

only the credit commensurate with the extent

of their participation in the activity.

**PANEL DISCUSSION:** The U.S. Healthcare System Reemergence from COVID-19:

'Strategies from the Storm'

### The U.S. Healthcare System Reemergence from COVID 19: Strategies from the Storm

This 90-minute interactive panel discussion will offer a multidisciplinary (medical, dental, veterinary, administrative) perspective of the COVID-19 pandemic experience in the US Healthcare System. Specifically, this panel will address necessary adaptations, rapid cycle implementation of change, and financial recovery strategies that are needed for the U.S. Healthcare System to re-emerge from the pandemic. Format: Each of the 5 speakers will offer a 10-minute summary of experience, followed by a 40-minute guided question and answer session with planned and unplanned audience questions.

- Joseph Mastroianni, VMD '14, Veterinarian, Wallenpaupack Veterinary Clinic. Wallenpaupack, PA
- Thomas Langan, Jr DMD, MS '09, Periodontist, Perio Health and Dental Implants, President, Scranton District Dental Society, Scranton, PA.
- Christopher A. Jones, MD, MBA, HMDC, FAAHPM, Director of Outpatient Palliative Care, Duke Health, Durham, NC.
- Pam Taffera-Deihl, '02, DO, MBA, Hospitalist and System Medical Director, Patient Logistics and Transfer Center, WellSpan Health, York, PA.
- Melissa Edwards, MD MHA '20, MD Surgical Chief Medical Officer, Oregon Network Peace Health, Eugene, Oregon.

### The U.S. Healthcare System's Reemergence from COVID 19: Strategies from the Storm

- 1. Compare and contrast the effects of the COVID-19 pandemic across various healthcare domains and settings with an understanding of the healthcare landscape before, during, and after COVID-19.
- 2. Describe health systems' initial and subsequent responses to the financial stresses of COVID 19 from the initial spring surge, fall resurgence, and predictive modeling.
- Evaluate and understand 4 changes in the healthcare landscape resultant from the pandemic response
  - a. Interruption in chronic care resulting in increased preventable mortality and increased acute care hospitalizations
  - b. Application of technology and leverage of alternate models of healthcare such a Hospital at Home, Remote Patient Monitoring, Virtual and Telehealth.
  - c. Adaptation of healthcare environments to optimize safe and high-quality care via advancements in systemness.
  - d. Acceleration of the transition from fee for service to value-based care
- Professional Practice Gap: All healthcare domains across the country and world have been challenged to demonstrate financial and competitive recovery from the ongoing pandemic, with a continued dedication to quality of care, safety of care, and patient experience. Many health care systems and practices remain in a reactive instead of proactive approach to the business of healthcare, limiting adaptability in a volatile healthcare market. Additionally, this recovery comes at a time when accelerating the path from fee-for-service to value-based care is critical to the success of any health care institution. This 90-minute panel discussion will demonstrate lessons learned thus far and make suggestions based on experience and successes.
- Educational Need: Survival of the United States healthcare system relies on adaptability, innovative approaches to technology, decreasing the cognitive load while leveraging the humanity of care teams in order to improve patient care, quality, safety, and experience. This panel discussion will offer transparent experiences and lessons surrounding successes and opportunities across the nation and across professional specialties (veterinary, dental, medical) will offer the audience information and understanding required to become more nimble in continuous improvement and recovery from COVID-19.
- <u>Desired results:</u> At the end of this 90-minute session, participants will return to their professional practice equipped with ideas, plans, and tools that will improve their teams' abilities to recover and thrive in the post-global pandemic era. They will understand the effects of the COVID-19 pandemic on their domain of healthcare, understand the gaps in the US healthcare system preand post- pandemic, which will allow them to improve their success in financial recovery and healthcare delivery in 2021 and beyond.

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### Early Pandemic:

- Severe PPE shortages
  - Cessation of all non-urgent surgical cases
  - Usual supply chains closed impacting primarily masks, gowns, and gloves
- Routine screening exams deferred
  - Well-woman exams cancelled
  - Screening mammogram units closed
- Guest Policies
  - Family members/Friends not allowed at office or hospital visits
  - No guests allowed for surgical patients; one support person allowed for labor and delivery
- Widespread confusion
  - Masking guidelines
  - Droplet vs. Aerosol precautions
  - Screening signs, symptoms, temperature monitoring
- Business impacts
  - Employees lay-offs, furloughs, PPP loan
  - Work-from-home options
  - Telehealth

### Early-mid Pandemic:

- ▶ 8-12 Weeks
  - Return to elective surgical cases
  - Resumption of preventive visits and screening exams
  - Reduced office capacity, extended hours to accommodate scheduling backlog of patients
  - Universal masking, social distancing, extensive screening/cleaning protocols
  - Increased supply shortages, extending beyond PPE to basic supplies
  - Staffing concerns employees afraid to return, making more \$ staying home, lack of childcare options

### Mid Pandemic:

- ▶ 3-9 months
  - Sense of "normalcy" set in but emotional strain evident patients, staff, providers, executives
  - Ongoing supply shortage
  - Increasing polarization re: masks and forthcoming vaccines
  - Economic impact less dramatic than initially feared, but overhead expense remained well above historical norms due to increased screening/cleaning protocols, staff shortages resulting in more over-time for others, supply chain challenges; volume gradually returning to normal levels

### Current – Ambulatory setting:

- Vaccinations
  - >85% of employees vaccinated
  - ▶ 70% of eligible residents of the state vaccinated
  - Those unvaccinated remain deeply opposed
- Visitor restrictions currently under review
- Telehealth and Work From Home remain in place
- New supply chain issues emerge regularly
- Staffing remains challenging lack of qualified certified medical assistants primary concern
- All services back on-line, patients increasingly comfortable returning for routine care
  - Many reporting increased weight and blood pressure
  - More pervasive symptoms of depression and anxiety
  - Increased used of alcohol
  - Behavioral health resources at capacity or beyond

## Current – Hospital setting:

- Hospitals throughout the state and region routinely at capacity prior to increase in COVID cases
  - New or worsening chronic disease related to increased use of tobacco and alcohol, reduction in exercise and other positive health behaviors
  - Increased higher risk activities as states reopen
  - Return to elective procedures
- COVID rates on the rise since mid July
  - Profound staffing challenges
  - Hospital Capacity stretched to the limit
  - ▶ Elective surgeries and regional transfers again at risk of limitations
- Outbreaks reports in hospitals amongst unvaccinated patients and staff
  - Oregon state statute prevents healthcare employers from requiring vaccination
  - Unvaccinated employees subjected to increased PPE requirements

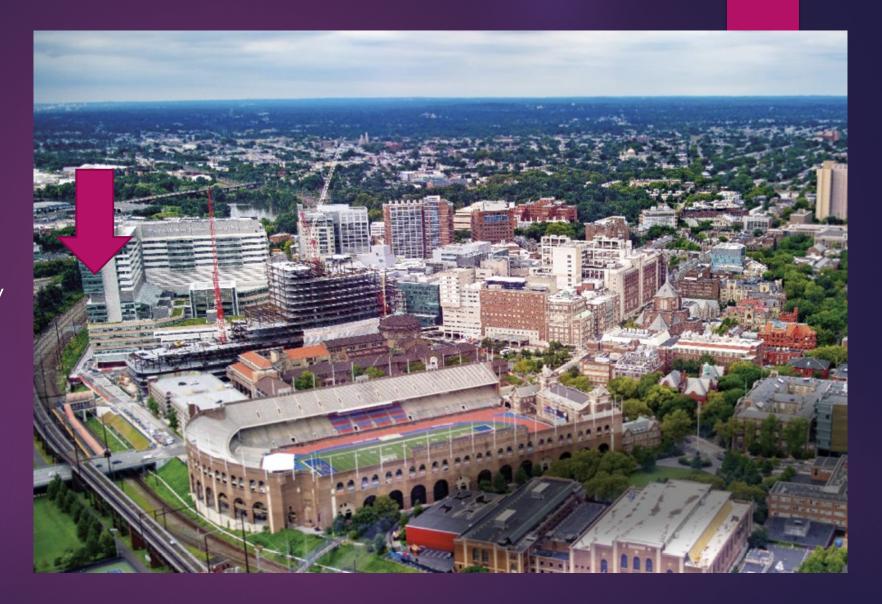
### Personal:

- Challenges
  - "Non-essential" worker
  - Separation from co-workers and patients
  - Separation from family and friends
  - Lack of access to yoga studio, other stress-management strategies
- Silver Linings
  - Time to complete final term of MHA program
  - Slowed pace of life allowed space for personal reflection and time to care for my ailing mother
  - New opportunities for leadership
  - Renewed sense of purpose

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DIRECTOR OF OUTPATIENT PALLIATIVE CARE
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### Before:

- PennMedicine
- 8 Non-Onc Pall Care Clinics opened 9/2019
- My office at blue arrow



### After:

- PennMedicine
- 8 Telemed Non-Onc PalCare Clinics
- OccMed doc for 1500 PennMed at Home employees
- My office at blue arrow



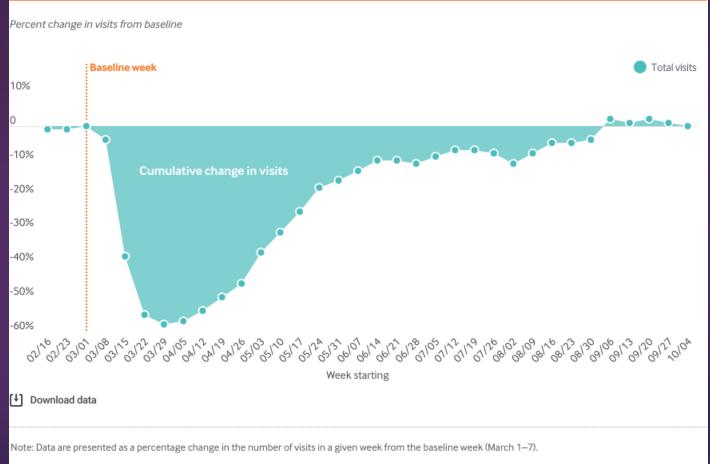
### Our Life:

- Wife working in DR
- Will age 6 Zoom school
- Cameron age 1.5
- Daphne asleep
- Daycare \$2500/mo but closed
- Paying furloughed daycare teacher \$15/h 20h/wk



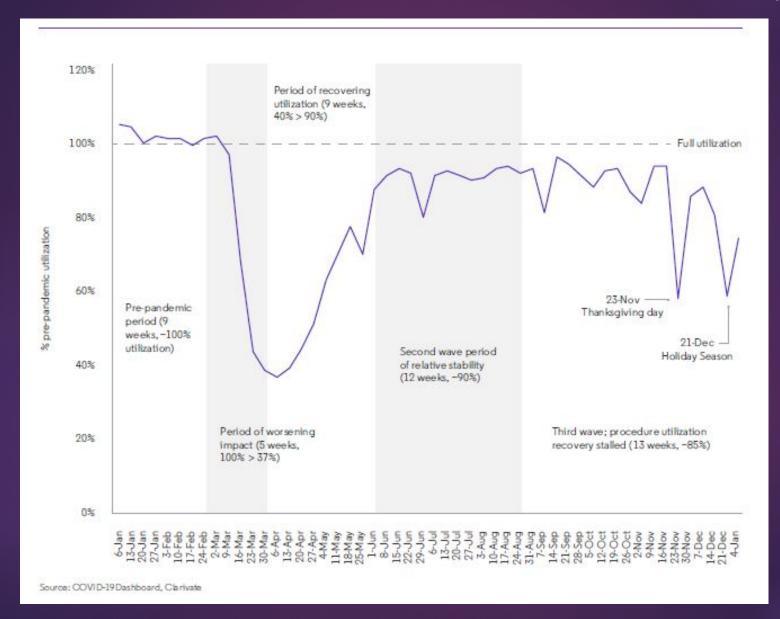
### COVID in Outpatient Medicine (Mar-Oct 2020)

Visits to ambulatory providers fell nearly 60 percent by early April. Since then visits have rebounded, returning in the past month to prepandemic levels.



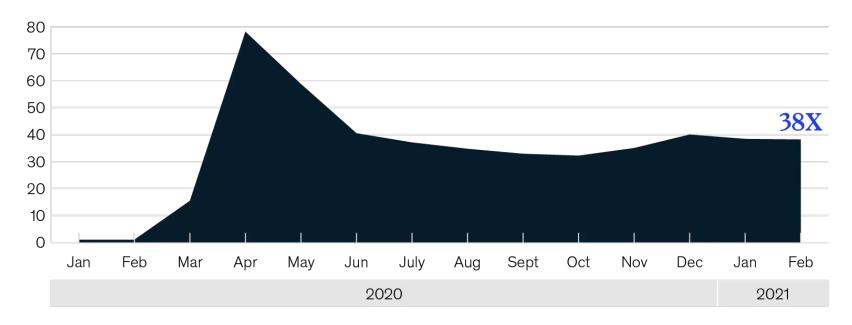
Source: Ateev Mehrotra et al., The Impact of the COVID-19 Pandemic on Outpatient Care: Visits Return to Prepandemic Levels, but Not for All Providers and Patients (Commonwealth Fund, Oct. 2020). https://doi.org/10.26099/41xy-9m57

### COVID in Procedure Utilization (2020-2021)



### Growth in telehealth usage peaked during April 2020 but has since stabilized.

Telehealth claims volumes, compared to pre-Covid-19 levels (February 2020 = 1)<sup>1</sup>



<sup>&</sup>lt;sup>1</sup> Includes cardiology, dental/oral, dermatology, endocrinology, ENT medicine, gastroenterology, general medicine, general surgery, gynecology, hematology, infectious diseases, neonatal, nephrology, neurological medicine, neurosurgery, oncology, ophthalmology, orthopedic surgery, poisoning/drug tox./comp. of TX, psychiatry, pulmonary medicine, rheumatology, substance use disorder treatment, urology. Also includes only evaluation and management visits; excludes emergency department, hospital inpatient, and physiatry inpatient claims; excludes certain low-volume specialties.

Source: Compile database; McKinsey analysis

McKinsey & Company

## Post-COVID Outpatient Care:

- Telemedicine here to stay
- E-consults
- Hospital at home

"Distributed care"

### Post-COVID Outpatient Care:

- ► Telemedicine here to stay
- E-consults
- Hospital at home
- Telemedicine AGAIN
- Connected tech/health coach

"Distributed care"

"Digitalized care"

### Post-COVID Outpatient Care

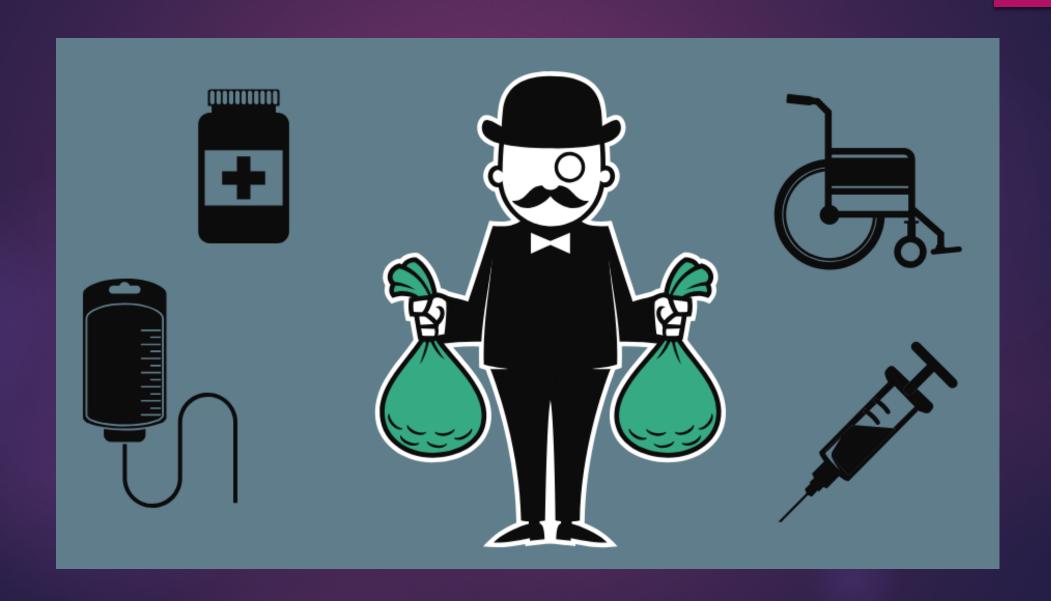
- Telemedicine here to stay
- E-consults
- Hospital at home
- Telemedicine AGAIN
- Connected tech/health coach
- Fewer rules?
- More decisions @ the local level

Distributed care

Digitalized care

Decentralized care

## Biggest Risk to the Optimistic Future:

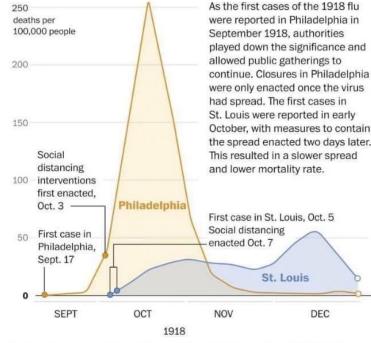


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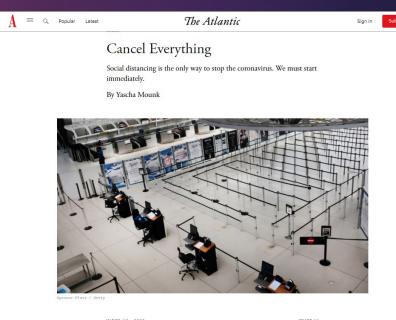
- Pre-Game
- Spring 2020: Cancel Everything. Flatten the Curve!
- Summer 2020: Halftime w/ special guest star: The Murder Hornets
- Fall/Winter 2020: The Surge-featuring: Pfizer, Moderna, J&J
- Winter/Spring 2021: The Third Wave-Financial Recovery
- Summer 2021: Denial & Feigning Normalcy
- Fall 2021: Delta

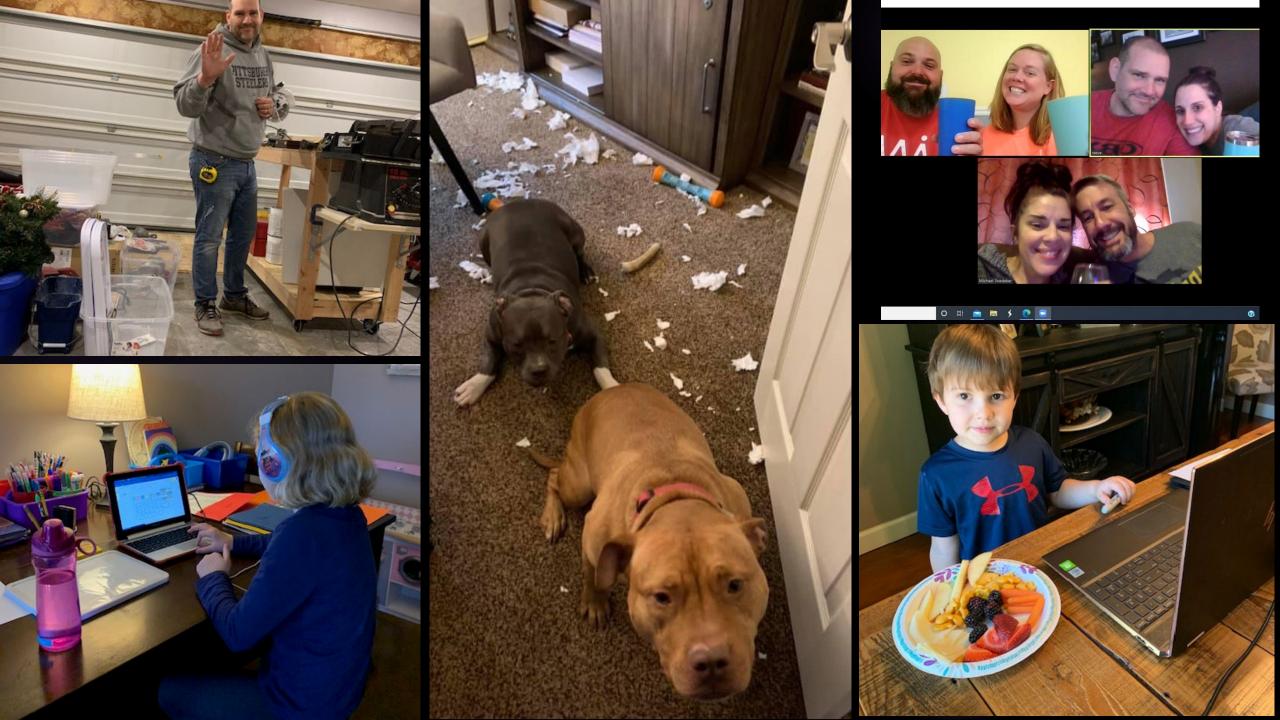
### Effects of social distancing on 1918 flu deaths



Sources: "Public health interventions and epidemic intensity during the 1918 influenza pandemic" by Richard J. Hatchett, Carter E. Mecher, Marc Lipsitch, Proceedings of the National Academy of Sciences May, 2007. Data derived from "Public health interventions and epidemic intensity during the 1918 influenza pandemic" by Richard J. Hatchett, Carter E. Mecher, Marc Lipsitch, Proceedings of the National Academy of Sciences May, 2007.









### INCIDENT COMMAND:

- Masks. Wait, no masks. Wait, masks, but not cloth. Surgical Masks. OK, any mask. But not N95s. But wear those for 12 hours. We'll let them sunbathe.
- ► Goggles. Sometimes. I mean, if you are near patients. Or people. Actually, yeah, all the time.
- Cancel everything. Wait, don't cancel anything.
- PPE: Don/Doff. But not like that.
- Big particles, little particles, dwell times, isolation
- PCR and AB testing
- ▶ PODS: V-day
- Oxygen. Some hypoxia. No hypoxia. Vent early. Don't vent! Share the vent?



Figure 2. Therapeutic Management of Hospitalized Adults With COVID-19 Based on Disease Severity

### **DISEASE SEVERITY**

### PANEL'S RECOMMENDATIONS

Hospitalized but Does Not Require Supplemental Oxygen

The Panel recommends against the use of dexamethasone (Alla) or other corticosteroids (AllI).<sup>a</sup>

There is insufficient evidence to recommend either for or against the routine use of remdesivir. For patients at high risk of disease progression, remdesivir may be appropriate.

Hospitalized and Requires Supplemental Oxygen Use one of the following options:

- Remdesivir<sup>b</sup> (e.g., for patients who require minimal supplemental oxygen) (Blla)
- Dexamethasone plus remdesivir<sup>b</sup> (e.g., for patients who require increasing amounts of supplemental oxygen) (BIII)
- **Dexamethasone** (when combination with remdesivir cannot be used or is not available) **(BI)**

Hospitalized and Requires
Oxygen Delivery Through a
High-Flow Device or Noninvasive
Ventilation

Use one of the following options:

- Dexamethasone (AI)
- Dexamethasone plus remdesivir<sup>b</sup> (BIII)

For recently hospitalized<sup>c</sup> patients with rapidly increasing oxygen needs and systemic inflammation:

- Add either baricitinib (Blla) or IV tocilizumab (Blla) to one of the two options above<sup>d</sup>
- If neither baricitinib nor IV tocilizumab is available or feasible to use, tofacitinib can be used instead of baricitinib (Blla) or IV sarilumab can be used instead of IV tocilizumab (Blla).

Hospitalized and Requires IMV or ECMO

Dexamethasone (AI)

For patients who are within 24 hours of admission to the ICU:

- Dexamethasone plus IV tocilizumab (BIIa)
- If IV tocilizumab is not available or not feasible to use, IV sarilumab can be used (BIIa).

Rating of Recommendations: A = Strong; B = Moderate; C = Optional

Rating of Evidence: I = One or more randomized trials without major limitations; IIa = Other randomized trials or subgroup analyses of randomized trials; IIb = Nonrandomized trials or observational cohort studies; III = Expert opinion

- <sup>a</sup> Corticosteroids prescribed for an underlying condition should be continued.
- <sup>b</sup> If patients progress to requiring high-flow oxygen, noninvasive ventilation, mechanical ventilation, or ECMO, complete remdesivir course.
- <sup>c</sup> For example, within 3 days of hospital admission.
- d Drugs are listed alphabetically and not in order of preference. As there are no studies directly comparing baricitinib and tocilizumab for treatment of COVID-19, there is insufficient evidence to recommend one drug over the other. Treatment decisions should be

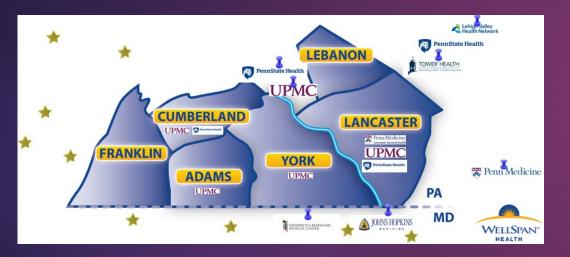
# Inpatient Care of COVID

- Very bad, Do not recommend
- \*\*\*
- Oxygen, Steroids, Remdesivir
- Convalescent Plasma?
- Baricitnib/Tofacitinib
- Proning
- ► ECMO
- Most important part of inpatient care: Clarity
- Prevention: Masks, Social Distance, Vaccines, MAB if + with mild symptoms

### Health System Considerations:

- Standards of Care:
  - Conventional: Licensed
  - ► Contingency: Flex
  - Crisis: Surge/Disaster
- Predictive Modeling
- Surgical Draw Down/Ramp Up
- Vaccine Strategy
- Staffing
- \*\*\*Pediatric Crisis Strategy





HOCS:										
HOCS GREEN: <86%	HOCS YELLOW: 86-<98%	HOCS ORANGE: 98-<103%	HOCS RED: 103-<110%	HOCS BLACK: = or >110%						
RN STAFFING:										
Med Surg/ICU 95-100% staffed	Med Surg/ICU 90- <95% staffed	Med Surg/ICU 85- <90% staffed	Med Surg/ICU 80- <85% staffed	Med Surg/ICU <80% staffed						
(Vacancy is <5%)	(Vacancy is 5-<10%)	(Vacancy is 10-<15%)	(Vacancy 15-<20%)	(Vacancy = or > 20%)						
ED Boarders:										
D-<5% current ED pts  [Zero/minimal patients in waiting room]  Definitions:  Pending admission: patient with admission orders but no bed assigned  Boarder: patient with admission order x 4 hours with no bed assigned	5-<10% current ED patients: (Minimal patients in waiting room with minimal times)	10-<15% current ED patients: (Moderate # patients in waiting room, increasing wait times)	15-<20% current ED patients: (Severe backlog in waiting room)	20%+ current ED patients: (Severe backlog in waiting room)						
NEDOCS:										
NEDOCS: 0-60  www.nedocs.org  Data points:  # ED patients, # Total ED beds  # Inpatients (or observation)-patients with an admission order, but no bed assigned  # Critical Patients/ICU (+/- vent)  Last door-bed time in hh:mm  Longest pending bed assignment in hh:mm	NEDOCS:61-100	NEDOCS:101-140	NEDOCS: 141-180	NEDOCS: >180						
Divert Status Guidance: (Taking all above										
ED: NO     Critical Care: NO     Transfer:     WellSpan Entity: NO Outside Hospital: NO	ED: NO     Critical Care: NO     Transfer:     WellSpan Entity: NO     Outside Hospital: NO	ED: NO     Critical Care: AOC     Huddle     Transfer:     WellSpan Entity: AOC Huddle     Outside Hospital: AOC Huddle	ED: YES     Critical Care: YES     Transfer:     WellSpan Entity: YES     Outside Hospital: YES	ED: YES     Critical Care: YES     Transfer:     WellSpan Entity: YES     Outside Hospital: YES						
System Logistics Transfer Guidance:										
HOCS GREEN: <85%  Transfer Guidance:  Physician Consult if:  -Transfer request is for capacity management (lateral)  -Patient is COVID +  -5% or greater of ED volume is ED BOARDERS (= or > 4 hours) with continued bed placement barriers  -N.B.: WellSpan entities are given priority for transfer, but it is recommended that all hospitals use a	HOCS YELLOW: 86-97%  Transfer Guidance: Physician Consult if: -Transfer request is for ANY ICU level care -All of GREEN level recommendations.	HOCS ORANGE: 98-102%  Transfer Guidance: Physician Consult if: -Transfer request is for ANY ICU level care -All of GREEN and YELLOW level recommendationsIf CRITICAL CARE DIVERT or TRANSFER DIVERT is initiated by AOC,	HOCS RED: 103-109%  Transfer Guidance: -All of GREEN, YELLOW, ORANGE level recommendationsAll transfer requests are vetted through physician consultantMaintain situational awareness of:  Lateral v higher level care request	HOCS BLACK: = or >110%  Transfer Guidance: -All of GREEN, YELLOW, ORANGE, RED level recommendationsAll transfer requests are vetted through physician consultant. Maintain situational awareness of:  Lateral v higher level care request						

н	16.5	GR	FFI	M:	<85

- but it is recommended that all hospitals use a geographic regional approach to transferring patients, especially when transferring for capacity constraint instead of higher level of care.
- -PA and MD Regional Logistics Directory Tool available for reference and support.

RANSFER DIVERT is initiated by AOC, physician consult required for all transfer requests.

-Maintain situational awareness of:

- Lateral v higher level care request
- % ED Boarders
- ICU v MS bed/staffing constraints
- COVID+ v nonCOVID staffing constraints

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- . COVID+ v nonCOVID staffing constraints

- % ED Boarders
- · ICU v MS bed/staffing constraints
- COVID+ v nonCOVID staffing constraints

The secret is to not allow the fact that you can't do everything keep you from doing something.

Something, then rest.

Something, then rest.

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## Early Pandemic Dental Treatment

- →March 23, 2020 dentistry shut down without OR negative pressure room.
- Emergency care only
  - Vague due to the nature of dental treatment
  - Non-aerosol producing procedures permitted
- New guidelines for how to safely treat patients, most already being used in dentistry daily
- **←**Lack of PPE
  - ▶ Shortages for dentists of N95/surgical masks, gloves, gowns
- Managing Patients with true emergencies, keeping patients out of the ER
- Maintenance/cleaning visits postponed
- Staying at home, researching, trying to understand how best to treat patients and continue working safely
  - ▶ The SDDS had set up weekly CE courses, and meetings to inform dentists of updates on the new regulations, and how to navigate these changing times



### Early Pandemic Dental Treatment

- Early on everything was new and not enough was known about the virus
- Tried to follow the science and keep informed about how to stay safe
  - ▶ PPE: gowns, N95 masks, surgical caps
  - Changing in the garage when arriving home, showering immediately
- Keeping patients, and family safe took precedence
- Over the phone and in office screening completed for every patient
- Going in to work infrequently, and at a moments notice
- Mentally dealing with a complete change in work and social life
- → Making the most of the time, rather than squandering months of 2020.
  - ▶ Had to be proactive while we waited to return to treating patients

### Returning to "Normal" Dental Work

- ◆June 2020 return to the office for all dental care
  - Changes had been made in all offices to provide a safer environment
- Patients oral care had deteriorated, leaving an abundance of dental problems
  - Dental hygiene suffered, patients requiring treatment had to put it off for months.
- Patients were fearful to come to dental offices, and had anxiety about the pandemic as a whole
  - Dentist and patient education on COVID was at the forefront
  - Determining when to treat a patient who had COVID
- Managing not only dental issues, but other medical issues, and mental health issues
- Some were completely isolated and the dental visit was the only social interaction these people had experienced for months

## Multidisciplinary Care

- After returning to the office, care for patients had shifted
  - Dentistry always had a whole patient approach, but patient's needs were not being met in other areas
- Patients were cautious about most medical/dental visits, so there was more management and referrals of patients to other fields
- Anxiety and mental health issues were at the forefront
  - Referrals to the appropriate field were made
  - Taking time to talk to your patient, and listen to their struggles was the most important
- People had lost their jobs, social lives, and were unable to see their friends and families for months
- Loneliness and fear were constantly being brought up by most patients
  - Longing for a return to normal



### Dentists Coming Together

- Everything had changed overnight, and continued to change daily
- The local, state, and national dentist societies brought dentists as a community together
- SDDS Offered free CE courses almost weekly via ZOOM
- Weekly ZOOM meetings were given on the state and national updates for dental practices
- Calls were made and letters sent to state representatives, explaining the science of safe dental practices, and how were could aid in caring for patients
  - Keeping patients out of the ER was paramount, and dentists had volunteered to provide and administer the vaccines
- Dentists alone could not steer their practices, but as a group we formed a common pathway

## Practicing During the Pandemic

- Practice continues to change regularly as the pandemic progresses
- There was, and continues to be a backlog of patients
  - Practices are very busy, trying to serve and treat their communities
- Finding dental staff(assistants, hygienists, support staff) has become very difficult
  - Most practices are working short handed
- Managing a larger number of patients, with increased sterilization/room turnover techniques, and being short staffed has been difficult
- Dental societies have been aiming to have in-person meetings, only to have them postponed time and time again

### Personal Experiences

- Many events, lectures, trips were postponed
- ◆Unable to see friends and family, especially early on during the pandemic
- Our son was 9 months old when the pandemic began
  - ▶ Felt locked in our house, taking all the precautions to keep safe
- →Had my family visit through the window, or extreme distancing outside weather permitting
- →My brother and his wife had premature twins, out of town April 5, 2020
  - They lived in a dorm room on the hospital campus, she delivered on a floor with COVID positive patients
  - Did not get to meet the twins for 50 days, they lived alone, away from home and their girls
- ◆There were some positives
  - ▶ Able to spend 6-8 weeks mostly home with just my family
  - ▶ Treated the time as a paternity leave
- My wife is an optometrist, also close proximity to patients, dealing with similar challenges



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VETERINARIAN, WALLENPAUPACK VETERINARY CLINIC.
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## Early Pandemic Days

- Wednesday, March 11th sailing home to a new world
- Monday, March 16th cancel elective procedures
- Friday, March 20th curbside transition
- Tuesday, April 28th resume elective procedures with best judgment

### from then, to now



## Pet ownership during pandemic

### an industry explosion

- Relocation
  - ► large migration of families out of cities into summer/vacation homes
- New pets/adoptions
  - people waiting to adopt pets found they had more time at the start of pandemic
- New clients seeking care elsewhere
  - staff and scheduling limitations forcing people to seek care at new facilities

### Interruptions in chronic & routine care

### for the new and the old

- New puppies and kittens, tight vaccination schedule (q2-4 weeks)
  - delay in adult patient vaccinations to preserve supplies
- Stable vs. dynamic/progressive chronic diseases
  - atopy, endocrinopathy, cardiomyopathy
    - what do you prioritize?

### Preventive medicine

### Shorter lives mean shorter windows of intervention

- Ovariohysterectomy/Castration
  - define "elective"
  - mammary carcinoma relationship with estrus cycle
  - behavioral/training difficulties lead to abandonment
- Quickly aging animals, months matter!

## Referral/Emergency Medicine

### breakdown in chain of care

- Over-scheduled primary care offices led to spike in cases at emergency facilities, for oftentimes non-emergent cases
- Primary care offices left to deal with critical care level patients with nowhere to go
- Ventilators large specialty hospitals donated veterinary ventilators to overwhelmed human hospitals in metropolitan areas
- Case: Finley, 9 year old FS Doberman
  - perforating intestinal foreign body (stick) with septic peritonitis
  - resection and anastomosis



### Telemedicine

### A distinct difference from human medicine

- relies heavily on self-reporting symptoms
- symptoms in pets are often vague and non-specific
  - misdiagnosis in few circumstances compromises patient safety, and is potentially fatal
    - e.g. the inappetent, vomiting cat

### What have we learned?

- Advancements in patient care potential, but fragile infrastructure
- Reminder that good medicine isn't enough without good client communication and setting expectations