



**An Exploratory Study of the Use of Telehealth Services by  
Federally Qualified Health Centers and Hospitals in  
New York State**

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School of Public Health  
University at Albany, State University of New York

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**November 2015**



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## PREFACE

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There is growing recognition of the value of innovative strategies, including telehealth, to expand access to health services for patients living in underserved communities. Telehealth is defined as “the use of electronic information and telecommunications technologies to support long-distance clinical health care, patient and professional health-related education, public health and health administration.”<sup>a</sup> This report summarizes findings from a 2013 survey on the use of telehealth services by health care providers in New York State.

The need for better information about the use of telehealth services in the state was identified as a priority by the New York State Workforce Advisory Group (WAG). The WAG is a coalition of health professional and provider associations that share concerns about the maldistribution of health care providers and its impacts on access to health care services for New York State’s underserved populations. Coalition members include the Community Health Care Association of New York State, the Healthcare Association of New York State, the Medical Society of the State of New York, and the New York State Chapter of the American College of Physicians. Collaboratively, WAG members have worked to identify and advocate for strategies to address health workforce issues in the state, including expanding the use of telehealth services, to facilitate better access to health care services for all New Yorkers.

The WAG established the subcommittee Telehealth Workgroup, which recommended that a survey of the state’s health providers be conducted to better understand which telehealth applications are most often used and what barriers exist for implementation or expansion of telehealth services. The Telehealth Workgroup assisted in developing the survey and promoting it to providers, including hospitals, federally qualified health centers, and private practice physicians, among others. The New York State Department of Health (NYSDOH) provided financial support to the Center for Health Workforce Studies (CHWS) to administer the telehealth survey, analyze responses, and produce a report of findings.

This report was prepared by CHWS staff, Robert Martiniano and Jean Moore, with layout design by Rachel Carter and Leanne Keough. Funding for this report was provided by the New York State Department of Health.

Established in 1996, CHWS is a not-for-profit research organization, based at the School of Public Health, University at Albany, State University of New York (SUNY). The mission of CHWS is to provide timely, accurate data and conduct policy relevant research about the health workforce. The research conducted

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<sup>a</sup> Health Resources and Services Administration. Telehealth. Health Resources and Services Administration website. <http://hrsa.gov/ruralhealth/about/telehealth>. Accessed July 22, 2015.

by CHWS supports and promotes health workforce planning and policymaking at local, regional, state, and national levels. Today, CHWS is a national leader in the field of health workforce studies, and the only center with a focus on the oral health workforce.

The views expressed in this report are those of CHWS and do not necessarily represent positions or policies of the School of Public Health, University at Albany, SUNY, the New York State Department of Health, or WAG.

*November 2015*

## ACKNOWLEDGEMENTS

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# TABLE OF CONTENTS

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- EXECUTIVE SUMMARY.....1
  
- TECHNICAL REPORT.....7
  - BACKGROUND.....8
  
  - METHODS.....9
    - Survey Instrument.....10
    - Survey Administration.....10
    - Response Rates.....10
    - Responses by Region.....11
  
  - FINDINGS.....14
    - Telehealth Use.....14
    - Hub and Spoke Connections.....16
    - Telehealth Functions.....18
    - Telehealth Support.....21
    - Future Telehealth Use.....21
    - Reasons for Future Use.....22
    - Functions Intended for Planned Future Use.....23
    - Barriers to Telehealth Implementation and Use.....24
  
  - DISCUSSION.....26
  
  - CONCLUSIONS.....27
  
- APPENDIX A.....29
  
- APPENDIX B.....45

# TABLES AND FIGURES

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## List of Tables

Table 1. Response Rate by Provider Type.....11

Table 2. Responses by Region.....12

Table 3. Responses by Rural/Urban Location.....13

Table 4. Hub and Spoke Responses by Provider Type.....17

Table 5. Hub and Spoke Responses by Region.....17

Table 6. Hub and Spoke Responses by Rural/Urban Location.....18

Table 7. Clinical and Nonclinical Uses of Telehealth Services by Provider Type.....19

Table 8. Clinical and Nonclinical Use of Telehealth Services by Region.....20

Table 9. Telehealth Functions by Region.....20

Table 10. Clinical and Nonclinical Use of Telehealth Services by Rural/Urban Location....20

Table 11. Telehealth Functions by Rural/Urban Location.....20

Table 12. Financing/Reimbursement for Telehealth Services by Provider Type.....21

Table 13. Plan for Future Use of Telehealth Services by Current Use Status.....21

Table 14. Reasons for Future Use of Telehealth Services by Provider Type.....22

Table 15. Reasons for Future Use of Telehealth Services by Region.....22

Table 16. Reasons for Future Use of Telehealth Services by Rural/Urban Location..... 22

Table 17. Planned Future Use of Telehealth Functions by Provider Type.....23

Table 18. Planned Future Use of Telehealth Functions by Region.....23

Table 19. Planned Future Use of Telehealth Functions by Rural/Urban Location.....23

Table 20. Barriers to Telehealth Implementation and Use by Current Use Status.....24

Table 21. Perceived Barriers of the Use of Telehealth Services by Provider Type.....25

## List of Figures

Figure 1. Map of New York State Regions.....12

Figure 2. Frequency of Telehealth User by Provider Type..... 15

Figure 3. Frequency of Telehealth Use by Region.....15

Figure 4. Example of the Hub and Spoke Model.....16



## BACKGROUND

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In many areas of New York State that have a limited supply of health care providers, telehealth is being used to successfully link patients to needed primary care or specialty health care services. The providers of these health care services may be located hundreds of miles away from the patient. Recent federal and state health care reforms have resulted in a growing demand for health services, and, increasingly, health care providers are considering innovative treatment modalities, including telehealth.

Despite anecdotal reports of increasing use of telehealth applications by providers in New York, there is little information about the types of providers using telehealth services and the types of applications most commonly used. Additionally, providers using telehealth in the delivery of care can serve as the spoke site (location of the patient seeking services), the hub site (location of the consulting provider), or both. Currently, little is known about how widely telehealth services are used in the state, by whom, or why certain providers choose not to use these services.

In collaboration with the Telehealth Workgroup, a subcommittee of the statewide Workforce Advisory Group, the Center for Health Workforce Studies (CHWS) developed and administered an electronic survey on current and future plans for telehealth service utilization by New York State's health care providers. The survey asked about provider practice characteristics, current telehealth services used, reimbursement and funding sources, and barriers to use. Federally qualified health centers (FQHCs), hospitals, and physicians were contacted directly on the survey purpose and the electronic link, while other types of providers were notified of the survey and provided with an electronic link through a general New York State Department of Health (NYSDOH) announcement on the state's Health Commerce System (HCS).

The purpose of the study was to better understand the current use of telehealth services by health care providers in the state, limitations to its use, and future plans for expanding the availability of telehealth services. This report summarizes findings for hospitals and FQHCs; response rates were not sufficient to report on other types of providers who responded to the survey.

# KEY FINDINGS

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- **Slightly more than half of FQHCs and hospitals reported using telehealth services.**

Overall, 51% of both FQHC and hospital respondents indicated they used telehealth services. Of those who used telehealth services, 60% used them on a daily basis, 19% used them on a weekly basis, and the remaining 21% used them on a monthly basis.

- **FQHCs and hospitals in urban areas were more likely to use telehealth services on a daily basis than those located in rural areas.**

FQHCs and hospitals in urban areas were much more likely to use telehealth services on a daily basis than FQHCs and hospitals in rural areas (71% and 27%, respectively). However, FQHCs and hospitals in rural areas were much more likely to use telehealth services on a weekly basis, compared with FQHCs and hospitals in urban areas (40% and 13%, respectively).

- **Urban FQHCs and hospitals were more likely to act as telehealth hubs than those located in rural areas.**

Almost 70% of urban FQHCs and hospitals indicated they were hubs. Of these, 31% operated solely as a hub, while 38% operated dually as a hub and spoke. In contrast, only 40% of rural FQHCs and hospitals indicated they served as a telehealth hub.

- **The vast majority of providers reported using telehealth services for clinical functions.**

Almost 90% of responding FQHCs and hospitals used telehealth services for clinical functions. Nearly 55% of responding FQHCs and hospitals used telehealth services for both clinical and nonclinical functions and another 32% of responding providers used it for clinical functions only. The most commonly reported clinical uses included:

- Patient clinical consultation/diagnosis/and disease management
- Emergency consultation/triage

- **Current users of telehealth services were more likely to report plans to expand their use than nonusers were to report plans to begin using them.**

Whereas 57% of current users planned to expand their use of telehealth services, only 32% of nonusers planned to begin using telehealth services.

- **The most frequently cited reasons for starting or expanding use of telehealth services were expanding access to care and preventing the worsening of the medical conditions.**

Eighty percent of FQHCs and hospitals cited increased overall access to care for patients as a reason they would be starting or expanding telehealth services, followed by 68% that indicated preventing the worsening of medical conditions as a reason.

- **Reimbursement/financial issues and equipment/start-up costs were cited as the most substantial barriers to implementing telehealth services.**

Fifty percent of FQHC and hospital survey respondents indicated that reimbursement/financial issues were the single biggest barrier to implementing telehealth services, followed by equipment/start-up costs (33%) and concern about legal issues/malpractice (20%).

## CONCLUSIONS

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This research study is exploratory and provides a basic understanding of telehealth use by hospitals and FQHCs in the state. Clearly, more research is needed. Future research should evaluate in more depth the types of applications used by telehealth providers, as well as the use of telehealth services by other health care providers, such as nursing homes, home care agencies, and private practice physicians. Furthermore, it may be useful to conduct case studies on telehealth “best practices” in the state to learn from their successes.

As health reform programs continue to support a health care system focused on population health, it is important to understand the use of telehealth services and how effective telehealth modalities are expanding access to needed services and reducing adverse and costly outcomes, such as avoidable hospitalizations and emergency department visits. More in-depth research on telehealth services in the state is critical to inform programs and policies to support their use.



# Technical Report

## BACKGROUND

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In many areas of New York State that have a limited supply of health care providers, telehealth is being used to successfully link patients to needed primary care or specialty health care services. The providers of these health care services may be located hundreds of miles away from the patient. Recent federal and state health care reforms have resulted in a growing demand for health services, and, increasingly, health care providers are considering innovative treatment modalities, including telehealth.

Despite anecdotal reports of increasing use of telehealth applications by providers in New York, there is little information about the types of providers using telehealth services and the types of applications most commonly used. Additionally, providers using telehealth in the delivery of care can serve as the spoke site (location of the patient seeking services), the hub site (location of the consulting provider), or both. Currently, little is known about how widely telehealth services are used in the state, by whom, or why certain providers choose not to use these services.

In collaboration with the Telehealth Workgroup, a subcommittee of the WAG, the Center for Health Workforce Studies (CHWS) developed and administered an electronic survey on current and future plans for telehealth service utilization by New York State's health care providers. The survey asked about provider practice characteristics, current telehealth services used, reimbursement and funding sources, and barriers to use. FQHCs, hospitals, and physicians were contacted directly on the survey purpose and the electronic link, while other types of providers were notified of the survey and provided with an electronic link through a general NYSDOH announcement on the state's HCS.

The purpose of the study was to better understand the use of telehealth services by health care providers in the state, limitations to their use, and future plans for expanding the availability of telehealth services. This report summarizes findings for hospitals and FQHCs; response rates were not sufficient to report on the other surveyed provider types.

## METHODS

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The need for better information about the provision of telehealth services in the state was identified as a priority by the WAG. The WAG is a coalition of health professional and provider associations, among others, that share concerns about the maldistribution of health care providers and its impacts on access to health care services for New York's underserved populations. WAG members have worked collaboratively to identify and advocate for strategies to address health workforce issues in the state, including expanding the use of telehealth services to facilitate better access to health care services for all New Yorkers. The WAG established the subcommittee Telehealth Workgroup, which recommended that a survey of the state's health providers be conducted to better understand which telehealth applications are most often used and what barriers exist for implementation or expansion of telehealth services. The Telehealth Workgroup assisted in developing the survey and promoting it to providers, including hospitals, health centers, private practice physicians, among others.

Although the WAG has broad participation from a diverse group of stakeholders statewide, representatives from the following organizations participated in the Telehealth Workgroup and assisted with the development and dissemination of the telehealth user survey:

- American College of Physicians, New York State Chapter
- Community Health Care Association of New York State
- Center for Health Workforce Studies
- Healthcare Association of New York State
- Medical Society of the State of New York
- NYSDOH, Office of Primary Care & Health Systems Management

## Survey Instrument

The survey instrument (Appendix I) was administered electronically. The instrument included the following topics:

- Organization/practice characteristics
- Current telehealth use
- Distance between hub and spoke connections
- Functions/purposes served
- Telehealth modalities used
- Reimbursement and funding sources
- Expected future use
- Barriers

## Survey Administration

The survey was made available to potential respondents electronically. Members of the telehealth workgroup reached out to their respective memberships via email to announce the availability of the survey and to request their voluntary participation. Additionally, the NYSDOH posted an announcement (Appendix II) of the survey on its HCS and included a link so providers could access it directly. Email and other correspondence about the telehealth survey provided electronic links to the survey and indicated that it should be completed by individuals most able to address questions about telehealth.

## Response Rates

Overall, 653 health care organizations or providers responded to the telehealth survey. Response rates varied greatly by provider type: 47% of FQHCs and 53% of hospitals responded to the survey (Table 1). There were much lower response rates from home health care agencies, long-term care facilities, and physicians.

**Table 1. Response Rate by Provider Type**

Provider Type	Number of Responses	Estimated Total Number	Estimated Response Rate
FQHCs	28	60	47.0%
Home health care	135	1,200	11.0%
Hospitals	120	226	53.0%
Long-term care facilities	159	1,125	14.0%
Other ambulatory care <sup>a</sup>	32	N/A	N/A
Physicians	149	8,000	2.0%
Others/missing	26	N/A	N/A

<sup>a</sup> Includes local health department outpatient clinics, other outpatient clinics, and nonphysician run outpatient practices.

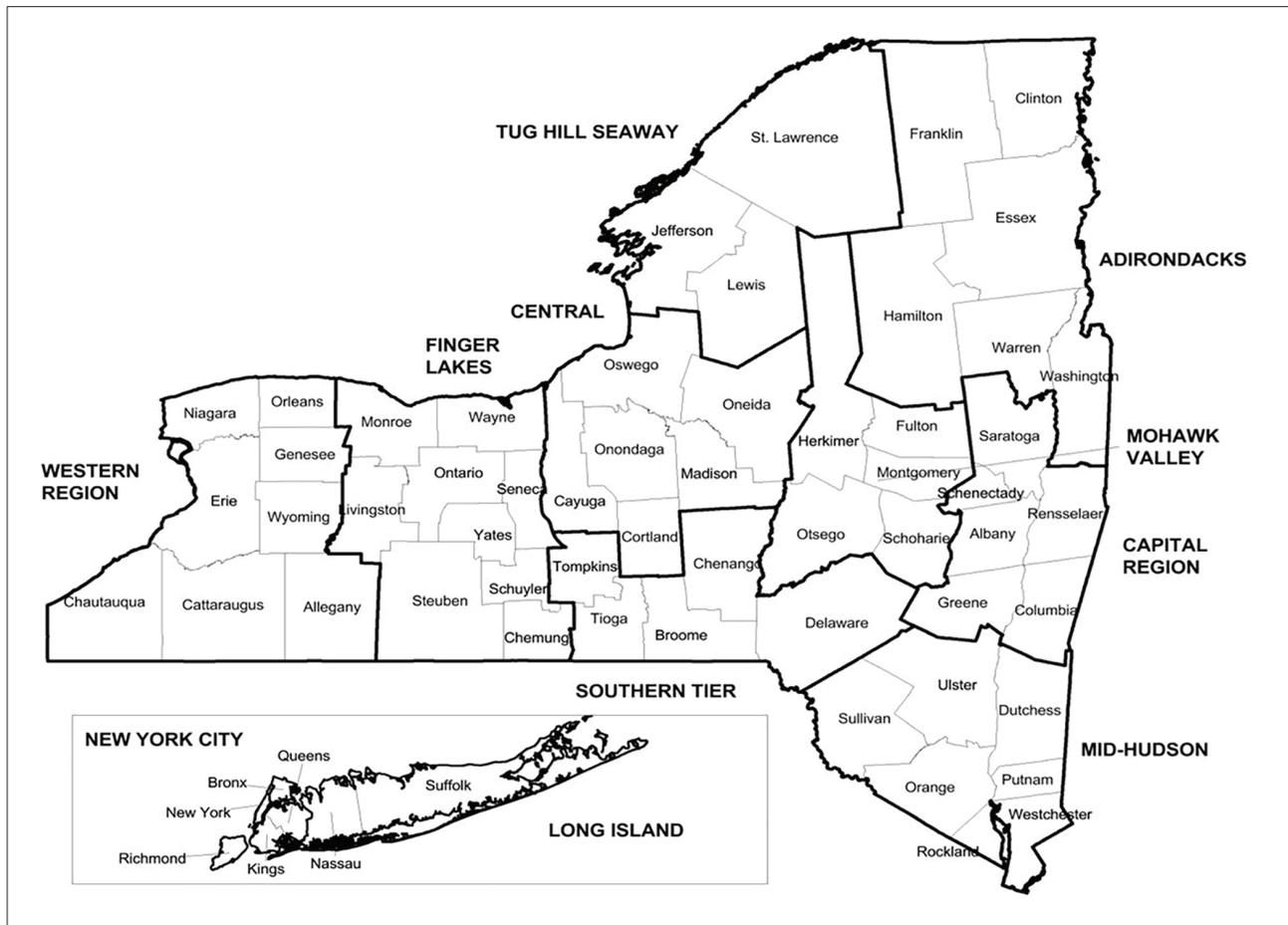
Due to low response rates by many provider types, this report only documents responses from FQHCs and hospitals.

## Responses by Region

In addition to analyzing response rates by provider type, responses were also analyzed by region, specifically by downstate and upstate and by rural and urban. For purposes of this report, downstate includes counties that are located in the Long Island, mid-Hudson, and New York City regions, and upstate includes the remaining counties (Figure 1). Rural and urban status was county-specific based on Ebert's typology.<sup>b</sup>

<sup>b</sup> This definition of rural and urban is based on Ebert's typology as outlined in Article 2, Title 2C, Section 235 of the New York State Public Health Law.

Figure 1. Map of New York State Regions



Although response rates for hospitals were comparable downstate and upstate (51% vs 51%), FQHCs had a much higher response rate upstate than downstate (68% vs 33%) (Table 2).

Table 2. Responses by Region

	FQHCs		Hospitals	
	Number	Percent <sup>a</sup>	Number	Percent
Downstate	14	33.3%	60	51.3%
Upstate	13	68.4%	55	50.5%
Missing	1	N/A	5	N/A

<sup>a</sup> FQHCs with sites in both downstate and upstate regions were counted twice.

A significantly higher percentage of FQHCs in rural areas (65%) responded to the survey, compared with FQHCs in urban areas (32%). In contrast, a higher percentage of hospitals in urban areas (57%) responded to the survey, compared with hospitals in rural areas (37%) (Table 3).

**Table 3. Responses by Rural/Urban Location**

	FQHCs		Hospitals	
	Number	Percent <sup>a</sup>	Number	Percent
Rural	11	64.7%	26	37.1%
Urban	16	32.0%	89	57.1%
Missing	1	N/A	5	N/A
<sup>a</sup> FQHCs with sites in both rural and urban regions were counted twice.				

# FINDINGS

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## Telehealth Use

**Nearly 51% of FQHCs and hospitals used telehealth services. A slightly higher percentage of organizations located in upstate areas used telehealth services than those located in downstate areas.**

Overall, 51% of FQHC and hospital respondents indicated they used telehealth services. Of those who used telehealth services, 60% used them on a daily basis, 19% used them on a weekly basis, and the remaining 21% used them on a monthly basis.

### *Telehealth Use by Provider Type*

A higher percentage of hospitals (55%) used telehealth services than FQHCs (32%). Additionally, only one-third of FQHCs that used telehealth services used them on a daily basis, whereas 64% of hospitals used them on a daily basis (Figure 2).

### *Telehealth Use by Region*

Whereas a slightly higher percentage of upstate FQHCs and hospitals used telehealth services than downstate FQHCs and hospitals (51% and 47%, respectively), a higher percentage of downstate FQHCs and hospitals used them on a daily basis than upstate FQHCs and hospitals (69% and 54%, respectively) (Figure 3).

FQHCs and hospitals in urban areas were much more likely to use telehealth services on a daily basis than FQHCs and hospitals in rural areas (71% and 27%, respectively). However, FQHCs and hospitals in rural areas were much more likely to use telehealth services on a weekly basis, compared with FQHCs and hospitals in urban areas (40% and 13%, respectively).

Figure 2. Frequency of Telehealth User by Provider Type

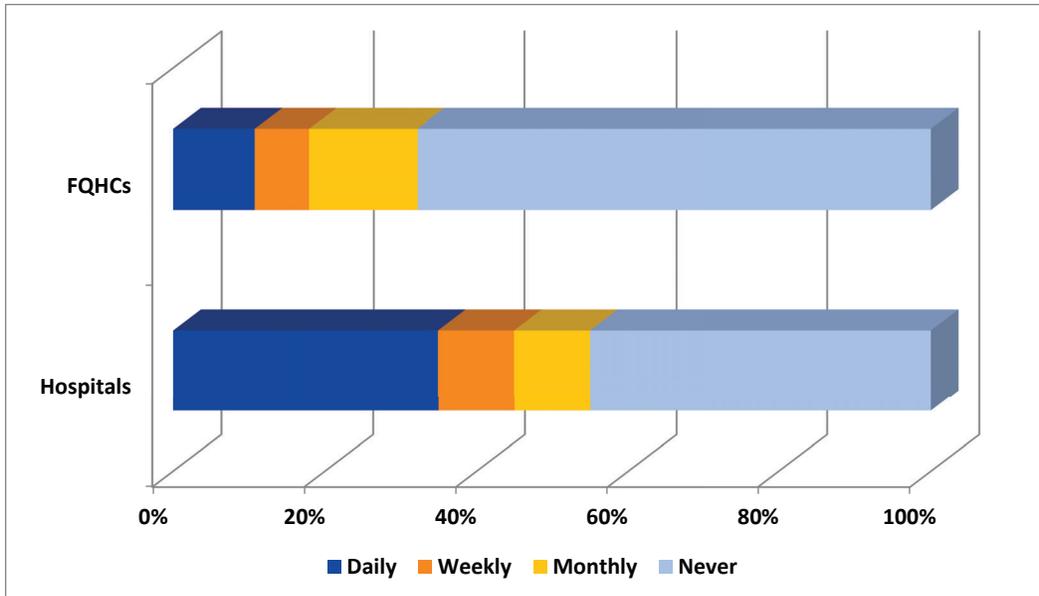
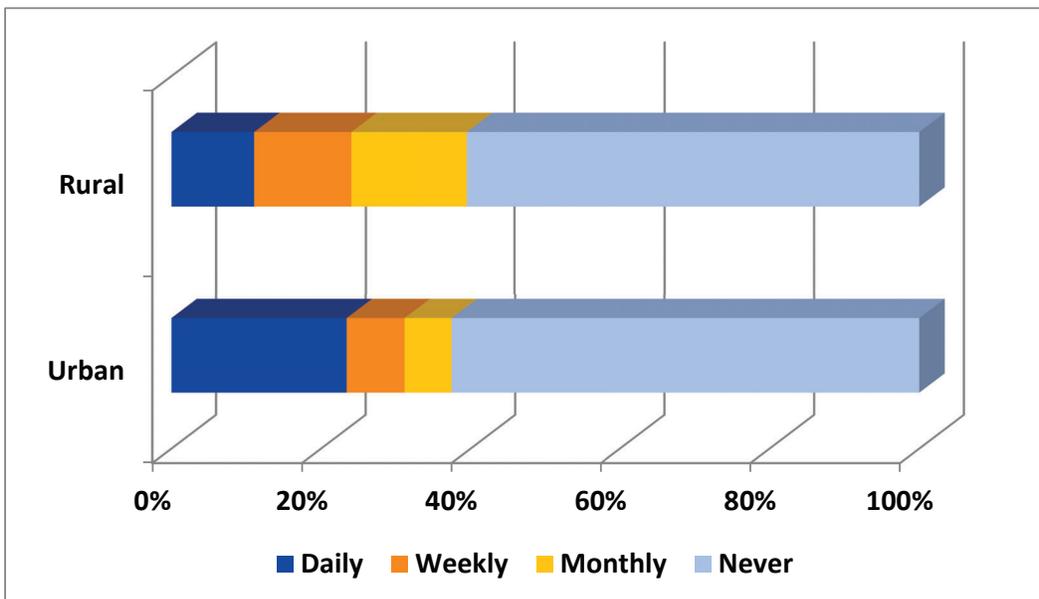


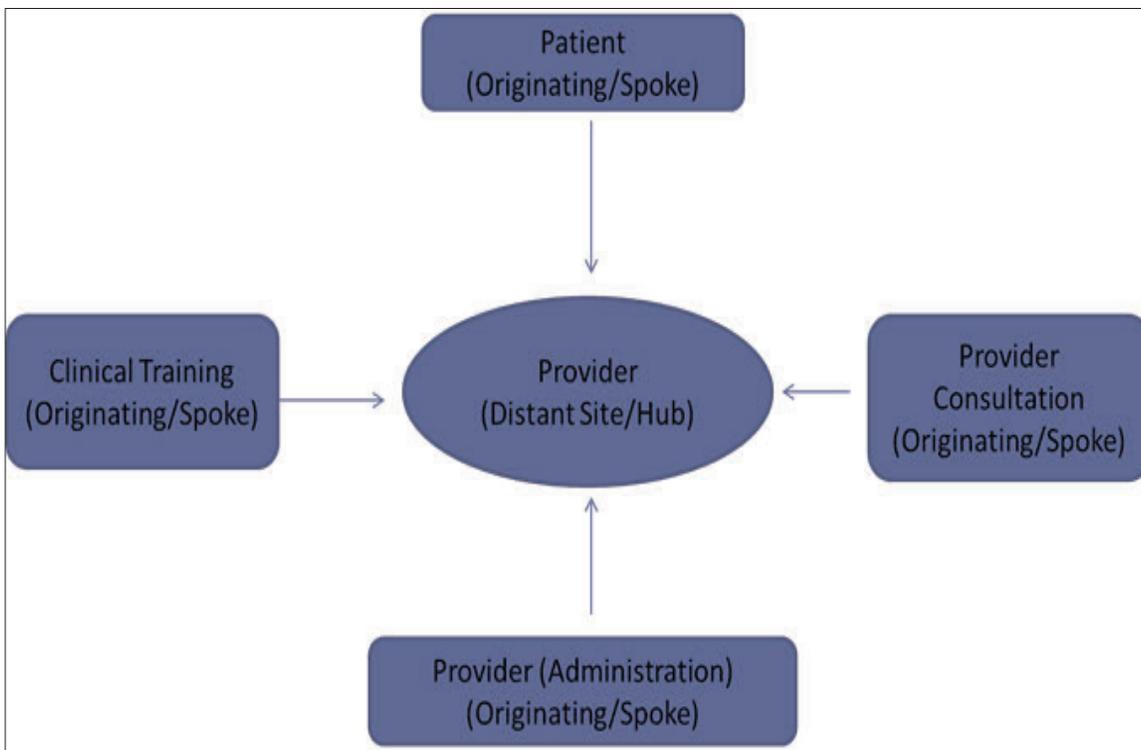
Figure 3. Frequency of Telehealth Use by Region



## Hub and Spoke Connections

The hub and spoke model is a common strategy for organizing and connecting sites in a telehealth system (Figure 4). In simple terms, the hub is where the provider is located (also known as the distant site) and the spoke is where the patient is located (also known as the originating site) in a telehealth encounter. In some cases, the spoke for one organization may be the hub for another organization. For nonpatient-related telehealth activities such as clinical training, the spoke is where the training is occurring, while the hub is where the trainer is located. In some cases, telehealth services can be an overlapping and complex web of organizations and providers, with many organizations and providers being both hubs and spokes based on the health care services needed or provided.

*Figure 4. Example of the Hub and Spoke Model*



**Hospitals were more likely to act as telehealth hubs than FQHCs. Many facilities served as both telehealth hubs and spokes in New York.**

#### *Hub and Spoke Responses by Organization*

Survey respondents were asked to identify their organization as a hub, a spoke, or both. Of the 75 FQHC and hospital respondents that indicated they used telehealth services, 20% did not know whether they were a hub (location of provider) or a spoke (location of the patient). One-third (33%) of FQHC and hospital telehealth users indicated they were both a hub and a spoke. Another 29% indicated they were a hub only and 17% identified themselves as a spoke only (Table 4).

**Table 4. Hub and Spoke Responses by Provider Type**

	Hub Only	Spoke Only	Hub and Spoke	Don't Know
FQHCs	2 (22.2%)	1 (11.1%)	3 (33.3%)	3 (33.3%)
Hospitals	20 (30.3%)	12 (18.2%)	22 (33.3%)	12 (18.2%)
<b>Totals<sup>a</sup></b>	<b>22 (29.3%)</b>	<b>13 (17.3%)</b>	<b>25 (33.3%)</b>	<b>15 (20.0%)</b>
<sup>a</sup> Total includes those out-of-state or locations that could not be determined.				

#### *Hub and Spoke by Region*

Nearly two-thirds of downstate FQHC and hospital respondents indicated they were a hub, either alone (26%) or in conjunction with being a spoke (40%). Sixty-one percent of upstate FQHC and hospital respondents indicated they were a hub, either alone (32%) or in conjunction with being a spoke (29%) (Table 5).

**Table 5. Hub and Spoke Responses by Region**

	Hub Only	Spoke Only	Hub and Spoke	Don't Know
Downstate	9 (25.7%)	6 (17.1%)	14 (40.0%)	6 (17.1%)
Upstate	11 (32.3%)	6 (17.1%)	10 (28.6%)	8 (22.9%)
<b>Totals<sup>a</sup></b>	<b>22 (29.3%)</b>	<b>13 (17.3%)</b>	<b>25 (33.3%)</b>	<b>15 (20.0%)</b>
<sup>a</sup> Total includes those out-of-state or locations that could not be determined.				

Almost 70% of urban FQHCs and hospitals indicated they were a hub, either alone (31%) or in conjunction with being a spoke (38%). Forty percent of rural FQHCs and hospitals indicated they were a spoke only (Table 6).

**Table 6. Hub and Spoke Responses by Rural/Urban Location**

	Hub Only	Spoke Only	Hub and Spoke	Don't Know
Rural	3 (20.0%)	6 (40.0%)	3 (20.0%)	3 (20.0%)
Urban	17 (30.9%)	6 (10.9%)	21 (38.2%)	11 (20.0%)
<b>Totals<sup>a</sup></b>	<b>22 (29.3%)</b>	<b>13 (17.3%)</b>	<b>25 (33.3%)</b>	<b>15 (20.0%)</b>

<sup>a</sup>Total includes those out-of-state or locations that could not be determined.

### *Distance Between Hub and Spoke Sites*

Survey respondents were also asked to indicate the distance between their site and their respective hub or spoke. Nearly half of the hubs were within 50 miles of their respective spoke, whereas almost 62% of the spokes were within 50 miles of their respective hub.

## Telehealth Functions

Health care providers use telehealth services in 2 main ways: 1) clinical functions, such as assessing, diagnosing, and monitoring patients, as well as for clinical consultations, and 2) nonclinical functions, such as administrative meetings, training, and supervision.

### **The vast majority of providers who used telehealth services used them for clinical functions.**

Nearly 90% of responding FQHC and hospital providers used telehealth services for clinical functions. This included nearly 55% of responding FQHC and hospital providers who used telehealth services for both clinical and nonclinical functions and another 32% of responding providers who used clinical functions only. Nearly 90% of hospitals and 78% of FQHCs used telehealth services for clinical functions. Almost two-thirds of hospitals used telehealth services for nonclinical functions, including 11% who only used them for nonclinical functions.

**The majority of both FQHCs and hospitals used telehealth services for patient clinical consultation, diagnosis, and disease management. Slightly less than half of hospitals used telehealth services for emergency consultation and triage.**

Patient clinical consultation/diagnosis/disease management was the most frequently used clinical function cited by survey respondents, followed by emergency consultation/triage. As expected, a much higher percentage of hospitals (46%) used telehealth services for emergency consultation/triage than FQHCs (22%). Administrative/staff/nonclinical meetings and medical education/continuing education/precepting were equally cited by respondents for nonclinical use. A higher percentage of FQHCs used telehealth services for administrative/staff/nonclinical meetings, whereas a higher percentage of hospitals used telehealth services for medical education/continuing education/precepting (Table 7).

**Table 7. Clinical and Nonclinical Uses of Telehealth Services by Provider Type**

	Telehealth Uses	FQHCs		Hospitals	
		Number	% of Users	Number	% of Users
Clinical	Emergency consultation/triage	2	22.2%	30	45.5%
	Patient clinical consultation/diagnosis/disease mgmt.	5	55.6%	37	56.1%
	Provider consultation/team meetings	3	33.3%	20	30.3%
	Remote monitoring	1	11.1%	26	39.4%
	Social services/counseling	3	33.3%	6	11.1%
	<b>Clinical Subtotal<sup>a</sup></b>	<b>7</b>	<b>77.8%</b>	<b>58</b>	<b>87.9%</b>
Nonclinical	Administrative, staff, nonclinical meetings	6	66.7%	33	50.0%
	Medical education/continuing education/precepting	4	44.4%	35	53.0%
	<b>Nonclinical Subtotal<sup>a</sup></b>	<b>7</b>	<b>77.8%</b>	<b>42</b>	<b>63.6%</b>
Other	Other	1	11.1%	4	6.1%

<sup>a</sup> Percentage in the subtotals reflect unduplicated counts.

## Telehealth Functions by Region

In general, health care providers in both downstate and upstate regions used telehealth services for clinical and nonclinical functions, although upstate regions were slightly more likely to use them for nonclinical functions exclusively than downstate regions (Tables 8 and 9). Downstate FQHCs and hospitals used remote monitoring more than upstate FQHCs and hospitals, whereas other clinical and nonclinical functions were used similarly between downstate and upstate. More than 80% of FQHCs and hospitals in rural and urban areas used telehealth services for clinical functions, either alone or in conjunction with nonclinical functions (Tables 10 and 11). Urban and rural FQHCs and hospitals used emergency consultation/triage at similar rates, although urban FQHCs and hospitals used the other functions more than those in rural areas.

**Table 8. Clinical and Nonclinical Use of Telehealth Services by Region**

	Clinical Only	Nonclinical Only	Both Clinical and Nonclinical
Downstate	10 (29.4%)	3 (8.8%)	21 (61.8%)
Upstate	12 (35.3%)	5 (14.7%)	17 (50.0%)

**Table 9. Telehealth Functions by Region**

	Clinical Functions				Nonclinical Functions		
	Patient Clinical Consultation/ Diagnosis, Disease Management	Remote Monitoring	Emergency Consultation/ Triage	Provider Consultation/ Team Meetings	Social Services/ Counseling	Admin/Staff/ Nonclinical Meetings	Medical Education, Continuing Education, Preceptorships
Downstate	19 (54.3%)	16 (45.76%)	15 (42.9%)	11 (31.4%)	4 (11.4%)	19 (54.3%)	19 (54.3%)
Upstate	20 (57.1%)	10 (28.6%)	14 (40.0%)	10 (28.6%)	3 (8.6%)	17 (48.6%)	17 (48.6%)

**Table 10. Clinical and Nonclinical Use of Telehealth Services by Rural/Urban Location**

	Clinical Only	Nonclinical Only	Both Clinical and Nonclinical
Rural	5 (35.7%)	2 (14.3%)	7 (50.0%)
Urban	17 (31.5%)	6 (11.1%)	31 (57.4%)

**Table 11. Telehealth Functions by Rural/Urban Location**

	Clinical Functions				Nonclinical Functions		
	Patient Clinical Consultation/ Diagnosis, Disease Management	Remote Monitoring	Emergency Consultation/ Triage	Provider Consultation/ Team Meetings	Social Services/ Counseling	Admin/Staff/ Nonclinical Meetings	Medical Education, Continuing Education, Preceptorships
Rural	6 (40.0%)	2 (13.3%)	6 (40.0%)	3 (20.0%)	1 (6.7%)	7 (46.7%)	6 (40.0%)
Urban	33 (60.0%)	24 (43.6%)	23 (41.8%)	18 (32.7%)	6 (10.9%)	29 (52.7%)	30 (54.5%)

## Telehealth Support

**Respondents who knew how telehealth services were supported financially indicated that support for the services came from within their organization.**

Slightly over half of those who responded to the survey and reported using telehealth services indicated they did not know how the services were funded within their organization. Of those who knew how telehealth services were supported financially, many indicated they were funded from within their organization (Table 12).

**Table 12. Financing/Reimbursement for Telehealth Services by Provider Type**

	Fees/Insurance Revenues From Teleconsultation	Federal/ State Grants	Private/ Corporation Grants	Revenue From Nonclinical Use	Support From Within Organization	Don't Know
FQHC	2 (22.2%)	4 (44.4%)	0 (0.0%)	0 (0.0%)	2 (22.2%)	3 (33.3%)
Hospital	10 (15.2%)	8 (12.1%)	5 (7.6%)	4 (6.1%)	23 (34.8%)	35 (53.0%)
<b>Totals</b>	<b>12 (16.0%)</b>	<b>12 (16.0%)</b>	<b>5 (6.7%)</b>	<b>4 (5.3%)</b>	<b>25(33.3%)</b>	<b>38 (50.7%)</b>

## Future Telehealth Use

**Current telehealth users were more likely to expand use of those services than nonusers were to begin implementing their use.**

Current telehealth users were more likely to expand use than nonusers were to begin implementing telehealth. Whereas 57% of current users planned to expand their use of telehealth services, only 43% of nonusers planned to begin implementing telehealth services. Additionally, a lower percentage of respondents that used telehealth services on a daily basis planned future expansion of telehealth services than those that used it on a weekly or monthly basis (Table 13).

**Table 13. Plan for Future Use of Telehealth Services by Current Use Status**

		Plan to Begin Using/Expand Use of Telehealth Services				
		Yes		No		Total
		Number	Percent	Number	Percent	
Currently Use Telehealth Services	Yes	43	57.3%	32	42.7%	75
	Daily	22	48.9%	23	51.1%	45
	Weekly	12	85.7%	2	14.3%	14
	Monthly	9	56.3%	7	43.7%	16
	No	23	31.5%	50	68.5%	73
	Total	66	44.6%	82	55.4%	148

## Reasons for Future Use

The reasons most cited for starting or expanding telehealth services were to improve access to care and improve quality of care.

Eighty percent of FQHCs and hospitals cited increased overall access to care for patients as a reason they would be starting or expanding use of telehealth services, followed by 68% that indicated preventing the worsening of medical conditions as a reason (Table 14). Results were similar for downstate and upstate respondents (Table 15). All of the FQHCs and hospitals in rural areas identified an overall increase in access to care as a reason for future use of telehealth services, higher than FQHCs and hospitals in urban areas (Table 16).

**Table 14. Reasons for Future Use of Telehealth Services by Provider Type**

	Increase Overall Access to Health Care for Patients	Increase Access to Health Services During Off Hours	Help Prevent the Worsening of Medical Conditions	Help Save Time and Money for Patients	Save Traveling Time and Money for providers
FQHC	15 (83.3%)	5 (27.8%)	11 (61.1%)	10 (55.6%)	6 (33.3%)
Hospital	38 (79.2%)	27 (56.3%)	34 (70.8%)	29 (60.4%)	27 (56.3%)
<b>Total</b>	<b>53 (80.3%)</b>	<b>32 (48.5%)</b>	<b>45 (68.2%)</b>	<b>39 (59.1%)</b>	<b>33 (50.0%)</b>

**Table 15. Reasons for Future Use of Telehealth Services by Region**

	Increase Overall Access to Health Care for Patients	Increase Access to Health Services During Off Hours	Help Prevent the Worsening of Medical Conditions	Help Save Time and Money for Patients	Save Traveling Time and Money for providers
Downstate	15 (60.0%)	10 (40.0%)	15 (60.0%)	11 (44.0%)	10 (40.0%)
Upstate	37 (92.5%)	21 (52.5%)	29 (72.5%)	28 (70.0%)	22 (55.0%)

**Table 16. Reasons for Future Use of Telehealth Services by Rural/Urban Location**

	Increase Overall Access to Health Care for Patients	Increase Access to Health Services During Off Hours	Help Prevent the Worsening of Medical Conditions	Help Save Time and Money for Patients	Save Traveling Time and Money for providers
Rural	21 (100.0%)	12 (57.1%)	15 (71.4%)	16 (76.2%)	11 (52.3%)
Urban	31 (70.5%)	19 (43.2%)	29 (65.9%)	23 (52.3%)	21 (47.7%)

## Functions Intended for Planned Future Use

Patient diagnosis, consultation, and disease management were the primary telehealth functions that FQHCs and hospitals intended to implement or expand. FQHCs also planned to use telehealth for administrative and staff meetings and educational purposes. Nearly 46% of hospitals planned to use telehealth services for emergency consultation and triage (Table 17). A higher percentage of upstate FQHCs and hospitals (68%) were planning to use telehealth services for clinical and diagnostic functions than downstate FQHCs and hospitals (52%), and slightly more than half (52%) of downstate FQHCs and hospitals planned to use telehealth services for educational purposes (Table 18). FQHCs and hospitals in urban areas were much more likely to plan to use telehealth services in the future for educational purposes than rural areas (52% and 38%, respectively), although FQHCs and hospitals in urban areas were more likely to plan to use telehealth services in the future for emergency consultation and triage than rural areas (52% and 34%, respectively) (Table 19).

**Table 17. Planned Future Use of Telehealth Functions by Provider Type**

	Admin/Staff/ Nonclinical Meetings	Patient Clinical Consultation/ Diagnosis, Disease Management	Medical Education, Continuing Education, Preceptorships	Remote Monitoring	Emergency Consultation/Triage	Provider Consultation/Team Meetings	Social Services/ Counseling
FQHC	6 (33.3%)	11 (61.1%)	6 (33.3%)	5 (27.8%)	4 (22.2%)	5 (27.8%)	3 (16.7%)
Hospital	17 (35.4%)	30 (62.5%)	25 (52.1%)	15 (31.3%)	22 (45.8%)	14 (29.2%)	6 (12.5%)
<b>Totals<sup>a</sup></b>	23 (34.8%)	41 (62.1%)	31 (47.0%)	20 (30.3%)	26 (39.4%)	19 (28.8%)	9 (13.6%)

<sup>a</sup> Includes respondents for which a New York State region could not be determined.

**Table 18. Planned Future Use of Telehealth Functions by Region**

	Admin/Staff/ Nonclinical Meetings	Patient Clinical Consultation/ Diagnosis, Disease Management	Medical Education, Continuing Education, Preceptorships	Remote Monitoring	Emergency Consultation/Triage	Provider Consultation/Team Meetings	Social Services/ Counseling
Downstate	9 (36.0%)	13 (52.0%)	13 (52.0%)	7 (28.0%)	10 (40.0%)	6 (24.0%)	3 (12.0%)
Upstate	15 (37.5%)	27 (67.5%)	18 (45.0%)	12 (30.0%)	14 (35.0%)	13 (32.5%)	6 (15.0%)

**Table 19. Planned Future Use of Telehealth Functions by Rural/Urban Location**

	Admin/Staff/ Nonclinical Meetings	Patient Clinical Consultation/ Diagnosis, Disease Management	Medical Education, Continuing Education, Preceptorships	Remote Monitoring	Emergency Consultation/Triage	Provider Consultation/Team Meetings	Social Services/ Counseling
Rural	8 (38.1%)	13 (61.9%)	8 (38.1%)	7 (33.3%)	11 (52.3%)	6 (28.6%)	4 (19.0%)
Urban	15 (34.1%)	27 (61.4%)	23 (52.3%)	12 (27.3%)	15 (34.1%)	13 (29.5%)	5 (11.4%)

## Barriers to Telehealth Implementation and Use

**Reimbursement and equipment/start-up costs were cited as the greatest barriers to implementing telehealth services.**

Fifty percent of FQHCs and hospital survey respondents indicated that reimbursement was the greatest barrier to implementing telehealth services, followed by equipment/start-up costs (33%) and concern about legal issues/malpractice (20%). Both current users and nonusers cited reimbursement issues and equipment/start-up costs as the top-two barriers to the use of telehealth services. Identification of barriers were similar when assessed separately for FQHCs and hospitals (Tables 20 and 21).

*Table 20. Barriers to Telehealth Implementation and Use by Current Use Status*

	Current Users		Nonusers	
	N=66		N=82	
	Number	Percent	Number	Percent
Reimbursement/financial issues	33	50.0%	15	18.3%
Cost of equipment/start-up	22	33.3%	11	13.4%
Concern about legal issues/malpractice	13	19.7%	8	9.8%
Concern about scope of practice/state licensure restrictions	16	24.2%	4	4.9%
Concern with loss of effective communication between providers and patients	13	19.7%	6	7.3%
Lack of provider acceptance	10	15.2%	8	9.8%
Lack of patient acceptance	10	15.2%	7	8.5%
Lack of appropriate level of training in use of equipment/software	7	10.6%	7	8.5%
Perceived increase in workload	11	16.7%	3	3.7%
Lack of perceived usefulness	9	13.6%	3	3.7%
Concern about patient confidentiality	6	9.1%	3	3.7%
Lack of appropriate bandwidth	7	10.6%	2	2.4%
Lack of broadband access	4	6.1%	1	1.2%

**Table 21. Perceived Barriers of the Use of Telehealth Services by Provider Type**

	Concern about legal issues/ malpractice	Concern about patient confidentiality	Concern about scope of practice/state licensure restrictions	Concern with loss of effective communication between providers and patients	Cost of equipment/ start-up
FQHC	8 (28.6%)	3 (10.7%)	6 (21.4%)	3 (10.7%)	15 (53.6%)
Hospital	33 (27.5%)	22 (16.3%)	28 (23.3%)	26 (21.7%)	40 (33.3%)
	Lack of appropriate bandwidth	Lack of broadband access	Lack of appropriate level of training in use of equipment/software	Lack of patient acceptance	Lack of perceived usefulness
FQHC	3 (10.7%)	0 (0.0%)	7 (25.0%)	4 (14.3%)	7 (25.0%)
Hospital	8 (6.7%)	6 (5.0%)	13 (10.8%)	23 (19.2%)	20 (16.7%)
	Lack of provider acceptance	Perceived increase in workload	Reimbursement/ financial issues	Other	Don't know
FQHC	6 (21.4%)	5 (17.9%)	19 (67.9%)	2 (7.1%)	4 (14.3%)
Hospital	22 (18.3%)	23 (19.2%)	54 (45.0%)	4 (3.3%)	29 (24.2%)

**Access to high-speed Internet was not a barrier to the use of telehealth services.**

The vast majority (97%) of respondents indicated they had access to a high-speed Internet service such as broadband, Wi-Fi, or other nondial-up access to the Internet. All FQHCs that responded to the survey had high-speed Internet access, and slightly less than 97% of hospitals had high-speed Internet access.

## DISCUSSION

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Currently, telehealth services are used for both clinical and nonclinical functions, although only by about 50% of FQHCs and hospitals in New York. Those that do use telehealth services tend to use them on a daily basis, especially hospitals. Both FQHCs and hospitals indicated that a significant barrier to the use of telehealth services is the lack of funding to support the services, specifically reimbursement/insurance revenue for clinical consultations, as well as the cost of equipment and initial start-up.

Current users were much more likely to indicate plans to expand telehealth services across the state, especially for clinical functions, than nonusers. Given the increased number of individuals insured in New York State, as well as the changing health care delivery system focused on outpatient care, the lack of new telehealth implementation is a challenge for delivery system transformation, especially in rural areas that are particularly suited to telehealth's strengths.

## CONCLUSIONS

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It is clear that the use of telehealth services needs to expand in New York, especially in those areas with access to care issues. Furthermore, New York State should continue to monitor the use of telehealth. The survey conducted was a good starting point in understanding the current use of telehealth services and barriers to use and expansion, especially for reimbursement and financing issues. In March 2015, Medicaid expanded coverage for telemedicine services to additional health care settings and provider types. In January 2016, a new telehealth reimbursement law will go into effect that requires both commercial insurers and the Medicaid program to provide reimbursement for services delivered via telehealth if those services would have been covered if delivered in person. It is not clear how these changes will impact the use of telehealth applications.

As health care systems continue to change and more New Yorkers are insured through the Affordable Care Act, it is important that we continue to understand the use of telehealth services across the state. For a number of provider types (physicians, home health agencies, and nursing homes), response rates to the survey were not adequate to produce reportable findings. Thus, more targeted research is required for these providers specifically. More in-depth research on telehealth services in the state is critical to inform programs and policies to support their use.



# Appendix A

# SURVEY INSTRUMENT

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# Page 1

Please mark only one answer unless otherwise directed. Please call Robert Martiniano at the Center for Health Workforce Studies, University at Albany at (518) 402-0250 or at [martiniano@albany.edu](mailto:martiniano@albany.edu) if you have any questions. Thank you for your participation.

Click/Tap Next button below to start survey.

## Organizational/Practice Information

1. What best describes your organization, facility, or practice?

- Teaching Hospital (Inpatient, Outpatient, and Emergency Department)
- Non-teaching Hospital (Inpatient, Outpatient, and Emergency Department)
- Federally Qualified Health Center (FQHC) or FQHC lookalike
- Other Diagnostic and Treatment Center (D & TC)
- Group Private Physician Practice (2 or more physicians)
- Solo Private Physician Practice
- Nursing Home
- Other (Please specify)

Which of the following specialties are part of your practice? (Indicate all that apply.)

- Dermatology
- Family Medicine
- Internal Medicine (General)
- Internal Medicine Subspecialty (specify below)
- Obstetrics/Gynecology
- Orthopedics
- Pediatrics (General)
- Pediatric Subspecialty (specify below)
- Psychiatry
- Radiology
- Other (please specify)

Internal Medicine Subspecialty detail:

Pediatric Subspecialty detail:

2. What is the zip code of your organization's, facility's, or practice's main location?

3. Do you have high-speed Internet capability such as Broadband, Wifi, or other non-dial-up access to the Internet at your organization, facility, or practice?

Yes

No

Don't know

## Organizational/Practice Information

Telehealth refers to a broad scope of services that use electronic information and telecommunications technologies to support and promote long-distance clinical health care, patient education, or non-clinical services such as professional health related education or administrative meetings. Telemedicine, one service under the telehealth umbrella, is used to describe the direct provision or support of clinical care at a distance through the use of electronic communication and information technologies. Telemedicine includes remote patient monitoring, patient health examination, consultation between health providers, and remote surgical procedures.

4. How often were telemedicine/telehealth technologies used in your organization, facility, or practice within the last 12 months?

- Daily
- Weekly
- Monthly
- Never

## Utilization

5. How are telemedicine/telehealth services used within your organization? (Indicate all that apply.)

- Administrative, staff, or other type of non-clinical meetings
- Emergency consultation and triage
- Medical education (continuing medical education, preceptorships of students, rounds, etc.)
- Patient clinical consultation/diagnosis/follow-up/chronic disease management (indicate for which specialties below)
- Provider consultation/care team meetings (without patient being present)
- Remote monitoring (blood pressure, glucose level, medication adherence, weight, etc.)
- Social services/counseling
- Other (specify below)
- Don't know

Specialty detail: (Indicate all that apply.)

- Dentistry
- Dermatology
- Family Medicine
- Internal Medicine (General)
- Internal Medicine Subspecialty (specify below)
- Obstetrics/Gynecology
- Orthopedics
- Pediatrics (General)
- Pediatric Subspecialty (specify below)
- Psychiatry
- Radiology
- Other (please specify)

Internal Medicine Subspecialty detail:

Pediatric Subspecialty detail:

Other telemedicine/telehealth services use detail:

## Utilization

In a telemedicine/telehealth encounter, the originating or spoke site is the place where the patient is located. The distant or hub site is where the provider is located and is considered the place of service. Please indicate if your site is the originating (spoke) site, the distant (hub) site, or both.

6. In a clinical telemedicine/telehealth encounter, is your organization, facility, or practice the place where patients are located (originating or spoke site)?

- Yes  
 No

Please indicate the location(s) of the providers (distant or hub sites) with which you link in telemedicine/telehealth encounters. (Indicate all that apply.)

- Within 50 miles of my site in New York state  
 Other areas within New York state  
 Other state(s)  
 International

7. In a clinical telemedicine/telehealth encounter, is your organization, facility, or practice the place where providers are located (distant or hub site)?

- Yes  
 No

Please indicate the location(s) of the patients (originating or spoke site) with which you link in telemedicine/telehealth encounters. (Indicate all that apply.)

- Within 50 miles of my site in New York state  
 Other areas within New York state  
 Other state(s)  
 International

8. When you use telemedicine/telehealth at your organization, facility, or practice, what types of modalities does it involve? (Indicate all that apply.)

- Audio graphic (shared computer screen images with audio)  
 Clinical diagnostic peripherals (digital stethoscope, general exam camera, otoscope, etc.)  
 Interactive video (two-way)

- Remote monitoring
- Store and forward (image/text transmission)
- Other (specify below)
- Don't know

Other modality detail:

## Financing and Reimbursement

9. What are the funding/reimbursement sources supporting the telemedicine/telehealth activities at your organization, facility, or practice? (Indicate all that apply.)

- Fees/insurance revenues from clinical teleconsultation
- Grants from federal/state governments
- Grants from corporations/private/nongovernment organization
- Revenue from non-clinical use of telemedicine/telehealth system
- Support from within organization/no outside funding or reimbursement
- Other (specify below)
- Don't know

Other funding source detail:

If your organization is being reimbursed by insurances for telemedicine/telehealth, please indicate which one(s). (Indicate all that apply.)

- Medicaid
- Medicare
- Other public insurances
- Commercial insurers
- Don't know

## Facilitators/Barriers

10. Do you plan to use or to expand telemedicine/telehealth services at your organization, facility, or practice in the future to: (Indicate all that apply.)

- Administrative, staff, or other type of non-clinical meetings
- Emergency consultation and triage
- Medical education (continuing medical education, preceptorships of students, rounds, etc.)
- Patient clinical consultation/diagnosis/follow-up/chronic disease management (indicate for which specialties below)
- Provider consultation/care team meetings (without patient being present)
- Remote monitoring (blood pressure, glucose level, medication adherence, weight, etc.)
- Social services/counseling
- Other (specify below)
- No plans to use or expand services
- Don't know

Specialty detail: (Indicate all that apply.)

- Dentistry
- Dermatology
- Family Medicine
- Internal Medicine (General)
- Internal Medicine Subspecialty (specify below)
- Obstetrics/Gynecology
- Orthopedics
- Pediatrics (General)
- Pediatric Subspecialty (specify below)
- Psychiatry
- Radiology
- Other (please specify)

Internal Medicine Subspecialty detail:

Pediatric Subspecialty detail:

Other detail:

What would be the reason(s) to use or to expand telemedicine/telehealth services at your organization, facility, or practice in the future? (Indicate all that apply.)

- Increases overall access to health care services for patients that they would not otherwise have access to
- Increases access to health care services during off hours (evening, nights, and weekends)
- Helps prevent the worsening of medical conditions for patients, such as preventing unnecessary hospitalizations or readmissions
- Helps save time and money for patients
- Saves traveling time and money for providers
- Other (please specify)

## Facilitators/Barriers

11. What do you perceive to be the barriers to providing/using telemedicine/telehealth services?

- Concern about legal issues/malpractice
- Concern about patient confidentiality
- Concern about scope of practice/state licensure restrictions
- Concern with loss of effective communication between the providers and patients
- Cost of equipment/startup
- Lack of appropriate bandwidth
- Lack of broadband access
- Lack of appropriate level of training for use of equipment/software
- Lack of patient acceptance
- Lack of perceived usefulness/need
- Lack of provider acceptance
- Perceived increase in work load
- Reimbursement/financial issues
- Other (specify below)
- Don't Know

Other detail:

Please briefly describe how the answer(s) to question 11 are barriers to providing or using telemedicine/telehealth.

## Contact Information

12. Please provide us with a contact in your organization, facility, or practice with technical expertise for future telemedicine/telehealth technology assessments. The contact person should be familiar with your current internet/broadband coverage and telehealth equipment and/or your technological infrastructure needs. Please note that while we will provide the New York State Department of Health your contact information, the information will not be linked to any individual survey responses and results from this survey will only be reported in the aggregate.

Name:

Title:

Organization, facility, or practice name:

Phone:

Email:

# Page 10

Thank You

You have reached the end of the survey. To submit your responses, please click the finish button below. After clicking finish, you will be redirected to the Center for Health Workforce Studies Web site.

If you have any questions about the survey, please contact Robert Martiniano at [rmartiniano@albany.edu](mailto:rmartiniano@albany.edu) or call (518) 402-0250.

Thank you for completing this important survey.



# NEW YORK STATE DEPARTMENT OF HEALTH HCS NOTICE

**NEW YORK**  
state department of  
**HEALTH**

Nirav R. Shah, M.D., M.P.H.  
Commissioner

Sue Kelly  
Executive Deputy Commissioner

November 1, 2013

Dear Administrator:

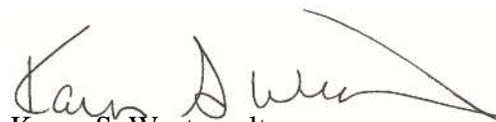
During the month of November, the New York State Department of Health, in collaboration with the Healthcare Association of New York State (HANYS), the Community Health Center Association of New York State (CHCANYS), the American College of Physicians (ACP), the Medical Society of the State of New York (MSSNY), and the Center for Health Workforce Studies (CHWS) will be conducting a brief electronic survey about telemedicine and telehealth. Your response is important and will be used to help shape future telehealth policy in New York State.

The purpose of the survey is to assess how health care facilities, practices, and providers are implementing telehealth, and what challenges continue to limit the use, expansion, and sustainability of telehealth programs. Results from the survey will be used to advance policy changes - including reimbursement - that will improve sustainability and support the use of telehealth and telemedicine to expand access to quality care throughout the state.

You can access the survey from this link: <http://chws.albany.edu/telemedicine>. Please identify the most appropriate person to complete this survey, as only one response is required from each health care facility or practice. Survey responses will be submitted to the Center for Health Workforce Studies for analysis. **Any reports generated from this survey will be in the aggregate and no individual facilities or providers will be identified.**

The New York State Department of Health strongly encourages your participation in this important survey which should take only 5-10 minutes to complete. **Survey responses should be submitted no later than November 15<sup>th</sup>.** Your cooperation is greatly appreciated. If you have any questions regarding the survey, please contact Robert Martiniano at the Center for Health Workforce Studies at (518) 402-0250.

Sincerely yours,



Karen S. Westervelt  
Deputy Commissioner,  
Offices of Primary Care and Health  
Systems Management





School of Public Health | University at Albany, SUNY  
1 University Place, Suite 220 | Rensselaer, NY 12144-3445

<https://chws.albany.edu>