Editorial

Telemedicine in the Era of COVID-19

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About once in a generation, a global pandemic emerges and wreaks havoc on a vulnerable world population. This is why most of us have limited personal experience with such events. The present outbreak of a coronavirus-associated acute respiratory disease called coronavirus disease 19 (COVID-19) is the third documented spillover of an animal coronavirus to humans that is causing a major epidemic in the last 2 decades.[1] Recent outbreaks such as severe acute respiratory syndrome in 2003 and Middle East respiratory syndrome in 2012 were successfully confined to small regions of the planet. As such, they were of peripheral concern to allergists practicing in the United States because we and our patients were not exposed to them. Now that COVID-19 is affecting us and our patients directly, concerns about this novel emerging infection have gone, well… viral. It was only a matter of time until a global pandemic affected us, and our time has run out.

Our initial response to COVID-19, now that disputes over whether it is real and who is to blame for it are over, is to slow its spread to avoid overwhelming the ability of our health care system to handle sick patients. COVID-19 is proving to be more infectious than severe acute respiratory syndrome, leading to 10 times as many cases in one-quarter of the time.[1] A significant portion of cases in China were due to hospital-related transmission,[2] and skilled nursing facilities in Washington state have followed suit. Without proper containment measures, the fear is that hospitals will be overrun with COVID-19 cases. Not only does this limit our ability to treat seriously ill patients infected with the virus but it also could prevent uninfected individuals suffering from more mundane life-threatening conditions, such as myocardial infarction and stroke, from receiving timely treatment that they would routinely get in "normal" times.

COVID-19 is a respiratory virus, which means that patients who are at increased risk of morbidity include our patients with asthma, chronic obstructive pulmonary disease, and also with immunodeficiency. Because it is the spring allergy season, many patients with allergic rhinitis may mistake their symptoms for those of COVID-19. We need to educate our patients to recognize this fact. As health care professionals, we must take appropriate measures to ensure that individuals with low-risk diseases, as well as the "worried well," do not take up our already limited health care resources while ensuring that those who are seriously ill receive appropriate triage and treatment.

TELEMEDICINE CAN HELP

Telemedicine (TM) has the potential to help by permitting mildly ill patients to get the supportive care they need while minimizing their exposure to other acutely ill patients. After all, the only infection that one can catch while using TM is a computer virus. To encourage the TM approach, nearly all health plans and large employers offer some form of coverage for TM services. Although the use of TM has increased over the last 2 to 3 years, rates of TM adoption among allergists are still low.[3] In response to the current COVID-19 situation, the Centers for Medicare & Medicaid Services and commercial health plans largely have waived co-pays for TM visits as a means to encourage utilization in this time of need, and allergists need to pay attention to this.[4,5]

A recent survey demonstrated that patients are willing to use telehealth, but barriers still exist, namely: (1) At a time of need, many people revert to what they are used to doing and the way in which they previously interacted with the health care system. (2) Patients would prefer that they see their own provider through TM versus someone with whom they do not have a previously established relationship. (3) Patients may be unaware that they have TM as an option and do not know how to access it.[6]

Health plans, employers, hospital systems, and media outlets should work to overcome these barriers by (1) educating people that TM is an effective alternative and safer under the current circumstances, (2) expanding network reimbursement coverage for physicians to see their patients through TM, (3) making people aware that a TM benefit exists, with step-by-step instructions on how it can be accessed, (4) helping people understand how TM works, and (5) continuing to reduce cost barriers to accessing TM.

To promote the use of TM in the age of COVID-19, various online resources have been developed both from regulatory agencies and from the major allergy professional societies (Table I). In addition, because of the public health emergency, as of March 6, 2020, Medicare will pay to treat COVID-19 (and for other medically reasonable purposes) using TM services for patients if they have seen a provider in the same practice from offices, hospitals, and places of residence (such as homes, nursing homes, and assisted living facilities).[7] There also has been a relaxation of Health Insurance Portability and Accountability Act (HIPAA) regulations to permit providers to use their personal phones to see patients. In addition, in an effort to get COVID-19 tests to the public more quickly, the US Food and Drug Administration has waived the normal regulations to expedite allowing test makers to market scientifically valid products in the United States.[8]

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TABLE I. TM resources available from professional and regulatory agencies during the age of COVID-19

TM resource	Link
American Telemedicine Association COVID-19 resources	https://info.americantelemed.org/covid-19-news-resources
ACAAI Guidelines to support telemedicine as an effective tool for allergists	https://acaai.org/news/guidelines-support-telemedicine-effective-tool-allergists
ACAAI COVID-19 and asthma, allergy, and immune deficiency patients	https://college.acaai.org/acaai-statement-covid-19-and-asthma-allergy-and-immune-deficiency-patients-3-12-20
AAAAI Resources for A/I clinicians during the COVID-19 pandemic	https://education.aaaai.org/resources-for-a-i-clinicians/covid-19
AAAAI Telemedicine learning resources	https://www.aaaai.org/practice-resources/running-your-practice/practice-management-resources/telemedicine
Medicare Coronavirus and telehealth	https://www.medicare.gov/medicare-coronavirus
Medicare Telehealth coverage	https://www.medicare.gov/coverage/telehealth
CDC COVID-19 resources	https://www.cdc.gov/coronavirus/2019-ncov/index.html
CMS COVID-19 partner toolkit	https://www.cms.gov/outreach-education/partner-resources/coronavirus-covid-19-partner-toolkit

CDC, Centers for Disease Control and Prevention; *CMS*, Centers for Medicare & Medicaid Services.

OFFICE-BASED ENCOUNTERS TO ISOLATE PROVIDERS

The use of TM can allow allergy providers who are older and who may have an underlying health condition to avoid contact with potentially infected patients. This can be done by seeing patients with a facilitated visit in the allergy office.[9] The provider would need a computer, tablet, or smart phone for 2-way video interaction with patients, and the office nurse could be trained to be a telefacilitator. For established patients where a physical examination is not required, any HIPAA-compliant video platform would work.[10] In such situations, if a procedure is needed, patients could even be seen from their home if they have the appropriate video equipment. Because new patients require a physical examination, they may not be appropriate for this type of encounter unless digital examination equipment is available in the allergy office. If non—high-risk providers are present in the office, low-risk procedures such as skin testing can be performed.

HOME-BASED VIDEO ENCOUNTERS FOR TRIAGE

TM also can be used to assess and triage for COVID-19. This type of encounter should be video-based and must be initiated by the patient to be billable. Although a facilitated visit may permit a physical examination to be performed, it also increases the risk of exposure to COVID-19 for patients and health care workers. With a home-based video interaction, the patient can have an interaction with a provider, who, in addition to obtaining a thorough history of symptoms and exposure risk, can perform an observational assessment.[11] This assessment should include the following:

- Temperature with a home thermometer
- Observation of general appearance, noting if the patient is ill appearing, is exhibiting diaphoresis, pallor, or flushing
- Calculation of respiratory rate
- Observation of respirations and deep breath and whether there is use of accessory respiratory muscles, labored breathing, interrupted speech
- Presence or absence of cough; dry or productive
- Observation of the oropharynx, with assessment of oropharyngeal erythema, exudate, enlarged or absent tonsils or lesions
- Patient-directed palpation of anterior and posterior cervical chains to assess for presence or absence of prominent lymphadenopathy

Clinicians should use their judgment as to whether the patient is appropriate for COVID-19 testing. Priority should be given to patients with chronic medical conditions, individuals older than 65 years, and those who have come into contact with a COVID-19 positive patient within 14 days. A history of travel to a highly affected area is likely to become irrelevant as more areas become affected. The patient can be directed to the appropriate facility for testing, home testing can be arranged, or if the patient is acutely ill, an emergency protocol should be in place to call 911 with transfer to the nearest emergency department. Appropriate state and local reporting authorities should be contacted, just as if they had been seen in the office setting.

TM FOR MANAGEMENT OF CHRONIC CONDITIONS

TM can be used for ongoing management of chronic diseases such as asthma and immunodeficiency, particularly during a time when social distancing is encouraged. Individuals with these conditions are particularly susceptible to COVID-19, and medication compliance and disease optimization are important ways to mitigate severity. TM can serve as a safe and effective alternative to in-person care. Recent studies have demonstrated similar health outcomes for patients whether delivered in person or synchronously by a remote provider for various conditions including asthma.[12] A 2015 Cochrane systematic review examined the impact of telehealth involving remote monitoring or videoconferencing compared with in-person or telephone visits for chronic conditions including diabetes and congestive heart failure. This review found similar health outcomes for patients with these conditions.[13]

So, although the presence of a pandemic is an unfortunate, though inevitable occurrence, it is also an opportunity to set up an infrastructure for providing care using TM. Once the current

pandemic is over, TM can continue to be used to provide more convenient, cost-effective care to patients. In this way, we will already be prepared for the next, inevitable, infectious disease to emerge.

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