TEXAS RURAL HOSPITAL SURVEY RESULTS

May 2022

CONNECTED NATION Texas

CONTENTS

1. Introduction

Broadband connectivity is becoming increasingly important for all hospitals, but especially for those in rural and remote portions of nation. Broadband empowers rural hospitals to use information and telecommunications technologies that support their clinical health care; provide patient and professional health education, public health, and health administration; and serve patients who may live hours away from the nearest hospital.

With the COVID-19 pandemic, the ability for rural Texas hospitals to provide high-quality, affordable services to remote patients became even more important. Internet-empowered health technologies provide an important link between rural hospitals and the geographically dispersed patients they serve. The ability to provide these services empowers rural hospitals to meet current and future health care needs across the state.

To determine the best way to empower rural Texas hospitals to use the internet to better serve their patients, several questions must be addressed. How adequately prepared are these facilities to provide online services to their patients? Do these facilities have the proper tools and training to provide remote services? What barriers do rural Texas hospitals face in their efforts to improve and expand their telehealth offerings? And once the hospitals are prepared to offer these services, do their patients have the capability, the digital skills, the internet access, and the willingness to embrace services like remote monitoring of vitals, remote counseling, or other online services?

To answer these questions, the Texas State Office of Rural Health partnered with Connected Nation Texas (CN Texas) to conduct an online survey that was distributed to 163 rural Texas hospitals. This survey was designed to determine how rural Texas hospitals are currently using internet-connected technologies, ascertain the barriers that currently limit the use of online services among health care practitioners and patients, and identify steps that can provide the greatest impact in helping rural hospitals expand their remote offerings to all rural residents.
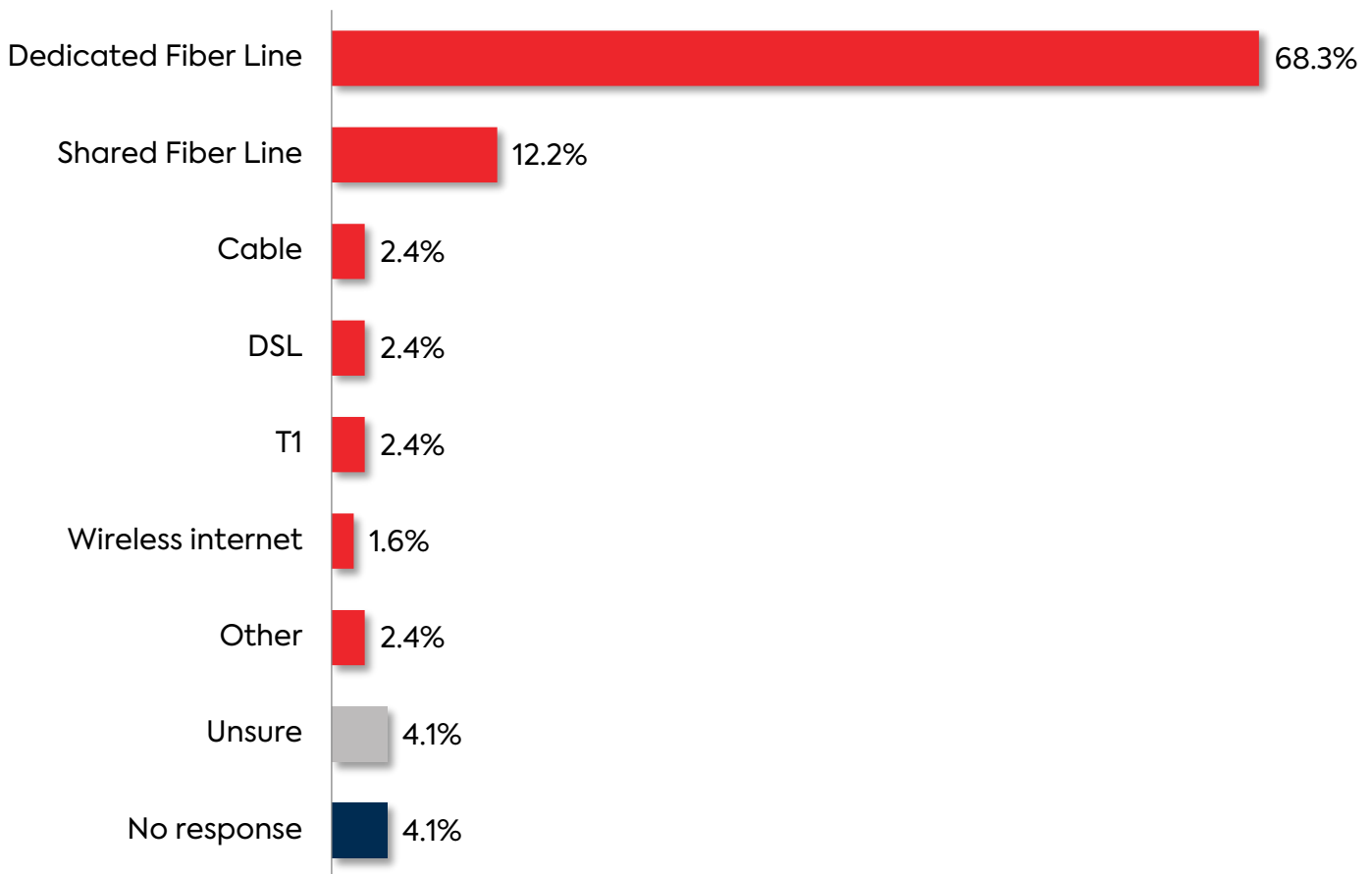
Key Findings from the Survey:

- Nearly all rural Texas hospitals subscribe to internet service, but more than 30% do not have redundant (or backup) service at their facility.
- One-quarter of rural Texas hospitals (25.2%) subscribe to internet service with download speeds slower than 100 Mbps, a speed that is often used by single-family households. More than 1 out of 20 subscribe to speeds that do not meet the FCC's definition of residential broadband (25 Mbps downstream).
- More than one out of five rural Texas hospitals (21.1%) say their internet service does not meet their current needs; the top reason for dissatisfaction is unreliable service, followed by high monthly costs and slow speeds — upstream and downstream alike.
- Nearly 9 out of 10 rural Texas hospitals (89%) use internet-enabled technology to transfer patient data, while more than three-quarters (76%) use portals that allow patients to access their information online.
- More than one-half of rural Texas hospitals (56.1%) offer remote video consultations with patients for medical issues, while more than 2 out of 5 (41.5%) provide audio-only (telephonic) remote patient consultations. More than one-half of these facilities (51.2%) plan to provide additional offerings within the next three years.
- Their patients' lack of adequate home internet service and the cost of purchasing or leasing the necessary equipment to provide remote health services are seen as major challenges to expanding telehealth services by the largest share of rural Texas hospitals. More than 2 out of 5 (43.1%) say external factors create a bigger hinderance to expanding telehealth services than internal challenges at their facility.
- Nearly 3 out of 4 hospitals (72.4%) report that their facilities have Wi-Fi networks available for staff as well as patients, visitors, and/or the public. Another 17.1% report having a Wi-Fi network for use only by patients, visitors, and/or the public, yet only 45.5% of hospitals say they have conducted an internal radio frequency analysis to identify gap areas where the Wi-Fi network does not provide sufficient connectivity.
- More than 9 out of 10 rural Texas hospitals report having taken steps to protect themselves from cybersecurity attacks. While 45.5% of hospitals said they have taken sufficient steps to protect themselves from such attacks, an additional 46.3% report having taken some steps to protect themselves from cyberattacks, with plans to implement further measures in the future.
- Fewer than 2 out of 5 rural Texas hospitals (38.2%) say they are aware of state or federal grant opportunities that can help them pay for broadband costs, while nearly one-half (46.3%) reported being interested in learning more about such grant opportunities.

2. Survey Results
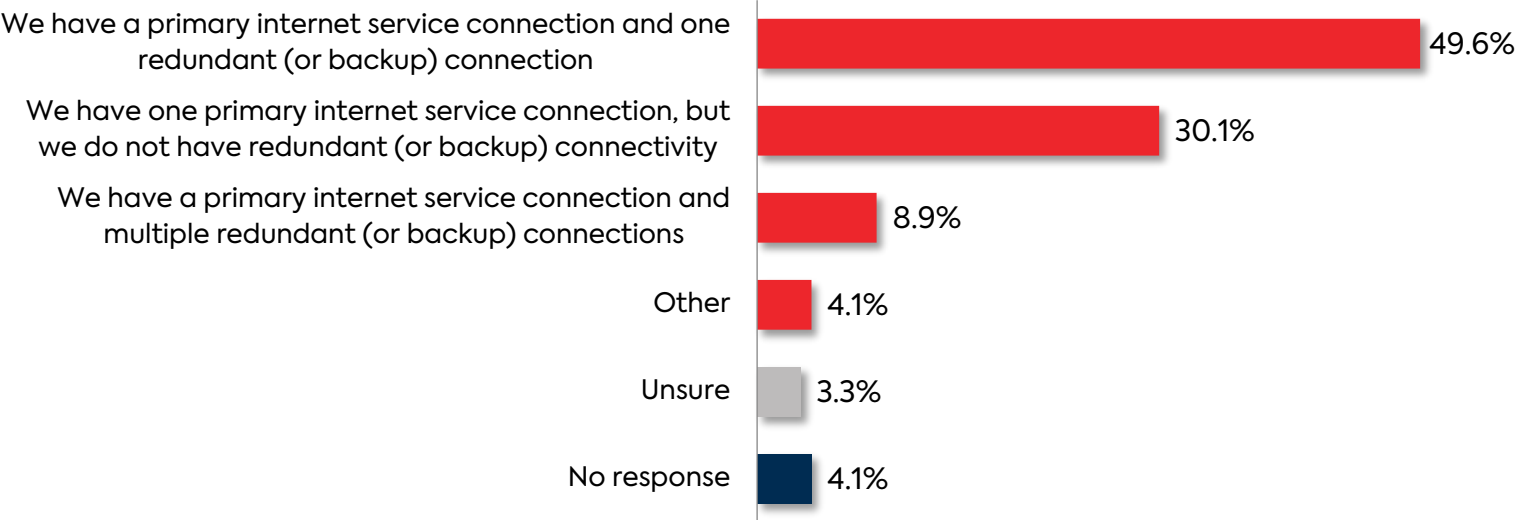
A. INTERNET CONNECTIVITY

When rural Texas hospitals were asked about their primary internet connections, 4 out of 5 hospitals (80.5%) reported that they had fiber connections, either through a dedicated fiber line (68.3%) or through a fiber connection they share with another facility or building (12.2%) (Figure 1).

Figure 1.
Rural Texas Hospitals' Primary Internet Platform Subscriptions by Type

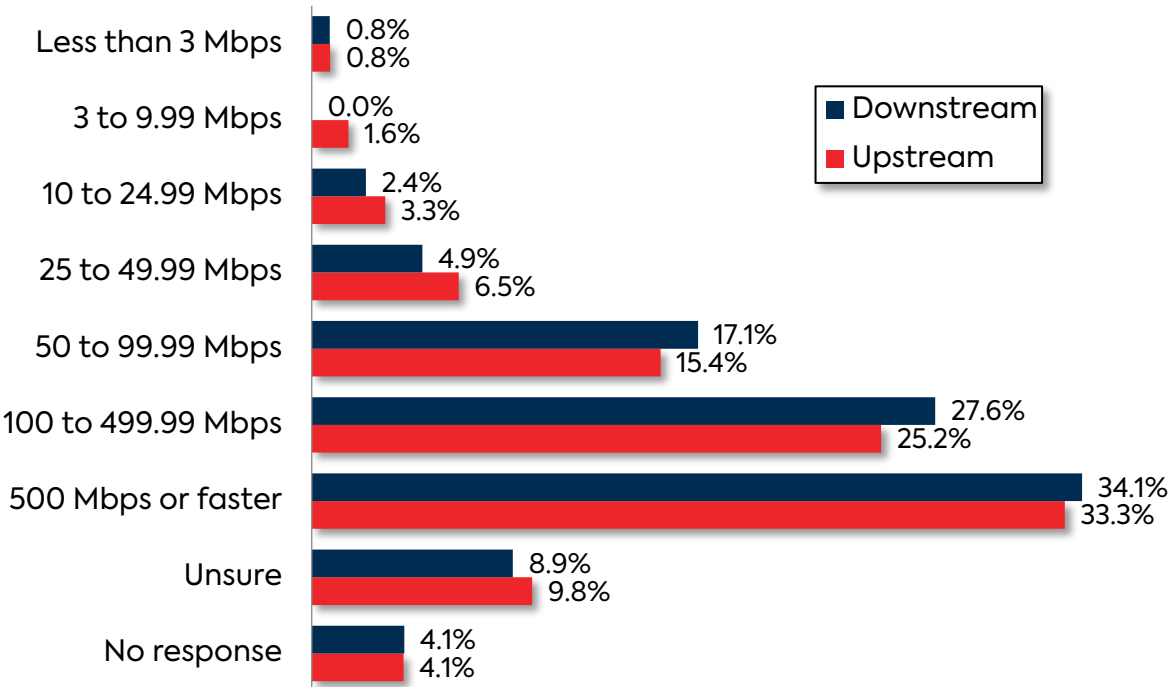| Type	Percentage
Dedicated Fiber Line	68.3%
Shared Fiber Line	12.2%
Cable	2.4%
DSL	2.4%
T1	2.4%
Wireless internet	1.6%
Other	2.4%
Unsure	4.1%
No response	4.1%

Nearly one-half of respondents (49.6%) said they also have one redundant (or backup) internet connection, while another 8.9% said they have multiple redundant connections just in case their primary internet service were to go down for some reason (Figure 2). This leaves 3 out of 10 rural Texas hospitals (30.1%) with no backup internet service if their primary connection were to fail.

Figure 2.
Redundant (or Backup) Internet Connections

We have a primary internet service connection and one redundant (or backup) connection — 49.6%

We have one primary internet service connection, but we do not have redundant (or backup) connectivity — 30.1%

We have a primary internet service connection and multiple redundant (or backup) connections — 8.9%

Other — 4.1%

Unsure — 3.3%

No response — 4.1%

One-third of these facilities (34.1%) indicate that their service providers had advertised download speeds of 500 Megabits per second (Mbps) or faster, while a comparable share (33.3%) say their advertised upload speeds reach this speed (Figure 3).

Figure 3.
Advertised Internet Speeds at Texas Rural

Legend: ■ Downstream ■ Upstream

Speed	Downstream	Upstream
Less than 3 Mbps	0.8%	0.8%
3 to 9.99 Mbps	0.0%	1.6%
10 to 24.99 Mbps	2.4%	3.3%
25 to 49.99 Mbps	4.9%	6.5%
50 to 99.99 Mbps	17.1%	15.4%
100 to 499.99 Mbps	27.6%	25.2%
500 Mbps or faster	34.1%	33.3%
Unsure	8.9%	9.8%
No response	4.1%	4.1%

More than one-quarter of rural Texas hospitals (26.8%) report that they have explored internet service options and their current service is the fastest available service offered at their location (Figure 4).

Figure 4.
Availability of Faster Internet Service

- We have explored this option and we subscribe to the fastest available internet service
- We have explored this option; faster service is available, but we choose not to subscribe to faster service at this time
- We have not determined whether faster service is available at our location
- No response

36.6%
26.8%
4.1%
32.5%

Another 36.6% of respondents say they are aware of faster available internet service but they have chosen not to subscribe to faster service at this time, while 32.5% of hospitals have not determined whether faster internet service is available at their location.

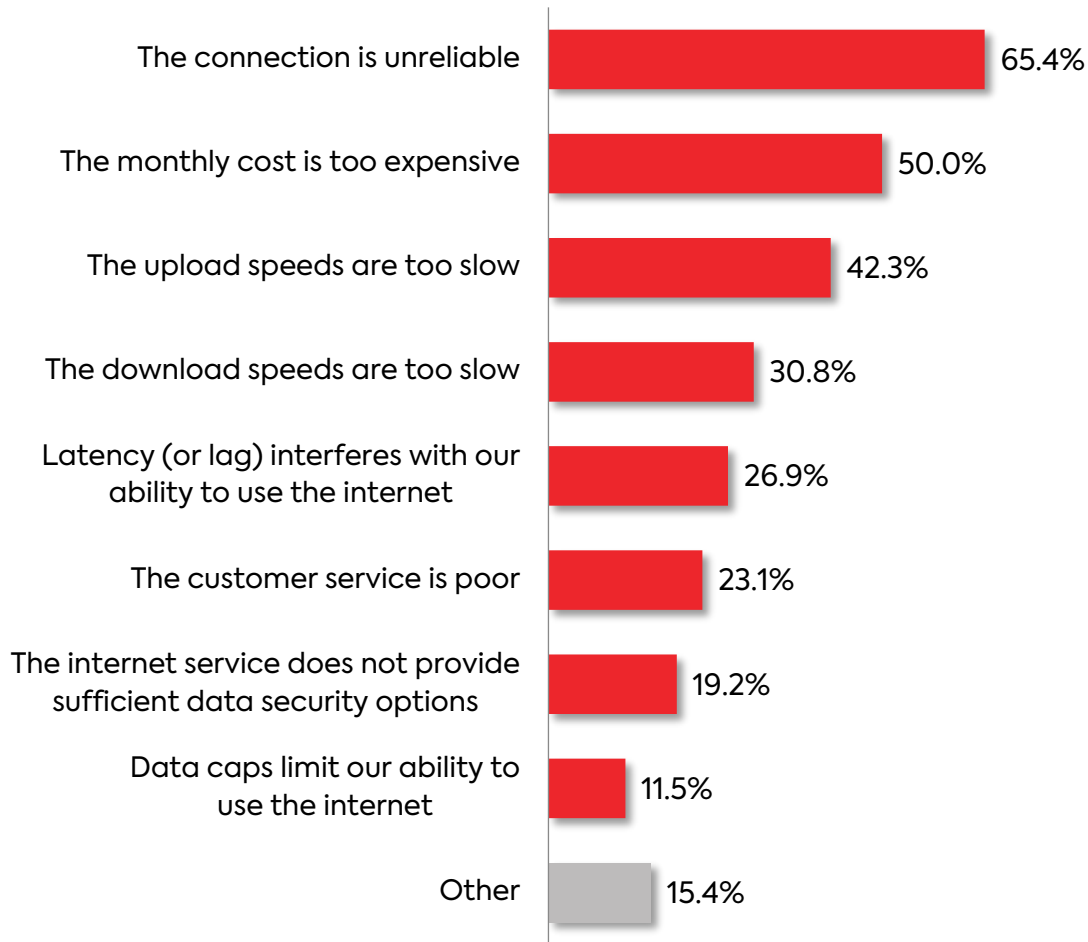## B. SATISFACTION WITH INTERNET SERVICE

More than 1 out of 5 rural Texas hospitals (21.1%) report that their current internet service does not meet their needs (Figure 5).

Figure 5.
Current Internet Service and Hospital Needs

- Current internet service meets our needs
- Current internet service does not meet our needs
- Unsure
- No response

65.0%
1.6%
12.2%
21.1%

6
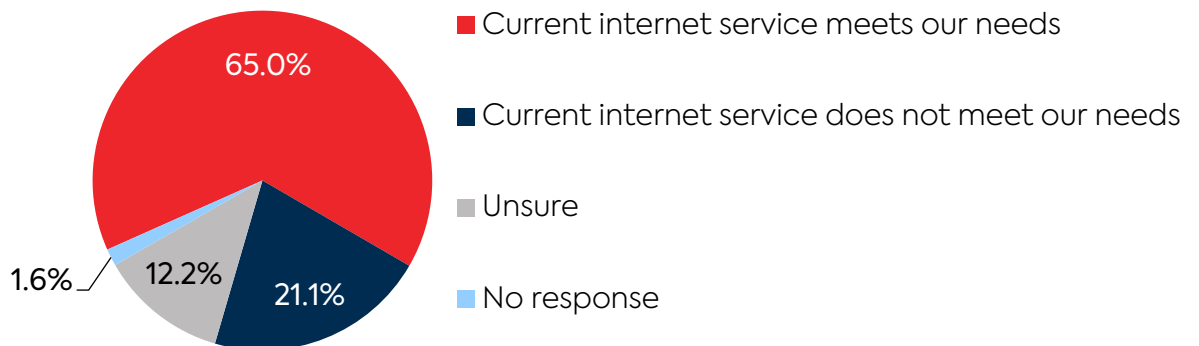
The largest share of facilities that said their current internet service does not meet their needs (65.4%) said their service was unreliable (Figure 6).

Figure 6.
Why Internet Service Does Not Meet Hospitals' Needs

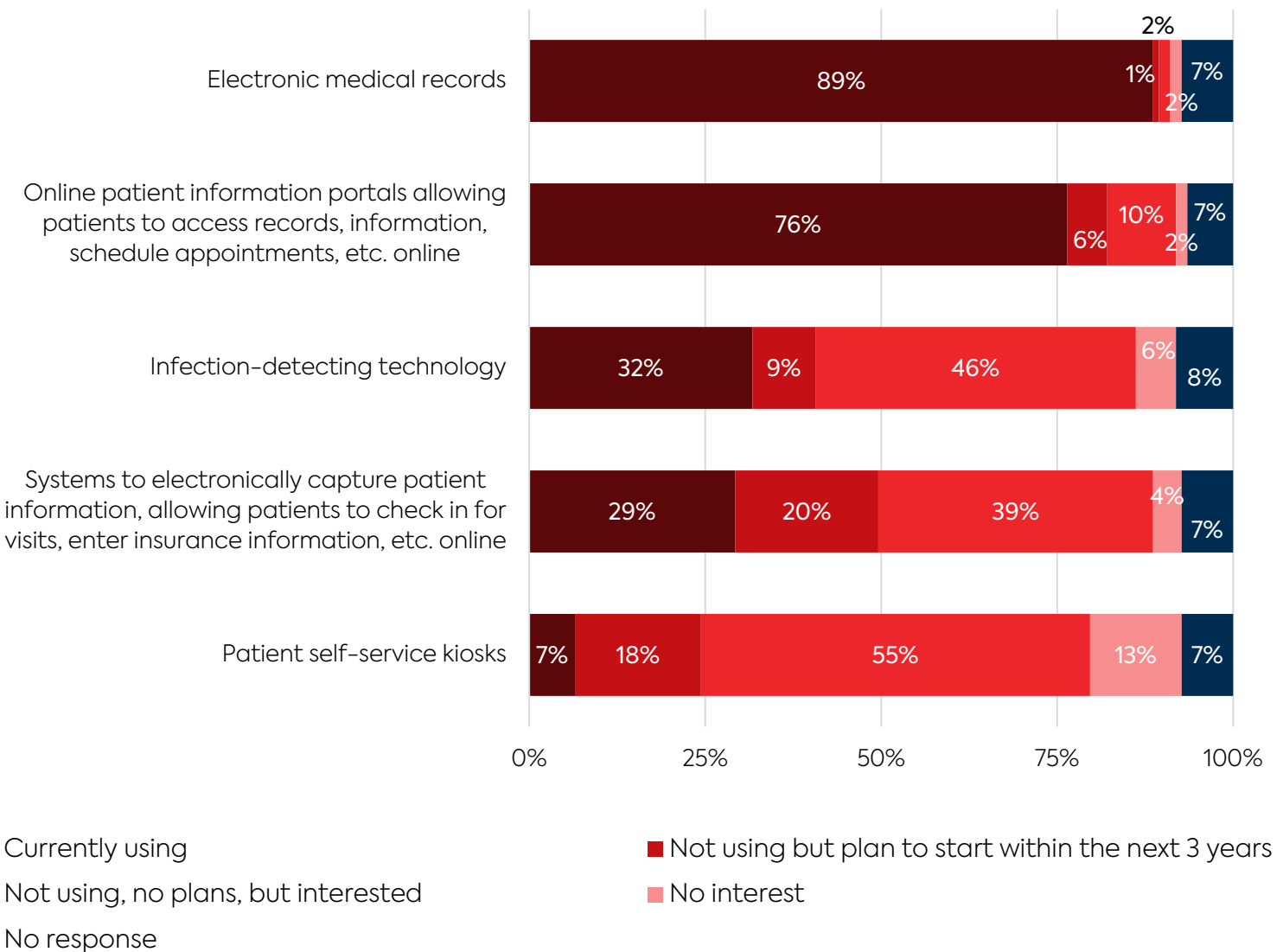| Reason	Percentage
The connection is unreliable	65.4%
The monthly cost is too expensive	50.0%
The upload speeds are too slow	42.3%
The download speeds are too slow	30.8%
Latency (or lag) interferes with our ability to use the internet	26.9%
The customer service is poor	23.1%
The internet service does not provide sufficient data security options	19.2%
Data caps limit our ability to use the internet	11.5%
Other	15.4%

One-half of these rural Texas facilities (50%) said that the monthly cost of their internet service is too expensive. More rural Texas hospitals said their upload speeds were too slow than those that said the same thing about their download speeds. Other reasons for dissatisfaction include latency, poor customer service, a dearth of data security options, and data caps that limit hospitals' ability to transfer data. Hospitals could cite more than reason why their current internet service does not meet their needs.

C. INTERNET–ENABLED TECHNOLOGY USAGE

Many rural Texas hospitals are using internet-enabled technology to examine patients, securely maintain patient records, and empower patients to take control over as much of their health care as possible.

Nearly 9 out of 10 rural Texas hospitals (89%) report maintaining electronic medical records, while more than three-quarters (76%) use online portals that allow patients to access their records, view their health information, and schedule appointments online (Figure 7).

Figure 7.
Technology Application Usage

	Currently using	Not using but plan to start within the next 3 years
	Not using, no plans, but interested	No interest
	No response	

Texas rural hospitals also offer telehealth services to their patients. The most popular use of this technology is the transmission of patient records or information via the internet, used by 2 out of 3 facilities (65.9%) (Figure 8).
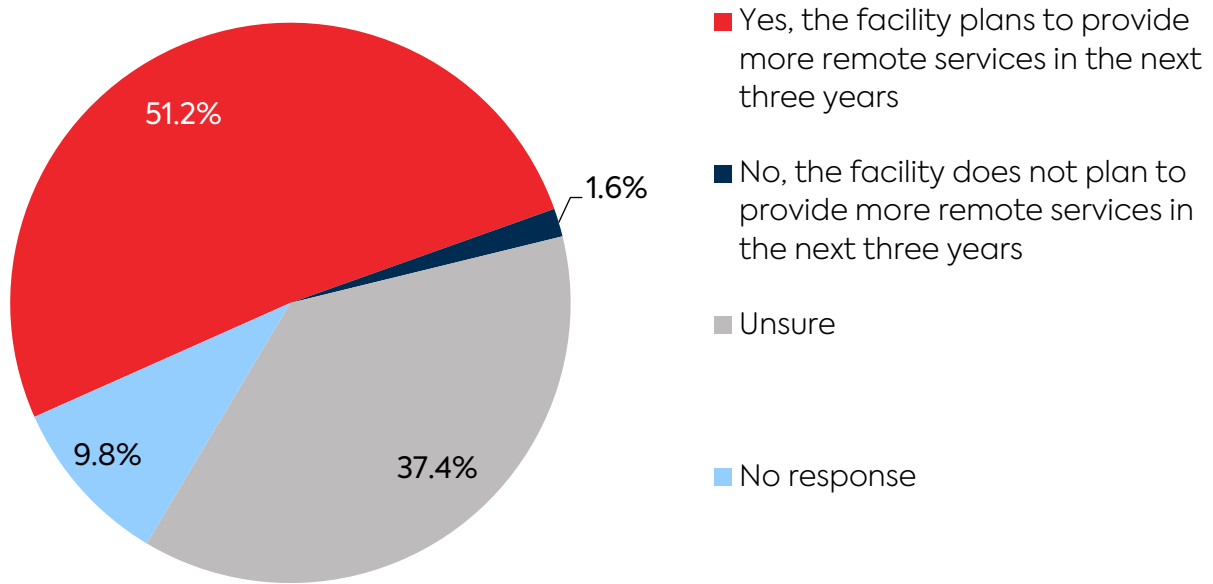
Figure 8.
Telehealth Services Offered
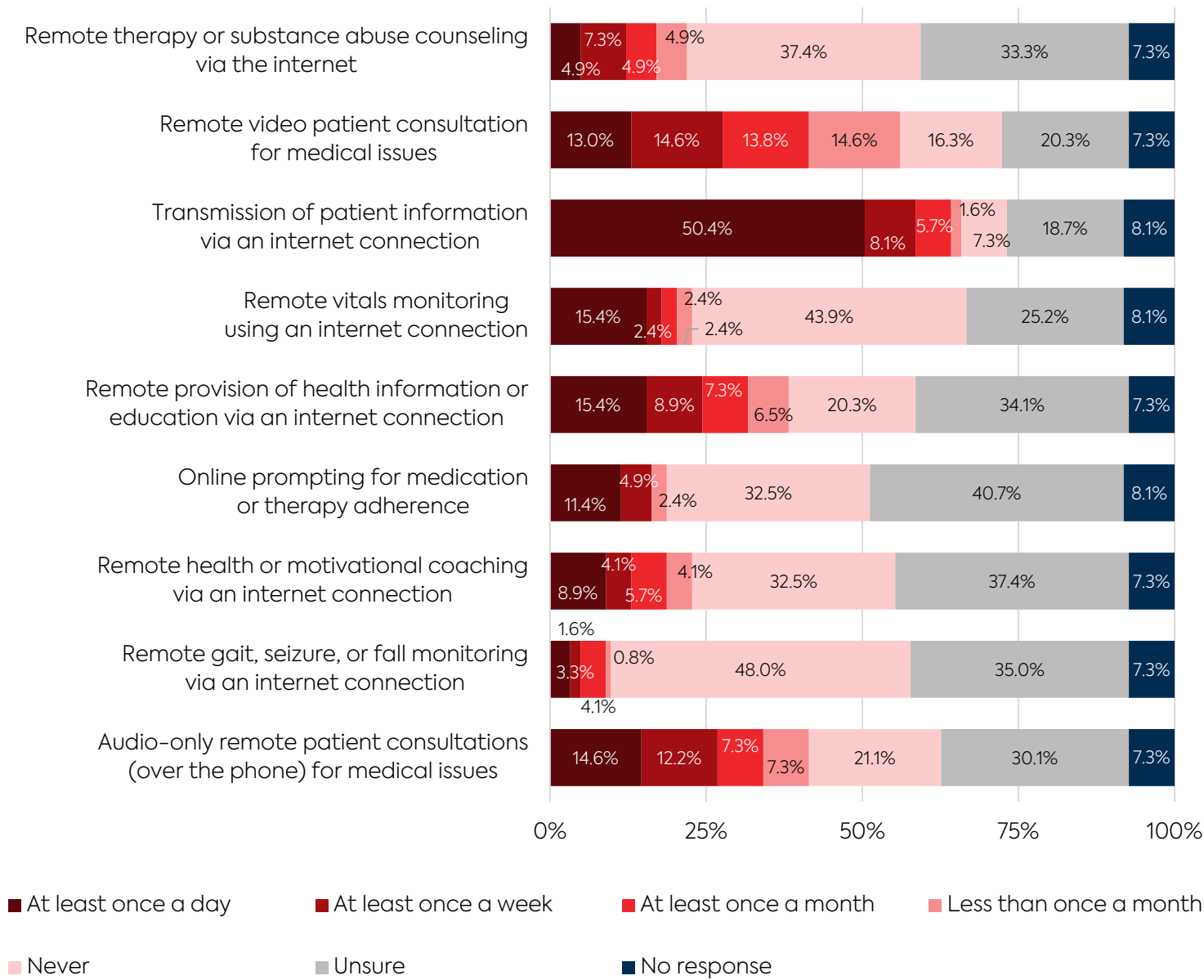
More than one-half of rural Texas hospitals (56.1%) also offer remote video consultations with patients for medical issues, while more than 2 out of 5 (41.5%) provide audio-only (telephonic)

remote patient consultations. Fewer than 1 in 10 facilities (9.8%) offer remote gait, seizure, or fall monitoring to their patients.
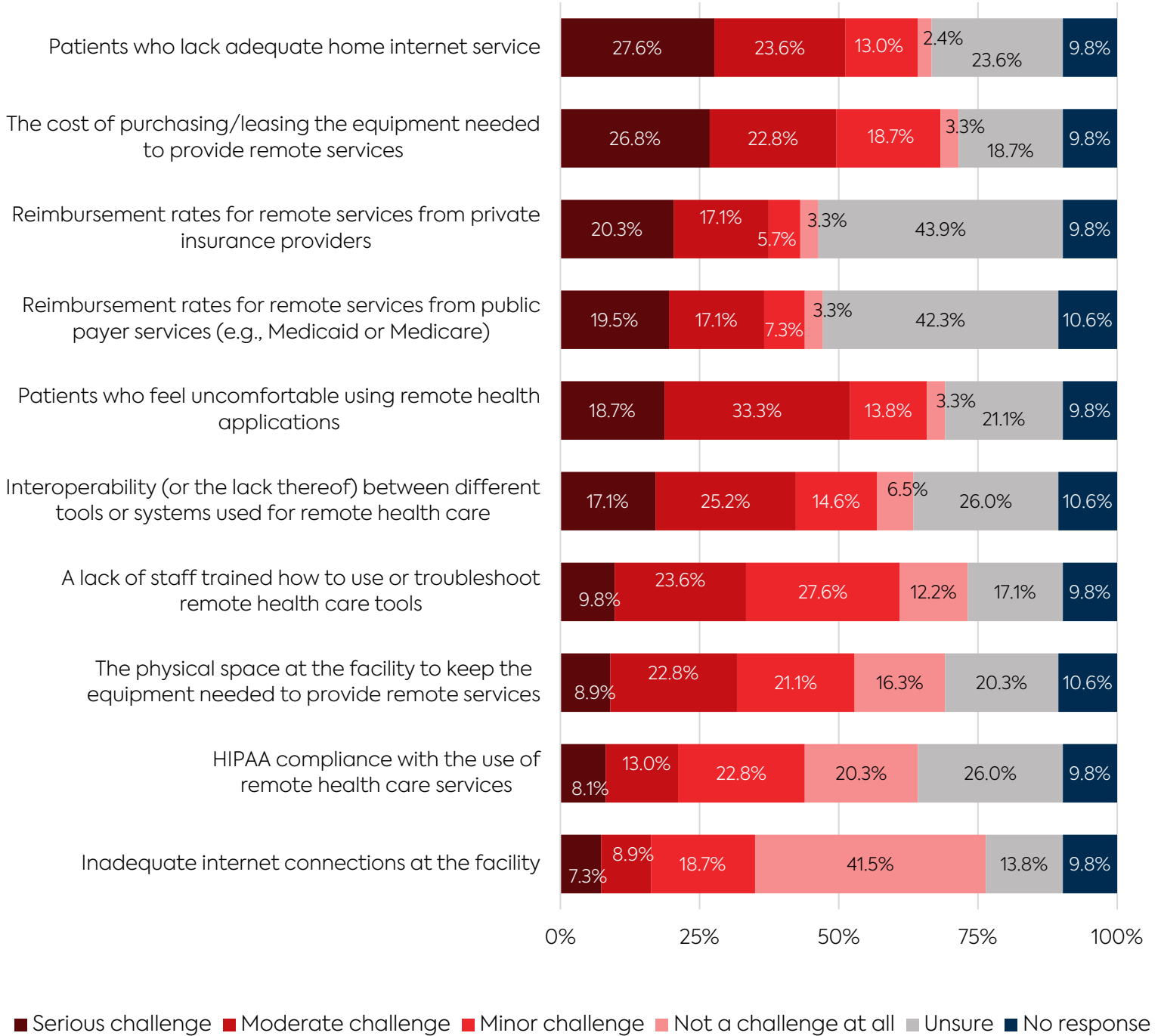
The demand for telehealth services is growing, however, and rural Texas hospitals plan to expand their remote offerings to help meet that need. More than one-half of respondents (51.2%) say they plan to expand their telehealth offerings within the next three years (Figure 9).

Figure 9.
Plans for Future Telehealth Offerings

51.2%

1.6%

9.8%

37.4%

■ Yes, the facility plans to provide more remote services in the next three years

■ No, the facility does not plan to provide more remote services in the next three years

■ Unsure

■ No response

Patient comfort and familiarity with remote health services, a lack of home internet service among rural households, and the cost of buying or leasing the equipment needed to provide remote health services are cited most often by rural Texas hospitals as serious or moderate challenges to expanding or improving telehealth services (Figure 10).
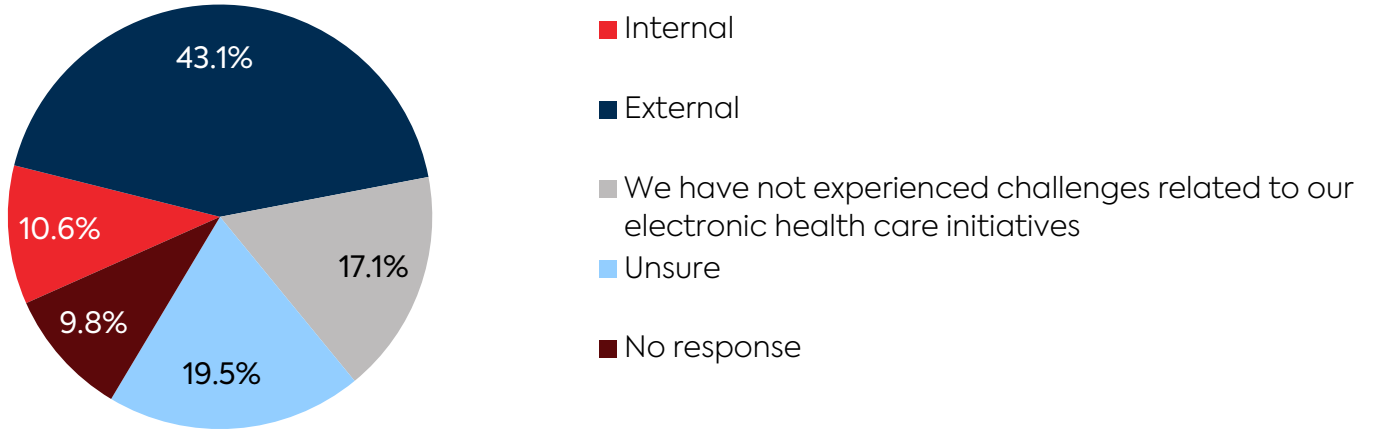
Figure 10.
Challenges to Expanding or Improving Telehealth

Challenge	Serious challenge	Moderate challenge	Minor challenge	Not a challenge at all	Unsure	No response
Patients who lack adequate home internet service	27.6%	23.6%	13.0%	2.4%	23.6%	9.8%
The cost of purchasing/leasing the equipment needed to provide remote services	26.8%	22.8%	18.7%	3.3%	18.7%	9.8%
Reimbursement rates for remote services from private insurance providers	20.3%	17.1%	5.7%	3.3%	43.9%	9.8%
Reimbursement rates for remote services from public payer services (e.g., Medicaid or Medicare)	19.5%	17.1%	7.3%	3.3%	42.3%	10.6%
Patients who feel uncomfortable using remote health applications	18.7%	33.3%	13.8%	3.3%	21.1%	9.8%
Interoperability (or the lack thereof) between different tools or systems used for remote health care	17.1%	25.2%	14.6%	6.5%	26.0%	10.6%
A lack of staff trained how to use or troubleshoot remote health care tools	9.8%	23.6%	27.6%	12.2%	17.1%	9.8%
The physical space at the facility to keep the equipment needed to provide remote services	8.9%	22.8%	21.1%	16.3%	20.3%	10.6%
HIPAA compliance with the use of remote health care services	8.1%	13.0%	22.8%	20.3%	26.0%	9.8%
Inadequate internet connections at the facility	7.3%	8.9%	18.7%	41.5%	13.8%	9.8%

■ Serious challenge ■ Moderate challenge ■ Minor challenge ■ Not a challenge at all ■ Unsure ■ No response

Texas rural hospitals tend to feel confident about their internal internet connectivity. More than 2 out of 5 (41.5%) say that internet connections at their facility will not be a challenge at all as they

work to expand their remote health offerings. Additionally, when asked whether internal or external issues are the biggest challenges to providing electronic health care initiatives, 43.1% of facilities said that external issues were their biggest challenges, compared to only 10.6% of rural Texas hospitals that said internal issues were their biggest challenges (Figure 11).
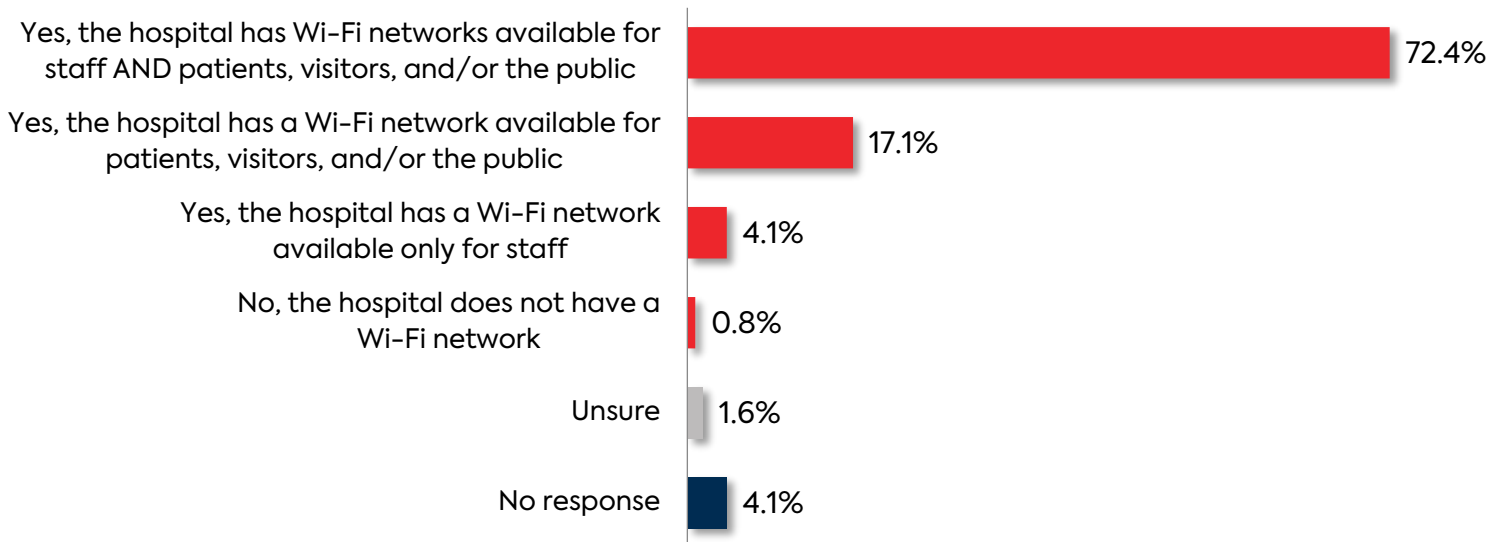
Figure 11.
Biggest Challenges to Electronic Health Care Initiatives

■ Internal

■ External

■ We have not experienced challenges related to our electronic health care initiatives

■ Unsure

■ No response

43.1%
10.6%
9.8%
19.5%
17.1%

D. WI-FI CONNECTIVITY AT RURAL TEXAS HOSPITALS

Nearly 3 out of 4 hospitals (72.4%) report that their facilities have Wi-Fi networks available for staff as well as patients, visitors, and/or the public (Figure 12).

Figure 12.
Wi-Fi Connectivity for Staff, Visitors, and Patients

Yes, the hospital has Wi-Fi networks available for staff AND patients, visitors, and/or the public — 72.4%

Yes, the hospital has a Wi-Fi network available for patients, visitors, and/or the public — 17.1%

Yes, the hospital has a Wi-Fi network available only for staff — 4.1%

No, the hospital does not have a Wi-Fi network — 0.8%

Unsure — 1.6%

No response — 4.1%

Another 17.1% report having a dedicated Wi-Fi network just for patients, visitors, and/or the public; this could be due to security concerns about sensitive data being sent via Wi-Fi-enabled devices. Fewer than 1% of hospitals say they do not have any Wi-Fi connectivity at all.

In addition, 2 out of 3 rural Texas hospitals (65.9%) report that the Wi-Fi networks at those facilities meet their current needs (Figure 13).

**Figure 13.
Rural Texas Hospitals' Wi-Fi Needs**

- 65.9%
- 4.1%
- 11.4%
- 18.7%

■ Yes, current Wi-Fi service meets our needs

■ No, current Wi-Fi service does not meet our needs

■ Unsure

■ No response
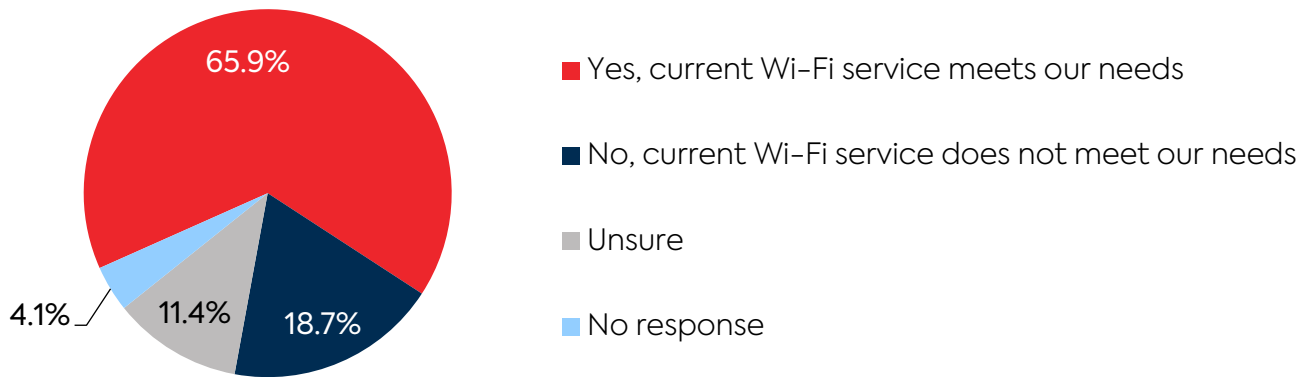
Nearly 1 in 5 rural Texas hospitals (18.7%) say their Wi-Fi networks do not meet their current needs. Hospitals cite slow speeds, connectivity gaps, and security issues as the primary reasons.

Only 45.5% of hospitals say they have conducted an internal radio frequency analysis to identify gap areas where the Wi-Fi network does not provide sufficient connectivity (Figure 14).

**Figure 14.
Rural Texas Hospitals That Have Conducted Radio Frequency Analyses**

- 45.5%
- 6.5%
- 20.3%
- 27.6%

■ Yes

■ No

■ Unsure

■ No response
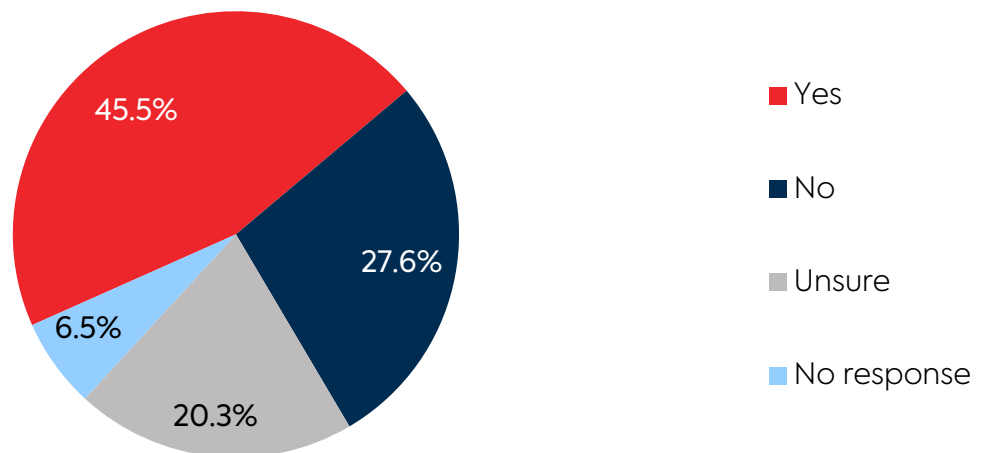
E. CYBERSECURITY AT RURAL TEXAS HOSPITALS

More than 9 out of 10 rural Texas hospitals report that they have taken steps to protect themselves from cybersecurity attacks. While 45.5% of hospitals said they have taken sufficient steps to protect themselves from such attacks, an additional 46.3% report having taken some steps, with plans to implement further security measures in the future (Figure 15).
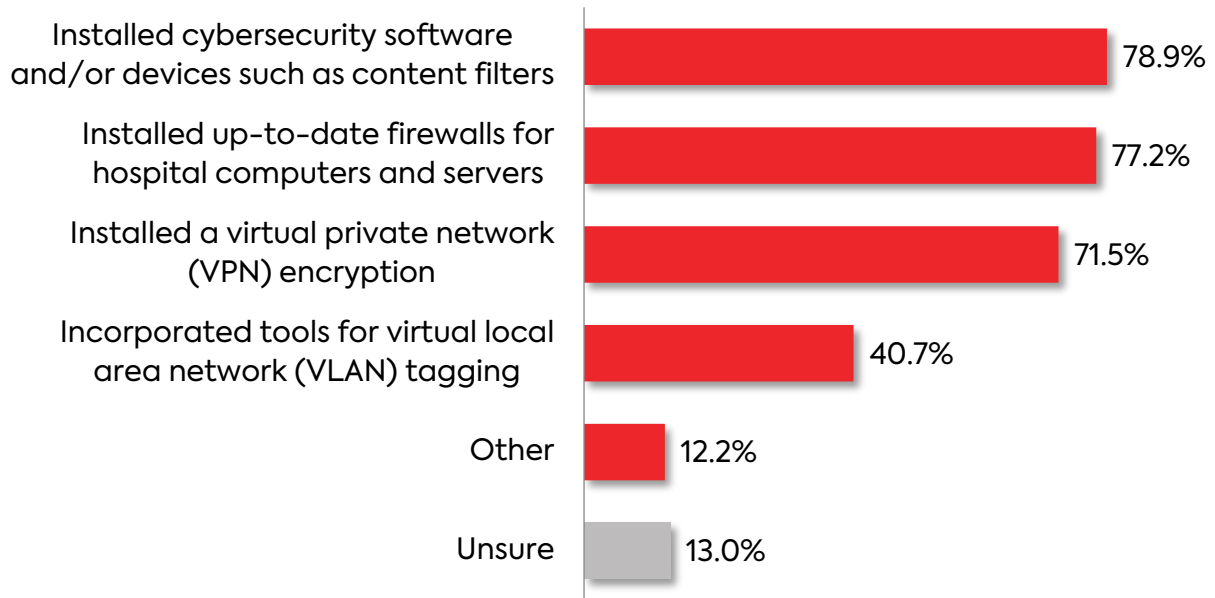

Figure 15.
Cybersecurity Prevention at Rural Texas Hospitals
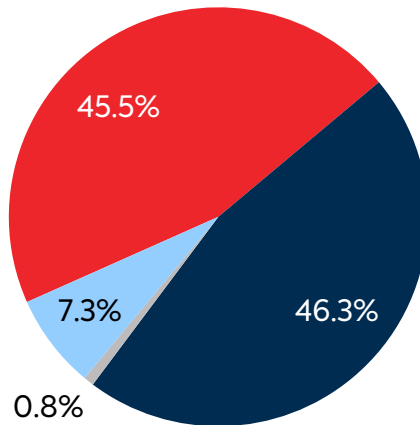
- ■ We have taken sufficient steps to protect our hospital from cybersecurity attacks
- ■ We have taken some steps to protect our hospital from cybersecurity attacks and plan to implement more in the future
- ■ We have not taken steps to protect our hospital from cybersecurity attacks and do not currently have a plan to implement such steps
- ■ No response

These protective measures are increasingly important as small hospitals have become frequent targets of cyberattacks and ransomware in previous years. More than three-quarters of rural Texas hospitals have installed cybersecurity software onto their internet-connected devices and installed up-to-date firewalls for hospital computers and servers, while a slightly smaller share use virtual private networks (VPNs) to protect the sensitive data on their networks (Figure 16).

**Figure 16.**
Cybersecurity Measures at Rural Texas Hospitals

Installed cybersecurity software and/or devices such as content filters — 78.9%

Installed up-to-date firewalls for hospital computers and servers — 77.2%

Installed a virtual private network (VPN) encryption — 71.5%

Incorporated tools for virtual local area network (VLAN) tagging — 40.7%

Other — 12.2%

Unsure — 13.0%

Hospitals could provide more than one response to this question.

F. STATE AND FEDERAL GRANT OPPORTUNITIES FOR BROADBAND

Many rural Texas hospitals say they are unaware of state or federal grant dollars available to them to expand and improve their broadband connectivity or improve their telehealth services (Figure 17).

Figure 17.
Awareness of Grant Opportunities to Expand Broadband or Telehealth

38.2% — Yes
17.1% — No
36.6% — Unsure
8.1% — No response
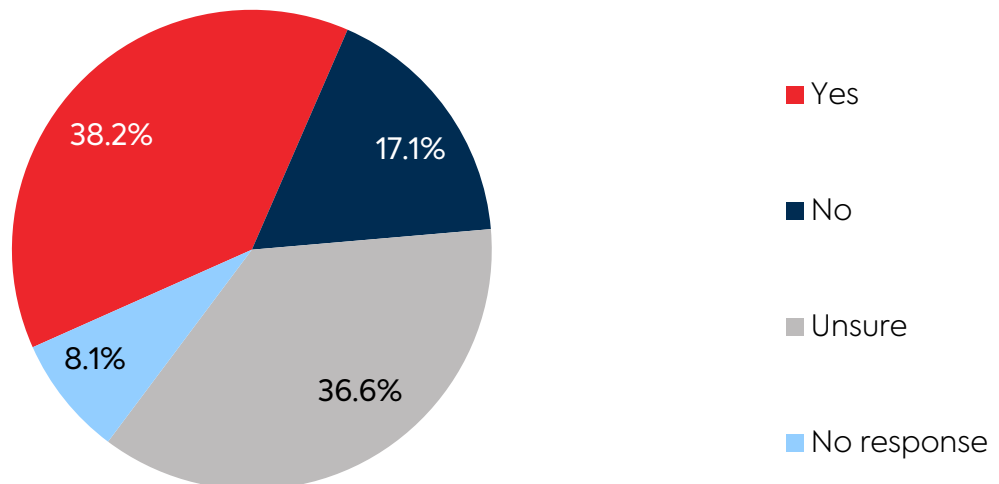
More than 1 in 6 rural Texas hospitals (17.1%) said they were unaware that such grants were available, while more than one-third (36.6%) said they were unsure if hospital leadership was aware of available grants. However, hospitals recognize the importance of being able to access these funds, as nearly one-half of rural Texas hospitals (46.3%) reported being interested in learning more about such grant opportunities.

3. Conclusion and Next Steps

Improving broadband connectivity and expanding telehealth offerings are priorities for many rural Texas hospitals. With many facilities currently offering such services and planning to increase their telehealth offerings in the future, facilities need the infrastructure, expertise, and funding to make those plans a reality. Some rural hospitals face challenges within their own facilities, including the need for training and available space to properly use the equipment to offer these services. For others, greater challenges await outside their hospital walls in the form of slow, unreliable internet connections, patients who lack the digital skills or stable internet connections needed to use telehealth services, and the dearth of internet service providers that can provide redundant or backup internet connections.

In summer 2022, CN Texas and Texas' State Office of Rural Health (SORH) will conduct site visits to several rural Texas hospitals to see firsthand how those institutions are using internet-empowered technology and what steps can be taken to assist these rural hospitals in expanding and improving their telehealth offerings. The findings from those site visits, combined with these survey results, will help the SORH as it determines the most cost-effective way to disburse state and federal funds intended to help improve statewide infrastructure and employment opportunities. The results of this two-pronged approach will help ensure that rural Texas hospitals can continue to provide quality health care to their patients, no matter where they live in the state.

4. Methodology

Between March 24 and April 8, 2022, CN Texas and the Texas SORH conducted an online survey of rural hospitals across the state of Texas. Of the 163 invitations distributed, the survey received 123 unique responses, resulting in a 75.5% response rate. The 163 facilities that received surveys work with Texas SORH across all their programs. All respondents represented general or special hospitals licensed under Chapter 241 of the Texas Health and Safety Code. Some facilities responded more than once; in those cases, the last completed survey from the facility was included in these results. If multiple partial completions were received, the last survey the facility submitted was included in these survey results.

Hospitals were notified of the survey via email and were asked to have the person with the most knowledge about their facility's broadband technology to complete the survey. The average (median) amount of time spent on these surveys was 10 minutes and 16 seconds. The survey instrument used for this study can be found in Appendix A.

Appendix A. Survey Instrument

The Texas State Office of Rural Health (SORH) is partnering with Connected Nation Texas to help rural hospitals increase their access and use of broadband technology to better serve their communities. We need your help to identify the challenges that your facilities are facing as you work to incorporate cutting-edge technology into health care services you provide to your communities.

This survey should take no more than 10 minutes to complete. The purpose of this survey is to identify how rural Texas hospitals are using internet-empowered technology, plans for improving or expanding those offerings, and the challenges that rural health care providers face as they seek to use these technologies. These findings will be shared with policymakers and communities as Texas continues to expand its health care offerings.

IMPORTANT: The Texas SORH will also leverage the findings from this study to identity broadband projects to fund; therefore, if you wish for your facility to be eligible for funding for projects to improve your broadband access and capacity, you MUST complete this survey.

Your privacy is of utmost importance, so nothing you share in this survey will be used to identify your individual facility to entities outside of Connected Nation Texas and the Texas SORH. No information from this survey will be used for marketing purposes and your identity will not be shared with any organization outside of Connected Nation and the Texas SORH without your permission.

Once again, thank you for your help in this important effort.

Q1. Please tell us about your hospital:
    Hospital name: _____
    Street address: _____
    Town: _____
    ZIP code: _____

Q2. In which county is your facility located?
    [Drop-down menu with Texas counties]

Q3. What type of internet service is provided to your hospital?
    [Drop-down menu with options]
1. Cable
2. Dedicated fiber line
3. Shared fiber network
4. Digital subscriber line (DSL)
5. Dial-Up
6. Mobile or cellular phone service only
7. Satellite
8. T1
9. Wireless internet (tower-based using an outdoor antenna at your facility. This is not the same as having Wi-Fi or a wireless router inside your facility)
10. Unsure
11. Other (please specify):

Q4. What is the advertised **download** speed of the internet service that connects to your facility?
    [Drop-down menu with speed options]
1. Dial-Up
2. Less than 3 Mbps
3. 3 to 9.99 Mbps
4. 10 to 24.99 Mbps
5. 25 to 49.99 Mbps
6. 50 to 99.99 Mbps
7. 100 to 499.99 Mbps
8. 500 Mbps or faster
9. Unsure

*If your internet connection serves multiple buildings, such as through a Wide Area Network (WAN), please tell us the advertised (maximum) download speed provided by the internet service provider to the primary node of the facility.

Q5. What is the advertised **upload** speed of the internet service that connects to your facility?
    [Drop-down menu with speed options]
1. Dial-Up
2. Less than 3 Mbps
3. 3 to 9.99 Mbps
4. 10 to 24.99 Mbps
5. 25 to 49.99 Mbps
6. 50 to 99.99 Mbps
7. 100 to 499.99 Mbps
8. 500 Mbps or faster
9. Unsure

*If your internet connection serves multiple buildings, such as through a Wide Area Network (WAN), please tell us the advertised (maximum) upload speed provided by the internet service provider to the primary node of the facility.

Q6. If your facility wanted to subscribe to a faster internet connection, is one available to you?
1. We have explored this option and we subscribe to the fastest available internet service
2. We have explored this option; faster service is available, but we choose not to subscribe for other reasons
3. We have not determined whether faster service is available at our location

Q7. Which of these statements best reflects the status of your internet connection(s)?
1. We have one primary internet service connection, but we do not have redundant (or backup) connectivity.
2. We have a primary internet service connection and one redundant (or backup) connection
3. We have a primary internet service connection and multiple redundant (or backup) connections
4. Other (please specify):
5. Unsure

Q8. Overall, does your current internet service meet the needs of your facility?
1. Yes
2. No
3. Unsure

{If Q8 = No, continue to Q9. Otherwise, skip to Q10}
Q9. Please describe why your current internet service does not meet your needs. Choose all that apply:
1. The upload speeds are too slow
2. The download speeds are too slow
3. The monthly cost is too expensive
4. The connection is unreliable
5. The customer service is poor
6. The internet service does not provide sufficient data security options
7. Data caps limit our ability to use the internet
8. Latency (or lag) interferes with our ability to use the internet
9. Other (please specify): _____

Q10. Does your hospital offer Wi-Fi connectivity for staff or visitors?
1. Yes, the hospital has a Wi-Fi network available only for staff
2. Yes, the hospital has a Wi-Fi network available for patients, visitors, and/or the public
3. Yes, the hospital has Wi-Fi networks available for staff AND patients, visitors, and/or the public
4. No, the hospital does not have a Wi-Fi network
5. Unsure

{If Q10=responses 1-3, continue to Q11, otherwise skip to Q14}
Q11. Does the Wi-Fi network inside your hospital adequately meet your needs?
1. Yes
2. No
3. Unsure

{If Q11=NO, continue to Q12, otherwise skip to Q13}
Q12. What are the primary challenges that your hospital faces with your Wi-Fi network?
[TEXT BOX]

Q13. Has your hospital conducted a radio frequency analysis to determine if there are "gap" areas where the Wi-Fi network does not provide sufficient connectivity? For example, radiology rooms often have lead-lined walls (which block Wi-Fi signals) and no Wi-Fi access point in the radiology room themselves.
1. Yes
2. No
3. Unsure

Q14. Please indicate which of these applications of technology are currently used by your facility. If an application is not being used currently, please indicate your facility's desire to implement that application in the future.
COLUMN HEADINGS:
1. Currently using
2. Not using but plan to start within the next 3 years
3. Not using, no plans, but interested
4. No interest

ROWS:

1. Electronic medical records
2. Online patient information portals allowing patients to access records, information, schedule appointments, etc. online
3. Systems to electronically capture patient information, allowing patients to check in for visits, enter insurance information, etc. online
4. Infection-detecting technology
5. Patient self-service kiosks

Q15. How often does your hospital provide or participate in these services and applications?
COLUMN HEADINGS:
1. At least once a day
2. At least once a week
3. At least once a month
4. Less than once a month
5. Never

ROWS:
1. Audio-only remote patient consultations (over the phone) for medical issues
2. Remote gait, seizure, or fall monitoring via an internet connection
3. Remote health or motivational coaching via an internet connection
4. Online prompting for medication or therapy adherence
5. Remote provision of health information or education via an internet connection
6. Remote vitals monitoring using an internet connection
7. Transmission of patient information via an internet connection
8. Remote video patient consultation for medical issues
9. Remote therapy or substance abuse counseling via the internet

Q16. In the next three years, does your facility plan to provide more patient services remotely through the internet?
1. Yes
2. No
3. Unsure

Q17. What challenges does your facility face as you work to expand and improve your remote health care offerings?
COLUMN HEADINGS:
1. Not a challenge at all
2. Minor challenge
3. Unsure
4. Moderate challenge
5. Serious challenge

ROWS:
1. Patients who lack adequate home internet service
2. Patients who feel uncomfortable using remote health applications
3. A lack of staff trained how to use or troubleshoot remote health care tools
4. HIPAA compliance with the use of remote health care services
5. Inadequate internet connections at the facility
6. Reimbursement rates for remote services from private insurance providers
7. Reimbursement rates for remote services from public payer services (e.g., Medicaid or Medicare)
8. The cost of purchasing/leasing the equipment needed to provide remote services
9. The physical space at the facility to keep the equipment needed to provide remote services
10. Interoperability (or the lack thereof) between different tools or systems used for remote health care
11. Other (please specify): _____

Q18. Overall, would you characterize the biggest challenges related to your electronic health care initiatives as primarily internal (the network inside the hospital, including Wi-Fi) or external (internet services outside the hospital being insufficient to adequately connect, communicate with, and reliably use your electronic applications)?
1. Internal
2. External
3. We have not experienced challenges related to our electronic health care initiatives
4. Unsure

Q19. Health care facilities have become targets for cybersecurity attacks. Has your hospital taken steps to address these threats?
1. Yes, we have taken sufficient steps to protect our hospital from cybersecurity attacks
2. We have taken some steps to protect our hospital from cybersecurity attacks and plan to implement more in the future
3. We have NOT taken steps to protect our hospital from cybersecurity attacks, but we plan to do so soon
4. No, we have not taken steps to protect our hospital from cybersecurity attacks and do not currently have a plan to implement such steps
5. Unsure

{If Q19 = Response 1 or 2 (hospital has taken some steps to protect itself from cybersecurity attacks), continue to Q20. Otherwise, skip to Q21}

Q20. Which steps has your hospital taken to address the threat of cybersecurity attack? Select all that apply:
1. Installed cybersecurity software and/or devices such as content filters
2. Installed a virtual private network (VPN) encryption
3. Incorporated tools for virtual local area network (VLAN) tagging
4. Installed up-to-date firewalls for hospital computers and servers
5. Unsure
6. Others (please specify): _____

Q21. Is your hospital aware of federal or state grant opportunities that can be leveraged to reduce your broadband expenditures or to improve your health care initiatives?
1. Yes
2. No
3. Unsure

{If Q21=2–3 (No or Unsure), continue to Q22; otherwise skip to Q23}
Q22. Would you like to be contacted to learn more about state and federal grant programs that are available?
1. Yes (please provide the best email address to contact): _____
2. No
3. Unsure

Q23. Do you have any other information or insights you would like to share about your facility's current or future plans for using remote health services?
[Text Box]

Q24. Do we have your permission to quote you and your comments above in part or in whole? If so, we will not identify you or the facility you represent, only that a rural Texas health care facility provided this statement as part of this survey.
1. Yes
2. No