CORRESPONDENCE

Real-Time Patient–Provider Video Telemedicine Integrated with Clinical Care

TO THE EDITOR: Telemedicine by means of video visits can increase patient access to care, but there is little evidence about broad integration of video visits into existing clinical care, particularly for primary care.[1,2] In an integrated delivery system that implemented video-visit capability for all clinicians in 2014, we examined the characteristics of all 210,383 scheduled video visits among 152,809 patients from 2015 through 2017 (Fig. 1). Video visits, accessible through Internet-connected, video-enabled mobile devices or computers, could be scheduled by clinicians or patients. The medical history, orders, and visit note associated with each video visit are integrated within the electronic health record (EHR).

Visits in medicine, pediatrics, dermatology, after-hours care, and psychiatry accounted for 77% of all video visits; 2796 primary care providers conducted a video visit (median, 17 visits per primary care provider). More than 90% of patients with a video visit had accessed in-person health care in the previous year (Table S1 in the Supplementary Appendix, available with the full text of this letter at NEJM.org). Among 81,549 adult primary care video visits, 70% were with the patient's own primary care provider.

Patients used smartphones for 74% of video visits, desktop computers for 20%, and tablets for 6%; the median length of the visits was 8.2 minutes (interquartile range, 5.1 to 13.3) (Fig. S1 in the Supplementary Appendix). Overall, 66% of scheduled visits were successfully connected. In multivariable analyses, connection rates, which varied according to patient characteristics, were higher after previous video visits or with the patient's own primary care provider. Reassuringly, in surveys of patients who did not connect to the video visit, most had changed their mind or communicated with the clinician in another way instead. The clinical team continues to examine missed connections to support users. Patient satisfaction was strong (93% reported that the video visit met their needs; response rate, 78% of 1274 patients surveyed), but further research is needed to examine effects on health care access and quality.

We studied a novel model of integrating telemedicine seamlessly with patients' ongoing clinicians, EHRs, and delivery systems, distinct from most direct-to-consumer telehealth-only services.[1,3,4] We found that video visits extended established patient–physician relationships, with the majority of video visits involving familiar clinicians, often the patient's own primary care provider. Amid growing adoption, in this early look, video visits were a subset of patient encounters — for example, across the system, scheduled video visits were used by more than 60% of

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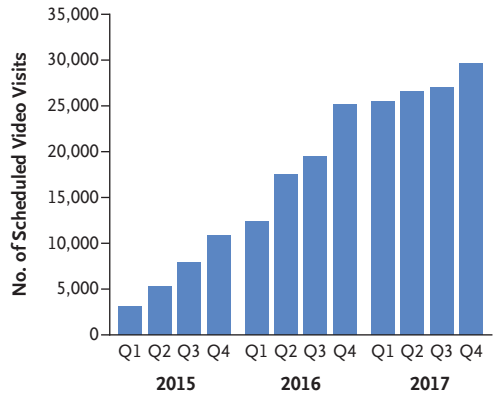

Figure 1. Growth in Scheduled Video Visits, 2015–2017 (210,383 Total Visits).

Video visits could be conducted by all clinicians (including medical doctors, osteopathic physicians, nurse practitioners, and physician assistants), with growing implementation by departments or through individual adoption over time. All the patients were potentially eligible for a video visit. The most common documented reasons for video visits included skin problems (e.g., acne, rash, and dermatitis), medication management, test results, and follow-up.

clinicians with less than 5% of total patients, amounting to less than 1% of all office visits. Further research is needed to examine continued adoption over time. Still, together with positive patient-reported experiences,[5] our findings show the feasibility and growing adoption of video visits integrated with ongoing clinical care.

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Disclosure forms provided by the authors are available with the full text of this letter at NEJM.org.

1. Dorsey ER, Topol EJ. State of telehealth. N Engl J Med 2016; 375:154-61.
2. Totten AM, Womack DM, Eden KB, et al. Telehealth: mapping the evidence for patient outcomes from systematic reviews. Technical brief number 26. Rockville, MD: Agency for Healthcare Research and Quality, 2016 (https://effectivehealthcare.ahrq.gov/sites/default/files/pdf/telehealth_technical-brief.pdf).
3. DeJong C, Santa J, Dudley RA. Websites that offer care over the Internet: is there an access quality tradeoff? JAMA 2014;311: 1287-8.
4. Uscher-Pines L, Mehrotra A. Analysis of Teladoc use seems to indicate expanded access to care for patients without prior connection to a provider. Health Aff (Millwood) 2014;33:258-64.
5. Powell RE, Henstenburg JM, Cooper G, Hollander JE, Rising KL. Patient perceptions of telehealth primary care video visits. Ann Fam Med 2017;15:225-9.

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Venetoclax in a Patient with a Blastic Plasmacytoid Dendritic-Cell Neoplasm

TO THE EDITOR: A blastic plasmacytoid dendritic-cell neoplasm is a rare tumor with very aggressive clinical behavior and no established treatment.[1] Available treatment options include aggressive multiagent chemotherapeutic regimens. Treatment for relapsed disease is largely ineffective, and the prognosis for patients with refractory disease is poor.

A 62-year-old woman presented with a large necrotic plaque on her left cheek that was confirmed on biopsy to be a classic blastic plasmacytoid dendritic-cell neoplasm (Fig. 1A and 1B). Positron-emission tomography–computed tomography (PET-CT) showed a large left buccal lesion with a left cervical lymph node that measured 30×30 mm and had a standardized uptake value of 4.5, but it did not show other disease. Because of concern regarding local disease progression, she underwent complete surgical excision of the lesion and the cervical lymph nodes (Fig. 1C and 1D). Analysis of a bone marrow specimen showed involvement with a blastic plasmacytoid dendritic-cell neoplasm (Fig. 1E through 1H).

The patient declined to receive standard ther-