PATIENT CARE DURING COVID-19: BRINGING TELEMEDICINE TO THE FOREFRONT


It may be time to extend the benefits of this practice to the masses.

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The potential of telehealth and telemedicine has been well described in disasters and previous public health emergencies.[1] Use of these practices has dramatically increased over the past decade, commensurate with an increased frequency and severity of disasters in the same time period. We are now in the midst of yet another disaster.

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes COVID-19, emerged in December 2019 in Wuhan, China, as a pneumonia of unknown cause. By January 23, 2020, China had placed Wuhan, the largest city in central China, with a population of more than 11 million, and the nearby city of Huanggang in quarantine. The World Health Organization (WHO) stated that the isolation of these 18 million people was "unprecedented in public health history." The WHO declared COVID-19 a public health emergency of international concern on January 30 and a global pandemic on March 11. As of early May, COVID-19's prolific spread has led to more than 4.1 million cases worldwide and more than 280,000 deaths.[2]

Although interest in telemedicine has historically focused on patients in rural settings and in underserved urban populations, it may now be time to extend its benefits to the masses. Teleophthalmology specifically has been shown to provide timely and cost-effective access to care while positively influencing patient outcomes and satisfaction.[3] As our reality now consists of stay-at-home orders, social distancing, and bans on mass gatherings, the potential role of telemedicine could not be more salient.

CHANGES FOR OPHTHALMOLOGY

During epidemics, there is a fine line between infection control and the provision of ophthalmic care. On March 18, that line became even finer when the AAO recommended that ophthalmologists cease providing any treatment other than urgent or emergency care. Although COVID-19 can be life-threatening, most ocular conditions are not and progress over time. Hence, identifying patients who are at greater risk of infection and determining the risk-benefit profile of treating their ocular issues is crucial.

At the New York University (NYU) Langone Department of Ophthalmology, located in one of the epicenters of this crisis, we swiftly implemented such a process for patient stratification. Appointments for routine or annual care were postponed or converted to telemedicine visits. All elective cases were delayed for at least 3 months. Urgent, emergent, and postoperative visits were maintained. Older age and the presence of comorbidities were taken

AT A GLANCE

- Disasters and pandemics pose unique challenges to health care delivery.
- With the possibility of additional waves of COVID-19 cases, transitioning to telemedicine may be a necessity for the foreseeable future.
- Telemedicine services take time to implement, but health systems and practices that proactively adapt will be well positioned to ensure that patients receive the care they need.

into account during this process, and these factors guided our new practice model.

For patients who did come into the clinics, the number of accompanying visitors was minimized to one per patient. Appointment times were spread out to avoid clusters of patients congregating in waiting rooms. All shared equipment was disinfected with 70% ethanol or a 1:100 dilution of household bleach and water suspension after each use, similar to WHO recommendations. The disinfected equipment included slit lamps, B-scan probes, and patient and visitor chairs.

Staff members wore gloves, which were replaced between each patient. Slit-lamp breath shields were installed to reduce droplet transmission from sporadic coughs and sneezes during examination. IOP was measured using the Icare tonometer (Icare USA). Because SARS-CoV-2 is transmittable through tears and conjunctival secretions (although with low prevalence), Goldmann tonometer prisms and routine goniotomy lenses were replaced with their disposable counterparts to reduce the risk of cross-contamination between patients.[4,5]

Ancillary testing such as OCT and Humphrey visual fields were deferred unless absolutely necessary. Optos color fundus photos were preferred over dilated fundus examinations to reduce patient-examiner contact time.

Measures to protect health care workers have also been employed. During both the 2003 SARS-CoV and the 2012 MERS-CoV crises, health care workers represented approximately 20% of those infected.[6,7] Similar numbers are being reported for COVID-19. Therefore, only essential staff are being asked to physically report to work. With significantly lower patient volumes, patient visits have been consolidated to just 1 or 2 weekdays with reduced numbers of ancillary staff (eg, imagers, patient care technicians) present.

Section 1135 waivers provide a temporary relaxation of certain health care regulatory requirements in the event of a declared disaster or emergency.

All staff members are required to wear surgical masks. If any staff member develops fever, cough, or flu-like symptoms, he or she is asked to report it to the supervisor and to go home immediately for self-quarantine. Conference travel has been suspended, and personal travel to other high-risk locations is strongly discouraged.

TELEMEDICINE: A NEW FRONTIER

As the above measures take effect, tremendous efforts are also being made to bring telemedicine to the forefront. A *JAMA* study examining a claims database for privately insured and Medicare Advantage enrollees between 2005 and 2017 found that only one in 150 primary care visits and one in 5,000 to 10,000 specialist visits were conducted via telemedicine.[8] Of note, there was a rapid uptick in growth for primary care telemedicine in 2016 and 2017 after coverage for direct-to-consumer telemedicine expanded. The use of telemedicine overall was still uncommon by 2017, likely due to issues with coverage, reimbursement, and government restrictions.

One of the major barriers to telemedicine was lifted on March 6, when CMS announced that it would immediately expand telehealth coverage for beneficiaries nationwide under the 1135 waiver authority of the Social Security Act and the Coronavirus Preparedness and Response Supplemental Appropriations Act to help limit risk of exposure and spread of COVID-19. Telehealth visits are now paid at the same rate as regular in-person visits.

Virtual check-in services may also be provided for established patients under the following criteria: (1) the consultation entails 5 to 10 minutes of medical discussion; (2) the consultation is unrelated to a medical visit within the previous 7 days and does not lead to a medical visit within the next 24 hours (or soonest appointment available); and (3) the consultation can be conducted via telephone, audio-video platform, secure text messaging, email, or a patient portal. Remote evaluation and interpretation of recorded images and/or video is also now possible with another billing code. The full coding sheet for phone calls, internet, and telehealth consultations can be found on the AAO's practice management website.

Further, Medicare suspended its requirement that telehealth services could be furnished only when the patient is in a qualified originating site, such as a health care facility or a rural area, for the duration of the public health emergency; payments will be made in all areas of the country and in all settings.[9] The provider may conduct these services from his or her home. Of note, if a patient has Medicare Advantage or commercial insurance, the visit may include a copay, coinsurance, or deductible, or it may be considered a noncovered service. It is important to make patients aware of these potential costs.

Additionally, penalties will not be imposed against health care providers who serve patients in good faith in the event of noncompliance with regulatory requirements under HIPAA, as long as the platform of use is not

public-facing. Allowed platforms that are not HIPAA-compliant include Apple FaceTime, Facebook Messenger video chat, Google Hangouts video, WhatsApp video chat, and Skype. Texting applications such as Signal, Jabber, Facebook Messenger, Google Hangouts, WhatsApp, and iMessageEHR Portal are allowed.[10]

Despite the loosened restrictions, it is still advisable to consider HIPAA-related concerns given the increased rate of cyber attacks that have occurred during the pandemic. For patients with other insurers, physicians should be aware of licensing requirements and medical credentialing policies in the states where they provide service (ie, the state in which the patient resides).[11]

NYU has been a pioneer in adopting telehealth. It first launched a virtual urgent care platform in September 2017 to directly connect patients to an NYU Langone Health emergency provider. The goals were to meet increasing patient demands for easy-to-use convenient care access and to eliminate barriers to care such as lack of transportation or inability to fit appointments into busy schedules. Having this foundation readily facilitated its recent propagation. Telemedicine protocols and criteria for face-to-face visits specific to each ophthalmic subspecialty were created. By mid-March, NYU had rolled out telemedicine protocols for all departments.

Challenges certainly exist in the implementation of telemedicine for ophthalmology. Patients' ocular complaints must be triaged based on their subjective descriptions. Aside from external pictures, it is difficult to ascertain other objective components of an examination. Below are several tools or techniques that may help.

- An easy-to-use, two-page printout created at The University of Arizona enables patients to test their vision at home using an eye chart and Amsler grid.[12]
- Some vision apps can also be used by patients to check their vision and Amsler grid.
- IOP can be coarsely estimated through palpation; patients can be asked whether their eye feels like their forehead (hard), cheek (soft), or tip of the nose.
- An Icare tonometer can be sent to patients who require closer monitoring for at-home IOP measurements.
- A creative and inexpensive (around $30) technique, described on the AAO website,[13] can be used by patients to capture fundus photographs.

At NYU, protocols for red-flag symptoms, such as a red painful eye, transient vision loss, contact lens issues, and flashing lights or floaters, have been put into place to triage these patients effectively while minimizing the use of emergency rooms or urgent care centers. These measures are introductory, and protocols are being reviewed and modified regularly.

CONCLUSION

Disasters and pandemics pose unique challenges to health care delivery. Although telehealth will not solve them all, it is well suited for scenarios in which infrastructure remains intact and clinicians are available to see patients. With the possibility of additional waves of COVID-19 cases, transitioning to telemedicine may be a necessity for the foreseeable future.

Barriers to telemedicine include commercial insurance reimbursement, state licensing, regulatory structures, program implementation, and provider training. These measures take time to implement, but health systems and practices that proactively adapt to these new scenarios will be well positioned to ensure that patients continue to receive the care they need.

For providers, conducting telemedicine visits may initially feel unnatural. After all, physicians have been indoctrinated to visualize, palpate, and auscultate since the earliest days of medical school. Making clinical decisions based on incomplete objective information may feel inadequate. But remember that it is a privilege and duty to serve patients in this time of need. This is a time of opportunity and a time to provide comfort. As an Arabic proverb says, "If you can't have all of it, don't miss having some of it." ■

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