

# **A Chartbook on the Characteristics and Needs of Frontier Critical Access Hospitals**

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## EXECUTIVE SUMMARY

Frontier Critical Access Hospitals (CAHs) face unique and significant challenges compared to other CAHs and rural hospitals, given their location in extremely rural and sparsely populated areas. CAHs in frontier areas are among the smallest CAHs by patient volume, with fewer resources, services, and administrative capacity than their larger peers. The definition of frontier varies across federal and state programs, typically including measures of population density and geographic isolation.<sup>1,2</sup> The Bureau of Primary Health Care criterion identifies any area with 6 or fewer people per square mile as frontier.<sup>1</sup>

Frontier CAHs experience low patient volume, limiting their revenue streams and ability to cover operational costs because they serve sparsely populated areas.<sup>2,3</sup> They tend to be more dependent on Medicare and Medicaid as their primary payers. As a result, they have difficulty securing capital for medical equipment, facility upgrades, electronic health records (EHRs), and other information technologies (IT).<sup>2,3</sup> These hospitals also experience difficulties recruiting and retaining qualified health care professionals, including physicians, nurses, support staff, and administrative personnel.<sup>2,3</sup> Frontier CAHs are important resources in their communities as they are among the few providers available to local residents. In the absence of these facilities, rural residents served by frontier CAHs would be forced to travel long distances to seek acute care services and would not have immediate access to emergency and urgent care services.

Despite their importance to their communities, the characteristics and challenges of frontier CAHs and hospitals have not been studied in recent years. This study was undertaken to understand the issues facing CAHs in frontier counties and identify their locations, characteristics, and needs. Our goal was to address current gaps in knowledge regarding the location of frontier CAHs, their financial status, challenges related to service delivery and sustainability, and technical assistance and resource needs.

## KEY FINDINGS

- The majority of the 280 frontier CAHs are in the Midwest and West United States (U.S.) Census regions with Montana (41), Kansas (36) Texas (28), North Dakota (22), and Nebraska (20) having the highest number of frontier CAHs.
- Seventy percent of frontier CAHs independent, freestanding facilities.
- Frontier CAHs typically offer a lower mix of services than other CAHs, particularly labor and delivery, inpatient hospice, inpatient/outpatient surgery, and cardiac rehabilitation.
- Eighty percent of Frontier CAHs operate a rural health clinic (RHC) and 50% provide skilled/nursing home services.
- More than one-third of frontier CAHs offer obstetrical, pain management, orthopedics, and cardiology specialty services.
- The three most common financial challenges faced by CAHs include rising staff costs, inadequate reimbursement from third party payers, and low patient volume with administrators reporting that these are the primary threats to their long-term viability.
- Their primary operational challenges include transferring patients to a higher level of care, recruitment and retention, and issues related to their electronic health records.
- The most common vacancies reported by CAHs include physicians (59%), nurses (89%), certified nursing assistants, (58%), and radiology technicians (52%).
- The most common technical assistance and support needs reported by frontier CAHs include financial and revenue cycle management; use and implementation of electronic health record technology; and workforce recruitment, retention, and training.
- Using the University of North Carolina's Financial Distress Index, frontier CAH are more likely to be in financial distress than other CAHs across all three risk categories (mid-lowest risk, mid-highest risk, and highest risk category).

- Frontier CAHs also perform less well in a range of financial measures compared to other CAHs including total, cash flow, and operating margins; return on equity; and average daily acute care and swing bed census levels.

This study was undertaken to understand the issues facing CAHs in frontier counties and identify their locations, characteristics, and needs. It provides a valuable resource to State Flex Programs, state hospital associations, and rural advocates seeking to support these vulnerable frontier facilities.

## **INTRODUCTION**

Frontier Critical Access Hospitals (CAHs) face unique and significant challenges compared to other CAHs and rural hospitals, given their location in extremely rural and sparsely populated areas. CAHs in frontier areas are among the smallest hospitals by patient volume, with fewer resources, services, and administrative capacity than their larger peers.

The definition of frontier varies across federal and state programs, typically including measures of population density and geographic isolation.<sup>1,2</sup> The Bureau of Primary Health Care criterion identifies any area with 6 or fewer people per square mile as frontier.<sup>1</sup>

While frontier CAHs share the core characteristics of all CAHs, they operate in even more sparsely populated and geographically isolated settings, intensifying the financial, workforce, and access pressures inherent to the CAH model. Exceptionally low population density constrains patient volume, limiting revenue streams and the ability to spread fixed operational costs.<sup>2,3</sup> Frontier CAHs also tend to be more reliant on Medicare and Medicaid as their primary payers, further narrowing financial margins and limiting access to capital for medical equipment, facility upgrades, EHRs, and other IT.<sup>2,3</sup>

Workforce challenges compound these pressures. Frontier CAHs often struggle to recruit and retain physicians, nurses, support staff, and administrative personnel.<sup>2,3</sup> Limited staffing and small administrative infrastructures can make compliance with federal and state regulatory, billing, and reporting requirements particularly burdensome.<sup>2,3</sup> At the same time, frontier CAHs serve older populations with higher rates of chronic disease, lower health literacy, and greater health-related social needs, increasing demand for complex services in settings with constrained capacity.<sup>2,3</sup>

Despite their importance to their communities, the characteristics and challenges of frontier CAHs and hospitals have not been studied in recent years. Recent insights into the challenges impacting frontier CAHs are limited. The current literature includes evaluation reports and Reports to Congress from the first round of the Centers for Medicare and Medicaid Services' Frontier Community Health Integration Project (FCHIP) Demonstration<sup>1</sup>, and a Bipartisan Policy Center case study of seven states, including the three highly rural states of Montana, North Dakota, and Wyoming.<sup>4-7</sup>

This study was undertaken to understand the issues facing CAHs in frontier counties and identify their locations, characteristics, and needs. Our goal was to address current gaps in knowledge regarding the location of frontier CAHs, their financial status, challenges related to service delivery and sustainability, and technical assistance and resource needs.

## **USING THIS RESOURCE**

The purpose of this chartbook is to provide a resource to State Flex Programs, state and federal policymakers, rural hospital advocates, and community leaders to understand the unique vulnerabilities of frontier CAHs and develop initiatives to support them. It fills a void in our understanding of these vulnerable rural hospitals and their communities. It will also be helpful to State Flex Programs, the

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<sup>1</sup> The Frontier Community Health Integration Project Demonstration was implemented to develop and test new models of integrated, coordinated health care in the most sparsely populated rural counties with the goal of improving health outcomes and reducing Medicare expenditures. The initial Demonstration began August 1, 2016, and ran through July 31, 2019. It was extended by the Consolidated Appropriations Act of 2021. The FCHIP five-year demonstration extension resumed on the next cost report period beginning on or after January 1, 2022. FCHIP targeted CAHs located in a state where at least 65% of the counties have 6 or fewer residents per square mile. Five states qualified - Alaska, Wyoming, Montana, Nevada, and North Dakota. Ten CAHs located in Montana, Nevada, and North Dakota participated in the initial demonstration. Five CAHs in Montana and North Dakota are participating in the current phase of the demonstration.

hospitals themselves, policymakers, and rural advocates in developing interventions and programs to support these facilities.

## DATA SOURCES AND METHODOLOGY

We use the following primary and secondary data sources to examine the characteristics of frontier CAHs and their communities. These sources provided data on the number and location of frontier CAHs, their service mix, financial and operational challenges, financial performance, technical assistance and support needs, population health needs, and access to care among frontier residents. We summarized the data using descriptive statistics, including unweighted frequencies and percentages, to highlight response patterns. Basic inferential statistics (e.g., chi-square tests, Welch’s t-tests, Wilcoxon rank-sum tests, and Cochran-Armitage trend tests) were conducted to assess differences between frontier and other CAHs not located in frontier counties as appropriate. All analyses were performed using SAS 9.4 (Statistical Analysis System software), with each data source requiring a distinct analytic approach, as described below.

**Frontier CAH Survey Data:** A primary data source was our survey of Chief Executive Officers of frontier CAHs. Frontier counties were defined as those with a population density of 6 or fewer persons per square mile using 2023 U.S. Census population and land area estimates. These data were linked to the 2023 American Hospital Association annual survey to identify a sample population of 280 frontier CAHs in 20 states. The University of Southern Maine’s Survey Research Center administered the survey from February to May 2025 and achieved a 41.8% response rate (N=117) (Table 1).

**Table 1: Frontier CAH Survey Participation by State**

State	Frontier CAHs (N)	Survey Respondents (N)	Response Rate (%)
Alaska	13	6	46.2
Arizona	4	2	50.0
California	6	1	16.7
Colorado	15	6	40.0
Idaho	11	2	18.2
Kansas	36	14	38.9
Maine	2	2	100.0
Minnesota	7	3	42.9
Montana	41	16	39.0
North Dakota	22	4	18.2
Nebraska	20	11	55.0
New Mexico	8	2	25.0
Nevada	8	3	37.5
Oklahoma	6	3	50.0
Oregon	5	2	40.0
South Dakota	17	10	58.8
Texas	28	15	53.6
Utah	10	5	50.0
Washington	5	2	40.0
Wyoming	16	8	50.0
<b>Overall:</b>	<b>280</b>	<b>117</b>	<b>41.8</b>

Survey topics included financial and operational challenges, threats to long-term viability, operational and clinical challenges, patient access to services, telehealth utilization, barriers to accessing services, clinically integrated networks and health information exchanges, care management, personnel

vacancies, recruitment and retention timelines, regulatory issues, and resource and support needs. Given the small sample size and descriptive design, we did not apply weighting. Results are exploratory and not generalizable beyond the responding hospitals. We reported unweighted counts and percentages for each categorical variable to show response patterns. Confidence intervals were not presented, as the analysis was exploratory and intended to describe trends rather than support formal statistical inference. For qualitative questions, the study team reviewed responses for key themes and grouped the responses into similar categories.

**National Critical Access Hospital Quality Inventory and Assessment, 2024:** Another significant data source was the Flex Monitoring Team's (FMT's) 2024 National CAH Quality Inventory and Assessment Dataset,<sup>8</sup> which was used to describe additional characteristics of frontier CAHs. Specifically, these data allowed us to describe frontier CAHs' service mix, system membership, EHR vendors, participation in alternative payment and other demonstration models, referral relationships, adherence to best practices, average daily census, emergency department visits, swing bed admissions, and average length of stay in swing beds. Ninety-three percent (n=261) of the sample population of 280 CAHs located in frontier counties completed the National CAH Quality Inventory and Assessment. Again, we reported unweighted frequencies and percentage estimates for these variables. We also used data from a 2025 FMT report, *2024 National CAH Quality Inventory & Assessment National Report*, to compare the performance of frontier CAHs to all CAHs on select data elements.<sup>9</sup>

**Critical Access Hospital Measurement and Performance Assessment System (CAHMPAS) Data, 2023:** Data from the FMT's CAHMPAS data portal from 2023<sup>10</sup> were used to examine the financial performance of frontier and other CAHs. Indicators included total margin, cash flow margin, return on equity, operating margin, days cash on hand, FTEs per bed, swing bed average daily census, and acute average daily census. We compared financial performance between frontier and other CAHs using descriptive and nonparametric methods. Due to non-normal distributions, Wilcoxon rank-sum tests were used to compare financial indicators, with medians reported for each group. We used the Cochran-Armitage trend test to assess the relationship between frontier status and the Financial Distress Index (FDI), an ordinal measure of financial risk, based on the subset of hospitals with complete FDI data.

**American Hospital Association Annual Survey Data, 2023:** We used the 2023 AHA survey data<sup>11</sup> to examine differences between frontier and other CAHs in reported strategies to address social needs and engage in external partnerships. As each variable reflected a yes/no response, we used Pearson chi-square tests of independence to assess whether the proportion of hospitals reporting each activity differed by frontier status. Analyses were based on unweighted frequencies, and all expected cell counts exceeded five responses, eliminating the need to suppress cell sizes. We reported frequencies, unweighted percentages, and p-values for each item to highlight group-level differences.

**County Health Rankings Data, 2023:** The Robert Wood Johnson Foundation's County Health Rankings (CHR) indicators<sup>12</sup> from 2023 were used to compare the county characteristics and operating environments of frontier and other CAHs. These indicators included sociodemographic factors, health status, health outcomes, and provider availability in frontier counties where the CAHs are located. To compare these county-level measures, we conducted two sample tests, which depended on the distribution of the data. Welch's t-test was typically used to account for differences in group size and variability. When the data were not normally distributed, we used the Wilcoxon rank-sum test instead.

## LIMITATIONS

Results from the frontier CAH survey and the 2024 National CAH Quality Inventory and Assessment survey were based on unweighted percentages from responding CAHs. Because no weighting was applied to account for nonresponse, these estimates may not fully represent all frontier CAHs and should

only be interpreted as descriptive of respondents. Additionally, while our analyses highlighted differences between frontier and other CAHs, we could not identify the underlying causes of these differences. Finally, our data sources spanned 2023 to 2025, reflecting slightly different timeframes across datasets.

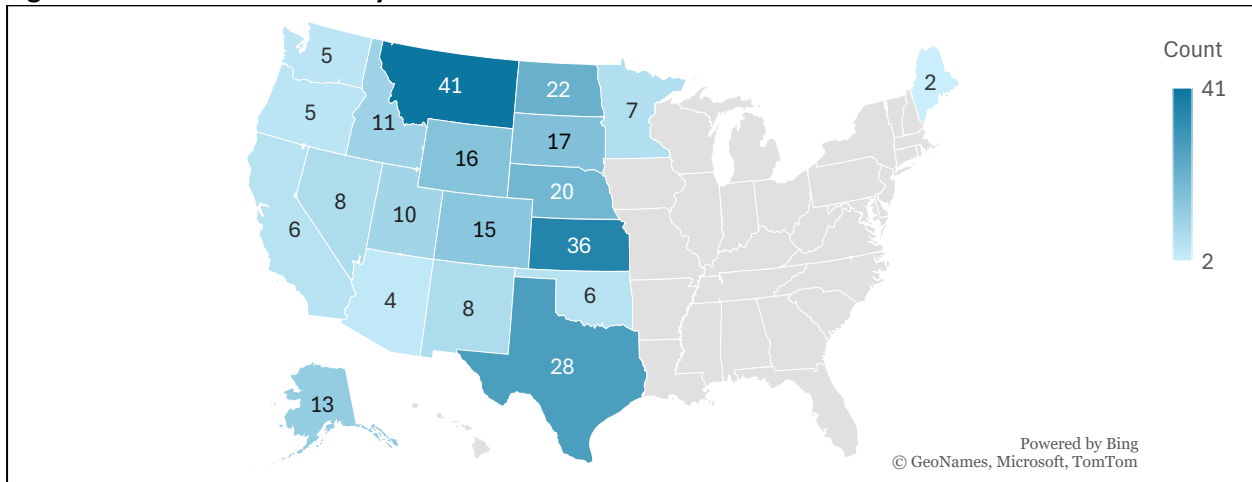
## DISTRIBUTION AND CHARACTERISTICS OF FRONTIER CRITICAL ACCESS HOSPITALS

This section provides a high-level overview of the distribution, characteristics, and services of the CAHs located in frontier counties. It is based primarily on the 2024 National CAH Quality Inventory and Assessment Survey dataset.<sup>8</sup> Select comparative data for all CAHs were obtained from the FMT’s 2024 National CAH Quality Inventory & Assessment National Report (May 2025).<sup>9</sup>

### *Distribution of Frontier CAHs by State (Figure 1)*

Of the 280 frontier CAHs in the U.S., the majority are in the Midwest and West U.S. Census Regions. Only two are east of the Mississippi, with both located in Maine. The five states with the highest number of frontier CAHs include Montana (41), Kansas (36), Texas (28), North Dakota (22), and Nebraska (20).

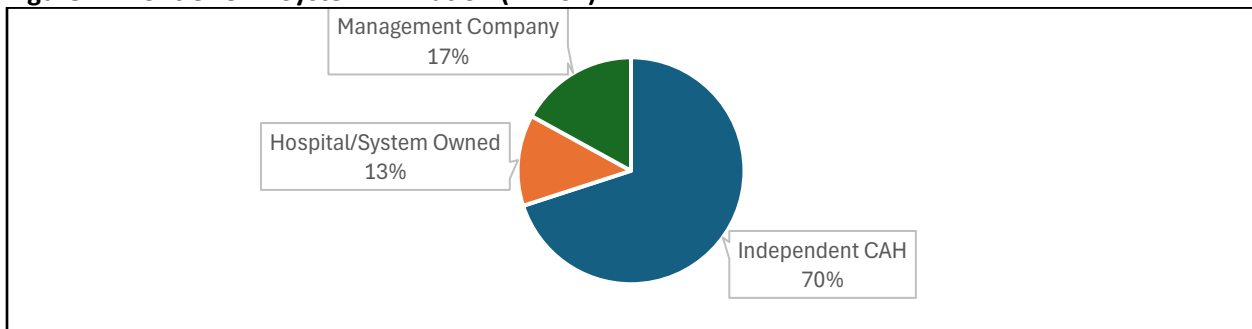
**Figure 1: Total Frontier CAHs by State**



### *Frontier CAH System Affiliations*

Figure 2 shows the system affiliation status of frontier CAHs. Seventy percent of frontier CAHs are independent hospitals.

**Figure 2. Frontier CAH System Affiliation (N=261)**



Source: 2024 National CAH Quality Inventory and Assessment Dataset

### *Frontier CAH Service Lines*

In comparing inpatient services provided by frontier CAHs to those offered by CAHs nationally (including frontier hospitals), frontier CAHs were slightly more likely to operate swing beds but slightly less likely to offer labor and delivery services. Frontier CAHs were considerably less likely to offer inpatient hospice and inpatient surgery services (Table 2). These differences occur within the broader context of the extreme population sparsity and resulting patient volume constraints characteristic of frontier settings.

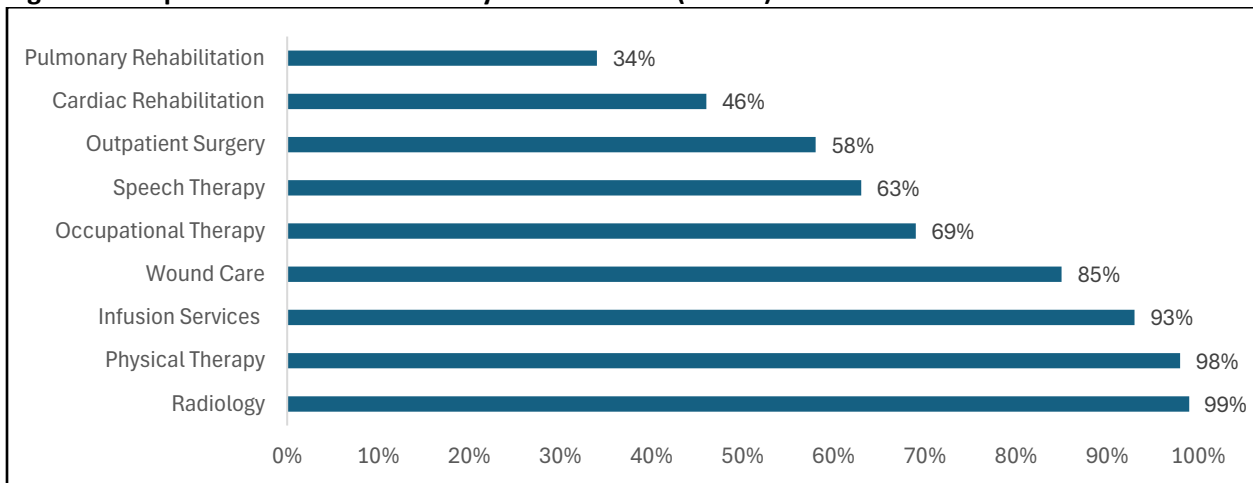
**Table 2. Inpatient Services Offered by Frontier and All CAHs**

	Frontier CAHs (N=261) <sup>8</sup>	All CAHs (N=1,296) <sup>9</sup>
Intensive Care Unit	17%	Not Available
Labor and Delivery Services	25%	28%
Inpatient Hospice	32%	42%
Inpatient Surgery	33%	58%
Swing Bed	98%	95%

Sources: 2024 National CAH Quality Inventory and Assessment Dataset and the FMT’s 2024 National CAH Quality Inventory & Assessment National Report (May 2025)

Frontier CAHs offer various outpatient services (Figure 3), including physical, occupational, and speech therapies; wound care; outpatient surgery; and cardiac and pulmonary rehabilitation. Table 3 compares a subset of services provided by frontier CAHs to all CAHs.

**Figure 3. Outpatient Services Offered by Frontier CAHs (N=261)**



Source: 2024 National CAH Quality Inventory and Assessment Dataset

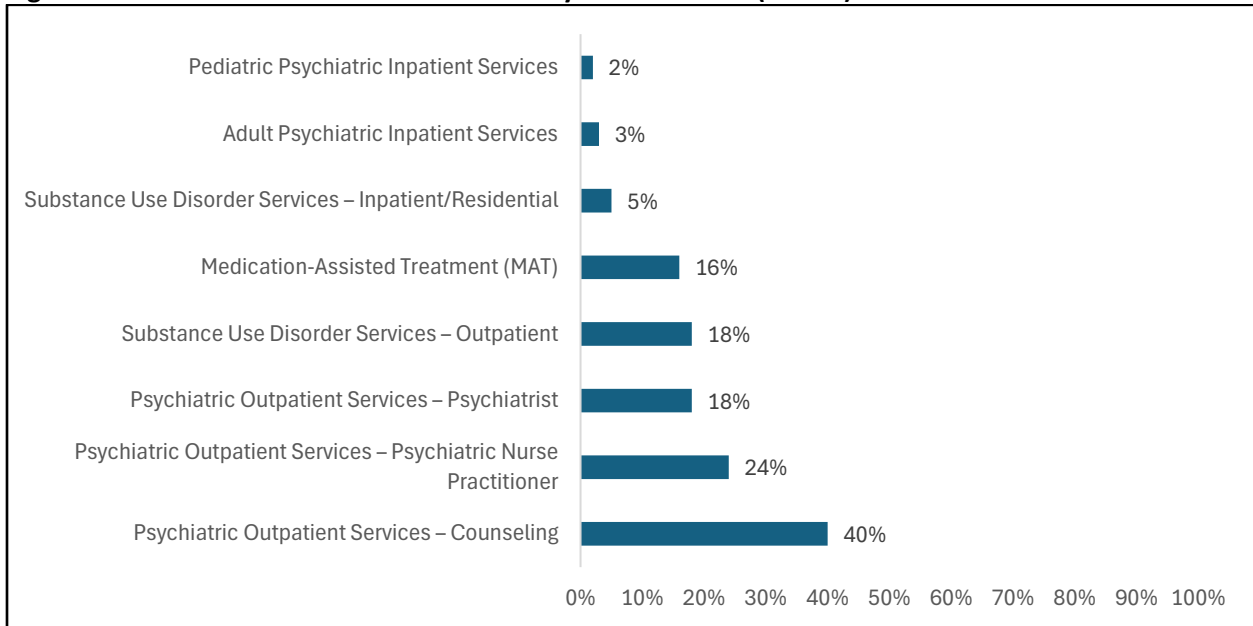
**Table 3: Outpatient Services Offered by Frontier and All CAHs**

	Frontier CAHs (N=261) <sup>8</sup>	All CAHs (N=1,296) <sup>9</sup>
Radiology	99%	99%
Outpatient Surgery	58%	76%
Cardiac Rehabilitation	46%	58%

Sources: 2024 National CAH Quality Inventory and Assessment Dataset and the FMT’s 2024 National CAH Quality Inventory & Assessment National Report (May 2025)

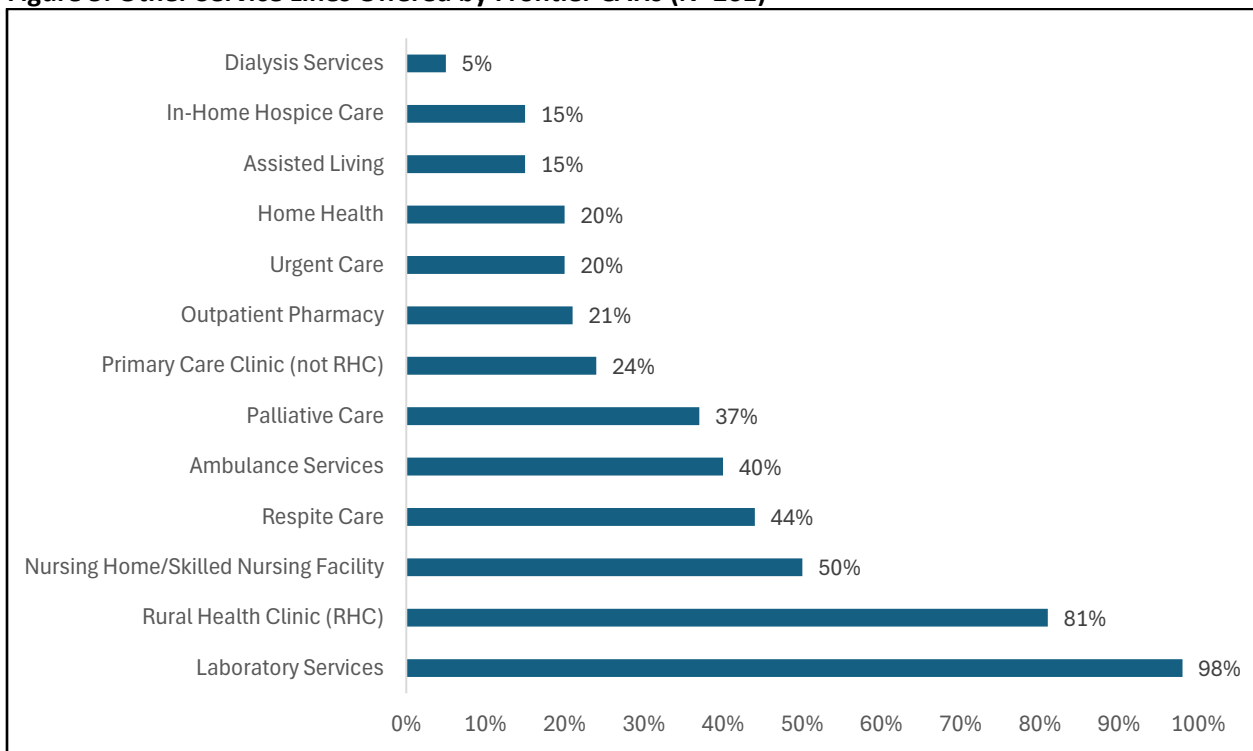
An encouraging number of frontier CAHs provide outpatient counseling (Figure 4), with 40% offering psychiatric counseling services<sup>8</sup> compared to 43% of all CAHs.<sup>9</sup> Further service lines offered in frontier CAHs ranged from dialysis, long-term services and supports (e.g., hospice care, assisted living, home health, and nursing home/skilled nursing services), and laboratory services (Figure 5). The most common specialty services provided by approximately one-third or more of frontier CAHs included sleep medicine, obstetrics and gynecology, pain management, orthopedics, and cardiology (Figure 6).

**Figure 4. Behavioral Health Services Offered by Frontier CAHs (N=261)**



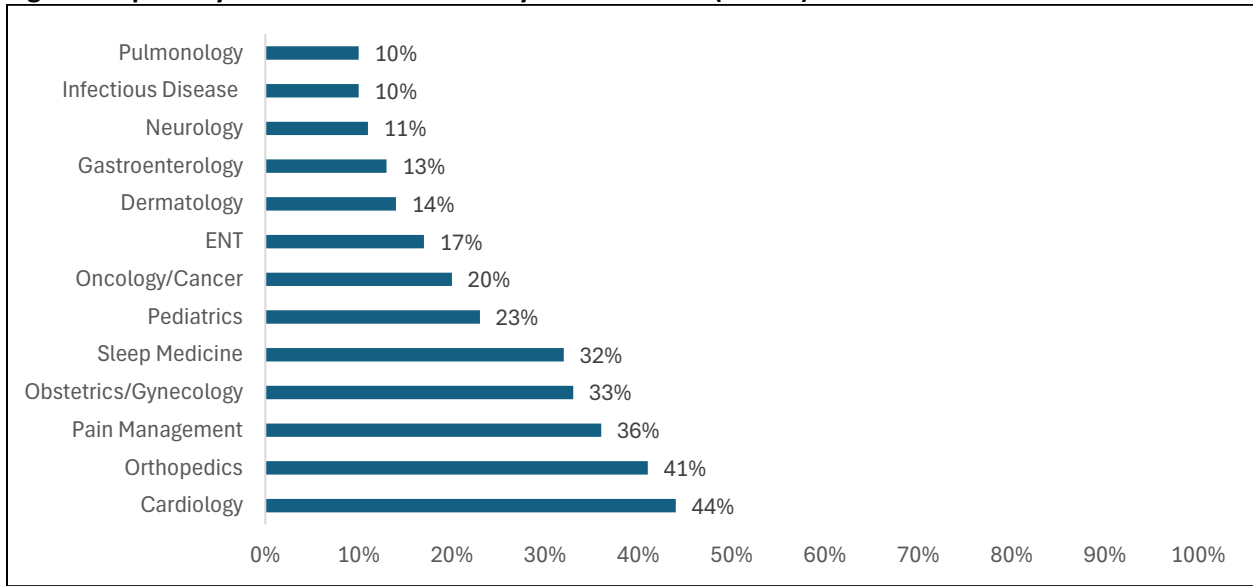
Source: 2024 National CAH Quality Inventory and Assessment Dataset

**Figure 5. Other Service Lines Offered by Frontier CAHs (N=261)**



Source: 2024 National CAH Quality Inventory and Assessment Dataset

**Figure 6. Specialty Care Services Offered by Frontier CAHs (N=261)**



Source: 2024 National CAH Quality Inventory and Assessment Dataset

**Participation in Value-Based Payment Models**

Frontier CAHs reported lower participation in value-based payment models emphasizing quality measurement and improvement than all CAHs, a pattern that is consistent across payer types (Table 4).

**Table 4. Frontier CAH Participation in Quality and Alternative Payment Models and All CAHs**

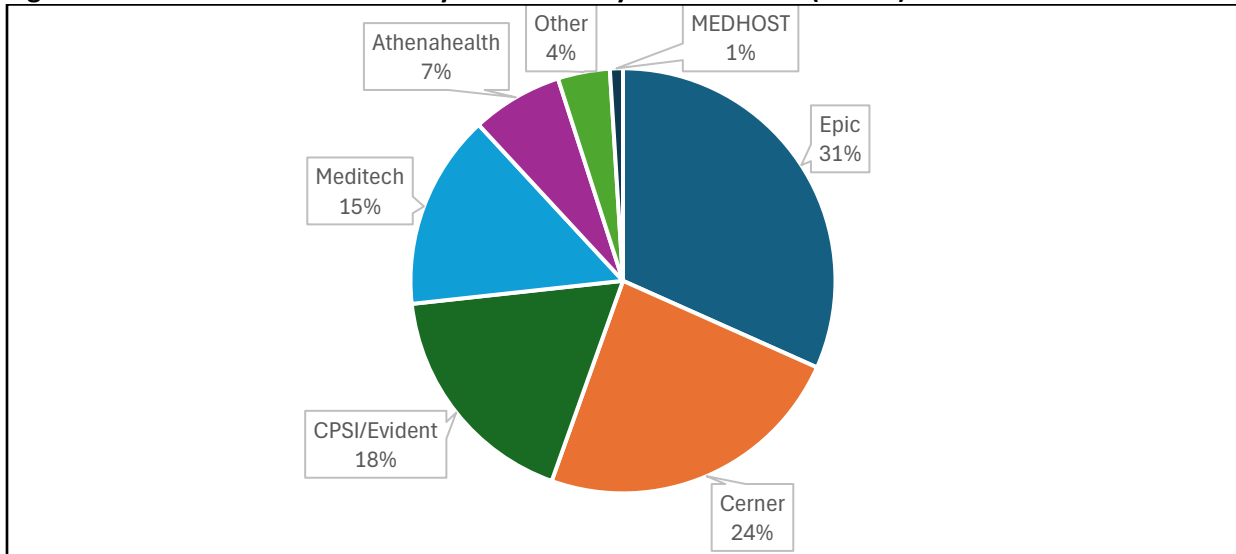
	Frontier Percent (N=261) <sup>8</sup>	All CAHs Percent (N=1,296) <sup>9</sup>
Medicare Accountable Care Organization(s) (including Shared Savings Program)	36%	45%
Commercial Insurance Accountable Care Organization(s)	23%	29%
Medicaid Accountable Care Organization(s)	21%	27%
Medicare Advantage Value-Based Contracting	19%	28%
Patient-Centered Medical Home (PCMH)	10%	15%
<i>Other Federal or State Value-Based Care Models</i>	9%	<i>Not Available</i>

Sources: 2024 National CAH Quality Inventory and Assessment Dataset and the FMT’s 2024 National CAH Quality Inventory & Assessment National Report (May 2025)

**Type of Electronic Health Records (EHRs) Adopted by Frontier CAHs**

Epic and Cerner are the most used EHR software by frontier CAHs (43% and 24% respectively), representing 56% of EHRs adopted by these facilities (Figure 7).

**Figure 7. Electronic Health Record Systems Used by Frontier CAHs (N=261)**



Sources: 2024 National CAH Quality Inventory and Assessment Dataset

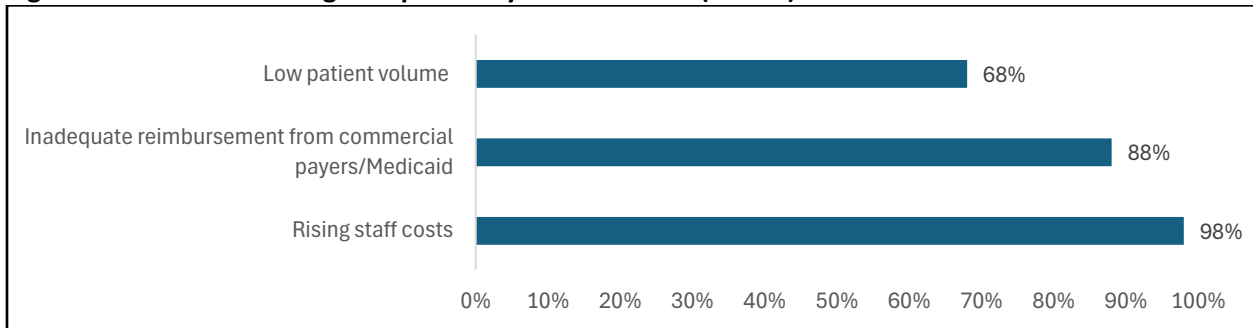
## FRONTIER CAH SURVEY RESULTS

This section is based on our 2025 survey of CAHs in counties with a population of 6 or fewer people per square mile. As noted, 117 CAHs in low population density counties completed the survey. For each question, we identify the number of respondents who completed the question.

### Financial Challenges

In the survey, we asked participants to select from a limited set of 3 predetermined yes/no questions on their financial challenges (Figure 8). We also asked them to respond to two qualitative questions about other financial challenges they are experiencing and the three most significant threats to their hospitals' long-term viability.

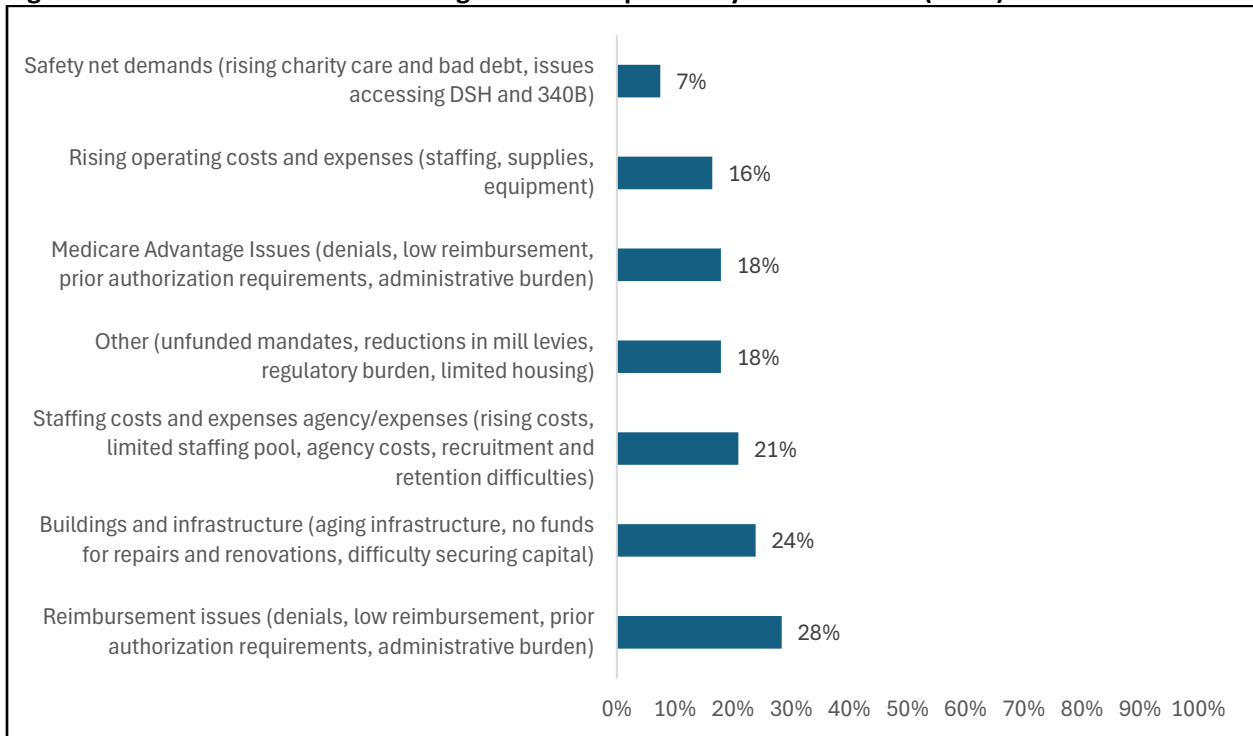
**Figure 8. Financial Challenges Reported by Frontier CAHs (N=117)**



Source: 2025 Survey of Frontier CAHs

Sixty-seven participants completed the qualitative question related to other financial challenges experienced by their hospitals. Their responses, which often identified multiple issues, are summarized in Figure 9.

**Figure 9. Additional Financial Challenge Themes Reported by Frontier CAHs (N=67)**



Source: 2025 Survey of Frontier CAHs

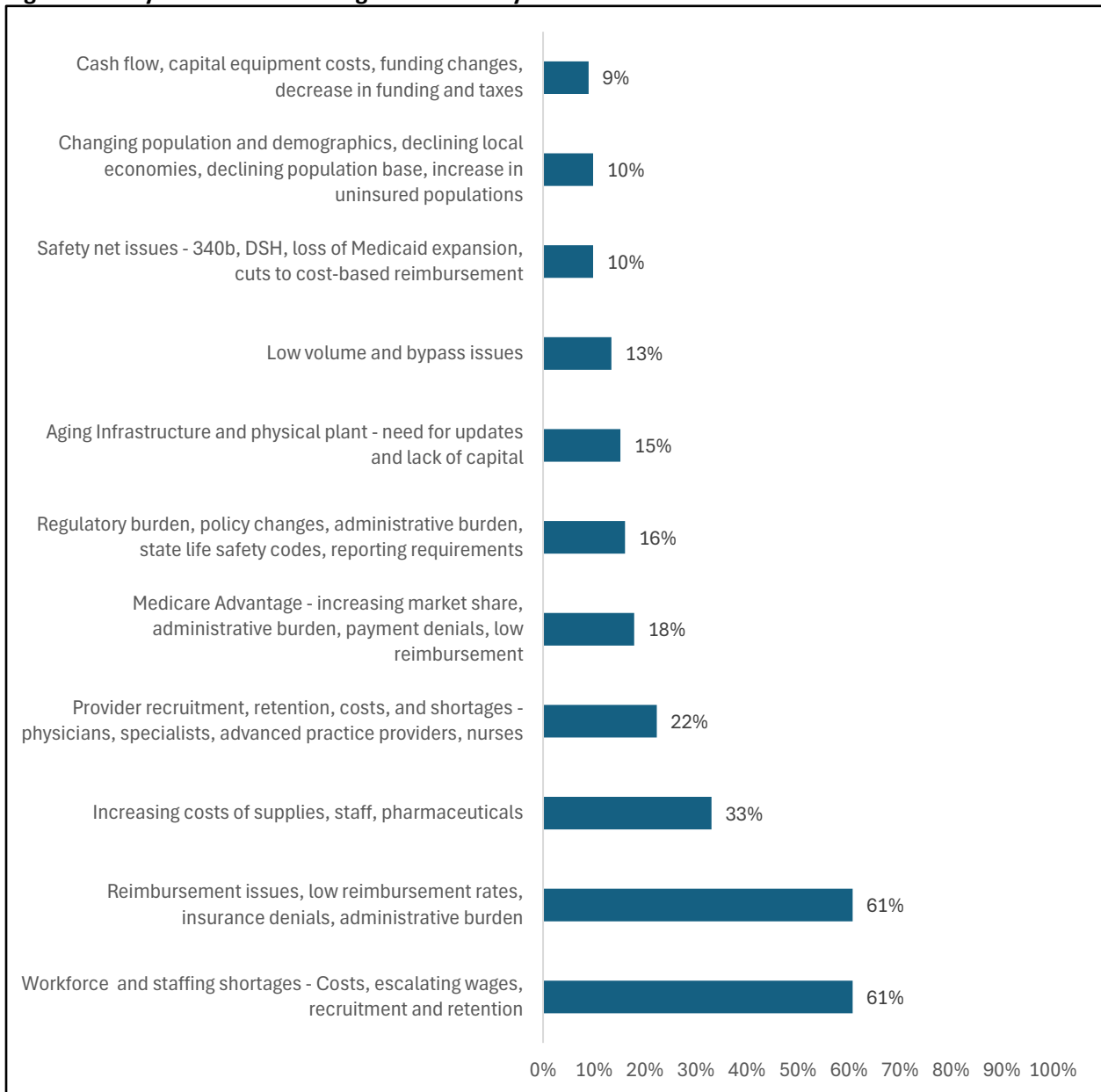
Several respondents provided greater detail on how these challenges impacted their hospitals. One administrator noted the administrative burden of dealing with third-party payers: *“Despite having a robust revenue cycle management team, it is difficult to keep up with the constant stream of denials that the insurance industry continues to devise to slow payments. Seems like we just go from one fire to the next and do not have enough assets to get ahead.”*

Another administrator explained: *“Due to low reimbursement, rising costs, and not receiving our employee retention credits payments, we are in a tight spot financially and on the brink of selling out or closing if things do not change fast. We have made huge changes, such as eliminating labor and delivery services as well as limiting other services to reduce costs.”*

Yet another described the challenges faced by frontier CAHs in balancing their hospitals' financial stability and meeting their communities' needs: *“In the same facility as our CAH, we operate the county's only long-term care (LTC) facility. The negative impact on our cost report is significant. If we discontinue operations of LTC services, a choice many CAHs have made, our reimbursement will go up significantly, but the community would lose this critical service, primarily due to cost accounting rules, not efficiency of operations.”*

Respondents were asked to identify the three biggest threats to the long-term viability of their hospitals in an open-ended response format. Their responses are summarized in Figure 10.

**Figure 10. Key Threats to the Long-Term Viability of Frontier CAHs**



Source: 2025 Survey of Frontier CAHs

Several respondents shared additional information that provided insight into the impact of these challenges on frontier CAHs. For example, they noted that the growth in Medicare Advantage (MA) plans and their high rates of claims denials and prior authorization requirements place additional strain on hospitals: *“Our revenue cycle management teams are stressed, as they struggle to keep up with the burden of claims denials and obtaining prior authorizations before services can be rendered.”*

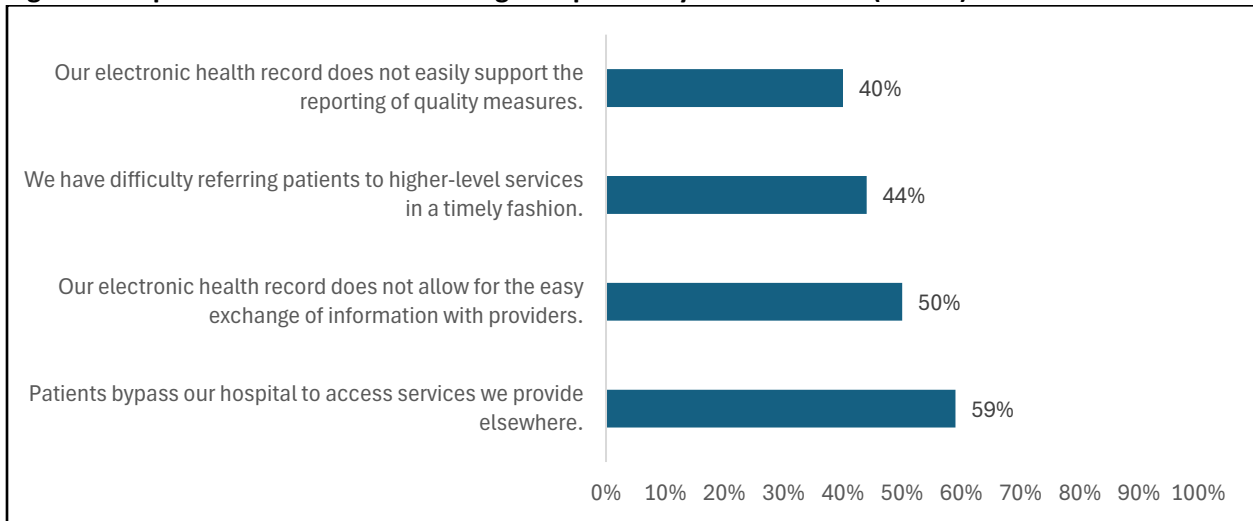
Other administrators raised key points related to the high costs of operating in frontier areas. One noted that: *“Staffing and equipment costs are the same in frontier areas as in urban areas, which urban volumes can support. With lower volumes, we cannot afford either.”* Another explained that: *“The critical mass needed to operate a CAH in extremely rural areas pushes costs beyond what can be recovered from payors. We rely on local community funds to stay viable, which isn't sustainable.”*

One administrator explained the burden of regulatory and reporting requirements: *“We continue to hire more people just to keep up with regulations and reporting, which are often duplicated by the state, the federal government, accrediting bodies, and many others asking for similar information. To date, I’ve seen little improvement from the data that is costly to extract and report over and over.”*

**Operational Challenges**

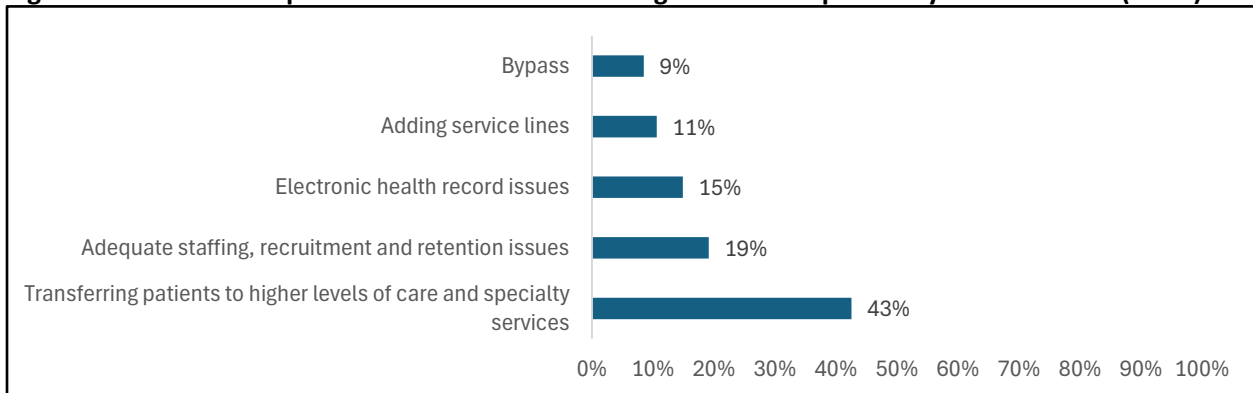
Survey respondents were asked about the operational challenges experienced by their hospitals using a predetermined set of responses with respondents able to choose all the responses that applied to their hospitals by choosing true or false. (Figure 11). We further asked them to identify any other operational and/or clinical challenges faced by their hospitals and to explain in their own words (Figure 12). There was an overlap between the responses to these 2 sets of questions, with both highlighting challenges involving patient bypass, difficulty transferring patients to higher-level services, and the use of EHRs that do not easily allow the exchange of information between providers and the reporting of quality measures.

**Figure 11. Operational & Clinical Challenges Reported by Frontier CAHs (N=115)**



Source: 2025 Survey of Frontier CAHs

**Figure 12. Additional Operational and Clinical Challenge Themes Reported by Frontier CAHs (N=47)**



Source: 2025 Survey of Frontier CAHs

In response to the qualitative question on other operational and clinical challenges, survey respondents provided insights into how these challenges impacted their hospitals. For example, several respondents noted that other hospitals provided services that their frontier hospitals could not. Other respondents

worried that the provision of telehealth services allowed larger hospitals to capture local market share by providing primary care and other services in direct competition with their hospitals. One administrator explained that: *“A larger hospital had begun to use telehealth to provide primary care coverage in our community, which reduced our utilization and patient volume.”*

The responses related to EHRs focused on the cost of purchasing and implementing the software. One administrator made the following point: *“It is the expense of EHR, and the cost of hiring competent staff to support and use the EHR, not the EHR itself, that is the problem. The price tag associated with the EHR is identical in urban, rural, and frontier hospitals. It is not the equipment but the financing of equipment, staff, and maintenance that is a problem.”*

Several administrators noted the following difficulties related to referring patients to higher-level services in a timely fashion. One administrator stated: *“Tertiary hospitals have limited ability to accept patients as their beds are full.”* Another explained that: *“Specialty care services, particularly behavioral health services, are very difficult to arrange.”* Yet another acknowledged the burden on hospital staff related to patient transfers: *“Arranging patient transfers consumes a great deal of staff time.”*

The challenge of recruiting and retaining adequate clinical, administrative, and support staff was identified by numerous respondents and impeded ongoing operations as well as the ability to implement profitable services. As noted by one respondent: *“Finding staff capable of understanding billing for healthcare is challenging. Finding clinical staff experienced and certified in the services we are trying to expand is difficult.”*

### **Access to Services**

Given their location in low-population density frontier counties, an important consideration is the travel time experienced by residents to access services not provided by their local CAH. We asked respondents to estimate the travel time necessary for patients to access services that their frontier facilities do not provide (Table 5). As expected, travel times to access specialty care were longer than for primary care. Comparatively few frontier CAHs (29%) provided urgent care. Among those that did not, 40% reported travel times of 1 to 3 hours to access urgent care services. This suggests an opportunity for frontier CAHs to consider developing urgent/after-hours care options if there is patient demand to reduce unnecessary ED use or patient bypass.

**Table 5. Travel Time for Residents of Frontier CAH Communities to Access Health Services\* (N=114)**

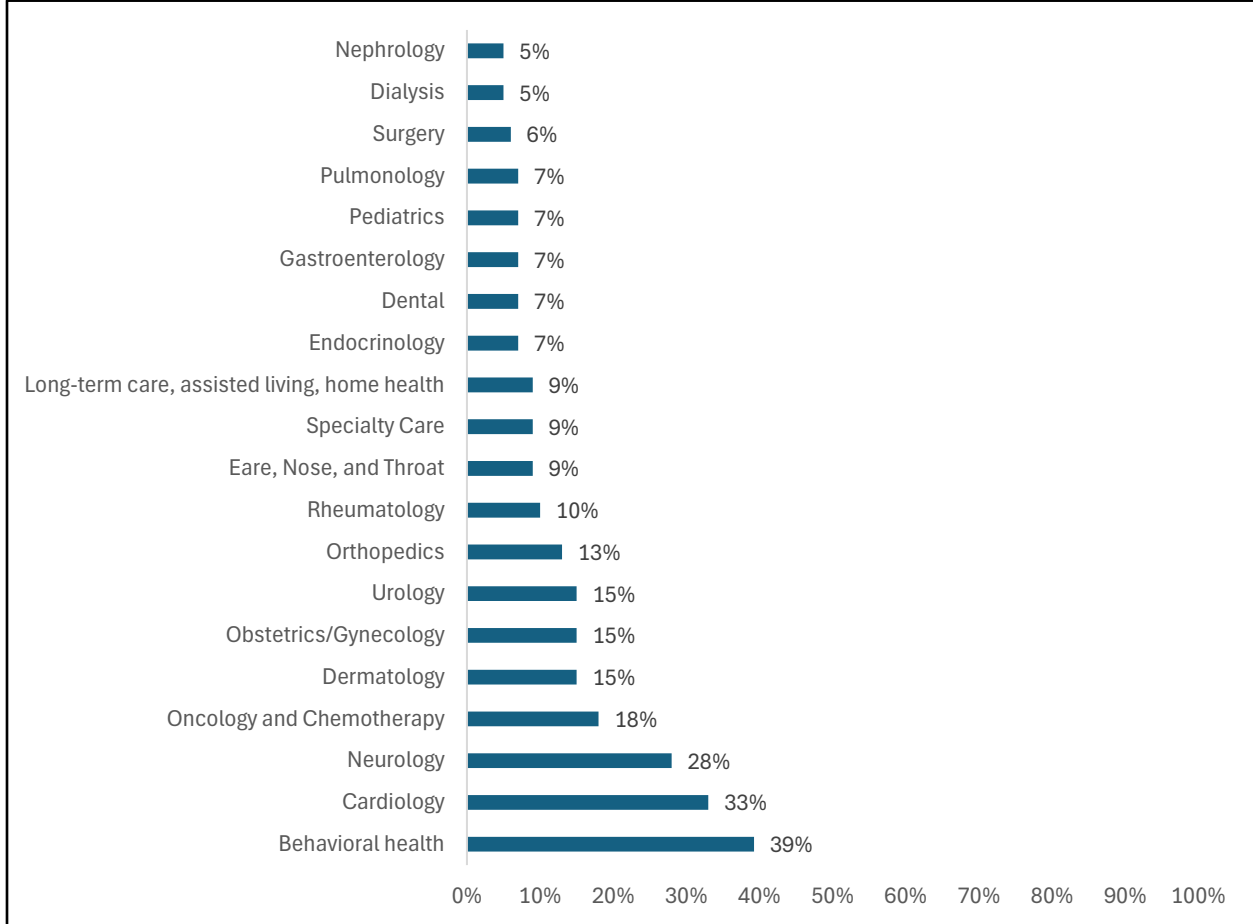
		Less than 1 hour	1 - 3 hours	More than 3 hours	N/A (this hospital provides)
Primary Care	Rural Health Clinic	10%	4%	1%	86%
	Federally Qualified Health Center	28%	41%	10%	21%
	Private practices	36%	33%	10%	21%
	Urgent care	25%	40%	5%	29%
Specialty	Maternity/obstetrics	24%	46%	3%	27%
	Cardiology	13%	51%	12%	24%
	Oncology	18%	54%	10%	18%
	Rheumatology	10%	67%	17%	7%
	Nephrology	13%	65%	14%	8%
	Neurology	8%	64%	18%	10%
	Pediatrics	20%	51%	4%	25%
	Orthopedics	17%	39%	6%	39%
	Mental health/psychiatry	16%	40%	4%	40%
	Substance use	25%	50%	6%	18%
Long-Term Services and Support	Swing beds	1%	2%	N/A	97%
	Skilled nursing facility	43%	14%	1%	42%
	Intermediate nursing facility	28%	31%	4%	37%
	Assisted living	50%	26%	4%	19%
	Home health	46%	19%	5%	29%
Rehabilitation Services	Physical therapy	4%	N/A	1%	96%
	Occupational therapy	6%	19%	1%	74%
	Speech language therapy	14%	20%	3%	63%
Hospice and Palliative Care	Hospice	32%	25%	4%	39%
	Palliative care	25%	27%	4%	44%
Other Services	Ambulance services/EMS	32%	1%	N/A	67%
	Dental	67%	10%	2%	22%
	Pharmacy	44%	4%	N/A	53%

Source: 2025 Survey of Frontier CAHs

Note: Rows may not total 100% due to rounding issues.

We also asked respondents to choose from a list; the top 3 services their patients have difficulty accessing (Figure 13). The top responses included behavioral health, cardiology, and neurology, suggesting an opportunity to work with non-frontier hospitals and providers to expand access to these services using telehealth technology.

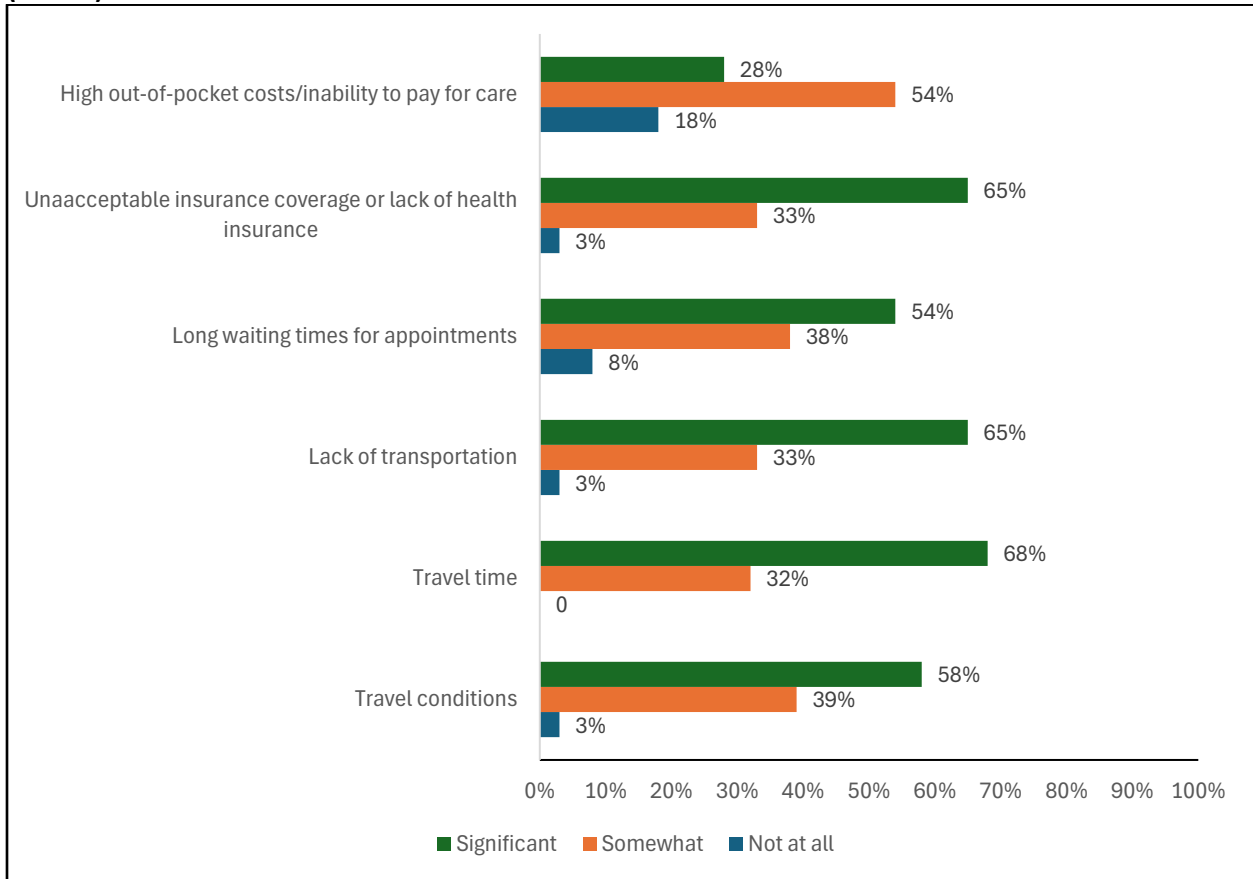
**Figure 13. Services Frontier CAH Patients Have Difficulty Accessing**



Source: 2025 Survey of Frontier CAHs

Figure 14 provides information from frontier CAH survey respondents on the issues that impact their patients' ability to access care that is not provided by their local frontier CAH. Travel time, lack of transportation, health insurance issues (or lack thereof), travel conditions (e.g., weather, road conditions, geography), and long waiting times were all reported as barriers to accessing care.

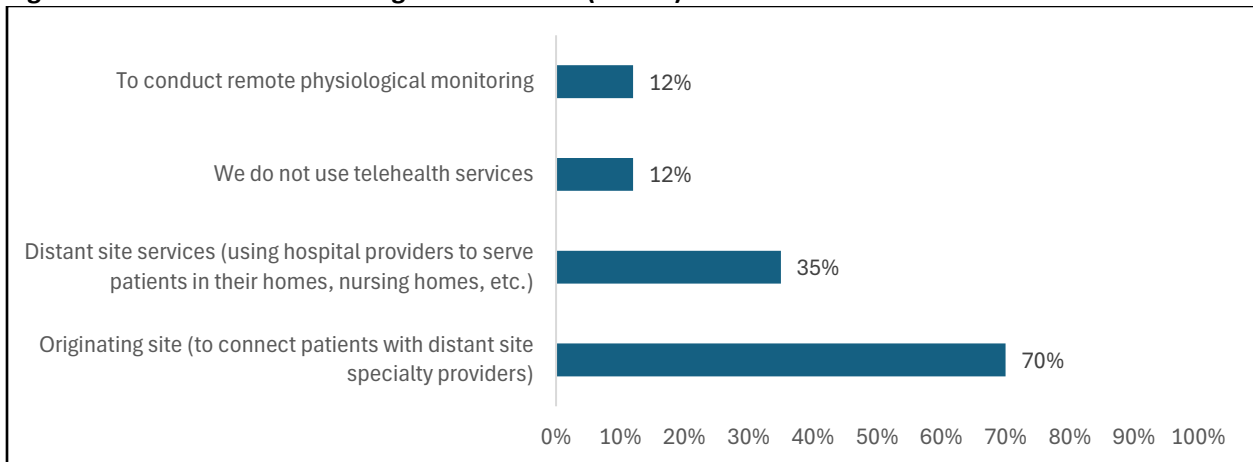
**Figure 14. Barriers to Patient Access to Care Outside the Community Identified by Frontier CAHs (N=117)**



Source: 2025 Survey of Frontier CAHs

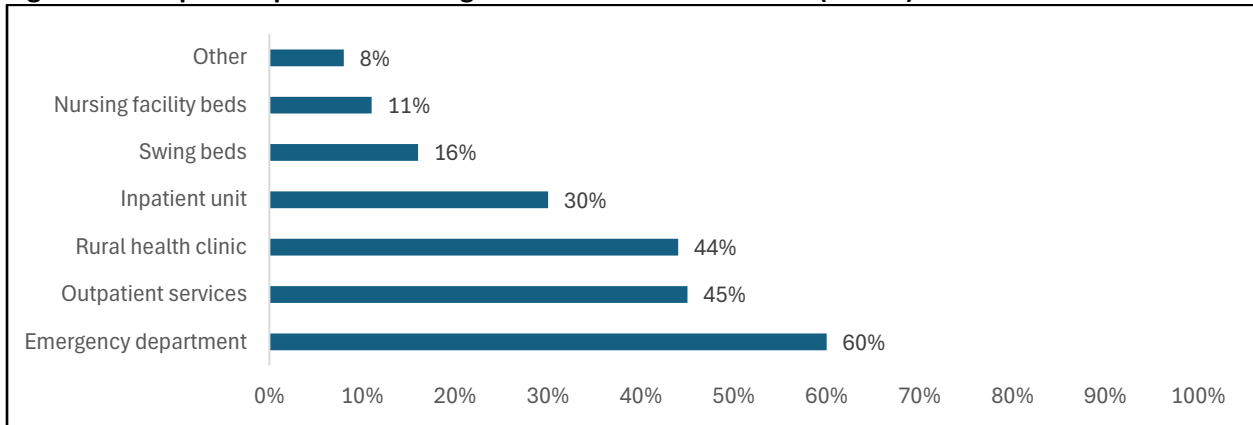
As telehealth can be an important option to expand access to specialty services, we asked participants to describe their use of telehealth (Figure 15). Our findings demonstrate opportunities to expand access to care by frontier CAHs. Figure 16 describes the hospital departments where frontier CAHs most commonly use telehealth.

**Figure 15. Telehealth Use Among Frontier CAHs (N=117)**



Source: 2025 Survey of Frontier CAHs

**Figure 16. Hospital Departments Using Telehealth in Frontier CAHs (N=117)**



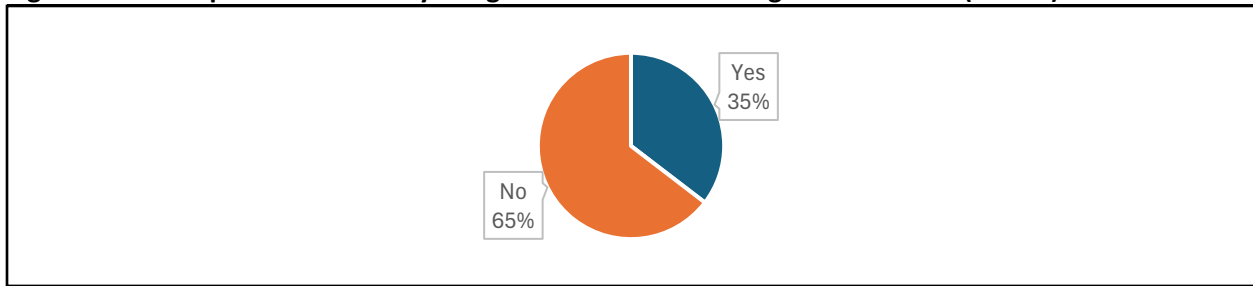
Source: 2025 Survey of Frontier CAHs

Note: Only those respondents who indicated their hospital uses telehealth services received this question.

**Participation in Clinically Integrated Networks and Health Information Exchanges**

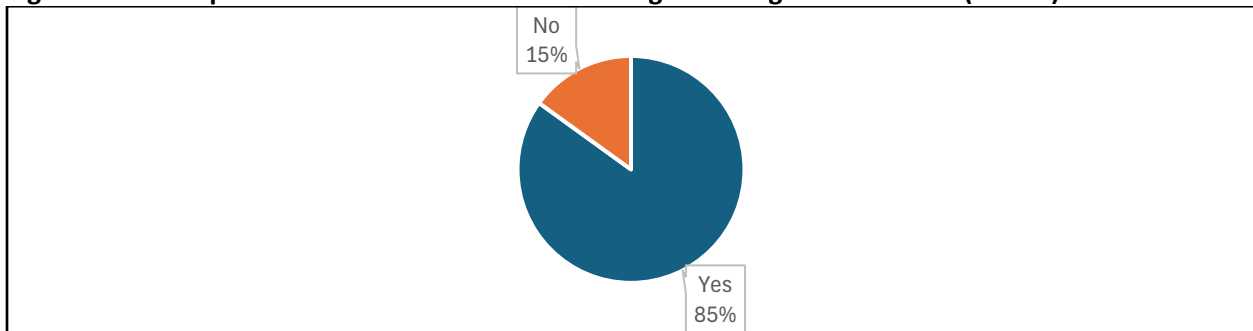
Participants were also asked about CAH participation in a clinically integrated network (CIN) (Figure 17) and/or a health information exchange (HIE) (Figure 18).

**Figure 17. Participation in Clinically Integrated Networks Among Frontier CAHs (N=113)**



Source: 2025 Frontier Survey of CAHs

**Figure 18. Participation in Health Information Exchanges Among Frontier CAHs (N=113)**

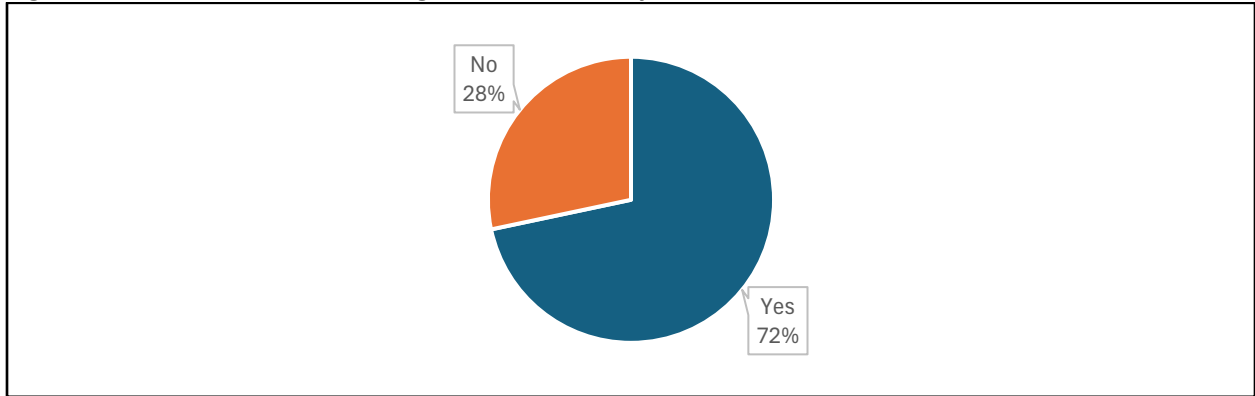


Source: 2025 Survey of Frontier CAHs

**Care Management**

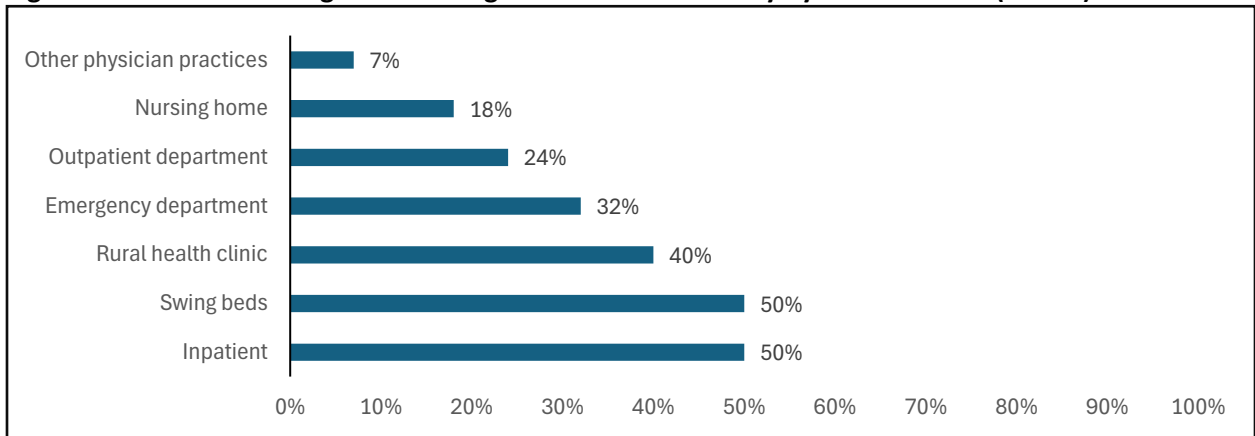
Seventy-two percent of frontier CAHs provided care management services (Figure 19). The most common locations for the provision of care management services included the inpatient, swing bed, Rural Health Clinic (RHC), and emergency department settings (Figure 20).

**Figure 19. Provision of Care Management Services by Frontier CAHs (N=113)**



Source: 2025 Survey of Frontier CAHs

**Figure 20. Common Settings Care Management Service Delivery by Frontier CAHs (N=113)**



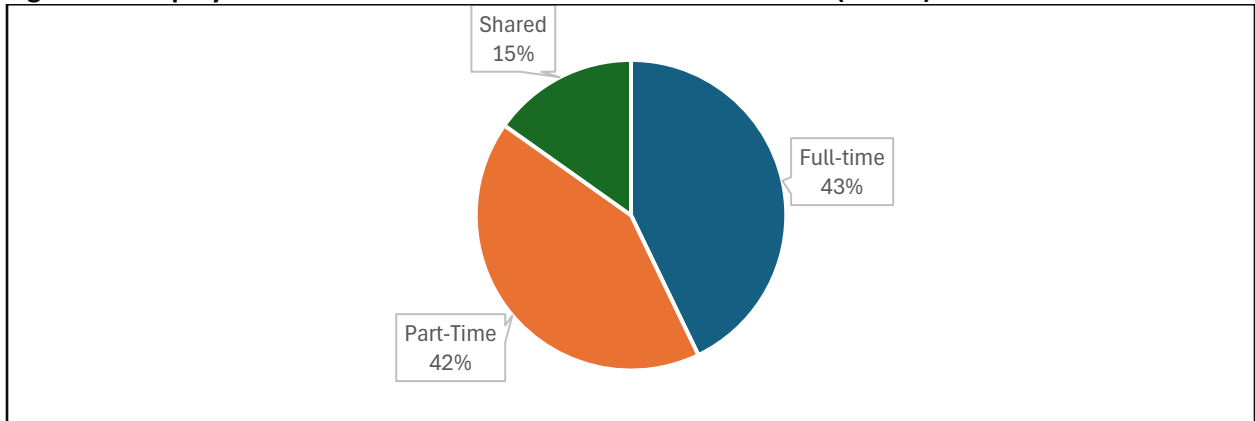
Source: 2025 Survey of Frontier CAHs

Note: Only respondents with CAHs that provide care management services received this question.

**CAH Frontier Medical Director Staffing**

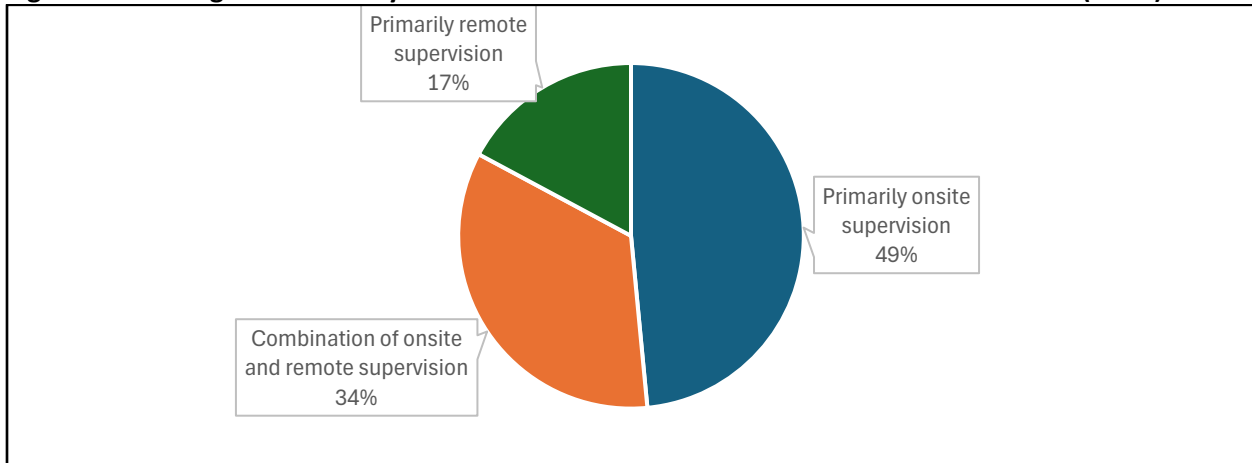
Figure 21 provides data on how frontier CAHs employ their medical directors (i.e., full-time, part-time, or shared with another hospital or hospitals). Figure 22 describes how supervision is provided by frontier CAH medical directors (i.e., remote and/or onsite).

**Figure 21. Employment Status of Medical Directors in Frontier CAHs (N=112)**



Source: 2025 Survey of Frontier CAHs

**Figure 22. Oversight Provided by Part-Time or Shared Medical Directors in Frontier CAHs (N=64)**



Source: 2025 Survey of Frontier CAHs

**Frontier CAH Personnel Vacancies and Recruitment Time Frames**

Table 6 provides extensive data on the patterns of vacancies reported by frontier CAHs and the time frames typically required to fill vacant positions. These data are organized by categories of staff.

The most common vacancies, reported by 40% or more of respondents, included physicians, nurses, laboratory technicians, radiology technicians, certified nursing assistants, and housekeeping staff. The vacancies that took the longest to fill, with 50% or more of respondents reporting that it took more than 12 months to fill open positions, included clinical positions (physicians, nurses, and therapy positions), clinical support staff (radiology technicians, certified nursing assistants, and laboratory supervisors), and executive leadership (chief executive officers, chief operating officers, and medical directors/chief medical officers).

**Table 6. Frontier CAH Vacancy Patterns and Recruitment Time Frames (N=117)**

Clinical Staff	Percent reporting 1 or more vacancies	Average Length of Time to Fill Vacancies		
		1 - 5 months	6 - 12 months	More than 12 months
Physicians	59%	6% (4)	20% (14)	74% (51)
Advanced Practice Providers	33%	13% (5)	54% (21)	33% (13)
Nurses	89%	30% (31)	37% (38)	34% (25)
Emergency Medical Services Staff	30%	26% (9)	43% (15)	31% (11)
Physical Therapists	34%	3% (1)	38% (15)	60% (24)
Occupational Therapists	29%	6% (2)	29% (10)	65% (22)
Language and Speech Therapists	22%	No Data Reported	31% (8)	69% (18)
<b>Clinical Support Staff</b>				
Laboratory Technicians	42%	10% (5)	43% (21)	47% (23)
Radiology Technicians	52%	16% (10)	25% (15)	59% (36)
Certified Nursing Assistant	58%	47% (32)	31% (21)	22% (15)
Laboratory Supervisors	9%	18% (2)	18% (2)	64% (7)
<b>Administrative Staff</b>				
Financial Management Staff	21%	20% (5)	48% (12)	32% (8)
Billing and Coding Specialists	26%	33% (10)	33% (10)	33% (10)

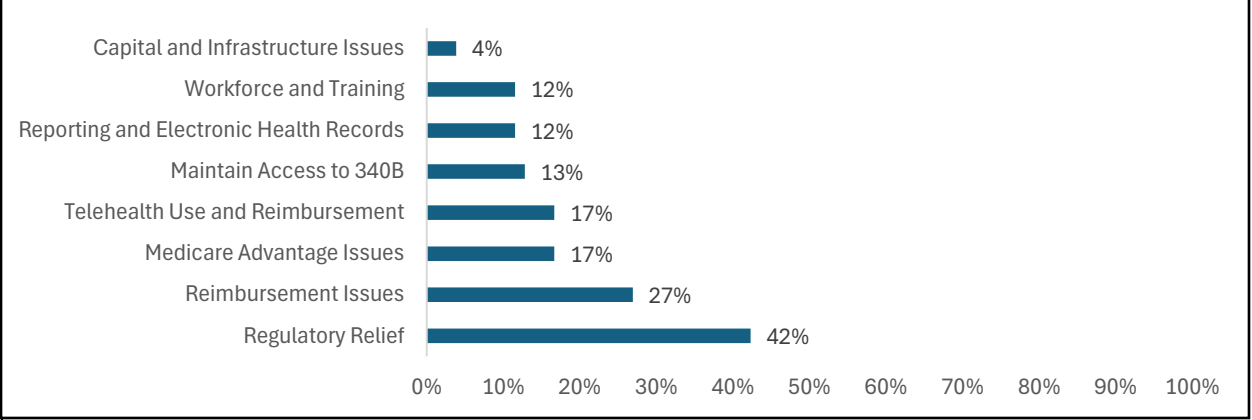
		Average Length of Time to Fill Vacancies		
Clinical Staff	Percent reporting 1 or more vacancies	1 - 5 months	6 - 12 months	More than 12 months
<b>Facilities and Maintenance Staff</b>				
Housekeeping Staff	40%	66% (31)	26% (12)	9% (4)
Cafeteria Staff	37%	65% (28)	26% (11)	9% (4)
Building, Grounds, and Maintenance	21%	52% (13)	36% (9)	12% (3)
<b>Executive Leadership</b>				
Chief Executive Officer	3%	No Data Reported	25% (1)	75% (3)
Chief Financial Officer	11%	No Data Reported	62% (8)	39% (5)
Chief Operating Officer	5%	17% (1)	33% (2)	50% (3)
Chief Nursing Officer	8%	22% (2)	56% (5)	22% (2)
Medical Director/Chief Medical Officer	9%	No Data Reported	20% (2)	80% (8)
<b>Board Leadership</b>				
Board Members	8%	33% (3)	67% (6)	No Data Reported

Source: 2025 Survey of Frontier CAHs

**Legislative and Regulatory Concerns Reported by Frontier CAH Respondents**

Respondents were also asked to suggest changes and regulatory recommendations that would be helpful to their hospitals. Seventy-eight survey participants responded to this question as summarized in Figure 23.

**Figure 23. Legislative and Regulatory Concerns Reported by Frontier CAH Survey Respondents**



Source: 2025 Survey of Frontier CAHs

The comments provided by survey respondents provide insight into the state and federal legislative and regulatory issues impacting frontier hospitals (Table 7).

**Table 7. Summary of Legislative and Regulatory Issues Identified by Frontier CAH Staff**

Response Category	Key Points
Federal Regulatory Issues	<ul style="list-style-type: none"> <li>Certain Medicare requirements (e.g., the 3-midnight rule, the 3-day billing rule with hospital stay requirement for swing bed/SNF care, and 96-hour average length-of-stay rule) restrict access to patient care</li> </ul>

Response Category	Key Points
	<ul style="list-style-type: none"> <li>• Regulatory changes could expand access to needed care (e.g., current distance requirements limit the number of CAH-based ambulance services, rural emergency hospitals cannot currently provide swing bed care)</li> <li>• Reporting requirements add to the administrative burden for frontier CAHs (e.g., quality measures not suited to low-volume hospitals, unfunded mandates and duplicative reporting, mandatory surgical site infection data reporting for CAHs, and cost report overhead carve-out that affects long-term care).</li> <li>• Regulatory requirements can negatively impact frontier CAHs (e.g., lab/radiology technician regulatory burdens, staffing mandates for long-term care, and Stark laws)</li> <li>• The telehealth flexibility implemented during the Public Health Emergency allows frontier CAHs to expand access to care</li> </ul>
Medicare Reimbursement Issues	<ul style="list-style-type: none"> <li>• Medicare sequestration and bad debt restrictions negatively impact the financial performance of frontier CAHs</li> <li>• Community programs and standby capacity are not covered under cost-based reimbursement</li> <li>• Medicare payment policies limit provision of chronic care management, telehealth, integrative services, primary care, and behavioral health services by frontier CAHs and RHCs</li> <li>• Restrictions such as the 50% advanced practice clinician requirement in RHCs are problematic for low-volume frontier facilities.</li> <li>• Restrictions on the inclusion of physician costs as Medicare allowable costs on the cost report create challenges for frontier CAHs</li> <li>• The Medicare RHC upper payment limits reimbursement caps applied to frontier CAHs-owned RHCs limits the sustainability of these facilities</li> </ul>
Medicare Advantage (MA) Plans	<ul style="list-style-type: none"> <li>• MA prior authorization requirements and claims processes add to the administrative burden of frontier CAHs</li> <li>• High rates of claims denials impact the financial performance of frontier CAHs and further adds to the administrative burden of these facilities</li> <li>• Limited information on prior authorization approval rates and claims denials makes it difficult for frontier CAHs to make decisions regarding MA participation</li> <li>• MA plans are not required to pay enhanced Medicare reimbursement rates, impacting the financial stability of frontier CAHs</li> </ul>
340B and Pharmacy Programs	<ul style="list-style-type: none"> <li>• The 340B program is an important resource for frontier CAHs in terms of revenue generation and access to lower costs drugs for patients</li> <li>• Contract pharmacies are an important resource for frontier CAHs to maintain access to pharmacy support</li> </ul>
Workforce and Training	<ul style="list-style-type: none"> <li>• Regulatory changes to rural residency program requirements would allow placements at small frontier hospitals (federal regulations)</li> <li>• State efforts to expand interstate licensing agreements would enhance telehealth use and aid recruitment and retention</li> <li>• Expanded use of technology and simplification of certification requirements could reduce credentialing burdens</li> <li>• Non-compete requirements hamper recruitment and retention</li> <li>• More flexible licensing requirements for long-term care nurses could improve recruitment for CAHs with long-term care beds</li> <li>• State-level training programs for certified nursing assistants, emergency medical technicians, electrocardiogram technicians, and other support personnel would provide an important workforce resource for frontier CAHs</li> </ul>
Electronic Health Records	<ul style="list-style-type: none"> <li>• Frontier CAHs struggle to identify affordable systems tailored to the needs of small providers</li> </ul>

Response Category	Key Points
	<ul style="list-style-type: none"> <li>Adoption of a standardized EHRs at either the regional or state level would allow frontier CAHs to reduce their EHR costs and improve their ability to share information</li> </ul>
Other	<ul style="list-style-type: none"> <li>Competition from external providers and insurance companies using telehealth to provide primary care and other services in frontier CAH communities pulls patients away from frontier CAHs and begins to erode market share</li> </ul>

Source: 2025 Survey of Frontier CAHs

**Frontier CAH Technical Assistance, Support, and Resource Needs**

To provide information to support the development of interventions to assist frontier CAHs, we asked respondents to identify technical assistance, support, and/or resources that would be of value to them in today’s health care environment. Fifty-two survey participants responded to this question. Table 8 summarizes the technical assistance, support, and resource needs identified by respondents.

**Table 8. Frontier CAH Technical Assistance, Support, and Resource Needs**

Response Category	Key Points
Financial and Revenue Cycle Management	<ul style="list-style-type: none"> <li>Access to experts who understand frontier health and hospitals</li> <li>Access to revenue cycle experts who are familiar with common EHRs used by frontier hospitals and CAH and RHC reimbursement rules</li> <li>Information on best practices to maximize reimbursement for services provided</li> <li>Billing and coding support, including chargemaster reviews, provider documentation, and peer review processes</li> <li>Advice on outsourcing billing issues</li> <li>Assistance with reimbursement issues for self-pay/no-pay patients</li> <li>Support for financial and operational assessments (such as the USDA program)</li> <li>Cost report analysis</li> <li>Supporting growth through service expansion and service lines that generate revenue</li> <li>Managing and containing costs</li> <li>Negotiation with third-party payers, including MA plans</li> <li>Managing prior authorizations and denials</li> <li>Conducting productivity studies</li> </ul>
Electronic Health Records and Information Technology	<ul style="list-style-type: none"> <li>General support for EHRs and IT</li> <li>Technical assistance on selecting and implementing a new EHR system</li> <li>Affordable information technology and cybersecurity support</li> </ul>
Medicare Advantage	<ul style="list-style-type: none"> <li>Provide technical assistance to frontier CAHs to help them comply with prior authorization requirements and claims processes</li> </ul>
Telehealth	<ul style="list-style-type: none"> <li>Support for telehealth services, including remote patient monitoring</li> </ul>
Population Health	<ul style="list-style-type: none"> <li>Implementing data analytics for population health management</li> <li>Community health needs studies</li> </ul>
Workforce and Training	<ul style="list-style-type: none"> <li>Access to advancing nursing courses for TNCC, ACLS, PALS, intubation, ventilator maintenance, and drips to support nursing staff in a low-volume environment</li> </ul>

Source: 2025 Survey of Frontier CAHs

Several common themes emerged from the qualitative responses provided by respondents regarding their technical assistance, resources, and support needs:

- Respondents stressed the importance of being able to access needed support services at or close to their hospitals, as travel costs and staffing shortages make it difficult to release staff to attend programs.
- Others explained that webinars are not satisfactory alternatives to face-to-face learning opportunities.

- One respondent stated the State Flex Program provides helpful resources and recommendations, but that technical assistance and consulting support are needed to support the implementation of these recommendations.
- Another respondent explained it would be helpful to have access to a resource to answer questions related to regulations, rules, or reimbursement issues without the need for an expensive contract.
- Finally, several respondents highlighted the importance of having access to experts who understand frontier hospitals and health issues, as the needs of frontier hospitals and communities are different than those of larger facilities and communities.

**Frontier CAH Educational and Advocacy Needs**

The last question on our survey provided participants with an opportunity to identify educational and/or advocacy programs that would be helpful to their hospitals. Fifty-two administrators responded to this question. Responses to this question closely mirrored the issues identified through the earlier open-ended questions on technical assistance, resources, and support needs (Table 9).

**Table 9. Frontier CAH Educational and Advocacy Needs**

<b>Response Category</b>	<b>Key Points</b>
Financial and Revenue Cycle Management	<ul style="list-style-type: none"> <li>• Revenue cycle management</li> <li>• Using artificial intelligence for revenue cycle management</li> <li>• Opportunities to increase revenue/reimbursement</li> <li>• Billing, coding, and reimbursement strategies, with a focus on MA plans</li> <li>• CAH and RHC billing issues</li> <li>• Improving CAH and RHC efficiency and cost reduction</li> <li>• Maximizing cost reports</li> <li>• Negotiations with third-party payers</li> <li>• Exploring alternative provider or service delivery strategies</li> </ul>
Operational Issues	<ul style="list-style-type: none"> <li>• Maximizing the benefits of 340B</li> <li>• Ongoing monitoring and response to regulatory changes</li> <li>• Improving operational efficiencies and managing costs, while improving quality</li> <li>• Cybersecurity issues</li> <li>• Conditions of participation</li> <li>• Best practices and standards</li> <li>• Customer service training</li> <li>• Marketing and recruiting strategies</li> <li>• Change management</li> <li>• Emergency Medical Treatment and Active Labor Act (EMTALA)</li> <li>• Quality improvement, best practices, and audits</li> <li>• Use of EHRs and health information exchanges</li> <li>• Board governance</li> <li>• Long-term care operational excellence</li> <li>• Development of clinically integrated networks</li> </ul>
Staffing and Workforce	<ul style="list-style-type: none"> <li>• Education and training programs for clinical staff that are not costly</li> <li>• Improving documentation</li> <li>• Management and leadership training</li> </ul>
Population health	<ul style="list-style-type: none"> <li>• Policies and procedures for responding to emergency mental health crisis events</li> <li>• Developing resource guides to assist in referrals of mental health patients</li> </ul>

Source: 2025 Survey of Frontier CAHs

There was also significant interest in developing advocacy support and resources for frontier hospitals, including helping members of Congress and other policymakers understand the unique needs of frontier hospitals and communities. One respondent suggested case studies of remote facilities with limited access to care and resources. Another suggested the exploration of opportunities to assist frontier hospitals with pooling scarce resources, and yet another suggested the need for a dedicated frontier hospital association or advocacy group to provide a voice for these facilities.

One respondent raised an important issue by noting that the type of education and support needed by frontier hospitals requires more than periodic, one-off training programs and resources by providing the following example: *“Implementing EHR systems for quality tracking is complex and slow, requiring extensive documentation changes, vendor support, clinician retraining, and adaptation across all departments, making real progress challenging; small consultant grants provide limited impact, and a sustained, expert support model shared across multiple hospitals would be more effective.”*

## FINANCIAL AND OPERATIONAL PERFORMANCE OF FRONTIER CAHS

We used the Flex Monitoring Team’s 2023 CAHMPAS financial indicators<sup>10,13</sup> to provide a brief overview of the financial and operational performance of frontier CAHs compared to other CAHs (Table 10). These indicators reflect several aspects of hospital performance, including profitability, liquidity, staffing intensity, and patient volume. Median values are reported for each measure, and all differences between frontier and other CAHs were statistically significant.

Overall, frontier CAHs show weaker financial performance than other CAHs across the profitability indicators. In simple terms, these measures indicate how much financial margin a hospital generates relative to its revenues and assets. Frontier CAHs have lower total margins, cash flow margins, and returns on equity than other CAHs, suggesting tighter financial performance. Of particular concern, the median operating margin for frontier CAHs is negative, indicating that operating expenses exceed operating revenues for the typical frontier CAH. Frontier CAHs also operate with higher staffing levels relative to patient volume and lower inpatient census levels for both swing and acute care beds. At the same time, frontier CAHs have somewhat greater short-term liquidity, as reflected in higher days cash on hand.

**Table 10. Financial and Operational Performance of Frontier and Other CAHs**

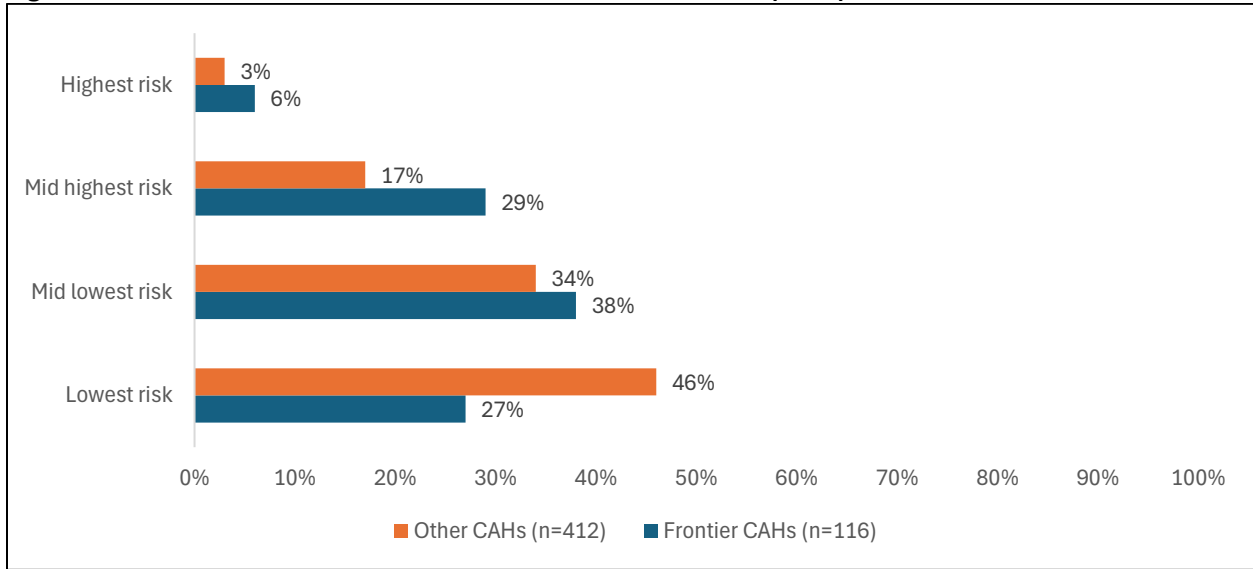
Financial Indicators	Frontier CAHs	Other CAHs
<b>Profitability Indicators</b>	Median	Median
<b>Total Margin (%)</b> - measures the difference between total revenue and total expenses, expressed as a percentage of their revenue	2.4	4.6
<b>Cash Flow Margin (%)</b> - measures the difference between the money earned from patient care and the money spent on operating costs	3.4	7.0
<b>Return on Equity</b> - measures how well a hospital generates “profit” from its investments, by showing how effectively the hospital uses its funds to create value	3.1	7.6
<b>Operating Margin</b> - measures how much money a hospital (net patient revenue) makes from its services after covering its costs (total operating costs), expressed as a percentage	-2.6	2.3
<b>Liquidity Indicator</b>		
<b>Days Cash on Hand</b> - measures the number of days an organization could operate if no cash were collected or received	125	95
<b>Labor Indicator</b>		
<b>FTEs per Adjusted Occupied Bed</b> - measures the number of full-time employees per occupied acute care bed	7.0	4.5
<b>Inpatient Census Indicators</b>		
<b>Average Daily Census Swing-SNF</b> - measures the average number of swing-SNF patients per day	1.1	1.7
<b>Average Daily Census Acute</b> - measures the average number of acute care patients per day	1.1	2.5

Source: Critical Access Hospital Measurement and Performance Assessment System (CAHMPAS) Data, 2023<sup>10</sup>

Using the University of North Carolina’s Financial Distress Index (FDI),<sup>14</sup> we compared frontier CAHs to other CAHs (Figure 24). The FDI uses financial performance (current profitability, reinvestment, and hospital size) and market characteristics (competition, economic status, and market size) variables to predict the likelihood of financial distress (decline in equity, unprofitability, and closure) within two years.<sup>14</sup>

In 2023, a higher percentage of frontier CAHs were in the highest risk, mid-highest risk, and mid-lowest risk FDI categories compared to other CAHs. Please note that the association between frontier status and increasing levels of financial distress was statistically significant ( $Z = -3.91, p < 0.0001$ ). However, this analysis was based on a subset of 528 hospitals with valid FDI scores (116 frontier and 412 other); 61% of records were missing, limiting generalizability.

**Figure 24. Financial Distress Index for Frontier and Other CAHs (2023)**

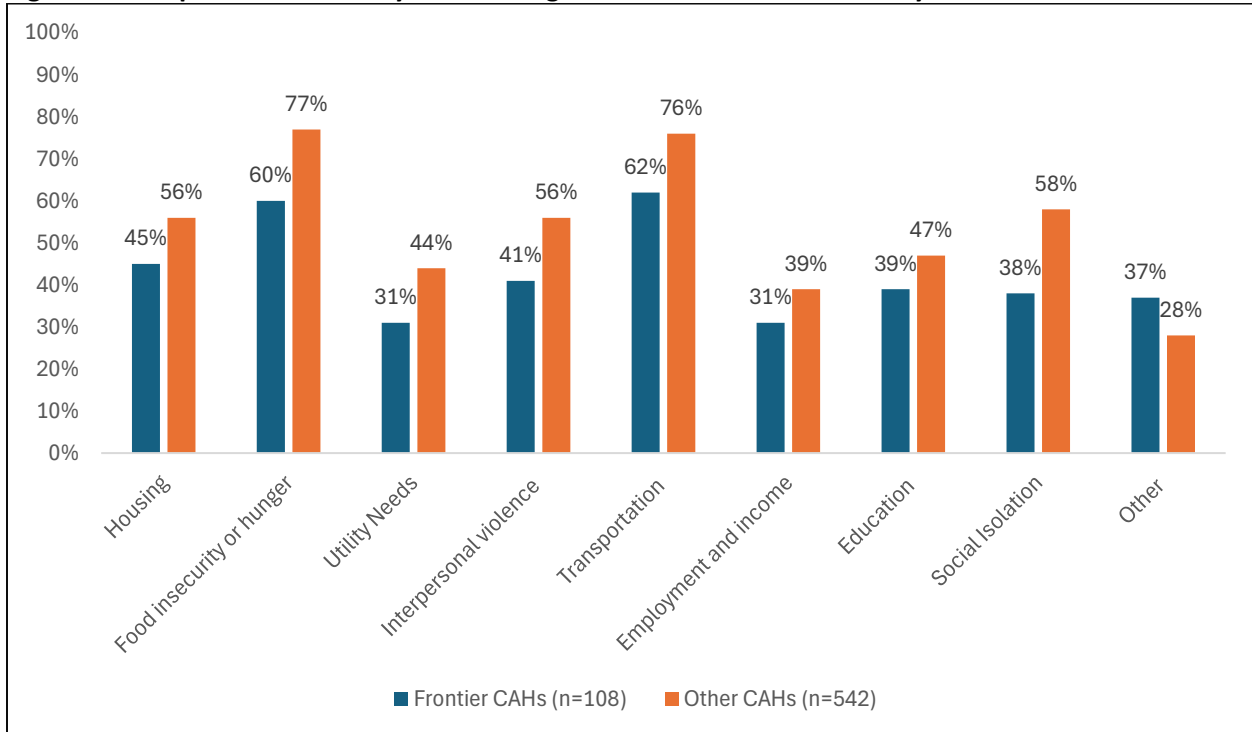


Source: Critical Access Hospital Measurement and Performance Assessment System (CAHMPAS) Data, 2023<sup>10</sup>

## FRONTIER CAH STRATEGIES AND PARTNERSHIPS TO ADDRESS COMMUNITY NEEDS

Using data from the AHA Hospital Survey, this section examines the extent to which frontier and other CAHs have developed strategies to address social needs and their collaboration with community partners to meet patients' social needs, conduct community health needs assessments (CHNAs), and/or address health-related social needs (HRSN). Frontier CAHs were less likely than other CAHs to report strategies to address social need across a range of areas, including housing, food insecurity, transportation, and social isolation (Figure 25). Other strategies reported by respondents to address social needs included initiatives related to childcare, health behaviors, and mental health and substance use.

**Figure 25. Hospital and Health System Strategies to Address Social Needs by Frontier and Other CAHs\***



Source: 2023 American Hospital Association Annual Survey of Hospitals<sup>11</sup>

Note: All comparisons are statistically significant except for employment/income, education, and other.

Frontier CAHs were also less likely than other CAHs to engage with external community partners to implement population and community health initiatives (Table 11) than were other CAHs.

**Table 11. External Partnerships for Population and Community Health Initiatives by Hospital Type**

Collaborating Organizations			Does Not Collaborate		Collaborates to Meet Patient Social Needs		Collaborates in the CHNA Process		Collaborates to Address HRSN	
	Frontier CAHs (n)	Other CAHs (n)	Frontier CAHs	Other CAHs	Frontier CAHs	Other CAHs	Frontier CAHs	Other CAHs	Frontier CAHs	Other CAHs
Healthcare providers outside your system	122	562	32%	17%	48%	58%	29%	39%	27%	37%
Health insurance providers outside your system	122	552	61%	44%	31%	42%	9%	12%	7%	17%
Local or state public health departments	125	568	20%	8%	52%	58%	38%	49%	36%	55%
Other local/state government or social services	126	563	32%	13%	45%	58%	37%	45%	23%	43%
Faith-based organizations	125	560	38%	20%	37%	50%	34%	41%	15%	32%
Local organizations addressing food insecurity	125	560	33%	15%	47%	55%	31%	46%	20%	39%
Local organizations addressing transportation needs	125	557	41%	19%	42%	55%	25%	40%	18%	33%
Local organizations addressing housing insecurity	125	561	50%	31%	34%	47%	28%	36%	17%	29%
Local organizations providing legal assistance for individuals	122	550	73%	57%	15%	31%	16%	19%	8%	13%
Other community non-profit organizations	126	558	38%	18%	36%	53%	37%	44%	24%	40%
K-12 schools	124	561	28%	17%	37%	44%	40%	45%	29%	42%
Colleges/universities	123	554	59%	36%	20%	28%	24%	37%	9%	29%
Local businesses or chambers of commerce	124	557	34%	17%	32%	38%	36%	50%	18%	34%
Law enforcement/safety forces	125	553	25%	15%	43%	51%	34%	45%	24%	34%
Area behavioral health service providers	122	542	30%	18%	53%	56%	29%	39%	21%	34%
Area agencies on aging	120	535	46%	31%	38%	47%	27%	35%	13%	24%

Source: 2023 American Hospital Association Annual Survey of Hospitals<sup>11</sup>

## CHARACTERISTICS OF COUNTIES IN WHICH FRONTIER CAHS ARE LOCATED

This section explores the characteristics of counties in which frontier hospitals are located compared to counties in which other CAHs are located. We examined sociodemographic characteristics, health status issues and outcomes, and provider supply issues using the Robert Wood Johnson Foundation’s 2023 County Health Rankings data. These analyses provide insight into the health challenges that impact the populations of counties served by frontier CAHs compared to those served by other CAHs.

Residents of counties served by frontier CAHs had lower average household incomes, lower unemployment rates, slightly higher percentages of the population below age 18, age 65 and older, and greater rates of uninsurance (Table 12). They also had slightly higher high school completion rates. Individuals living in counties served by frontier CAHs had slightly higher life expectancy and a greater number of years of potential life lost before age 75 per 100,000 than individuals living in counties served by other CAHs, although neither of these differences was statistically significant.

**Table 12. Sociodemographic Characteristics of Counties with Frontier and Other CAHs**

Demographic measure	Counties with Frontier CAHs	Counties with Other CAHs	p-value
Median household income (income where half of households in a county earn more and half of households earn less)	\$56,608 (278)	\$58,178 (1,078)	0.0181*
Unemployment (% of population age 16 and older unemployed but seeking work)	3.6% (278)	4.4% (1,078)	<.0001***
Population under 18 (% of population below 18 years of age)	22.9% (278)	22.1% (1,078)	0.0031**
Population 65 and older (% of population age 65 and older)	22.8% (278)	20.5% (1,078)	<.0001***
High school completion rate (% of adults aged 25 and older with a high school diploma or equivalent)	91.1% (278)	89.9% (1,078)	0.0001***
Life expectancy (median number of years a person can expect to live)	78 (268)	77 (1,078)	0.172
Years of potential life lost before age 75 per 100,000 population (age-adjusted)	8,100 (272)	7,924 (1,078)	0.2745
Uninsurance (median % of population under age 65 without health insurance)	12.8% (278)	9.3% (1,078)	<.0001***

Source: 2023 Robert Wood Johnson Foundation’s County Health Rankings (CHR)<sup>12</sup>

Notes: Differences significant at  $p \leq .05^*$ ,  $p \leq .01^{**}$ , and  $p \leq .001^{***}$ ; Group means with p-values from Welch’s t-tests are reported for median household income, population under 18, population 65 and older, and life expectancy; Group medians with p-values from Wilcoxon rank-sum tests are reported for unemployment, high school completion rate, years of potential life lost, and uninsurance.

Despite having older populations, residents of counties served by frontier CAHs were somewhat healthier than the populations of counties served by other CAHs on measures related to smoking, obesity, diabetes, poor or fair health, physically unhealthy days, mentally unhealthy days, low birth weight, adult smoking, adult obesity, and preventable hospital stays (Table 13). On the other hand, counties served by frontier CAHs (compared to counties served by other CAHs) had slightly higher rates of teen births and the number of deaths among residents under age 75 per 100,000 population. Counties served by frontier CAHs had higher rates of motor vehicle crashes, injury deaths, and deaths due to suicide. Except for alcohol-impaired driving deaths, teen birthweight, and the number of deaths among residents under age 75 per 100,000 population, differences between the two populations were statistically significant.

These findings suggest opportunities for frontier CAHs to undertake population health-related activities to address motor vehicle safety, injury prevention, and mental health and suicide prevention.

**Table 13. Health Status and Outcomes in Frontier Counties**

Health measure	Counties with Frontier CAHs	Counties with Other CAHs	p-value
Poor or fair health (median % of adults reporting poor or fair health, age-adjusted)	13.3% (278)	14.7% (1,078)	<.0001***
Median number of physically unhealthy days reported in past 30 days (age-adjusted)	3.2 (278)	3.4 (1,078)	0.0003***
Median number of mentally unhealthy days reported in past 30 days (age-adjusted)	4.4 (278)	4.7 (1,078)	<.0001***
Low birth weight (median % of live births with low birthweight, < 2500 grams)	7.2% (250)	7.3% (1,078)	0.1677
Adult smoking (median % of adults who are current smokers)	18.6% (278)	19.8% (1,078)	<.0001***
Adult obesity (mean % of adults that report BMI >= 30)	34.3% (278)	36.2% (1,078)	<.0001***
Diabetes prevalence (median % of adults diagnosed with diabetes)	9.1% (278)	9.6% (1,078)	0.0003***
Alcohol-impaired driving deaths (mean % of driving deaths with alcohol involvement)	29.3% (271)	28.8% (1,076)	0.775
Teen birth rate (median number of births per 1,000 female population, ages 15-19)	25 (213)	23 (1,062)	0.1382
Median number of deaths among residents under age 75 per 100,000 population (age-adjusted)	394 (272)	392 (1,078)	0.3065
Motor vehicle crash death rate (median number of motor vehicle crash deaths per 100,000 population)	25 (128)	18 (991)	<.0001***
Injury deaths (mean number of deaths due to injury per 100,000 population)	113 (255)	90 (1,076)	<.0001***
Median number of deaths due to suicide per 100,000 population (age-adjusted)	31 (111)	19 (862)	<.0001***
Preventable hospital stays (median number of preventable hospital stays for ambulatory-care sensitive conditions per 100,000 Medicare enrollees)	2,360 (265)	2,664 (1,078)	0.0014**

Source: 2023 Robert Wood Johnson Foundation's County Health Rankings (CHR)<sup>12</sup>

Notes: Differences significant at  $p \leq .05^*$ ,  $p \leq .01^{**}$ , and  $p \leq .001^{***}$ ; Group means with p-values from Welch's t-tests are reported for adult obesity, alcohol-impaired driving deaths, and injury deaths; Group medians with p-values from Wilcoxon rank-sum tests are reported for poor or fair health, physically and mentally unhealthy days, low birth weight, adult smoking, diabetes, teen birth rate, deaths under age 75, motor vehicle crash deaths, suicide deaths, and preventable hospital stays.

Finally, counties served by frontier CAHs exhibited a slightly stronger primary care infrastructure compared to counties served by other CAHs, with higher numbers of primary care physicians, mental health providers, and other primary care providers per 100,000 population (Table 14).

**Table 14. Provider Supply in Frontier and Other Rural Counties**

Provider type	Counties with Frontier CAHs	Counties with Other CAHs	p-value
Primary care physicians (median number of primary care physicians per 100,000 population)	54 (255)	47 (1,065)	0.0003***
Dentists (median number of dentists per 100,000 population)	43 (271)	43 (1,068)	0.5343
Mental health providers (median number of mental health care providers per 100,000 population)	128 (204)	120 (1,052)	0.0812*
Other primary care providers (median number of other primary care providers per 100,000 population)	111 (278)	87 (1,078)	<.0001***

Source: 2023 Robert Wood Johnson Foundation's County Health Rankings (CHR)<sup>12</sup>

Notes: Differences significant at  $p \leq .05^*$ ,  $p \leq .01^{**}$ , and  $p \leq .001^{***}$ ; Group medians with p-values from Wilcoxon rank-sum tests are reported for number of primary care physicians, dentists, mental health providers, and other primary care providers.

## DISCUSSION AND CONCLUSIONS

This Chartbook bridges the gaps in our current knowledge regarding the distribution and current status of frontier CAHs; the challenges they face; their technical assistance, educational, and resource needs; their financial and operational performance; the extent to which they are collaborating with other providers and organizations to address local needs, and the characteristics of the counties in which they are located. As noted earlier, the 280 CAHs located in frontier counties are among the smallest and most isolated of CAHs and are primarily distributed through the Midwest and West census regions. Seventy percent of frontier CAHs are freestanding facilities. These facilities typically offer a less intensive mix of services compared to their non-frontier peers. The most common financial challenges they face include rising staff costs, inadequate reimbursement from third-party payers, and low patient volume. Their primary operational challenges include the difficulty of transferring patients to a higher level of care; recruitment and retention of clinical and administrative staff, particularly physicians, nurses, certified nursing assistants, and radiology technicians; and issues related to the implementation and use of their EHRs. Frontier CAHs are more likely to be in financial distress than other CAHs across all 3 risk categories of North Carolina's Financial Distress Index. As reported by survey respondents, the most common technical assistance, education, and support needs of frontier CAHs include financial and revenue cycle management; implementation and use of EHR technology; and workforce recruitment, retention, and training.

Using the aggregate findings related to technical assistance, educational, and support needs, State Flex Programs can reach out to the frontier CAHs in their states to explore to identify their specific needs and and develop interventions to support them. One issue of concern is that their isolated locations makes the provision of technical assistance and education more difficult. In particular, frontier CAHs may not have the budget or capacity to enable staff to travel to trainings outside of their communities. As a result, State Flex Programs may need to relay on alternative, technology-based strategies (e.g., televideo-based training, Project ECHO, etc.) to enable staff to participate in technical assistance and training resources provide training to meet their needs. At the same time, it may be helpful to develop and engage cohorts of frontier CAHs (see Figure 1) in learning collaboratives to focus State Flex Program resources to meet their unique needs and allow administrators and staff to learn from one another.

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