

# Family Physicians and Telehealth: Findings from a National Survey

PROJECT REPORT



ROBERT  
GRAHAM  
CENTER

*Policy Studies in Family Medicine and Primary Care*

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# EXECUTIVE SUMMARY

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Health care delivery in the United States is experiencing a convulsive transformation during the early decades of the 21st century with the implementation of the Patient Protection and Affordable Care Act (ACA), the push toward value-based care, and a declared national Triple Aim for health care of enhancing the patient experience, improving population health, and controlling costs. Simultaneously, the explosion of personal technology provides almost unlimited communication access through a variety of interfaces, altering not only how and when communication occurs, but also the content, pace, and quality of communication. At the intersection of these phenomena lies telemedicine.

In the vernacular for more than four decades, the term “telemedicine” is widely applied and well recognized, but lacks a singular definition. In broad terms, it is the use of technology to deliver health care services and information at a distance. As the costs of equipment and technology have decreased and ease of access has increased, telehealth has become useful in multiple health arenas. Telehealth usage has evolved from static “store and forward” applications in which information (e.g., radiologic images) is stored and then shared or forwarded for diagnostic review or a second opinion. Now, virtual clinician visits in real time encompass a wide range of issues from urgent to chronic, from primary care to subspecialty consultation, and from initial diagnosis to follow-up and management. The terms “telemedicine” and “telehealth” are used interchangeably throughout this report.

With the call for patient-centered, value-based care that offers improved access to services dominating health system changes, provider availability is emerging as a major challenge. Access to health care providers is particularly problematic in underserved communities and rural areas in which 20 percent of the U.S. population resides, yet only 10 percent of physicians practice. Telemedicine is frequently cited as a potential strategy to enhance access to care and increase the quality and continuity of care. As patients are seeking care “off hours” in retail clinics and urgent care settings for health issues that are in the primary care domain, telemedicine may also help patients and their primary care physicians overcome logistic hurdles to achieving the continuity and coordination of care that are fundamental to primary care’s positive impact on health.

To solicit information on the use of telehealth services, and attitudes and beliefs related to these services, The Robert Graham Center for Policy Studies in Family Medicine and Primary Care surveyed family physicians. Surveys were mailed to more than 5,000 randomly selected family physicians, with rural physicians intentionally oversampled. The 31 percent response rate (1,557 respondents) was high by typical physician survey standards. Fifteen percent of respondents indicated that they use telehealth in their practices. Key factors analyzed were practice characteristics of those who use telehealth compared to those who do not, and information about practice patterns of the telehealth services provided.

Compared with non-users, family physicians who use telehealth are more likely to practice in a rural location, be younger, have practiced for 10 or fewer years, and employ an electronic health record (EHR). Almost half (49 percent) of telehealth users practice as part of an organization that is not physician owned (e.g., an integrated health or hospital system). More than half of telehealth users

reported using telehealth one to five times in the past year, while more than 23 percent reported using telehealth on more than 20 occasions during the same period. Almost half of telehealth users stated they had used real-time video consultations in the past 12 months. In addition, 55 percent of surveyed telehealth users had used telehealth services for diagnosis or treatment in the past 12 months, and one-fourth of surveyed telehealth users reported using telehealth services for chronic disease management.

A majority of both family physicians who use telehealth services and non-users agreed with the following statement: “Patients are likely to receive a higher quality of care when they see a physician in person.” However, non-users were significantly more likely (91 percent versus 80 percent) to agree. Compared with those respondents who do not use telehealth services, telehealth users were more likely (87 percent versus 64 percent) to agree that they would “use [these services] to connect [their] patients to specialists and other physicians.” Few respondents believe they would be sued for providing telehealth services (19 percent of non-users versus 12 percent of users).

Both users and non-users indicated that they believe that barriers to using telehealth in their practice include the cost of equipment, lack of training, and lack of reimbursement by insurers. Slightly more than one-fifth (21 percent) of the survey respondents who use telehealth services agreed with the following statement: “The current Medicare reimbursement rate is adequate to cover a telehealth appointment.” Eleven percent of non-users agreed with the statement. While the majority of both users and non-users agreed that telehealth improves access to and continuity of care for their patients, they also agreed that patients prefer to see a doctor in person.

Overall, the findings of this survey confirm that family physicians see promise in the ability of telehealth to improve access to primary care services. The findings also suggest that telehealth is on the cusp of advancing from a tool used occasionally to a tool implemented on a routine basis. However, use of telehealth services will not become widely adopted until health systems are reformed to address barriers. Specifically, practice training and support need to be reformed to include telehealth education; technological platforms need to be updated with tools to support telehealth; reimbursement for telehealth services needs to be expanded; and licensing and credentialing need to be clarified to allow for interstate provision of telehealth services. Finally, further research regarding the effectiveness, efficiency, quality, and cost of telemedicine—from both the provider’s perspective and the patient’s perspective—is needed.

# INTRODUCTION and BACKGROUND

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Expansion of access to health care is a key goal of the Patient Protection and Affordable Care Act (ACA), yet making changes to much of the infrastructure of the delivery system remains a challenge.<sup>1</sup> One promising method to expand access to health care is telemedicine.<sup>2</sup> In general terms, telemedicine is the use of technology to deliver health care services and information remotely.<sup>3</sup> Over the past few years, telehealth services have evolved. The cost of the equipment needed to deliver telehealth services has decreased, the technology has become easier to use, and both patients and providers have become comfortable with many of the telehealth applications currently available.<sup>4</sup> In particular, telehealth is having a positive impact in rural and medically underserved areas.<sup>5</sup> These areas are benefiting from the increased access to subspecialty care that telehealth offers.

To address the need for rural access to subspecialty services, the Centers for Medicare & Medicaid Services (CMS) reimburses for telehealth services provided to Medicare beneficiaries located in health professional shortage areas (HPSAs) or counties outside of metropolitan statistical areas (MSAs); this allows beneficiaries to obtain care from remote providers.<sup>6</sup> CMS reimburses for remote patient services provided face-to-face via live, real-time video conferencing when the service is provided to a Medicare beneficiary in an eligible facility known as the “originating site.”

Although CMS has increased its reimbursement for telehealth services through an expansion of covered services and a decrease in provider requirements, the increase in Medicare claims for telehealth has been modest. According to a recent CMS report, only 369 providers had 10 or more Medicare claims for telehealth services in 2009.<sup>7</sup> Approximately 50 percent of these providers were mental health professionals, and approximately 20 percent were non-physician professionals.

CMS reimbursement for telehealth services varies from state to state.<sup>8</sup> State-level restrictions on reimbursement act as a disincentive for the provision of telehealth services and have slowed uptake by primary care providers.<sup>9</sup> Payers may have been reluctant to pay for additional services under the fee-for-service model; however, because primary care telehealth services may reduce costs by shifting care from expensive urgent or emergency care settings to primary care settings, the shift to value-based payment may provide opportunities to be paid for telehealth services that are provided during off hours.

Physician privileging and credentialing have been identified as barriers to the provision of telehealth services. In the United States, the provision of medical services is subject to state licensing regulations. When telehealth services are used to link a patient with a provider located in a different state, individual state rules governing the provision of medical services present barriers.<sup>10</sup> In addition, since clinical implementation of telemedicine is relatively new, questions have arisen regarding whether the knowledge and skills physicians obtain in traditional training are adequate to meet the needs of patients using non-face-to-face communication, especially given the lack of opportunity to perform

## INTRODUCTION AND BACKGROUND, continued

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the usual physical examination. In this new technological environment, the establishment of practice guidelines that are portable and consistent across states may enhance health care professionals' ability to ensure that diagnosis and treatment are within appropriate standards for patient safety and therapeutic effectiveness.<sup>11</sup>

The Federation of State Medical Boards (FSMB) has streamlined the licensure process by creating the Federation Credentials Verification Service (FCVS) to provide “a centralized, uniform process for state medical boards to obtain a verified, primary-source record of a physician’s core medical credentials.”<sup>12</sup> The FSMB has also created a uniform application, which 22 states accept, and a model Interstate Medical Licensure Compact that is “a new licensing option under which qualified physicians seeking to practice in multiple states would be eligible for expedited licensure in all states participating in the Compact.”<sup>13</sup> This Compact would make it easier for physicians to practice in more than one state. State legislatures and medical boards are considering adopting rules to allow participation in the Compact. In addition, the FSMB created the State Medical Boards’ Appropriate Regulation of Telemedicine (SMART) Workgroup to “[guide] the development of model guidelines for use by state medical boards in evaluating the appropriateness of care as related to the use of telemedicine, or the practice of medicine using electronic communication, information technology or other means, between a physician in one location and a patient in another location with or without an intervening health care provider.”<sup>14</sup>

The need for efficient technology platforms and the need for improved mechanisms to communicate with referral physicians are among the technical challenges of providing telehealth services. In addition, patient privacy and security of health information have emerged as important issues. For telehealth to be successful, health care providers need to determine what technology platforms can be used to connect them to patients and other health care professionals effectively, reliably, and securely.

Physicians may be hesitant to use telehealth services due to a number of factors, including lack of knowledge and training; cost considerations; credentialing and licensing issues; and the existing medical culture and standards of care. To better profile physicians who are telehealth users and compare users with non-users, The Robert Graham Center for Policy Studies in Family Medicine and Primary Care developed a survey to solicit information from family physicians that would allow for an analysis of family physicians’ attitudes and beliefs about telehealth.

# RESEARCH OBJECTIVES

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The literature review described below revealed that there are few well-designed studies with sample sizes large enough to assess telehealth in primary care settings. The Graham Center family physician survey was developed to learn more about the demographics of users and non-users of telehealth services, how and where they practice, their attitudes and beliefs about telehealth, the uses of telehealth in family medicine practices, and barriers to implementing telehealth. In addition, the survey instrument focused on investigating the perception of telehealth among family physicians.

Anthem (formerly WellPoint) provided funding for the Graham Center to perform an extensive literature review and to convene a national colloquium of experts and stakeholders in the field of telemedicine to assess the current knowledge about telemedicine and gaps in this knowledge. Pertinent issues included current practice patterns; the variety of technological platforms; quality of care; effectiveness; costs; barriers to implementation; and administrative matters such as licensing, credentialing, and training.

# LITERATURE REVIEW

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Findings indicate there are relatively few studies that focus specifically on the practice of telehealth and even fewer that focus on the use of telehealth services in a primary care setting. The available evidence indicates that patients appreciate the convenience of access and, moreover, they are satisfied with the care they receive remotely. Studies suggest that telehealth is generally considered to be an acceptable way to receive health care by people of different races and ethnicities, ages, and incomes, as well as by people with different levels of illness severity. It is not surprising that there is more reluctance among patients who have not used telehealth services than among those who have; this indicates an opportunity to improve patients' knowledge base about telehealth services.

From the providers' perspective, there are indications that physicians have less confidence in their diagnostic capabilities using telemedicine than in having face-to-face interactions with patients, and they prefer seeing patients in person. Physicians point to the need to build administrative and technological capacity as a challenge to overcome. It is important to note that none of the studies that assessed outcomes found any deficiencies in quality of care delivered via telehealth services. Although evidence regarding cost savings of telehealth is still lacking, a major benefit cited by patients is saving both time and travel compared with traditional face-to-face care.



In 2014, experts and stakeholders assembled to discuss the opportunities and challenges presented by the implementation of telemedicine in the primary care arena. Participants concurred that telemedicine offers an opportunity to provide improved access to care, and they emphasized that this new avenue should focus on patients' needs as the central driver. Issues identified that must be addressed in the patients' interest include the need for privacy and security, and the potential for identity theft. A critical component of assessing the quality of telemedicine services should be patients' experiences, which will ideally be built on a trusting relationship with their physicians and health care teams.

From the providers' perspective, a number of technological challenges need to be overcome if telehealth services are to become widely adopted. Specifically, standardized interactive platforms and appropriate billing mechanisms, codes, and quality measures are needed. Telemedicine has the potential to alter the landscape of access to health care services, including primary and secondary care; therefore, considerations regarding practice adoption should involve professional organizations at the highest level of the system.

## **Study Approval**

The current study protocol was approved by the American Academy of Family Physicians (AAFP) Institutional Review Board (IRB).

## **Development of Survey Instrument**

The literature review summarized the current research on telehealth services and identified gaps in the literature on the use of telehealth by physicians in general and family physicians in particular. First, content domains of interest were established to allow exploration. From a large pool of potential questions, an instrument consisting of 30 questions that could characterize the users and non-users of telehealth was developed. The questions were reviewed and edited by the Graham Center team. The Graham Center engaged Murrey Olmsted, PhD, an expert survey methodologist at RTI International, to help with survey design and evaluation. The survey was first field-tested on family physicians who attended the 2013 Annual Chapter Leader Forum (ACLF) (n=40). Based on the responses from this group, the questionnaire was revised by the Graham Center team and fielded in January 2015. The questionnaires were mailed to 5,000 family physicians using their primary address; a two-dollar bill was enclosed with each questionnaire as an incentive to encourage participation. To increase response rate, two follow-up reminder emails were sent to non-respondents.

## **Study Sample**

The sampling frame for the telehealth survey was derived from family physicians in direct patient care listed in the American Medical Association (AMA) Physician Masterfile (2014). The current study used a cross-sectional, observational design to collect data on the attitudes, beliefs, and perceptions about telehealth of a sample of family physicians. A simple random sampling design was used to create a cohort of 9,000 physicians. Rural physicians were oversampled at a rate of two to one to ensure sufficient responses from rural participants in the analysis. A subsample of 5,119 AAFP member physicians was selected by linking the AMA Physician Masterfile with the AAFP's membership directory. This linkage allowed identification of current, more accurate addresses. More than 5,000 records were requested to allow for possible difficulties associated with matching to current AAFP membership rolls. Twenty surveys were returned due to incorrect mailing addresses, leaving a sampling frame of 4,980 members.

## Survey Questionnaire

The survey provided the following definition of telehealth:

*Telehealth is the use of medical information exchanged from one location to another via electronic communications to improve a patient's health. We are using telemedicine and telehealth interchangeably. For the purpose of this project, we are defining telehealth services as:*

- 1. Primary care services: this service involves a physician providing care for a patient (not necessarily a patient in their practice) through the use of live interactive video; and/or*
- 2. Primary care and specialist referral services: this service usually begins with a primary care provider who consults with a specialist through the use of live interactive video; and/or*
- 3. Sharing of diagnostic images, vital signs, video clips, or patient data between a primary care provider and specialist when the specialist and patient are not in the same location (sometimes referred to as store and forward).*

The survey questionnaire included 30 questions across five sections that focused on the following: (1) physician characteristics; (2) practice characteristics; (3) attitudes toward/barriers to using telehealth; (4) use of telehealth among telehealth users; and (5) beliefs about telehealth, with separate sections for users and non-users.

### **Statistical Analysis**

The survey data were analyzed using Stata 13.1 statistical software. Demographic characteristics such as gender, age, and practice setting were included by linking the survey sample with the AMA Physician Masterfile. Sampling weights were used in all analyses so that the estimates computed were representative of family physicians across the United States. The responses on questions in the attitudes and beliefs sections were based on Likert scales and had four choices ranging from “Strongly Agree” to “Strongly Disagree.” For ease of presentation, “Strongly Agree” and “Agree” were collapsed into one category in the final analysis.

Addresses were geocoded, and census tract information was used to determine whether each practice setting was an urban or rural location. The practice locations of the family physicians in the sample were classified into four categories based on the United States Department of Agriculture (USDA) 2010 rural-urban commuting area (RUCA) codes: (1) urban; (2) large rural; (3) small rural; and (4) isolated rural. Based on their number of years in practice, the respondent physicians were categorized into four groups: (1) 0-10 years; (2) 11-20 years; (3) 21-30 years; and (4) more than 30 years.

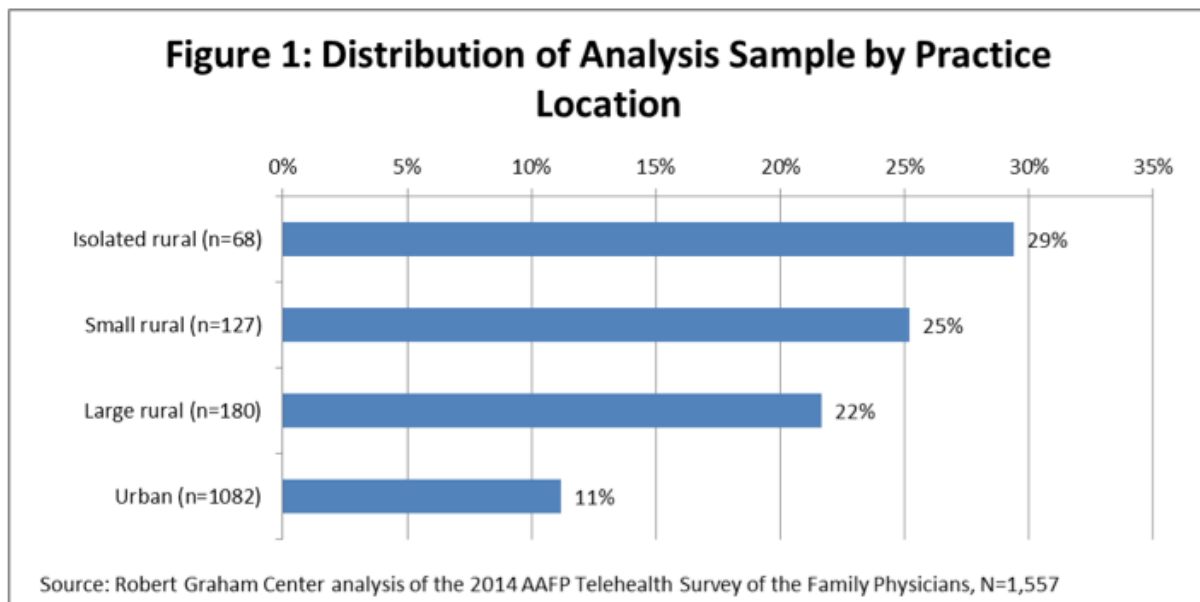
Descriptive statistics were computed for each of the items on the survey instrument. The total number of responses and percentages are reported for categorical variables, with means and standard deviations reported for continuous variables. The results are presented for the total sample, telehealth users, and non-users. Bivariate analysis was performed to examine statistically significant differences between the users and non-users of telehealth using Chi-squared tests for categorical variables and analysis of variance (ANOVA) for continuous variables. Urban-rural differences in attitudes towards telehealth among telehealth users were also examined using Chi-squared tests.

## Survey Response Description

Of the sample of 4,980 family physicians who were sent the survey questionnaires, 1,630 responded to the survey. The respondents who did not have a unique ID (n=19) and/or an AMA identifier (n=19) were excluded from the analysis. The AAFP member physicians who reported they were not engaged in direct patient care (n=30) and those with missing data on this question (n=5) were also excluded from the analysis. The final analysis sample consisted of 1,557 respondents, representing a response rate of 31.3 percent. Approximately 15 percent of survey (225 family physicians) respondents reported using telehealth services in the past 12 months; thus, 85 percent had not used telehealth services in the past 12 months.

## Demographic Characteristics of Respondents

Telehealth use did not vary significantly based on gender. Respondents who practiced in rural areas were more likely to use telehealth than respondents whose practices were located in urban areas (Figure 1).



## Family Physician Characteristics

The majority of the survey respondents (72 percent) reported spending at least 33 hours in direct patient care each week. One-third of the survey respondents reported being in practice for 11 to 20 years and 38 percent reported being in practice for more than 20 years. Physicians who used telehealth were more likely to be younger and to report being in practice for less than 10 years. Telehealth users were also more likely to report current use of an electronic health record (EHR) (98 percent versus 92 percent,  $p < 0.01$ ) (Table 1).

**Table: 1 Use of EHR Among Family Physicians in the Analysis Sample by Use of Telehealth**

	Users		Non-Users		p-value
	n	%	n	%	
Currently use EHR	218	97.8	1222	92.4	0.005
Used EHR in the past	1	0.7	41	3.3	0.1
Do not use EHR	4	1.5	61	4.3	0.041

Source: Robert Graham Center analysis of the 2014 AAFP Telehealth Survey of Family Physicians, N=1,557

Note: EHR = electronic health record

Compared with non-users, a greater percentage of respondents reporting telehealth use provide obstetric, emergency department, and major procedural care (Table 2). However, a greater percentage of non-users care for children.

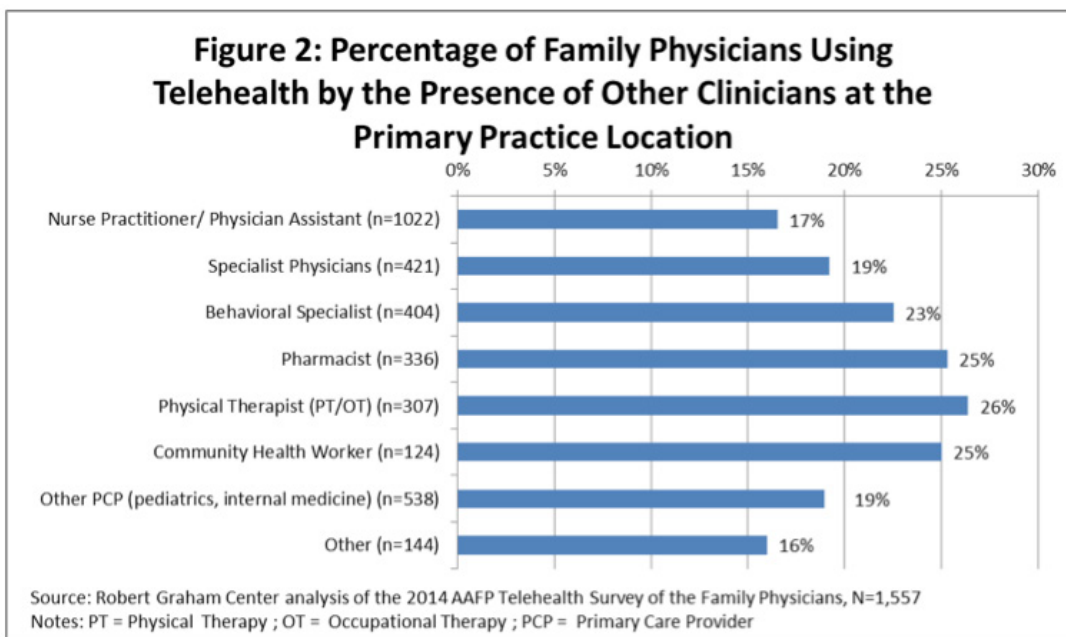
**Table 2: Distribution of the Analysis Sample by Types of Care Provided by Family Physicians Using and Not Using Telehealth**

	Users		Non-Users		p-value
	n	%	n	%	
Care of children (<18 years of age)	167	69.9	1133	84.1	<0.01
Prenatal care	57	20.3	235	16.2	
Obstetric care	49	16.9	152	9.7	<0.01
Emergency room care	64	21.3	165	10.9	<0.01
Hospital-based care	90	31.9	392	26.9	
Minor procedural care	179	77.4	1116	82.6	
Major procedural care	18	5.3	47	2.4	<0.05
Endoscopic care	14	3.2	53	3	
Volunteer care in underserved settings within the United States	29	13.4	160	10.6	
Volunteer care in underserved settings outside United States	19	9	76	5.5	

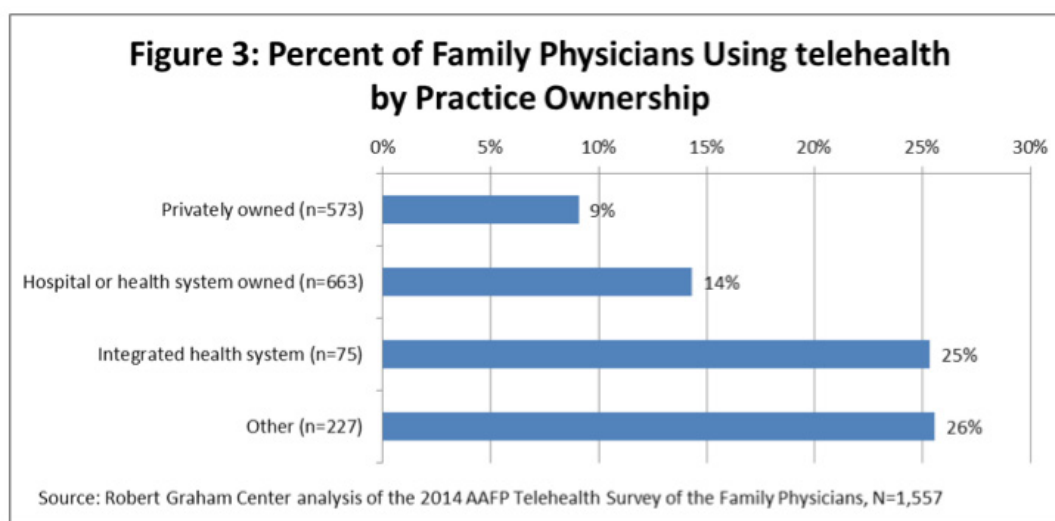
Source: Robert Graham Center analysis of the 2014 AAFP Telehealth Survey of Family Physicians, N=1,557

## Practice Characteristics

Telehealth users were more likely to practice in settings in which various clinicians (e.g., nurse practitioners, physician assistants, specialist physicians, behavior specialists) and other primary care physicians (e.g., pediatricians, internal medicine physicians) were available. Slightly more than one in four (26 percent) physicians who stated that there were physical therapist or occupational therapists at their primary practice location reporting using telehealth in the past year, 25 percent with a pharmacist, 25 percent with a community health worker, 23 percent with a behavioral specialist, 19 percent with specialist physicians, 19 percent with other primary care providers (including pediatrics and internal medicine), 17 percent with either nurse practitioners or physician assistants, and 16 percent with some other type of provider (*Figure 2*).



Although 5 percent of physicians in a privately owned practice used telehealth in the past year, 26 percent of physicians in an integrated health systems used telehealth (*Figure 3*). Other types of practice ownership frequently reported by telehealth users included health centers such as U.S. Department of Veterans Affairs medical centers and federally qualified health centers.



Almost 25 percent of the respondents who had a federal designation for their practice were telehealth users (*Table 3*). One-fifth of the survey respondents who were affiliated with health maintenance organizations (HMOs) used telehealth.

**Table 3. Distribution of the Analysis Sample by Practice Characteristics by Family Physicians Using and Not Using Telehealth**

	Users	Non-Users	Total	% Users
Federal designation	68	223	291	23%
Academic health center	21	136	157	13%
Health maintenance organization	31	124	155	20%
Accountable care organization	44	351	395	11%
Certified PCMH	63	380	443	14%

Source: Robert Graham Center analysis of the 2014 AAFP Telehealth Survey of Family Physicians, N=1,557

Notes: PCMH = patient-centered medical home



## Attitudes Toward Use of Telehealth

Both users and non-users agreed that they would use telehealth to connect patients to specialists. However, a higher percentage of users indicated they would employ telehealth to connect to specialists if telehealth was available (87.1 percent versus 63.9 percent,  $p < 0.01$ ) (Table 4). Slightly more than one-fifth (21 percent) of the survey respondents who use telehealth services agreed with the following statement: “The current Medicare reimbursement rate is adequate to cover a telehealth appointment.” Eleven percent of non-users agreed with the statement.

A greater percentage of non-users expressed the perception that patients seeing a physician in person receive a higher quality of care (91.0 percent versus 80.4 percent,  $p < 0.01$ ). Non-users were more likely to consider telehealth an inefficient use of their time than users (52.7 percent versus 24.9 percent,  $p < 0.05$ ). In addition, the perceived likelihood of being sued for malpractice for providing telehealth services was higher among non-users than users (18.6 percent versus 11.8 percent,  $p < 0.01$ ).

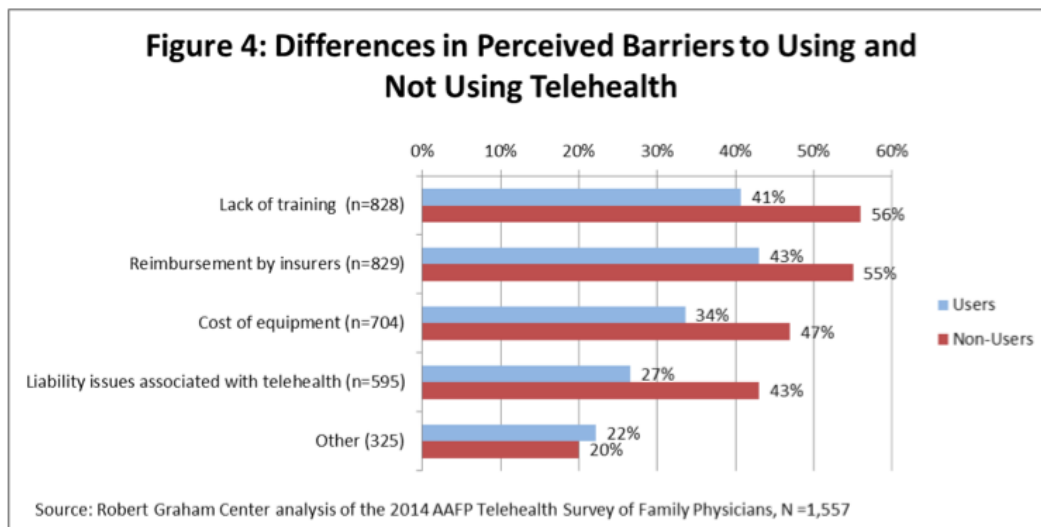
**Table 4: Attitudes About Telehealth of Family Physicians Using and Not Using Telehealth**

	% Agree or Strongly Agree		
	Users	Non-Users	p-value
Use telehealth to connect my patients to specialists if telehealth available	87.1	63.9	<0.01
Higher quality of care likely when patient sees physician in person	80.4	91	<0.01
Telehealth not efficient use of time	24.9	52.7	<0.05
Use to care for my patients if telehealth available	86.5	36.7	<0.01
Current Medicare reimbursement adequate to cover telehealth appointment	21.1	10.8	<0.05
Likely to be sued for malpractice for providing telehealth	11.8	18.6	<0.01

Source: Robert Graham Center analysis of the 2014 AAFP Telehealth Survey of Family Physicians, N=1,557

## Barriers to Using Telehealth

Survey respondents who were not telehealth users were more likely to identify cost of equipment, lack of training, liability issues, and reimbursement by insurers as barriers to using telehealth (Figure 4).



## Beliefs About Telehealth

Both telehealth users and non-users believed that telehealth improves access to patients (88.9 and 76.8 percent, respectively,  $p < 0.01$ ) (*Table 5*) and continuity of care (75.0 percent and 67.9 percent, respectively,  $p < 0.01$ ). Compared to non-users, a higher percentage of telehealth users agreed that telehealth reduces the travel time for patients (83.4 percent versus 60.5 percent). The percentage of non-users who believed that patients prefer to see a physician in person was greater than the percentage of telehealth users who reported this belief (93.8 versus 82.7 percent,  $p < 0.01$ ).

**Table 5: Beliefs about Telehealth of Family Physicians Using and Not Using Telehealth**

Telehealth ...	% Agree or Strongly Agree		
	Users	Non-Users	p-value
Improves access to patients	88.9	76.8	<0.01
Improves continuity of care	75	67.9	<0.01
Reduces the travel time for patients	83.4	60.5	<0.01
Patients prefer to see a physician in person	82.7	93.8	<0.01

Source: Robert Graham Center analysis of the 2014 AAFP Telehealth Survey of Family Physicians, N=1,557

## Use of Telehealth

More than one-quarter of telehealth users reported using telehealth only one to two times in the past 12 months (*Table 6*). On the other end of the spectrum, 23 percent of the respondents who used telehealth reported extensive use of telehealth in their practice (more than 20 times in the past 12 months). Nearly 50 percent of telehealth users reported using real-time video, and 55 percent reported using telehealth for diagnosis or to treat patients. The top types of clinicians referred via telehealth were specialists (68.1 percent) and mental health providers (28 percent).

Table 6: Use of Telehealth Among Family Physicians Who Use Telehealth in the Analysis Sample			
		n	%
Number of times engaged in telehealth or referred patients for consultation in the past 12 months			
	1 - 2 times	49	26.3
	3 - 5 times	59	30
	6 - 10 times	27	10.8
	11 - 15 times	14	7
	16 - 20 times	6	2.6
	> 20 times	36	23.3
Use of telehealth			
	Used real-time video to provide telehealth	112	48.7
	Shared computer screen images with audio	20	10.8
	Stored or forwarded image or text transmission	60	30.7
	Other	26	9.6
Used telehealth for...			
	Diagnosis or treatment	122	55.2
	Second opinion	45	19.9
	Follow-up	49	20.9
	Chronic disease management	54	25.7
	Emergency care	42	16.1
	Administrative purpose	11	5.7
	Other	30	13
Types of physicians or clinicians referred via telehealth			
	Specialists	149	68.1
	Other family physicians	12	6
	General internal medicine physicians	10	5.7
	Pediatricians	7	3.3
	Mental health providers	70	28
	Physical therapists	12	6.4
	Dieticians	16	8.9
	Other	24	9.3
Source: Robert Graham Center analysis of the 2014 AAFP Telehealth Survey of Family Physicians, N=225			
Notes: Percentages are of those who responded to the question			

The survey findings align with the literature in that there are a small but significant number of family physicians who are providing telehealth services to their patients. Family physicians who use telehealth services are more likely to practice in rural areas as part of complex practices that may be part of larger health systems, and they are more likely to practice in conjunction with non-physician clinicians. Responses recorded for both telehealth users and non-users indicate that there is interest in providing additional telehealth services; however, the current infrastructure was identified as a barrier to using telehealth. Infrastructure improvements include training in the use of telehealth, development of credentialing guidelines, establishment of standards of care, adequate reimbursement for services, and clarification of licensing requirements.

Telehealth remains in the early stages of adoption, and there is little research on the use of these services in primary care settings or on primary care physicians' perceptions of these services. Pilot and demonstration projects could be used to study a variety of aspects of telehealth. Of particular interest would be studies assessing patients' perspective of telehealth services, quality metrics for telehealth services, outcomes associated with the use of telehealth services, ease of access, costs to patients (out-of-pocket costs as well as time investment), and both patient and provider satisfaction with telehealth services.

Only 15 percent of this random sample of family physicians reported that they had provided telehealth services for their patients in the past 12 months. As patients seek care in settings outside of the traditional face-to-face office-based visit (e.g., at retail clinics, urgent care facilities, workplace and school kiosks, Internet health/medical sites), the need for telehealth services will only increase. Telehealth services offer a way for primary care physicians to fulfill their patients' desire for enhanced accessibility to health care.

# POLICY IMPLICATIONS AND RECOMMENDATIONS

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Given the call for increased access to health care services outside of a traditional office-based visit, as well as the urgent need to provide care for individuals who may not have ready access to a clinician, increasing the availability and usage of telehealth services is essential. A variety of barriers must be overcome before telehealth services can become a routine tool for primary care physicians. Guidelines for the use of telehealth services in clinical practice, definitions of quality, and measurable outcomes must be established. In addition, clinicians and patients need assurance that patients' privacy is protected and their health information is secure. Payment is another major barrier that must be overcome, and standardized reimbursement procedures need to be established. Administrative issues clinicians face in using and billing for telehealth services that must be addressed include a lack of billing codes; a lack of reimbursement mechanisms; licensing and credentialing barriers; and a lack of appropriate training in the use of telehealth services.

The groundbreaking survey conducted by the Graham Center and Anthem illustrates that telehealth services are rapidly expanding tools that primary care physicians can use to address the need for increased access to health care. Telehealth has the potential to alter the entire practice of medicine, just as the home computer and smartphones have altered information exchange and communication worldwide. While telehealth services remain in the early stages of implementation, the findings from this survey are an important step toward identifying the key issues facing physicians as they enter this new realm of health care delivery. Furthermore, the survey provides guidance for policy makers regarding where pressure points and levers can be employed to move from occasional use of telehealth services to routine implementation.

# REFERENCES

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