**YNHHS Data request for COVID19+ Hospital Capacity Model 03/29/2020**

**CAPACITY**

**We request the following capacity estimates both for YNHHS as a whole, and each of the 5 component hospitals:**

**Bed capacity:**

* Number of ICU beds for COVID+ patients
* Number of floor beds for COVID+ patients
* Number of SDU beds for COVID+ patients
* ED capacity: number of beds available for COVID+, max number of COVID+ patients per day that the ED can handle
* Number of ICU, floor, and ICU beds occupied by COVID+ patients

**Staff capacity:**

* Average number of critical care physicians available to staff ICU beds per day
* Average ratio of physicians to ICU beds
* Average number of critical care nurses available to staff ICU beds per day
* Average ratio of nurses to ICU beds
* Average number of hospitalists/other physicians available to staff floor/SDU beds
* Average ratio of physicians to beds on floor/SDU
* Average number of nurses available to staff floor beds
* Average ratio of nurses to beds on the floor

**Ventilator capacity:**

* Number of adult and pediatric ventilators available
* Number of people who could be ventilated if we are able to attach two (or more) people to each ventilator

**We request the following RECENT DAILY DATA (from the past 2 weeks or longer) for the total patient population and each of these age groups. These age groups can be adjusted depending on reporting protocols in the hospital if necessary:**

* <18 years
* 18-40 yrs
* 40-64 years
* 65-80 years
* 80+ years

**From the ED:**

* Number of possible infectious individuals being tested every day throughout the hospital system and at each hospital
* Number of COVID+ patients being identified every day throughout the hospital system and at each hospital
* Number of COVID+ patients presenting to the ED each day
* Number of COVID+ patients being admitted from the ED to the ICU each day
* Number of COVID+ patients being admitted from the ED to the floor each day
* Number of COVID+ patients being discharged from the ED each day with mild symptoms
* Number of previously discharged COVID+ patients presenting to the ED per day
* Number of COVID+ patients discharged with mild symptoms who die before presenting to the ED for the second time
* Average time to recovery for COVID+ patients discharged from the ED with mild symptoms
* Average time for COVID+ patients between presentation to the ED with mild symptoms and discharge
* Average time for COVID+ patients between presentation to the ED and admission to the floor
* Average time for COVID+ patients between presentation to the ED and admission directly to the ICU
* Average time to death for COVID+ patients discharged from the ED with mild symptoms, if they then die before presenting again

**From the floor:**

* Number of COVID+ patients stepping up to the ICU due to ventilation requirements each day
* Number of COVID+ patients stepping up to the ICU due to critical care requirements other than ventilation
* Number of COVID+ patients stepping up to the SDU each day
* Number of COVID+ patients being discharged each day after recovery from COVID infection or complications
* Average LOS for COVID+ patients before discharge
* Average LOS for COVID+ patients before death
* Average LOS for COVID+ patients before step up to SDU
* Average LOS for COVID+ patients before step up to ICU
* Expected time to death for COVID+ patients while waiting for a floor bed which does not become available before death

**From the SDU:**

* Number of COVID+ patients in SDU with O2 requirement each day
* Number of COVID+ patients stepping up from SDU to ICU due to ventilation requirement each day
* Number of COVID+ patients stepping down from SDU to floor each day
* Average LOS for COVID+ patients on SDU before stepping up to SDU
* Average LOS for COVID+ patients on SDU before stepping down to floor

**From the ICU:**

* Number of COVID+ patients requiring ventilation in the ICU each day
* Number of COVID+ patients in ICU due to requirements other than ventilation in the ICU each day
* Average LOS for COVID+ patients in the ICU with ventilation requirements before discharge to the floor
* Average LOS for COVID+ patients in the ICU without ventilation requirements before discharge to the floor
* Average LOS for COVID+ patients in the ICU with ventilation requirements before death
* Average LOS for COVID+ patients in the ICU without ventilation requirements before death
* Expected time to death for COVID+ patients with ventilation requirements waiting for an ICU bed or ventilator which does not become available before death
* Expected time to death for COVID+ patients requiring critical care other than ventilation, who must wait for an ICU bed or ventilator which does not become available before death

**For patients never seen in the main ED or admitted but are COVID+ (if possible)**

* Number of people who are COVID+ who recover without any treatment
* Average time from infection to recovery in COVID+ patients
* Number of COVID+ people who die before presenting to the ED
* Average time from infection to death in COVID+ patients who die before presenting to the ED

**QUESTIONS ABOUT PROTOCOLS WHICH MAY BE IMPLEMENTED:**

* Protocols which will be implemented by the hospital if the ICU is full:
  + Will these patients wait on the floor? In the ED?
  + Will criteria for admission or step up to the ICU change?
  + How will these changes in protocol affect the numbers listed in section “From the ICU”?
* Protocols which will be implemented if the floor is full:
  + Will these patients wait in the ED?
  + Will criteria for admission from the ED change?
  + How will these changes in protocol affect the numbers listed in section “From the floor”?
* Protocol which will be implemented if the floor and ICU are both full:
  + Will these patients wait in the ED?
  + How will expected LOS on the floor and ICU change to maximize throughput?
* Protocol which will be implemented if the ED is full:
  + How will infected patients be treated? How will triage be affected?