REVIEW ARTICLE

Pediatric OBESITY   WILEY

The paediatric weight management office visit via telemedicine: pre- to post-COVID-19 pandemic

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Summary

Telemedicine is a powerful tool that erases many logistical barriers to care and may increase access. Due to the need for social distancing, the COVID-19 pandemic has temporarily reduced in-person visits for clinical care. Providers, clinical staff and patients are pressed to acutely learn new skills and adapt clinical care through the use of telemedicine whilst administrators, policy makers and regulatory organizations make changes to existing policies to meet this national emergency. Our tertiary care, interdisciplinary paediatric weight management clinic began the use of telemedicine 5 years ago to bring access to an underserved, rural population at their primary care office, which has allowed our clinic to pivot seamlessly to in-home telemedicine visits during the pandemic. Telemedicine rules and regulations are rapidly changing to meet the COVID-19 national emergency, but many supports for new telemedicine providers are already in place. In this article, we provide an overview of telemedicine components, policies and regulations. We review the operationalization of our clinic's telemedicine visit prior to the pandemic. We discuss how telemedicine services are impacted by COVID-19 and key resources are provided. Finally, we reimagine telemedicine services post-pandemic to expand effective, coordinated health care, particularly for patients with chronic needs such as obesity.

KEYWORDS
COVID-19, obesity, pandemic, paediatric, telehealth, telemedicine

1 | INTRODUCTION

The arrival of the COVID-19 pandemic has significantly affected traditional healthcare delivery systems. The need for social distancing along with the on-going needs of our patients demanded that healthcare professionals create in-person visit alternatives. The COVID-19 pandemic has created an urgency to act, to use every tool in order to treat safely. Swift policy and regulatory changes such as reimbursed telemedicine visits directly to the patient's home have occurred at state and federal levels to provide access between patient and providers. Hospital systems and professional organizations are mobilizing teams to support telemedicine efforts, including virtual meetings, links to resources and rapid adaptation of policies and skills. Government agencies, particularly the Centers for Medicare and Medicaid Services (CMS), are reacting to the evolving emergency with telemedicine waivers and rule changes to allow continuity of care in provider practices.[1]

As practitioners in a tertiary care, interdisciplinary paediatric weight management clinic who have conducted telemedicine visits for 5 years, we see an opportunity to offer assistance, resources and encouragement to colleagues. In our experience and in the literature, families and paediatricians express positive feedback and support for telemedicine.[2-4] Providers recognize the need to continue care for patients with obesity who are at risk for increased severity of COVID-19 disease perhaps due to factors directly related to obesity pathophysiology and/or the chronic comorbidities of obesity.[5] Chronic disease requires on-going management; interruption of chronic care visits for obesity delays treatment and can lead to increased disease burden and poor outcomes. The changing healthcare delivery environment demands creative thinking to

best utilize telehealth in the COVID-19 era, particularly for patients with the chronic disease of obesity which requires high intensity, high-frequency interactions across an interdisciplinary team.[6-8]

The purpose of this article is to review basic components of telemedicine followed by a discussion of operationalization of a virtual visit prior to the pandemic as used by our paediatric weight management clinic. We review how COVID-19 has impacted telemedicine services and key resources are provided. Finally, we reimagine telemedicine going forward to expand effective, coordinated care particularly for patients with the chronic disease of obesity.

2 | CHOOSING TELEMEDICINE

In 2009, our interdisciplinary paediatric weight management clinic located in a tertiary medical centre began obesity medicine services for referrals within our rural geographic area. Primary care colleagues practicing in a remote area of the state 4 hours from our clinic expressed frustration that our clinic's level of obesity care was not reasonably available to their patients due to financial, weather and travel barriers. In 2015, after a series of meetings with both facilities' administrators, clinicians, information technology (IT) experts, state Medicaid and telehealth representatives, we implemented a plan to provide telemedicine services from our weight management specialty clinic to the remote primary care provider's (PCP) office.

Our programme's interdisciplinary team includes an American Board of Obesity Medicine certified medical director, RN coordinator, nurse practitioner (NP), registered dietitian (RD), paediatric developmental psychologist and personal trainers. Team members complete continuing education in obesity medicine annually.

Our telemedicine plan called for the initial patient evaluation by the physician and nurse coordinator to be in-person with subsequent team member visits provided using telemedicine at the patient's PCP office with no changes to our overall programme protocol. Structuring the initial visit in-person was a curriculum decision specifically designed to develop provider/patient relationships and to conduct a thorough physical examination. New referrals at the originating site are scheduled quarterly (or more frequently if volume dictates).

Initial visits are 1 hour per provider (physician with nurse coordinator, RD, paediatric developmental psychologist, trainer); follow-ups with each provider are scheduled for 30 minutes on average (pending patient complexity). The curriculum progresses from eight weekly, eight bi-weekly, to six monthly visits followed by continuing maintenance appointment intervals determined in collaboration with family and team. The patient sees the physician/NP provider, RN coordinator and trainer at each visit. Patients are seen by the RD and psychologist every 3 months (more frequently as needed). This schedule is designed to provide required high intensity and frequency that meets the 2017 US Preventive Services Task Force (USPSTF) recommendations (26 hours of intervention over 12 months).[6] Baseline assessments by team members are used to develop individualized medical, educational and behavioural goals. The programme is on-going to meet the needs of children with a chronic disease.

3 | TELEHEALTH, TERMINOLOGY AND TECHNOLOGY

In 2017, Tuckson et al listed five trends that would propel telehealth forward: consumer technology market innovation, electronic health record advances, healthcare worker shortages, incentives to deliver healthcare in lower cost settings and consumer expectations for real-time access to health services.[9] These trends are magnified with the urgency of the COVID-19 pandemic and the increased demand for the flexibility of telemedicine within health care.

Telemedicine services expand access by reducing barriers such as travel time, competing responsibilities, absence from work (less travel time which can be 2-4 hours) and inclement weather. Advantages for providers include schedule flexibility by seeing patients from one venue rather than travel to various clinic locations. Institutions may find increased productivity and less clinic overhead.

Telehealth is a global term encompassing the delivery of health care, education and information by remote technologies.[10] Telemedicine, a subset of telehealth, uses technology to connect a patient and healthcare provider in separate locations in two-way, real-time interactive communication.[11] The patient's location is termed the *originating site*; the provider's location is termed the *distant* site. Pre-COVID-19, originating sites were limited to healthcare facilities per CMS rules but during the COVID-19 pandemic, the originating site is allowed to be the patient's home as a covered service.

Telehealth technology must meet the clinical needs of a particular practice. Ranging from simple to complex, an abundance of diagnostic tools adapted for telehealth exist but are often underutilized. Examples include remote patient monitoring, technology-based communications such as e-consults and brief virtual visits, Project ECHO case-based provider-to-provider learning and video (telemedicine) patient-to-provider visits.[12-14]

An understanding of terminology is important in navigating best practice usage of telehealth tools. Table 1 provides common telehealth and telemedicine terminology and definitions. Organizations that support providers and institutions with real-time knowledge of current telemedicine technology, regulations and rules are listed in Table 2.

Available telemedicine platforms will vary across practices and institutions. Each institution must ensure that their chosen platform is Health Insurance Portability and Accountability Act (HIPAA) compliant providing security to both providers and patients. Although many of these restrictions are currently waived under the public health emergency, it is advisable to implement a platform which meets HIPAA regulations, both to ensure the security and privacy of patients, and to proactively prepare for the return of previous restrictions.

At our institution, administration, legal and IT teams chose telemedicine platforms and developed policies around telehealth use. Our current platform offers an institutional professional user license that is HIPAA compliant and secure per our institution's policies. A business associate agreement is in place between our organization and the technology vendor. Providers offered input into needs for clinical work provided via telemedicine after reviewing and testing available options.[13] Our telemedicine experience is between separate hospital

TABLE 1 Definition of telehealth terms[11,15]

Term	Definition
Telehealth	Real time, interactive visual and audio telecommunications where a patient and a healthcare provider interact remotely through the use of technology
Telemedicine	The use of technology by a healthcare provider to deliver clinical services at a distance for the purpose of diagnosis, disease monitoring or treatment. Telemedicine services may be either telephonic or combined video/audio
Originating site	Where patient is located; prior to COVID-19, location was a healthcare facility; during pandemic, definition expanded to patient's home
Distant site	Site at which the provider delivering the telemedicine service is located
Synchronous	Live exchange of information
Asynchronous	Information exchanged is seen at future time
Store and forward	Data forwarded to provider to review at future time
RPM (CMS definition)	RPM is defined as the collection and interpretation of physiologic data (eg ECG, blood pressure and glucose monitoring) digitally stored and/or transmitted by the patient and/or caregiver to the physician or other qualified healthcare professional, qualified by education, training, licensure/regulation (when applicable) requiring a minimum of 30 min of time
E-visit (CMS definition)	Non-face-to-face patient-initiated digital communications that require a clinical decision that otherwise typically would have been provided in the office. E-visits are meant to cover short-term assessment and management activities conducted via an online platform, such as a patient portal, and include associated clinical decision making

Abbreviations: CMS, Centers for Medicare and Medicaid Services; ECG, electrocardiogram; RPM, remote patient monitoring.

clinics in the same healthcare system at different geographical sites. Hospital administrators and legal teams from both sites, even though members of the same hospital system, created a joint contract detailing scope and division of responsibilities. If working with sites located in different healthcare systems, there will likely be additional considerations such as licensure and credentialing particularly if located in different states.

4 | TELEHEALTH POLICIES AND REGULATIONS

4.1 | Centres for Medicare and Medicaid policies

Prior to the COVID-19 pandemic, CMS set specific requirements outlining that the originating site must be a healthcare facility that met rural eligibility requirements with few exceptions. Fifty state Medicaid programmes reimbursed some form of a real-time video visit;

however, the amount of reimbursement varied from state to state with some states requiring payment parity (payment equal to in-person service) and some only coverage parity (payment less than in-person service). The list of services eligible for telehealth under Medicare and many state Medicaid policies was quite limited in scope.

Although CMS provides oversight for both Medicare and Medicaid, states have significant flexibility with respect to defining and implementing policy for telehealth coverage, and in many cases state Medicaid policies have allowed for much broader use of telehealth than Medicare, which prior to COVID-19, had tight restrictions on eligible patient locations, services, providers and modalities. Previous to the pandemic, there had been a trend in state Medicaid programmes to expand the list of eligible patient (originating) sites outside the healthcare environment, to include schools, worksites and patient homes, in order to promote broader access to care and increased utilization of telehealth. Maine's Medicaid programme has been a leader in this regard and has allowed the patient home as an eligible originating site since 2018.

Since the declaration of the COVID-19 national emergency, Medicare payments for telemedicine services are now equal to payments for in-person visits and a majority of state Medicaid programmes have followed suit.[16] The list of eligible services has significantly expanded for both Medicare and Medicaid programmes, under various blanket waivers and emergency orders.[17,18] CMS has relaxed originating site restrictions to include the patient's home as well as expanded which providers and services are allowable via telemedicine during the pandemic.[1]

Originally, our state Medicaid programme (MaineCare) required initial prior authorization for telemedicine services followed by annual authorization renewal. In 2016, this requirement was removed after provider feedback asserted that the requirement created significant delays in providing telemedicine services and limited telehealth utilization. This important policy change, along with removal of geographic restrictions, created significant re-engagement from early telemedicine adopters and leadership in our state.[15] The policy further confirmed that a service that could be safely delivered via telemedicine (as determined by the healthcare provider) and was covered by MaineCare in the in-person setting was eligible for telehealth service coverage and reimbursed at the same rate as the in-person service (payment parity).[15]

4.2 | Private payors

Laws governing reimbursement for telehealth services by private insurers exist in 41 states and the District of Columbia.[16] However, payment parity for telemedicine visits compared with in-person visits is not guaranteed across individual insurers and policies and not all laws mandate reimbursement. Some policies use language such as 'may' vs 'must' and some specify that telemedicine services are reimbursed at a lower percentage. Overall, under the COVID-19 pandemic, private payors across the United States are following suit with Medicare and Medicaid programmes in providing payment parity.

TABLE 2 Telehealth resources

Resource name	Description	URL
The National Consortium of Telehealth Resource Centers[a]	Federally funded programme (HRSA), free of charge. Provides technical assistance, education and information to healthcare organizations and individuals actively or interested in providing telehealth. Includes links to 12 regional telehealth resource centres with state-specific information/resources	https://www.telehealthresourcecenter.org/
NorthEast Telehealth Resource Center	Telehealth 101 Fact Sheet; Where to Begin	https://netrc.org/wp-content/uploads/2014/06/Fact-SheetEmail2.pdf
Centers for Medicare and Medicaid Services[a]	COVID-19 Emergency declaration blanket waivers	https://www.cms.gov/files/document/summary-covid-19-emergency-declaration-waivers.pdf
Center for Connected Health Policy[a]	State actions related to telehealth policy designed to remove barriers during COVID-19	https://www.cchpca.org/resources/covid-19-related-state-actions
Agency for Healthcare Research and Quality	Easy-to-Understand Telehealth Consent Form	https://www.ahrq.gov/health-literacy/informed-consent-telehealth.html
American Academy of Pediatrics	Advice on: Telehealth and after-hours care; Telehealth advocacy and policy; Implementing telephone care; Implementing video visits and telemedicine; Using email communication with patients and family; Getting paid for telehealth care	https://www.aap.org/en-us/professional-resources/practice-transformation/managing-patients/telehealth-care/Pages/default.aspx
American Academy of Pediatrics	Coding for Telemedicine Services	https://www.aap.org/en-us/Documents/coding_factsheet_telemedicine.pdf
American Medical Association	AMA CPT guidance during COVID-19 pandemic	https://www.ama-assn.org/press-center/press-releases/ama-announces-new-cpt-guidance-during-covid-19-pandemic
American Medical Association	Quick Guide to Telemedicine in Practice	https://edhub.ama-assn.org/steps-forward/module/2702689
American Medical Association	Telehealth Implementation Playbook	https://www.ama-assn.org/system/files/2020-04/ama-telehealth-playbook.pdf
American Association of Nurse Practitioners	COVID-19 Telehealth Updates	https://www.aanp.org/practice/practice-management/technology/telehealth
American Telemedicine Association	Non-profit focused on advancing telehealth to transforming health and care	http://www.americantelemed.org
Center for Connected Health Policy	Non-profit, non-partisan organization working to maximize telehealth's ability to improve health outcomes care delivery and cost effectiveness	http://www.cchpca.org
Centers for Medicare and Medicaid Services	Summary Fact Sheet for all providers highlighting CMS flexibilities during COVID-19	https://www.cms.gov/files/document/covid-19-physicians-and-practitioners.pdf
Centers for Medicare and Medicaid Services	Medicare Learning Network: Medicare Coverage and Payment of Virtual Services. You-Tube Video	https://www.youtube.com/watch?v=bdb9NKtybzo&feature=youtu.be
Centers for Medicare and Medicaid Services	Medicare Learning Network: Telehealth Services	https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/TelehealthSrvcsfctsht.pdf
Centers for Medicare and Medicaid Services	Medicare Learning Network: Telehealth Services. New and Expanded Flexibilities for Rural Health Clinics (RHCs) and Federally Qualified Health Centers (FQHCs) During the COVID-19 Public Health Emergency (PHE)	https://www.cms.gov/files/document/se20016.pdf
Centers for Medicare and Medicaid Services	Telemedicine Tool Kit	https://www.cms.gov/files/document/general-telemedicine-toolkit.pdf
Centers for Medicare and Medicaid Services.	Fact Sheet	https://www.cms.gov/newsroom/fact-sheets/medicare-telemedicine-health-care-provider-fact-sheet

TABLE 2 (Continued)

Resource name	Description	URL
American Telemedicine Association (ATA)	National professional organization devoted to telehealth services	http://www.americantelemed.org
Health and Human Services	How to start a telemedicine programme in COVID era	https://telehealth.hhs.gov/providers/getting-started/
HRSA: Office for the Advancement of Telehealth	Promotes the use of telehealth technologies for healthcare delivery, education and health information services especially in rural areas	https://www.hrsa.gov/rural-health/telehealth
Regional Telehealth Resource Centers (CTRC and NETRC)	Telehealth Coordinator eTraining (free)	https://www.telehealthtrain.org/

[a]Key resources regarding telehealth and telemedicine policy during COVID-19.

4.3 | Credentialing

If a distant site provider is offering services at an originating site and the two sites belong to the same healthcare hospital or medical practice, credentialing completed for the first site would apply to the second. In instances where the distant site provider is not credentialed at the originating healthcare site, the provider has two credentialing options, full or by-proxy.

The full credentialing option requires providers from the distant site to undertake the entire credentialing process at the originating site. This methodology is time consuming but approval does allow the distant site provider to conduct in-person visits at the originating site. Our practice utilizes this methodology in order to perform the new patient encounter at the PCP office (originating site). The by-proxy credentialing option allows originating sites to accept the credentialing of the distant site where the provider already has existing privileges to allow for telehealth services but not in-person visits. Credentialing time is reduced using this methodology; however, some institutions are reluctant to use this process due to legal concerns around liability of credentialing accuracy.[19]

Although institutions credential professional staff for practice privileges, individual states are responsible for granting professional licenses. Prior to COVID-19, practitioners needed a valid license in the state where the patient was physically located regardless of the provider's location. During the COVID-19 pandemic, a majority of states are waiving these laws or providing mechanisms for emergency licensure for medical providers.[20] Some states are waiving licensure requirements for other types of providers as well, such as therapy services and behavioural health; providers are encouraged to review each individual state and each practice board (based on patient location) to confirm.[21]

4.4 | Security

Telehealth technology and equipment must demonstrate a level of security that allows healthcare providers to deliver care within their scope of practice as authorized by Medicare/Medicaid and applicable Practice Boards. The security of the telemedicine platform is continuously reviewed by an institution's administrative, legal and IT teams. Institutions must ensure that the utilized telemedicine platform provides sufficient encryption to protect the confidentiality and integrity of telemedicine services as outlined by state and federal regulations and guidelines. Confidentiality best practice during a telemedicine session includes: identify personnel who have access; use unique identifiers for each person with access; and prevent unauthorized access.

4.5 | Criteria

In our state and institution, physicians, NPs, physician assistants, RDs, psychologists and other providers are able to provide telemedicine services including those delivered to the home setting. Our state Medicaid policy states a face-to-face encounter prior to a telehealth visit is not required; Maine's commercial payer law is the same. Medicaid policies regarding provider requirements are state specific and require each provider and institution to remain current with state policies. Telehealth statutes and licensing board details also vary across states and healthcare systems. During the pandemic, many restrictions have been waived. Key resources in understanding current policies related to telehealth under COVID-19 are highlighted in Table 2. Most states have developed COVID-19 webpages, which include valuable information, including emergency/executive orders expanding telehealth and specific guidance for particular services and disciplines.[13,18,22]

5 | OPERATIONALIZATION OF TELEMEDICINE PRE-COVID-19

5.1 | The virtual visit

Haimi et al concluded in a patient safety study of a paediatric telemedicine setting that if the provider feels unable to deliver comparable care via telehealth, the visit should be rescheduled to an in-person visit.[23] For our practice, this means that interdisciplinary provider and educational components are comparable as well. Our state Medicaid policy affirmed that care could be delivered via telehealth providing the patient was eligible for the covered service and that the service delivered by telehealth was of comparable quality to care delivered in person.[15]

5.2 | Originating site collaboration

Our pre-COVID-19 experience involved close collaboration with originating site partners who interacted face-to-face with our patients. Concern that our programme's needs might become taxing to the PCP office prompted many pre-planning meetings between distant and originating site colleagues. Areas of consideration included how to share handouts, trackers and other educational materials in real time during virtual visits and charting specific clinical elements into appropriate electronic medical record(s). A level of trust with the originating site was achieved through frequent communication to review the virtual protocol and outline roles and responsibilities proactively.

5.3 | Scheduling and registration

Pre-COVID-19, the clinical coordinator at our paediatric weight management clinic reviewed new telemedicine referrals, made the initial contact with the family, and explained the clinic programme along with telemedicine format, highlighting that the provision of this service via telemedicine was voluntary. Families were counselled on the availability of translation services along with available local community resources. Once completed, families were scheduled for their initial in-person visit with the obesity provider and clinical coordinator travelling to the originating site. Additional team members met with the patient by virtual visit. Travel to our clinic's furthest originating site is 4 hours north which is also affected by winter conditions.

Appointment scheduling was done by the paediatric weight management clinic. This practice has been crucial to our programme's success given the complexity of orchestrating all components across the interdisciplinary team, as well as various levels of visit frequency. These multiple factors require an in-depth understanding of the clinic and collaboration with team members as some patients may require additional visits and services specific to their clinical needs. All subsequent telemedicine visits for established patients are scheduled in the weight management clinic's scheduling programme *and* the telemedicine platform schedule. The clinic scheduler ensured all team members and the originating site received the telemedicine schedule each week. Telehealth clinic availability mirrors in-person clinic hours.

Patients were instructed to call directly to the paediatric weight management clinic rather than the originating site if changes were needed. This practice is important for patient follow-up, weight management visit protocol continuity, decreased impact to the originating site workload and ease for families to contact one location. Our clinic registered all patients and submitted all professional fees for care provided by the weight management clinic which aided in data tracking for quality improvement goals, research and clinic protocol continuity.

5.4 | Visit flow

Pre-COVID-19, when the patient arrived at the originating site (PCP office) for a telehealth visit, the office RN or medical assistant (MA) obtained the patient's weight and vital signs after notifying the distant site coordinator that the patient had arrived. The originating site RN or MA securely logged into the virtual visit for the patient and family who then completed the visit on the tablet with the distant site providers. The PCP RN/MA at the originating site was available to troubleshoot problems but otherwise was not further involved in the clinical visit. The patient's laboratory testing was performed locally.

Space utilization will be different for each originating/distant site collaboration depending on resources and overall organization of clinical care. In our case, two exam rooms were set aside for patient visits to ensure privacy and maximize the number of patients seen by our multiple providers.

5.5 | Consents

Pre-COVID-19, a telemedicine consent form was required for Medicaid patients outlining that receiving care via telemedicine was optional. If patients preferred to be seen in person, this type of visit would be provided. The consent to receive care using telemedicine was also reviewed for privately insured patients. During the pandemic, all visits are now via telemedicine and consents are obtained verbally with appropriate documentation in chart. As a paediatric practice, issues of consent to treat and who is present during the visit are the same for in-person or telemedicine visits.[24]

5.6 | Team members and visit structure

Our goal is to make the telemedicine visit as easy as possible for the patient and family. Thinking through the desired goals and components of the visit improves quality and flow. The initial team member starts the telemedicine session and the patient/family is 'invited' securely into the visit by the provider. Subsequent team members are then invited into the virtual exam room in turn. This strategy allows the patient/family to continue to be in the virtual exam room throughout the visit with team members joining and leaving. This strategy works regardless of how few or many team members may be virtually joining the visit that day.

5.7 | Educational tools

Prior to our clinic's expansion via telemedicine services, providers developed many educational tools, handouts and interactive games for traditional in-person visits. Being able to continue to utilize these resources required the team to develop effective ways to incorporate education tools using the telemedicine platform. We successfully addressed this challenge through use of our online platform's share feature allowing providers and family to view educational materials simultaneously and discuss the content. All families received a complete hard copy of the curriculum educational binder at the initial visit which is kept in their home for on-going reference.

5.8 | Documentation

In addition to standard documentation practices, providers documented how the visit was conducted, who participated in the visit, and where the patient visit occurred. Frequency for patient consent is the same for telemedicine services as it is in-person (eg, annual consent). All charges, scheduling, insurance, consents and questionnaires from the patient visit were scanned from the originating site to the distant site for entry into the distant site's electronic medical record negating the need for most paper documents. A locked boxed is recommended for the provider to utilize when travelling between sites if needed.

5.9 | Billing, coding and reimbursement

Per distant site institutional protocol, the billing form should clearly state where the visit took place, through what platform, and summary of time spent by each provider with the patient. ICD codes are the same for in-person or telemedicine care. Although there are some inherent limitations to the physical examination during telemedicine, each visit's level of care is based on complexity (addressing multiple obesity related comorbidities) and time with counselling being >50% of the visit.

The 95 or GT modifier (depending on payer directive) is added to evaluation and management (E&M) codes to highlight that the documented service was provided via interactive telemedicine.[25] The originating site, if it is a healthcare facility, bills the facility fee by submitting a Q code (Q3014). Frequent telemedicine codes are listed in Table 3.

Patients covered by private insurers are counselled to review coverage for telemedicine services with their insurer due to the coverage variability. In our experience, telemedicine services are covered by most private payors at rates comparable to in-person services. Patients are responsible for telemedicine visit co-pays similar to in-person visits per their insurance policies rules.

In our state, any licensed provider in good standing can provide a service within their scope of practice via telemedicine if that service is covered in the in-person setting.[15] RD and behavioural health providers bill for their visits noting within their documentation that the service was provided via telemedicine. Patients are able to see more than on provider on the same day.[15]

5.10 | Telemedicine process reports

A review of all weekly telemedicine visits is compiled by the medical director and the clinical coordinator to assess the areas of scheduling, registration, clinical care, technology and referrals for successes and challenges. The reviewed components include the number of patients scheduled and seen by each provider. The report is shared with team members and administrative staff. This practice, developed as part of the clinic's initial telemedicine protocol and continuing during the pandemic, allows the team to build on each session and follow up on outstanding problems or challenges. Monitoring the telemedicine programme's progress is vital for quality improvement, growth, and ultimately, improved patient experience and clinical care.

5.11 | Clinic co-ordination

There are specific considerations when organizing the virtual clinic visit; these have not changed during the pandemic. Prior to beginning telemedicine visits, colleagues and staff are trained in the chosen platform and ideally practice the solo or multi-provider visit to ensure understanding of the process. Use of telehealth tools allows the entire team to work collaboratively to view collective notes and patient goals. This practice ensures plans from all team members are clearly delineated and prioritized.

Use of slides, hand-outs, trackers and visual aids reinforce the auditory component of education. Documents are shared on screen in real time with the patient/family allowing for interactive education. Creativity with learning aids allows providers to deliver age and developmentally appropriate education.

The clinical coordinator is available to troubleshoot any problems during the visit. Providers can securely communicate with each other using the platform's private chat capability to notify readiness to join the visit, share information, relay technical difficulties and receive real-time assistance. Prior to COVID-19, our clinic used a variety of visit techniques with patients being seen in-person by some providers and remotely by others during the same visit. The clinical coordinator's clearly communicated and organized schedule along with availability is essential to meet the patient/family and providers' needs.

Prior to ending the telemedicine visit, the clinical coordinator reviews the patient's goals with the family and develops an implementation plan. Follow-up paediatric weight management clinic appointments and any recommended outside referrals are completed. Appendix lists additional best practices through our experience.

6 | IMPACT OF COVID-19 ON TELEMEDICINE PROGRAMME

6.1 | Policies during COVID-19

During COVID-19, federal and state telemedicine regulations and guidelines are rapidly changing, necessitating on-going review by an institution's telemedicine leadership. CMS offers guidance around these policies through their website.[1,14,21,27] The Regional Telehealth Resource Centers, funded through the US Health Resources and Services Administration, offer excellent support accessing real-time state specific policy changes.[13]

Close team communication with a clear institutional leadership structure maintains seamless telemedicine implementation. Our institution's Incident Command Center provides resources to all staff regarding recently revised regulations through a daily COVID-19

TABLE 3 Telemedicine coding[26]

Visit type	Code	Time	Note
Telemedicine visits			
Distant site	Use E/M Codes for visit		Bill professional fee and GT modifier
New patient	99201-99205		Bill professional fee and GT modifier
Established patient	99211- 99215		Bill professional fee and GT modifier
Consultation codes	99241-99245		Bill professional fee and GT modifier
Originating site	Uses Q code: Q3014		Bill facility fee
Telephone visits (audio only)			
Medical discussion	99441	5-10 min	Based on time
Medical discussion	99442	11-20 min	Based on time
Medical discussion	99443	21-30 min	Based on time

update. Our clinic team meets weekly to discuss changes affecting telemedicine enabling timely and appropriate adjustments.

Transparency is fundamental when reviewing these changing guidelines with both new and established telemedicine patients including what is telemedicine, how and why it is used and how will the clinic support the family to use the service.[28] The coordinator emphasizes that telemedicine is a voluntary service and that the family can opt out initially or at any time during treatment. Risks and benefits are discussed prior to consent for telemedicine treatment. Educational materials covering how to access the telemedicine platform, tips for use and answers to frequently asked questions are provided to the family and assistance is offered by the clinic as needed.

Under COVID-19, CMS has waived written consent requirements under blanket waivers and many states have waived written consents as well. Consent is verbal when the telemedicine visit is in the patient's home. It remains good practice to document verbal consent in the chart and to secure the written consent as soon as feasible.

6.2 | Telemedicine adaptation to COVID-19

During COVID-19, innovation and creativity are growing and will likely result in many iterations of pre-COVID-19 practices. Providing obesity care during this pandemic has shifted traditional in-person visits or telehealth between healthcare facilities to telemedicine encounters connecting with patients in their homes, expanding the definition of originating site. Due to the swift uptake of telehealth use, providers and IT teams collaborate to ensure that best practices by new users are reviewed and current resources are provided. How to ensure and implement best practices with home as the originating site is likely new territory for most healthcare providers and systems. This change for paediatric weight management clinic practice offers advantages as well as challenges requiring creative and immediate consideration (Table 4).

Many aspects of obesity care in the home can be provided effectively without expensive adjunct telemedicine equipment. For the patient, a laptop with a camera, smartphone or tablet covers their 'equipment' needs along with internet access. For those without these resources, telephone visits are an option during the pandemic.[27] Under our state Medicaid programme, essentially all visits are able to be conducted via telephone (audio-only) under the pandemic, if the patient does not have access to the internet. The list of services eligible for audio-only under Medicare is more limited but are expanding under recent waivers. Most commercial payers have expanded their policies to include telephone (audio-only) services under the pandemic.

Providers require similar equipment needs. During the pandemic, the 'office' for many providers is their own home necessitating an increased awareness of privacy and professionalism in the new clinical exam room. The comfort of the medical team with the technology platform allows for muting of microphone or pausing video as needed to maintain privacy and security. Providers need to consider patient privacy during the home visit being aware that we cannot see beyond the camera view into their private space. Open communication with the family, asking who is in the room and asking permission to speak freely promotes trust.

The telemedicine visit using the home as the originating site obligates obesity medicine providers to consider the structure of a clinical visit. Our clinic has chosen to only perform follow-up visits in the patient's home and is rescheduling initial consults until in-person visits can be safely resumed. During telemedicine home visits, the distant site performs the check-in tasks. Educational materials continue to be shared virtually. Educational binders, given to new patients during their first visit, are already in the patient's home. Follow-up visit educational materials that are not in the patient binder are emailed or mailed to the patient per their preference.

Acquiring accurate vital signs and weight are key concerns especially as these data impact medical decisions and management. Reassessment of clinic protocols requires creative problem solving by prioritizing risks and benefits in obtaining data during the pandemic. Pulse, blood pressure and weight may be obtained by home blood pressure cuffs and scales. Many families already own these items, but for those who do not, we have received grant support to provide these items to families. Other remote patient monitoring

TABLE 4 Summary of paediatric weight management clinic telemedicine practice prior and during COVID-19[13,25,29,26]

	Policy/regulatory standards	Authors experience	COVID-19 impact
Technology	CMS TRC[a]	Institution telehealth administrative team chose	Same
Equipment	CMS TRC	Laptops, Tablets	Laptops, tablets, smart phones; The provider's platform and therefore patient encounter is HIPAA compliant regardless of what device the patient uses to enter the telemedicine platform.
Security	CMS TRC	HIPAA compliant platform, documentation in EMR, authentication and identification to ensure telemedicine confidentiality. Originating site confirms patient identification	HIPAA compliant platform, virtual waiting room of the professional license requires distant provider 'accepts' only identified patients into session, documentation in EMR, authentication and identification to ensure telemedicine confidentiality.
Providers eligible to offer telehealth services	CMS State Medicaid guidance[b]	All members of our team MD/DO/NP/RD/PhD	Same
Provider settings	Distant Site	Distant site-team	Same
Patient settings	Originating Site (healthcare facility as outlined by CMS/State policies)	Originating site: Primary care healthcare office	Patient's home
Who needs to be present	AAP consent/assent guidelines[24]	Patient and family members with guardian and patients consent/assent.	Same practice Ask who is present in the home; ask permission to speak freely
Health condition characteristics	CMS and State Medicare: Provider assesses if can address health condition using this modality	Obesity and related comorbidities. In-person visit scheduled if concerns arise using virtual visit	Same
Scheduling	Institutional policy Clinic protocol	Our clinic schedules across the multi-disciplinary team	Same
Registration	Institutional policy Clinic protocol	Registered by our clinic (Distant Site)	Registered by our clinic (Distant Site)
Consent for non-in-person visit	CMS State Medicaid Institutional policy	Pre-COVID: obtained written consent to treat. Inform care by telemedicine voluntary	Per institution leadership/legal team verbal consent replicates written consent during the pandemic
Check in and out	N/A	Via our clinic (distant)	Via our clinic (distant)
Credentialing	CMS Board of Regulations for Providers Institution credentialing policies	Full credentialing of distant site provider by originating site Medical Staff Office if distant site provider will be seeing patients in-person at the originating site	Provider already credentialed by distant site (their home institution); no further credentialing necessary as the originating site is now the patient's home.
Documentation	CMS Institution documentation policies	Document that visit occurred via telemedicine	Document if visit occurred via telemedicine, telephonic, or both
Coding and Billing	CMS Institutional policies	See Table 3	See Table 3
Facility fee	CMS Institutional policies	See Table 3 originating site Q3014	No Facility Fee when home is originating site
Professional fee	CMS Institutional policies	See Table 3 Distant Site: Professional Fee with GT or 95 modifier	Same

Abbreviations: CMS, Centers for Medicare and Medicaid Services; HIPAA, Health Insurance Portability and Accountability Act; TRC, National Consortium of Telehealth Resource Centers.

[a]Restricted to HIPAA-approved under CMS/TRC regulations.

[b]Eligible providers vary by state Medicaid policy. Rapidly changing.

devices are available for more specific needs.[13] Many elements of the physical examination can be completed effectively via telemedicine with peripheral monitoring devices and/or patient self-reported data.

As medical providers, we have counselled and taught many skills to parents in order to manage chronic diseases together. Ideally, providers will strike a balance between measurements from home and clinic to best monitor data over time. Frequency of measurements will vary between patients depending on risk. Currently, remote patient monitoring tools that measure glucose, pulse, blood pressure and weight demonstrate reliability and cost savings. Advances in technology and expansion of policy may increase access to care and decrease costs.

Families using telemedicine with home as the originating site are expressing positive feedback. For some patients, telemedicine at home has improved access by reducing travel barriers. Families express less anxiety by being able to continue medical care during this pandemic. Many patients are excited to share new food items and review labels with providers. In some circumstances, patients and parents include more members of the family in the visit allowing for expansion of education. Telemedicine offers the opportunity to counsel and educate using the home as an additional resource along with providing greater insight into a family's life.

6.3 | Billing and coding during COVID-19

During COVID-19 regulation, medical and behavioural health providers (distant site) may use telemedicine service codes (with appropriate modifiers) for virtual visits in the patient's home (originating site). Typically, no facility fee is billed when connecting with patients at home, however under the latest CMS blanket waivers, hospitals are now able to bill an originating site fee for in-home telemedicine.[17]

During COVID-19 waivers, elements of the physical examination are not required for billing if the provider is documenting based on time and complexity unless the lack of a particular physical exam component impacts safety. Close coordination with the coding team is recommended.

During the COVID-19 pandemic, telephone (audio-only) visits without a video component are currently allowed by our state Medicaid based on time.[29] It is important to distinguish telemedicine vs telephone (audio-only) in documentation as the modality impacts billing, coding and reimbursement.[17] Additional codes when providing telephone (audio-only) services include E&M codes along with telephone (audio-only) codes (examples:). CMS posts on-going advisories on their website for practitioners to remain current as adjustments during the pandemic are made.[21]

Pre-COVID-19, the overall patient volume via telemedicine was approximately 10% of our clinic's entire practice with minimal financial impact on the overall clinic. During the pandemic, providing 100% telemedicine will clarify the variance between the pre-COVID-19 fee structure of in-person visits at a healthcare setting (professional and facility fee) vs professional fee only charge associated with

telemedicine. There is likely a 'sweet spot' to finding that balance representing an area of needed research.

6.4 | Telemedicine and obesity care moving forward

It is uncertain which rules and regulations will remain or be re-instituted when the pandemic is considered resolved although some states are proactively working towards sustaining at least some of the current policy expansions to better leverage telehealth technology as a means to improve access and outcomes moving forward. This resolution will take time and it is unlikely telemedicine practice will return to the previous *status quo*. Many patients and families receiving obesity care will appreciate the flexibility and access provided by telemedicine, particularly in their home, creating new expectations for telemedicine's on-going use as a standard of care.[9] How to safely and effectively incorporate telemedicine into existing treatment strategies for obesity is an area for future research. Telehealth and telemedicine can no longer be viewed as a luxury and potential for future use.[30-32]

For those currently providing comprehensive obesity care and facing multiple barriers, including access and sustainability risk due to high attrition rates, telemedicine may provide an untapped resource and open significant opportunities.[33,34] Opportunities include improvement in financial/reimbursement models, expanded access and reduction in attrition which guided by the USPSTF recommendations[6] may positively affect patient outcomes. The collaboration between the PCP and specialty practices through the utilization of telemedicine may reduce the impact of specialty care on PCP workflow whilst maintaining the medical home model for the patient and family. Any degree of originating site change from the PCP office to the patient's home opens PCP office space, time and resources that can be redirected to other practice needs.

Learning from the expanded originating site experience allows obesity care teams to consider a balance between in-person visits and those at PCP offices and/or the patient's home. There are several opportunities and challenges to consider in this collaborative model.[35] Opportunities include patients and family attending an appointment via telemedicine whilst at different locations (home, school nurse's office and work during break). More members of the interdisciplinary team can provide care remotely from different physical locations. A provider's schedule could allow for telemedicine visits interspersed with in-person visits to more effectively fill schedules. The collaborative model allows for increased access with perhaps less no shows and cancellations. Utilizing telemedicine promotes conservation of resources and efficient use of providers by reducing travel time and reducing weather related cancellations.

The challenges of using the collaborative model include the fee variance between in-person visit charges (professional fee and facility fee) and telemedicine visit charges (professional fee only). Creative reimbursement models are needed for chronic comprehensive obesity care that meet USPSTF guidelines.[6] For patients without broadband or internet access, computers or smartphones, the telemedicine tool at home may

widen existing socioeconomical disparities, although resources such as the Federal Communications Commission's LifeLine Program and state-based digital equity programmes are helping to address this barrier.[36]

As we aim for precision medicine, telemedicine allows for access in the home environment where some patients are most comfortable. Research clearly demonstrates that patients with obesity experience weight bias by healthcare providers and experience social isolation.[37] Telemedicine may provide a vital bridge to these patients in a way traditional in-person visits cannot, offering an opportunity to build trust in their healthcare providers whilst in the safety and comfort of their own homes.

6.5 | Conclusion

The COVID-19 pandemic has pushed many providers outside of their comfort zones, requiring a re-examination of incorporating telemedicine into their practice. Providers and patients will likely experience many 'new normals' in health care as a result of COVID-19. The hope is to harness this experience to improve care, increase access and better prepare our health systems for future emergency scenarios. A balance must be struck between necessary in-person visits that may be preferred by some patients and telemedicine visits. Payment models require improvement to address sustainability of both models used independently or in combination.[38]

Now is the time to reimagine how we bring our expertise to patients, expanding outside a *physical* office building as a means of improving patient care. In the coming months, lessons learned from patients, healthcare providers and colleagues in policy, insurance, law and healthcare administration will guide telemedicine policy and programme development.

Families allow us into their lives and now their homes. As their interdisciplinary providers, we strive to provide quality care for the disease of obesity. Telemedicine is an additional mechanism allowing paediatric weight management specialists to individualize treatment for youth with obesity. Connecting to a patient and seeing the response on their face – that we can make a difference – is a privilege and the ultimate reward.

CONFLICT OF INTEREST STATEMENT
No conflict of interest was declared.

AUTHOR CONTRIBUTIONS
All authors were involved in writing the article and had final approval of the submitted and published versions.

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REFERENCES

1. Coronavirus Disease; Centers for Medicare & Medicaid Services. http://www.cms.gov. Published January 2020. Accessed June 4, 2020.
2. Ray KN, Demirci JR, Bogen DL, Mehrotra A, Miller E. Optimizing telehealth strategies for subspecialty care: recommendations from rural pediatricians. *Telemed J E Health*. 2015;21(8):622-629.
3. Sisk B, Alexander J, Bodnar C, et al. Pediatrician attitudes toward and experiences with telehealth use: results from a national survey [published online ahead of print, May 8, 2020]. *Acad Pediatr*. 2020. https://doi.org/10.1016/j.acap.2020.05.004.
4. Burke BL Jr, Hall RW, SECTION ON TELEHEALTH CARE. Telemedicine: Pediatric Applications. *Pediatrics*. 2015;136(1):e293-e308. https://doi.org/10.1542/peds.2015-1517.
5. Dietz W, Santos-Burgoa C. Obesity and its implications for COVID-19 mortality. *Obesity*. 2020;28:1005. https://doi.org/10.1002/oby.22818.
6. Grossman DC, Bibbins-Domingo K, Curry SJ, et al. Screening for obesity in children and adolescents: US preventive services task force recommendation statement. *Jama*. 2017;317(23):2417-2426.
7. Barlow SE. Expert committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: summary report. *Pediatrics*. 2007;120:S164-S192.
8. Institute for Healthy Childhood Weight. Algorithm for the assessment and management of childhood obesity in patients 2 years and older. https://ihcw.aap.org/Documents/Assessment%20and%20Management%20of%20Childhood%20Obesity%20Algorithm_FINAL.pdf. Published 2015. Accessed June 4, 2020.
9. Tuckson RV, Edmunds M, Hodgkins ML. Telehealth. *N Engl J Med*. 2017;377(16):1585-1592.
10. What is telehealth. NEJM catalyst. https://catalyst.nejm.org/doi/full/10.1056/CAT.18.0268. Published February 1, 2018. Accessed June 4, 2020.
11. Telemedicine. Medicaid.gov. https://www.medicaid.gov/medicaid/benefits/telemedicine/index.html. Accessed June 4, 2020.
12. Telehealth Implementation Playbook. American Medical Association. https://www.ama-assn.org/system/files/2020-04/ama-telehealth-playbook.pdf. Published January 2020. Accessed June 4, 2020.
13. The National Consortium of Telehealth Resource Centers. https://www.telehealthresourcecenter.org/. Updated May 2020. Accessed June 3, 2020.
14. Centers for Medicare & Medicaid Services. General Provider Telehealth and telemedicine toolkit. https://www.cms.gov/files/document/general-telemedicine-toolkit.pdf. Published March 20, 2020. Accessed June 4, 2020.
15. Department of Health & Human Services. MaineCare Benefits Manual: Telehealth Services (Chapter 1, section 4). https://www.maine.gov/sos/cec/rules/10/ch101.htm. Published April 16, 2016. Updated March 16, 2020 (Emergency Rule). Accessed June 4, 2020.
16. Center for Connected Health Policy. State telehealth laws and reimbursement policies report. https://www.cchpca.org/telehealth-policy/state-telehealth-laws-and-reimbursement-policies-report. Published January 2020. Accessed June 4, 2020.
17. List of telehealth services covered by CMS during COVID-19. https://www.cms.gov/files/zip/covid-19-telehealth-services-phe.zip. Updated April 30, 2020. Accessed June 4, 2020.
18. Center for Connected State Policy. COVID-19 related state actions. https://www.cchpca.org/resources/covid-19-related-state-actions. Updated May 5, 2020. Accessed June 4, 2020.
19. Baker-Whitcomb A, Harvey J. Benefits and barriers to telehealth credentialing by proxy. *Telemed J E Health*. 2018;24(11):922-926.
20. US states and territories modifying requirements for telehealth in response to COVID19. https://www.fsmb.org/siteassets/advocacy/pdf/states-waiving-licensure-requirements-for-telehealth-in-response-to-covid-19.pdf. Updated May 5, 2020. Accessed June 4, 2020.

21. Centers for Medicare & Medicaid Services. CMS Telehealth Services Booklet. Medicare Learning Network: Telehealth Services. https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/TelehealthSrvcsfctsht.pdf. Published March 2020.

22. Centers for Medicare and Medicaid Services. Coronavirus waivers and flexibilities. https://www.cms.gov/files/document/summary-covid-19-emergency-declaration-waivers.pdf. Updated May 8, 2020. Accessed June 4, 2020.

23. Haimi M, Brammli-Greenber S, Baron-Epel O, Waisman Y. Assessing patient safety in a pediatric telemedicine setting: a multi-methods study. *BMC Med Inform Decis Mak*. 2020;20(1):63.

24. Katz AL, Webb SA. Informed consent in decision-making in pediatric practice. *Pediatrics*. 2016;138(2):e20161485. https://doi.org/10.1542/peds.2016-1485.

25. American Academy of Pediatrics. Coding for telemedicine services. https://www.aap.org/en-us/Documents/coding_factsheet_telemedicine.pdf. Published April 13, 2020. Accessed June 4, 2020.

26. CMS. Medicare telemedicine health care provider fact sheet. https://www.cms.gov/newsroom/fact-sheets/medicare-telemedicine-health-care-provider-fact-sheet. Published March 17, 2020. Accessed June 4, 2020.

27. Centers for Medicare & Medicaid Services. Medicare Coverage and Payment of Virtual Services: You-Tube Video. Medicare Learning Network. https://www.youtube.com/watch?v=bdb9NKtybzo&feature=youtu.be. Published April 2, 2020. Accessed June 4, 2020.

28. Chaet D, Clearfield R, Sabin JE, Skimming K. Ethical practice in telehealth and telemedicine. *J Gen Intern Med*. 2017;32(10):1136-1140.

29. Physicians and other clinicians: CMS flexibilities to fight COVID-19. https://www.cms.gov/files/document/covid-19-physicians-and-practitioners.pdf. Published April 29, 2020. Accessed June 4, 2020.

30. Ohannessian R, Duong TA, Odone A. Global telemedicine implementation and integration within health systems to fight the COVID-19 pandemic: a call to action. *JMIR Public Health Surveill*. 2020;6(2):e18810.

31. Hollander JE, Carr BG. Virtually perfect? Telemedicine for Covid-19. *N Engl J Med*. 2020;382:1679-1681. https://doi.org/10.1056/NEJMp2003539.

32. Dorsey ER, Topol EJ. Telemedicine 2020 and the next decade. *Lancet*. 2020;395(10227):859.

33. Cohen GM, Irby MB, Jordan C, Skelton JA. Telemedicine and pediatric obesity treatment: review of the literature and lessons learned. *Clin Obes*. 2012;2(3–4):103-111.

34. Woo Baidal JA, Chang J, Hulse E, Turetsky R, Parkinson K, Rausch JC. Zooming towards a telehealth solution for vulnerable children with obesity during COVID-19. *Obesity*. In press. https://doi.org/10.1002/oby.22860.

35. Myers CR. Using telehealth to remediate rural mental health and healthcare disparities. *Issues Ment Health Nurs*. 2019;40(3):233-239.

36. Federal Communications Commission. Lifeline program for low-income consumers. https://www.fcc.gov/general/lifeline-program-low-income-consumers. Updated May 1, 2020. Accessed June 4, 2020.

37. Puhl RM, Himmelstein MS, Pearl RL. Weight stigma as a psychosocial contributor to obesity. *Am Psychol*. 2020;75(2):274-289.

38. Smith AC, Thomas E, Snoswell CL, et al. Telehealth for global emergencies: implications for coronavirus disease 2019 (COVID-19). *J Telemed Telecare*. In press. 2020;26(5):309-313.

APPENDIX A: Lessons learned and best practices

Why telemedicine?	Increases access to care
	Obesity medicine: opportunity to meet USPSTF contact hours for high-intensity and high-frequency encounters associated with improved outcomes
	Receives positive reviews from providers and families particularly during COVOD-19 social distancing orders
	Assists in maintaining visits that are novel and interesting
	Allows for innovative use of online activity programmes during visit that can be used between appointments at home
	Encourages team innovation in all aspects of care
Preparation	Reach out to telehealth resource centres; free federal programme https://www.telehealthresourcecenter.org/
	Reach out to colleagues who have successfully used telemedicine modalities
	Spend time planning which telehealth modalities match patient needs and available resources
	Think big, start small: as proficiency improves, add additional complexity
	Keep technology simple; attempt what fits your needs and budget
Initial programme development	Find a champion; have an administrative chain of command who supports and collaborates with on-going programme development and refinement
	The telemedicine visit mirrors a face-to-face visit; the techniques are different but the visit components are the same
	Initial training and on-going communication with the Information Technology department essential
	Practice; all office staff and providers need ability to troubleshoot in addition to IT resources who may not have real-time availability
Beginning	Ensure providers have the most up to date schedule
	Communicate during clinic about delays, cancellations, or issues that potentially disrupt clinic timeline
	Open education materials on desktop prior to visit. Minimizes 'looking in chart', maintains privacy, maintains focus on family and patient during visit
	For multi-provider visits, devise real-time communication system surrounding visit needs, staff hand-offs or technical difficulties
Troubleshooting and quality assurance	Coordinator real-time availability to assist providers with problems Maintain contingency protocols: • How long to troubleshoot video problems vs conversion to phone visit • Provider illness • Technical problems Maintain clinic log which includes: • Summary of successes, challenges, technical problems, scheduling and reimbursement issues • Complete summary of weekly logs to address quality improvement