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## Synchronous Video-Based Virtual Visits in Interventional Radiology During the COVID-19 Pandemic - A Double-Edged Sword: Challenges and Opportunities for Improving Care

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In their article regarding the impact of the coronavirus-19 (COVID-19) pandemic on institutional practices and wellbeing among providers and trainees, Woerner et al reported that 61.8% ( $n = 261$ ) of surveyed interventional radiology attending physicians and trainees endorsed utilization of telehealth clinic visits during periods of physical distancing. The authors further describe increased rates of self-reported anxiety among providers, influenced in part by treating patients at risk for having COVID-19 (1). We commend the authors for their reporting on this topic and would like to offer a continued discussion of the broader adoption of virtual visits during the COVID-19 pandemic among institutional radiology practices, a phenomenon which remains largely underinvestigated (2). Given the paucity of data regarding virtual visits in radiology, it is essential to understand our patients' experiences with virtual visits to ensure an efficient and equitable implementation of this emerging care delivery model. In this regard, we present our institution's initial patient and provider experiences with virtual visits during the first wave of the COVID-19 pandemic and address opportunities and challenges with this model.

In a recent survey of patients receiving virtual outpatient percutaneous drain management at our institution's outpatient IR clinic, patients reported improved comfort, access to care during the COVID-19 pandemic, and reduced transportation time compared to traditional office visits. Patients with chronic health conditions and limited mobility noted that virtual visits drastically enhanced their access to follow-up for their drain management. Providers reported increased efficiency in patient scheduling, effective communication of imaging results (i.e., screen sharing) and interest in utilizing virtual visits in the future. Despite this widespread endorsement, two-thirds of patients remained undecided if they

prefer virtual visits over traditional office visits, and no providers preferred virtual visits over the traditional care model. Still, we believe that virtual visits in IR offer a broad range of advantages including improved access, convenience, and communication. Studies in outpatient specialty care have shown that virtual visits resulted in shorter wait-times for appointments, shorter visit times, lower out-of-pocket costs for patients, and significantly reduced travel burden (3). Virtual visits further reduce the influence of geography on healthcare access, allowing patients with limited mobility to "commute" instantaneously (3,4). Screen sharing during virtual radiology visits enhances transparency between patients and providers, especially after approval of the 21st Century Cures Act, which will afford patients access to their imaging data and documented interpretations prior to formal discussion with a provider.

While improving access and efficiency within the medical infrastructure, virtual visits still pose challenges for populations with limited technological access or proficiency. Of the patients at our institution that were scheduled for virtual IR follow-up visits, several experienced technical difficulties that prevented them from participating. The need for reliable internet access poses a barrier for those without sufficient consumer broadband to support high-quality video conferencing. To alleviate this disparity for those without internet access and those who are not comfortable using the required technology, we recommend having telephone-based virtual visits available. Other challenges with virtual visits include limited physical examination capabilities, replacement of a private exam room environment with a variable home/work environment, difficulty reaching patients who do not pick up the video call, and patient preference for in-person communication. Offering both in-person and virtual visits allows patients and providers to adapt to changing circumstances and select the medium most beneficial to the patient, who remains at the center of these emerging care models.

As a result of limited access to in-person healthcare, many health systems have depended on telehealth during the pandemic. In March of 2020, telehealth in Medicare was greatly expanded, allowing reimbursement at the same rate as in-person visits, audio-only for many types of telehealth services, and access to telehealth for new patients as well (5). While our survey data suggests this model is feasible and effective for outpatient percutaneous drain management, our institution has been implementing virtual visits for pre-procedure visits, consultations, and follow-up visits for other IR patients at a large scale, and patient and provider satisfaction for those visit types should also be investigated. Virtual visit care models may indeed contribute to a new standard of care in IR, while care must be taken to ensure equity in our evolving healthcare infrastructure.

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