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# The Virtual House Call—Providing High-Quality and Safe Pediatric Primary Care Through Video Visits During COVID-19

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The American Academy of Pediatrics recommends that primary care preventive visits be delivered in person within the child's medical home whenever possible.<sup>1</sup> However, unprecedented changes occurred in primary care pediatrics during the coronavirus disease 2019 (COVID-19) pandemic related to social distancing precautions, school closures, and parents and caregivers being hesitant to come into medical offices with their children because of fear of infection. Consequently, children and adolescents experienced challenges related to delays in preventive visits, anticipatory guidance, screenings, referrals, mental health services, vaccinations, and decreased access to care.<sup>1,2</sup>

Video visits are a strategy for patients and caregivers to connect with their child's clinicians face-to-face, in real time, without leaving their home. They have been shown to increase access to care, enhance patient satisfaction, and decrease missed appointments. Specific advantages to patients include video visits being more convenient than in-person visits, eliminating transportation and parking costs, allowing physical distancing, preventing time spent in a waiting room with potential exposure to other sick patients, reducing time away from work or the need for childcare, and allowing patients and their caregivers to join video visits from any location.<sup>3</sup>

Video visits allow primary care clinicians to visually evaluate their patient's overall appearance and level of distress, which is a key part of a pediatric physical exam. Although cursory, such an examination can enable clinicians to assess if a patient needs to be seen in person and when. Video visits can aid in the diagnosis, treatment, and follow-up of less urgent issues, thereby avoiding inappropriate overuse of higher levels of care. They could aid in earlier detection of potentially serious problems and may be

effective and efficient for chronic disease management, health education, and patient counseling. Patients find video visits an acceptable modality of delivering health care, and some patients even prefer video visits to in-person visits.<sup>3</sup>

Direct-to-consumer video visits are used by millions of patients, but typically occur outside the patient's medical home, are conducted by clinicians new to patients, and do not integrate with the patient's electronic health record. On the other hand, video visits integrated into primary care can increase patient-centered access to care, deliver high-quality care, and strengthen patients' relationships with their primary care provider.<sup>4</sup>

Pediatric subspecialty care has been delivered successfully via video visits for several years. At UC Davis Health, consultations in pediatric endocrinology, cardiology, psychiatry, infectious diseases, gastroenterology, nephrology, neurology, hematology, and oncology have successfully increased subspecialty access to care for rural populations in California. Patients at UC Davis Health use their smartphone or tablet to connect with their pediatric clinician through a secure Health Insurance Portability and Accountability Act-compliant video-enabled internet connection and the Epic system for video visits (Epic Systems Corporation, Verona, WI). The proportion of weekly virtual visits in the pediatric outpatient clinic at UC Davis Health increased from 0.8% in the week preceding California's statewide shelter-in-place order on March 19, 2020, to 33.5% one month later.

Video visits in pediatric primary care have unique considerations. Limiting in-person services because of precautions to reduce crowding and promote social distancing has required that clinicians prioritize in-person newborn care, and well visits and immunizations of infants and children younger than 2 years of age. Video visits could be appropriate for several conditions, such as those listed in the Table. Some patients and families may be more comfortable with video visits in the supportive and familiar environments of their own homes.<sup>3</sup> A logistic consideration is instructing caregivers in how to measure vital signs at home, especially relevant in

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**Table. Indications for Video Visits in Primary Care Pediatrics.**

Dermatology (ideally with photographs shared in advance)	Infectious disease	Allergy
Dermatitis	Minor skin infections, such as cellulitis (no fever)	Seasonal allergies
Diaper rash	Conjunctivitis, hordeolum	Allergic conjunctivitis
Eczema	Colds, without breathing problems or ear pain	Hives
Contact dermatitis	Otitis externa	
Ringworm	Urinary infection concern for a toilet-trained child (with specimen collected and dropped off prior to visit)	
Minor cuts, burns, bites		
Acne		
Birthmarks		
Other general rash (without fever)		
Gastroenterology/nutrition	Behavioral health	Other follow-up
General feeding questions or concerns	Sleep issues	Medication management
Breastfeeding questions or concerns	School concerns	Asthma
Diarrhea (nonbloody, no fever)	Depression	Hospital admission
Constipation	Anxiety	Emergency department visit
Reflux follow-up	Toilet training issues	Abdominal pain
Picky eater	Attention deficit hyperactivity disorder follow-up	Fussy infant or colic
Obesity or eating disorder follow-up		Lab studies
		Sports injuries
		Musculoskeletal injuries

younger children and those with chronic conditions or medical complexity because of weight-based dosing of medications. Because there are many other conditions for which in-person visits are preferred, it is important to develop policies and workflows for clinic staff to determine if a video visit is appropriate for a particular health issue.

The rapid shift to video visits has exposed the “digital divide” as a social determinant of health. Families of color, lower socioeconomic status, and those facing language barriers are less likely to have access to technology, broadband internet, and digital literacy to effectively obtain care through real-time video visits.<sup>5</sup> Clinicians may need to continue offering alternatives to video visits, including in-person visits or telephone-only visits, to avoid exacerbating health care disparities experienced by populations affected by the digital divide.

Expanded use of video visits in primary care may be detrimental to antimicrobial stewardship, a concern that predates the COVID-19 pandemic. Children seen via direct-to-consumer video visits for acute respiratory infections are more likely to receive prescriptions for antibiotics than children seen in person, with prescriptions less likely to be guideline-concordant.<sup>6</sup> Most pediatric conditions for which antibiotics are indicated require confirmatory physical findings or laboratory testing for diagnosis, and lack of an accurate weight may lead to dosing errors. Adopting workflows and tool kits to safely evaluate symptomatic patients in the office, or via a hybrid virtual history taking and in-person physical exam model when bacterial infections are suspected, can help continue antimicrobial stewardship efforts in the era of COVID-19.<sup>7</sup>

Reimbursement models for video visits rapidly evolved to fit COVID-19 considerations. Payers are catching up with reimbursing video visits for primary

care at parity with in-person visits. Although these equitable payment rates currently have an expiration date, they set an important precedent for the further evolution of video visits as a modality that increases access to primary care. Because insurance coverage for video visits is considerably variable, we recommend instructing caregivers to contact their health plan to ensure that their insurance covers video visits. A major consideration during the pandemic has been loss of employment, health insurance coverage, or income, which may require offering sliding scales for payment of virtual services.

In our world of COVID-19 social distancing and lockdowns, caregivers of pediatrics patients have increasingly come to expect the delivery of primary care outside the physical walls of medical offices. Integrating video visits into the pediatric medical home as a supplement to in-person visits enables the provision of high-quality, safe, coordinated, equitable, patient-centered, and community-based primary care to the children and families we serve, which can continue even after the pandemic has ended.

### Conflicts of Interest

The authors have no conflicts of interest to disclose.

### Author Contributions

Drs Shaikh and Kim substantially participated in the conception, design, and preparation of this article, analysis of data, and contribution of methodological expertise. Both authors contributed to the writing of the article and approved the final version.

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