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Critical Access Hospitals' Initial Response to COVID-19 by System Affiliation

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KEY FINDINGS

- Data from a survey of Critical Access Hospital (CAH) CEOs suggest relatively low volumes of COVID-19 cases in participating CAHs during the initial months of the pandemic (February through August 2020), with no significant differences between system-affiliated and independent CAHs.
- CAHs that were affiliated with a health system were more likely to report that their Personal Protective Equipment (PPE) supply met their needs during their initial response to COVID-19, compared to independent CAHs.
- System-affiliated CAHs mentioned several benefits of being part of a system in their initial response, while perspectives from independent hospitals were more mixed about their ability to respond to the pandemic.

PURPOSE

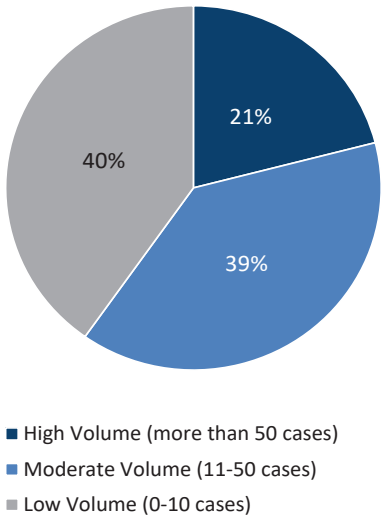
System affiliation can impact how a hospital responds to a public health emergency, such as the COVID-19 pandemic, including access to resources, staff, and information. In this study, more than half (51%) of Critical Access Hospital (CAH) respondents reported that they were part of a hospital system. The purpose of this data brief is to summarize how system-affiliated and independent CAHs described the impact of system affiliation on their initial response to COVID-19.

APPROACH

Data for this report come from a survey of CAH CEOs in eight states in fall 2020. States were selected based on high prevalence of COVID-19 cases in rural counties as of July 27, 2020 in each of the four U.S. Census regions. Participants answered questions about their hospital's response during the initial months of the COVID-19 pandemic from February through August 2020. Detailed methodology can be found here. The results presented in this brief are not necessarily generalizable to the more than 1,300 CAHs across the U.S.

Initial COVID-19 case volume from February to August 2020 as reported on the survey was relatively low, shown in Figure 1 (see page 2). The majority of CAHs (57%) reported 0 deaths related to COVID-19 at that time. No statistically significant differences were found between system-affiliated and independent hospitals for COVID-19 case volume or deaths.

FIGURE 1: COVID-19 Case Volume Reported by CAHs (February to August 2020)



Note: Percentages reflect the percent of respondents in each category.

RESULTS

Resource Availability and Use

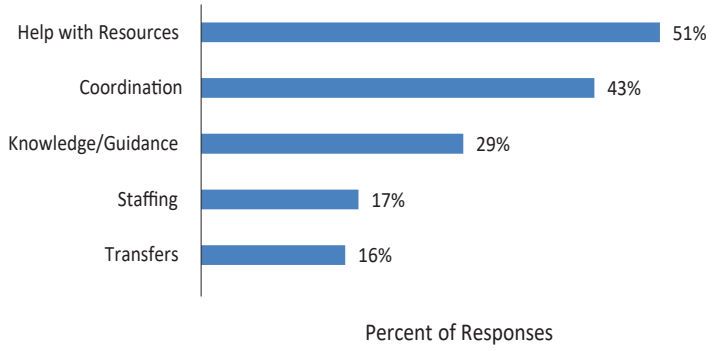
The availability of ventilators and Personal Protective Equipment (PPE) are important factors that can influence a CAH's ability to treat COVID-19 patients. On average, CAHs had 5.5 ventilators, including standard and emergency ventilators, ready to use during the period of February through August 2020 (Table 1). However, only 30% of CAHs had at least one admitted patient that used a ventilator and very few CAHs ever needed more ventilators than were available on site. There was no significant difference in the mean number of ventilators a CAH had ready to use based on system affiliation.

Overall, 80% of CAHs indicated that their PPE supply met their hospital's needs during the seven month study period, but this finding differed significantly by system affiliation, with 87% of system hospitals reporting their PPE supply meeting their needs compared to 73% of independent hospitals ($p<0.05$).

System-affiliated CAHs

When asked in an open-ended question how system affiliation impacted the response of their hospital to the COVID-19 crisis, five key areas were identified by system-affiliated CAHs (see Figure 2). The most common theme was help with resources, such as increased access to PPE through inventory sharing, as well as group purchasing and supply chain management. This was also reflected in the above finding that a higher percentage of system hospitals reported that their PPE supply met their needs during the COVID-19 pandemic compared to independent hospitals.

FIGURE 2: Impact of System Affiliation on CAHs' Response to COVID-19 (February to August 2020)



Note: Respondents could provide more than one answer.

TABLE 1: Use of Ventilators and PPE Supply by System Affiliation

	System-Affiliated	Independent	Overall
Average # of ventilators ready to use	5.3	5.7	5.5
At least one admitted COVID-19 patient used a ventilator	21.3%	39.4%	30.7%
Needed more ventilators than those on-site	1.3%	6.5%	3.9%
PPE supply met hospital needs	87.2%*	73.4%*	80.3%

*$p<0.05$

"Being in a system positioned us very well. They set up regional and local incident command. Access to resources, inventories, expertise, support. We had great leadership."

- System-affiliated CAH Administrator

The second most common theme was enhanced coordination through an incident command structure and/or daily updates on capacity monitoring and surge planning. Other common themes included guidance on policies, best practices, and access to infectious disease expertise; staffing support (e.g. staff retention and staff sharing across system hospitals); and efficient transfers of COVID-19 patients with complex needs.

Independent CAHs

By contrast, survey respondents from independent hospitals (49% of sample) provided mixed responses on their initial ability to respond to the COVID-19 pandemic. The majority of responses from independent CAHs mentioned leveraging relationships through affiliations with other local or regional hospitals and health systems, and having strong support from their hospital board and the broader community. In addition, by avoiding corporate delays some independent CAHs reported they could be more nimble in developing and implementing locally relevant policies and best practices. As described by one CAH, "[Being an independent hospital] meant that we didn't have to be told what to do by somebody else, we were able to make our own decisions about how best to confront the pandemic. I think our independence is a great strength."

However, other independent CAHs noted that their initial response to the COVID-19 pandemic was more challenging because they were not part of a health system. Some cited issues obtaining resources such as COVID-19 tests, PPE, and other supplies due to vendor limitations and limited purchasing power. Others noted additional challenges and staff resources including limited access to clinical specialists such as infectious disease doctors, and staff retention and replacement.

"As an independent hospital our needs are often different than for facilities that are part of a larger health system. We do not have, nor do we have easy access to, clinical specialists like infectious disease doctors. Vendors sometimes limited the amount of PPE we could purchase; health systems can redistribute supplies they have to meet demands in different locations."

– Independent CAH CEO

CONCLUSIONS

The value of system affiliation by CAHs was reflected in the enhanced ability to source PPE inventories, the availability of timely information on CAH and system COVID-19 response capacity, access to hospital policy and care treatment best practices, limited staff layoffs and furloughs, and through the provision of natural referral mechanisms for complex COVID-19 cases to hospitals with intensive care units and other necessary resources.

Overall, respondents from system-affiliated CAHs almost unanimously mentioned what they gained from being part of a system in response to this question. Responses from independent CAHs were more nuanced, with respondents often citing both benefits and drawbacks of being an independent CAH during their initial response to COVID-19. This highlights the need for support to maintain the operations of these facilities during a public health emergency. Many independent CAHs reported challenges obtaining PPE including vendor limits on how much they could purchase,

high prices, and struggling to find vendors with PPE available. One approach for addressing these needs is the development of new networking partnerships that formalize the relationships of CAHs with their local and state health departments and other community stakeholders. These partnerships may enhance access to resources such as PPE and testing supplies, sharing and timely dissemination of pandemic related information, and coordination of activities related to testing, contact tracing and vaccine deployment.

For more information on this report, please contact Maddy Pick, pickx016@umn.edu.

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