LESSONS FROM A PANDEMIC

HARRIS PSYCHIATRIC HOSPITAL

SC DEPARTMENT OF MENTAL HEALTH

DIVISION OF INPATIENT SERVICES

ANDERSON SC

STARTING POINT: CLINICAL

- Hospital operates in community setting:
 - Shared bedrooms and bathrooms
 - Communal meals
 - Much active treatment occurs in group settings
 - Patients across 4 lodges rotate through common treatment and activity spaces across hospital
 - Visitation daily, 2-4 hours, on the patient lodges

STARTING POINT: ADMINISTRATIVE

- No areas prepared for isolation of patients for infection control
- On Site available PPE was old and some unusable
- PPE was ordered March 2020 but did not materialize for months
- Equipment shortages: insufficient numbers of thermometers, BP Cuffs, 02 saturation monitors to cover observation/isolation areas plus usual patient care areas

STARTING POINT: COVID 19 TESTING

- SC DHEC was doing early testing but no swabs available
 - 7 Swabs on Site
- Testing mandated without supplies
- Local Lab did not have any testing initially
- Rationing of testing
- 120 Patients and over 300 employees

EARLY LESSONS LEARNED: GENERAL

- Self-Reliance
- Teamwork
- Flexibility
- Dedication
- Communication

EARLY ACTIONS: MARCH 4, 2020: CLINICAL

- To limit patient exposure to Covid 19 (then known as the Coronovirus), the following restrictions were enacted:
 - No visitors
 - No off campus outings
 - No passes for patients
- Limited outside medical consults based on medical necessity
- Hand washing education provided to staff and patients

EARLY ACTIONS: CLINICAL

- Patients on different lodges were separated.
 - Treatment groups, Chapel, classes, and canteen that had previously included patients from more than one lodge were reorganized, such that patients on different lodges would not interact.
- All patient meals on lodge.
- Restriction of Level 4 privileges
- Increased activities on lodge, with physical distancing (limiting group sizes)

EARLY ACTIONS: ENVIRONMENTAL

- Questions about how the disease is spread?
 Contact / Food / Surface / Droplets
- Frequent cleaning of high touch areas.
- Identification of cleaning solutions that would be effective against Covid 19 from EPA vs what is available

HOW LONG DO CORONAVIRUSES* LIVE ON SURFACES?

SURFACE	EXAMPLES	DAYS OR HOURS		
Metal	Doorknobs, Jewelry, Silverware	5 Days		
Glass	Drinking glasses, Mirrors, Windows	UP TO 5 Days		
Ceramics	Dishes, Pottery, Mugs	5 Days		
Paper	Newspaper, Magazines	UP TO 5 Days		
Wood	Furniture, Decking	4 Days		
Plastics	Milk bottles, Bus seats, Elevator buttons	2-3 Days		
Stainless Steel	Refrigerators, Pots/pans, Sinks, Water bottles	2-3 Days		
Cardboard	Shipping boxes	1 Day		
Aluminum	Soda cans, Tinfoil, Water bottles	2-8 Hours		
Copper	Pennies, Teakettles, Cookware	4 Hours		
Food/Water	Doesn't seem to spread through food, and has not been found in water.			



WHAT YOU CAN DO: Disinfect all surfaces and objects in your home daily with a household cleaning spray or wipe. Wash hands for at least 20 seconds with soap and warm water, especially after visiting the supermarket or bringing in packages.

*Coronaviruses are a family of viruses that includes the SARS-CoV-2, the virus that causes COVID-19. This information is for your reference only and is changing constantly

rces: CDC, FDA, Medical Review: Brunilda Nazario, MD, 03/24/2020

EARLY ACTIONS: MARCH 2020: EMPLOYEE SCREENING

- Screening of all employees upon arrival to work was initiated
 - Screening form
 - Nurse screener with questionnaire and temperatures check
 - Very labor-intensive

• Employee Health Nurse (who is also Infection Control Nurse) monitored employees for at risk activities, travel and household contacts.

EARLY ACTIONS: EMPLOYEE HEALTH

- Employees were sent to regional hospital 1 hr away for early testing
- Local hospital Employee Health assisted in testing, with provider order through our employee health. Very cumbersome.
- MUSC Virtual Visit program used to screen employees for testing and employees told to stay at home for mandated isolation period
- Local Emergency Preparedness contacted DHEC.

EARLY ACTIONS: WORK FLOWS

- Social Distancing required that In-person meetings be restricted.
 - Treatment team meetings changed to hybrid format
- Staff sharing offices/workspaces separated as much as possible
- Remote work, from home or within hospital
 - Challenge of engaging staff productively in remote work
 - Homemade PPE (masks, face shields)
 - Planning



LESSONS LEARNED: VIDEO CONFERENCING/WORKING FROM HOME

While trying to implement video conferencing we faced challenges such as which platform to use, then we had to figure out who was capable of video conferencing - particularly did they have a camera, what about a microphone, what about speakers? We quickly learned that many laptop cameras and especially microphones did not work well!



VIDEOCONFERENCING: SPECIAL CHALLENGES

- Remote involuntary commitment hearings, including attorney conferences with patients
- Videoconferenced visits with family/friends
 - Access of staff to equipment that could be brought into patient care areas
 - Access of family/friends to videoconferencing equipment
 - Acceptance by patients of videoconferencing

EARLY ACTIONS: ISOLATION AND QUARANTINE AREAS

- Our facility has 5 patient lodges (housing areas). 4 have pods off of a central dayroom.
- One pod per lodge identified for use as isolation/observation area
 Donning and doffing areas with connecting bathroom or available sink established on each lodge
- These isolation/observation areas were established April 2020

LESSONS LEARNED: ISOLATION WALLS

As an inpatient facility, we had to find a way to keep patients, both new and established, from potentially spreading infection. We set up one pod as a quarantine/observation area on each of our lodges. A part of this solution included building temporary walls to separate a "donning" ("clean") area and "doffing" ("dirty") area.

Initially, transparent plastic and 2X4s were used; however, we soon found out that we needed to make these walls fire resistant. This took us back to the drawing board to find the materials that would meeting the requirements. Once new materials were located and vetted, they were modified.

All construction to create isolation and observation areas had to be engineered to be fire retardant and to be sturdy enough to minimize the risk of destruction by patients or use of materials by patients to harm self or others.

Quarantine Nursing Home Fire Retardant Barrier Film - #A1024

Customer Reviews: *********** (0 reviews Be the first to write a review)

SAME DAY Shipping









Description

Sizes and Prices

Colors

Specifications

Reviews(0)

FAQ

Related Products(4)

Fire Retardant Plastic Construction Film is a 6. Mil thick white polyethylene plastic sheeting and 2, 4, 6 Mil Non Fire Retardant semi-transparant film. Both are great for creating temporary walls and enclosures or to protect flooring.

- Easily create your own temporary wall system with self-adhesive zippers, plastic film, vinyl tape, support poles. All available here at kofflersales.com
- Construction film available in three sizes 10ft., 12ft., or 20ft. widths
- · Each roll has 100 or 200 feet of plastic film
- 2, 4, 6 mil plastic
- · Flame Retardant and Non Flame Retardant
- Poles range in height from 5' 7" to 10' 1"; or 6' to 16' 1"
- It is recommended poles be a maximum of 6 to 10 feet apart to ensure proper containment
- For best performance a 6 mil thickness is recommended as it is less likely to tear when poles are

EARLY ACTIONS: PPE--MAKE OR MAKE DO

- Homemade Face Shields
 - Designed by Drs. Kickham and Nistor
 - Made by staff working remotely
- Disposable gowns were not available.
 - Washable Cloth Gowns
 - Waterproof ponchos
- Mask mandate employing homemade masks implemented April 2020

LESSONS LEARNED: PPE SHELF LIFE

Did you know there is a shelf life for PPE? We went to our stockpile of N95 respirators, only to learn that the elastic had deteriorated since we had last checked them. Most of our supply had been received in 2010 during the H1N1 outbreak and stored in an uncontrolled environment. Little did we know that 10 years later, when we pulled them out, the elastic would be brittle.

We wondered if the government would come to our aid.



We quickly realized that they were in as bad a condition as we were.



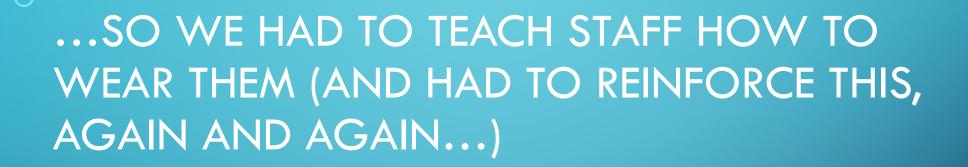


So we decided to make our own masks. We tried a few different styles.



Then, our volunteers really did find a CDC pattern that worked, and they made almost 900 masks for our staff. Eventually, supply chains opened back up and we were able to purchase masks. Unfortunately, not everyone knew how to wear a mask...





WRONG!



• How do you wear your mask?

RIGHT!



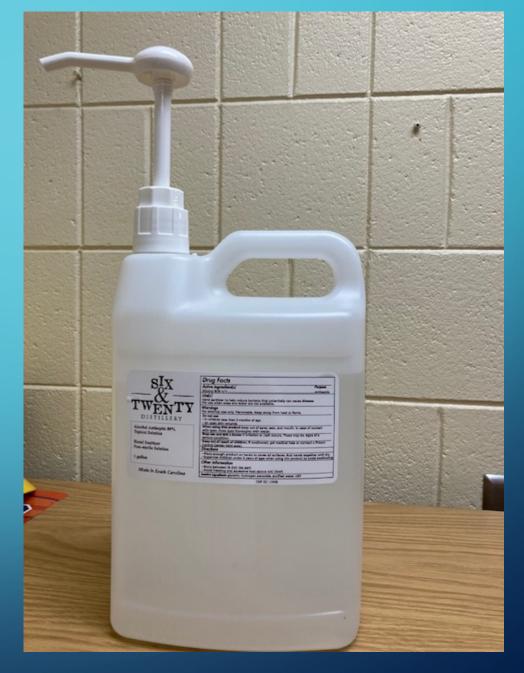


• How do you wear your mask?

LIFE, LIBERTY, AND THE PURSUIT OF HAND SANITIZER

A local distillery started producing hand sanitizer, and we obtained 25 gallons for back up to our usual hand sanitizer. Since it was primarily (isopropyl) alcohol, we then had to make it more user friendly and keep our patients away from it.





LESSONS LEARNED: TRACKING PPE

		Unit of				
4/21/2020	Size	Measure	Received	Burn/Usage	On Hand	On Order
Gloves XL	100/box	Box		3	270	
Gloves Lg	100/box	Box		1	533	
Gloves Md	100/box	Box		0	739	
Gloves SM	100/box	Box		0	215	
Masks - Surgical	Ea	Ea		199	12700	2 days usage
Masks N-95	Ea	Ea	67	0	2812	
Maks with Face Guard	Ea	Ea		0	0	
Masks DIY	Ea	Ea		0	50	
Full Face Shields	Ea	Ea		0	0	985 tbd this wk
Goggles	Ea	Ea		0	40	
Safety Glasses	Ea	Ea		12	921	
Isolation Gowns	Ea	Ea		16	314	300 tbd this wk
1						

There was a major struggle getting supplies, because everyone was trying to buy the protective equipment they would need. Due to such a high demand, it was difficult at times to make sure we had enough supplies to keep staff and patients protected. Keeping a close watch on the supply levels, we were able28 to order the PPE we would need in enough time so that we did not run out.

We also started tracking disinfectant and environmental cleaning supplies and established reorder levels in a way we had not before.

Н							
					20-Apr-20		
			Unit of				
	Product	Size	Measure	Received	Daily Usage	On Hand	On Order (
	Hydrogen Peroxide Wipes	93wipes/ctn	Ctn	0	8	72	210
	Clorox Bleach Wipes	70 Wipes/Ctn	Ctn	0	4	64	120
	Hydrogen Peroxide Liquid	32oz Bottle	Each	90	7	218	180
	Purell Foaming Pump for LPNs	18oz Btl	Each	0	0	22	100
	Purell Foaming Hands Free	≈1 Qt Bag	Each	0	0	49	36
)	Dial Soap in a bag for Patients	≈1 Qt Bag	Each	60	3	133	60
1	Eco Lab Foaming Hand Soap	≈1 Qt Bag	Each	0	0	73	60
2	Eco Lab Gel Hand Sanitizer	18oz Btl	Each	0	0	70	0
3	Six & Twenty Hand Sanitizer	I gal jug	Each	0	0	36	0
5	Purell Gel Small Individual Bottles	4oz Btl	Each	0	0	408	100
7	Purell Squeeze Bottles	16oz. Btl	Each				
3	Oxivir Wipes	160 Wipes/Ctn	Ctn				
9	Clorox Bleach Liquid	1 Gal Btl	Each	30	0	138	30
)							
	Ecolution	20Gal Drum	Each	0	0	2	4
2	D-Stroy	1Qt Btl	Each	0	2	73	0
3	Discovery -Citrus Spray Deodorize	16oz Can	Each	0	1	60	0
1	Toilet Paper	Roll	Each	0	0	4416	1920
5	Paper Towels	Pack	Each		0	1776	0
5							

EARLY ACTIONS: COMMUNICATION

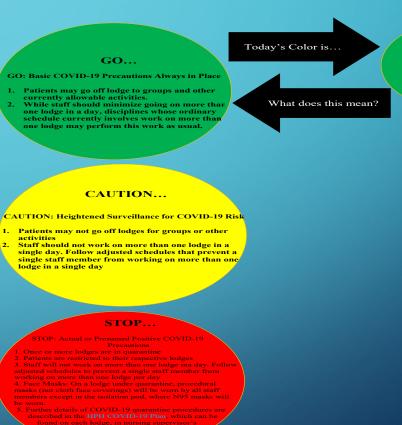
- Email, posting of flyers for staff without email
- HPH Covid 19 Plan
- With employee entrance to the building now restricted by the screening process to one entrance, this entrance area became a useful place to post information.

WATCHFUL WAITING: MARCH-NOVEMBER 2020

- NO Covid positive patients:
 - Screenings, Precautions, Education, Training, Employee Health Initiative prevented patient positives
- New processes for admission screening developed and evolved, depending on Covid status in community, availability of testing, etc.
 - All patients screened and tested prior to admission
 - New patients admitted to observation area (isolation pod). Initially, this was for 14 days; evolved to 10 days with change in CDC guidance. PPE status gradually improved
- PPE supplies gradually improved

...AND MORE WATCHING AND WAITING...

 A new Green-Yellow-Red system was developed for quickly communicating to staff the level of precaution that was in effect at any given time; this level, determined by the infection control nurse, primary care medical chief, and medical director, determine the extent to which patients could go off lodge and the extent to which employees needed to work on only one lodge per day.



GO

WATCHING AND WAITING: PHARMACY PREPAREDNESS

- With one automatic dispensing cabinet per lodge, processes to limit the infection/cross-contamination risk around the ADC had to be developed and implemented for the lodge observation/isolation areas
- Change in workflows as pharmacy is area where physical distancing is challenging
- Vitamin D for all patients
- Vaccine education as vaccine came on horizon

PHARMACY: VACCINE PREPAREDNESS

- Employee questionnaire to identify potential barriers to Covid 19 vaccine acceptance and potential ways to overcome
- Employee education about Covid 19 vaccine, including in modes suggested in employee questionnaire responses
 - Pharmacist posted at employee entrance to answer questions
 - Staff members were given opportunity to speak individually with pharmacy, medical, or nursing staff about vaccine questions and concerns.
 - Frequently Asked Questions signs posted in key locations in hospital to address the most common questions employees had about the vaccine

EXAMPLES OF COVID 19 VACCINE FAQS

COVID-19 Vaccine

Frequently Asked Questions

- Are mRNA vaccines new and little is known about them?
- These are the first mRNA vaccines to be FDA approved, but researchers have been studying them for decades. They are able to be developed and manufactured much faster than traditional vaccines. Flu, SARS, MERS, Zika, rabies, and cytomegalovirus (CMV) vaccines using the mRNA technology were already being studied when the COVID-19 pandemic began. This is why the COVID-19 vaccines were able to be developed so quickly.

Learn more from the CDC:

COVID-19 Vaccine

Frequently Asked Questions

- Which COVID-19 Vaccine will be offered at HPH?
- Pfizer-BioNTech COVID-19 vaccine

- Where is the vaccine coming from?
- South Carolina Department of Health and Environmental Control (SCDHEC) will supply our vaccine as part of South Carolina's phase 1a plan.

Scan the QR code to learn more:



COVID-19 Vaccine

Frequently Asked Questions

- Does the vaccine interact with our DNA?
- They do not affect or interact with our DNA in any way.
 - mRNA never enters the nucleus of the cell, which is where our DNA (genetic material) is kept. The cell breaks down and gets rid of the mRNA soon after it is finished using the instructions.

Learn more here:

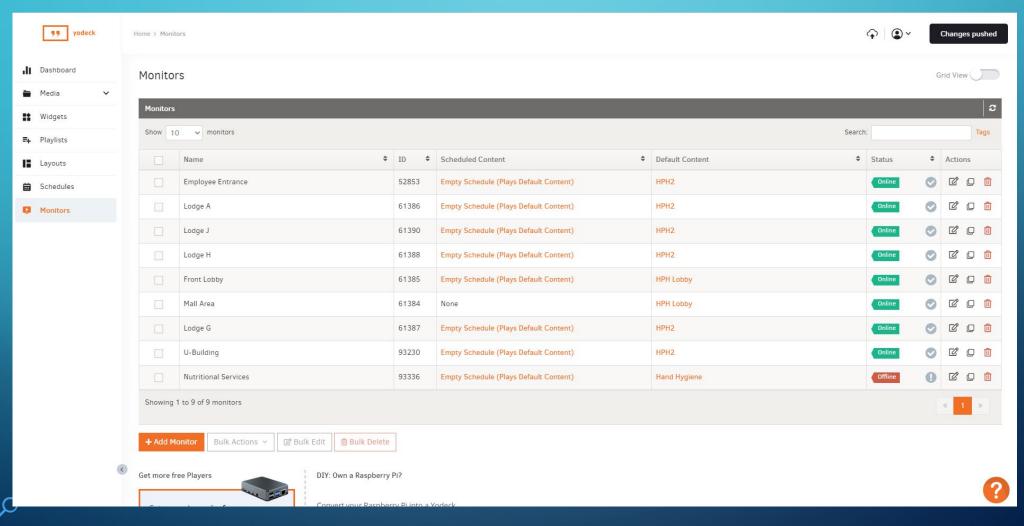


LESSONS LEARNED: COMMUNICATION



HPH wanted to be able to send out information and reach the most employees they could at once. We were able to achieve this with Yodeck, an online announcement system connected to TVs through out the hospital. This also allowed HPH to update staff on the Green-Yellow-Red system that was created. The lighting system is a stop plight system to show employees what extra precautions need to be taken.

Screenshot of the Yodeck communication tool



FIRST OUTBREAK

- Mid-December 2020: One patient with very mild cough tested positive.
- All patients and staff were tested.
- 5 patients initially positive, one of which has special needs requiring 1:1.
- \bullet 17/22 patients and several staff members became positive within a few days.
- Quarantine area enlarged to 2 out of 3 patient housing areas on female intermediate lodge.
- 4 patients admitted to medical hospital and all returned

COVID ORDER SET

- Orders include the following:
- Move to isolation; contact and droplet precautions
- Twice daily vital signs with pulse oximetry and notify LPP for: Temp >100.4, HR >110, SBP<95, DBP<60, Resp. >22, Oxygen saturation <90%; notify LPP for change in mental status
- Tylenol PRN pain or fever, Vitamin C 500 mg BID x 1 month, Zinc sulfate 220 mg BID x 2 weeks.
- Encourage fluids

OUTBREAK CHALLENGES:

- Reminding staff of how to use PPE
- Reusing N 95 masks, face shields, glasses and goggles
- Storage problems for reusable items
- Implementation of changes to medical staff coverage, to minimize number of medical staff on quarantined lodge, in order to minimize risk to patients on other lodges

PPE STORAGE



2ND OUTBREAK: NEW YEAR'S EVE

- Began December 31st, 2020 at approximately 5PM, on male intermediate lodge.
- Testing of patients was a challenge due to holiday.
- Nowhere to get tests done

Local hospital was called and, due to contract and personal favor, agreed to run Covid 19 tests for all patients and staff.

2ND OUTBREAK: MANAGEMENT

- Initiated protocols for treatment and monitoring
- Over course of next week, most patients on the lodge tested positive for Covid, again outstripping our designated isolation pod and necessitating establishment of more isolation areas
- 4 Patients went to medical hospital for Covid; 3 other patients went to medical hospital for other issues, raising question of where to place them upon return from Covid-stricken medical hospital but with negative Covid test, leading to establishment of sub-isolation areas.
- 1 patient left our facility for medical hospital testing negative for Cvoid; initial test there also negative; tested positive there after several days. Eventually expired with Covid

VACCINATION OF EMPLOYEES

- 158 vaccines given the first week that vaccines were available to staff.
- Pace of vaccination slowed after initial group vaccinated, due to vaccine hesitancy.
- Total employees vaccinated 222 (not all current employees).
- Supply has been a limiting factor at times.
- Handful of employees vaccinated elsewhere.
- Small surge in staff vaccination with onslaught of Delta variant.

VACCINATION OF PATIENTS

- Though nursing home and community residential care homes were explicitly included in DHEC vaccination plan, SC state hospital patients were not included in initial vaccination plan, despite requests for consideration by SC DMH. Thus, plan did not include vaccination for state hospital patients until vaccination of general population by age/co-morbidity began.
- Patient vaccination began 3/24/21.
- 118 patients have been vaccinated (current and past), with 83% of current patients vaccinated.

3RD OUTBREAK: LATE SUMMER 2021

- Patient accepted from inpatient psychiatric unit of community medical hospital
- Screening form did not show patient exposure risk and referring facility did not inform us of exposure, thought this was known prior to patient leaving referring facility
- Patient tested Negative the day before Admission
- Patient found to be positive with routine testing 7 days after admission, while still in observation area.
- This patient's roommate and 2 lodge staff members were infected
- The outbreak did not progress further than the admission observation/isolation area, so this process did what it was intended to do.

SPECIAL ISSUES: PATIENT'S RIGHTS AND RESPONSIBILITIES

- Refusal of Covid testing
- Refusal to cooperate with quarantine or isolation
- Destruction of temporary walls in isolation areas
- Is staying in your room a seclusion?
- Refusal of vaccination by patient or substitute decision-maker
- Refusal of treatment for Covid 19—for example, one woman sent to medical hospital for Covid treatment due to hypoxemia refused to wear oxygen and refused Remdesivir and convalescent plasma

SPECIAL ISSUES: CONSTRUCTION

- Throughout the pandemic, we have had ongoing replacement of heating, air conditioning systems, fire alarms, and fire sprinklers; project has been ongoing for 3 years and has been conducted one lodge at a time, taking one lodge at a time out of use and thus constricting available resources for isolation.
- Construction has included the building of temporary walkway tunnels for staff and patients
- Unique challenges have occurred; for example, during initial outbreak, the air conditioner was not working, and we used a portable machine.

SPECIAL ISSUES: STAFFING

- Nurse externs were a big help.
- Staff was not supposed to be pulled from other lodges to staff Covid isolation areas
- No employees resigned during Covid outbreaks
- Several employees infected traced to improper masking

SPECIAL ISSUES: MONOCLONAL ANTIBODIES

- Potential to administer MABs at our facility arose due to anticipated risks involved in transporting Covid positive patients (by definition, not sick enough to be hospitalized) to infusion clinic
- In 3rd outbreak, the observation/isolation area had 2 Covid positives and 2 Covid negative patients
- Of the 2 negative patients, one had received first dose of vaccine in the week prior to the first positive test in the observation area and refused post-exposure MABs. One patient agreed to receive monoclonal antibodies as prophylaxis. Neither tested positive for Covid during subsequent isolation period.

MONOCLONAL ANTIBODIES: FOR COVID 19 + PATIENTS

Treatment of COVID-19 using Regen-COV Monoclonal Antibody

Individuals who are at high risk for progression to severe COVID- 19, including hospitalization or death Criteria for High Risk	AND Positive results of direct SARS-CoV-2 viral testing	
Older age (for example, age ≥65 years of age)		
Obesity or being overweight		
Pregnancy		
Chronic kidney disease		
Diabetes		
Immunosuppressive disease or immunosuppressive treatment		
Cardiovascular disease or hypertension		
Chronic lung diseases		
Sickle cell disease		
Neurodevelopmental disorders (for example, cerebral palsy) or other conditions that confer medical complexity (for example, genetic or metabolic syndromes and severe congenital anomalies)		
Having a medical-related technological dependence (for example, tracheostomy, gastrostomy, or positive pressure ventilation (not related to COVID-19))		

MONOCLONAL ANTIBODIES: FOR POST-EXPOSURE PROPHYLAXIS

Post-Exposure Prophylaxis using Regen-COV Monoclonal Antibody

Individuals who are at high risk **AND** One of the Following AND One of the Following for progression to severe COVID-Criteria Criteria 19, including hospitalization or Not fully vaccinated have been exposed to an individual infected death with SARS-CoV-2 consistent with close contact Who are not expected to mount an criteria per Center for Disease Control and Criteria for High Risk adequate immune response to complete SARS-Prevention (CDC) Older age (for example, age ≥65 years of CoV-2 vaccination (for example, individuals with immunocompromising conditions including those who are at high risk of exposure to an taking immunosuppressive medications) individual infected with SARSCoV-2 because of Obesity or being overweight occurrence of SARS-CoV-2 infection in other individuals in the same institutional setting (for Pregnancy example, nursing homes, prisons) Chronic kidney disease Diabetes Immunosuppressive disease or immunosuppressive treatment Cardiovascular disease or hypertension Chronic lung diseases Sickle cell disease Neurodevelopmental disorders (for example, cerebral palsy) or other conditions that confer medical complexity (for example, genetic or metabolic syndromes and severe congenital anomalies) Having a medical-related technological dependence (for example, tracheostomy, gastrostomy, or positive pressure ventilation (not related to COVID-19))

COVID 19: WHERE ARE WE NOW?

- Critical staffing challenges, as everywhere in country, may necessitate consolidation of lodges and lowering of census
- Some changes likely to persist:
 - Increased utilization of videoconferencing
 - Tracking and establishment of reorder levels for PPE
 - Increased routine training on use of PPE
 - Use of Yodeck

LESSONS THAT WILL STICK WITH US:

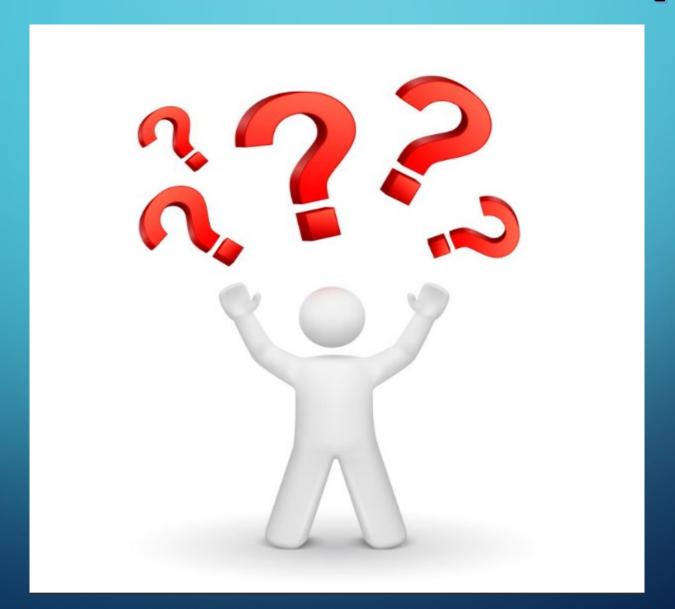
- Self-Reliance
- Teamwork
- Flexibility
- Dedication
- Communication

THE NEXT FRONTIER:

- Increased recruitment and retention of staff
- Continued efforts to maximize vaccination of staff and patients
- Vaccine booster???
- How do we move forward?
 - Balancing Covid safety with fulfilling mission and living life.



Questions for the Group?



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