

## **NMCS D SURGE CAPACITY SOP**

I. SCOPE: In the event of a major emergency, NMCS D must be prepared to expand its bed capacity from its current operating level in order to accommodate the anticipated influx of patients. A surge of patients will affect the entire hospital as such all hands should be familiar with the processes contained in this SOP and associated instructions.

II. HAZARD OVERVIEW: A surge of patients can be a planned event or sudden evolution as in a mass casualty. In either instance the hospital must be ready to increase the available beds to accommodate the increase in patients. This process includes discharging all patients who can subsist at a lower level of care, opening patient care areas that are unoccupied and increasing staff to care for the new patients. This SOP and command instructions will provide direction in identifying locations, rooms and expansion wards for patients.

III. ASSUMPTIONS:

1. A state of emergency has been declared
2. Supporting community hospitals are also experiencing a surge in patients.
3. Federal State and local regulations on care giver to patient ratio's have been suspended and hospitals are operating with emergency exceptions

IV. CONCEPT OF OPERATIONS:

1. Ward renovations, facilities projects and changes in equipment inventory will have continued impacts on actual available capacity. This instruction is intended to provide resource managers and decision makers with a template to inventory available equipment and physical spaces suitable for patient care. It will also provide the tools needed to calculate the number of patients that can be accommodated based on available spaces, equipment, staffing, the number of existing patients, and the nature of the threat for any given incident. Each inpatient area will maintain plans specific to its own area for employing the equipment, physical spaces, and staffing listed herein to deploy the maximum number of surge beds. The surge capacity calculation tool came from the California Health Services Department and is the same tool that will be used by all San Diego area hospitals.

2. Specific Infection Control and Isolation Guidelines are found in NMCS D Infection Control Manual.

3. This plan will be updated annually during the yearly Hazard Vulnerability Analysis to reflect changes in bed space and inventory

4. Physical Space Inventory

A. The tables list: (a) baseline available bed space and surge capacity based on the current limitations of physical space and available medical gas and wall suction and (b) available Operating Rooms and Minor Procedure Areas. These must be updated at the time of an emergency to reflect actual available functional spaces. Surge capacity beds are stored in the Material Management warehouse and cots in Emergency Management storage in Building 26, 3B.

B. Overall Bed Space (by Ward): Each ward will use their solariums for the additional bed space. These areas do not have medical gas outlets or wall suction and may need to rely on portable devices.

| Ward                       | # Pt Rooms / # Beds with gas & suction | # Offices & other rooms / # of potential beds <u>WITH</u> gas & suction / | # Offices & other rooms <u>WITHOUT</u> gas or suction / # of potential beds |
|----------------------------|--|---|---|
| 5 North (Med/Surg)         | 18/31                                  | 3/5   | 3/7   |
| 5 West (Contingency)       | 20/37                                  | 2/3   | 2/4   |
| 5 East (Hem/Onc)           | 19/29                                  | 0   | 2/6   |
| 4 West (Tele)              | 17/29                                  | 3/4   | 1/4   |
| 4W(DOU)                    | 1/4                                    | 0   | 0   |
| 4 North (Same Day Surgery) | 18/29                                  | 2/4   | 2/4   |
| 4 East (Med/Surg)          | 19/33                                  | 1/1   | 1/4   |
| ICU                        | 16/16                                  | 0   | 1/2   |
| CCU                        | 10/10                                  | 0   | 1/2   |
| PACU (Open bay)            | 1 open bay *                           | 2 spaces with gas and suction, no monitors                                | 0   |
| PICU                       | 8/11                                   | 0   | 4/5   |
| 2 East (Peds)              | 13/30                                  | 2/5   | 1/1   |

|   |                         |                                |           |
|---|-------------------------|--------------------------------|-----------|
| 2 West<br>(Infectious<br>Disease /<br>Travel<br>Clinic) | 1/1                     | 4/5                            | 19/8      |
| 2 North (Peds<br>Clinic)                                | 7/14                    | 0                              | 1/1       |
| 3 East  | 21/25                   | 3/9                            | 5/8       |
| 3 West (L&D)  | 13/13 **                | 2/6                            | 3/0       |
| 3 North (MIU)   | 19/27                   | 3/9                            | 3/6       |
| 1 North<br>(Mental<br>Health)                           | 5/20                    | 2/6                            | 6/6       |
| 1 West<br>(Mental<br>Health)                            | 5/20                    | 2/6                            | 6/6       |
| NICU (under<br>renovation)                              | 8 (+1 open<br>bay) / 30 | 12/32<br>(after<br>renovation) | 0/0       |
| <b>Total Beds</b>                                       | <b>418</b>              | <b>107</b>                     | <b>74</b> |

\* 15 spaces with monitor, gas, and suction, requires gurneys or beds.

\*\* Each of the 13 rooms has one adult bed and one infant warmer with two gas and suction connectors, for surge capacity of 26 adult beds.

5. Surgical Surge Capacity:

| <u>Operating Rooms</u>       | Baseline /Available          | Actual Operating Rooms/ "Minor Procedures" suites |
|------------------------------|------------------------------|---|
| Main Operating Rooms         | 18                           |   |
| Obstetric Operating Rms      | 4                            |   |
| <u>Minor Procedure Areas</u> |                              |   |
| General Surgery Clinic       | 2                            |   |
| Urology Clinic               | 1                            |   |
| Plastic Surgery/ENT Clinic   | 3                            |   |
| GI Clinic                    | 5 (including recovery rooms) |   |
| Orthopedic Surgery Clinic    | 2                            |   |
| PICU                         | 1                            |   |
| Dental Clinic                | 3 (minor OR's w/gen anesth)  |   |
| Dental Clinic                | 4 (minor procedure rooms)    |   |
| Ophthalmology                | 1                            |   |
|                              |                              |   |

6. General Surge Capacity Priority:

- A. Utilize existing beds until at capacity
- B. When possible increase to double occupancy rooms
- C. Suspend all elective surgery operations and convert same day surgery ward (4N) to inpatient care
- D. Utilize spaces with wall O2/suction currently used as treatment rooms, office space, and storage
- E. Activate solarium surge capacity beds **(no gas or suction)**

7. Intensive Care Surge Capacity Priority:

- A. Utilize existing ICU/CCU beds until at capacity
- B. When possible increase to double occupancy rooms
- C. Convert the 4 West Direct Observation Unit (DOU) beds into ICU beds
- D. Convert all of 4 West into ICU beds
- E. Convert PACU into ICU beds

F. Convert PICU beds (if not required for pediatric critical patients) into Adult ICU beds

8. Pediatrics Surge Capacity Priority:

- A. Utilize existing beds until at capacity
- B. When possible increase to double occupancy rooms
- C. Utilize unused PICU beds
- D. Utilize spaces with wall O2/suction currently used as treatment rooms, office space, and storage
- E. Activate solarium surge capacity beds
- F. Utilize adult care ward space as available

9. Pediatric Critical Care Surge Capacity Priority:

- A. Utilize existing beds until at capacity
- B. When possible increase to double occupancy rooms
- C. Activate 5 bed PICU surge capacity
- D. Utilize monitored beds on 2 East
- E. Activate additional surge capacity beds with O2 and suction within physical space of PICU
- F. Utilize adult ICU beds if available

10. Isolation Surge Capacity Priority:

- A. There is limited isolation capacity at the hospital
  - i 5E, 5N, 5W, 4E, 4N, and 4W have two isolation rooms each with negative pressure capability, each room can accommodate two beds if needed to be used to co-habitat same disease patients.
  - ii 2E has 4 isolation rooms
  - iii PICU has 1 isolation room
  - iv ICU and CCU do not have isolation rooms
- B. There are six isolation antechambers with filters in storage that can be used to convert standard rooms or larger areas into negative pressure isolation rooms

11. Surge Capacity Calculations:

- A. Calculating Staffing and Beds Within 3 Hours of Activation:

The following table can be used to calculate the patient care capacity based on available Nurse Staffing and emergency Nurse/Patient ratios. The calculated surge capacity must be balanced against available physical bed space and equipment (ventilators, suction, monitors, etc.)

| Current Bed Status<br>(Occupied/Total) |   | A<br>Current<br>Standard | B<br>Current<br>Number<br>of<br>Staff | C<br>Emergency<br>Standards | D<br>Total<br>Patients<br>Under<br>Emergency<br>Standards<br>(B X C) | E<br>Current<br>Patients<br>(A X B) |
|--|---|--------------------------|---------------------------------------|-----------------------------|--|-------------------------------------|
| Medical-Surgical Beds<br>5N            | / | 1: 5 Ratio               |                                       | 1: 20 Ratio                 |  |                                     |
| Medical-Surgical Beds<br>5W            | / | 1: 5 Ratio               |                                       | 1: 20 Ratio                 |  |                                     |
| Medical-Surgical Beds<br>5E            | / | 1: 5 Ratio               |                                       | 1: 20 Ratio                 |  |                                     |
| Medical-Surgical Beds<br>4N            | / | 1: 5 Ratio               |                                       | 1: 20 Ratio                 |  |                                     |
| Medical-Surgical Beds<br>4E            | / | 1: 5 Ratio               |                                       | 1: 20 Ratio                 |  |                                     |
| Medical-Surgical Beds<br>4W            | / | 1: 5 Ratio               |                                       | 1: 20 Ratio                 |  |                                     |
| Adult Critical Care                    | / | 1: 2 Ratio               |                                       | 1: 5 Ratio                  |  |                                     |
| Peds Critical Care                     | / | 1: 2 Ratio               |                                       | 1: 5 Ratio                  |  |                                     |
| Pediatrics                             | / | 1: 4 Ratio               |                                       | 1: 20 Ratio                 |  |                                     |
| Mental Health                          | / |                          |                                       |                             |  |                                     |
| Obstetrics                             | / |                          |                                       |                             |  |                                     |
| <b>Total Surge Beds</b>                |   |                          |                                       |                             |  |                                     |

Current Standards (above) are based on California law AB 394, the safe staffing law signed by Governor Gray Davis in October 1999

Ward Statistics Worksheet:

**Date:** \_\_\_\_\_

**Time:** \_\_\_\_\_

| Ward    | Beds Occupied | Beds Available | Pending transfer or discharge |
|---------|---------------|----------------|-------------------------------|
| 5 North |               |                |                               |
| 5 West  |               |                |                               |

|                  |  |  |  |
|------------------|--|--|--|
| 5 East           |  |  |  |
| 4 North          |  |  |  |
| 4 West           |  |  |  |
| 4 West<br>(DOU)  |  |  |  |
| 4 East           |  |  |  |
| ICU              |  |  |  |
| CCU              |  |  |  |
| PACU             |  |  |  |
| PICU             |  |  |  |
| 3 North          |  |  |  |
| 3 West           |  |  |  |
| 3 East           |  |  |  |
| 2 North          |  |  |  |
| 2 West           |  |  |  |
| 2 East<br>(Peds) |  |  |  |
| 1 North          |  |  |  |
| 1 West           |  |  |  |
| <b>Total</b>     |  |  |  |

**Emergency Department Statistics:**

**Emergency Department Beds  
available: \_\_\_\_\_**

**Operating Room Statistics:**

**Number of Operating Rooms OPEN NOW: \_\_\_\_\_**

**Number of Operating Rooms open IN TWO HOURS: \_\_\_\_\_**

**Worksheet Prepared / Collected by:**

\_\_\_\_\_

12. Calculating Staffing and Beds Within 24 Hours of Activation:

A. The following table can be used to calculate anticipated surge capacity within 24 hours. Additional beds can be made available through early discharge and cancelled elective procedures. In addition to the assumptions made regarding physical bed space and equipment, 24-hour surge capacity calculations need to consider the following:

- i Current Staff: Account for anticipated no show rate (approx 20-40%)
- ii Call-In Staff: Off duty or registry staff called in to augment shift
- iii Extra Shift: Number of staff staying an extra shift

| Within 24 hours of activation    | A<br>Current Staff | B<br>Call-In Staff | C<br>Extra Shift | D<br>Total Staff<br>(A + B + C) | E<br>Modified Standards | F<br>Total Patients<br>(D x E) | G<br>Current Patient |
|----------------------------------|--------------------|--------------------|------------------|---------------------------------|-------------------------|--------------------------------|----------------------|
| General Medical-Surgical         |                    |                    |                  |                                 | 1:20                    |                                |                      |
| Adult Critical Care              |                    |                    |                  |                                 | 1: 5                    |                                |                      |
| Pediatrics Critical Care         |                    |                    |                  |                                 | 1: 5                    |                                |                      |
| Pediatrics                       |                    |                    |                  |                                 | 1:20                    |                                |                      |
| Mental Health                    |                    |                    |                  |                                 |                         |                                |                      |
| Obstetrics                       |                    |                    |                  |                                 |                         |                                |                      |
| <b>Total Staffing Capability</b> |                    |                    |                  |                                 |                         |                                |                      |

13. Equipment Inventory:

- A. Each ward maintains a list of available gear to that ward
- B. The emergency management office maintains a complete list of disaster related equipment that is available upon request through the HCC.