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PERSPECTIVES

Remote Practice of Infectious Diseases Through Telemedicine: Improving Access for Patients and Appeal for Physicians

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The specialty of infectious diseases (ID) is facing headwinds in attracting new physicians into training and clinical practice, leading to workforce shortage and rising burnout among existing ID physicians. The distribution of ID physicians across the country is skewed, and many Americans do not have access to ID expertise. Novel care models are needed to ensure the longevity of the ID specialty and patient access to ID care. ID telemedicine provides a new opportunity for ID physicians with the benefits of residing in one's preferred geographic location, eliminating the need to commute, and structuring the workday to improve work-life balance. This viewpoint, which includes personal experiences in transitioning from in-person to remote ID practice, describes the extent of challenges facing the ID specialty and how telemedicine can reduce burnout among ID physicians, attract more physicians into the specialty, and improve access to ID care.

Keywords. decline in ID specialists; female physician burnout; ID physician burnout; ID telemedicine; telemedicine.

There is a severe national shortage of infectious diseases (ID) physicians, largely stemming from a decline in ID as a career choice and increasing burnout leading to a departure from the specialty [1–5]. New career models are needed to reverse this decline and meet the growing demand for ID expertise in patient care.

EXTENT OF THE PROBLEM

Walensky et al exposed a highly skewed geographic distribution of ID physicians: 2499 of 3142 US counties (79.5%) have no ID physician available and 312 counties (9.9%) have below-average ID physician densities. Thus, >200 million US citizens have minimal to no access to ID specialists [1].

Data from the National Resident Matching Program reveals a plunge in enrollment in ID training programs. In 2023, only 56% of ID training programs and 74% of all ID fellowship positions filled: the lowest of matched ID applicants since 2015 [4, 5]. This decrease in physicians seeking an ID career raises concern for the future of ID and for access to ID care. The growing gap between patients requiring complex ID management and the shrinking ID workforce increases the workload for current and future ID physicians. Exposing trainees to an overwhelmed ID workforce may deter them from the specialty.

A consequence of increasing workload is burnout that leads to physician attrition [6]. In *The New York Times*, Verghese describes how burnout is "infectious": it leads to physician turnover, which then increases workload and stress among colleagues, leading to further turnover [7]. The COVID-19 pandemic raised workloads to unprecedented levels and accelerated attrition of ID providers [2]. If unchanged, these conditions are likely to further increase the shortage of ID practitioners.

ID TELEMEDICINE AS A SOLUTION

ID telemedicine (tele-ID) is an alternative model that can reduce burnout by allowing for preferred location of residence, eliminating commuting time, and creating flexibility in one's work schedule.

In our tele-ID practice, we care for inpatients and outpatients and perform live audio-video visits (LAVVs) and eConsults (an asynchronous review of the record). For LAVVs, a trained on-site nurse assists with performing the physical examination using a Bluetooth stethoscope and high-definition portable camera. A virtual physical examination does require a learning curve, especially when assessing wounds, rashes, and cellulitis. Additionally, training and guidance for the assisting nurse are needed to ensure that a proper examination is performed. The additional skills needed for remote patient evaluation can augment existing physical examination abilities.

Tele-ID could also provide access to ID care in the United States where

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below-average to no ID physician coverage exists.

PERSONAL EXPERIENCES

As 2 physicians (L. N. and S. M. S.) who previously practiced in-person ID and transitioned to tele-ID practice, we can attest to an improved life satisfaction from remote ID practice.

Dr Linda Nabha

Reflecting on my career, it is difficult to pinpoint the peak of burnout experienced. During ID fellowship, large consult volumes made it apparent that constant work at that capacity was unsustainable. After fellowship, I joined private practice. The commute and days were long. Once my children were born, it became evident that providing the best medical care for my patients and a loving environment for my family were competing priorities. I knew I had to make a change. Thus, I pivoted from in-person practice to tele-ID. Consequently, I regained an important resource: time. By eliminating my commute, that time could be directed toward other meaningful activities in my life. Having the ability to drop off and pick up my children from school, exercise, and cook for my family, while being able to practice academic-level ID, is transformative.

Dr Seema Mehta Steinke

Until recently, coping with some element of burnout had become my new normal. After fellowship, I accepted a clinical appointment that grew to include leadership and research responsibilities. Six years into my career, my military husband received orders to move to another state. Soon after moving, I joined a tele-ID practice. This position allowed me to maintain an academic appointment while providing remote care to patients. By eliminating daily commuting, I have more time for scholarly activities and to spend with my husband and aging dog. With remote work, my stress levels are lower and more manageable. I attribute this to having more time in my workday to enjoy other activities, such as exercise, knitting, and oil painting. My work-life balance and happiness have improved in ways that I did not think were possible before switching to remote ID practice.

POTENTIAL LIMITATIONS AND OPPORTUNITIES FOR TELE-ID

There are certainly potential shortcomings to full-time telemedicine practice: physician isolation and less accessibility of physician colleagues, patient reluctance to accept telemedicine, and in-person colleagues' reluctance to interact with telemedicine providers.

Routine clinical and social virtual engagements can create productive connections, reducing physician isolation. At our institution, remote providers can attend all academic conferences, clinical meetings, and research seminars virtually and experience faculty development and promotion, similar to in-person colleagues. Encouraging collaborative research and communication between telemedicine providers can certainly build collegiality and partnership. Annual in-person gatherings of telemedicine providers can enhance camaraderie. However, full-time remote work may not be the best fit for everyone, especially for those whose work satisfaction stems from physical presence at work and in-person interactions with patients and colleagues.

Acceptance of remote providers by patients and in-person physicians should improve with familiarity and growing evidence revealing similar outcomes for tele-ID care as compared with in-person practice [8]. We believe that tele-ID programs like ours can be reproduced but not without challenges. Virtual care models require leadership acceptance and investment, as well as a robust infrastructure of IT support, operational staffing, and medicolegal expertise. Multiple regulatory barriers exist in telemedicine: the need for multistate licensure, parity laws for equal reimbursement for LAVVs, and limited reimbursement for eConsults. Above all, implementing virtual specialty care requires institutional buy-in and a shift away from the status quo. A benefit of this shift is greater exposure of medical trainees to tele-ID, which fits with the upcoming, tech-savvy generation's focus on being impactful while maintaining work-life balance.

Virtual models of care are currently not available to all ID trainees. Expansion of training programs and career opportunities will require a concerted effort. Rotations at institutions that have implemented tele-ID can expose trainees to telemedicine practice and its benefits. Presentations at national ID meetings and networking of trainees with tele-ID faculty could also increase awareness and exposure to tele-ID practice. Inspiring the next generation of physicians to the individual and public health benefits of remote ID care has the potential to change the landscape of ID practice and expand it to geographic areas in need.

CONCLUSIONS

Tele-ID practice should be strongly considered a strategy to promote work-life balance, decrease burnout, and draw the next generation of physicians into the specialty. Additional studies are needed to clarify the advantages and challenges of tele-ID beyond anecdotal experiences and to quantify its impact on patient outcomes, physician burnout, and attraction of new physicians to our field. It is our responsibility to advocate for a cultural shift that would facilitate cross-state licensures and reimbursement for telehealth. Without alternative models of ID practice, the ranks of ID specialists are likely to continue to dwindle with negative consequences for patient care. It is imperative that we reverse this trajectory.

Notes

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Potential conflicts of interest. L. N. and S. M. S. are employed by the University of Pittsburgh Physicians of the University of Pittsburgh Medical Center and provide telemedicine ID consultation through ID Connect, Inc.

They have no financial interest in ID Connect, Inc. L. N. does not have any financial conflicts to disclose. S. M. S. has provided consulting for Pearl Diagnostics, Inc.

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