Implementation of Telemedicine Visits in a Pediatric Primary Care Office

Focus Paper

Connie Moering, FACMPE

August 1, 2019

This paper is being submitted in partial fulfillment of the requirements of Fellowship in the American College of Medical Practice Executives.
Abstract

Telemedicine is an innovative approach to healthcare. This paper documents one pediatric health care clinic’s process of researching and eventually implementing a telemedicine program for certain patient populations. The stakeholders identified were clinicians, clinical staff, administrative staff, and support staff. The research found that it was beneficial for those patients who met the criteria established by the stakeholders. The clinic found that if commercial payers changed their reimbursement for telemedicine it could expand those patients who could participate in telemedicine. Keywords: telemedicine, telehealth, pediatric care, Idaho, primary care clinic, healthcare.
Implementation of Telemedicine Visits in a Pediatric Primary Care Office

The practice featured in this paper is an independent, physician owned primary care pediatric office with three clinic locations, nine pediatricians, five nurse practitioners and fifty-five support staff members. The practice was an early adopter of electronic health records, a level three patient centered medical home (the first private clinic in its state to achieve this certification) and attested successfully each year for the meaningful use incentive program. The practice is dynamic in nature and the shareholders and administrative team strive to implement new technology and participate in programs that position them to receive maximum reimbursement and allow their patients to consistently receive high level care.

The physicians and administrative staff began discussions about telemedicine as it was gaining popularity and was felt to be potentially worthwhile in primary care practice. Telemedicine has various appealing attributes and the stakeholders began to look into this by attending breakout sessions specific to telemedicine while at national medical group conferences.

Primary care offices routinely review patients’ ability to access healthcare in their facilities. Practices that have earned a Patient Centered Medical Home (PCMH) designation are mandated to review and improve access for their patients. This paper will examine a primary care pediatric practice’s attempts to improve patient access, outlining the steps, considerations, and research performed by the practice to effectively implement telemedicine visits. This will be addressed by reviewing a case study of the practice’s telemedicine implementation program and process. The practice appointed a team to review pertinent literature on how telemedicine can improve patient access. The team also interviewed patients and providers regarding their satisfaction with the delivery of this form of healthcare.
Stakeholders

In compliance with PCMH, a team of stakeholders in the practice met in the fall of 2016 to examine current patient access and options to help improve access by the spring of 2017. The options considered by this practice were: further expansion of hours, additional practice locations to benefit patients in rural areas, and the implementation of telemedicine visits. The stakeholders, including physician owners, employed providers, the office administrator, and the management team, began discussions regarding the improvement of patient access. The team discussed the above options and the positive and negative impacts on staff, providers, and patients. The addition of Sunday hours was considered. The team recognized it would be profitable for the practice and beneficial to the patients, however, the expansion to a seven-day operation proved to be overwhelming and undesirable to the team due to staffing and management concerns. The possibility of adding an additional location was considered. The team felt that option would be costly and could not be achieved by the stated timeframe goal. The practice’s physician champion had recently attended a continuing education conference offered by the American Academy of Pediatrics (AAP), and he was excited about the prospect of adding telemedicine visits to help improve patient access. The team discussed telemedicine in depth and considered current barriers to patients, such as inclement weather, lack of resources, transportation, and rural locations.

The team agreed telemedicine could alleviate barriers and improve general patient satisfaction and, therefore, should be further explored.
Literature Review

The AAP says that telemedicine can increase patients’ access to care, assist with provider insufficiency and boost communication among providers (Committee on Pediatric Workforce, 2015). Telemedicine, however, can also promote disjointed care when used for acute care by providers other than primary care providers. There is serious disproportion of the geographic locations of pediatricians in this country, which leads to many underserved areas (Committee on Pediatric Workforce, 2015). Studies have shown that barriers related to remoteness can be partially helped through telemedicine (Committee on Pediatric Workforce, 2015).

Telemedicine and telehealth are noted to be used interchangeably throughout the literature searches. Telemedicine is the sharing of health data from one location to another. Telehealth encompasses the above and more, such as tele-education and teleresearch. Essentially, telemedicine and telehealth terms are used interchangeably (Burke & Hall, 2015). This author will also be using the terms interchangeably for this paper.

The practice set out to improve access for patients by removing barriers to in-person visits and to address the known access concerns. The AAP suggests telemedicine can revamp pediatrics. By assisting members via best practices incorporating telemedicine into practices, it is believed this will lead to expanded access to patient care and address the projected provider shortages (Committee on Pediatric Workforce, 2015).

The Patient Protection and Affordable Care Act (ACA) encourages the use of telemedicine. As a result of the ACA the Center for Medicare and Medicaid Innovation (CMMI) was created. This support will elevate and underscore telemedicine’s use and adoption. Medicare
and Medicaid tend to lead the industry in trends so this backing should motivate telemedicine’s use and growth (Burke & Hall, 2015).

Information technology has been employed in healthcare dating back to the Civil War and perhaps prior to that. The telegraph communicated the names of the dead and wounded and requested replenishment of supplies. As technology progressed, the invention of the telephone and the radio broadened the ability to communicate medical information. In the 1960s, interactive video connected hospitals that were miles apart for the purpose of providing health care. The onset of the Web allowed for the ability of electronic devices to connect to each other. Fast forward to today and we have real-time audio and visual connections which have made it possible for clinicians to communicate with patients, parents, and each other (Burke & Hall, 2015).

Current uses for pediatrics are not unlike what is being done in other healthcare specialties, for education, consultation, virtual visits, and research. The use of telemedicine as a form of healthcare delivery is becoming more ubiquitous. Advancement in the development of healthcare technology tools to aid in telemedicine is on the rise. As a result, the price of these tools is decreasing which will lower the overall cost to provide telemedicine visits. Additionally, legislative mandates should impact telemedicine reimbursement which will lead to further growth and development (Burke & Hall, 2015).

Telehealth services have expanded to include traditional office visits, acute care, patient education, provider-to-provider consultations, remote monitoring of patients with chronic health conditions, behavioral health counseling, and monitoring. Behavioral health visits in areas where there are not adequate mental health providers to care for patient needs have been successfully delivered via telemedicine (Burke & Hall, 2015).
Remote readings of radiologic tests and email in compliance with the Health Insurance Portability and Accountability Act (HIPAA) that enables widespread connectivity constitute forms of telemedicine. Embracing these models of health care delivery has set the stage for live video visits between a patient and their provider. Pediatric telemedicine use includes video visits with children in daycare facilities as well as consultation and assessment of seriously sick patients during transport to an inpatient facility. Monitoring of patients in their homes and consultations between providers and subspecialists have helped patients who have limited access and serve as additional examples of current telemedicine use (Olson, McSwain, Curfman, & Chuo, 2018).

The research highlighted the benefits of telemedicine provided by the primary care provider in the patient’s medical home (Burke & Hall, 2015). On the contrary, telemedicine provided by a standalone virtual provider can lead to inferior care. According to the Center for Telehealth and E-Law Summit Meeting in November 2014, the standalone virtual providers generally do not send documentation of their visits to the patient’s primary care providers which leads to disjointed care (as cited in Burke & Hall, 2015). It is ideal for a patient who is participating in a telemedicine visit to be in conjunction with his/her primary care office to ensure continuity of care where the patient is established.

In 2003, the state of Idaho implemented telemedicine services for mental health medication management and behavior therapy in mental health clinics only (Idaho Medicaid Policy, 2018). In 2008, telemedicine was broadened to include behavioral health telehealth services outside of mental health practices (Idaho Medicaid Policy, 2018). In 2016, telemedicine expanded for supervision of school-based Community Based Rehabilitation Services (CBRS) workers in the educational setting. (Idaho Medicaid policy, 2018). Additionally, in 2016,
telemedicine’s scope broadened to include licensed providers such as speech language pathologists, occupational and physical therapists, and primary care providers (Idaho Medicaid Policy, 2018).

The three prominent modalities of telemedicine are synchronous, asynchronous, and remote patient monitoring. Synchronous, otherwise referred to as real-time, provides an exchange between two individuals. This can be an interaction between clinician and another provider, caretaker, or patient. Asynchronous, also referred to a store-and-forward, involves the secure transmission of recorded health data for a provider to review later. Common uses are photos and images that can be sent for reading and interpretation. Remote Patient Monitoring (RPM) is used to track data such as vitals, blood sugar, and heart rate. This information can be transmitted to the patient’s primary care provider. Asynchronous serves as a contrast to synchronous and while quite similar, asynchronous is recorded whereas synchronous is live. A live video visit is considered a synchronous visit (Medical Group Management Association (MGMA), 2018).

**Methods**

The team opted to conduct telemedicine via the synchronous modality and began compiling a list of hardware and software needs. Research was conducted on software platforms for video communications that would meet HIPAA standards. Information Technology (IT) staff contacted the practice’s Electronic Health Record’s (EHR) provider to inquire about options for telemedicine software capable of interfacing with the practice’s EHR. Once a list had been compiled of potential vendors, web-based demonstrations were attended by the team. After a vendor had been selected, more in-depth training was provided on how to operate equipment on the patient and parent side. Policies and procedures were established to guide staff on scheduling
telemedicine visits that included means to obtain patient consent in a fully encrypted platform compliant with HIPAA regulations. Additionally, the solution assisted with insurance verification and collection of any patient due co-pay at the time of check-in to the virtual waiting room. Costs for telemedicine software vary, however those with little (or minimal) added features can be very cost effective. The solution selected had a monthly fee for the first three providers and additional providers could be added at a per provider rate. Some providers may opt for the no cost solution and have staff members manually conduct insurance verification and collection of monies.

Internet connections established for telemedicine visits must have encryption to maintain the security of the health information being exchanged. Each provider or practice is responsible to maintain the security of the data being exchanged (Burke & Hall, 2015). The quality of a telemedicine visit relies on a good internet connection. Enough bandwidth must be maintained by the practice to accommodate the programs high standards (Burke & Hall, 2015).

The team reviewed the hardware needs for providers to be able to video chat with the patient. Fortunately, this practice had laptops already in service that were able to be designated for telemedicine visits. With three locations, it was felt that initially one laptop per office would suffice. If it was found that the volume was such that adding new laptops was indicated, this could be done for a reasonable cost. The providers on the team determined that in order to have complete access to the patient’s electronic health record they would need to have an additional computer displaying the patient’s medical record. Therefore, two computers were needed on the provider side for an effective visit. For this, the providers were able to utilize the tablets they routinely used for all in-office visits. On the patient side, internet connectivity accessible via patients’ personal computer, laptop, tablet or smartphone is required.
The team is unwavering in their commitment to quality; therefore, the quality of telemedicine visits must be equal to in-person visits. The elements of high standard of care, the use of a quality communication platform for patients and providers, as well as continuity of care within the medical home are imperative to the success of the program.

The team considered which types of conditions would be appropriate for telemedicine visits. Drawing from guidance from the AAP, it was decided that conditions such as asthma, diabetes, genetic conditions, obesity, cardiac conditions, seizures, and behavioral health disorders were well-suited for telemedicine (Burke & Hall, 2015). The team began to focus on stable patients on behavioral health medication for Attention Deficit Disorder with Hyperactivity (ADHD) and depression. Parents of children with these diagnoses expressed frustration at the requirement of biannual medication checks.

The schedule workflow was discussed and found to be individualized based on provider preferences. Each provider who planned to provide telemedicine visits was queried as to how they wanted these appointments scheduled. Options included grouping appointments at the beginning of each four-hour blocks, either first appointment in the morning, first after lunch, first after dinner or some other method that might work better for their individual workflow. When determining when to schedule telemedicine visits it was important to consider that we were initially limiting it to behavioral medication checks and that during the school year, the after-school spots would be highly desirable for this appointment type. The team realized if only certain timeslots were designated for telemedicine, this could result in an unnecessary barrier to patients’ access. The decision was made that each individual provider would decide for themselves when they wanted these scheduled.
Not all patients are a good fit for telemedicine. Barriers include lack of coverage for telemedicine services, lack of internet connectivity, vision or hearing impairments, lack of eligible conditions, as well as patient and parent interest. Providers discussed with the patient and their family about their level of interest in telemedicine visits. Reactions were mixed. If patients, families, and providers agreed regarding proceeding with telemedicine visits, providers would notify the scheduling staff.

Another consideration was the handling of prescriptions. Online prescribing or internet prescribing occurs when a clinician prescribes medication to a patient who had an online visit. Electronic Prescribing (E-Prescribing) is the transmission of a prescription electronically to a pharmacy and is not the same as online prescribing. Concern has been raised when all patient interactions occur online, the provider might not have the necessary information on the patient’s health to make sound treatment and prescribing decisions. There must be an established in person patient-provider relationship prior to prescribing (Center for Connected Health Policy, n.d.). This practice had been sending prescriptions electronically for a couple of years and transmitting prescriptions for its telemedicine patients worked the same as those for in-person visits.

Coding and billing for telemedicine services was streamlined for this practice because they had limited it to only Medicaid. Medicaid required that a GT modifier be appended to the Current Procedural Terminology (CPT) code. The GT modifier signifies that a service was delivered via interactive audio and video telecommunications. With the creation by the Centers for Medicare and Medicaid Services (CMS) of the new place of service (POS) code 02, there is no longer a need to add the GT modifier for Medicare Telehealth services. The new POS code 02 denotes that the services were delivered via telemedicine (MGMA, 2018). There is no difference
in the CPT or ICD10 codes when applying them to telemedicine services. The documentation of the telemedicine encounter must include the method of delivery.

When it comes to payer reimbursement all Medicaid, programs except Hawaii and Kentucky reimburse for synchronous visits. Some Medicaid programs only pay for some types of telemedicine services (MGMA, 2018). Medicare continues to expand the types of telemedicine services it covers. Medicare does restrict coverage to synchronous visits except Alaska and Hawaii where asynchronous technology is allowed (MGMA, 2018). Private payers’ coverage for telemedicine services differ so familiarity with the policies for the insurers the practice bills is a must (MGMA, 2018).

The practice reviewed the state specific Medicaid policies concerning telemedicine. The general provisions were the quality of telemedicine services were the same as in-person services. All Medicaid rules, regulations, and policies apply to telemedicine services unless detailed within the Medicaid policy specific to telemedicine services. State licensure board rules are applicable to telemedicine services. Telemedicine services and devices must meet HIPAA regulations. All POS codes generally allowed by Medicaid are allowed for telemedicine visits. The state had specific technical requirements concerning the quality of the video and audio connection. They state the images and video feed must be clear and free of uneven pauses. Voice transmission must be clear and discernible. If telemedicine services are inferior due to technical difficulties or equipment issues, they are not reimbursable (Idaho Medicaid Policy, 2018).

Once the team had enough information about how they would structure their telemedicine program they began the task of creating workflow processes for scheduling telemedicine visits, outlining the process and persons involved in getting the equipment ready, and selecting the location where the synchronous visits would take place. Signage was ordered to easily identify
which room was in use for a telemedicine visit in order to maintain a professional visit and limit any unnecessary interruptions. The IT staff held training sessions with participating providers about the use of the software and hardware involved. Connections were tested in office, from one office to another and from an office to a home. The quality of the connection was monitored and once it was felt that it met the high standards set forth by the team, the program was ready to launch.

The team researched best practices on how to inform the patients of the upcoming telemedicine program. Christian Green, a Medical Group Management Association (MGMA) staff member states educating patients about telehealth starts with face-to-face conversations (n.d). In his article, it states the best education and advertising patients can get about telemedicine is from conversations with their clinicians (Green, n.d.). Patients who succeed with telemedicine understand their treatment goals and plan. Patients who are established with a provider have an easier time with the education process and are easier convinced about participating in a telemedicine visit (Green, n.d.).

Telemedicine providers individually reached out to patients who met both the insurance and condition criteria about the prospect of a telemedicine visit. Therefore, a small number of patients were scheduled for telemedicine visits from the onset of the program. Initially, the providers felt a few changes would need to be made on their part in order to achieve the goal of a high-quality visit. One change, which seems minor at first glance, was the need to keep their heads up. If they were charting, their eyes/heads were in a downward position leaving the patient to look at top of the provider’s head. Lauren Cranford speaks to eye contact being an essential part of communication for in-person or online encounters (2018). The camera should be at such an angle that it seems to the patient that the provider is making direct eye contact. Instruct the
patient to look directly into the camera. Another section discusses the importance of conveying to the patient that providers are giving them their full consideration over the course of the telemedicine visit (Cranford, 2018). Get rid of any interference such as phones ringing, staff, family or pets interrupting. Pay attention to what the patient will see in the background of the video, especially if connecting in a location aside from the practice. Find a plain background that won’t distract. Also stressed are the details needed on how to end the session. She suggests permitting ample time to complete the session and responding to questions, outlining the plan of care, and determining the next steps (Cranford, 2018).

It is important for the provider to be on time for the telemedicine visit, time monitoring is as important in the virtual waiting room as in the in-office waiting room. Providers adapted well to these visits but did notice the visit took longer because in order to maintain eye contact during the visit most of the charting occurred after the visit had been completed. After the practice conducted telemedicine visits, the team met again to discuss progress and the possibility of expanding conditions eligible for telemedicine. The team added asthma, diabetes, and autism to the list of eligible conditions. The team also discussed that the current method of scheduling telemedicine visits in provider designated telemedicine appointment slots was creating barriers for the patients. At this time, the decision was made that all open appointment slots could be used for telemedicine visits.

The practice became aware of available grants geared towards the expansion of an existing telehealth program. The team met again to discuss how the current telemedicine program could be expanded. The team determined that having more providers offering telemedicine visits was one way to expand their patients’ access and build the program and outlined that in the expansion plan. The team also wanted to do something more innovative and
thought of offering on-site telemedicine visits to patients residing in a children’s residential safe haven home. The team reached out to the children’s home to see if this was of interest to them. The staff of the home were excited about using telemedicine to help with some of the medical needs of their residents. The team presented the shareholders with their telemedicine expansion plan and once shareholder approval had been received, the completed application and expansion plan was submitted to the Statewide Healthcare Innovation Plan (SHIP).

In December of 2017, this practice was notified of their award for expansion of its telemedicine program. In January 2018, the practice received grant monies and added three additional providers to those offering telemedicine visits. In July 2018, the practice began providing telemedicine visits on-site to the residential safe haven home. This involved a nurse or medical assistant traveling to the home and employed the use of both an electronic stethoscope and electronic otoscope at the direction of one of the primary care providers in the practice’s clinic. The staff at the home had barriers at times to bringing patients in to the clinic for an in-person visit as it required an additional staff person to be brought in to transport the child to the clinic. If there was more than one child that needed to be seen, they were required to have them be transported separately for HIPAA reasons. The staff at the home were pleased to have the option of a patient who needed an acute visit to be seen via telemedicine. This saved staff time and resources for the home which has limited funding while providing the patient with continuity of care by their primary care office. Most, if not all, patients residing in this home are covered by Medicaid and that simplified the billing aspect of these visits and ensured reimbursement for the visit. The patients generally felt more comfortable being seen in their temporary new home than traveling to a different site which may be unfamiliar to them.
The team began in-person meetings with the staff on-site at the home. The staff identified the best location for these visits to take place in, and jointly a list of technical, electronic, and medical supplies needed were identified. The quality of the connection was important and tested in advance of going live with an actual visit. The practice provided several visits via telemedicine that were acute in nature and they went well for both the patient and the provider involved.

**Discussion**

To evaluate the success of this practice’s overall telemedicine program the team looked to the providers providing telemedicine services, the patients, and their families. One provider who cares for patients on the autism spectrum, who offered medication checks, discovered the quality of telemedicine visits often exceeded that of in-person visits. These patients typically become agitated during an in-person visit due to being in unfamiliar surroundings. In both the waiting and exam rooms, the patient can become quite agitated, loud, disruptive and the parent is spending quite a bit of time attempting to soothe the child. The in-person visit was difficult due to the distractions of both the patient and the parent. The telemedicine visit for this same type of condition was much more relaxed and meaningful. The clinician had better communication with the parent and the patient. The result was a better visit for all involved and was unforeseen by the team in their planning.

The practice used homegrown surveys—one for providers (Appendix A) and for patients/families (Appendix B). Two thirds of the providers felt the visits were good but lacked the in-person touch. They felt it was difficult to pick up on body language of the parents and some of the nuances that were normally discovered in person. One of the providers who cares for many children on the autism spectrum felt telemedicine visits were better than in-person visits as
more meaningful conversations could occur with fewer interruptions. The providers all agreed that connections issues, though not occurring in all visits, were an issue too often and impacted the visit negatively. The providers agree that in order for telemedicine to grow and expand, there needs to be adequate reimbursement from all payers. The patients felt strongly that telemedicine is beneficial to them. They cited the convenience of not traveling to the office and being able to have a better conversation with the provider was very helpful. One comment by a parent was impactful: “It is nice for my kids not to hear mom telling the physician that some of their behaviors aren’t normal.” Full survey results are located in Appendix B.

The consensus by the team about the effect of implementing telemedicine visits was not unlike increasing hours and patients had less barriers to obtaining care when they did a telemedicine visit. As mentioned before, patients have barriers to in-person visits such as funds for gas, reliable transportation, time, and weather-related issues. Telemedicine visits were easily scheduled and performed with a patient on their smartphone, personal computer, tablet or laptop. While some patients might not have access to an internet connection at home, most of them had internet access via their smartphone.

Just as was initially discussed, not all patients, not all conditions, not all providers are suited for a telemedicine visit. When the right blend of patient, condition, insurance type was in place, it made for an efficient visit within their medical home where complete access to the patient’s medical record was available. For some patients the fit was not right. The contributing factors to a telemedicine visit not being the right fit were, poor connectivity, distractions in the area where the patient was during the time of the visit or the lack of in-person communication. For those patients, the solution was simple: future visits would revert to in-person visits. As the practice continues to evaluate their telemedicine program, they have decided to investigate a no-
cost solution for their platform. Given that not all payers are paying for telemedicine visits or not paying with parity to an in-person visit, the practice wanted to find ways to keep the cost of offering this program down. The practice continues to learn what is currently being done in the form of payer reimbursements so when a payer modifies their payments, those patients covered by payer can participate in the practice’s telemedicine program.

Telemedicine can bridge barriers to patient access. As technology improves, the questions will shift from whether physicians should offer telemedicine to how best to implement telemedicine services. Reimbursement for telemedicine is varied with Medicaid and Medicare paying on-par, whereas commercial payers differ in the amount they pay and what types of telemedicine they will pay for. Studies have shown that patients, families, and providers express extreme satisfaction with telemedicine (Olson et al., 2018).

Sustainability is a topic of conversation with the team. In order to be able to offer telemedicine to all patients there will need to be evidence of value and better outcomes to insurers and legislators (Olson et al., 2018).

The practice is reaching out to the children’s group safe-haven residential home to discuss the costs associated with providing those on-site visits to their residents. Additional costs associated with those visits such are wages for the medical assistant or nurse, mileage reimbursement for the nurse/medical assistant, electronic stethoscope and otoscope equipment and software needed for those devices. While the practice was able to offset some of the initial startup costs for the program with grant money, continuation of these costs significantly adds to the overall cost and may not be able to be absorbed by the practice. Discussion with the group home will be to learn if they feel the visits were efficient, of good quality, and what, if anything, they could add in the form of reimbursement that would allow the practice to be able to continue
on-site telemedicine visits. The home may have some interested donors or board members who either have access to funds in the form of grants or private donor donations. The practice will need some financial help in order to continue offering telemedicine on-site visits to the home. The team felt that, overall, the program was a success and realized that consumerism plays a big part in what patients and their families want when accessing care within the practice.

The experience this practice had should provide some guidance and practical steps to other practices/providers who would like to add telemedicine visits to what they offer their patients. There are many differences and nuances each practice will have based on patient demographics, location, top payers, and practice culture that would need to be properly researched. The provider buy-in requires a significant paradigm shift on how a patient encounter looks and feels and is conducted and cannot be underscored enough.

The provider is central to the success of any patient encounter and telemedicine visits are no different. However, consumerism may demand more solutions that keep patients out of the office for the sake of convenience and cost. Providers need to determine how they will meet the demands of the patients of today and tomorrow. Often, we read or hear about retail-based clinics meeting patient needs in a convenient location provided by large retail stores, or solutions such as the national virtual visits patients can access from their home personal computer, laptop, or smartphone. If providers are concerned about retaining those urgent (whether truly deemed urgent or the mere perception of urgency) visits they will need to come up with their own solutions to meet the more real-time demands of their patients and attempt to match the convenience that retail stores or the national virtual companies provide. This is no small challenge to meet however, as fee for service plans give way to alternative payment models and that becomes the new standard, practices must be prepared to compete.
Practices who have achieved a PCMH designation have an ongoing obligation to monitor their patients’ satisfaction, access, and barriers to care. They are mandated to follow their patients through their continuum of care in order to have complete knowledge of their overall health, problems, medications and treatments. A practice whose patients seek care in retail-based clinics or through national virtual visits may not have the necessary information to know their patient’s health status. Practices that can meet the demands of their patients more completely will have the necessary information concerning their patients. Healthcare is evolving and with that comes pay-for-performance where providers will be graded on outcomes and industry determined standards of care. Providers who can accommodate their patients with fewer barriers and greater access to care should do better at being able to meet these performance related measures.

Telemedicine can provide care to patients who have challenges due to remoteness or lack of resources. As gains are realized in technology and confirmation that telemedicine is an effective and efficient method of healthcare delivery, the discussion of should it be implemented will change to how will it be implemented. Many variances in reimbursement, regulations, and practice culture have led to fluctuating forms of telemedicine. There are less barriers to the growth of telemedicine from a technology standpoint then those surrounding payment. In order to get better reimbursement, there will need to be demonstration of improvement in the areas of cost, outcomes and efficiency (Olson et al., 2018).

Practices will need to be innovative and stay abreast of what is going on in the healthcare industry in order to stay in business. Those practices who can meet the demands of patients and provide exceptional patient care should be able to do more than just stay in business, they should be able to thrive. Providing patient care in the same way that has been done for the past twenty
years will not get practices where they need to be, practices need to have their collective fingers on the pulse of industry changes and telemedicine is one of the ways that providers can stay relevant now and in the near future. Determining how telemedicine might work in a specialty practice will be a process that will need team effort and input. While telemedicine visits may not be the answer for all, there may be instances where remote monitoring of a patient with a chronic illness could be employed. Telemedicine is here, it is now, it is one of the tools of the future of healthcare.
References


Appendix A

Interviews with pediatricians who have been providing telemedicine visits.

1. Do you feel that adding telemedicine visits has met the practice’s goals of improving patient access?

   Physician #1. Yes, with the rural nature of our area, it has allowed patients who have difficulty getting into the clinic an easier way to access care.

   Physician #2. Yes, to some degree. It could be better if we could expand the insurance types.

   Physician #3. Yes.

2. Do you feel that the telemedicine visits you have conducted offer the same standard of care as in-person visits?

   Physician #1. Yes, without question.

   Physician #2. Not exactly, the social interaction is not as good or the same as an in-person visit. There is less discussion of a social/persona nature.

   Physician #3. Yes, if not better, especially autistic children. In-person visits with autistic patients are challenging, telemedicine can make for a more meaningful visit. Most of the medication check visits can occur with the parent only.

3. Do you feel telemedicine will continue to grow and expand?

   Physician #1. Yes, there are limitations nationwide though and deficiencies with providers providing primary care services without seeing the patients. Antibiotics being prescribed do not always meet the standard of care. For primary care providers the need is for adequate reimbursement. Payers fear that usage will increase with telemedicine and that is why they keep the reimbursement down. Payers are fearful of the unknowns and
they don’t value the time spent by families. Telemedicine visits are efficient for patients. Appropriate stewardship of antibiotics makes it difficult for us to offer acute visits via telemedicine.

Subjective visits are a better fit for telemedicine than the objective, acute visits. There is also some concern that providers will not be able to meet all the metrics without an in-person examination of the patient.

Physician #2. Yes, it fits better into people’s busy lives then having to come into the office.

Physician #3. Yes, it is the future. We need to change the way we practice. It isn’t always the standard of care to do visits without an exam. There are ancillary devices that can be purchased on Amazon by the parent that could allow for acute visits as the physicians would be able to visualize say the ears, skin, and throat.

4. Please rate, on a scale of 1 to 5, with 5 being highest, your level of satisfaction with telemedicine visits.

Physician #1. I would say a four. Reasons for this are the visits take longer as more of the charting is completed after the visit, I don’t always pick up on some of the nuances of the interaction, such as body language, not always as easy to delve into some of the patient’s responses. One out of ten visits there will be some type of technical difficulty, generally on the patient’s side. There is less personal touch.

Physician #2. It is a four for me. The social aspect is missed, connection issues, the audio/visual quality is not as good on a smartphone which is what most families use for the visit. There are more distractions with what can be going on the patient’s home. There
is sometimes a delay in the audio transmission. There is less chit chat, but it is more
efficient.

Physician #3. I would say a four only because our platform has experienced some
connection issues. Also, it isn’t for everyone, grandparents or older parents might have
challenges trying to sign into the platform. The patients can have connection issues,
generally the connection issues are on the patient side.

5. What advice would you give another provider/practice who was considering
implementing telemedicine program?

Physician #1. Before going into it, make a business case. Know your reimbursement
ahead of time, will it be adequate, know that it isn’t cheap to offer and could be more
expensive depending on the software chosen. You need to know precisely, what services
you will provide and should set concrete limits on scope.

Physician #2. Start slow, expand as need grows. Have quality newer, faster equipment
and pilot it well.

Physician #3. Have good quality equipment. I like dedicated time on my schedule to do
telemedicine. I want to run on time, I like to schedule them first in the morning or right
after dinner. Patients are waiting in a virtual waiting room and I feel more pressure about
that. I think there is less for them to do and the wait is more noticeable. Start with visits
that don’t need an exam. Carefully weigh your options.
Appendix B

Interview with parents who have recently had a telemedicine visit for their child.

1. Do you feel that adding telemedicine visits was helpful?

Parent #1. Yes, very helpful and convenient. It was great to have one less appointment to go to, I have four kids.

Parent #2. Yes, it is the best thing. I have a special needs child; she is autistic and gets very anxious about going to the doctor. It becomes an all-day affair as I live a bit of a distance from the office and must go over a mountain pass. It is very convenient.

Parent #3. Extremely helpful. My child is disabled and even though he is 23 years old he functions at about a one-year old child’s level. He suffered a stroke in 2014 and now has post-traumatic stress disorder and it is very difficult to get him to come into the office. We live out of town and not coming in to the office is more efficient and helps avoid coming in contact with germs.

Parent #4. Absolutely! I have four children and it is easier to be at home.

2. Do you feel that the quality of a telemedicine visit is as good as an in-person visit?

Parent #1. I feel it is a better visit because I could time it when I had some free time to talk, I was able to prepare my questions in advance.

Parent #2. I feel it is equal to or better because when I am in the office, I spend a lot of time trying to keep child calmed down. I can have a better conversation with the doctor.

Parent #3. I feel that it is better than an in-office visit. It is tough on my son for a few hours prior to the appointment and a few hours after the appointment if we come in
person. Without telemedicine services my son and other disabled children are at a disadvantage. This is a blessing!

Parent #4. I feel that the quality of the visit is the same.

3. Would you want to participate in a telemedicine visit in the future?

Parent #1. Yes, I would consider doing more of these in the future.

Parent #2. Yes, I already have the next one scheduled.

Parent #3. Definitely, even if he could overcome his anxiousness it is better for us to do telemedicine because of the traveling and the being exposed to germs that could get him sick.

Parent #4. Yes, I will absolutely do it in the future.

4. Please rate on a scale of 1 to 5, 5 being the highest, your satisfaction with telemedicine visits.

Parent #1. I would rate it at a five. It allowed for me to have more information, more focused, my kids didn’t hear mom telling the doctor some of their behaviors aren’t normal.

Parent #2. I would say a five. There was no anxiety, less worry for me, I didn’t have to restrain my child. It is a blessing!

Parent #3. A billion plus!

Parent #4. A five plus! This was our first telemedicine visit and we were impressed.

5. What type of device did you use to connect for the telemedicine visit?

Parent #1. My smartphone, the audio/visual came across very well. If I was getting another call during the visit it would pause for a couple of seconds.
Parent #2. I used my smartphone, I did have some internet issues, but I just walked to a different area and it worked fine then. The audio and visual was good.

Parent #3. My smartphone, the first telemedicine visit we had my connection kept cutting out, the second time was good because I went outside, and my connection was better there.

Parent #4. My smartphone, and the connection was good.
Appendix C

Costs associated with telemedicine visits.

In office telemedicine visits

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Price per each</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laptops</td>
<td>3</td>
<td>$600.00</td>
<td>$1800.00</td>
</tr>
<tr>
<td>Monthly Software Subscription</td>
<td>12</td>
<td>$500.00</td>
<td>$6000.00</td>
</tr>
<tr>
<td>Signage</td>
<td>6</td>
<td>$20.00</td>
<td>$1200.00</td>
</tr>
</tbody>
</table>

$7920.00

Additional costs associated with off-site telemedicine visits

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Price per each</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laptop</td>
<td>1</td>
<td>$600.00</td>
<td>$600.00</td>
</tr>
<tr>
<td>Electronic otoscope</td>
<td>1</td>
<td>$600.00</td>
<td>$600.00</td>
</tr>
<tr>
<td>Electronic stethoscope</td>
<td>2</td>
<td>$500.00</td>
<td>$1000.00</td>
</tr>
<tr>
<td>Monthly secure Wi-Fi connection</td>
<td>12</td>
<td>$50.00</td>
<td>$600.00</td>
</tr>
</tbody>
</table>

$2800.00
Reimbursement for telemedicine visits

<table>
<thead>
<tr>
<th>CPT Code</th>
<th>Payer</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>99213</td>
<td>Idaho Medicaid</td>
<td>$69.33</td>
</tr>
<tr>
<td>99214</td>
<td>Idaho Medicaid</td>
<td>$102.60</td>
</tr>
</tbody>
</table>