Alterations in Care of the Hospitalized Geriatric Patient Due to COVID-19

The Northwest Texas Hospital Experience of the Pandemic

Geriatric Oncology in a Global Pandemic
May 7, 2022

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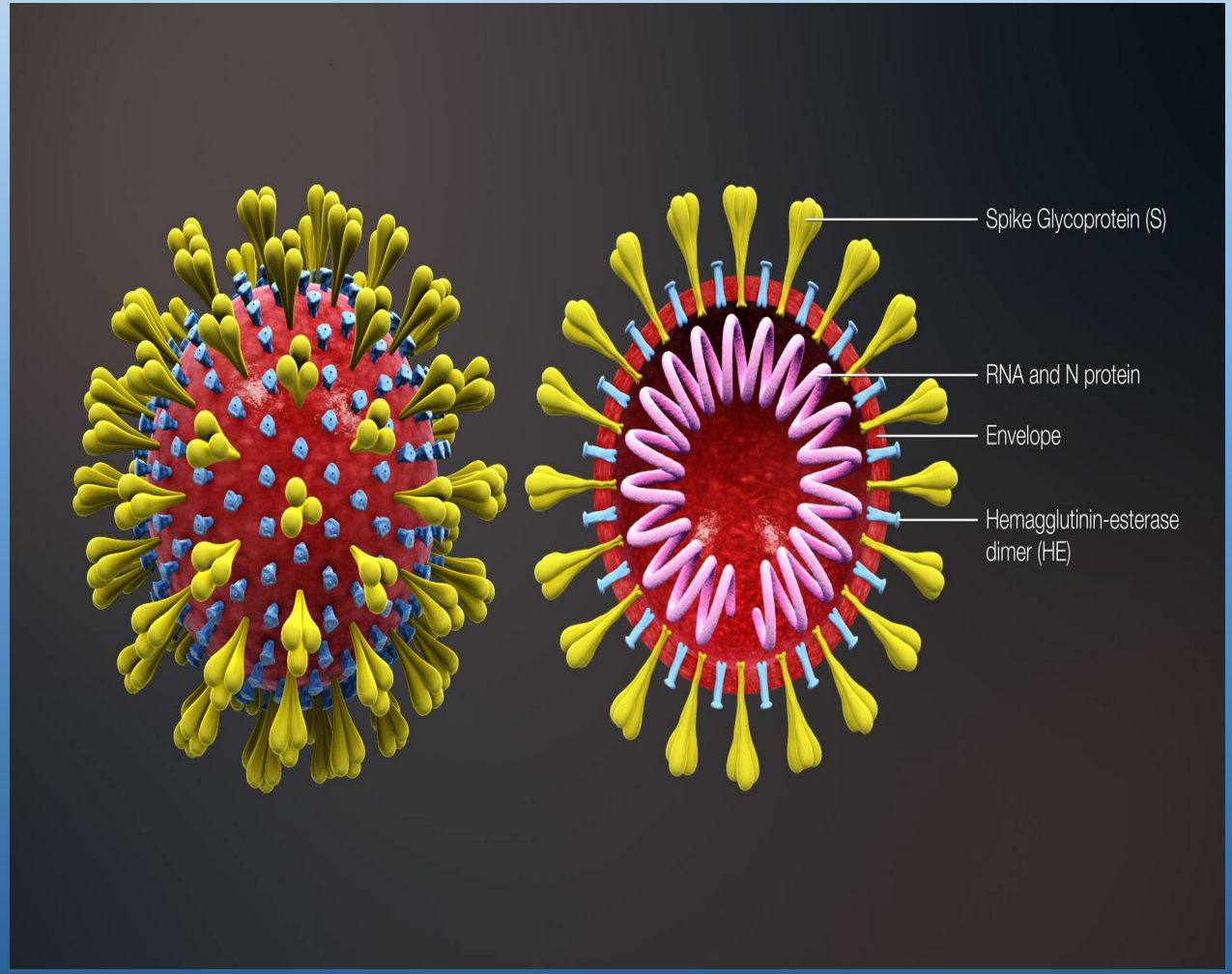
Chief Medical Officer

Learning Objectives

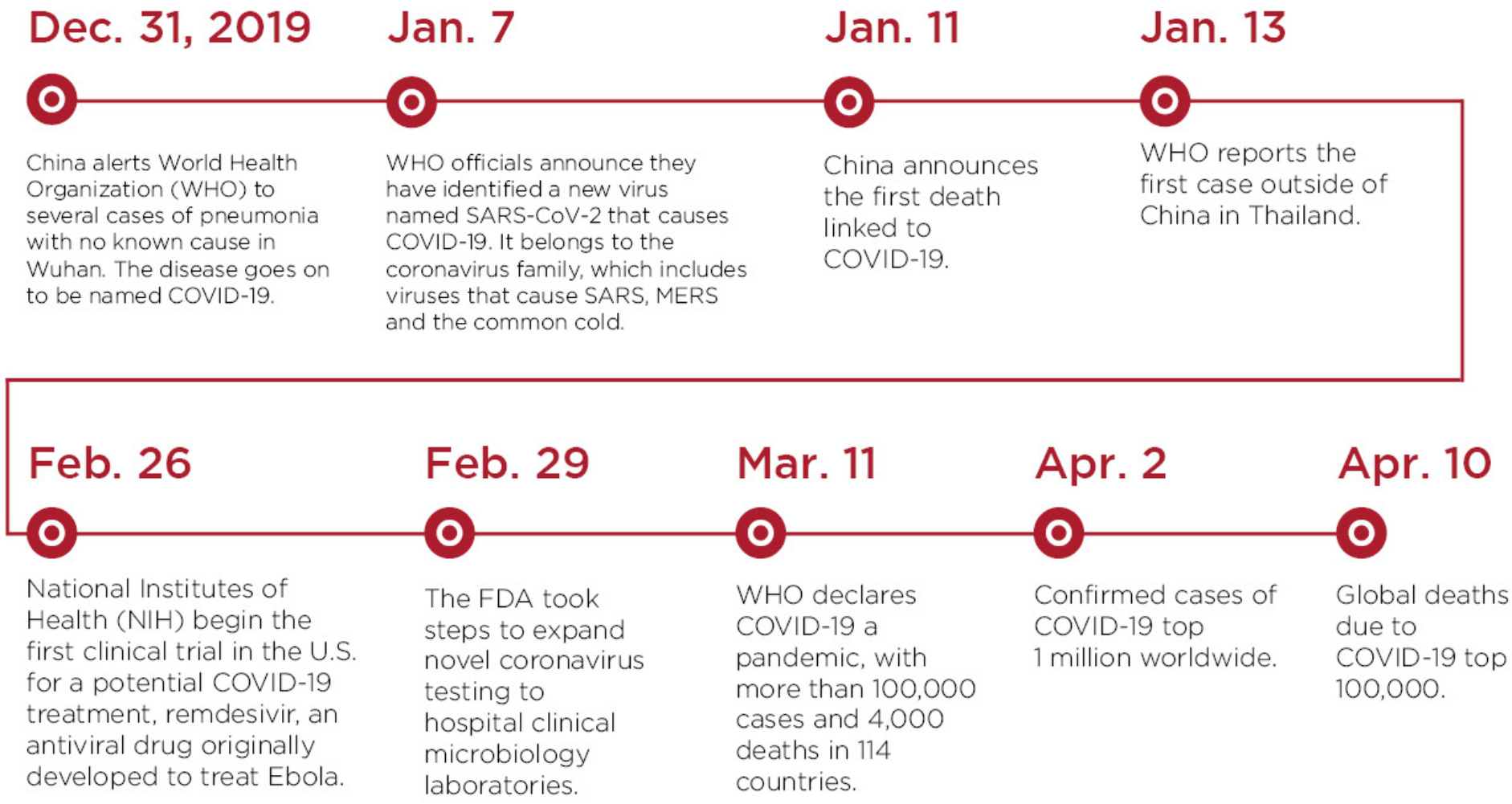
- Understand the challenges facing hospitals during the COVID-19 pandemic as evidenced by Northwest Texas Hospital.
- Discuss interventions implemented to address care concerns in the hospitalized patient during the COVID-19 pandemic
- Delineate the effects of COVID-19 restrictions on geriatric patients in both acute and chronic care facilities.

A Novel Coronavirus

- 7th known coronavirus to infect humans.
- Average of 0.1 microns in size.
- Relatively long strand single strand of RNA (29 kb)
- Binds to ACE 2 receptor in heart and lungs.



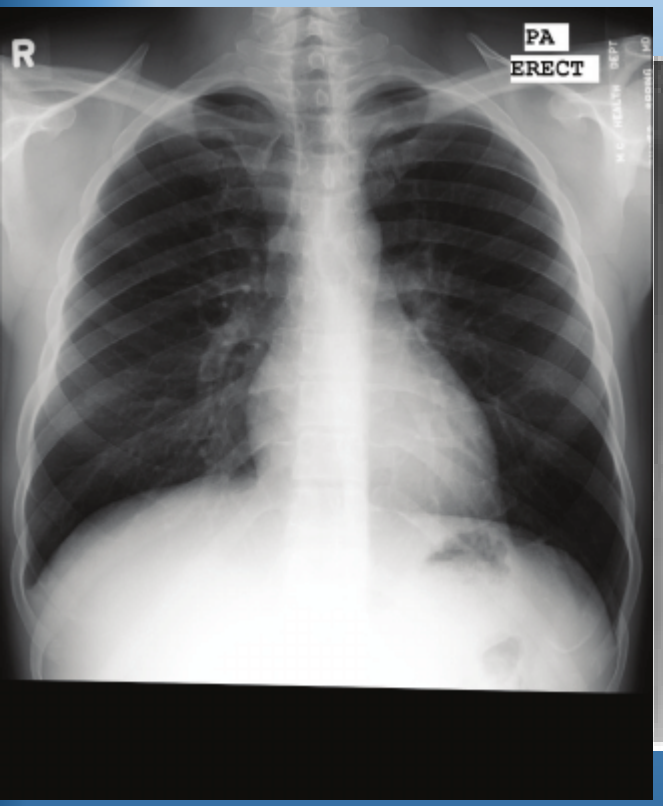
COVID-19 timeline

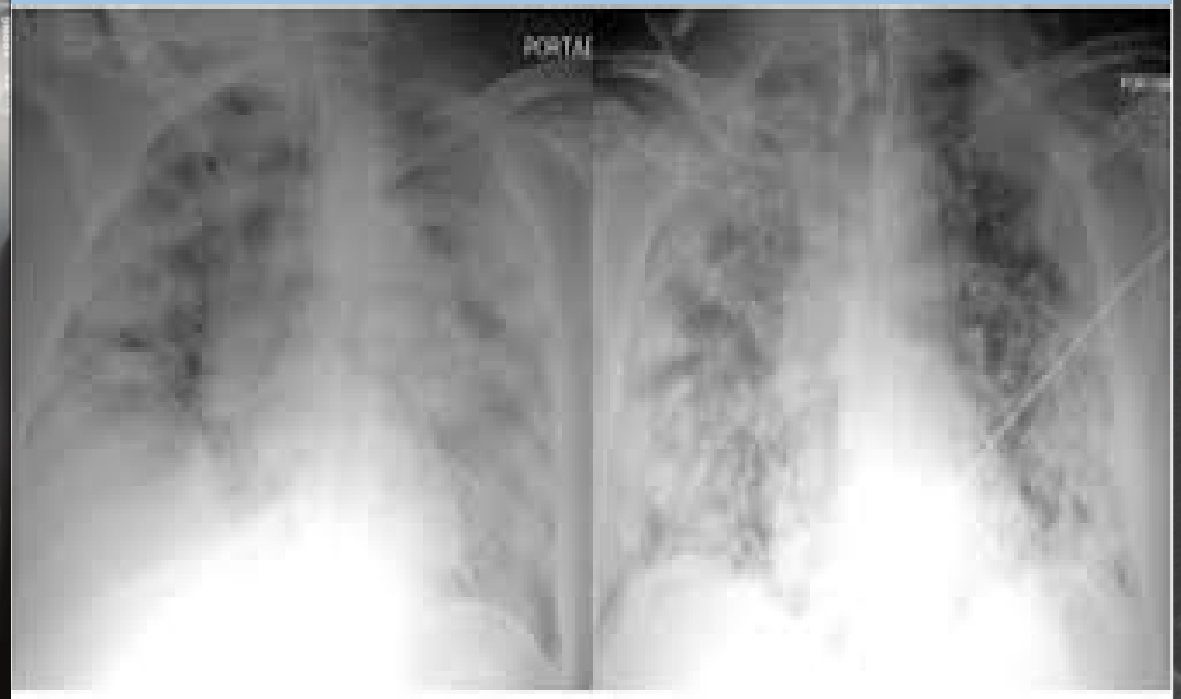


The First Patient at Northwest

- Mr. Ralph Abracht from Nazareth
- Diagnosed March 18, 2020
- Exposure related to high school basketball game in Levelland.
- Admitted 3/18. Discharged 4/15.

Radiologic Hallmark of COVID





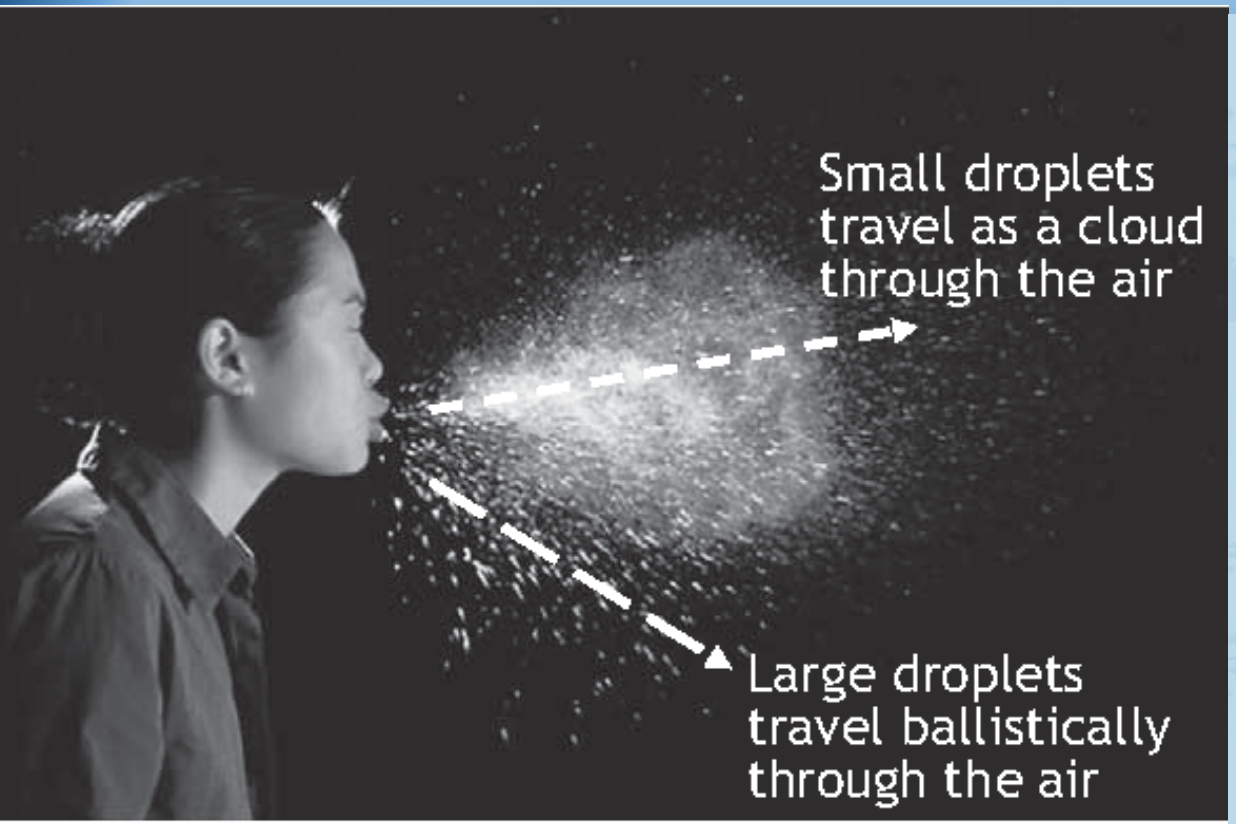
Normal CXR

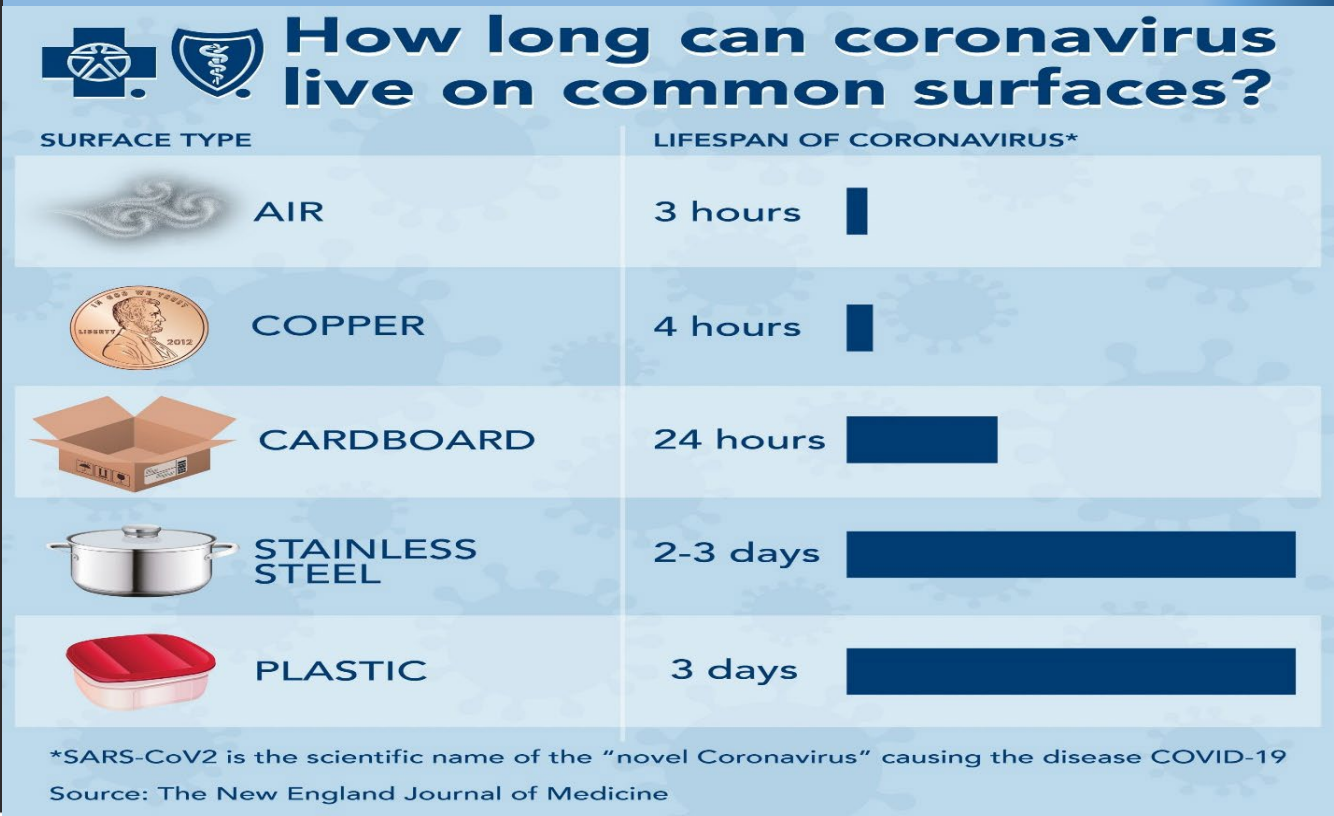
COVID CXR

COVID Chest CT

The Flurry of (Dis)Information

- Initiated the hospital's Incident Command Structure with twice daily briefings.
- Information sources include World Health Organization (WHO), Centers for Disease Control (CDC), Department of State Health Services (DSHS), and UHS corporate structure.
- Disinformation originating from social media sites, Internet sites, federal officials, and word of mouth.





Personal Protective Equipment (PPE)

Shortages encountered over last two years:
Gowns – down to 2 day supply in April
Gloves
Masks (N95 and isolation) and face shields
Hand Sanitizer and Hand Soap
Disinfectant Wipes
Body Bags
Feeding tubes and pumps
IV tubing and ventilator supplies
COVID testing supplies

Utilization examples:
750,000 gloves/week
3500 gowns/day
300 N95 masks/day

The Supply Chain Team

Estimates of the Critical Care Resources in the U.S.

According to the American Hospital Association as of 2018:

- 5198 Community Hospitals; 209 Federal Hospitals
- 792,417 beds in community hospitals
- 96,500 ICU beds in community hospitals with 85,000 adult
- 62,000 full-featured ventilators and 98,000 not full-featured.
- 76,000 respiratory therapists. Care for 100,000 patients (4:1) over three shifts per day.
- 512,000 critical care nurses.

NEJM 2020: 382

Considerations in the Allocation of Resources

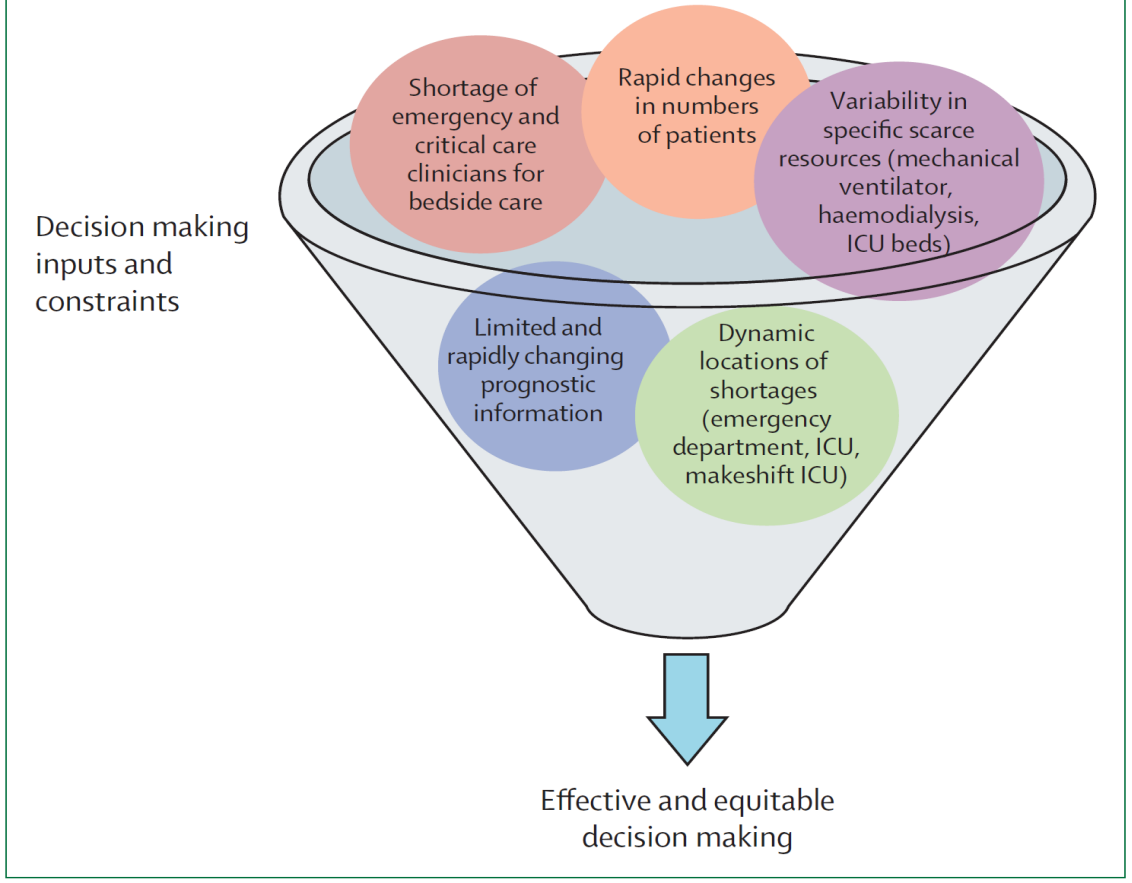


Figure: **Decision making inputs and constraints**

Lancet Respir Med 2021; 9

Moral Reasoning in a Situation of Scarce Medical Resources

Table 2. Ethical Values to Guide Rationing of Absolutely Scarce Health Care Resources in a Covid-19 Pandemic.

Ethical Values and Guiding Principles	Application to COVID-19 Pandemic
Maximize benefits	
Save the most lives	Receives the highest priority
Save the most life-years — maximize prognosis	Receives the highest priority
Treat people equally	
First-come, first-served	Should not be used
Random selection	Used for selecting among patients with similar prognosis
Promote and reward instrumental value (benefit to others)	
Retrospective — priority to those who have made relevant contributions	Gives priority to research participants and health care workers when other factors such as maximizing benefits are equal
Prospective — priority to those who are likely to make relevant contributions	Gives priority to health care workers
Give priority to the worst off	
Sickest first	Used when it aligns with maximizing benefits
Youngest first	Used when it aligns with maximizing benefits such as preventing spread of the virus

NEJM 2020: 382

The Hospital Initiatives to Provide Adequate Care to both COVID and non-COVID Patients

Redesigning the Airplane in Flight

1. Negative Air Pressure Rooms: 38 originally in design of hospital The team converted 108 more rooms to negative pressure. Required additions of duct work, fan installation, and manual control of dampers in each room. All negative pressure rooms need to be monitored daily given change in environmental conditions.

2. Additional walls were installed in several parts of the facility to separate COVID vs non-COVID patients as well as control access and flow through parts of the hospital.

3. The computerized door security systems required modification to enable limited access to the facility around the visitor policies

The ED waiting room

Northwest Texas Security Team Members

Northwest Texas Plant Engineering Team

The Clinical Staff on the Front Line

- The hospital went from 2 dedicated COVID units to 5: 3 Med/Surg + 2 ICU.
- Krucial staffing maintained up to 170 RNs travelling from around the country.
- Upwards of 10 – 14 patients were being proned in the ICU at any given time.
- Upwards of 150 staff quarantined at a time.
- Visitation restrictions demanding on nurses.

The Clinical Staff on the Front Line

The Physicians:

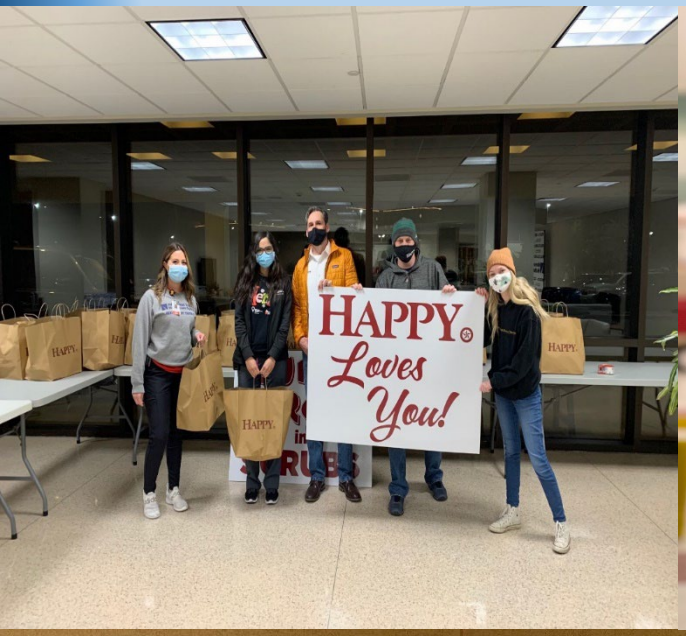
- The ED doctors
- The Sound Physician Hospitalists
- Texas Tech Faculty and Residents

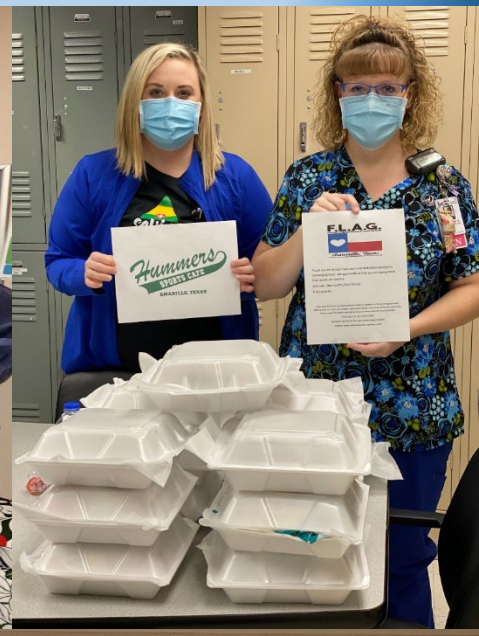
Dr. Garcia - Psychiatry

Sound Hospitalist Physicians

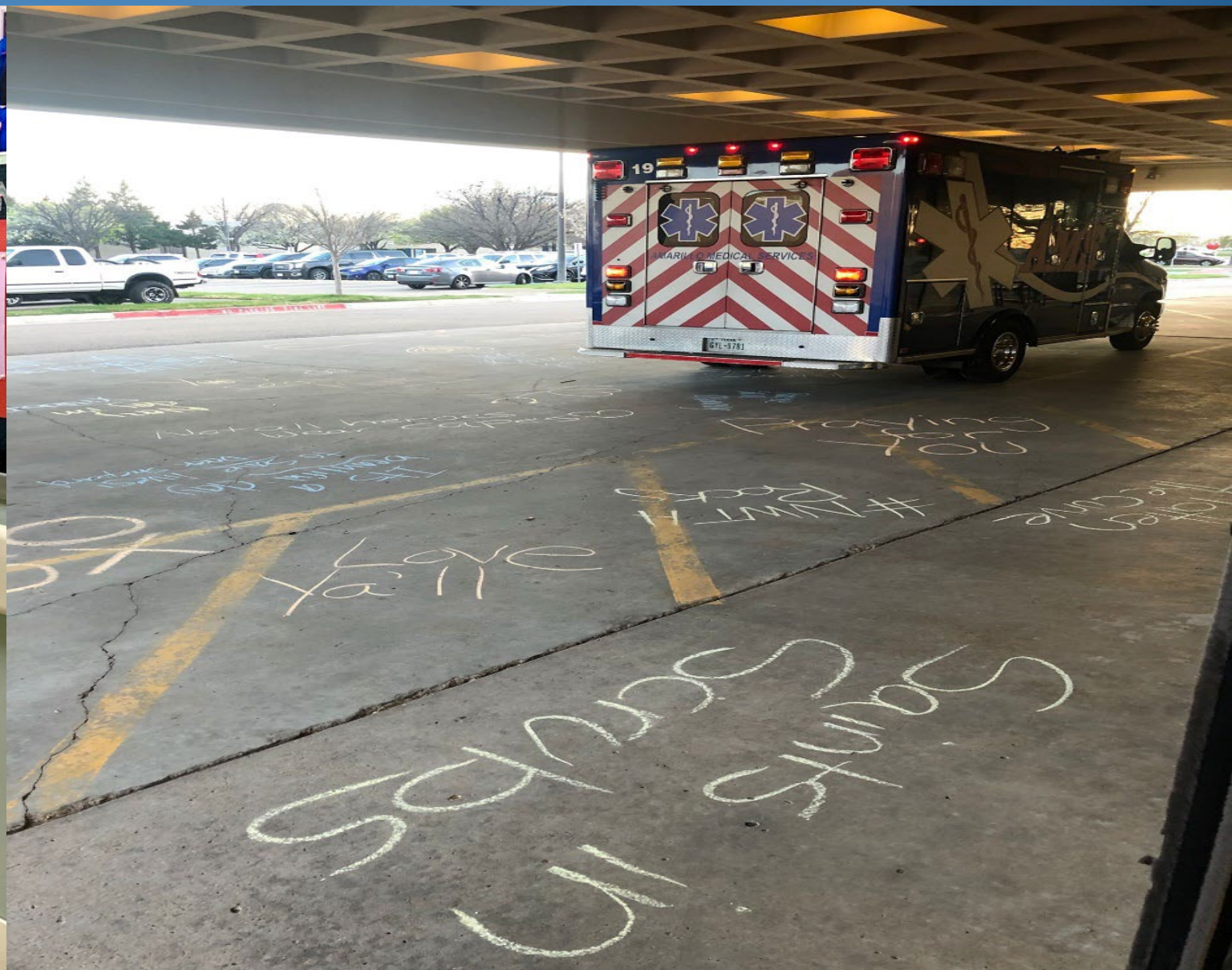
Dr. Poage - FEDs

Supporting The Troops





Supporting The Troops



Nurse Reactions to the Pandemic

- Nurses felt a great sense of professional duty to work during a pandemic.
- Care of the COVID patients created an ethical and moral dilemma for nurses with them feeling as though they had to decide between patients and their family responsibilities.
- Professional camaraderie amongst nursing colleagues working during a pandemic was high. Experience of working on a battlefield.
- Nurses experienced heightened anxiety for their own health and feared placing their family and friends at greater risk of infection.
- Nurses felt vulnerable and worried about future litigation related to the need to prioritize resources and patient needs in time of rationing.

International Journal of Nursing Studies 2020;111

Nurse Reactions to the Pandemic

- The perceived lack of defensive resources, PPE, were contributing factors to nurses concerns and fears.
- Rapidly changing advice and knowledge about the contagion increased the stress levels among the nursing staff.
- A lack of staff made ensuring adequate staff skill mix for managing high acuity patients challenging. Nurses had to adapt to changes quickly with high patient turnover and limited isolation rooms.

The Nursing Crisis

- As of January 2021, 2200 nurses died of COVID-19 internationally.
- The world is currently six million nurses short.
- Four million nurses are due to reach retirement age within ten years.
- If 10-15% of the current nursing population leaves the profession, there could be a shortfall of 14 million nurses by 2030, half the current nursing workforce
- The American Nursing Association reported 51% of nurses felt “overwhelmed”. Other reports show 93% of healthcare workers were experiencing stress, 76% reported exhaustion and burnout, and nurse-to-patient ratios increased three-fold.

International Counce of Nurses COVID-19 update 2021

The Traveling Nurse Fiasco

- Cost of a standard Med/Surg nurse went from $85.00 per hour average to $220.00 per hour for travelers.
- Traveling nurses could make upwards of $10,000 per week for six 12-hour shifts per week.
- Northwest lost 185 nurses in 2020 to either traveling, early retirement, or simply nurses leaving the profession.
- At the peak of the pandemic, Northwest had upwards of 170 traveling nurses. Staffing on many units amounted to one Northwest employed charge nurse and all travelers.
- Many of the traveling nurses did not have the training or experience that they claimed on their documents.

Moral Injury

- Mental Health America polled more than 1100 healthcare workers about COVID-19 and found that 93% reported stress, 86% anxiety, 77% frustration, 76% exhaustion and burnout, and 75% said that they were overwhelmed.
- Moral injury occurs when health care providers are “repeatedly expected, in the course of providing care, to make choices that transgress their long-standing deeply held moral beliefs”.
- Moral injury can come from the shift away from individual patients to a “public health issue”.
- Moral injury is a systemic problem; the health care system itself must be fixed.

Nursing Recognition – The Daisy Award

Northwest Texas Healthcare System

NewsChannel 10 KFDA AMARILLO, TX

HOME NEWS WATCH LIVE WEATHER CLOSINGS CORONAVIRUS VACCIN

TOP STORY

Click Here For Video

Amarillo hospital adds team to help health care providers cope with grief and trauma

KFDA News at Six - VOD - clipped version

By Freixys Casado | November 12, 2020 at 6:33 PM CST - Updated November 12 at 7:34 PM

AMARILLO, Texas (KFDA) - As COVID-19 cases and hospitalizations rise in Amarillo, health care institutions continue to add resources to help employees cope.

"Our staff is starting to sink a little bit," said Jeff Pugh, chaplain, Northwest Texas Healthcare System.

SECOND VICTIMS

Pastoral Care Team:
David Scott Hill
Jeff Pugh

The Unsung Heroes

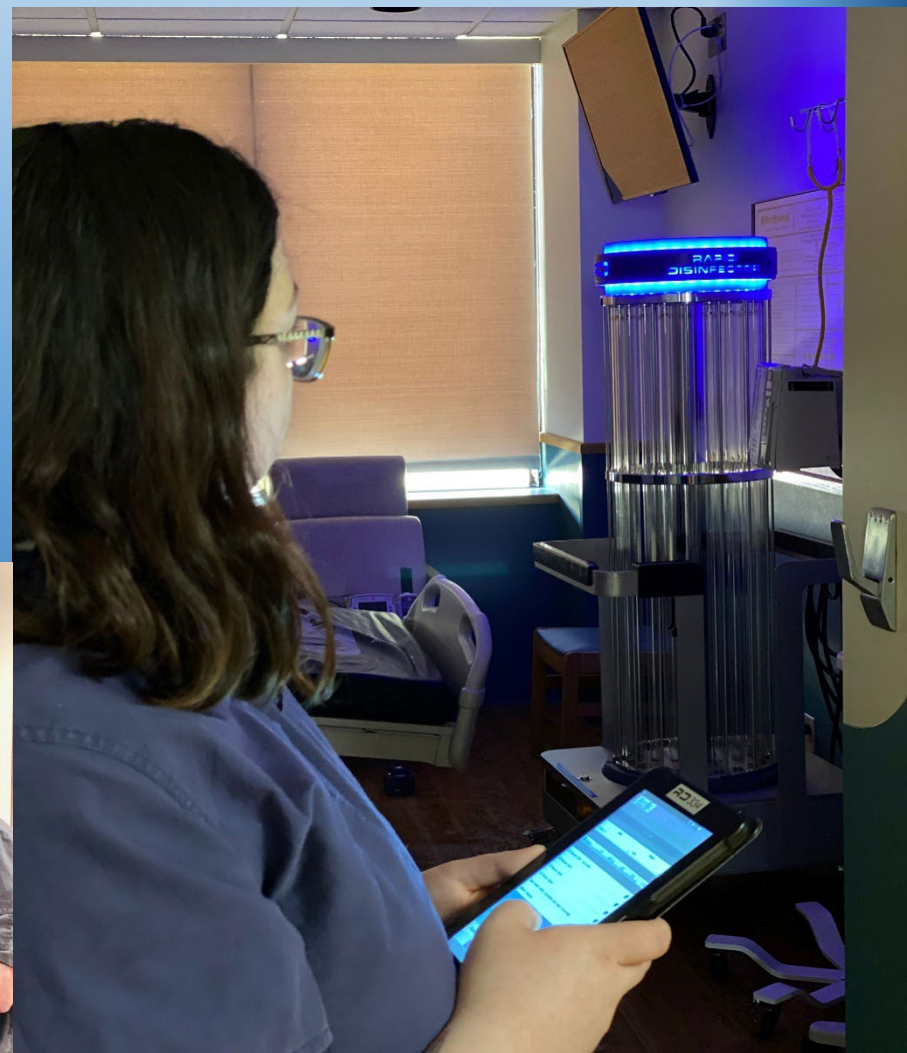
Laboratory Services

As of the end of the year:

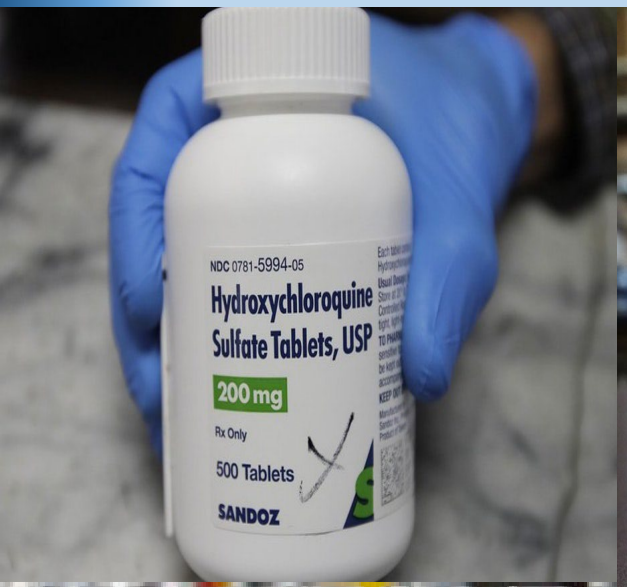
- Over 50,000 Persons Under Investigation (PUIs).
- Over 12,000 confirmed positives.
- 3 different testing platforms:
  Cepheid PCR
  Biofire PCR viral panel
  Sophia antigen testing
- Every room with a COVID patient required over 2 hours of disinfection by EVS.

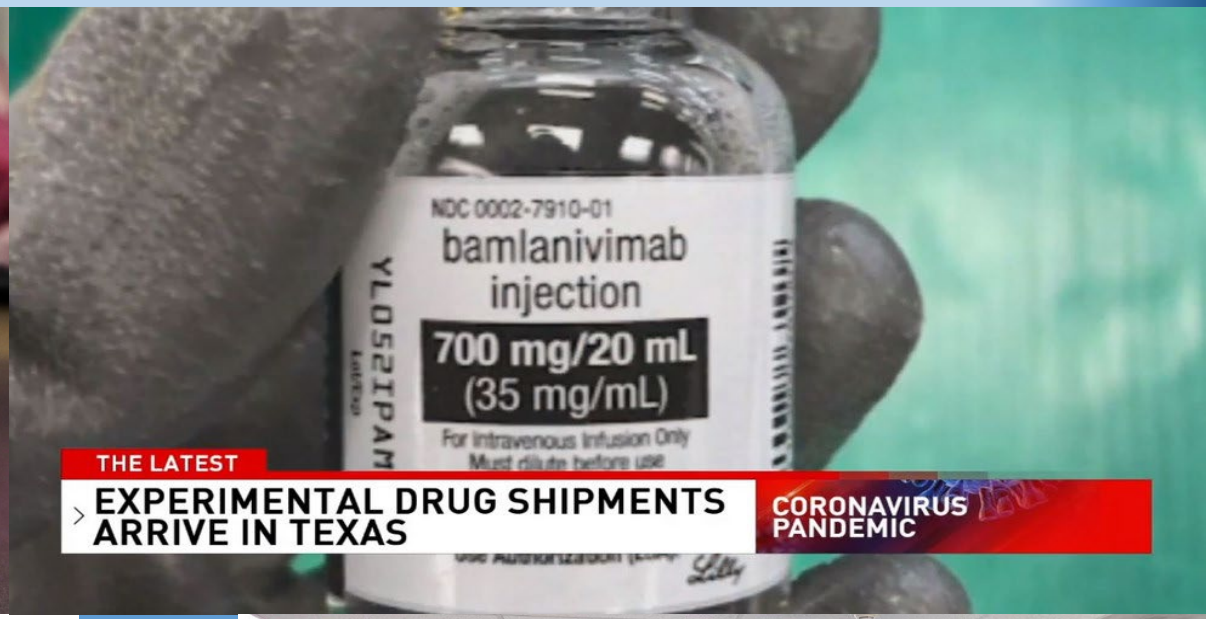
Respiratory Therapy

Environmental Services



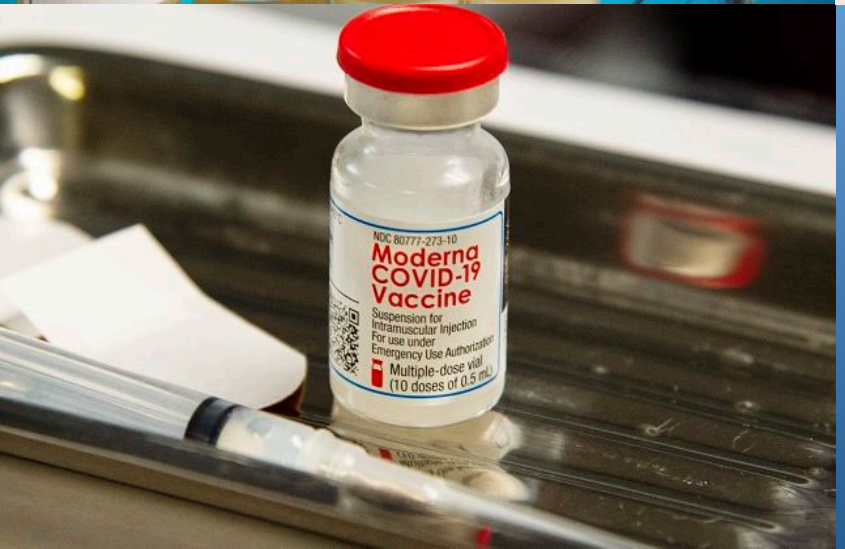
The New Tools






The Pharmacy Team

The Great Hope – The Vaccine



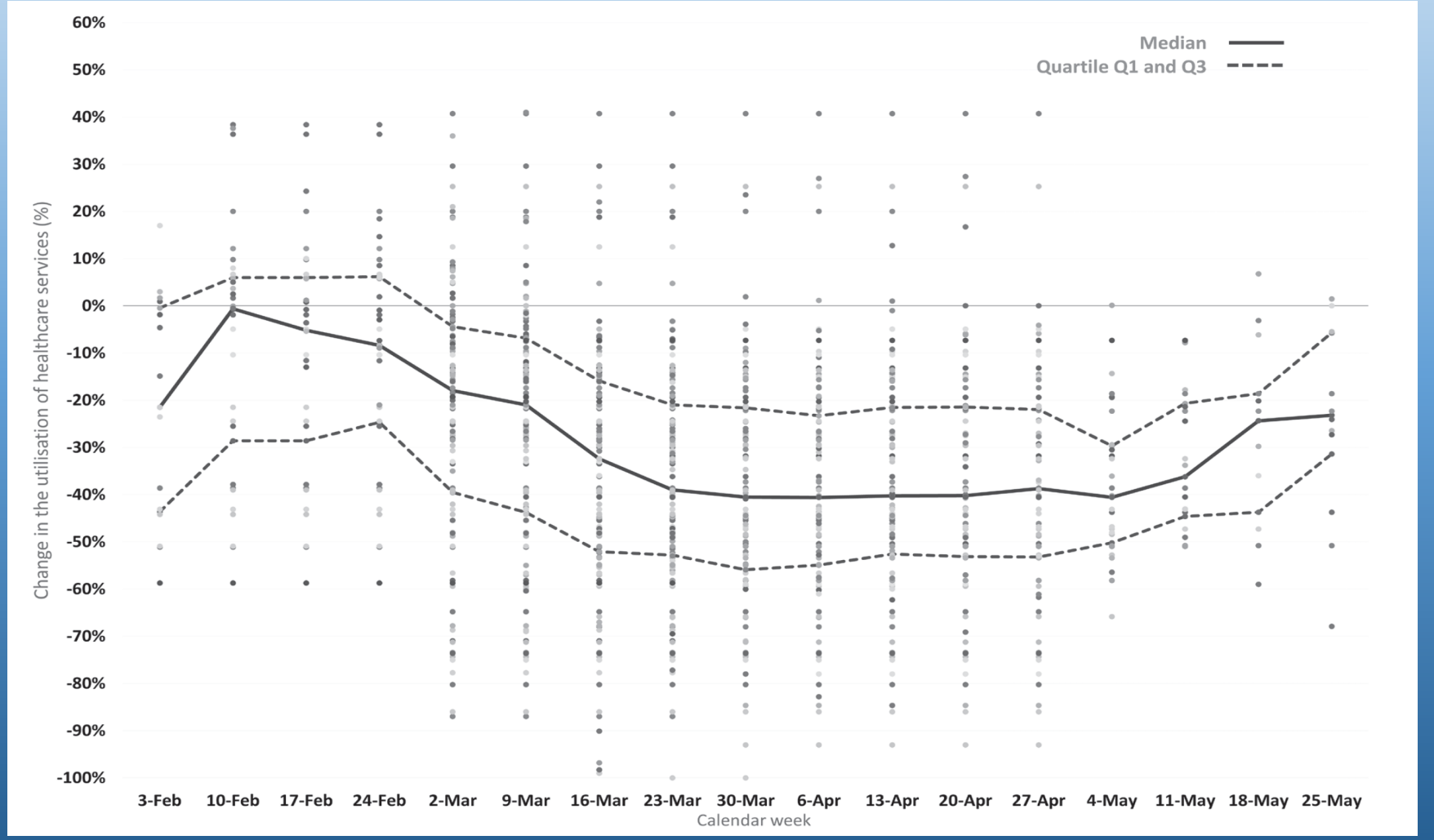
1. mRNA technology.
2. Over 90% effective.
3. Challenging logistics due to storage requirements.
4. Strict reporting necessary in state's ImmTrac2 system.

The Great Amarillo Collaboration

- Joint effort by the Amarillo City Hall, the Amarillo Public Health Department, the Regional Advisory Council, Texas Tech Health Sciences Center, Baptist St. Anthony's Hospital, Northwest Texas Healthcare System, and the Amarillo Veterans' Affairs Hospital.
- Weekly public press conference starting early March, 2020.
- Triweekly joint calls amongst all entities starting in October, 2020, for second surge.
- Shared resources amongst all entities including action plans, medications, antibody infusions, and vaccines.

How Did All of the Changes Necessary to Address the COVID Pandemic Effect the Care of Geriatric Oncology Patients?

Changes in Healthcare Utilization at the Start of the Pandemic



BMJ Open 2021;11

Changes in Healthcare Utilization at the Start of the Pandemic

Table 2 Median changes in utilisation across categories of healthcare services

Healthcare service	Number of estimates (number of studies)	Total volume of services (pandemic and comparator)	Median change (%)	IQR
Total	143 (81)	19 808 921 (P: 6 948 834; C: 11 102 936)	−37.2	−50.5% to −19.8%
Healthcare services categories*				
Visits	41 (33)	14 090 495 (P: 4 631 899; C: 7 723 639)	−42.3	−52.8% to −31.5%
Admissions	43 (32)	1 690 021 (P: 749 942; C: 939 737)	−28.4	−40.4% to −17.4%
Diagnostics	12 (7)	1 692 388 (P: 640 885; C: 1 051 503)	−31.4	−52.5% to −23.8%
Therapeutics	47 (28)	2 336 017 (P: 926 108; C: 1 388 057)	−29.6	−56.8% to −19.2%
Disease categories				
CVD	64 (33)	2 586 270 (P: 1 166 610; C: 1 400 041)	−29.3	−41.3% to −17.0%
Emergency services	17 (14)	10 572 517 (P: 3 252 399; C: 5 585 161)	−44.0	−48.0% to −31.5%
Study design and data				
Studies using time-trend data	13 (9)	6 263 331 (P 1 974 605; C: 3 425 412)	−37.3	−45.0% to −25.2%

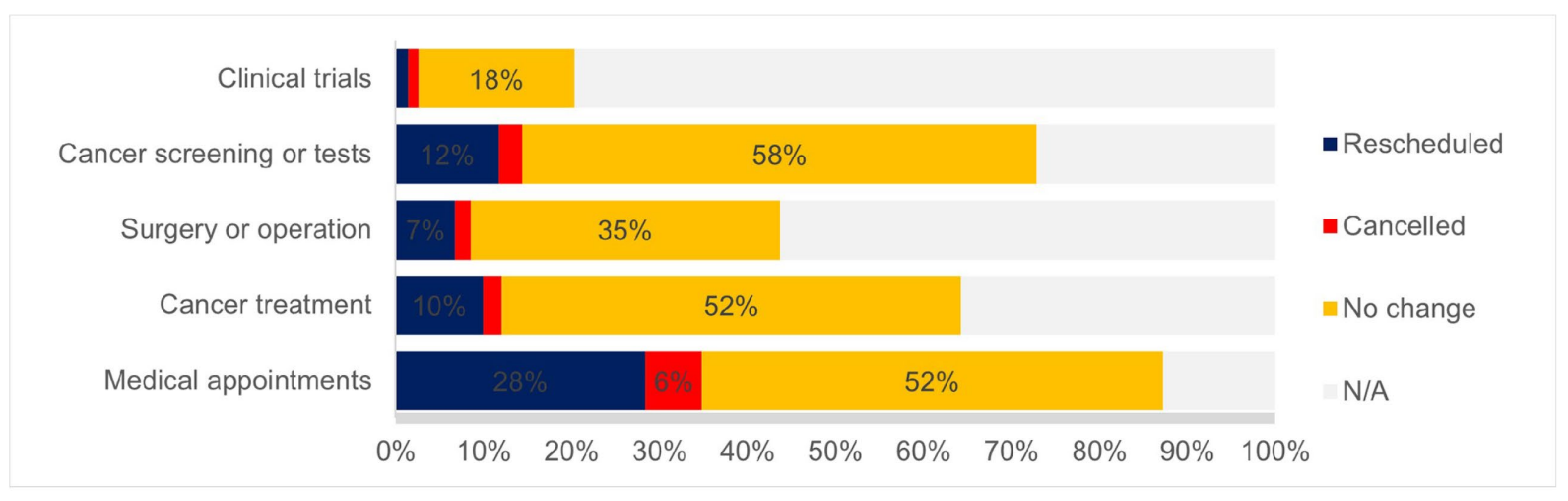
BMJ Open 2021;11

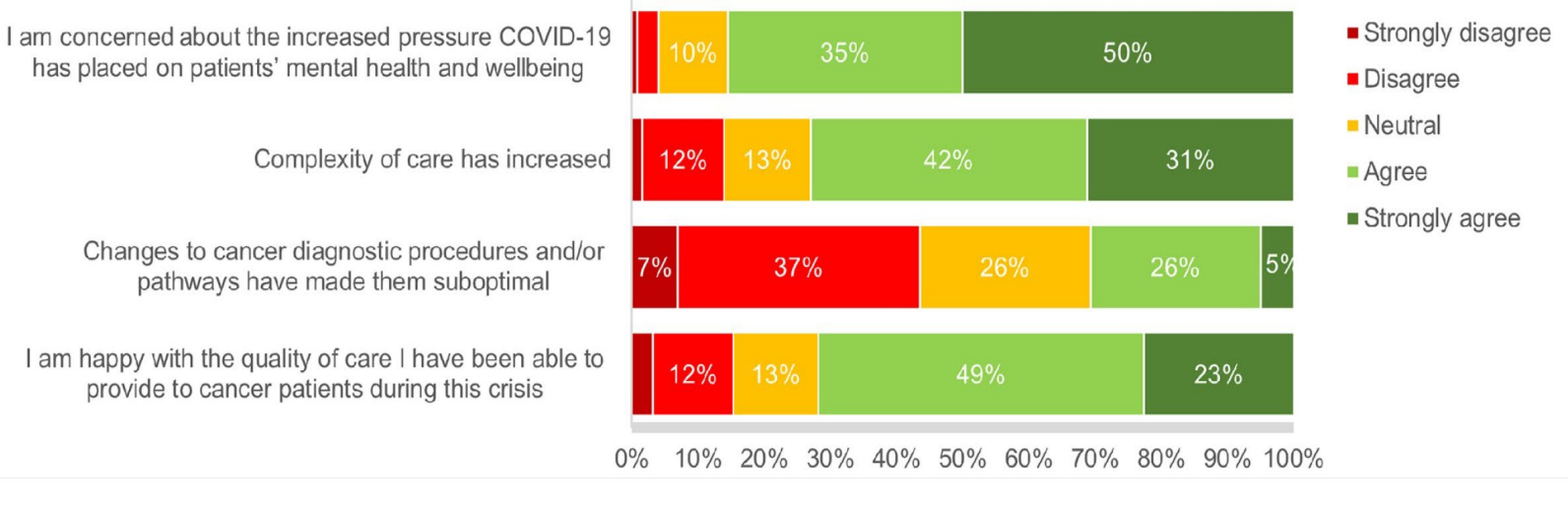
Impact of COVID Pandemic on Cancer Care

- Patients with cancer appear to be more vulnerable to worse outcomes including greater need for ventilator support.
- Diagnosis may be delayed as screening programs and diagnostic services have been decreased or suspended.
- Treatment pathways have been altered to minimize potential exposure of patients with cancer to COVID.
- Certain aspects of ongoing care have been deprioritized to enable health systems to respond to the COVID pandemic.
- Many clinical trials have been suspended.

Nature Cancer 2020;1

Alterations in the Treatment of Oncology Patients: Patient and Provider Opinions





PLOS ONE 2021:16

Telehealth: Oncology Patients' Opinions

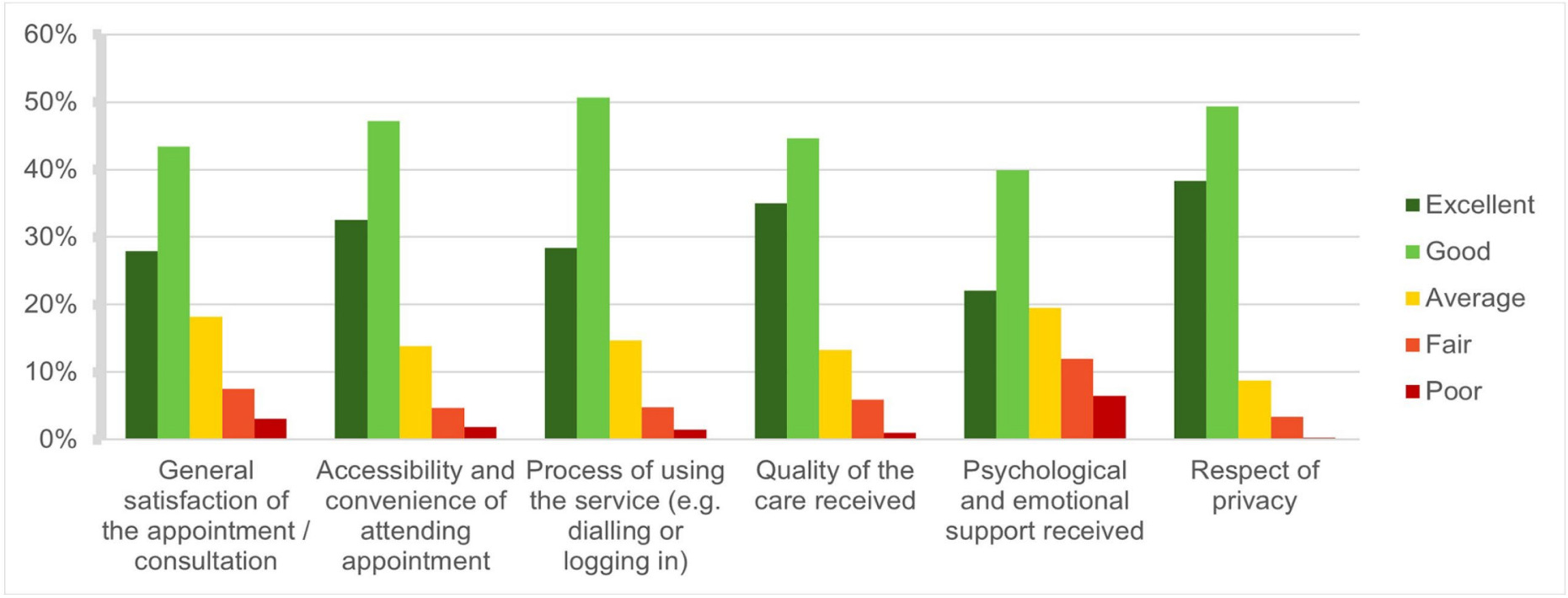
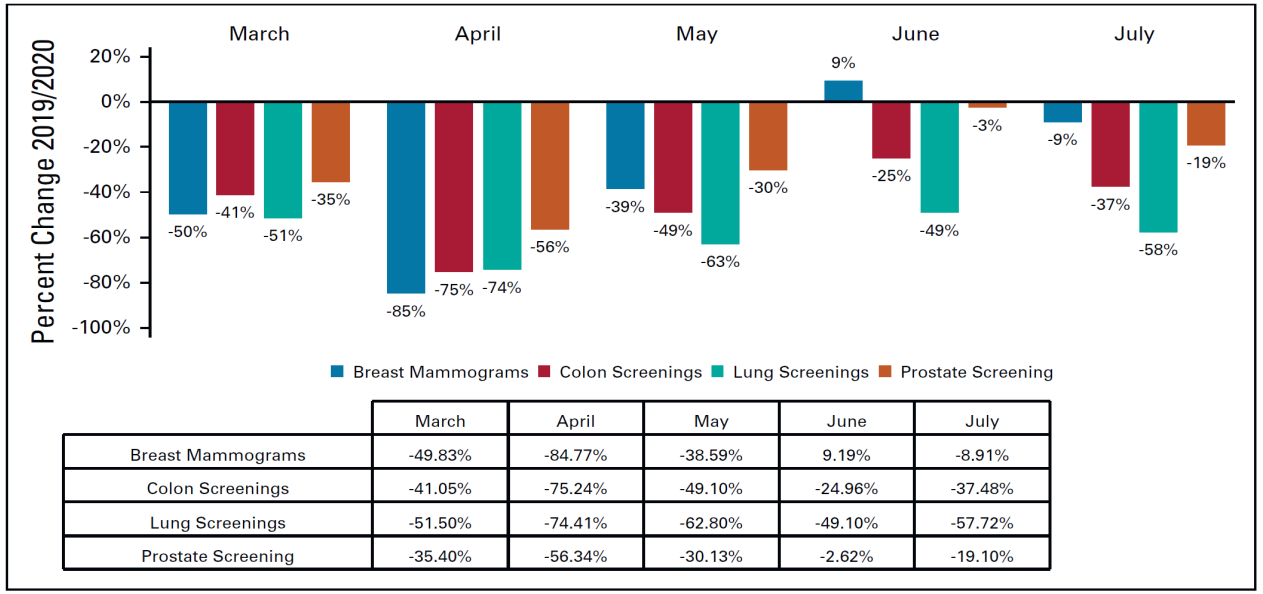


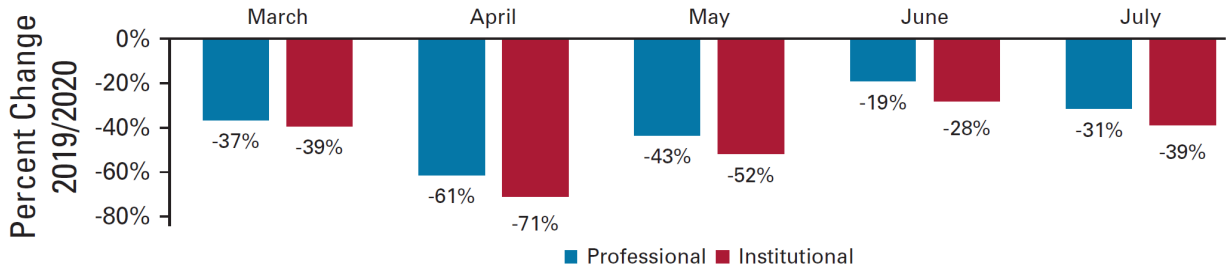
Fig 4. Experiences of telehealth for cancer patients and survivors during COVID-19*. Based on answers to the survey item: 'Please rate your overall experience of the telehealth services you received'. *N/A responses and missing data were excluded from percentage calculations.

PLOS ONE 2021:16

Pandemic-related Changes in Oncology Interventions by Screening Procedure and Institution



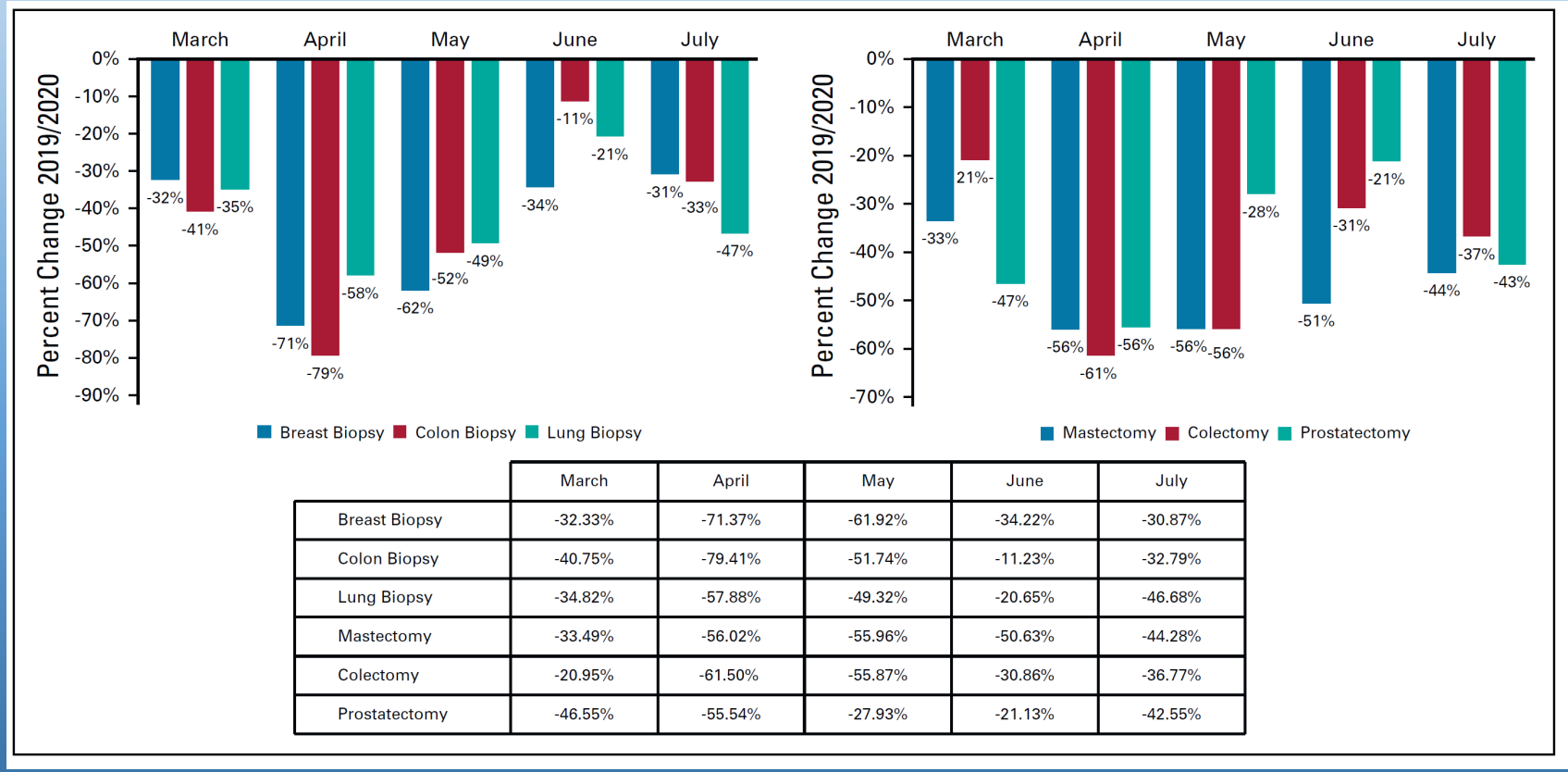
	March	April	May	June	July
Breast Mammograms	-49.83%	-84.77%	-38.59%	9.19%	-8.91%
Colon Screenings	-41.05%	-75.24%	-49.10%	-24.96%	-37.48%
Lung Screenings	-51.50%	-74.41%	-62.80%	-49.10%	-57.72%
Prostate Screening	-35.40%	-56.34%	-30.13%	-2.62%	-19.10%



	March	April	May	June	July
Professional	-36.53%	-61.33%	-43.39%	-19.21%	-31.43%
Institutional	-39.17%	-70.97%	-51.96%	-28.20%	-38.74%

Clinical Cancer Informatics 2020

Pandemic-related Changes in Oncology Interventions by Surgical Procedure



	March	April	May	June	July
Breast Biopsy	-32.33%	-71.37%	-61.92%	-34.22%	-30.87%
Colon Biopsy	-40.75%	-79.41%	-51.74%	-11.23%	-32.79%
Lung Biopsy	-34.82%	-57.88%	-49.32%	-20.65%	-46.68%
Mastectomy	-33.49%	-56.02%	-55.96%	-50.63%	-44.28%
Colectomy	-20.95%	-61.50%	-55.87%	-30.86%	-36.77%
Prostatectomy	-46.55%	-55.54%	-27.93%	-21.13%	-42.55%

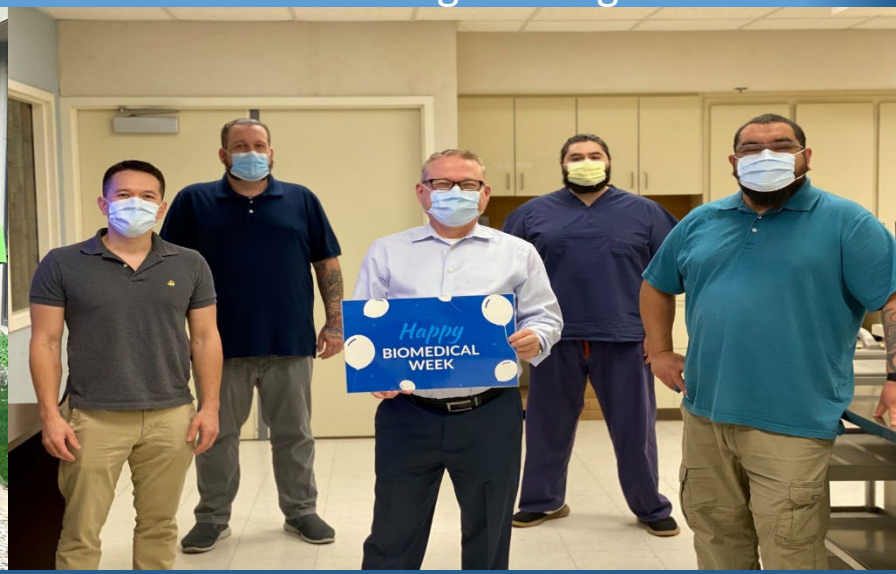
Clinical Cancer Informatics 2020

A Virus of a Different Sort

- Attack occurred in the early morning hours of Sunday, September 27.
- UHS turned off power to entire server grid within hours of recognition.
- 400 facilities affected across the U.S.
- Deemed largest malware attack in U.S. history.
- 1800 corporate servers had to be cleaned.
- 2000 computers at Northwest wiped back to operating system.
- Three weeks without access to Cerner EMR.
- 175 interfaces to be restored with the Cerner EMR.

Information Services Team

Biomedical Engineering Team



Final COVID Numbers at Northwest Texas

- COVID tests for PUI's – 52,339
- Confirmed Positive COVID cases – 12,536
- Confirmed Inpatient COVID cases – 2,863
- COVID- related Deaths - 426

Summary

- The COVID-19 pandemic affected every aspect of healthcare operations.
- Resources utilized for the treatment of patients with COVID limited those that could be appropriated for other patient populations of need such as Geriatric Oncology patients.
- The shortage of staff nurses presented the greatest challenge during the pandemic. Years will be needed to rebuild the complement of nurses necessary to adequately staff American healthcare facilities.
- Anxiety related to the virus was instrumental in many individuals delaying necessary screening or care as evidenced by the field of Geriatric Oncology.

Dedicated to the Heroes of the COVID-19 Pandemic