



Essentials of Surge Planning

Although models can be useful to understand the expectations for an outbreak, using modeling alone to direct COVID-19 preparedness is not sufficient. Predictive modeling to drive preparedness is most useful early in an outbreak so that preparedness efforts can be prioritized in a timely manner; however predictive models early in an outbreak often have very wide confidence intervals, rendering them less useful. If modeling is done, it is best to use local data rather than assumptions based on external populations. To get to the point, be careful when interpolating extrapolated data.

Beyond the modeling itself, focusing preparedness to a model-based target does not help an organization to adapt to the inevitable unanticipated circumstances that were not predicted in the model. For example, although a model can inform a hospital that it should expand its critical care space to accommodate a doubling of the number of critically ill patients, it doesn't help when there is a sudden shortage of ventilator circuits. The preferred approach to surge planning is to understand the staff, space, and supplies needed to meet patient care needs or other critical functions. The continuum of care during a surge event takes an organization from conventional care to contingency care to crisis care.

Conventional care is what a hospital does to meet patient care needs during routine operations; during a surge event, optimization of the staff, space, and supplies needed for conventional care should be planned first. The next step is to plan for contingency care where usual standards of care are able to be met, but by using non-routine use of staff, space, or supplies. The main focus of contingency planning is to reallocate staff, space, or supply resources from areas of low priority to those of high priority. This could include using outpatient physicians for hospital care, the use of PACU space for overflow critical care patients, or stopping non-urgent procedures that use the same ventilator circuits that are used for critical care. Contingency planning is a step-wise approach, starting with the contingencies needed for a mild surge, once that is completed, moving to planning for a moderate surge, and then finally a severe surge. If a surge exhausts the increased capacity delivered through contingency care, crisis care commences where a scarce resource of staff, space, or supply must be allocated to allow for the survival of the most number of people (i.e. rationing of care). If a healthcare organization does not spend enough time in contingency planning, it will find itself in crisis care very quickly.

In preparing for crisis care, an organization needs to have triage plans in place with guidance from medical ethics to ensure that the triage decisions that may need to be made are done ethically and fairly.

<https://www.phe.gov/Preparedness/planning/hpp/surge/Pages/default.aspx>

<https://www.ncbi.nlm.nih.gov/pubmed/19349869>

<https://www.ncbi.nlm.nih.gov/pubmed/25144407>