

THE NEED AND BENEFIT OF IMPLEMENTING TELEMEDICINE IN CLINICAL PRACTICE

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The coronavirus disease (COVID-19) pandemic has changed our lives, not only professionally, but also personally, limiting our interaction with family, friends, colleagues, and patients. In order to continue to provide optimal care to our patients, we had to adapt very quickly to the new challenging environment, and quickly implement telemedicine/virtual medical care. These efforts will likely have a tremendous impact on the health of our patients, as well as our livelihood as health care providers.

Obesity, diabetes, and hypertension management are well-suited to the use of telemedicine. The COVID-19 pandemic and recent improvements in both technology (including remote monitoring of vitals, body weight, pulse, blood pressure, and glycemia), as well as significant changes in government policies and insurance coverage, make this an ideal time for endocrinologists to fully embrace telemedicine into their practices.

Previous studies have shown the benefits of telemedicine improving outcomes among veterans with persistently poor diabetes control (1). Telemedicine has been reported to improve short-term glycemic control as effectively as traditional face-to-face (FTF) visits, in a veteran population with diabetes (2). Our group has also shown that both virtual and in-person shared medical appointments (SMAs) are successful at producing short-term weight loss, with comparable outcomes in patients with obesity (3).

The Endocrinology and Metabolism Institute (EMI) at Cleveland Clinic, as well as many other larger health centers across the country, have been obliged to quickly make changes in the way we deliver care to continue to provide optimal medical care to our patients and stay financially afloat. Our EMI includes 40 endocrinologists, 22 advanced practicing providers, and 6 endocrine surgeons. The usual volume of patient encounters included an average of 8,000 FTF visits/month, 3,000 FTF inpatient consultations/month, 130 virtual visits/month, and 310 patients managed through SMAs/month (January, 2019 to February, 2020). In our practice, 60% of our visits are related to diabetes management, and it has been shown that patients with diabetes have an increased risk of the severe form of COVID-19 (4,5). Consequently, we needed to make every effort possible to provide the optimal care to our patients with diabetes, controlling their hemoglobin A1c (HbA1c) and associated risk factors during this pandemic.

As a consequence of the COVID-19 pandemic, on March 22, 2020, the Ohio Governor Michael DeWine imposed a mandate for Ohio's residents to stay-at-home and cancelled all nonessential medical care and elective surgeries. The Cleveland Clinic has postponed all nonessential surgeries until June 15, 2020. As a consequence of this very important measure, and over a period of 1 week, our institute designed a strategy to convert all possible FTF visits to virtual visits.

Within 3 weeks, this effort translated the conversion of 90% of our FTF visits into virtual visits. The remaining 10% of FTF visits included mainly patients who required

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some type of urgent procedure, biopsy, surgery, or medication infusion for treatment of different conditions, which could not be postponed, without seriously jeopardizing the health of these patients. We are currently offering 350 virtual visits and 1 virtual SMA daily.

Several important factors facilitated the quick conversion of the way that we provided care by switching from FTF visits to virtual care: (1), Our Clinic already had the American Well telehealth platform in place to provide telemedicine. However, the Office of Civil Rights has now approved the use of: Apple FaceTime, Facebook Messenger video chat, Google Hangouts video, Google Duo, Zoom, or Skype to provide remote care to our patients too; (2), Twelve of our institute staff were fully trained and familiar with virtual care and were already conducting a small number of virtual visits each month; (3), Our institute was able to redeploy our front desk, administrative support, and medical assistants to contact these patients and offer them virtual visits. Of all the patients contacted, 80% of those contacted agreed to a virtual visit; (4), The Centers for Medicare & Medicaid Services (CMS), the Ohio State Medical Board, and Cleveland Clinic (through our Legal department) approved the possibility of offering virtual visits to new patients in Ohio and also across state lines; (5), Our Information Technology Department incorporated new billing codes in our Epic electronic medical record system to facilitate proper billing of virtual visits to CMS, and other third party payers agreed to reimburse for this type of care too. Even though it is too early to have a clear understanding of the financial impact of COVID-19, the fact that we have been maintaining close to 90% of our patient interactions, suggests that we are not only operating in the best interests of our patients, but also working to maintain a level of fiscal responsibility to our organization; (6), We also had the opportunity to offer telephone encounters if patients did not have the capability (or knowledge) to connect to our virtual care platform or a smart phone that enabled both audio and visual elements; (7), The federal government and the State of Ohio recently relaxed standards for prescribing controlled substances during this pandemic. Physicians may prescribe controlled substances (Schedule II to IV) to new or established patients via a virtual visit (needs to include both audio and visual elements). For established patients (patients in which one has completed a physical exam in the last 24 months), providers may prescribe controlled substances by any means (e.g., telephone-only visit, e-visit, or electronic communication). Providers are also required to ask for the patient's primary care provider's (PCP) contact information, and attempt to notify the PCP, if the patient provides that information. This facilitated the continuation of medical care via telemedicine for our weight-management patients, as most of them are taking anti-obesity medications that are considered controlled substances for weight loss per State of Ohio laws; (8), Patients were extremely

appreciative of the possibility of being seen virtually. They appreciated our efforts to reduce their chances of getting exposed to COVID-19 by attending FTF encounters, but patients also acknowledged the convenience, financial, and quality of life benefits associated with virtual care. There is a brief, but limited, learning curve for both providers and patients on how to use the new technology. When asked, the large majority of the patients indicated that they would prefer having a follow-up virtual visit rather than a FTF encounter. We also noticed a significant reduction in the no-show rate for these virtual visits compared to FTF (6% versus 15%); (9), Because patients with diabetes have an increased risk of severe COVID-19 disease (4,5), we have also started contacting all patients seen at our Institution within the past 12 months age ≥ 60 years with a HbA1c $> 9\%$, offering them a virtual encounter to address their diabetes management. This is important, as many PCPs are currently managing patients with acute symptoms concerning for COVID-19, determining who requires further testing, and outpatient PCPs are undergoing training themselves for possible redeployment to help alleviate the increase in inpatient capacity that may accompany this pandemic; (10), We have converted all our FTF SMAs to virtual SMAs or virtual one-to-one visits. Previous data coming from our institute have shown that in patients with obesity, weight loss was similar with both therapeutic modalities (3). Hopefully, once the data is available, the same will be true for patients with diabetes and other endocrine disorders; and (11), We have also set in place a virtual inpatient consulting service, so as to minimize unnecessary contact between consultants and exposed patients, to curtail the use of personal protective equipment (PPE), and to minimize any potential spread of the infection to patients hospitalized for other non-COVID-19 related illnesses. We are now able to provide multiple different types of remote inpatient consults and subsequent medical care including electronic consults (e-consults), comprised of a consultative chart review with provider-to-provider communications within a shared electronic health record, telephone encounter consults with the patient facilitated by nursing staff (telepresenter), and telehealth consults with virtual face-to-face encounters.

The landscape of telehealth has changed with this pandemic and all the measures outlined herein have allowed us to continue to provide care to 90% of our patients, in the safest manner possible through virtual care, in addition to reducing the risk of having patients and caregivers exposed to COVID-19. These virtual workflows have also had a very important impact reducing the use of PPE, which is absolutely necessary in other areas of the hospital.

We are now in the process of evaluating if the quality of care provided virtually is noninferior to the care obtained through FTF visits. Meanwhile, we hope that the information here provided assists our colleagues all over the country, and all over the world, to continue to provide

medical care, support, and hope to their patients during these very uncertain times.

DISCLOSURE

The authors have no multiplicity of interest to disclose.

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