



COVID-19 Hospital-Based Surge Management

Dr. Adolphe Edward Chief Executive Officer El Centro Regional Medical Center

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All Models are Flawed, some are useful

Unknown Author

Whatever I will tell you that applied to the Imperial Valley Model may or may not work for your Community



The focus in the US seems to be on when we'll hit our peak.

Lesson 1: when your focus is wrong, your strategy is mis- guided

"But here's the thing about peaks: You often can't tell where they are until you're already past them, on your way down the other side.

And in a country as big as the United States, the peak will be not so much a single curve as it will the sum of many curves — as the outbreak spreads to different cities and regions at different times."

- Washington Post

Lesson 2: Now that we hit one peak, will we be smart to apply what we learned to peak 2



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El Centro Regional Medical Center

The little Medical Center that COULD & DID

Disaster Management Plan in Action

Ala, COVID-19 Style



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Side effect of COVID-19 we need to watch for

- Mental Health is fragmented in the US and it will blow up soon.
- 7 months into the pandemic the country is on a verge of another health crisis
 - · Death news
 - Isolation
 - · Fear of disease
 - · Future health issues
- · All combined to create a wave of mental health
 - · Depression rates will increase
 - · Substance abuse is on the rise
 - · Domestic Violence
 - PTSD
- And suicide



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Agenda

- Going back to basics and building the story, re-defining the plan and timelines
- · Plans are nothing and Planning is everything
- Engagement of all levels
- Social Media and the future of support in a pandemic
- Q&A



Timeline

- 18 Feb, 2020 I stood up a Command Center for the Hospital
- 22 Feb, 2020 walked the expansion of beds w the local Fire Chief
- 7 March, 2020 we admitted the first COVID-19 case
- 8 March, 2020 I announced the first Positive COVID-19 case in Imperial Valley
- We had decided to use Social media to stay transparent and communicate with entire valley, and we will show you that Journey in this presentation
- Already had asked if the county will help with expansion of the facility beyond our own plans, and asked for state Assets to be re-allocated.
- "Stand Up" morning Huddles w the leadership team became a daily activity and has proven to benefit us immensely
- Let's walk the details for your FYI

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	Planning for Bed Capacity Increase CNO driven, SPOT ON				
Current Bed Capacity: 161	31	PB/L&D (Med/Surg)			
40% increase is 225	60	South/North wings (Med/Surg)			
40 /0 Increase is 225	46	East/West (Med/Surg)			
	9	Pre-op (Med/Surg)			
	8	Peds (Med/Surg Adult)			
	12	2 nd Floor ICU			
	8	North wing ICU/Older platform			
	10	PACU (ICU)			
Expansion #1	19	Women Health Clinic			
	15	Buildout/other			
Expansion #2: 243 Total Beds	25	Medical Office Building Conference Rooms plus more			
Plus 75 Bed in Martin Luther King Pavilion if needed					

Additional Bed Opportunities, Wave 3 if Needed

- Option 1, Perfect to plan, but what if we get to the last Wave, Wave 3
 - Martin Luther King Pavilion 75 beds
 - · Supplies and Cots will be needed
- Option 2, Medical Office Building, 50K sq feet
- · Option 3, not recommended at this time
 - Community Education Center unknown bed capacity; 10,000 sq. ft space
 - What became obvious that we pushed for this external build out early and that finally generated a visit by the Army Corp of Eng
 - And a FMS or Field Medical System was finally decided upon



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Conrad Harrison Youth Center & Dr. Martin Luther King Jr. Sports Pavilion







Parking





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Lobby in Conrad Harrison Building



Registration

Triage



Patient Care Area



@20,000 sq feet

Potential of 120 cots for medical care

Medical stations

Need restrooms





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Staff Housing













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Patient Surge, Wave 1 starts around reaching 75% of existing capacity of the hospital

- To this extent, we need the following
 - 2 Alaskan shelter medical tents
 - 35 RNS 15 ICU, 20 M/S
 - 10 RNS ED
 - 10 Respiratory Therapists
 - 20 Nursing Assistants
 - 10 Comprehensive Vents
 - 45 Gurneys
 - 10 Defibrillators

- 50 Lifepacks
- 1 Telemetry System
- 49 O2/HR Monitors from Massimo (PO # 133121)
- 1000 ABG Kits
- 4 ABG Machines IL Gem 5000
- 4 Omnicells



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Surge Supplies Needed: Additional Needs

- 100,000 patient gowns
- 500,000 surgical gowns
- 500,000 N-95 R
- 500,000 N-100
- 200 PAPRS
- Pharmaceutical Supplies
 - List was detailed from Pharmacy and ready

- Lab Supplies
 - 15,000 Swabs/viral transport
 - 100 boxes Cephia COVID Test
 - 200 boxes Abbot ID Now COVID kit
- Radiology
 - 4 mobile x-ray units
 - 75 H tank oxygen holders or 500 Etanks
 - 2 generators
 - Storage rentals
 - Disposable linen



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Miscellaneous Surge Supplies Needed

- 5000 boxes/mo. Sani-wipes
- 50 portable handwashing stations
- 10,000 Purell hand sanitizer pumps
- 300 IV Poles
- Portable AC Industrial Tent
- 300 wheelchairs
- 50 small refrigerators

- 1 8x20 mobile fridge/freezer (Polar Leasing)
- 20 Ice & Water Dispensers
- 100 Medcart & Scanner Mobile work stations
- 120 Portable HEPPA Filters
- 250 KW Generators for MOB



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Defining Capacity Became an issue
WHO Health System Capacity — Pandemic

Capability

Space
Staff
Supplies
Systems

Critical Care Beds
Physicians
Critical care nurses
Non-critical care nurses
Internalive care beds
Critical care
Pulmonary care
Pulmonary care
Pulmonary care
Cardio Thoracie
Non-critical care
Response Plans
Supplies
Systems
Coalitions
Coalitions
Coalitions
Critical care
Pre-event training
Cinical guidance
Pre-event training
Cinical guidance
Pre-event training
Cinical guidance
Protocols
Surveillance
Surveillance

True Hospital Capacity and Capability re-defined

- a. Patient Flow
 - · Length of Stay
 - · ED boarding
 - ED Surge
 - Throughput
- b. Beds
 - · Number of total beds
 - Number of staffed beds
 - Type of Beds, aka ICU, Med/Surg, ED bays, etc
- C. Days to Capacity Max filters
- D. # of cases, case Acuity, aka CMI or Case Mix Index, or complexity of the care
- E. Needed Eq, other eq.
 - · Vents inventory, Complex and normal
 - · Vents in use
 - · Vents from other sources



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True Hospital Capacity and Capability re-defined (cont.)

- a. Staff Needed and patient
 - RNs, LVNs, CNAs, MAs
 - RT, OT, Speech T, etc
 - Manpower
 - · Other Admin staff
 - Total numbers of Hospitalists, MDs, Specialists for ICU, etc etc
- b. Budget
 - Salaries and Wages
 - Cost of Registry
 - FED support, NDMS activation, FEMA, Grants, etc
- c. SKE
 - Skill
 - Knowledge
 - Education



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Surge During a Disaster

- As the research evolved, a clearer picture emerged to both understand and manage a surge of patients in the context of standards of care balancing the three aspects of *staff*, *space*, and *supplies* (pharmaceuticals, equipment, medical supplies)
- We stratify surge capacity into three defined categories:
 - · Conventional,
 - · Contingency, and
 - Crisis Surge Capacities
- The three defined categories of Conventional, Contingency, and Crisis Surge Capacities are directly related to the usual and customary, standards of care a given patient should reasonably expect to receive any given day upon arrival at an emergency department or provided by an EMS agency.



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Conventional Surge (AKA WAVE 1)

- Using *conventional surge capacity* to describe a given event may be identified as "a busy day" with everyone doing what they typically do, with only limited supplement of additional staff, space, or supplies.
- Conventional surge may include holding staff over at the end of shift, bringing in extra ventilators from other floors in the hospital, and holding patients in a bed in the hall or other treatment rooms near the emergency department.
- Nevertheless, the traditional standard of care is intact for all patients.



Contingency Surge Capacity, Wave 2 plus

- Characteristics of *contingency surge capacity* include relying on space that is not typically used for emergent patients such as hospital conference rooms. Staffing will include clinicians with traditional credentials but may not be accustomed to managing acutely ill or critically injured patients.
- Examples may include physicians who are dermatologists, ophthalmologists, psychiatrists, pathologists, and may rely on nursing staff who now work in administration, or serve outside of the traditional clinical setting.
- Staff may include leveraging just-in-time (JIT) training to create a force multiplier [Israel demonstrated a 10:1 ratio of trained burn nurse to other nurses using a JIT approach.
- Supplies are limited and in some cases substitute medications or fluids are used due to insufficient supply for every patient's needs.
- The most unpredictable limitation is the availability of and access to supplies, equipment, and pharmaceuticals needed



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Crisis Surge Capacity

- Crisis surge capacity occurs with an event that overwhelms the hospital with care being provided in spaces that may be outside of the structure of the hospital such as tents erected in the parking lot, or adjacent medical office buildings, fitness centers, etc.
- Staffing and supplies are based on whatever is available with staffing including any and all willing and who can help during the disaster.
- The supplies may be sourced from alternate locations such as the local drug store, disaster equipment caches, or off label use of items, or county medical system.
- Triage may include deciding who can be placed on a ventilator that is in short supply.
- Certainly, this is the direct of circumstances and every effort should be made to minimize the time the event is operating under these circumstances



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Crisis Surge Capacity (cont.)

- Crisis Surge Capacity implies the practice of care outside the traditional standard of care and should be avoided or alleviated as soon as reasonably possible.
- During the planning process, it is an excellent time to involve whoever is responsible for ethical policy review to assure all involved understandthe latitude that may be needed to manage the disaster.



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A picture if worth a thousand words, Its too late to wait for the tip of the curve to ask for help Imperial County The Point in time I Cried UNCLE below The Point in time

HELP WAS FINALLY ON THE WAY A Different Vantage Point



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Disaster Medical Assistance Team or DMAT National Disaster Medical System

- Activated on 20 April 2020
 - 3 Command Staff, Commander is Kim from NY
 - CA-6 from San Francisco provides the rest of the team
 - 3 MDs
 - 1 ED doc
 - 2 ICU docs, one arrived today
 - 3 RTs and more arrived today (2 more)
 - 15 RNs, 8 ICU and 7 Med Surg

First Team to Help



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California Department of Public Health or CDPH Manpower assistant team

- Activated on 22 April 2020
 - · RNs mainly
 - From All over CA
 - 8 RNs, junior RNs
- After CDPH Leader and EMS director visit to the valley, we also received a CDPH assigned Leader in the Pharmacy space along w Support Team and more to help w Remdesivir, Convalescent Serum etc.

Second Team to Help



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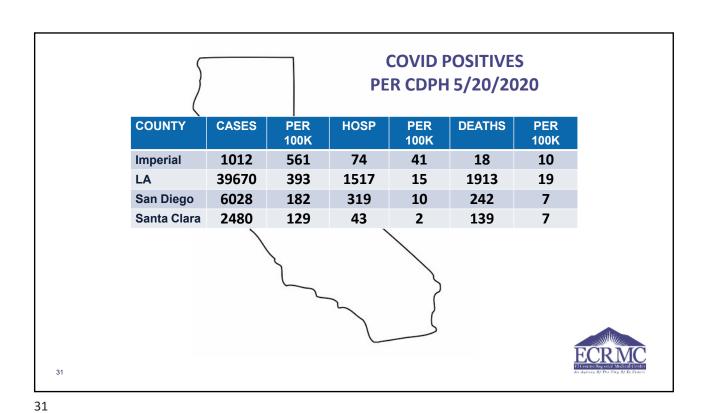
ECRMC Treatment Options

- 1) Hydroxy-chloroquine
- 2) Remdesivir
- 3) Convalescent Serum
- 4) Tocilizumab
- 5) Ramipril
- 6) Monoclonal Antibody Study

Beginning on the evening of May 7, 2000, the process was initiated to deliber cases of the drug to the to lowing states. Comport out (30 cases), Illinois (140 cases), lowe (10 cases), Maryland (30 cases), Michigan (40 cases) and New Jersey (110 cases). Each case contains 40 data of the dimend drug.

7) AstraZeneca trial will recruit up to 30,000 participants, with a goal to develop and confirm an effective vaccine





EMS Strike Team Patient Movement Team via Ground Ambulance EMT crew

- Activated on 20 April 2020
 - Mainly 5 Ambulance Crews and Ambulances
 - · From All over CA
 - To assist in patient movement
 - Linked to a State run Call center that have started off wrong, and corrected path after many calls from both local hospitals for improvements.

Third Team to Help



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Air Ambulances or Helicopters Patient Movement Team via Air EMT crew

- Reach and Mercy Always available for the community
- We put them on high alert on 18 May 2020
 - Both organization moved Assets from the Southern CA to response
 - Despite the normal bickering of who gets the mission patient movement has not been affected
 - From All over CA
 - To assist in patient movement
- Glad we did as we had in the next months of May, June, July, Aug transfer well over 650 Patients or 10-12 pts daily

Forth Team to Help



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Field Medical System

- · Lots of folks wanted to discourage us from asking for one
- Lots of folks will take credit for being the ones called in the FMS
- It does not matter but IVC was selected and set for 80 normal love acuity care
- · Then ECRMC augmented that team with
 - 12 Gurney style beds to increase healthcare needs to beyond low acuity and off load patients that require SNF
 - Nutritional Medicine support for patients
- Began To take Patients but was not set up for the kind of transfers we needed
- THE STATE HAD a hard time to adjust and make it better.
- Lesson to the state, prepare now for a more robust care setting

Fifth Team to Help



UCSD Reach-Back Team

- UCSD Testing Capability for Lab
- Intensivist Support Team for ICU Coverage
- ExtraCorparal Membrane Oxygenation or ECMO team from UCSD
- Senior Call Center Team Headed by CNO/Call Center RN Case Mgm
- · Supply Chain for
 - Vents needed on STAT orders
 - · Supplies like ABG kits
 - · Strange requests of connectors and other items needed for the medical team
 - And much more

Sixth Team to Help



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Air Force National Guard Team

- Clinical Technical Team
- RNs, LVNs, RTs
- · Several more MDs to staff ED, ICU, etc

Seventh Team to Help



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Final but most important TEAM, ECRMC STAFF

- Brilliant
- Resilient
- Tough
- Dedicated
- Committed
- Hard working
- · All of the above and much much more.



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While we were in the middle of all of this

- We battled a real FIRE in the hospital
 - Had to evacuate 2 wings
 - Had to re-locate 24 pts, patient movements went very well thanks to RN students that got direction from the best Med/Sug Dir and ACNO I have worked with in a long time.
 - Do clean-up
 - Close the Peds ward, Pissing off the Pediatricians
- Battled a Heat wave of 118 Degrees and humidity issues in the facility
- · Had an earthquake and much much more
- Fog and Friction of LIFE will happen in hospitals as we do COVID 19



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COVID TESTING PCR@ECRMC

- 1) RAPID TEST ADMITS, eventually 100%
- 2) ROUTINE PCR UCSD, and added State
 - Symptomatic
 - ED or Clinic





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Delay in testing ALTERNATIVES?











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TELE-ICU, Started with



Dr. Eric S. Yaeger MD

Denver, CC

Specialty / Subspecialties: Pulmonology / General Pulmonary Medicine, Critical Care Medicine



Venktesh R. Ramnath, MD Pulmonologist Associate Professor of Medicine

Specialties



Dr. James Kohan MD

El Centro, CA

Specialty / Subspecialties: Pulmonology / General Pulmonary Medicine

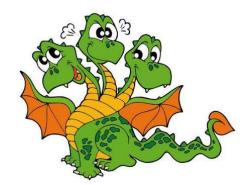


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TELE-ICU: NOW

- UCSD
 - Seven days a week
 - 8-Noon
- Dr. Yeager
 - 24/7 for emergencies
- Dr. Kohan
 - Selected days & times





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CA State and Federal Teams

- Dr Alex Eastman, CMO Dept of Homeland Security, DHS
- White House Task Force, COVID and Supply Chain
- · Dr Dave Duncan, Chief Medical Officer for the State of CA
- · Dr Steve Munday, IV County Chief Medical Officer
- · Dr Kathy Staats, EMS director for IV County
- Dimitrios Alexiou, President and Chief Executive Officer, Hospital Association of San Diego and Imperial Counties
- · Congressional and Senate Leaders and their Staff
- · CHA and their entire Staff as well as AHA

Seventh Team to Help



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Calexico Fire Department 911 response data to POE

Best to quantify the boarder issue, still USA citizens

- From May 10 to May 26th (today), ran 57 calls to both ports of entry. That is an average of 3.56 calls a day to either port of entry.
 - 200 E. First Street (pedestrian) 22 calls
 - 300 W. Second Street (vehicle secondary) 35 calls
- Total Outpatient Transferred from ED is 44 pts in one weekend alone



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State Dept numbers for Expats

- Recent estimate from US State Dept estimates Expats to be close to
 - 1 Million
 - Up from 200K 10 years ago
- Recent DoD numbers also estimate that there are 30K US retired service Members
- Canada has an influx of expats that live in Mexicali
 - 23K estimates, several of them stay here with us and have local Zip codes



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Mexicali Numbers, similar to TJ

• Confirmed 911 UP 12% a day

Deaths
 86

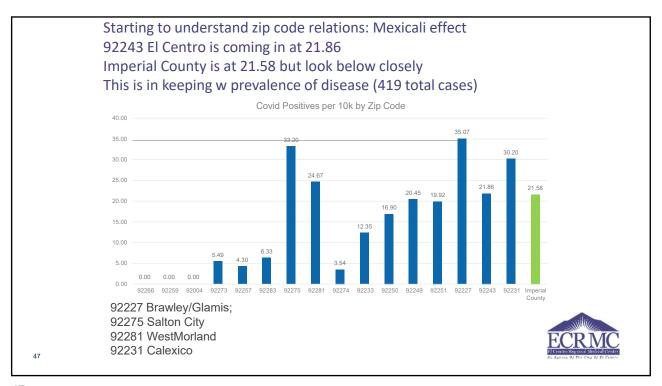
Suspected
 239
 UP 16% a day

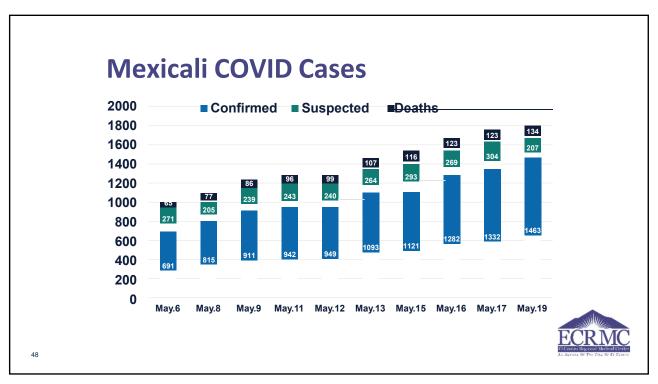
San Diego has a lot more beds to take care of TJ
Then local hospitals (161 at ECRMC + 107 PMH = 268 beds)

ECRMC had 60 staff members living in Mexicali



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THE UNKNOWNS???



ECRINC
Pi Centro Mayonal Modified Centre
da Agenco 90 Fine City 90 Et Curre

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Social Media As a new frontier for Comfort to a community



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New: PSA — Help STOP the spread of COVID-19

Help us STOP the spread of #COVID19. Avoid large gatherings. Practice social distancing. #WearAMask. Wash your hands. The life you save could be your own. A public service announcement from ECRMC.





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New TV Commercial & Radio Spot — English& Spanish



We are open and ready to take care of you and your family.
#WeAreECRMC



Voice over for the Call Center and On-hold message

Both outgoing messages have been updated.



Media Relations



Wall Street Journal

Social Media- COVID-19 Daily Updates



Community Events





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Facebook Live Sessions (March 8-September 3)

Total reach: 2,498,130 Total Minutes Viewed: 669.5K Net Growth in Audience (organic): 7.1k (75%)

The new frontier of comfort

Total reach calculation is the sum of existing followers, non-followers and page visitors.







26 weeks ago · 25.6K Views





Live Press Conference









Live COVID-19 Update 03-31-2020









COVID-19 Actualización 05/19/2020

COVID-19 Update 06/17/2020

COVID-19 Update 06/11/2020









Band Together For COVID-19 Relief

Media Relations (Local, National & International)





















The Washington Post









Media Relations



ABC World News









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CNN





New Ads – #WearAMask







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COVID-19 Awareness and Outreach

Public Service Announcement





Video Links:

<u>Brave Enough Music Video</u>

<u>ECRMC Public Service announcement</u>



ECRMC - Brave Enough Music Video







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Looking Ahead in Imperial County

Phase 1: Safety and Preparedness (Where we are now)

- a. Carrying for the care givers
- b. Clinical Wins with Lessons learned
- c. Continue to build out testing, Personal Protective Equipment, and hospital surge capacity
 - d. Make essential workforce environment as safe as possible
 - 1. Physical and work flow adaption
 - 2. Essential work flow adaption
 - 3. Ensure PPE widely available
 - 4. Individual behavior changes
- · Phase 2:
 - · No such thing as a new normal, it "going back to basics" for ECRMC
 - · Every news media will want to "SPIN" your story, insist on the truth.
 - Watch for staff so Media Glamor does not affect them. I call it the "War Zone Syndrome"
 - · "Do not get stuck on Stupid". Watch for those who want to commandeer your hospital

ECRMC
PI Centro Rog, cond Medical Centre
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Looking Ahead in Imperial County

Phase 3: Sep 2020, Prepare for COVID 19 Outbreak in schools and

- a. Caring for the students, their families
- b. Caring for the teachers and their families

When the county opens up fully, what is the full impact.....anyone's guess

Phase 4:

- "Post COVID Symposium" with the entire leadership team was a success, will help us be ready for second COVID Wave
- Flu season, plus Heat wave, plus COVID = unknown
- · Will there be one?
- · More for us to learn about what is next
- COVID 19 vaccine roll out and side effects, ??????
- Call upon the health systems to share lessons learned and use CHA as a platform to get this kind of conversation going

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Covid-19- Lessons Learned (slide deck enclosed as back up for you to use)

- Important to Capture Lessons Learned during the COVID-19 Pandemic
- Management Forum Discussions
 - September 10- 11, 2020
- Final report will be presented on:
 - Changes in operations pre/post Covid-19
 - Processes/procedures that went well
 - Processes/procedures that didn't go well
 - Emerging best practices as a result of Covid-19



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Mental Wellness for our Staff

June Newsletter



Your Mental Wellness Matters

The emotional weight of the COVID-19 pandemic can take a toll on anyone. We want to provide you with tips and resources to help you manage stress and decrease mental overload and anxiety.



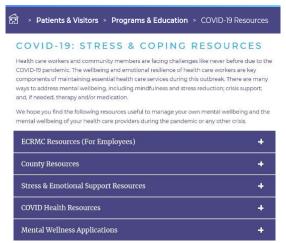


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Employee Mental Wellness Resources











Ensuring Quality During Pandemic

Expanded Capacity/Space

- (8) Additional ICU beds
- Additional Tent dedicated to Med-Surg overflow

Equipment

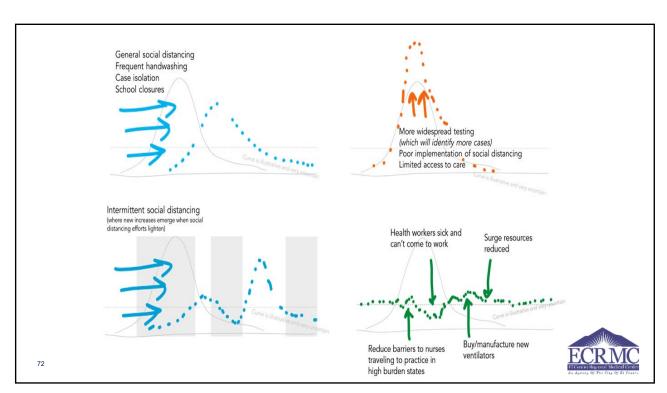
- Additional monitoring devices for Med-Surg COVID patients
- (25) Comprehensive Ventilators
- (22) High Flow Units
- Pending (8) Additional Ventilators
- County stockpile of respiratory equipment when needed

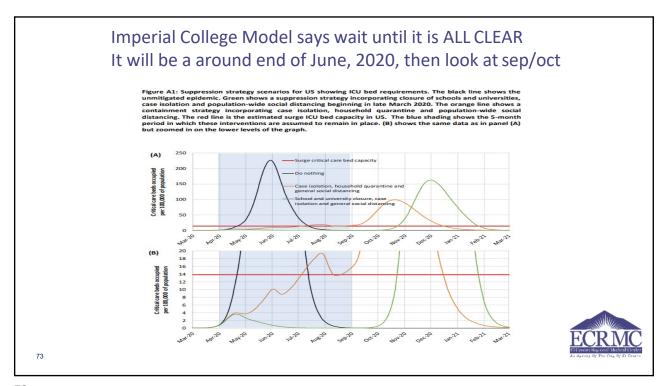
Staffing

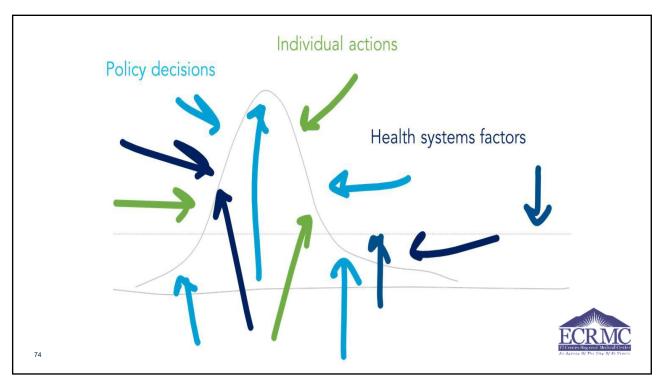
- (22) Med-Surg RN Travelers
- (20) ER RN Travelers
- (15) ICU RN Travelers
- (60) DMA/Health Corp(state)
- (19) National Guard
- Additional Intensivist & ED Doctors
- Night Pharmacist



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BACK UP SLIDES FROM OFFSITE

2020 COVID-19

Post COVID-19 Symposium Lessons Learned



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2020 COVID-19 Lessons Learned In 200 words or less, describe your department's normal operation prior to the COVID-19 Pandemic:

2020 C	OVID-19 Lessons Learned
In 200 word	ds or less, describe your department's experience during the COVID-19

	2020 COVID-19 Lessons Learned
	2020 COVID-13 Lessons Learned
	In 200 words or less, describe your department's experience after the COVID-19 Pandemic slow down:
79	

2020 COVID-19 Lessons Learned | Value | Value

2020 COVID-19 Lessons Learned

Question	Responses
What didn't go well in your department during the	
pandemic?	
People (staffing/training)	
Process (new processes that worked	
well; changed now needed in	
policies/procedures)	
Tools/Technology	
Supplies	

2020 COVID-19 Lessons Learned

Question	Responses
What would you do different next time?	
People (staffing/training)	
Process (new processes that worked well; changed now needed in	
policies/procedures)	
Tools/Technology	
Supplies	

2020 COVID-19 Lessons Learned

Question	Responses
What changes were made that proved to be best practices and should become permanent? People (staffixiraining) Process (new processes thatworked well; changed now needed in policies/procedures) Tools/Technology Supplies	Responses

2020 COVID-19 Lessons Learned

Question	Responses
Any general recommendations you would like to make?	
People (staffing/training)	
Process (new processes that worked well; changed now needed in	
policies/procedures)	
Tools/Technology	
Supplies	



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Thank You

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