For a full review of this material please refer to EMCases podcast https://emergencymedicinecases.com/surge-capacity-strategies-covid-19/

Increasing capacity
Ultimately there are three ways to increase your capacity:

Decreasing demand
Diverting patients to alternate facilities through media/Telehealth
Using different treatment methods (ie video consultation, on-line tools),
Discharging patients and
Deferring all nonessential care (requires a triage process to determine what can be deferred and when to reassess)

Establish alternate care facilities
In medical and paramedical institutions (old age homes, mothballed hospitals, field hospitals)
In non medical facilities (hotels, dormitories, public spaces)

Expanding actual bed capacity in acute care facilities by establishing treatment areas in unconventional locations and expanding staff to work those areas by enlisting support from allied health care and trainees. Keep your usual areas for the sickest patients and staff them with a higher percentage of more experienced staff. Put the known and more stable patients in alternate areas with junior staff.

In addition to increasing actual capacity facilities need to *standardize patient flow* to make maximal use of available resources:

1) Prepare to divide your ED (and possibly your hospital) into so called “hot/dirty” areas (for COVID +ve patients) and “cold/clean” (for non COVID patients). In the ED the areas need to be scaleable, initially you might need more clean than dirty areas but that will change so consider how you will flex up one area and the other down. Patients will be delegated to one area or the other by triage.

2) Standardise the care as much as possible by creating a treatment path for potential COVID patients and expanding delegated acts for RNs including providing the triage nurse with criteria for discharge directly from triage.

3) Create special units for specific tasks (such as the NIV COVID units) and flow specific resources to these preferentially

Managing degradation of care;
By definition in a disaster you will not be meeting the usual standard of care so plan ahead. Try to anticipate where you will need to do things differently so you have an idea of what care will degrade (for example discharging people at triage without an MD assessment or CPAPing COVID patients).

Do the ethical thinking ahead of time and make sure your process is clear and documented so every caregiver is doing the same and all feel protected.

Specifically if there are going to patients denied care decide ahead of time what the criteria for this will be. There is precedent to denial of care in disasters, specifically mass casualty events: triaging patients as “black” who are alive but with an expectant death. Normally these might be resuscitated but not when there is a significant lack of resources. The concept of the greater good for the greatest number applies here.

Where will the scarcity exist in health systems if this pandemic worsens?
Everywhere but - based on Italy -the highest mortality will be due to ICU scarcity
Other issue will be the degradation of the supply chain which is not within the health care system but affects it

Any other advice for first receivers working in a planning capacity right now during COVID-19?
Plan Plan Plan and if you can Test Test Test
Plan for: isolation of patients/patient flow in your current and (hopefully) expanded bed configuration
HR needs (take advantage of the lull right now)
Stock supplies where you need them and control them to minimise waste
Take care of your colleagues

EXPANDED NOTES

Ways to increase surge capacity in the COVID era:
Decreasing demand

1. Divert minor patients away from all health care facilities
   a. Public information to advise patients what does and does not require hospital care
   b. Advice for self-treatment at home
   c. Increased community/home care resources
   d. Empowering of triage nurses to discharge patients not requiring hospital resources.
2. Divert non-acute patients from acute facilities
   a. Establish COVID and non-COVID facilities for patients unable to function independently but not requiring acute care facilities
3. Discharge alternate level of care ALC patients
   a. Establish and maintain inventory of facilities that can house patients and beds available;
      i. General Hospitals
      ii. Specialty hospitals (ie Cancer clinics)
      iii. Psychiatric hospitals
      iv. Geriatric facilities
      v. Rehab facilities
      vi. Nursing homes

    b. Discharge patients to facilities using any available bed
4. Defer all nonessential care
    a. Canceling elective surgeries
    b. Closing non-essential clinics

Minimising resource consumption by admitted patients
(know your REAL resources, avoid double counting staff or other resources)
1. Shorten treatment time increasing patient turnover
    a. Controlled degradation of standard of care
    b. Pass legislation protecting of staff from legislative and college pursuit if, because of the pandemic, they are providing care in clinical or geographic areas they are unfamiliar with, performing tasks they are unfamiliar with or providing “degraded” care that differs from usual practice.
    c. Early discharge from acute care to non-acute facilities
2. In the event that the lack of resources requires triage, rationing care only to those who will benefit most from it

Increasing hospital capacity
1. Rationing of care delivered in hospital to preserve resources
2. Rationing of equipment only to where required to preserve resources
3. Preferential redirecting of supplies to acute care facilities, then to COVID facilities then to all other facilities.
4. Establishing treatment areas in unconventional locations (such as transforming a cafeteria into a ward, post-op into ICU)
5. Expanding staff by enlisting support from allied health care and trainees
6. Protocoled treatment plans that can be initiated and followed with minimal review or supervision by physicians to improve flow-through and decrease turnaround

Pitfalls of alternate care spaces
- Usually not designed for this purpose - harder to work and supplies/equipment not easily accessible
- We have safety measures in our usual design such as central monitors and alarms - not here
- Staffing may not be the same people we are used to working with and staff may be doing tasks they are not used to - keep the standard ares for your most acute patients (the "ward to hallway" method)