Identification of Gaps in Graduate Medical Education Telehealth Training

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Telehealth, which is defined as a medical encounter between two parties using technology, has existed for decades. During the COVID-19 pandemic, use of telehealth has surged in volume and breadth of visits. Most analysts and healthcare systems agree that telehealth volumes will continue to be markedly higher than levels prior to the COVID-19 pandemic.[1] The rapid increase required clinicians, including trainees across various specialties, to practice medicine via telehealth for the first time.

Research shows that very few residency programs offer formal training and education around telehealth.[2,3] Although recent research has detailed telehealth training at the undergraduate medical education level, little of this research is available at the Graduate Medical Education (GME) level. Moreover, the Association of American Medical Colleges (AAMC) has set standards for telehealth education, outlining guidelines to create curricula.[4] This contrasts with the finding that very few Accreditation Council for Graduate Medical Education (ACGME) milestones mention telehealth or competencies related to the delivery of care via this modality.[5]

We set out to quantify this education gap in order to better understand its impact on trainees providing care via telehealth. As previous literature has demonstrated, the incorporation of curriculum and specific training around telehealth can improve confidence with this new modality of care.[6] This paper highlights initial recommendations for residency programs and their learners around telehealth education based

on existing curriculum frameworks developed by the AAMC and others focused on this topic.[4]

METHODS
In November 2020, our group developed a survey intended to examine and quantify the telehealth experiences of residents and fellows at ACGME-accredited training programs in the Minneapolis/St. Paul, Minnesota, region. The primary intent of this survey was to better understand if residents and fellows across various programs and institutions were receiving sufficient training on how to effectively complete high-quality telehealth encounters. The 12-question survey was distributed by email to several programs in the Twin Cities, Minnesota, from November 2020 to January 2021.

RESULTS
There were a total of 213 responses. These responses came from learners in 51 different specialties across seven levels of training (PGY [postgraduate year] 1–7). Of the respondents, 66% of them had completed a telehealth visit of some kind during their training thus far. A large majority (89%) were seeing patients via synchronous modalities (i.e., telephone and video). Of those who answered yes to having completed a telehealth encounter, 89% stated that they had not performed telehealth in any capacity prior to the onset of the COVID-19 pandemic (roughly March 1, 2020). Of all respondents, we found that only 15% had any formal training around the provision of care via telehealth, with no individual program having higher than 20% of respondents stating they have received such education. Only 4% of respondents stated that their program had competencies around telehealth as part of their core curriculum. To that end, 72% of respondents felt that specific training in telemedicine moving forward is important for trainees in their specialty. Knowing this, it was concerning that on average, trainees felt only

moderately comfortable (3.14 on a Likert scale of 1–5) completing telehealth encounters independently.

CONCLUSIONS
Whether or not these trainees experienced telehealth or its education, they will likely be expected to practice this modality of care after graduation. In summary, we found that through a survey of a large cohort of post-graduate medical trainees in the Twin Cities, Minnesota, there is very little training focused on telehealth, leaving these trainees feeling ill-equipped to practice care delivery via this mechanism in practice.

RECOMMENDATIONS
The governing bodies of GME certainly could not have foreseen the speed, in which telehealth would become such a prominent feature of healthcare delivery in this country. Nevertheless, there is ample research and guidance from a variety of sources that would portend to the development of more formalized guidance around the training of telehealth care delivery.[7,8] While we expect that the ACGME will start incorporating telehealth competencies into the milestones for various specialties, we would implore training programs to consider formalizing curricula touching on some pillars of telehealth to prepare future clinicians for their practice. The AAMC has recently developed a set of core competencies around telehealth for medical students that can be adopted and modified to fit the need of the GME specialty in which the trainee completes residency or fellowship. Part of these guidelines can be set by the governing body of each specialty, in the meantime, we recommend programs to prepare and create curriculum around telehealth for their trainees. The following six core competencies should be used as baseline (Table 1). The building of these curricula should occur with the collaboration of organizations such as the

Table 1. Competency recommendations for Graduate Medical Education (GME)

Telehealth core competency	Details[4]	Specialty-specific variation
Patient safety and appropriate use	Trainees will understand when and why to use telehealth. This will include assessing the readiness of the patient and provider as it relates to providing the highest quality care possible.	In psychiatry,[9] this could include performing an environmental scan for both patient safety and confidentiality. In emergency medicine or internal medicine/urgent care, this could include assessing just the chief concern and up-triaging or down-triaging to the appropriate visit-type.
Access and equity	Trainees will understand the impact of the "digital divide" as it relates more broadly to telehealth and healthcare. This will include examining the role of provider bias in various care delivery modalities.	Pediatrics[10] and geriatrics programs may face population-specific barriers to telehealth. Trainees should learn different training around how best to address the hurdles facing their patients trying to access care via telehealth.
Communication	Trainees will effectively communicate via virtual platforms embodying the same standards around professionalism and knowledge transfer that are established for face-to-face interactions.	In all specialties, this should include teaching best practices for incorporating interpreters or caretakers into the telehealth visit.
Data collection and assessment	Trainees will learn new approaches to the collection of subjective and objective data via virtual platforms that will allow for provision of high-quality care.	For the most common chief concerns and chronic conditions managed by that specialty, programs should develop curricula and proctored teaching on the physician-guided, patient-reported self-exam.[11]
Technology	Trainees will become facile in the technology required to deliver care via telehealth. This will involve assisting patients in connecting and the ability to troubleshoot minor technical issues unassisted.	For dermatology, pathology, or radiology, specific training around store-and-forward modalities should include assessment of image acquisition and quality, and privacy of the stored images.
Ethical practices and legal requirements	Trainees will learn the local, state, and federal regulatory requirements to uphold the standards for quality care delivery via telehealth. This will include maintaining patient privacy via virtual platforms and enhancing the doctor–patient relationship.	Formal curricula around state licensing and acceptable telehealth billing practices should be incorporated. For pediatrics and geriatrics, trainees should learn how to assess and respond to suspected child or elder abuse from a distance.

ACGME, AAMC, regional Telehealth Resource and Assistance Centers (TRACs), and existing centers of excellence in regard to telehealth training with the goal of improving care and outcomes using telehealth in all specialties.

SUMMARY

Although telehealth volumes have seen drastic increases, training on how to effectively and efficiently carry out telehealth visits for medical trainees at the GME level has remained relatively stagnant or even nonexistent. Our survey of trainees across various programs in metropolitan Minnesota demonstrates that residents are not getting the training they feel is necessary to complete high-quality patient encounters via telehealth. Many of these trainees will soon be graduating to faculty positions where they will be expected to independently complete these encounters. If the core competencies highlighted in the table are not incorporated into GME curricula, we run the risk of telehealth becoming a substandard modality of care delivery that cannot maintain the same quality of care due to a lack of appropriate training of the providers responsible for its delivery. The consequences of this could be poor outcomes, patient safety events, and the further expansion of healthcare inequities in this country. With the incorporation of program-specific telehealth competencies, this modality of care delivery has the ability to expand access, improve outcomes of chronic disease management, and strengthen the patient–provider relationship across all specialties.

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