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Gastroenterology 2022;■:1–3

Patients With Gastrointestinal Conditions Consider Telehealth Equivalent to In-Person Care

The coronavirus disease 2019 pandemic led to a sudden and significant disruption in the provision of outpatient health care and the rapid transition to telehealth.[1] Regulatory changes facilitated this by addressing perceived barriers to the widespread implementation of telehealth, including insurance reimbursement, provider licensing, and patient privacy.[2] We previously reported a high degree of satisfaction with virtual care among gastroenterology patients during the coronavirus disease 2019 pandemic, and others demonstrated that telehealth improves healthcare efficiency.[3,4] Experiences from primary care clinics have shown that patient characteristics play a significant role in choosing a telehealth vs an in-person office visit.[5] The aim of this analysis was to compare patient experience with telehealth with in-person office visits across multiple community-based private gastroenterology practices.

Practices were recruited through the Digestive Health Physicians Association (Silver Spring, MD), a nonprofit organization of 105 practices across the United States. Eight practices chose to participate and distributed an online survey to patients between January and April 2021. Characteristics of the 8 participating practices are provided in Supplementary Table 1. The survey assessed patient sociodemographic characteristics, general satisfaction with telehealth services, and perceived quality of care compared with in-person office visits. We used the net promoter score (NPS) to objectively assess patient experience. This single-question tool asks how likely one would be to recommend a service to family or friends on a scale from 0 to 10.[6] A rating of 9–10 signifies a "promoter," a rating of 0–6 is indicative of a "detractor", and scores of 7–8 are considered "neutral." The NPS is then determined by calculating the difference between the percentage of promoters and detractors. An NPS $>$ 0 is indicative of a positive consumer experience.

Our analysis included 5134 patients (79.8% of respondents) who participated in at least 1 telehealth visit with a gastroenterology provider within the past year. The remainder (20.2%) completed the survey but did not engage in a telehealth appointment. Most telehealth participants were women and white, with a median age of 64.8 years (Supplementary Table 2). The most common reasons for appointments were inflammatory bowel disease, heartburn, and procedure preparation or follow-up. Twenty percent of visits were audio only, and only 13% of patients experienced technical difficulties, of whom nearly two-thirds received adequate support. Eighty-three percent of telehealth patients did not require an in-person follow-up visit.

Most respondents believed they received a similar quality of care through telehealth compared with in-person visits and expressed a willingness to continue using telehealth because of ease of scheduling, increased flexibility, and shorter wait and/or travel times (Supplementary Figure 1). The overall NPS was 21, indicating a positive patient experience with room for service improvement.[7] Higher NPSs were associated with employed patients, video use, and lack of technical difficulties. Patients seen for irritable bowel syndrome, inflammatory bowel disease, and for medication- or procedure-related reasons exhibited a higher NPS, whereas those seen for hemorrhoids, abdominal pain, and liver disease had a lower NPS (Figure 1).

This analysis validates patients' perception of telehealth as an acceptable and equivalent modality to receive gastroenterology care when compared with in-person visits. Additionally, a clear dichotomy exists between those who prefer telehealth vs office visits, with patients older than age 60 years and retired exhibiting a preference for in-person care (NPS, 12 and 9, respectively), whereas younger and employed patients prefer telehealth (NPS, 39 and 35, respectively). Therefore, selectively offering telehealth visits to those most likely to prefer it may provide a more efficient model for telehealth implementation.

Technical problems are often perceived as barriers to the implementation of telehealth.[8] Our analysis found that technical disruptions were infrequent and often easily resolved. Nevertheless, the occurrence of technical difficulties was associated with a lower NPS. Continuing to permit the use of user-friendly, familiar, and reliable platforms will allow for the continued expansion of high-quality virtual care while simultaneously improving the patient experience.[2]

Twenty percent of visits were carried out using audio only, which may occur under a variety of circumstances such as when a video platform fails, patient preference, or lack of access to high-speed internet. The addition of video improved patient satisfaction, as demonstrated by a higher NPS (27) compared with audio only (−7). Therefore, efforts should be made to facilitate video visits. However, audio-only visits must be preserved because 20% of patients in this analysis relied on this modality. Further studies are needed to assess whether clinical outcomes differ between audio-only and video platforms.

Seventeen percent of patients required an in-person visit after a telehealth appointment. This suggests that the inability to perform a physical examination is not a major detriment of telehealth. We noted that certain visits for which a physical examination may be of lower clinical value had a higher NPS, whereas diagnoses in which physical findings are more likely to impact care were associated with

Abbreviations used in this paper: NPS, net promoter score.

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0016-5085/$36.00
https://doi.org/10.1053/j.gastro.2022.09.035

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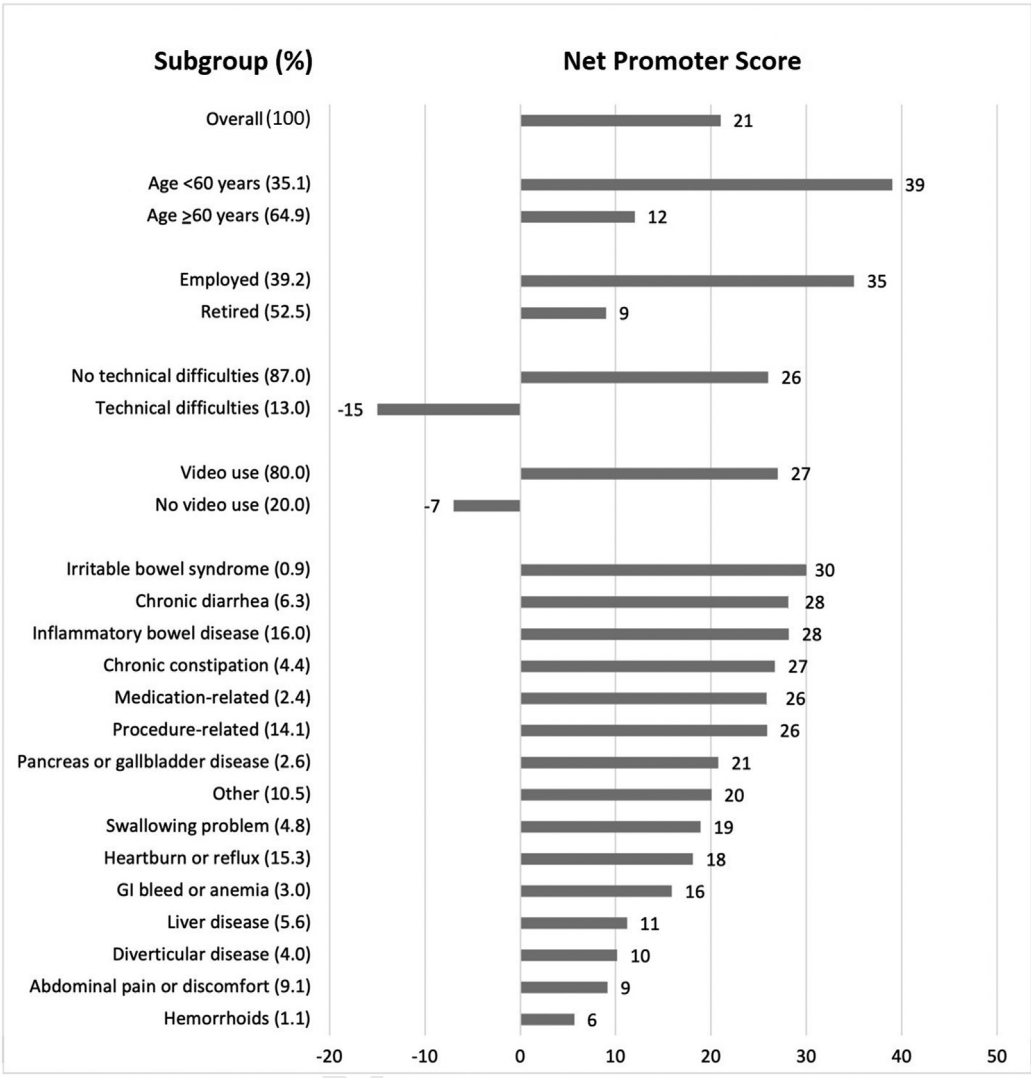

Figure 1. Variations in net promoter score (patient satisfaction) based on patient age, employment status, presence of technical difficulties, type of telehealth visit (video or audio only), and reason for visit.

a lower NPS. Hence, the rate of required in-person follow-up can be reduced by strategically implementing telehealth to address these specific diagnoses and scheduling in-person visits for others.

Although reflective of the local demographics of the surveyed practices, our analysis is limited by the by the over-representation of white, female, and older patients when compared with the broader US population. This is a common feature of many telehealth studies.[9] The homogeneity of respondents in this study therefore reduces the generalizability of its findings to more diverse populations. It also highlights the critical need to engage with under-represented communities, including those with Medicaid and living in rural areas, to better understand their telehealth experience and determine the factors limiting their access to telehealth.[10]

The results of our analysis support the notion that patients perceive telehealth quality of care as equivalent to in-person visits. Further studies are needed to assess if clinical outcomes differ between these 2 modalities and to evaluate the effect of telehealth on operational benchmarks, such as no-show rate and visit duration. The use of the NPS, which is a widely used measure of consumer satisfaction, further validates that patients find telehealth an effective way to receive gastroenterology care. Satisfaction can be further enhanced by tailoring care delivery based on patient demographics and medical needs.

Supplementary Material

Note: To access the supplementary material accompanying this article, visit the online version of *Gastroenterology* at www.gastrojournal.org and at https://doi.org/10.1053/j.gastro.2022.09.035.

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Received July 17, 2022. Accepted September 25, 2022.

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Conflicts of Interest
This author discloses the following: Naresh T. Gunaratnam is the founder of Lean Medical LLC and Satya Health Sciences. The remaining authors disclose no conflicts.

Funding
None.

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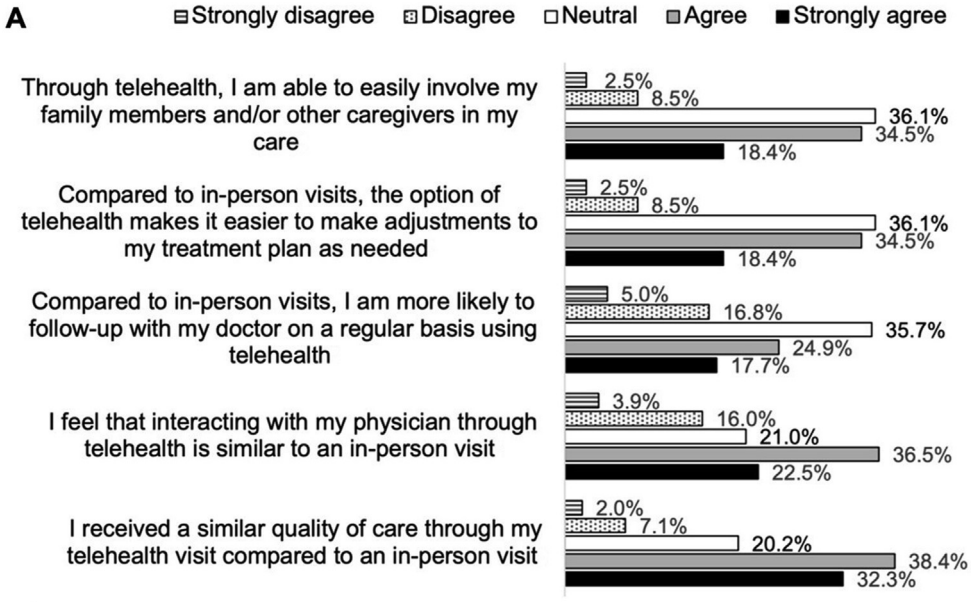

B	**Patient-reported likelihood of continued utilization**	n = 5134 (%)
	Very likely	1499 (29.2)
	Likely	1192 (23.2)
	Neutral	1440 (28.0)
	Unlikely	640 (12.5)
	Very unlikely	363 (7.1)
	Of those very likely or likely, cited reasons why	n = 2691 (%)
	Easier to schedule an appointment at the desired date	1133 (42.1)
	Shorter wait and/or travel time	1264 (47.0)
	Easier check-in process	1981 (73.6)
	Ease of communication with physician regarding plan of care	398 (14.8)
	Reduced out-of-pocket expenses	669 (24.9)
	Flexibility with personal and/or work schedule	1473 (54.7)

C	**Of those who did not have a telehealth visit, cited reasons why**	n = 1299 (%)
	Not offered the option of a telehealth appointment	278 (21.4)
	Preferred to see my doctor in person	120 (9.2)
	Found the technology too difficult to use	14 (1.1)
	Did not have access to adequate internet connection	13 (1.0)
	Concerned insurance would not cover the visit	11 (0.8)
	None of the above	650 (50.0)

Supplementary Figure 1. Patient experience with telehealth. (*A*) Patient perception of telehealth quality of care compared with in-person office visits. (*B*) Patient-reported likelihood and reasons for continued telehealth use. (*C*) Patient-reported reasons for nonparticipation in telehealth.

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Supplementary Table 1. Practices Characteristics

	Location	Physicians	Advanced Practice Providers
Practice 1	Maryland	57	16
Practice 2	Michigan	20	7
Practice 3	North Carolina	15	6
Practice 4	Georgia	88	47
Practice 5	Minnesota	80	39
Practice 6	Nebraska	22	11
Practice 7	New York	18	2
Practice 8	Rhode Island	22	13

Supplementary Table 2. Patient characteristics

Characteristics	No. of Cases (%)
Participated in at least 1 telehealth appointment	5134 (79.8)
Age	
<19 y	20 (0.4)
20–29 y	142 (2.8)
30–39 y	275 (5.4)
40–49 y	457 (8.9)
50–59 y	840 (16.4)
60–69 y	1558 (30.3)
70–79 y	1338 (26.1)
80–89 y	291 (5.7)
≥90 y	16 (0.3)
Declined to answer	197 (3.8)
Sex	
Male	1635 (31.8)
Female	3463 (67.5)
Prefer not to say	36 (0.7)
Employment status	
Employed	2011 (39.2)
Unemployed	368 (7.2)
Retired	2694 (52.5)
Student	61 (1.2)
Race/Ethnicity	
Native American or Alaska Native	18 (0.4)
Asian or Asian American	91 (1.8)
Black or African American	280 (5.5)
Hispanic or Latino	103 (2)
Native Hawaiian or Pacific Islander	2 (0.04)
White	4455 (86.8)
Other	58 (1.1)
Prefer not to say	127 (2.5)
Did not participate in a telehealth appointment	1299 (20.2)
Total	6433 (100)

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