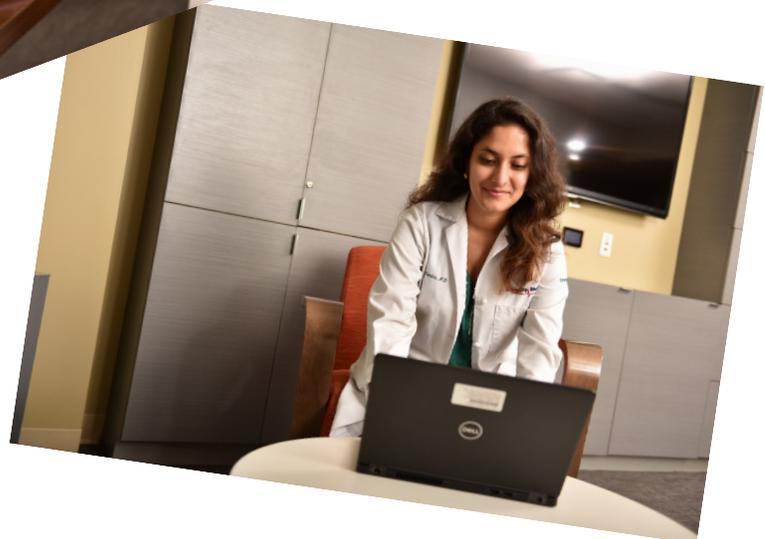


American College of Emergency Physicians

Section on Telehealth

Spring Newsletter 2021

**Voices from the Field**



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## A Letter from our Chair

Dear Section Members,

Welcome to our first newsletter of 2021.

It has been a life and career changing year within emergency medicine as well at telehealth.

As I look back at these changes over the last year, I have been thinking a lot about the digital divide and what that means. As emergency physicians, we are aware of the gaps in healthcare access as we see firsthand the failures of the system. The pandemic has only heightened both the disparities and our recognition of them. As the telehealth section, it is also clear that the lack of connectivity, devices and differences by geography, socioeconomic status, and virtual programs have created a larger digital divide that is now affecting healthcare. For this reason, connectivity will be considered critical to improve our ability to best serve our patients and system. It has become so crucial that even international organizations have recognized it as a necessary piece of the future of healthcare.

Here in our section, we will strive to create more tangible discussions for all of us in EM to improve what that means for our current and future practice. Our goals are to give you all more information on our website including research, articles and education materials. Our quarterly meetings will include a lecture on a telehealth topic and an open forum to discuss and share our work and experiences. Despite having to social distance, we can still share our work and aid each other to better improve all areas of the practice of acute virtual care.

Thank you all, I hope to see you all in person. Until then, my emails are always open for anything you may need or want to discuss.

Aditi U. Joshi MD, MSc, FACEP  
Chair, Telehealth Section

# Using Telehealth in Research: E-VICTORS

## Enhancing Rural Health via Cardiovascular Telehealth for Rural Patients

**From: Wake Forest Baptist Medical Center, Winston-Salem, NC**

**Author: Brett Dickens, MD, Simon A. Mahler MD, MS, FACEP**

Cardiovascular disease is the leading cause of death in the United States. Rural Americans are disproportionately affected by higher morbidity and mortality rates due to multiple factors, including older age, living in poverty, and higher rates of being uninsured and medically underserved. The team at Wake Forest University Health Sciences (WFUHS) is working to overcome these barriers in part through telehealth, providing support to enhance the level of care provided in rural North Carolina, specifically Wilkes County, NC.

Through a grant supported by Health Resources and Services Administration (HRSA), experts in emergency medicine and cardiovascular care at WFUHS will now be connecting directly via telehealth with patients being evaluated by Wilkes County Emergency Medical Services (WC-EMS), Wilkes Medical Center Emergency Department, and the Wilkes County Health Department Public Health Community Clinic (PHCC). This project aims to provide a sustainable model of high quality and cost-effective telemedicine in a rural setting that will safely decrease ED utilization and inter-facility transfers.

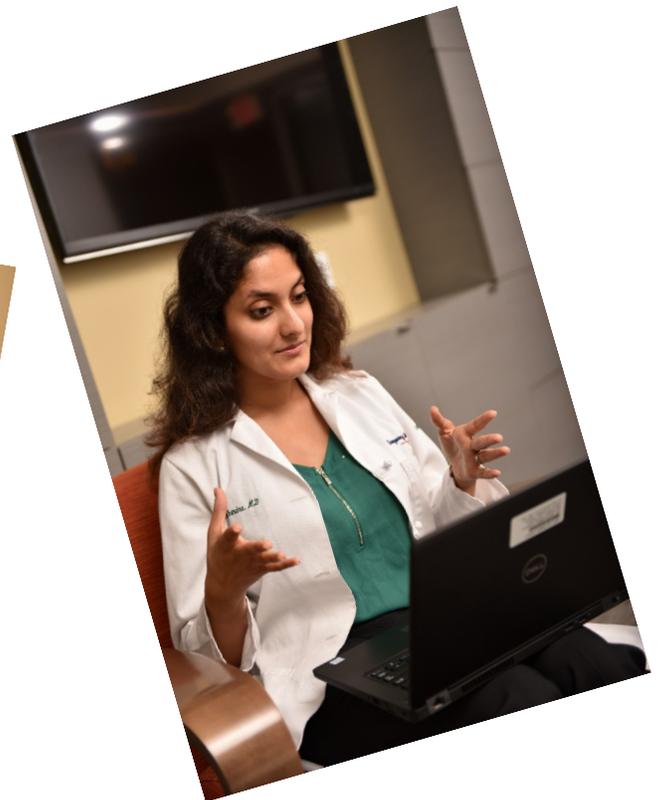
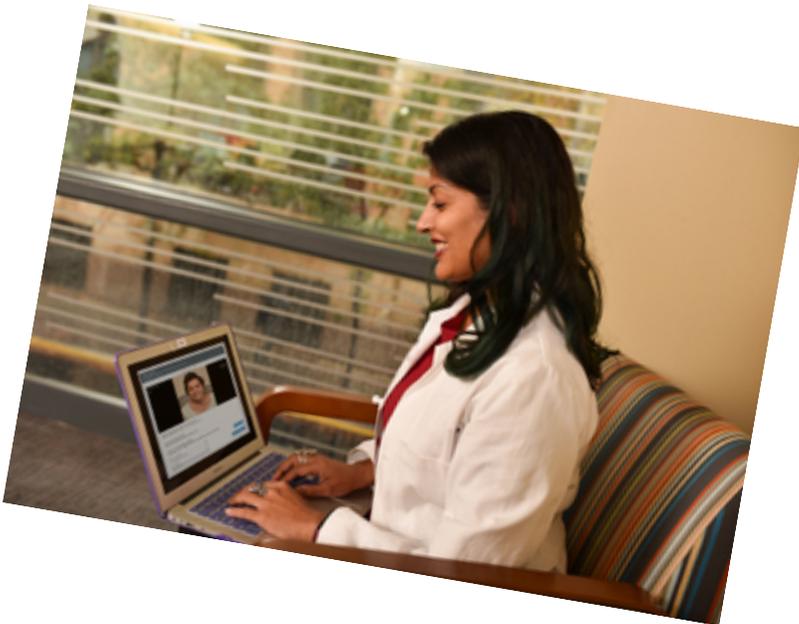
This novel program is designed to support patient care from the moment EMS arrives through their final disposition. Once EMS evaluates a patient with acute chest pain, our expert emergency physicians will connect with them using telehealth in the field to help determine their risk for acute coronary syndrome (ACS) and pulmonary embolism (PE) utilizing well validated tools such as the HEAR score and the Revised Geneva Score. Patients identified by the telehealth program as high risk for ACS or those with ischemic electrocardiograms will receive immediate transport to a tertiary care center.

This aims to speed care delivery to highest risk patients and avoid transfers from Wilkes Medical Center, which does not have cardiac catheterization capabilities. Patients who are identified as very low risk for ACS and PE and who are otherwise stable, may be transported to the PHCC where they will undergo further diagnostic evaluation. The PHCC has the capacity to conduct point-of-care troponin, d-dimer, and brain natriuretic peptide. Tele-medicine will also be used to support the advanced practice clinicians at the PHCC, who will be evaluating these patients. Via telehealth our expert physicians will assist PHCC providers with the interpretation of diagnostic testing to help provide safe dispositions to this patient population.

This project builds on existing infrastructure and workflows already in place at WFUHS supporting ongoing telehealth missions such as tele-stroke care, tele-psychiatry evaluation, and most recently, tele-emergency medicine and tele-EMS for suspected COVID-19 patients. However, the planned implementation of this project seeks to overcome multiple logistical barriers to effectively introduce this advanced cardiovascular care to rural NC. To provide 24/7 support, a large team of physicians and medical providers is required to support such an undertaking. Part 2 of this series will examine how we logistically staffed and trained this service to ensure a timely response with trained expertise.

## CLINICAL TELEHEALTH TIP

*Having the patient upload photos prior to visit can improve efficiency of visit as the clinician can prepare ahead of time. Pictures, well-lit rooms and using cards/rulers as measuring devices can improve exam.*



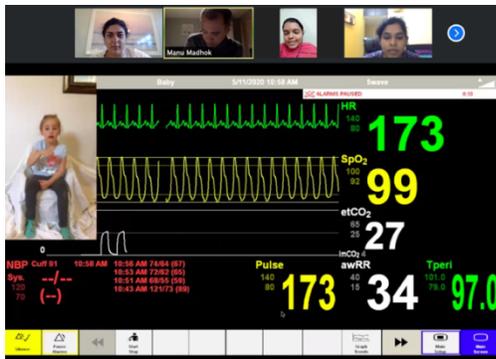
# Using Tele-Simulation for Emergency Medicine trainees in India

From: Children's National Hospital, the George Washington University of Medicine and Health Sciences, Washington DC

Authors: Tania Ahluwalia, MD, Manu Madhok, MD & Katherine Douglass, MD

Tele-education is an emerging modality of teaching around the world accelerated by the current Covid-19 pandemic. Education via remote learning especially for medical trainees has become an integral part of medical education. We describe our experience with tele-simulation for emergency medicine trainees in India.

Pediatric emergency medicine (PEM) training is in its infancy in India. With a high burden of pediatric illness across the country, it is essential to equip emergency physicians with the necessary skills to manage sick children in acute care settings. The Ronald Reagan Institute of Emergency Medicine at the George Washington University has been working in collaboration with in-country partners in India to conduct 3-year postgraduate Emergency Medicine curricula and training programs. In the past, we have used simulation as an educational avenue to practice clinical and procedural skills, especially for low frequency high impact critical events. Travel restrictions during the Covid-19 pandemic created a significant barrier to in-person didactics and simulation, a component of our PEM education and training programs. Instead of traditional simulations, we used ACEP sponsored open-source education tool [TeleSimBox](#) to remotely engage emergency medicine residents and teach medical management for pediatric emergencies at our site located in Madurai, southern India.



In these tele-simulation sessions, the PEM facilitators in the US joined an on-line platform along with local EM faculty for pre-planned pediatric scenarios including respiratory distress, shock, supraventricular tachycardia and anaphylaxis. Approximately 10-15 trainees joined these sessions and participated in smaller break out rooms to increase engagement. The trainees were divided by level of training. They joined the 2-hour tele-simulation session using their personal devices. Each session included pre-briefing to establish safety of learning environment, orientation to the on-line platform for various functionality, role assignments/clarification, followed by “hands-on” simulation and a debriefing session afterwards. The “hands-on” session included an EMS call with a brief history, a video recording of patient with key clinical findings and a monitor displaying vital signs which appear and change as the team engages. The trainee obtaining history used the chat functionality to obtain details from one of the facilitators who played the role of the parent. Also, one facilitator played the role of the nurse in the room and would carry out all the interventions as verbalized by the team of trainees for managing the patient. It was intended to practice shared mental model and closed loop communication. The informal feedback from local faculty and trainees was positive with participants stating that they enjoyed the interactive sessions and learning about management of pediatric emergencies. Senior residents voiced that the session was helpful for them to prepare for their oral board exams, which they take at the end of their training. US-based faculty found it very helpful to have local faculty co-facilitate each case to share knowledge about available resources and existing hospital protocols. Overall, this session is similar to the oral board examination that the trainees take at the end of their training and was very helpful for senior trainees. This teaching modality has benefited from the catalyst of COVID-19 but has the potential for further growth and impact. *Special thanks to our trainees and faculty including Dr Subbulakshmi, Dr Hema Sindhu and Dr Narendra Jena at Meenakshi Mission Hospital & Research Center in Madurai, and our co-facilitators: Dr Kaitlyn Boggs, Dr Mary Mottla, Dr Rachel Hatcliffe and Dr Deeksha Borkar.*

## Introducing: Section Officers for 2021

### Chair

#### **Aditi U Joshi MD, MSc, FACEP**



Dr. Joshi is currently the Director of the Telehealth Fellowship, Senior Advisor of Telehealth and former Medical Director of JeffConnect at Thomas Jefferson University Hospital. She is an Assistant Professor of Emergency Medicine and an Associate Director of Digital Health scholarly inquiry. Dr. Joshi joined the section in 2015 and has worked in many diverse areas of telehealth at both a startup and academic center, including operations, medical education, CME creation on virtual physical exam, research and quality assurance. She has spoken on telehealth at various conferences including SAEM, HIMSS, COD, FeminEM and UN WSIS. She joined ACEP's telehealth section in 2015 and, as Chair, is heavily invested in acute care telehealth for its expansion and use in EM. Dr. Joshi was named one of EMRA's 25 under 45 influencers in Emergency Medicine of 2020.

### Chair-Elect

#### **Emily M. Hayden, MD, MHPE**



Dr. Hayden is Director of Telehealth, Department of Emergency Medicine, Massachusetts Hospital and the Chair-elect of the ACEP Emergency Telehealth Section. In her departmental role, she leads the MGH TeleEM program, a provider-to-provider transfer coordination program, and the department's coverage of the healthcare system's virtual urgent care. Dr. Hayden is the recent Chair of the Society for Academic Emergency Medicine (SAEM) 2020 Consensus Conference on Telehealth in Emergency Medicine. She firmly believes that the future success of EM includes the integration of telehealth into the day-to-day delivery of acute, unscheduled care.

### Immediate past chair

#### **Ed Shaheen, MD**



Ed Shaheen, MD, FACEP, is an emergency medicine residency trained, board certified emergency physician, who has practiced EM for over 20 years. He is believed to be the first EP to practice Tele-EM in Louisiana and recently served as Chair of the American College of Emergency Physician's Telehealth Section. He has written or co-authored numerous resolutions that have been adopted by ACEP Council. He is on the Board of Governors for the Louisiana College of Emergency Physicians and was selected as executive director of the Louisiana Telemedicine Association. A published author on healthcare and the COVID-19 pandemic, Dr. Shaheen is a strong advocate for the public, patients, emergency physicians and telehealth on a state and federal level and has held numerous positions on the local, state and national level. His current focus is to improve population health by improving access, decreasing costs, improving quality and protecting the integrity of the profession of emergency medicine and empowering individual emergency physicians.

## Secretary

### **Shruti Chandra, MD**



Dr. Shruti Chandra is an Assistant Professor of Emergency Medicine at Thomas Jefferson University. She obtained her MD at Jefferson Medical College and completed her Emergency Medicine residency at Jefferson. She completed a Medical Education fellowship and received a Master's in Education for Health Professions at Johns Hopkins University. Dr Chandra is the Phase 3 Director for Sidney Kimmel Medical College and involved in curriculum development for the medical school.

Dr Chandra became involved in Telehealth as a Telehealth practitioner and developer of the Telehealth Facilitator Certificate Program for which she is the program director. She is the program director for Telehealth and Digital Health certificate programs. She is part of the AAMC advisory committee for creating Telehealth competencies. She has presented telehealth topics various conferences such as at HIMSS, SEARCH, CORD. She has participated in Telehealth webinars through AAMC and SAEM. She is invested in education and research in Telehealth.

## Webpage Editor

### **Alex Heromin, MD**



Having recently completed an emergency medicine residency in Michigan, Alex is now the current fellow completing the Telehealth Leadership Fellowship at Thomas Jefferson University. Alex works to expand access, enhance usability and ensure an exceptional patient experience. He has a strong interest in teaching telehealth physical exam skills and documentation to providers, ensuring that quality and documentation metrics are both followed and achieved while incorporating emerging evidence-based technology. He recently co-authored a textbook chapter on core competencies in the virtual physical exam for

Elsevier. He trains providers to provide an accurate clinical assessment and treatment plan that is both medically appropriate and genuinely satisfying for the patient. Outside of the ED he is passionate about wildlife conservation efforts.

## Newsletter Editor

### **Alison Gardner, MD, MS**



Dr. Gardner is currently an Assistant Professor in Pediatrics and Emergency Medicine at Wake Forest School of Medicine (WFSM) in Winston-Salem, NC. She is the Director of Operations of Emergency Medicine Virtual Health at Wake Forest Baptist Medical Center and oversees virtual offerings with multiple county EMS organizations, multiple network Emergency Departments and Urgent Cares, and a direct patient-to-provider video visits service by EM providers. The latter, "Virtual First" offering is now available 24/7 and serves to perform

virtual care visits for patients with the primary purpose of advising them on right care, at the right place, at the right time, during acute illness and injury.

## Councilor

### **David Ernst, MD, FACEP**



David Ernst, MD, FACEP is a Board Certified Emergency Physician and practiced as Clinical Assistant Professor of Emergency Medicine for the Ohio University College of Medicine and Univ. of Toledo College of Medicine at Firelands Regional Medical Center in Ohio and Flight Physician for Cleveland Metro Life Flight.

Dr. Ernst is a Co-Founder of EPOWERdoc, a clinical healthcare software company, where he currently serves as President. He has led the design and development of EPOWERdoc's Emergency Department Information System and a new Telemedicine EHR Software Platform. Dr. Ernst has also received the only US Patent for Emergency Department Information System software design. He is actively involved in several aspects of Telemedicine delivery models as well as Federal and State Advocacy for Telehealth recognition and reimbursement. He currently serves as Councilor for the ACEP Telehealth Section.

## Alternate Councilor

### **Deborah Ann Mulligan, MD, FACEP**



A board-certified pediatric emergency medicine NSU KPCOM faculty member for 20 years she is the founder of the NSU Institute for Child Health Policy and serves as the Telemedicine Director, Rural and Urban Underserved Medicine. A bilingual physician executive with over 25 years of experience in health systems, academic and venture-backed entrepreneurial organizations, her specific areas of expertise include strategy formulation, organizational transformation, operations improvement, advising health systems and policymakers about disruptive technologies and business models that accelerate transformation and constrain health expenditures.

A long-standing member of ACEP with prior service as Chair, Pediatric Emergency Medicine Section; AAP/ACEP Co-Author of Joint Statements and Technical Reports; as well as co-investigator to ACEP federally funded projects she is an approved ACEP spokesperson on the topic of telehealth. Included in over 100 peer review publications are telehealth standards such as ATA Work Group on Pediatric, School Health and Urgent Care Standards. Community service, scientific, educational and professional society awards, include recognition in the US Congressional Record; National EMSC Heroes Award for Innovation; Florida State Surgeon General Injury Prevention Award and the Florida Universities' Community Engagement Educator Award' presented by First Lady Michelle Obama.

## **Board Liaison**

### **Alison J. Haddock, MD, FACEP**



Alison Haddock is the Vice President of ACEP and an Assistant Professor of Emergency Medicine at Baylor College of Medicine in Houston, TX. She has a longstanding interest in acute care telehealth as a critical part of the future of our specialty. She recently began practicing emergency telemedicine through her county health system.

## **Resident Liaison to EMRA**

### **Crystal Donelan, MD**



Dr. Donelan is a 3rd year Emergency Medicine resident at George Washington University Hospital. She is a member of the newly appointed ACEP Telehealth Task Force. In her previous career in healthcare administration, she used various methodologies to innovate towards the goal of high value and patient-centered health care. With telehealth decisively on the scene thanks to a pandemic she believes EM physicians provide the skills to be front and center steering this fast-evolving field. In her times as a recreational pilot she guided planes to safe landings with short radio calls. She believes with the enhanced communication offered by telehealth EM physicians can guide patients presenting from anywhere into a safe, highly successful health care landing, wherever that landing may need to be.

# Pediatric Emergency Telemedicine in the Time of Coronavirus

**From: New York-Presbyterian / Weill Cornell Medical Center, New York City, NY**

**Authors: Ji Won Kim, MD, Maria Lame, MD, Shari Platt, MD**

In June 2017, New-York-Presbyterian / Weill Cornell Medicine (NYP/WCM) launched the pediatric emergency medicine NYP ON Demand virtual urgent care (PEM-VUC), initially offered during evening hours to patients 0-18 years of age. We staffed the PEM-VUC with pediatric emergency medicine (PEM) board-certified/eligible physicians to provide the highest quality care for children while remaining in the comfort of their own home.

In March 2020, New York City emerged as the first COVID-19 epicenter in the United States. As the cases of COVID-19 surged in New York City, the NYP VUC volume soared within a matter of days. For pediatrics, our VUC volume rose from ~30 patients per month to an average of 135 patients per month from March to May 2020, during the peak of the pandemic (Figure 1) <sup>1</sup>. Most impressively, our overall VUC volume, for patients of all ages, increased from average of 30-40 patients per day to as high as 300, primarily with COVID-19-related complaints.

In response to COVID-19, federal and state regulations were relaxed allowing telemedicine providers to evaluate patients across state lines. This enabled a broad application of telemedicine services to better meet the demands of patients during the “stay-at-home” order, and while many pediatricians’ offices closed. PEM-VUC quickly expanded hours of service, from 6pm-12mn to 8am-12mn, and increased PEM provider coverage from 1 PEM provider to 4-6 PEM and/or pediatric providers at a time.

Given the relative exponential increase in COVID-19 illness in the adult population compared to pediatrics, PEM and pediatric physicians were eager to contribute to the much-needed workforce caring for adult COVID-19 patients. Enabled by telemedicine waivers and the Coronavirus Aid, Relief and Economic Security (CARES) Act providing immunity under federal law for care provided to COVID-19 patients, we raised the age of patients cared for by PEM-VUC from 18 to 35 years for all medical complaints, and treated patients of all ages with COVID-19-related concerns. Of the 9564 adult patients evaluated on VUC from March to May 2020, pediatricians treated 1387 patients (14.5%), with 94 years of age being the oldest patient seen by a pediatrician via VUC.

To staff this expansion, we recruited general pediatricians to PEM-VUC and redeployed physicians from all specialties including Rehabilitation Medicine, Ophthalmology, and Obstetrics/Gynecology to provide adult VUC care. In the span of a few weeks, we on-boarded and trained 35 non-EM physicians and 12 advanced practice providers with little to no prior experience in telemedicine or urgent care.

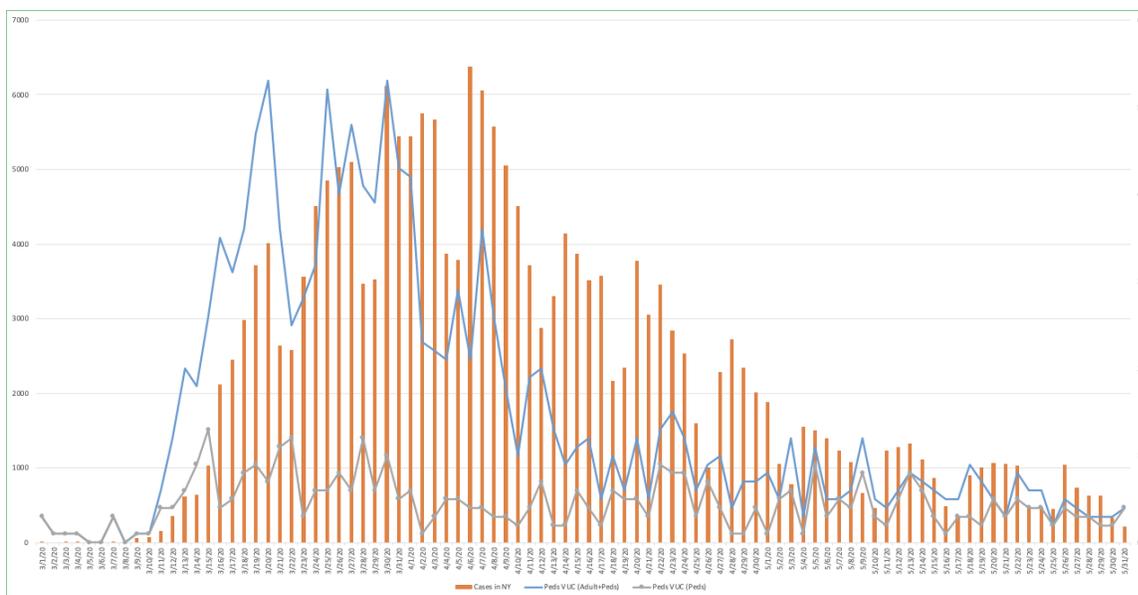
Telemedicine training was enabled by the Weill Cornell Medicine Center for Virtual Care, newly established in 2019 to train professionals across disciplines and specialties to conduct telemedicine visits based on best practices. This pre-existing infrastructure and curriculum facilitated the rapid upscaling of a high caliber telemedicine service in response to COVID-19. (<https://emed.weill.cornell.edu/divisions/virtual-care>)

PEM and/or pediatric VUC providers were trained to conduct a telehealth visit and received additional education on how to evaluate and treat adult patients with COVID-19. This included skills to measure vital signs (pre-and post-exertion) and to perform a virtual physical exam. Standardized care was achieved by providing clinical algorithms to guide the referral practice for patients who required emergency evaluation and multilingual discharge instructions based on the most current CDC recommendations for COVID-19. Patients with symptoms consistent with COVID-19 were followed by a phone call or VUC visit for up to 14 days until their symptoms resolved.

An accelerated orientation process for these new providers consisted of online training videos and a live-webinar session on telemedicine behaviors and etiquette. Experienced telemedicine providers performed a mock-patient encounter with each new provider to confirm a professional, private setting was available, and to ensure technical requirements were met. These simulated visits revealed that added training experience was needed to impart confidence for some novice providers. In response, we developed a mentorship program whereby a seasoned EM and/or PEM telemedicine physician conducted a shadowed telemedicine visit with the new VUC trainee, and then reversed the roles for the subsequent encounter. This reciprocal process allowed trainee providers to observe real-time practice and then to receive timely feedback on virtual physical exam skills and professional telemedicine behavior.

Finally, we established an interprofessional online message group with more than 100 members, including 80 providers across 15 specialties, as well as our digital health team. This chat, which did not include any protected health information to maintain HIPPA compliance, allowed for real-time advice and feedback related to telemedicine practice, management of COVID-19, regulatory questions, and technical advice. This diverse group communication fostered expert clinical support in areas such as dermatology, psychiatry, and neurology. Further, the online group provided general pediatricians with guidance and expertise by EM specialists to care for adult patients via telemedicine. Rigorous chart review and quality assurance processes including a safety checklist for all telemedicine encounters ensured safe care.

The COVID-19 pandemic fueled a prodigious collaborative effort to expand and innovate telemedicine services that would previously have been unimagined. We are incredibly grateful to the countless professionals, experts in information technology, and hospital leaders, who promoted the growth of our telemedicine program and enabled us to provide virtual health care to our community during an extraordinary crisis.



**Figure 1:** Comparison of patients seen by NYP ON Demand virtual urgent care PEM tele-providers and patients with COVID-19 in New York State. Orange - Cases of COVID-19 in New York State reported by NYS.gov, Blue - Total patients of all ages (pediatric + adult) seen by PEM tele-providers, Gray - Total pediatric patients (<18 years of age) seen by PEM tele-providers.

**Reference**

1. Kim JW, Lame M, Szalay L, et al. Telemedicine Surge for Pediatric Patients in Response to the COVID-19 Pandemic in New York City. *Telemed J E Health*. Jan 2021;doi:10.1089/tmj.2020.0413