



## GRADUATE MEDICAL EDUCATION

# GME and Telemedicine: The Future is Right Now

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A new decade did not usher physicians into 21<sup>st</sup>-century medicine. It was the COVID 19 pandemic. The foundation of pediatric graduate medical education traditions dramatically shifted to accommodate safe healthcare practices. These necessary, albeit difficult changes, fundamentally altered the core teaching and didactic opportunities for pediatric residents. As a result of social distancing guidelines that limit face-face encounters, telehealth has now come to the forefront of our outpatient pediatric graduate medical education as a supplement to in-person clinical education.<sup>7,8</sup>

## THE EXPANSION OF TELEHEALTH DURING COVID-19

Before 2020, the American Medical Association noted a modest increase in the use of digital health technology (DHT) from 2016-2019.<sup>1</sup> Among these DHT, the use of remote health tools (what many consider telehealth) had the greatest increase in this survey of 1300 physicians. However, it was in the early months of 2020 that DHT, particularly remote health tools and specifically synchronous telehealth modalities, made an impactful entry into medicine. By April 2020, in-person ambulatory visits were at their lowest, with offices seeing a steep decline by mid-March, and telehealth visits were at their highest.<sup>2</sup>

Many pediatricians, including those at UHealth and Jackson, decreased in-person visits dramatically to prepare for the surge. These efforts aimed to conserve PPE, mitigate community spread, and protect vulnerable health professionals. An increase in telemedicine visits to provide primary care and acute care to children across our community resulted. The Centers for Medicare & Medicaid Services (CMS) waivers for health care providers facilitated Medicare, Medicaid, and CHIP enrollees to obtain medical services through telehealth. As a result, telemedicine and digital health tools became commonplace across the United States.<sup>3</sup>

## INTEGRATING TELEHEALTH AND GRADUATE MEDICAL EDUCATION

During the initial peaks of the pandemic, residency programs encountered significant challenges including trainee safety and health, well-being and burn-out in high impacted areas, low surgical case volumes, and the pivot from in-person to telemedicine

visits. The American Council for Graduate Medical Education (ACGME) used its Extraordinary Circumstances policy to develop a process by which programs and hospitals could continue to provide care to patients and support trainees of all levels, referred to as “Emergency Status”.<sup>4</sup>

Programs across the country began using telehealth to allow residents to work while being isolated as a patient under investigation (PUI), as well as to safeguard residents with comorbid conditions. Since many non-essential in-person clinic services were canceled, telehealth served to continue patient care. The transition to telehealth for residency programs remained difficult as telehealth remained a relatively neglected aspect of GME until recently. (i.e. only child adolescent psychiatry mentioned Telehealth in its ACGME core competencies).<sup>5,6</sup> Questions emerged, such as how many rotations telehealth-accessed rotations count towards ACGME program requirements and what resources are available to teach telemedicine principles to trainees. And now, as these opportunities begin to decrease and in-person visits increase, how does a program continue to incorporate telemedicine into its curriculum? It is in answering these questions that GME leadership across the country will forge new curricular components to augment the pediatric residency training.

## A NOVEL AMBULATORY CLINICAL TRAINING VENUE USING TELEHEALTH

At our institution, a rapid expansion of telehealth practices occurred immediately after the pandemic arrived. Faculty were immediately required to complete computer-based learning modules and get approval from respective division chiefs to practice telemedicine. Preserving the medical home while limiting exposure risks was the primary goal. Pediatric residents continued outpatient rotations, including continuity clinics, via telemedicine. Residents on Hospital Inpatient, ICUs and Emergency Medicine rotations continued clinical duties in person. Pilot telehealth programs in the Pediatric Mobile Clinic and School-based Health clinics aided the large-scale roll-out system-wide. Across both health systems, attendings completed computer-based training in telemedicine etiquette, documentation, and billing practices. We established an innovative telemedicine clinic for newborns born to COVID+ mothers whereby residents evaluated, cared for, and counseled in the absence of a physical exam and anthropometric data.

Resident education in telemedicine practices occurred simultaneously with the transition. A combination of didactics with case-based learning served as a primer for phone triaging as a remote health tool and specifically synchronous telehealth modalities. Highlights of the first few weeks included all at-home residents to cover the after-hours ambulatory pager. They were the first point of contact for the three academic practices at UM/Jackson. Residents triaged ambulatory concerns based on scarcely updated COVID guidelines. They were rapidly exposed to critical decision-making on testing indications, home isolation protocols, and emergency referrals.<sup>9</sup>

Telehealth for patient care generated a distance-learning/clinical education tool for our residents. Resident-patient phone encounters were reviewed daily in a sign-out, much like inpatient rotations, and they followed the patient’s clinical course. Direct observation was a predominant feature of telehealth as a teaching tool. For example, faculty members could focus entirely on the trainee’s patient interview techniques, rapport, observation of the home space, and counseling. Junior residents and students were often directly observed by the attending, while senior residents followed the more traditional model of taking a history and reporting to the attending. The development of illness scripts could be observed in real-time. In most instances, both the resident and the attending were remote. Residents received more individualized feedback facilitating trainee’s ability to perform clinical assessments.

## STRENGTHS AND LIMITATIONS OF TELEHEALTH IN GME

Although a non-traditional didactic method, telehealth offered several advantages for pediatric GME. Primarily, a telemedicine model limits occupational health exposure to residents while still offering patient access to essential ambulatory care. In particular, the telemedicine model accommodates residents who may have been disproportionately affected by the pandemic, and may not be able to physically come to the brick and mortar establishment due to socioeconomic, family, medical or transportation issues. To provide timely feedback during these visits, we appropriated time before and after each clinical visit to provide direct observational feedback to our residents on clinical decision making. As such, by integrating our residents into this telemedicine model, we welcomed the natural evolution of medicine with modern technology.

As with any new technological advances, we encountered several challenges to the implementation of ambulatory telemedicine, and the encumbrances at both of our clinical sites could be extrapolated to other high-volume medical centers. Primarily, integrating telemedicine into a multi-lingual, diverse clinical setting remains arduous given the inherent difficulties of consent, translation, technological literacy, and scheduling. These issues were centered in our hospital-based underserved clinic where socioeconomic disparities exacerbated the limitations of telemedicine. In an already time-limited environment, lack of follow-up, poor internet connection, guardian unavailability hindered access to telemedicine for these patients. Over the initial few months, it became clear that our educational model must be tailored to mitigate the disparities for this already vulnerable population. We continue to brainstorm for process improvement options to improve quality access or our underserved population.

The physical exam is the cornerstone of medical learning. With telemedicine, we have effectively removed the familiar touch of examining the lungs and ears of a sick child at the bedside. Common screening tests at well-child visits such as vision and blood pressure checks have been voided, and the quintessential “history and physical” has been replaced with “history”. Albeit necessary, this shift during the pandemic may have devalued the physical exam.

The global pandemic has provided us a unique yet demanding opportunity to adapt our graduate medical education model to meet the needs of our trainees and patients. Our ability to rapidly shift our teaching paradigm to acclimate the needs of this pandemic exemplifies our innate ability to evolve. With our success in this prolonged trial period during the pandemic, we remain optimistic about the future of medicine as we equilibrate in these trying new times.

## LESSONS LEARNED AND FUTURE DIRECTIONS

Interestingly, despite preaching the strengths of telemedicine, as clinical faculty, we still felt it important to keep the interns from it. We prioritized in-person learning in the clinic, to adequately familiarize them with the fundamentals of primary care. While their telemedicine training has been methodical, computer-based learning and even dynamic case-based learning has been offered through Yale’s Primary Care Curriculum. We hope any program looking to expand their telehealth training can methodically emulate our model. Proper etiquette and general ground rules should also be overtly stated. Early in our experience with trainees, essential telehealth professionalism rules were expressed and emphasized: 1) silent space, 2) maintain eye-contact (camera must be on), 3) maintain attention to your patient (no concomitant responsibilities).

We need to continue to be innovative on how we can use telemedicine to our advantage. Anchor appropriate milestones to telemedicine experiences, while still ensuring enough hands-on experiences. Future areas of growth would be to survey residents of their perception and learning from telemedicine experiences and how we can improve upon our current processes.

## REFERENCES

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