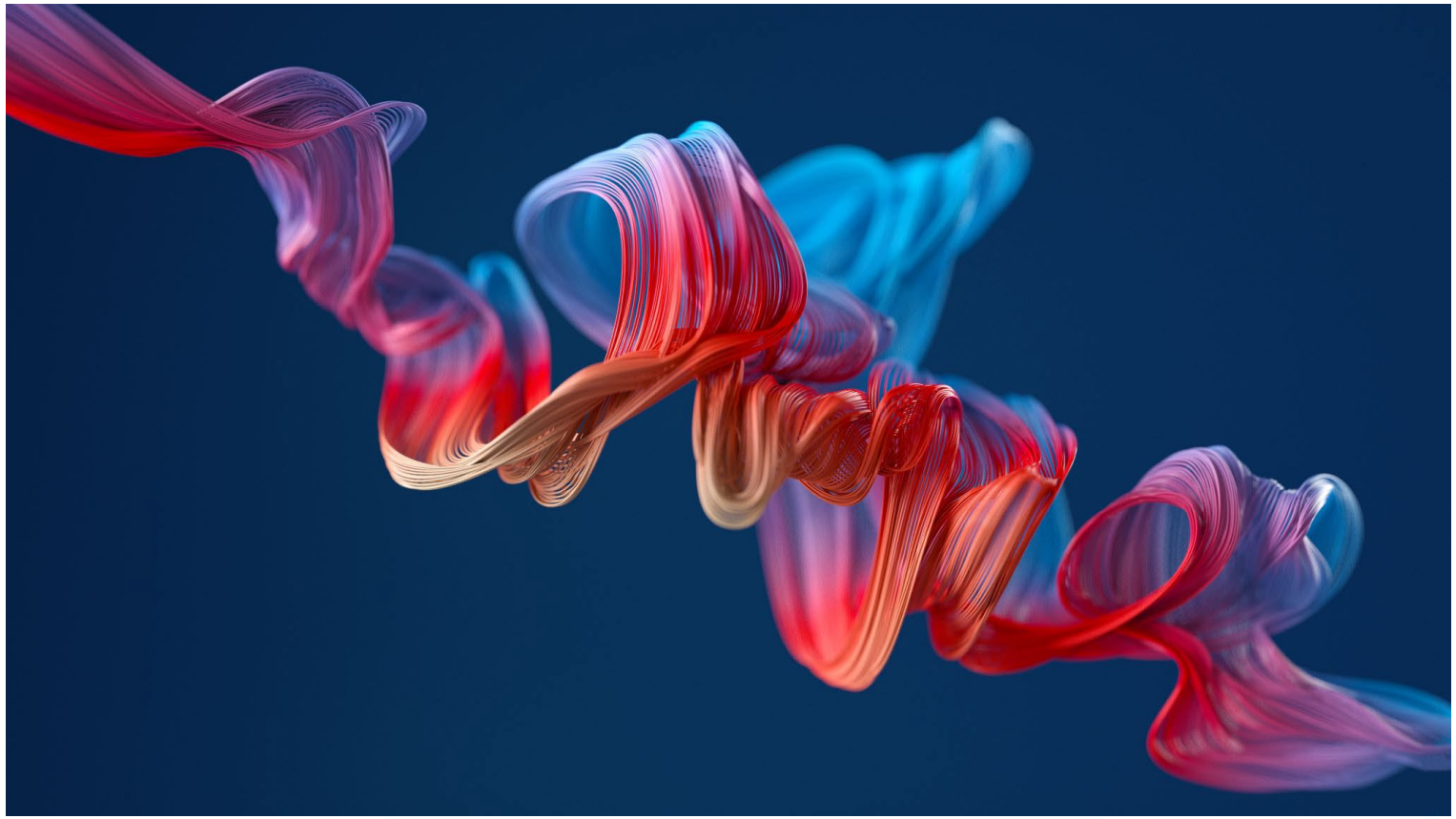
PACCARB

INFECTION CONTROL AND CHALLENGES FROM FRONTLINE HEALTHCARE PROVIDERS

September 12-13, 2022



LILIAN ABBO, M.D, FIDSA

Professor of Infectious Diseases

University of Miami

Associate CMO Infectious Diseases

Jackson Health System

THE SITUATION

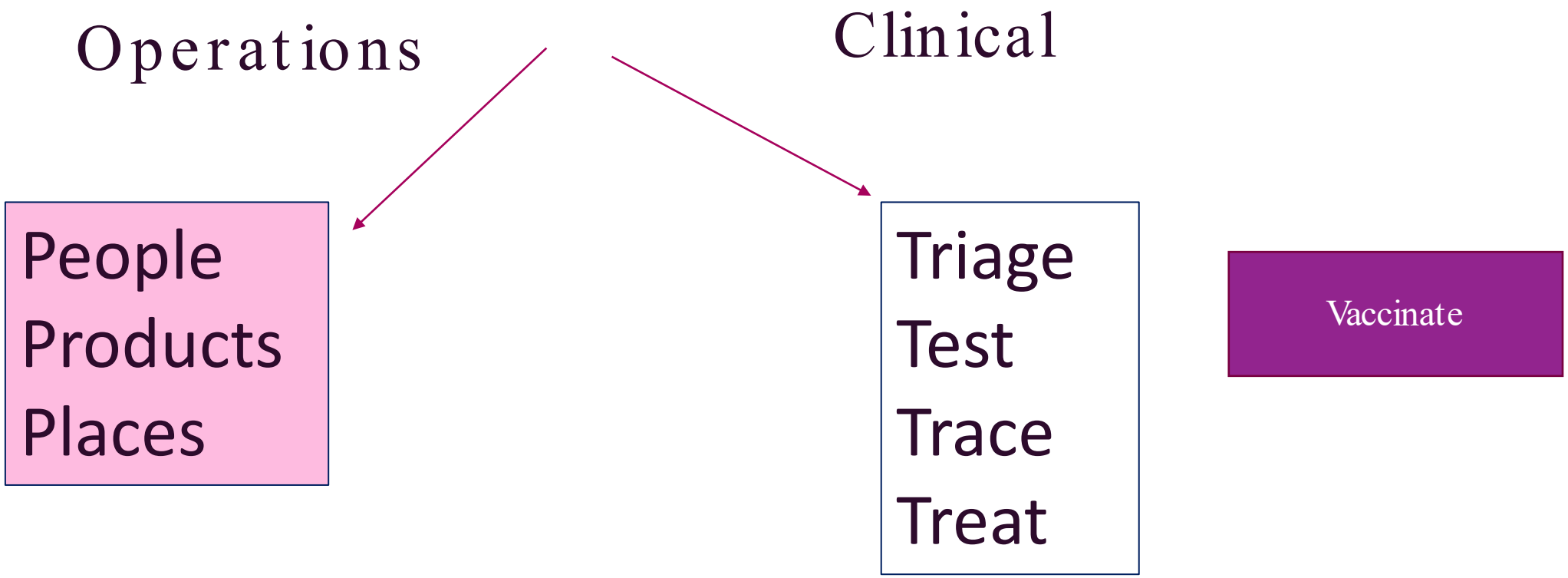
Pandemic caused by a highly transmissible respiratory virus and MDR bacteria and fungal pathogens

Novel infections and unclear mechanisms of transmission vs Droplet and Contact Precautions

Global supply chain interruptions have led to

- Supply chain of PPE (N95 boxes disappear from Omnicells)
- Shortage of disinfectants and hand sanitizer missing from the units
- cancel elective surgeries; transplant, trauma are 24/7 we can't stop
- Scarcity of antimicrobials: stewardship team implemented more restrictions to stretch access to all patients
- Limited oral agents to transition patients from IV to PO leading to more CLABSIs

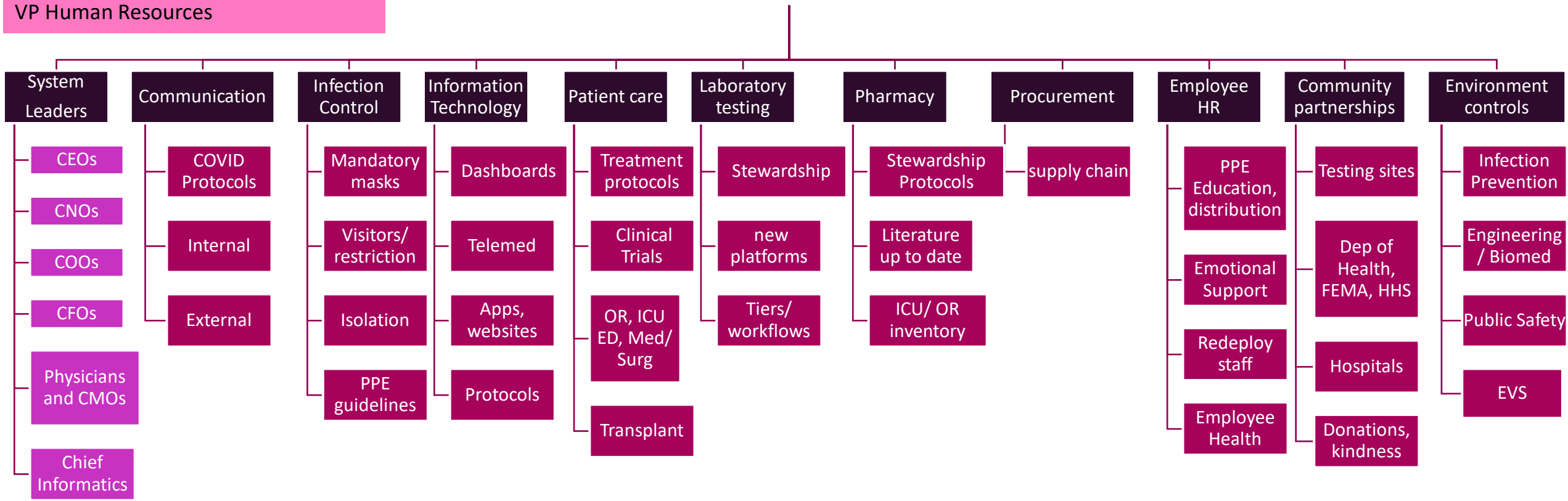
KEYS TO SUCCESS:
PLAN, PREPARE, ADAPT



Administration*
Chief Operating Officer
Chief Executive Officer
Chief Physician Executive
Chief Strategic Officer
Chief Financial Officer
VP Marketing Communications
VP Human Resources

Pandemic Core* Health System Response Leadership Team

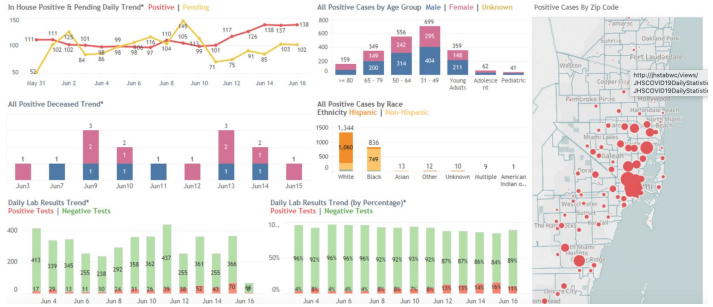
Clinical*
Chief Infection Control
Director Infection Control
Chief Emergency Planning
Corporate Director Pharmacy



** In parallel: close collaboration and communication with Miami Dade County Mayor and Florida Governor, Secretary of Health and Emergency Management for the State*

Jackson HEALTH SYSTEM
PUBLIC HEALTH TRUST
Miracles made daily.

Real Time Reliable Dashboards

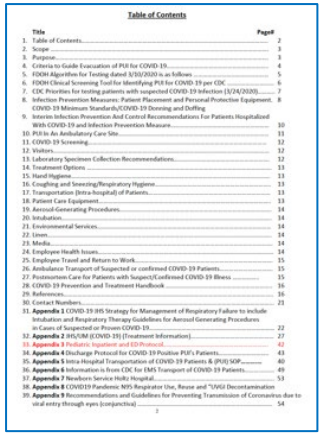


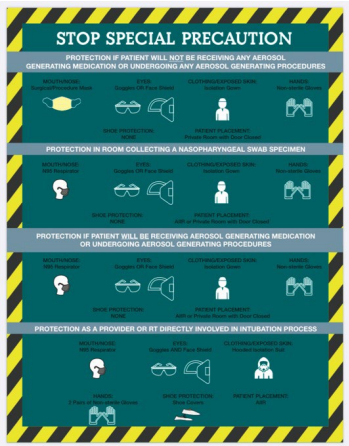
Community Partners

Collaborate with other health systems to avoid surges (not enough isolation rooms or providers!)

PPE Distribution

Standardized Protocols



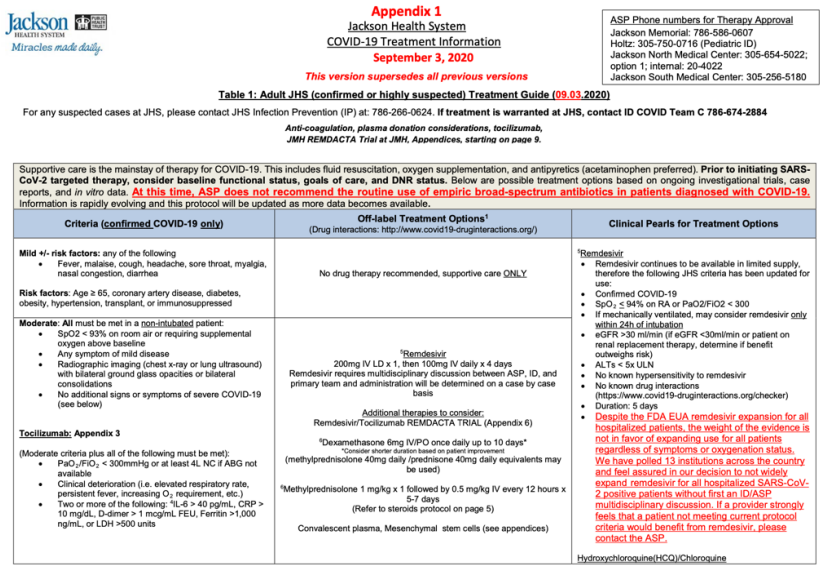


Signage and Education!

Support, Wellness, Mental Health

Pharmacy Inventory Dashboards for COVID and Critical Medications

Drug Dose Supply x 2 weeks
Critical Low (<10 patients)
Low (10-50 patients)
Monitoring Closely (>50 patients)



Jackson HEALTH SYSTEM
Miracles made daily.

Appendix 1
Jackson Health System
COVID-19 Treatment Information
September 3, 2020
This version supersedes all previous versions

ASP Phone numbers for Therapy Approval
Jackson Memorial: 786-586-0607
Holtz: 305-750-0716 (Pediatric ID)
Jackson North Medical Center: 305-654-5022; option 1; internal: 20-4022
Jackson South Medical Center: 305-256-5180

Table 1: Adult JHS (confirmed or highly suspected) Treatment Guide (09.03.2020)

For any suspected cases at JHS, please contact JHS Infection Prevention (IP) at: 786-266-0624. **If treatment is warranted at JHS, contact ID COVID Team C 786-674-2884**

Anti-coagulation, plasma donation considerations, tocilizumab, JMH REMDACTA Trial at JMH, Appendices, starting on page 9.

Supportive care is the mainstay of therapy for COVID-19. This includes fluid resuscitation, oxygen supplementation, and antipyretics (acetaminophen preferred). **Prior to initiating SARS-CoV-2 targeted therapy, consider baseline functional status, goals of care, and DNR status.** Below are possible treatment options based on ongoing investigational trials, case reports, and *in vitro* data. **At this time, ASP does not recommend the routine use of empiric broad-spectrum antibiotics in patients diagnosed with COVID-19.** Information is rapidly evolving and this protocol will be updated as more data becomes available.

Criteria (confirmed COVID-19 only)	Off-label Treatment Options[1] (Drug interactions: http://www.covid19-druginteractions.org/)	Clinical Pearls for Treatment Options
Mild +/- risk factors: any of the following • Fever, malaise, cough, headache, sore throat, myalgia, nasal congestion, diarrhea **Risk factors**: Age ≥ 65, coronary artery disease, diabetes, obesity, hypertension, transplant, or immunosuppressed	No drug therapy recommended, supportive care ONLY	[5]Remdesivir • Remdesivir continues to be available in limited supply, therefore the following JHS criteria has been updated for use: • Confirmed COVID-19 • $SpO_2 \leq 94\%$ on RA or PaO2/FiO2 < 300 • If mechanically ventilated, may consider remdesivir only within 24h of intubation • eGFR >30 ml/min (if eGFR <30ml/min or patient on renal replacement therapy, determine if benefit outweighs risk) • ALTs < 5x ULN • No known hypersensitivity to remdesivir • No known drug interactions (https://www.covid19-druginteractions.org/checker) • Duration: 5 days • Despite the FDA EUA remdesivir expansion for all hospitalized patients, the weight of the evidence is not in favor of expanding use for all patients regardless of symptoms or oxygenation status. We have polled 13 institutions across the country and feel assured in our decision to not widely expand remdesivir for all hospitalized SARS-CoV-2 positive patients without first an ID/ASP multidisciplinary discussion. If a provider strongly feels that a patient not meeting current protocol criteria would benefit from remdesivir, please contact the ASP. Hydroxychloroquine(HCQ)/Chloroquine
Moderate: **All** must be met in a non-intubated patient: • SpO2 < 93% on room air or requiring supplemental oxygen above baseline • Any symptom of mild disease • Radiographic imaging (chest x-ray or lung ultrasound) with bilateral ground glass opacities or bilateral consolidations • No additional signs or symptoms of severe COVID-19 (see below) **Tocilizumab: Appendix 3** (Moderate criteria plus all of the following must be met): • PaO_2/FiO_2 < 300mmHg or at least 4L NC if ABG not available • Clinical deterioration (i.e. elevated respiratory rate, persistent fever, increasing O_2 requirement, etc.) • Two or more of the following: *IL-6 > 40 pg/mL, CRP > 10 mg/dL, D-dimer > 1 mcg/mL FEU, Ferritin >1,000 ng/mL, or LDH >500 units	[5]Remdesivir 200mg IV LD x 1, then 100mg IV daily x 4 days Remdesivir requires multidisciplinary discussion between ASP, ID, and primary team and administration will be determined on a case by case basis Additional therapies to consider: Remdesivir/Tocilizumab REMDACTA TRIAL (Appendix 6) [6]Dexamethasone 6mg IV/PO once daily up to 10 days* *Consider shorter duration based on patient improvement (methylprednisolone 40mg daily /prednisone 40mg daily equivalents may be used) [6]Methylprednisolone 1 mg/kg x 1 followed by 0.5 mg/kg IV every 12 hours x 5-7 days (Refer to steroids protocol on page 5) Convalescent plasma, Mesenchymal stem cells (see appendices)	

IV to PO options limited

Home care not an option for drugs under FDA EUA

Sending patients to ER for treatment!

ICU

ICUs in some floors are open/ multipatient unit / curtains

To avoid entering rooms multiple times the staff decides to use extended tubing and place the IV pumps on the hallways

- Increase in C.auris infections
- Tubing touching the floors, CLABSIs

EVS staff not entering the rooms to clean as frequently

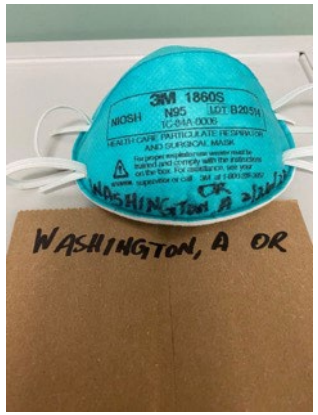
Nutrition avoids the units and leaving food carts on the hallways

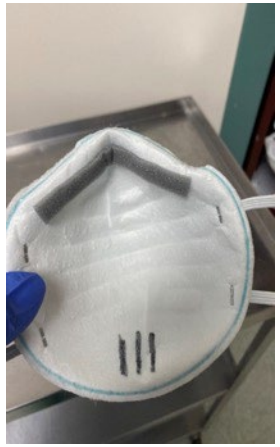
Nurses, PCTs, respiratory therapists: scared, tired, short- staffed

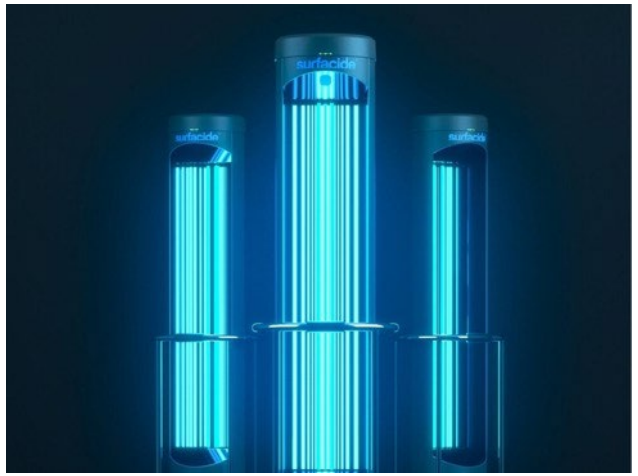
RNs clean the environment/ take trash and feeding patients

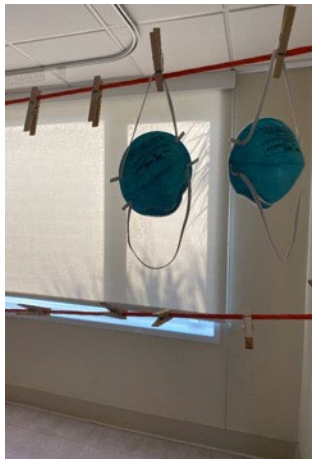
Patients in prone position to improve ventilation / difficult to perform oral care/ limited mobility increasing pressure ulcers and HAP, CAUTIs

PPE Burn Rates and Supply









Jackson HEALTH SYSTEM
Miracles made daily.

Half-Face Reusable Respirator Request & use Process	JHS Employees	Medical Staff (MDs/ Allied Health/Residents)	JHS Employee Health Office	JHS Central Sterile Services (CSS)
VOLUNTARY USE REQUEST PROCESS	1. Prior to obtaining a newly appointed reusable respirator JHS Employee/Medical staff (End User) must, obtain, complete and submit "Reusable Respirator Request Form" for approval to facility Medical Director or Designee (Respirator Program Administrator). 2. Once approved, Respirator Program Administrator will provide information for end user to self-register for mandatory training via WeLearn. *KEYNOTE: Do not use with beards, facial hair or anything that prevents direct contact between the face and the respirator faceseal. (IFU pg 1)*		1. Respirator Program Administrator will notify Employee Health via email of all approvals. 2. Employee Health will store 2 respirators of each size (small, medium & large) to use for fit testing. (The respirators will be wiped down with hospital approved sani-wipes after each fit test.)	
	Occupational use of respirators must be in compliance with applicable health and safety standards. By law U.S. employers must establish a written respiratory protection program meeting the requirements of the OSHA Respiratory Protection Standard 29 CFR 1910.134 and any applicable OSHA substance specific standards.(IFU pg 2)			
FIT TESTING & TRAINING	1.End user will complete mandatory respirator use training via WeLearn prior to obtaining initial respirator. 2. End user will report to Employee Health for mandatory medical evaluation and fit testing. OSHA 1910.134(f) → **JMH Main: No appointment necessary. Monday thru Friday 07:00am-2:00pm (excludes Holidays)** 3. End user will then report to CSS or designated location to obtain their respirator. Must present pass/fail form upon pick up. (Write name and date on their filter using sharpie)		1. Mandatory Respirator Medical Evaluation Questionnaire (1910.134: OSHA) must be completed prior to fit testing. 2. Employee Health will provide a copy of the pass/fail form to end user so they may obtain their initial respirator from CSS or designated location. ***Dept. Managers to support/facilitate** Employee fit testing & training.*	1. End user will report to CSS or designated location to obtain their initial respirator. → Must present pass/fail form upon pick up. →Must write their name on face piece using sharpie. 2. Upon receipt of the pass/fail form from end user, CSS or designated location staff will provide the initial respirator. → Filters will be marked with 2 week expiration date for replacement using a sharpie.
RESPIRATOR INSPECTION & USE	**End user must inspect their respirator and parts before each use and at the time of cleaning.** 1. Check for cracks, tears and dirt. 2. Examine inhalation valves for signs of distortion. 3. Make sure straps are intact/elastic. 4. Remove exhalation valve cover and examine for signs of dirt, distortion, cracking or tearing 5. If any damage or defective parts are identified, end user must take the damaged respirator to CSS or designated location and obtain replacement respirator. *Per 3M Training: 6000 Series Half Face piece Reusable Respirator for Healthcare Facilities (4/20)*			*1. CSS staff must follow 3M Training: 6000 Series Half Face piece Reusable Respirator for Healthcare Facilities.* **Respirator Disinfection: Face piece Inspection & Submersion (4/20)**
	Inspect each filter case for any visible damage. Replace filter(s) if any damaged is observed. **DO NOT WEAR If parts are damaged, defective or missing.** (Source: IFU)			
CLEANING & STORAGE	*Per mandatory WePerform training:* 1. Wipe down the respirator between uses during the work shift using hospital approved wipes. 2. Every 2 weeks (minimum) end user must take their respirator to CSS or designated location for disinfection, cleaning, and replacement filters. 3. Upon inspection, if respirator is VISIBLY SOILED OR DAMAGED— end user must take their respirator to CSS or designated location for disinfection, cleaning, and/ or replacement as applicable. 4. If not being used immediately, end user will store their respirator in a separate,			*1. CSS staff must follow 3M Training: 6000 Series Half Face piece Reusable Respirator for Healthcare Facilities.* **Respirator Disinfection: Face piece Inspection & Submersion (4/20)** 2. CSS staff will follow JHS developed protocol for step by step process for cleaning, disinfection of respirators and filter replacement. 3. CSS will ensure laminated signage is posted in the respirator reprocessing and supply storage areas for the following: → JHS developed protocol for step by step process for cleaning, disinfection of respirators and filter replacement → 3M Technical Bulletin Cleaning & Disinfecting 3M Reusable Elastomeric Half & Full Facepiece Respirators following Potential Exposure to Coronaviruses. (4/20) Rev4)

https://www.nebraskamed.com/sites/default/files/documents/covid-19/n-95-decon-process.pdf

DIAGNOSTICS D/C ISOLATON PLACEMENT

Needs for low-cost point of care rapid diagnostics to determine if a patient has a a viral infection: testing every admitted patient

How long do we isolate? When are you not contagious?

Need for MDRO bedside lateral flow assays (Not FDA approved, available in Europe).

Supply chain – limited reagents to do our standard cepheid/ biofire PCRs

(Tiers based on TAT for testing platforms: OR, transplant, trauma, Med surg or behavioral; Jails)

C.auris testing (diagnostics) is a send out to the State DOH and they are overwhelmed with the pandemic so everything from Miami is being sent to Minnesota.. TAT is 2 weeks (snow strorm)

Our hospital decides to get our in-house test (have to do validation as the test is not commercially available) takes another 8 weeks and the vendor has marked up all the prices (no regulation)

UCC BEHAVIORAL EMPLOYEE HEALTH & CORRECTIONS

Urgent care Centers don't have isolation rooms (create a process), point of care test and triage for outpatient treatment (expand Telehealth)

Behavioral Health: patients live in open rooms/ dining halls, difficult to ensure hand hygiene/ mask use on patients (rapid transmission). Protocols to test and isolate on admission

Patient/ employee Contact Tracing is difficult (PPE for employees but they are getting infected in the community/ home)

Jails: PPE compliance; cleaning environment; new arrests testing/ isolation) vaccines?

isolate 60 inmates in 1 cell – quarantine exposures

VISITORS

We need to preserve PPE and avoid infections in healthcare workers

Limit number of providers entering the rooms unless medically necessary (patients are lonely and worried)

Patients can't communicate with families (forgot phone chargers at home or the cord is too short to connect to the head of the ICU bed) our beds do not have USB ports!

CHALLENGES

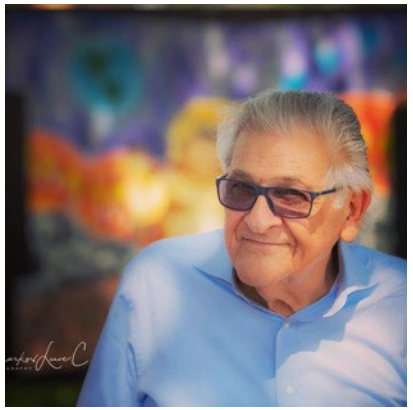
- C.auris patients – none of the other hospitals or nursing homes are accepting transfers and is increasing our LOS over 120 days! When we need beds
- Contact isolation for the CREs/ C.auris – we can't keep 1:1 patient to nurse ratios, dedicated equipment and cleaning is difficult as rooms are semi-private
- Frontline Healthcare workers calling out sick or to care for their family members; schools, daycares and elderly care centers are closed – when can they return to work? Infectious?
- Getting requests as ID expert to speak to the media (bilingual) multiple times a day → need to educate the public vs. manage patients, providers, report to C suite
- Personal life/ family responsibilities, boundaries and our own mental health

VENEZUELA

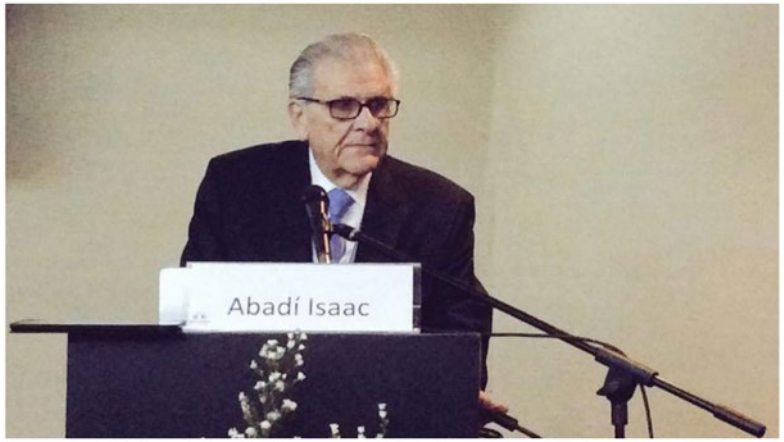
Venezuela es el país con la mayor tasa de mortalidad de trabajadores sanitarios por coronavirus en América

Douglas León Natera, presidente de la Federación Médica del país caribeño, indicó que el 30% de los muertos por Covid-19 trabajan en el sector de la salud

10 de Septiembre de 2020

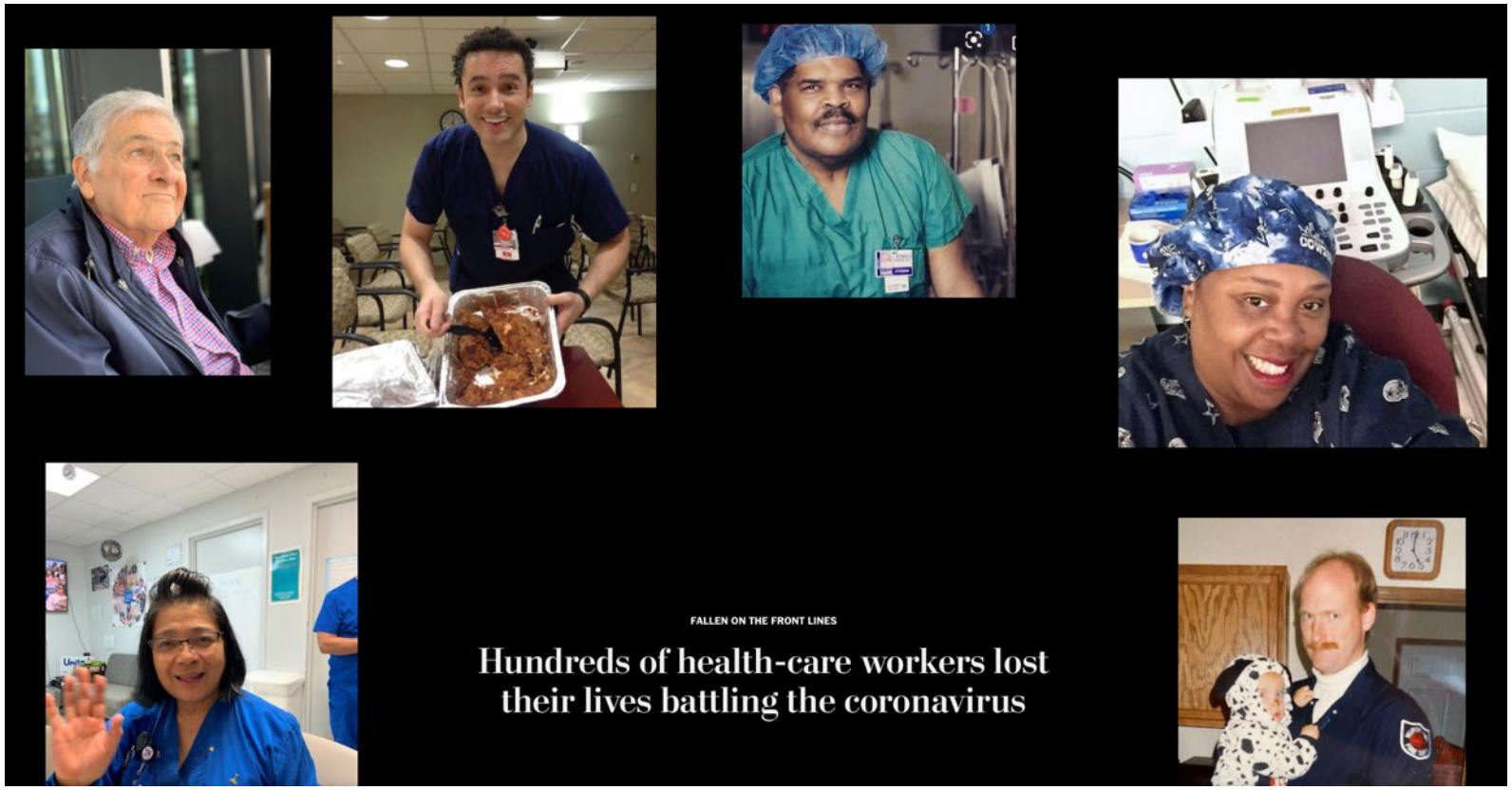


Prominent Venezuelan doctor dies in Miami of coronavirus



Dr. Isaac "Saky" Abadi died on Wednesday in Miami of complications with COVID-19. He was 84. (Courtesy of the Society of Rheumatology of Venezuela)

MIAMI – Dr. Isaac "Saky" Abadi, a prominent Venezuelan rheumatologist who founded the country's National Center for Rheumatic Diseases, died Wednesday in Miami of COVID-19, colleagues and relatives confirmed on Friday. He was 84.



The Washington Post, June 17 2020

WE NEED GLOBAL SOLUTIONS OPPORTUNITIES FOR HHS

1. Timely cost-effective evidenced based decisions (national and/or international data)
2. Communication with frontline stakeholders (bidirectional) remove barriers and opportunities
3. De-centralization of rapid diagnostic testing vs. sending tests to DOH/ CDC
4. Allocation of staff, resources and reimbursement strategies for home-care models (monoclonals; therapeutics; clinical monitoring) to avoid crowding Emergency Departments and UCCs.
5. Ramp up technology in healthcare: AI, blockchain, face recognition for testing, real time data dashboards, social determinants of health and avoid further disparities in access and type of care
6. Goals of care, advance directives