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Innovations and Workforce Challenges for CAHs during COVID-19

Madeleine Pick, MPH; Megan Lahr, MPH; Keelia Silvis, BA; Ira Moscovice, PhD

KEY FINDINGS

- In a survey, Critical Access Hospital (CAH) CEOs in eight states identified that their most common innovations during the COVID-19 pandemic were related to hospital processes (e.g., patient transfers, testing) and clinical care (e.g., telehealth, separate clinical teams to treat COVID-19 patients).
- Regarding hospital workforce, the most commonly reported challenges were staff illness and layoffs or furloughs. When asked how they have overcome these challenges, the most common responses among participants mentioned changing the scope of work for employees and providing employee support.

PURPOSE

Critical Access Hospitals (CAHs) fill vital care gaps for rural communities in the United States (U.S.),[1] but the novel coronavirus of 2019 (COVID-19) has created challenges in many rural communities that CAHs may not be prepared to manage.[2–5] Details about the ways CAHs have adapted their service delivery to meet changing needs during the pandemic remain largely unknown. Likewise, there is a need for more robust resources to support CAHs in adapting to public health emergencies like COVID-19. The purpose of this policy brief is to describe CAH operations and workforce adaptations, and provide examples of innovative solutions to overcoming the obstacles created by the COVID-19 pandemic.

BACKGROUND

Hospital operations have changed dramatically since the onset of the COVID-19 pandemic. Nationwide, U.S. hospitals have faced operational challenges such as protecting their workforce from exposure to COVID-19, maximizing limited PPE and ventilators, and preparing hospital space for additional intensive care unit (ICU) beds.[6] These challenges are exacerbated by financial insecurity among some rural hospitals, including CAHs.[7–9] While the Centers for Disease Control and Prevention (CDC) has guidelines for healthcare facilities on managing crisis operations,[10] little is known about if or how these guidelines have been implemented by CAHs.

Even before the COVID-19 pandemic, healthcare professional shortages were a serious ongoing challenge for rural health systems and CAHs,[11,12] and during this crisis, emergency medicine and respiratory specialist shortages[13,14] created an even greater need.[15] These and other challenges have put immense strain on health professionals, and hospitals have been forced to adapt to maintain staff capacity and cope with other workforce issues related to the pandemic. There is limited research thus far on how CAHs are responding to the new and exacerbated workforce challenges triggered by the COVID-19 pandemic.

APPROACH

Data for this study come from a survey of 158 CAH CEOs across eight states. The survey was fielded between September 8, 2020 and October 30, 2020, and participants answered questions about their hospital's capacity to respond to the COVID-19 pandemic from February to August 2020.

Eight states were selected based on prevalence of COVID-19 cases in July 2020 in rural counties (defined as all non-metropolitan counties including micropolitan and non-core).[16] The rural prevalence was determined for every state with at least 10 CAHs using USA Facts,[17] and the two states with highest rural prevalence in each of the four U.S. Census regions were selected. The selected states included Arizona, Florida, Indiana, Iowa, Louisiana, New York, Pennsylvania, and Utah, and all CAHs in these states were surveyed.

Survey questions were developed based on a literature review and expert panel, and included questions on several topics: finance, federal policies, capacity for treatment, workforce, and partnerships. Feedback from five pilot test participants in three states informed the final survey. To field the survey, CAH CEOs were emailed a link to the online survey. Follow up was completed via email and over the phone. CAH CEOs could also designate another staff member to respond to the survey on their behalf. Out of a total of 216 CAHs contacted, a response rate of 73% was achieved, with 58 CAHs that did not respond to the survey.

Qualitative data from the survey's open-ended questions for this analysis included questions asking about 1) innovative ways hospitals overcame obstacles for treating COVID-19 patients during the pandemic; and 2) how hospitals overcame workforce challenges. Responses were coded by two members of the research team using conventional inductive content analysis to identify key themes. Additional data on response rates and frequencies were calculated using STATA software.

RESULTS

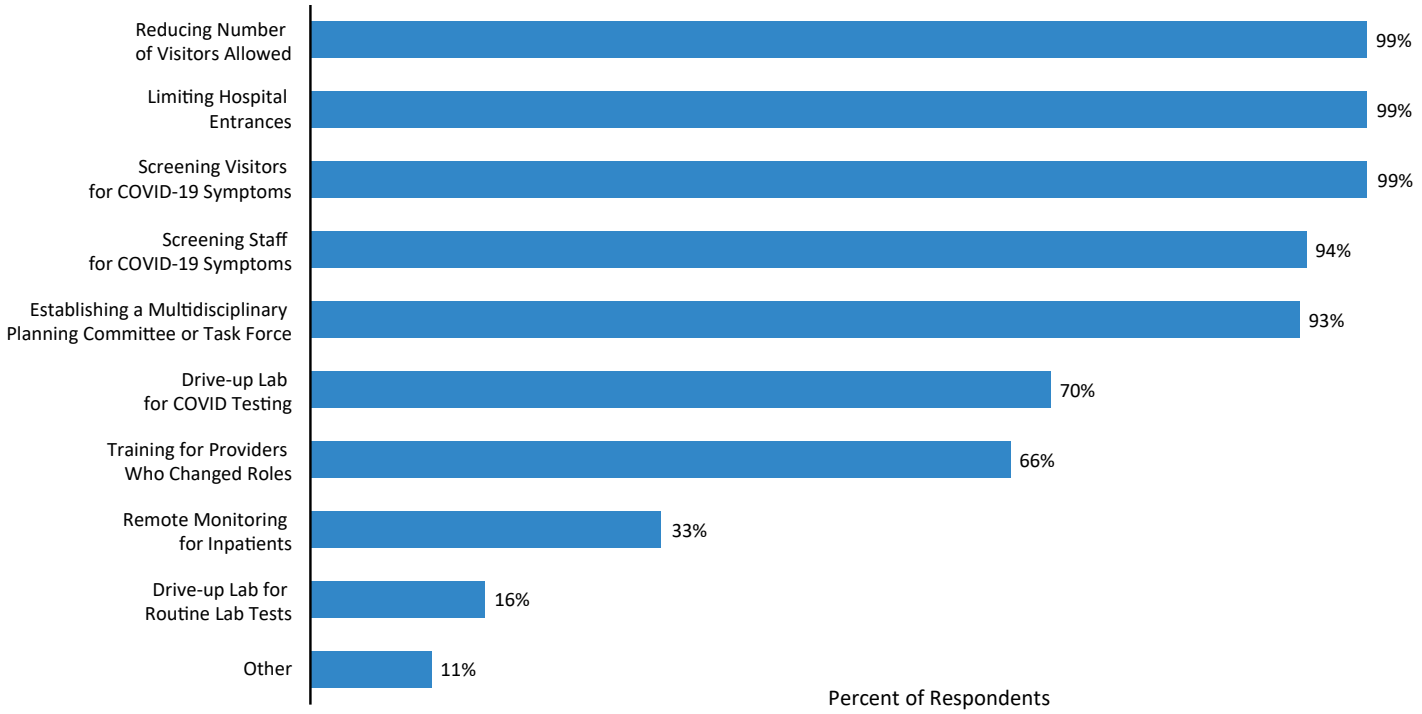
Adapting operational processes

Respondents were asked two multiple choice questions regarding their operational processes during the first seven months of the COVID-19 pandemic: 1) What processes did your hospital implement when a suspected COVID-19 patient called or arrived at the hospital?; and 2) What operational processes did your hospital implement in response to COVID-19? All 158 respondents answered both questions. Respondents were allowed to select multiple answers from a list and/or select an "other" option to describe additional processes.

With regard to processes followed specifically when a suspected COVID-19 patient called or arrived at the hospital, nearly all respondents (95%) indicated that they designated specific areas for suspected COVID-19 cases and the majority noted that they evaluated patients via phone or outside the hospital (79%). Some respondents (29%) directed or transferred patients to another hospital.

Participating CAHs also provided insight into more general operational processes their hospital implemented in response to the COVID-19 crisis, shown in Figure 1. Nearly all participants reported that they reduced the number of visitors in their CAH, limited hospital entrances, screened visitors for COVID-19 symptoms upon entering, screened staff for COVID-19 symptoms upon entering, and set up a COVID-19 planning committee or task force. A majority of respondents also indicated that they set up a drive-up lab for COVID-19 testing and offered training for providers who changed roles during the COVID-19 response. Less commonly, some CAHs utilized remote monitoring for inpatients and implemented a drive-up lab for routine lab tests for patients monitoring chronic illness.

FIGURE 1. CAH Operational Processes Implemented in Response to COVID-19 (February to August 2020)

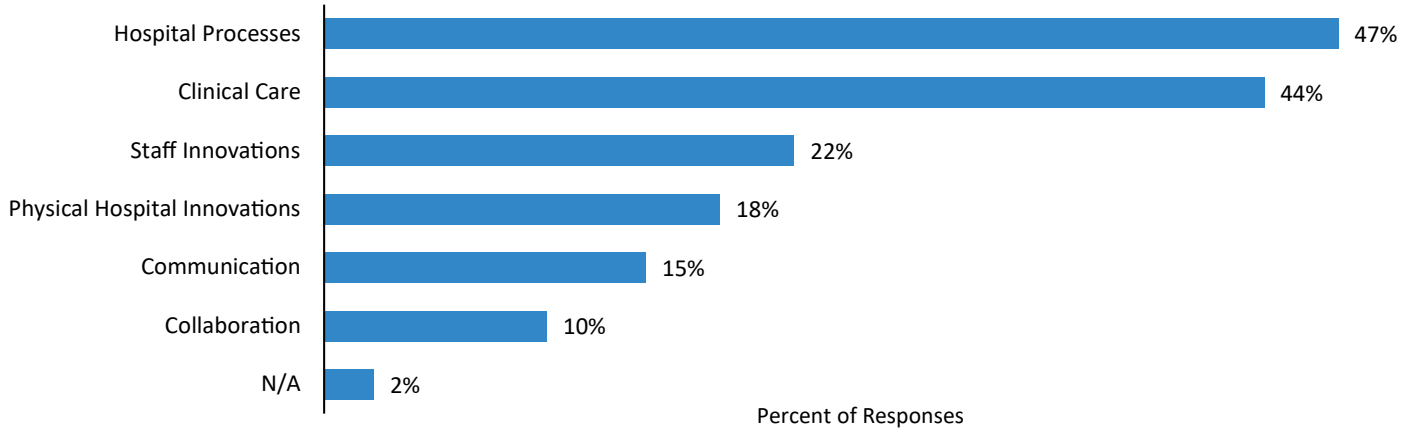


Note: Respondents could select as many answers as applied

Innovations

Respondents were asked to describe any unique ways their CAH overcame obstacles during the first seven months of the COVID-19 crisis. Eighty-seven CAHs answered this open-ended question. The analysis resulted in six themes for these innovations (see Figure 2): 1) Hospital Processes; 2) Clinical Care; 3) Staff Innovations; 4) Physical Hospital Innovations; 5) Communication; and 6) Collaboration.

FIGURE 2. Types of Innovations Described by CAHs to Overcome Obstacles during the COVID-19 Pandemic (February to August 2020)



Note: Respondents could provide more than one answer for types of innovation

Of the innovations described by respondents, the most common theme was hospital processes, including processes related to patient care (coordinating video chats for family to visit with patients), patient transfers (in and out of their facilities), and conducting COVID-19 testing outside the hospital.

The second most common theme in responses described innovations related to clinical care. These responses included using telehealth or establishing separate clinical teams, units or clinics to treat COVID-19 and other patients.

Other themes described staff innovations with responses including retraining or cross-training staff to work in different areas and allowing staff to work remotely, as well as physical hospital changes with responses including creating negative pressure rooms or other construction that changed the physical layout and/or function of their hospital. Remaining themes included communication (e.g., daily briefings, use of a COVID-19 hotline, and incident command) and collaboration with local public health, first responders, police, and others.

Table 1 displays quotes from respondents that illustrate each theme.

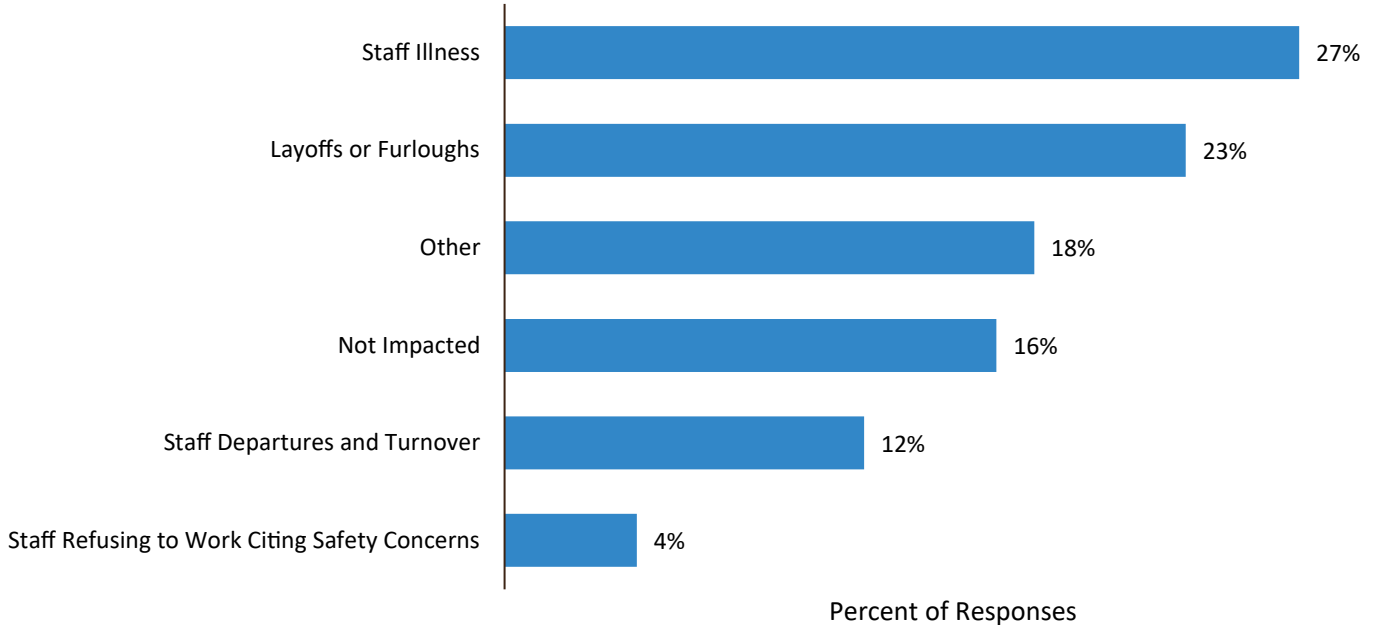
TABLE 1. Innovative Ways CAHs Overcame Obstacles during COVID-19 Response (February to August 2020)

Theme	Quotes
Hospital Processes	"Inpatients were offered remote visiting to loved ones via iPad" – Louisiana CAH "We've just tried our best to treat them [patients with COVID-19], keep the ones we can, and work with other facilities when we had to transfer." – Florida CAH "Placed a Blue Star outside of ED cubicles or Med Surg rooms to indicate person under investigation (PUI) or confirmed COVID" – Pennsylvania CAH
Clinical Care	"Creating a 'sick' clinic (within the same footprint) to avoid exposing 'well' patients to infectious patients." – Iowa CAH "[We] used telehealth for virtual visitations with patients and families during visitor restrictions." – Indiana CAH "We didn't keep them [patients with COVID-19]. Obviously we'd treat it if the symptoms weren't very much but kept people home. A lot of testing outside, confirmation, and using telehealth to walk them through their at home stay." – New York CAH
Staff Innovations	"We also set up a pantry in our cafeteria to minimize staff going to local grocery stores, etc., to minimize their exposure. We even prepared meals that they could take home." – Indiana CAH "Since we closed outpatient surgeries, we cross-trained nurses to work as functional nurses and went to a team nursing model." – Indiana CAH
Physical Hospital Innovations	"We outfitted an old skilled nursing unit for expansion of beds. We built a few extra negative pressure rooms to be prepared in the instance that we had to surge." – New York CAH "[We] created negative pressure rooms, bought portable equipment." – Louisiana CAH
Communication	"Establishing a hotline for all community members to call to be routed to the appropriate area for care." – Utah CAH "Did routine (2x per week) interviews that were broadcast into the community, we were very open and transparent about what was happening and reinforcing public health practices to keep spread down. As a way of introducing the drive up clinic, we invited the media in to create awareness" – New York CAH
Collaboration	"We worked as a system and as regions, not trying to solve issues just within the building. We shared equipment, PPE, staff." – Indiana CAH "Worked closely with County Health Dept[Department] assisting with staffing help & other support." – Indiana CAH

Workforce challenges

In response to the question "What was the biggest impact of the COVID-19 pandemic on your hospital's staffing overall?", respondents were asked to select one of six categories. All 158 respondents answered this question, and results are shown in Figure 3. If respondents selected "other," they were asked to provide details in a blank text box. Examples of the "other" responses included staff stress or exhaustion and staff reassignments.

FIGURE 3. Responses Indicating the Biggest Impact of COVID-19 on CAH Staffing (February to August 2020)

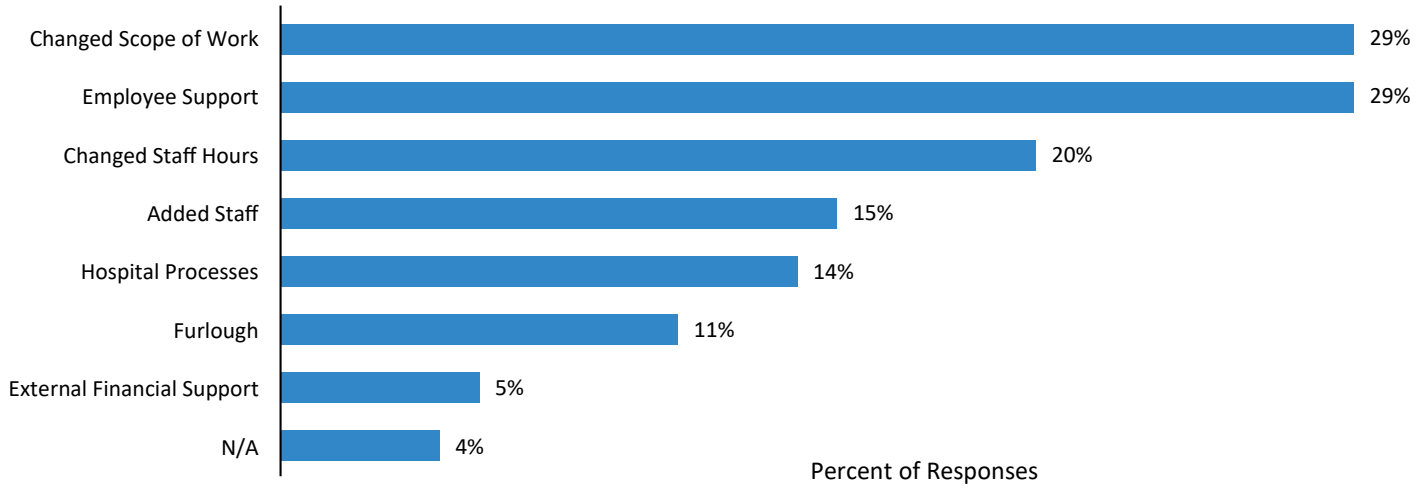


Some respondents who selected "staff illness" in response to this question noted that they were including staff needing to quarantine after exposure to COVID-19. It is also worth noting that this response option was not specific to staff who had been infected with COVID-19; staff may have been out sick for other reasons.

This question was followed by a related open-ended question: "How did your hospital overcome these workforce challenges?" Ninety-four respondents answered this question, and eight themes were established to categorize responses (see Figure 4): 1) Employee Support; 2) Changed Scope of Work; 3) Changed Staff Hours; 4) Added Staff; 5) Hospital Processes; 6) Furlough; and 7) External Financial Support.

The two most common themes for how CAHs overcame workforce challenges were changing scope of work and employee support, with both themes mentioned in 29% of responses. Changing scope of work included examples related to cross-training or reassigning employees to other roles (e.g., reassigned staff to screen patients and visitors for COVID-19 symptoms, managers covered their employees' shifts). Examples of employee support provided by participating CAHs included communication with staff, employee incentives (such as paying overtime or bonus pay, providing food and other essentials), employee education (including providing resources about their Employee Assistance Program and unemployment benefits), or a positive work environment (including boosting morale and making sure staff felt safe).

FIGURE 4. Types of CAH Responses to Workforce Challenges During COVID-19 (February to August 2020)



Note: Respondents could provide more than one answer for types of responses to workforce challenges

Another common theme was changing staff hours, with responses including extending hours through overtime or working extra shifts, or requesting staff to reduce hours. Additional themes included adding staff through contract labor, increasing hiring, or utilizing staff from other hospitals, and hospital processes such as service reduction, expanding telehealth services, and patient transfers.

Less frequent themes included mentions of furlough (e.g., asking employees for voluntary furlough and bringing furloughed employees back to work as soon as possible), and external financial support such as stimulus funds, grants, and loans that were essential to minimize layoffs or furloughs.

Outside of these themes describing how CAHs overcame workforce challenges, 19% of responses indicated that the CAH had not overcome them, including examples of continuing difficulties hiring additional staff and dealing with employee illness. One Iowa CAH reported "[We] tried to hire traveling nurses, but [are] still unable to do [so] because of competition [level] of pay that those nurses were able to receive in the larger hospitals."

Table 2 provides examples of how CAHs overcame workforce challenges in each of the themes.

DISCUSSION

This study highlights the creativity of CAHs to adapt hospital processes in response to a public health emergency. Overall, the vast majority of CAHs participating in this study have updated their operational processes to be consistent with national recommendations,[10] and many are going beyond those recommendations to develop their own solutions to the challenges they face. The majority of these innovations were related to hospital processes or clinical care. As noted by one CAH, "If there was a time that our organization has performed its best, this was it. We've met the challenges from an internal standpoint with staffing, taking great care of patients."

Despite the optimism from many, several responses indicated that CAHs were still working to overcome workforce challenges caused by COVID-19. These responses likely underestimate CAHs' present needs as participants were not explicitly asked about the status of current workforce challenges.

TABLE 2. How CAHs Overcame Workforce Challenges during COVID-19 (February to August 2020)

Theme	Quotes
Changed Scope of Work	"We tried to move some individuals into other areas and utilize in other spaces" – New York CAH "Stressed the need for staff flexibility with managers and provided training for new roles" – Iowa CAH
Employee Support	"Through consistent and regular communication, providing accurate and understandable facts, and by creating an environment where staff can safely ask questions and where we can address concerns as a team." – Pennsylvania CAH "We implemented incentive programs, COVID differential for employees that were working on the COVID wing." – Florida CAH
Changed Staff Hours	"Staff were willing to step in and take overtime to accommodate staff illness." – Iowa CAH "Available staff worked overtime. Some departments didn't have enough work but we kept them on." – Utah CAH
Added Staff	"Reaching out to other local hospitals as well as reaching back into our employee history and reaching out to some former employees trying to get them to come back and help out." – Iowa CAH "[We] had to bring an agency in for lab and some nursing areas." – Florida CAH
Hospital Processes	"Organized back up staffing." – Arizona CAH "Expand[ed] telehealth services." – Indiana CAH
Furlough	"Emergency work reductions, then furloughs and partial layoffs. Bringing some staff back as services come back on line." – New York CAH
External Financial Support	"Without stimulus money and PPP, furloughs and layoffs would have been biggest issues." – Iowa CAH

The biggest challenge of staff illness (noted by 27% of respondents) is a struggle common to hospitals across the country.[15] Due to longstanding health professional workforce shortages in rural areas prior to the pandemic, particularly for nurses,[11,12] these CAHs have struggled even more during the COVID-19 pandemic to find available staff. Given the nature of COVID-19 (e.g., delay in time from exposure until symptom appearance, testing delays), CAHs noted that even having a few staff out could have a large impact on their hospital. One CAH mentioned that "Our staff is being exposed more and more so we're running up against staff not being able to provide patient care as well as environmental services, cooks, others to continue operations of the hospital." In order to withstand staffing shortages, some CAHs referenced utilizing staffing support from their hospital system or local hospitals, and other strategic partnerships.[18]

Twenty-three percent of respondents indicated that the biggest impact of COVID-19 on their hospital's staffing overall was staff layoffs or furloughs, which was the second most common challenge. These findings show the importance of support for CAHs and their staff during a public health emergency like the COVID-19 pandemic. Examples from this study indicated that financial support through stimulus funds and the Paycheck Protection Program helped many CAHs minimize furloughs or layoffs. One CAH CEO reported that they took a 25% reduction in compensation before implementing any furloughs.

These results also demonstrate the wide range of challenges CAHs were facing at the time of the survey. While some were trying to secure additional staff due to high patient volume combined with staff illness or turnover, others may have had lower patient volume and were working to contain costs through furloughs or layoffs,

particularly during times when elective procedures were banned due to the nationwide lack of PPE.[19] Some also noted lower patient volumes due to community members avoiding going to the hospital out of fear, or a lack of tourists who would normally visit their area. Of note, 16% of respondents said that the COVID-19 pandemic had not had much of an effect on their hospital's workforce. This may be related to fewer cases of COVID-19, the CAH's financial stability, or other factors.

The wide variation in challenges faced by CAHs due to the COVID-19 pandemic, as well as the diverse range of strategies implemented to address these challenges, illustrates the need for broad-ranging support from federal, state, and local levels to help CAHs to stay open and provide the highest quality care possible during these challenging times. Flex funding may also help support CAHs in preparing for future pandemics or other public health emergencies. As summarized by one CAH:

> *"My concern is as a small rural hospital… we did not have a lot of admissions… so the numbers are going to look low but that doesn't give a full picture of the preparations, the anxiety, everything that the organization has gone through. It doesn't capture the stress for all members of the workforce."*

LIMITATIONS

This study has some limitations. First, there is the potential for nonresponse bias as some CAHs may not have had the time to respond to the survey due to time constraints related to their COVID-19 response or caseload. Some CAHs in the sample declined, saying they had a lot of similar requests and did not have the capacity to respond. In addition, despite efforts to standardize the survey there may have been some differences in the approach among staff administering the survey via phone when compared to the online survey.

Though the survey went through a thorough review, some of the survey questions may have been interpreted differently by respondents. One example is the survey question "What was the biggest impact of the COVID-19 pandemic on your hospital's staffing overall?" Some respondents expressed difficulty choosing one answer and may have a different interpretation of what "impact" means (i.e. number of staff, impact on patient care, impact on finances).

Finally, the study only covered the period of February-August 2020, and there has been a noticeable increase in COVID-19 cases in many rural areas after this period.[20,21] This may lead to additional challenges that CAHs continue to face later in 2020 and into 2021.

CONCLUSIONS

The findings in this brief demonstrate the wide range of CAH experiences during the initial months of the COVID-19 pandemic, as well as the variety of ways CAHs have responded to overcome various challenges. This work is particularly important in order to continue understanding the impact of the COVID-19 pandemic on CAHs specifically, beyond patient volume and other metrics commonly reported in the media and research about all hospitals.

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For more information on this study, please contact Madeleine Pick at pickx016@umn.edu.

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