organization. The teams will be referred to as the Critical Care Surge Resource Teams. Teams will vary in size and composition depending on the availability of staff and the composition of the critical care units. Each organization will build a team to suit its own needs.

Decantation Process –The preparation of additional physical space as required, often through a combination of early patient discharges, transfers, and through the collaboration and integration of services (such as with the OR, ER etc.).

Emergency Medical Assistance Team (EMAT) – EMAT is a mobile acute care field unit, fully equipped with its own medical equipment and supplies, a communications centre, electricity and water. It is staffed by an on-call support team of healthcare professionals including physicians, paramedics, nurses, respiratory therapists and x-ray technologists who have volunteered to work on EMAT during an emergency. EMAT is only meant to be used in the event of a major surge or disaster. If any community in Ontario finds that it does not have the capacity to respond effectively to a health emergency, it can request that EMAT be sent. **NOTE**: EMAT is deployed only after a community's own disaster plan has been activated and their systems are overwhelmed.

Flow Map – A process management tool that allows organizations to depict work/process flow. In addition, it is a chart with a linear process map that shows the amount of traffic or flow within your hospital.

Green – Through the use of the traffic light system, patients identified and rated at the green level can be safely transferred from critical care.

Level 2 Critical Care Unit –As defined by the CCIS Inventory, Level 2 units are capable of providing service to meet the needs of patients who require more detailed observation or intervention including support for a single failed organ system, short-term non-invasive ventilation, post-operative care, patients "stepping down" from higher levels of care or "step ups" from lower levels of care. These units provide a level of care that falls between the general ward (Level 1) and a "full service" critical care unit (Level 3). Level 2 units do not provide invasive ventilatory support. **Please Note**: critical care units that provide invasive mechanical ventilation for a short period (for example ≤ 48 hours) but need to transfer those patients who require more long-term invasive ventilation to a Level 3 unit are considered Level 2 for the purposes of the service inventory.

Level 3 Critical Care Unit – As defined by the CCIS Inventory, Level 3 units are capable of providing the highest level of service to meet the needs of patients who require advanced or prolonged respiratory support, or basic respiratory support together with the support of more than one organ system. This is generally considered a "full service" Critical Care unit despite the fact some specialized services may not be available (e.g. dialysis). All Level 3 units are capable of invasive ventilatory support. **Please Note**: For institutions that combine Level 2 and Level 3

type critical care service in one geographic area (i.e. unit), the unit designations reflect the highest level of care provided – even if not all patients may be receiving that level of care.

Local Health Integration Network (LHIN) – In March 2006, the Ontario government passed legislation to create 14 LHINs across the province. The networks are not-for-profit corporations who work with local health providers and community members to determine the health service priorities of the regions. LHINs plan, integrate and fund local health services.

LHIN Demonstration Project –This was an initial pilot/demonstration project of surge management principles and techniques in the Champlain LHIN. The lessons learned and resources produced through this demonstration project were used to structure the current rollout of Surge Capacity Management Program across the remaining 13 LHINs.

Major Surge – An unusually high increase in demand that overwhelms the healthcare resources of individual hospital and regions for an extended period of time.

Ministry of Health and Long Term Care (MOHLTC) – In Ontario, the MOHLTC is responsible for establishing overall strategic direction and provincial priorities for the health system, developing legislation, regulations, standards, policies, and directives to support those strategic directions, monitoring and reporting on the performance of the health system and the health of Ontarians, planning for and establishing funding models and levels of funding for the health care system, ensuring that ministry and system strategic directions and expectations are fulfilled. The MOHLTC works in collaboration with the Local Health Integration Networks.

Minor Surge – An acute increase in demand for critical care services, up to 15% beyond the normal capacity (>100% and <115%), where response is localized to an individual hospital.

Moderate Surge – A larger increase (≥115%) in demand for critical services, that impacts on a LHIN level, where an organized response at the LHIN/regional network level is required.

Pandemic – is an epidemic of infectious disease that spreads through populations across a large region.

Red – Through the use of the traffic light system, patients identified and rated at the red level remain in ICU as they require life-sustaining interventions.

Severe Acute Respiratory Syndrome (SARS) – Is a respiratory disease in humans, which is caused by the SARS coronavirus. Ontario's battle with SARS revealed significant weaknesses in Ontario's healthcare system, including a limited ability to manage critical care resources across hospitals in response to a sudden spike in demand.

Site Lead – The person who will lead the Surge Resource Team to complete the transformation map. They will be the main contact for disseminating any pertinent information for the rest of the hospital and be the main representative that the Ministry will contact for updates on progress, monthly teleconferences etc. This does not need to be a physician as there is a role for a physician champion on the resource team.

Situational Briefing Model (SBAR) – A communication technique that helps members of the health care team organize and present critical information about a patient's condition in an efficient and effective way. The SBAR tool consists of a script template in which the patient's information is entered. The script is then used to guide the

conversation between members of the health care team about a patient requiring another clinician's immediate attention and action.

Surge –Any situation where demand exceeds resources.

Surge Capacity –Is the ability to expand care in response to rapid or more prolonged demand in health care services.

Transformation Map – A map to help hospitals navigate their way through surge capacity management planning. The map will come together through the completion of transformational activities.

Triage - a process of prioritizing patients based on the severity of their condition. This facilitates the ability to treat as many patients as possible when resources are insufficient for all to be treated immediately.

Yellow/Amber – Through the use of the traffic light system, patients identified and rated at the amber/yellow level have a possibility of transfer within a 36 hours timeframe.