

# Policy Research Perspectives

## **Telehealth in 2022: Availability Remains Strong but Accounts for a Small Share of Patient Visits for Most Physicians**

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### **Introduction**

A body of research has illustrated that telehealth was instrumental in allowing patients to retain access to care during the COVID-19 pandemic (see, for example, FAIR Health Monthly Telehealth Tracker, 2023; Gillis, 2021; Centers for Medicare and Medicaid Services, 2023). And, both patients and physicians have expressed satisfaction with remote care in part, from the patient perspective, because of convenience (see, for example, Pogorzelska and Chlabicz, 2022). Now that the infection rates are lower and patients can seek in-person care, have the high and unprecedented levels of telehealth observed during the pandemic continued? How often do physicians provide telehealth services and which specialties rely on it most? This Policy Research Perspective (PRP) adds to the evidence base on that topic with data from the American Medical Association's Physician Practice Benchmark Surveys (Benchmark Surveys, hereafter) and, to a lesser extent, the 2022 quarterly Medicare Carrier Standard Analytic Files.

This PRP finds that while the availability of telehealth has decreased since the height of the pandemic, it remains much higher than before. Only 25.1 percent of physicians reported that telehealth was used in their practice in 2018. This share more than tripled to 79.0 percent in 2020 and fell slightly to 74.4 percent in 2022. The main driver of this change, using telehealth to videoconference with patients, was available in the practices of 14.3 percent of physicians in 2018, 70.3 percent in 2020, and 66.3 percent in 2022. Physicians indicated several reasons for the use of telehealth in their practice, the most common was to manage patients with chronic disease; 54.9 percent of physicians indicated this type of remote care was present in their practice in 2022. The use of telehealth to diagnose or treat patients, provide care to patients with acute disease, and provide preventive care was mentioned less often (by 49.8 percent, 44.4 percent, and 29.5 percent of physicians, respectively).

Although the availability of videoconferencing and audio-only patient visits was high in 2022 and, as this PRP will demonstrate, widespread across a range of practice characteristics, remote visits accounted for a small share of weekly visits for a large majority of physicians. Only 10.0 percent of physicians provided more than 20 percent of their weekly patient visits via videoconference and only 5.9 percent provided that many on an audio-only basis. The average numbers of weekly videoconference visits and audio-only visits in 2022 were 7.0 and 5.0, respectively.

Finally, and consistent with other research (Fair Health, 2023; Lo, et al., 2022; Trilliant Health, 2023), this PRP finds that the specialty in which telehealth care has had the greatest sticking power is psychiatry. Eighty-three percent of psychiatrists had provided a videoconference visit in the week prior to the 2022 Benchmark Survey and for more than half (54.1 percent), videoconference visits accounted for more than 20 percent of all visits.

## **Data and methods**

The Benchmark Surveys are nationally representative surveys of post-residency physicians who provide at least 20 hours of patient care per week, are not employed by the federal government, and practice in one of the 50 states or the District of Columbia. The Benchmark Survey was first conducted in 2012 and since then has been fielded in September and October on a biennial basis. The 2018, 2020, and 2022 survey years, whose data are reflected in this PRP, had response rates of 36 percent, 38 percent, and 31 percent respectively, and sample sizes of 3500 (see Kane, 2023, for more information).

From 2018 to 2022, physicians were first asked whether telehealth was used in their practice. Following an affirmative answer, they were presented with a list of telehealth modalities and asked to indicate whether each modality was used in their practice. Modalities for patient interactions included videoconference visits, audio-only visits, and remote patient monitoring. Those for provider interactions included videoconferencing with another health care professional (HCP) and store and forward of data. Similarly, physicians were also asked what their practice used telehealth for and presented with a list.<sup>1</sup> Functions related to patients included manage patients with chronic disease, diagnose or treat patients, provide care to patients with acute disease, provide preventive care, and provide after hours care or night calls. Provider-facing functions included consultation with another HCP and to get a second opinion from another HCP.

In 2020 and 2022, the Benchmark Survey also tracked the frequency with which videoconferencing and audio-only visits were used by individual physicians on a weekly basis. Physicians were first asked how many visits they personally provided in the week prior to the survey and then, among those visits, how many were provided via videoconferencing or on an audio-only basis.

The quarterly 2022 Medicare Carrier Standard Analytic Files were used to assess the share of MPFS spending from telehealth in 2022 in the aggregate and by specialty. See Gillis (2021) for details on methodology.

## **Changes in the availability of telehealth from 2018 to 2022**

A comparison of data from 2018, 2020, and 2022 illustrates the widespread impact the COVID-19 pandemic had on the way in which physicians deliver care (Exhibit 1).<sup>2</sup> In 2018, only about one-quarter (25.1 percent) of physicians were in a practice that used any form of telehealth. In 2020 – at

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<sup>1</sup> As discussed in the relevant sections of this PRP, choice options were added in 2020 so not all telehealth modalities and functions can be compared across all years.

<sup>2</sup> A comparison with estimates from the 2016 Benchmark Survey (Kane and Gillis, 2018) shows that while the availability of telehealth increased between 2016 and 2018, the change over that period was much smaller than that between 2018 and 2020.

the height of the pandemic – this stood at 79.0 percent and dropped to 74.4 percent in 2022. Although the 2020 to 2022 drop was statistically significant, prevalence in 2022 was still almost three times that in 2018. Analysis of Medicare claims data also illustrates the growth of telehealth through its impact on spending. Prior to the pandemic, telehealth services accounted for only 0.1 percent of Medicare Physician Fee Schedule (MPFS) spending. Its share of MPFS spending jumped to more than 16 percent in mid-April 2020 and for all of 2020 stood at 5 percent (Gillis, 2021). In 2022, it was 3 percent.

### Telehealth for patient interactions

The changes in telehealth availability was driven by the use of telehealth for interactions with patients.<sup>3</sup> In 2018 only 14.3 percent of physicians were in a practice that used videoconferencing for patient visits compared to 70.3 percent in 2020 and 66.3 percent in 2022.<sup>4</sup> Despite the statistically significant decline between 2020 and 2022, the availability of videoconferencing was more than four times higher in 2022 than in 2018. Two-thirds of physicians in 2020 were in a practice that used audio-only patient visits and (statistically lower) 60.3 percent in 2022 (data are not available for 2018). The prevalence of remote patient monitoring increased from 10.4 percent to 19.9 percent between 2018 and 2020 and remained steady at 21.5 percent in 2022.

Changes in the functions for which telehealth was used also highlight the increased focus on interactions with patients. Only 9.9 percent and 15.6 percent of physicians worked in practices that used telehealth to manage patients with chronic disease or to diagnose or treat patients in 2018. By 2020 these figures were 59.2 percent and 58.0 percent. In 2022, at 54.9 percent and 49.8 percent (statistically lower than in 2020), the prevalence of these types of care were still well over their 2018 levels. Telehealth was used to provide acute and preventive care in the practices of about half and one-third of physicians in 2020 (data are not available for 2018). Those shares fell by a statistically significant amount (6 and 5 percentage points) between 2020 and 2022. The use of telehealth to provide patients with after hours care or night calls also increased during the pandemic from being mentioned by 9.9 percent of physicians in 2018 to 22.4 in 2020, with another small (but statistically significant) increase to 24.4 percent in 2022.

It's important to note that the growth of each of these functions is bounded by their applicability across specialties. For example, not all specialties provide preventive care (in any setting, remote or in person) so it makes sense that it is cited less often than managing patients with chronic disease as a reason why telehealth is used.

### Telehealth for provider interactions

There were also statistically significant upticks in the use of telehealth for interactions with other providers between 2018 and 2020 although those changes were much smaller than those for interactions with patients. The use of videoconferencing with another HCP was present in the

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<sup>3</sup> These results complement other work by the AMA on the adoption of digital health, which also shows a larger uptick since 2019 in remote visits than in other types of digital health (AMA, September 2022)

<sup>4</sup> Psychiatrists were more likely than physicians in other specialties to report the availability of videoconferencing with patients in 2018 (35.7 percent compared to the overall 14.3 percent). Still, they too experienced a large and statistically significant increase in its availability to 85.8 percent in 2020 (data not shown).

practices of 11.6 physicians in 2018, 26.2 percent in 2020, and remained steady at 25.3 percent in 2022. Store and forward of data, which has greatest applicability in radiology but is also used in other specialties, increased slightly from being used in the practices of 11.9 percent of physicians in 2018 to 13.1 percent in 2020, then increased more substantially to 15.3 percent in 2022. Between 2018 and 2020 there were statistically significant increases in the share of physicians who indicated their practice used telehealth for consultations with other HCPs (from 11.3 percent to 17.2 percent) and to seek second opinions from other HCPs (from 6.9 percent to 12.1 percent). Use of telehealth for these reasons in 2022 was similar to in 2020.

### **Differences in 2022 telehealth availability across practice characteristics**

Telehealth, whether reflecting interactions between physicians and patients or between physicians and other providers, had widespread availability across a range of practice characteristics in 2022. Still, there were some notable differences that are worth calling out (Exhibit 2).

Physicians are grouped into five practice type categories based on options provided in the Benchmark Survey: single specialty, multi-specialty, direct employee or contractor of a hospital, faculty practice plan, and other.<sup>5</sup> Together, single specialty and multi-specialty practices include almost 86 percent of practicing physicians (Kane, 2023) so discussion will focus on those two practice types. Although a large majority of physicians in both single and multi-specialty practices indicated that telehealth was used in their practice in 2022, its prevalence was higher in multi-specialty practices, 84.6 percent, than in single specialty practices, 72.3 percent. In fact, physicians in multi-specialty practices were statistically more likely than those in single specialty practices to report the availability of each telehealth modality. For example, 79.7 percent of physicians in multi-specialty practices said that their practice used videoconferencing with patients compared to 62.4 percent of physicians in single specialty practice, a 17 percentage point difference (this modality had the largest difference between the two practice types). The availability of each patient facing method of telehealth was also greater among physicians in multi-specialty practices than in the other three practice types, although the differences were not statistically significant in all cases. In contrast, for the two provider facing modalities, videoconferencing with other HCPs and store and forward of data, availability was more widespread among physicians in faculty practice plans than among physicians in multi-specialty practices. Again, however, those differences were not statistically significant.

While the difference in availability between physicians in single and multi-specialty practices could be related to specialty differences between physicians in the two practice types, analysis suggests that this was not the main driver. For each specialty and each type of telehealth, it was almost always the case that physicians in multi-specialty groups were more likely to report that their practice used telehealth than physicians of the same specialty who practiced in single specialty groups.<sup>6</sup>

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<sup>5</sup> Single specialty includes solo practice. "Other" includes ambulatory surgical center, urgent care facility, medical school, HMO/MCOs, and physicians who provided fill-in responses.

<sup>6</sup> This analysis is not shown. One example is that 85.3 percent of general internists in multi-specialty practices reported that their practice used videoconferencing with patients compared to 73.1 percent of general internists in single specialty practices.

There was also variation in the availability of telehealth across practice size. In 2022, 77.1 percent of physicians in practices with 10 or fewer physicians, 71.6 percent of physicians in practices with 11 to 49 physicians, and 81.0 percent of physicians in practices with at least 50 physicians said that their practice used telehealth. For every modality, physicians in practices with 10 or fewer physicians were statistically less likely to report its use than physicians in practice with 50 or more physicians with differentials ranging from 4 percentage points for audio-only visits to 17 percentage points for videoconferencing with other HCPs. For all modalities except store and forward of data, physicians in practices with 11 to 49 physicians were also less likely to report availability than physicians in the largest practice size category. Notably, the availability of remote patient visits (both by videoconference and audio-only) was reported less often among physicians in the middle than the smallest size category.

Finally, physicians are grouped into five practice ownership categories: private practice, hospital/health system owned, private equity owned, direct employee or contractor of a hospital, and other.<sup>7</sup> As with practice type, because 78.0 percent of physicians fall into the first two categories, discussion is focused there. Eighty-two percent of physicians in hospital/health system owned practices compared to 71.3 percent of physicians in private practice reported that telehealth was used in their practice. In fact, physicians in private practice were statistically less likely to report the use of each telehealth modality, with differentials ranging from 7 percentage points for store and forward of data to 15 percentage points for videoconferencing with patients.

Multivariate regressions were run to further assess whether, after controlling for specialty, practice characteristics were independently associated with the availability of each of the five telehealth modalities (see Appendix). Even after controlling for specialty, physicians in single specialty practices were less likely to report the availability of each type of telehealth than physicians in multi-specialty practices. For videoconferencing and audio-only patient visits the differences were 10 and 12 percentage points, respectively. Practice ownership remained a significant correlate of the availability of telehealth (except for remote patient monitoring), with physicians in private practice 9 and 7 percentage points less likely than physicians in hospital/health system owned practices to have videoconferencing and audio-only patient visits available. Many of the practice size differences remained statistically significant as well. These results suggest that certain practice characteristics afford physicians greater access to telehealth. For example, it may be necessary for multi-specialty practices to create an infrastructure (including telehealth) that serves the wide and varied needs of its physicians and patients and, perhaps, have the greater means to do so. Hospital/health system owned practices may have their telehealth infrastructure provided by the system to which they belong. Larger practices may have greater financial resources with which to fund the underlying technology required to deliver telehealth services.

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<sup>7</sup> Private practice includes physicians (owners, employees, and contractors) who work in a practice that is wholly owned by physicians. Hospital/health system owned includes physicians in practices that are wholly or partially owned by a hospital/health system, and for whom it was unknown if ownership was full or partial. "Other" includes physicians in practices owned by an insurer or owned by a not-for-profit foundation and physicians who provided fill-in responses.

## Weekly use of videoconferencing and audio-only patient visits in 2022

The previous sections provide an overview of the *availability* of telehealth including how it has changed since 2018 and how it differs across practice characteristics. This section turns to the *frequency* with which it is used to provide remote patient visits. It illustrates that although the availability of telehealth for patient interactions was widespread across physicians in a variety of practice types, for most physicians it accounted for only a small share of visits (Exhibit 3).

In 2022, 53.9 percent of physicians had provided a videoconference visit in the prior week. Forty-nine percent had provided an audio-only visit. Those percentages are lower (by 12 percentage points and 11 percentage points) than the shares of physicians whose *practices* used videoconferencing or audio-only visits. There are several possible reasons for this differential. First, although videoconferencing and audio-only visits may be available at the practice level, not all physicians in that practice necessarily use them. In a multi-specialty practice, there are likely differences across physician specialties in telehealth use. Even in a single specialty practice telehealth use may differ across physicians according to their patients' preferences as well as their own.<sup>8</sup> Second, even among physicians who provide remote visits, they may not do with great enough frequency that they had a remote visit in the prior week. This illustrates the importance of not conflating the availability of telehealth with its frequency of use.

Only 10.0 percent of physicians provided more than 20 percent of their prior week patient visits through videoconferencing. In contrast, 43.9 percent of physicians provided at least some videoconference visits, but those remote visits accounted for no more than 20 percent of all visits. The patterns for audio-only visits were similar, with 5.9 percent of physicians providing more than 20 percent of their prior week patient visits on a remote audio-only basis and 43.1 percent providing less than that, but at least some. Patient-based research also shows that videoconference visits slightly edge out audio-only visits; at the end of July 2022, 53 percent of adults who had a remote visit indicated it was provided through videoconferencing and 47 percent through audio-only means (Lee, et al., 2023).

### Specialty differences in the use of telehealth

As demonstrated in other research (see, for example, Lo, et al., 2022), psychiatrists (along with other mental health providers) stand out as the specialty in which the use of telehealth for providing patient visits has taken and sustained the greatest foothold. This is not surprising given that such visits typically do not require a physical exam. Based on the 2022 Benchmark Survey, 83.1 percent of psychiatrists provided a video visit in the week prior to the survey, compared to 66.8 percent of primary care physicians, 64.3 percent of medical specialists, and 45.3 percent of surgeons (Exhibit 4).

Not only are a large majority of psychiatrists using telehealth for patient encounters on a weekly basis, they are also delivering a significant share of their patient care remotely, much more so than other specialties. More than half of psychiatrists (54.1 percent) provided more than 20 percent of their visits through videoconferencing and over one-quarter (27.2 percent) provided more than 60

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<sup>8</sup> Patient and physician preferences were two of the top three reasons given by physicians for why telehealth use decreased from when first offered (American Medical Association, 2022)

percent (data not shown) of their visits through this method. In other specialties, although the provision of remote care was not uncommon, most physicians provided only a small share of their visits on a remote basis. In primary care and medical specialties, only about 10 percent of physicians provided more than 20 percent of their weekly visits via videoconferencing and only around 3 percent provided more than 60 percent of visits (data not shown) through this method. Psychiatrists provided an average of 24.7 videoconference visits in a week compared to 7.3 and 8.5 for medical specialists and primary care physicians, respectively.

It is notable that in primary care, pediatricians relied less on videoconferencing than internists and general and family practice physicians. Less than 4.0 percent of pediatricians provided more than 20 percent of their patient visits via videoconferencing compared to around 12 percent of other primary care physicians.

Psychiatrists were also the specialty most likely to have provided an audio-only visit in the prior week (64.0 percent) followed by primary care physicians (59.0 percent), medical specialists (55.9 percent), and surgeons (47.5 percent) (Exhibit 5). Fifteen percent of psychiatrists provided more than 20 percent of visits via audio-only means. They provided an average of 8.9 audio-only visits per week compared to 6.3 for primary care and 5.3 for medical specialists.

Medicare claims data also show that mental health providers were above average users of telehealth in 2022 (Exhibit 6). Across all providers paid under the MPFS, 3 percent of total 2022 spending (\$2.7 billion of \$89.6 billion) was from telehealth. The share of MPFS spending from telehealth for psychiatrists was 33 percent while for endocrinology, the next highest physician specialty, it was only 9 percent. Shares of MPFS spending from telehealth was even higher for non-physician mental health providers than for psychiatrists (clinical social workers at 47 percent and clinical psychologists at 38 percent).

Takeaways about differential specialty use of telehealth from the Benchmark Survey and Medicare claims data complement research based on all-payer claims data. One such study indicates that in October 2022, five psychotherapy CPT®/HCPCS codes accounted for 42.8 percent of all telehealth claim lines (Fair Health, 2023). From a different perspective, another shows that in Q2 2022, remote visits accounted for between 31.8 percent (FFS Medicare) and 48.6 percent (commercial health plans) of all mental health visits (Trilliant Health, 2023).<sup>9</sup>

## Discussion

This Policy Research Perspective (PRP) demonstrates that while the immediate need due to the COVID-19 pandemic has passed, telehealth, and especially remote visits with patients, has become part of the mainstream way in which physicians deliver patient care. From the AMA's Physician Practice Benchmark Surveys, 74.4 percent of physicians in 2022 indicated that their practice used telehealth, much higher than prior to the pandemic (25.1 percent in 2018) and 5 percentage points lower than during the pandemic (79.0 percent in 2020). Videoconferencing with patients, the telehealth modality most widely available, was used in the practices of 66.3 percent of physicians in 2022 compared to 14.3 percent in 2018 and 70.3 percent in 2020.

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<sup>9</sup> Shares for Medicare Advantage and Medicaid were 40.1 percent and 36.7 percent, respectively. Note that these shares are based on care provided by all mental health providers not solely that provided by psychiatrists.

While physician specialty is an important factor that relates to whether telehealth is used, this report suggests that in 2022, its availability was also influenced by the characteristics of the practice in which physicians work. In particular, physicians in single specialty practices were less likely to report the availability of telehealth in their practices than physicians in multi-specialty practices. The same was true for physicians in private practice compared to hospital/health system owned practices. Even after controlling for differences in specialty composition (through multivariate regression), the availability of videoconferencing was 10 percentage points lower among physicians in single specialty practices than in multi-specialty practices, and its availability was 9 percentage points lower among physicians in private practice than in hospital/health system owned practices.

This report also demonstrates that telehealth availability should not be conflated with frequency of use. While 66.3 percent of physicians reported that videoconferencing with patients was used in their practice in 2022, fewer, 53.9 percent, had provided a videoconference visit in the week prior to the survey. Similarly, while 60.3 percent reported the availability of audio-only visits, 49.0 percent had provided one in the prior week. Remote visits typically accounted for only a small share of total visits provided. Only 10.0 percent of physicians provided more than 20 percent of visits via videoconference and only 5.9 percent provided that many audio-only visits. The average number of videoconference and audio-only visits provided in a week were 7.0 and 5.0, respectively.

Psychiatrists' use of telehealth in 2022 was well above that of physicians in other specialties. Eighty-three percent of psychiatrists had provided a videoconference visit in the prior week. And, for more than half of psychiatrists (54.1 percent), videoconference visits accounted for more than 20 percent of all visits. Their average number of weekly videoconference visits was 24.7. Similarly, that specialty provided an average of 8.9 weekly visits via audio-only means and 64.0 percent had provided any. From the Medicare claims data, the share of 2022 Medicare Physician Fee Schedule spending from telehealth for psychiatrists was 33 percent while for endocrinology, the next highest physician specialty, it was only 9 percent. This research complements that based on all-payer claims data (Trilliant Health, 2023) which shows that remote visits accounted for more than 30 percent of all mental health visits in Q2 2022 regardless of insurer type.



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**Exhibit 1. Percentage of physicians whose practices have the following modalities and telehealth functions**

	2018	2020	2022
<b>Any type of telehealth</b>	25.1% <sup>a</sup>	79.0% <sup>a</sup>	74.4% <sup>a</sup>
<b>Modalities used in the practice</b>			
Videoconferencing for patient visits	14.3% <sup>a</sup>	70.3% <sup>a</sup>	66.3% <sup>a</sup>
Audio-only patient visits	n/a	66.6% <sup>a</sup>	60.3% <sup>a</sup>
Remote patient monitoring (RPM)	10.4% <sup>a</sup>	19.9%	21.5% <sup>a</sup>
Videoconferencing with another HCP	11.6% <sup>a</sup>	26.2%	25.3% <sup>a</sup>
Store and forward of data	11.9%	13.1% <sup>a</sup>	15.3% <sup>a</sup>
<b>Function of telehealth in the practice</b>			
Manage patients with chronic disease	9.9% <sup>a</sup>	59.2% <sup>a</sup>	54.9% <sup>a</sup>
Diagnose or treat patients	15.6% <sup>a</sup>	58.0% <sup>a</sup>	49.8% <sup>a</sup>
Provide care to patients with acute disease	n/a	50.4% <sup>a</sup>	44.4%
Provide preventive care	n/a	34.3% <sup>a</sup>	29.5%
After hours care or night calls	9.9% <sup>a</sup>	22.4% <sup>c</sup>	24.4% <sup>a</sup>
Consultation with another HCP	11.3% <sup>a</sup>	17.2%	16.1% <sup>a</sup>
Second opinion from another HCP	6.9% <sup>a</sup>	12.1%	11.3% <sup>a</sup>
<b>N</b>	3500	3500	3500

Source: Author's analysis of the AMA 2018, 2020, and 2022 Physician Practice Benchmark Surveys.

Notes: Questions on audio-only visits and the use of telehealth to provide acute care and preventive care were not added until the 2020 survey. HCP = health care professional. Significance tests in the 2018 and 2020 columns are for that year and the one following. Significance tests in the 2022 column are for 2018 and 2022. 'a' is  $p < 0.01$ , 'b' is  $p < 0.05$ , and 'c' is  $p < 0.10$ .

**Exhibit 2. Differences in the availability of telehealth in 2022 across practice characteristics**

	Any type of telehealth	Videoconferencing for patient visits	Audio-only patient visits	RPM	Videoconferencing with other HCPs	Store and forward of data
<b>Practice type</b>						
Single specialty	72.3% <sup>a</sup>	62.4% <sup>a</sup>	57.5% <sup>a</sup>	16.5% <sup>a</sup>	19.0% <sup>a</sup>	13.0% <sup>a</sup>
Multi-specialty	84.6%	79.7%	72.0%	32.1%	33.0%	18.4%
Direct hospital employee/contractor	56.7% <sup>a</sup>	49.7 <sup>a</sup>	43.7% <sup>a</sup>	18.4% <sup>a</sup>	29.4%	16.1%
Faculty practice plan	77.5%	71.1% <sup>b</sup>	61.2% <sup>b</sup>	25.8%	40.8%	22.8%
Other	73.3% <sup>a</sup>	65.4% <sup>a</sup>	60.6% <sup>a</sup>	22.2% <sup>a</sup>	32.6%	17.4%
<b>Practice size</b>						
1 to 10 physicians	77.1% <sup>b</sup>	68.0% <sup>a</sup>	63.2% <sup>b</sup>	19.0% <sup>a</sup>	20.1% <sup>a</sup>	13.1% <sup>a</sup>
11 to 49 physicians	71.6% <sup>a</sup>	63.5% <sup>a</sup>	56.3% <sup>a</sup>	22.6% <sup>a</sup>	25.3% <sup>a</sup>	16.7%
50+ physicians	81.0%	73.8%	67.7%	29.7%	37.2%	19.6%
<b>Practice ownership</b>						
Wholly owned by physicians	71.3% <sup>a</sup>	61.3 <sup>a</sup>	57.1% <sup>a</sup>	17.9% <sup>a</sup>	19.1% <sup>a</sup>	12.8% <sup>a</sup>
At least some hospital/health system ownership	82.4%	75.9%	68.7%	26.6%	32.5%	18.4%
Private equity	58.9% <sup>a</sup>	53.2% <sup>a</sup>	41.6% <sup>a</sup>	12.2% <sup>a</sup>	11.7% <sup>a</sup>	12.2% <sup>b</sup>
Direct hospital employee/contractor	56.7% <sup>a</sup>	49.7 <sup>a</sup>	43.7% <sup>a</sup>	18.4% <sup>a</sup>	29.4%	16.1%
Other	90.5% <sup>a</sup>	88.1% <sup>a</sup>	77.2% <sup>a</sup>	31.6% <sup>c</sup>	35.6%	18.6%
<b>All physicians</b>	74.4%	66.3%	60.3%	21.5%	25.3%	15.3%

Source: Author's analysis of the AMA 2022 Physician Practice Benchmark Survey.

Notes: Under practice type, single specialty practices include physicians in solo practice. The "other" practice type category includes ambulatory surgical centers, urgent care facilities, medical schools, HMO/MCOs, and physicians who gave fill-in responses. Under practice ownership, hospital/health system owned includes physicians in practices that are wholly or partially owned by a hospital/health system, and for whom it was unknown if ownership was full or partial. The "other" ownership category includes practices that are wholly owned by a not-for-profit foundation, wholly owned by an insurer, and fill-in responses. Direct hospital employee/contractor is both a practice and ownership type (see Kane, 2023, for more information). Practice size is not collected for physicians who fall into that category. For practice type, significance tests are relative to multi-specialty; for practice size, relative to 50+ physicians; and for practice ownership, relative to hospital/health system ownership. 'a' is  $p < 0.01$ , 'b' is  $p < 0.05$ , and 'c' is  $p < 0.10$ .

**Exhibit 3. Distribution of physicians according to practice availability and weekly use of video and audio-only visits, 2022**

<b>Practice uses videoconferencing for patient visits</b>	<b>66.3%</b>	<b>Practice uses audio-only patient visits</b>	<b>60.3%</b>
Physician did not have a video visit in prior week	12.3%	Physician did not have an audio-only visit in prior week	11.3%
Physician had a video visit in prior week	53.9%	Physician had an audio-only visit in prior week	49.0%
<b>Physician had a video visit in prior week</b>	<b>53.9%</b>	<b>Physician had an audio-only visit in prior week</b>	<b>49.0%</b>
Video visits account for no more than 20% of all visits	43.9%	Audio-only visits account for no more than 20% of all visits	43.1%
Video visits account for more than 20% of all visits	10.0%	Audio-only visits account for more than 20% of all visits	5.9%
<b>Video visits account for more than 20% of all visits</b>	<b>10.0%</b>	<b>Audio-only visits account for more than 20% of all visits</b>	<b>5.9%</b>
But no more than 40% of all visits	5.2%	But no more than 40% of all visits	3.6%
More than 40% of all visits	4.8%	More than 40% of all visits	2.3%
<b>Video visits account for more than 40% of all visits</b>	<b>4.8%</b>	<b>Audio-only visits account for more than 40% of all visits</b>	<b>2.3%</b>
But no more than 60% of all visits	1.6%	But no more than 60% of all visits	0.9%
More than 60% of all visits	3.2%	More than 60% of all visits	1.4%

Source: Author's analysis of the AMA 2022 Physician Practice Benchmark Survey.

**Exhibit 4. Distribution of physicians by weekly use of videoconference visits, 2022**

	No videoconference visits in prior week	Some videoconference visits in prior week			Avg. number of video-conference visits
		No more than 20% of visits	More than 20% of visits	Total	
<b>Anesthesiology</b>	<b>86.1%</b>	<b>10.0%</b>	<b>3.9%</b>	<b>13.9%</b>	<b>2.2</b>
<b>Emergency medicine</b>	<b>82.5%</b>	<b>14.7%</b>	<b>2.8%</b>	<b>17.5%</b>	<b>2.7</b>
<b>Medical specialties</b>	<b>35.7%</b>	<b>54.8%</b>	<b>9.5%</b>	<b>64.3%</b>	<b>7.3</b>
Cardiology	38.3%	54.8%	6.9%	61.7%	6.7
Endocrinology & diabetes	15.1%	75.8%	9.2%	84.9%	10.3
Gastroenterology	36.0%	57.1%	7.0%	64.0%	7.2
Hematology & oncology	54.3%	35.8%	9.9%	45.7%	7.8
Nephrology	28.9%	62.1%	9.0%	71.1%	6.9
Neurology	31.6%	51.3%	17.1%	68.4%	8.9
Other medical specialties	36.9%	54.5%	8.6%	63.1%	6.3
<b>Pathology</b>	<b>87.0%</b>	<b>4.6%</b>	<b>8.4%</b>	<b>13.0%</b>	<b>2.3</b>
<b>Primary care</b>	<b>33.2%</b>	<b>56.8%</b>	<b>9.9%</b>	<b>66.8%</b>	<b>8.5</b>
Family & general practice	28.5%	60.2%	11.3%	71.5%	8.8
General internal medicine	36.1%	52.2%	11.8%	63.9%	10
Pediatrics	37.2%	59.0%	3.8%	62.8%	5.0
<b>Psychiatry</b>	<b>16.9%</b>	<b>29.1%</b>	<b>54.1%</b>	<b>83.1%</b>	<b>24.7</b>
<b>Radiology</b>	<b>67.7%</b>	<b>28.1%</b>	<b>4.2%</b>	<b>32.3%</b>	<b>3.8</b>
<b>Surgical specialties</b>	<b>54.7%</b>	<b>41.6%</b>	<b>3.8%</b>	<b>45.3%</b>	<b>3.4</b>
Dermatology	51.3%	48.7%	0.0%	48.7%	3.4
General surgery	60.4%	35.7%	3.8%	39.6%	2.4
Obstetrics & gynecology	46.2%	48.3%	5.5%	53.8%	5.5
Ophthalmology	76.3%	22.0%	1.7%	23.7%	2.0
Orthopedic surgery	63.7%	35.4%	0.9%	36.3%	1.5
Urology	33.1%	63.0%	3.9%	66.9%	5.0
Other surgical specialties	50.0%	43.9%	6.1%	50.0%	3.1
<b>Other</b>	<b>43.1%</b>	<b>42.7%</b>	<b>14.2%</b>	<b>56.9%</b>	<b>7.2</b>
<b>All</b>	<b>46.1%</b>	<b>43.9%</b>	<b>10.0%</b>	<b>53.9%</b>	<b>7.0</b>

Source: Author's analysis of the AMA 2022 Physician Practice Benchmark Survey.

Note: Over 250 detailed physician specialties from the AMA Physician Professional Data were mapped to the categories shown above. Only categories with a sample size of at least 30 are shown.

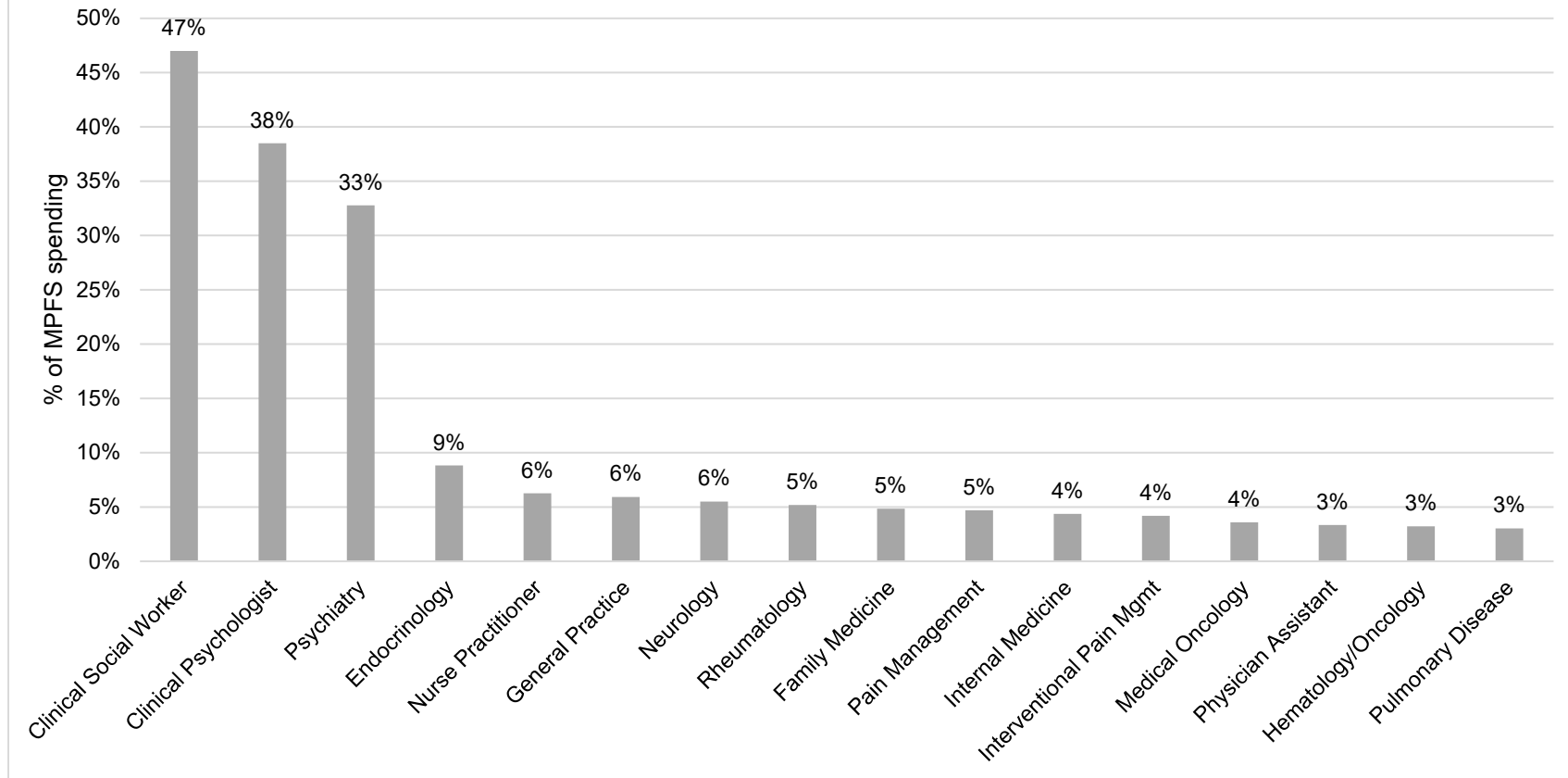
**Exhibit 5. Distribution of physicians by weekly use of audio-only visits, 2022**

	No audio-only visits in prior week	Some audio-only visits in prior week			Avg. number of audio-only visits
		No more than 20% of visits	More than 20% of visits	Total	
<b>Anesthesiology</b>	<b>82.4%</b>	<b>12.6%</b>	<b>5.0%</b>	<b>17.6%</b>	<b>2.0</b>
<b>Emergency medicine</b>	<b>86.3%</b>	<b>12.8%</b>	<b>0.9%</b>	<b>13.7%</b>	<b>1.0</b>
<b>Medical specialties</b>	<b>44.1%</b>	<b>50.2%</b>	<b>5.7%</b>	<b>55.9%</b>	<b>5.3</b>
Cardiology	37.1%	58.8%	4.1%	62.9%	5.1
Endocrinology & diabetes	40.8%	45.4%	13.8%	59.2%	7.0
Gastroenterology	51.6%	43.7%	4.7%	48.4%	4.9
Hematology & oncology	42.9%	57.1%	0.0%	57.1%	3.6
Nephrology	29.1%	68.7%	2.1%	70.9%	5.6
Neurology	46.8%	46.8%	6.4%	53.2%	4.5
Other medical specialties	49.1%	43.6%	7.3%	50.9%	5.9
<b>Pathology</b>	<b>84.2%</b>	<b>7.4%</b>	<b>8.4%</b>	<b>15.8%</b>	<b>3.4</b>
<b>Primary care</b>	<b>41.0%</b>	<b>51.7%</b>	<b>7.3%</b>	<b>59.0%</b>	<b>6.3</b>
Family & general practice	34.9%	58.2%	6.9%	65.1%	5.9
General internal medicine	43.4%	48.2%	8.4%	56.6%	7.4
Pediatrics	48.5%	45.6%	5.9%	51.5%	5.2
<b>Psychiatry</b>	<b>36.0%</b>	<b>49.0%</b>	<b>15.0%</b>	<b>64.0%</b>	<b>8.9</b>
<b>Radiology</b>	<b>65.4%</b>	<b>29.9%</b>	<b>4.7%</b>	<b>34.6%</b>	<b>4.5</b>
<b>Surgical specialties</b>	<b>52.5%</b>	<b>45.0%</b>	<b>2.5%</b>	<b>47.5%</b>	<b>3.4</b>
Dermatology	79.0%	21.0%	0.0%	21.0%	1.0
General surgery	53.3%	45.4%	1.3%	46.7%	2.6
Obstetrics & gynecology	38.5%	56.5%	5.0%	61.5%	4.9
Ophthalmology	73.8%	25.6%	0.6%	26.2%	2.3
Orthopedic surgery	48.9%	50.2%	0.9%	51.1%	2.4
Urology	29.1%	63.6%	7.3%	70.9%	7.5
Other surgical specialties	57.0%	40.8%	2.2%	43.0%	3.0
<b>Other</b>	<b>51.6%</b>	<b>38.9%</b>	<b>9.4%</b>	<b>48.4%</b>	<b>6.0</b>
<b>All</b>	<b>51.0%</b>	<b>43.1%</b>	<b>5.9%</b>	<b>49.0%</b>	<b>5.0</b>

Source: Author's analysis of the AMA 2022 Physician Practice Benchmark Survey.

Note: Over 250 detailed physician specialties from the AMA Physician Professional Data were mapped to the categories shown above. Only categories with a sample size of at least 30 are shown.

### Exhibit 6. Telehealth spending as a share of 2022 MPFS total, select specialties



Source: Quarterly Medicare Carrier Standard Analytic Files for 2022.

Notes: Medicare specialties shown are those with at least \$300 million in MPFS spending in 2021 AND were above average users of telehealth in 2022. Across all specialties, telehealth spending was 3 percent of total MPFS spending.



**Appendix. Correlates of whether five telehealth modalities were available in a physician's practice in 2022**

	Videoconferencing for patient visits		Audio-only visits		Remote patient monitoring	
	Parameter estimate	Standard error	Parameter estimate	Standard error	Parameter estimate	Standard error
<b>Intercept</b>	1.053 <sup>a</sup>	0.039	0.880 <sup>a</sup>	0.042	0.331 <sup>a</sup>	0.035
<b>Practice type</b>						
Single Specialty	-0.099 <sup>a</sup>	0.021	-0.119 <sup>a</sup>	0.023	-0.122 <sup>a</sup>	0.019
Faculty practice plan	-0.028	0.050	-0.090 <sup>c</sup>	0.053	-0.047	0.045
Other practice type	-0.084 <sup>b</sup>	0.038	-0.082 <sup>b</sup>	0.041	-0.101 <sup>a</sup>	0.035
<b>Practice size</b>						
1 to 10 physicians	-0.059 <sup>b</sup>	0.025	-0.019	0.027	-0.042 <sup>c</sup>	0.023
11 to 49 physicians	-0.068 <sup>a</sup>	0.025	-0.075 <sup>a</sup>	0.027	-0.039 <sup>c</sup>	0.023
<b>Practice ownership</b>						
Private practice	-0.086 <sup>a</sup>	0.019	-0.065 <sup>a</sup>	0.021	-0.012	0.018
Direct hospital employee/contractor	-0.247 <sup>a</sup>	0.033	-0.251 <sup>a</sup>	0.036	-0.127 <sup>a</sup>	0.030
Private equity	-0.107 <sup>a</sup>	0.039	-0.158 <sup>a</sup>	0.041	-0.050	0.035
Other ownership	0.039	0.031	0.050	0.033	0.051 <sup>c</sup>	0.028
<b>Specialty</b>						
Anesthesiology	-0.612 <sup>a</sup>	0.044	-0.405 <sup>a</sup>	0.047	-0.10 <sup>b</sup>	0.040
Emergency medicine	-0.612 <sup>a</sup>	0.047	-0.497 <sup>a</sup>	0.050	-0.131 <sup>a</sup>	0.043
Cardiology	-0.167 <sup>a</sup>	0.055	0.019	0.058	0.397 <sup>a</sup>	0.050
Endocrinology	-0.086	0.064	-0.087	0.068	0.256 <sup>a</sup>	0.058
Gastroenterology	-0.131 <sup>b</sup>	0.063	-0.040	0.068	0.040	0.058
Hematology & oncology	-0.344 <sup>a</sup>	0.083	-0.146 <sup>c</sup>	0.088	-0.106	0.075
Nephrology	-0.014	0.067	0.122 <sup>c</sup>	0.071	0.105 <sup>c</sup>	0.061
Neurology	-0.130 <sup>b</sup>	0.060	-0.099	0.064	0.069	0.055
Other medical specialties	-0.074 <sup>c</sup>	0.045	-0.066	0.048	0.007	0.041
Pathology	-0.621 <sup>a</sup>	0.082	-0.451 <sup>a</sup>	0.087	-0.145 <sup>c</sup>	0.074
Family & general practice	-0.099 <sup>a</sup>	0.037	0.020	0.040	0.051	0.034
General internal medicine	-0.138 <sup>a</sup>	0.039	-0.058	0.042	0.093 <sup>a</sup>	0.035
Pediatrics	-0.072 <sup>c</sup>	0.041	-0.101 <sup>b</sup>	0.044	-0.052	0.038
Radiology	-0.500 <sup>a</sup>	0.051	-0.271 <sup>a</sup>	0.054	-0.003	0.046
Dermatology	-0.248 <sup>a</sup>	0.058	-0.295 <sup>a</sup>	0.062	-0.093 <sup>c</sup>	0.052
General surgery	-0.274 <sup>a</sup>	0.051	-0.110 <sup>b</sup>	0.054	-0.135 <sup>a</sup>	0.046
Obstetrics & gynecology	-0.194 <sup>a</sup>	0.043	0.002	0.046	-0.012	0.039
Ophthalmology	-0.531 <sup>a</sup>	0.050	-0.369 <sup>a</sup>	0.054	-0.113 <sup>b</sup>	0.046
Orthopedic surgery	-0.260 <sup>a</sup>	0.055	-0.107 <sup>c</sup>	0.059	-0.113 <sup>b</sup>	0.050
Urology	-0.059	0.071	0.076	0.076	-0.132 <sup>b</sup>	0.064
Other surgical specialties	-0.179 <sup>a</sup>	0.049	-0.100 <sup>c</sup>	0.053	-0.063	0.045
Other specialties	-0.176 <sup>a</sup>	0.047	-0.131 <sup>a</sup>	0.050	0.006	0.042

**Appendix (continued). Correlates of whether five telehealth modalities were available in a physician's practice in 2022**

	Videoconferencing with other HCPs		Store and forward of data	
	Parameter estimate	Standard error	Parameter estimate	Standard error
<b>Intercept</b>	0.551 <sup>a</sup>	0.038	0.184 <sup>a</sup>	0.032
<b>Practice type</b>				
Single Specialty	-0.090 <sup>a</sup>	0.021	-0.042 <sup>b</sup>	0.017
Faculty practice plan	0.019	0.048	0.011	0.040
Other practice type	-0.026	0.037	-0.024	0.031
<b>Practice size</b>				
1 to 10 physicians	-0.076 <sup>a</sup>	0.024	-0.011	0.020
11 to 49 physicians	-0.054 <sup>b</sup>	0.024	-0.008	0.020
<b>Practice ownership</b>				
Private practice	-0.068 <sup>a</sup>	0.019	-0.030 <sup>c</sup>	0.016
Direct hospital employee/contractor	-0.108 <sup>a</sup>	0.032	-0.055 <sup>b</sup>	0.027
Private equity	-0.149 <sup>a</sup>	0.038	-0.052 <sup>c</sup>	0.032
Other ownership	0.027	0.030	0.006	0.025
<b>Specialty</b>				
Anesthesiology	-0.257 <sup>a</sup>	0.043	-0.027	0.036
Emergency medicine	-0.202 <sup>a</sup>	0.046	-0.050	0.038
Cardiology	-0.153 <sup>a</sup>	0.053	0.071	0.045
Endocrinology	-0.187 <sup>a</sup>	0.062	0.039	0.052
Gastroenterology	-0.093	0.062	-0.021	0.052
Hematology & oncology	-0.020	0.080	-0.069	0.067
Nephrology	-0.080	0.065	0.016	0.054
Neurology	-0.126 <sup>b</sup>	0.058	0.042	0.049
Other medical specialties	-0.191 <sup>a</sup>	0.044	-0.010	0.037
Pathology	-0.100	0.079	-0.007	0.067
Family & general practice	-0.183 <sup>a</sup>	0.036	0.008	0.030
General internal medicine	-0.138 <sup>a</sup>	0.038	0.061 <sup>c</sup>	0.032
Pediatrics	-0.193 <sup>a</sup>	0.040	-0.011	0.034
Radiology	-0.069	0.049	0.315 <sup>a</sup>	0.041
Dermatology	-0.233 <sup>a</sup>	0.056	0.033	0.047
General surgery	-0.134 <sup>a</sup>	0.049	0.005	0.041
Obstetrics & gynecology	-0.201 <sup>a</sup>	0.042	-0.005	0.035
Ophthalmology	-0.261 <sup>a</sup>	0.049	-0.011	0.041
Orthopedic surgery	-0.258 <sup>a</sup>	0.054	-0.068	0.045
Urology	-0.200 <sup>a</sup>	0.069	-0.076	0.058
Other surgical specialties	-0.176 <sup>a</sup>	0.048	0.035	0.040
Other specialties	-0.060	0.045	0.014	0.038

Source: Author's analysis of the AMA 2022 Physician Practice Benchmark Survey.

Notes: 3328 observations were included in each of the 5 regressions (172 physicians have missing values for practice size—did not know). Parameter estimates are from a linear regression. The reference groups are multi-specialty (practice type), 50+ physicians (size), hospital/health system owned (ownership), and psychiatry (specialty). For significant tests 'a' is  $p < 0.01$ , 'b' is  $p < 0.05$ , and 'c' is  $p < 0.10$ .