

**COVID-19 SURGE
IN MY ICU:
CHALLENGES AND
SUCCESSSES**

THE SINAI-GRACE HOSPITAL
EXPERIENCE

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OUTLINE

About Sinai-Grace



COVID surge in Detroit



Challenges and Successes: the 5 S:

- space, staff, stuff, science and synchronization

ABOUT SINAI-GRACE HOSPITAL

- 334 beds full service adult Hospital, Northwest Detroit
- Part of the Detroit Medical Center: the DMC, owned by Tenet
- Teaching hospital
- Newly built state of the art ICU and ED: 20 MICU and 20 SICU beds
- Level II trauma center, with >100,000 patient visits/year



THEN COMES COVID-19!!!

- First case in Michigan: March 10th
- March 31: 7615 cases
- April 20th: 32000 cases with 2468 deaths
 - Detroit city: 7736 cases, with 629 mortalities
- Our ICU:
 - rapid increase in volume: March 20-27
 - Peaked at 75 COVID/PUI between April 5-10

COVID-19

For updated information on the coronavirus call the DMC's COVID-19 Information Line at **1-888-DMC-3370** or visit **DMC.org** to take our online assessment.

A COMMUNITY BUILT ON **CARE**

STAFF

CHALLENGES

- Nurses: ICU, Dialysis
 - Preexisting shortages
 - Sickness/quarantine
 - Child care (no schools!)
- Respiratory therapists
- Residents
- Intensivists

TACTICS

- Intrahospital, interhospital mobilization (DMC) and System: Tenet
- Reducing exposure: labs/vitals/medications administration, extension tubing (pumps outside rooms)
- Dialysis duration cut in half!
- Residents schedule changes/rounds/cross coverage/
- more intensivists; SICU and anesthesia help

SPACE

CHALLENGES

- 20 MICU beds; total 40 ICU beds → 75 COVID patients
- Throughput issues: difficulty with hospital discharges → delayed transfers out of ED and ICU

TACTICS

- All ICU beds turned into COVID ICUs.
- Stepdown: repurposed
- PACU repurposed into non-COVID ICU patients
- Double up patients in ICU rooms
- Goals of care discussions
- All elective procedures cancelled

STUFF

CHALLENGES

- PPEs
- Ventilators
- Medications: sedatives, opioids, NM blockers, antibiotics
- Testing kits

TACTICS

- Reallocated PPE inter and intra hospital (closed centers..)
- Reduced traffic by changing operations: closed ICU
- adapt, substitute, conserve, reuse
- used NPPV units (V60 Respironics units) to deliver invasive ventilation
- Ventilators from other hospitals
- Pharmacy helping with alternative medications

SCIENCE

CHALLENGES

- Large system
- Too many cooks
- little evidence
- (Mis)information overload!!

TACTICS

- Subcommittees
- Treatment Guidelines with updates
 - Hydroxychloroquine
 - Biologics:Tocilizumab
 - Remdesivir
 - Steroids
 - Anticoagulation
 - Things to avoid as “solely” for COVID (Ivermectin, azithromycin, melatonin, zinc, certain lab tests, etc)
- Ventilation strategies, proning, high flow cannulas, NPPV

SYNCHRONIZATION



**Spread of
information**



Updates



**Coordinating
resource use**



**Identifying important
issues and addressing**

Staffing

Science related

Placement

Tracheostomies; discharges;
LTACs, etc

Logistics, support to healthcare
workers, etc.



**Communication,
communication
communication...**