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Could Telemedicine Be Here to Stay? Understanding the Rapidly Changing Landscape of Telemedicine in Allergy and Immunology Practice



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The coronavirus disease 2019 (COVID-19) pandemic had a striking impact on health care systems globally, highlighting both underlying weaknesses and opportunities to transform the way health care is provided. Among these changes, one of the most dramatic trends has been the increased use of telemedicine. The US Department of Health and Human Services reported a 63-fold increase in telehealth visits from 2019 to 2020.¹ Although adoption of telemedicine was primarily out of necessity, its utility has been demonstrated especially within the realm of allergy and immunology practice. This issue of *The Journal of Allergy and Clinical Immunology: In Practice* explores important clinical considerations, innovations, and implications of telemedicine for allergy and immunology practice.

Several benefits of telemedicine have been identified across specialties (eg, convenience, decreased wait times, and transportation time). However, a specialty- and disease-specific approach can be useful in optimizing telemedicine care for patients. Ramsey et al² analyzed factors contributing to patient and provider satisfaction for allergy and immunology encounters. In conditions such as asthma, telemedicine was favored positively, allowing ability to monitor device technique, track flares, and observe disease control. Yet, some patients and providers still preferred in-person visits for specific allergy and immunology encounters, such as food allergy encounters, that require a more thorough physical examination and testing.

Telemedicine may also be advantageous in its ability to expand the reach of allergy and immunology care at a critical time when a shortage of allergists is estimated to exist by 2025.^{1,3} This impending shortage of specialists may further exacerbate an existing service gap in vulnerable populations already lacking access to specialty care, such as rural populations. Weibel and Perry's article³ provides a nuanced understanding of existing disparities and tele-allergy approaches to engage rural and

regional patients. One such approach is using a "spoke and hub" model, in which a centralized medical center supports several "hub" sites in providing specialized allergy and immunology care through facilitated telemedicine encounters with support staff. As noted, special considerations must be accounted for in telemedicine within harder-to-reach and higher-risk populations. Accordingly, Justvig et al⁴ shared insights on how to address social determinants of health in their tele-asthma approach. This includes asthma case management programs, social work integration, and addressing access to technology.

However, bridging disparities in telemedicine does not come without its own challenges. In their primary care practice, Justvig et al⁴ detailed limited physical examination, difficulties with access/learning telemedicine technology, and administrative support as key challenges in providing telemedicine care. The article by Gilkey et al⁵ investigated how telemedicine can potentially alleviate or add additional cost burden for patients with allergy. Although existing literature supports the cost-saving aspects of telemedicine, this article shared findings from qualitative interviews with families that shared ways in which telemedicine can also increase cost for patients. For families that cannot afford costly medications to manage their conditions, telemedicine can decrease their access to key material resources (eg, medical samples) and care partners (eg, asthma educators and social workers) normally accessible during in-person visits. For this reason, open conversations between patients and providers about cost burden are important to ensure patients can adhere to treatment. Gilkey et al⁵ created the "4 Rs" framework to facilitate these conversations—(1) routinely raise the topic of asthma care costs, (2) reassure patients and families that cost concerns are common and conversations are welcome, (3) revise the care plan to safely reduce costs when possible, and (4) refer patients to asthma educators and other care team members of other support and resources.

Because patient-physician communication may differ when they take place behind a screen, providers may benefit from changing their clinical approach virtually. Bajowala et al⁶ shared clinical considerations for physicians during virtual visits. This includes appropriate "webside manner" and innovating methods to use the home environment in assessment. For instance, by being able to see the patient's home, providers may be able to identify potential allergy or asthma triggers in their immediate environment. In addition, although physical examination can be challenging virtually, provider understanding of remote digital monitoring devices has been shown to be a promising method to help patients monitor their conditions. The article on digital inhaler and remote patient monitoring systems by Mosnaim

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et al⁷ offers a thorough review on devices available, determining the correct device for patients, and how patients adopt these tools for asthma management.

On an institutional and policy level, strict regulations, licensing requirements, and reimbursement codes slowed adoption of telemedicine for years. Pandya et al⁸ provide a thorough analysis on regulatory changes during the pandemic and discuss how our current policy approach will play a central role in dictating the future of telemedicine uptake. Because of the public health emergency, regulatory agencies such as the Department of Health and Human Services granted leniency surrounding Health Insurance Portability and Accountability Act (HIPAA) rules so long as provision was under good faith; this ensured patients could access their care safely. For example, providers were not penalized for using previously restricted applications such as Zoom, Facetime, and Facebook Messenger, effectively expanding patient access to telemedicine platforms. The Centers for Medicare & Medicaid Services eliminated geographic restrictions beyond rural regions and expanded coverage of telemedicine modalities to include asynchronous services and remote patient monitoring. As the expiration of these telemedicine policies approach, the benefits of these waivers may shift longer-term policy to protect patient access. For this reason, timely research is essential to influence policy as it changes.

Outcomes data before the pandemic may not be generalizable to postpandemic outcomes, making telemedicine in allergy and immunology a fast-growing and important area for research. Although there are a myriad of studies on telemedicine, Bajowala et al⁶ found that a large body of this work is within single health care systems and more comprehensive assessments will be necessary. Future studies identifying key tele-allergy metrics, disease-

specific outcome data, understanding the best platforms and technologies for telemedicine, and strategies to integrate this into the health care system will be key to the growth of this modality.

The widespread adoption of telemedicine during the pandemic highlighted the many benefits, challenges, and opportunities for improving patient care. With its ability to address major gaps in care and condition management, telemedicine is a promising addition to the allergy and immunology practitioner's clinical toolkit. As the landscape of telemedicine continues to rapidly change, continued research in this area will be essential for informing policy and practice to optimize allergy and immunology patient outcomes.

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