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Major Article

Rural infection preventionists' experiences during the COVID-19 pandemic: Findings from focus groups conducted with association of professionals in infection control & epidemiology (APIC) members

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A B S T R A C T

Background: SARS CoV-2, the virus that causes COVID-19, was identified and quickly developed into a pandemic in spring, 2020. This event posed immense difficulties for healthcare nationally, with rural areas experiencing different challenges than other regions.

Methods: The Association of Professionals in Infection Control & Epidemiology conducted focus groups with infection preventionist (IP) members in September and October, 2020. Zoom sessions were recorded and transcribed. Content analysis was used to identify themes.

Results: In all, 38 IPs who work at a critical access hospital or a healthcare facility in a rural location participated. Major challenges identified by IPs in this study included addressing the lack of access to personal protective equipment (PPE), overwhelming workloads caused by the pandemic and multiple roles/responsibilities, inaccurate social media messages, and generalized disbelief and disregard about the pandemic among rural community members.

Conclusions: Gaps in preparedness identified in this study, such as the lack of PPE, need to be addressed to prevent occupational illness. In addition, health disparities and inaccurate beliefs about COVID-19 heard by IPs in this study need to be addressed in order to increase compliance with public health safeguards among rural community members and minimize morbidity and mortality in these regions.

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BACKGROUND

In early January, 2020, the World Health Organization (WHO) reported that a novel coronavirus, later named SARS-CoV-2, was associated with multiple cases of atypical pneumonia in Wuhan, China.¹ By late January, 2020, more cases were identified globally, and led the WHO to declare the novel coronavirus outbreak a public health emergency of international concern. On February 11, 2020, the illness caused by this novel pathogen would be named COVID-19.¹ By March 11, 2020, the WHO characterized it as a pandemic.¹ Six months after the declaration of the pandemic, the U.S. reached 31,

988 confirmed cases with 1,101 confirmed deaths.^{2,3} As of this writing, the United States continues to lead the world in cumulative cases and deaths from COVID-19.²

Early cases of COVID-19 in the U.S. were identified in urban areas, such as New York City, imported through international travel.⁴ However, as the pandemic evolved, cases were identified in rural areas, stemming from human road travel.⁵ Some rural areas even became hotspots of disease or the source of focused outbreaks, such as in meat processing plants located in rural areas.⁶ The pandemic created healthcare surges nationwide, including in urban, suburban, and rural areas, and posed significant challenges for infection preventionists (IP) who are charged with identifying, preventing, and controlling infectious disease transmission in healthcare settings. However, the experiences of IPs during the pandemic may vary, based on facility type, facility size, and geographic location. For example, facilities with low inpatient census are more likely to be located in rural areas,

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and IPs working in smaller hospitals tend to work less on surveillance and more on employee/occupational health, as well as education and research.⁷ This project's purpose was to evaluate rural IPs' experiences and challenges during the first 9 months of the COVID-19 pandemic.

METHODS

The Association of Professionals in Infection Control & Epidemiology (APIC) conducted a series of 7 focus groups with their members in September and October, 2020. IPs were recruited through an email newsletter developed by APIC and sent to their US members. As part of the recruitment process, IPs were asked to self-identify their work setting and/or level of experience (≤ 3 years or ≥ 10 years) for group assignment. The original project involved 6 focus groups, one of which consisted of rural IPs. However, during the session with rural IPs, it became clear that they faced many challenges not reported by IPs in suburban and urban settings. Therefore, a seventh focus group focusing on rural IPs was added. Only data from the two focus groups consisting of IPs who work in a rural area/setting or comments from the other 5 focus groups made regarding rural-specific concerns are used for this analysis. The focus groups occurred via Zoom. Focus group methodology consisted of using open-ended questions to elicit information regarding IPs' experiences during the COVID-19 pandemic were used. In addition, demographic data was collected via a survey following the focus groups. Zoom sessions were recorded and then transcribed verbatim. Content analysis was used to organize and categorize the data by theme. Quotes that best depict or summarize the themes are reported. Bracketed words within quotes were provided to clarify the IPs' quotes when needed. The Saint Louis University Institutional Review Board deemed this project to not be human subjects research.

RESULTS

In all, 38 IPs who work at a critical access hospital or a healthcare facility in a rural location participated. Participant demographics are outlined in [Table 1](#). All participants identified as female, with the majority holding either a bachelors or master's degree (63.16% and 26.32% respectively; [Table 1](#)). Approximately one third (34.2%, $n = 13$) of the IPs had between 5–10 years of work experience ([Table 1](#)). About a third of the IPs hold the CIC credential (34.2%, $n = 13$; [Table 1](#)). Thirty (79.0%) of the IPs worked in a hospital setting, with the rest (21%, $n = 8$) working either in ambulatory care/outpatient or long-term care ([Table 1](#)). Of those who work in hospitals ($n = 30$), 70% ($n = 21$) managed a hospital of less than 50 beds ([Table 1](#)). The IPs were from across the United States. Most (42.1%, $n = 16$) were from Midwestern facilities ([Table 1](#)). The rest were from the West, South and Northeast (26.32%, 21.05%, 10.53%, respectively; [Table 1](#)).

Participating IPs were asked if their facility had ever run out of any type of personal protective equipment (PPE) during the pandemic. About a third (34.2%, $n = 13$) reported running out of any type of PPE during the pandemic ([Table 2](#)). The most frequently reported PPE shortage was N95 respirators, with 5 (13.2%) IPs citing this deficiency ([Table 2](#)). Fewer (8.0%, $n = 3$) reported that they ran out of eye protection or gloves. A summary of access to each type of PPE is outlined in [Table 2](#).

Lack of access to supplies

All of the participating IPs described the challenges and frustrations related to attempting to access adequate infection prevention supplies throughout the COVID-19 pandemic, regardless of their work setting. However, IPs working in critical access hospitals stated

Table 1
Focus group participants' demographic characteristics

	N = 38 % (n)
Gender	
Female	100% (38)
Age	
21–30	2.63% (1)
31–40	7.89% (3)
41–50	44.74% (17)
51–60	31.58% (12)
≥ 61	13.16% (5)
Highest Education Level	
Bachelor's Degree	63.16% (24)
Master's Degree	26.32% (10)
Associate degree	10.52% (4)
Certification Status	
No CIC	65.79% (25)
CIC	34.21% (13)
Years of Work Experience as an Infection Preventionist	
< 1 year	15.79% (6)
1–2 years	13.16% (5)
3–4 years	21.05% (8)
5–10 years	34.21% (13)
≥ 11 years	15.79% (6)
Work Setting	
Hospital	78.95% (30)
Ambulatory Care/Outpatient	13.16% (5)
Long-Term Care	7.89% (3)
Hospital Bed Size	N = 30
≤ 50 beds	70% (21)
51–99 beds	6.67% (2)
100–199 beds	3.33% (1)
200–299 beds	13.33% (4)
300–399 beds	3.33% (1)
400–499 beds	0% (0)
≥ 500 beds	3.33% (1)
Location of Employer	
Rural	100% (38)
U.S. Census Region	
Midwest	42.10% (16)
West	26.32% (10)
South	21.05% (8)
Northeast	10.53% (4)

that they had difficulty getting supplies simply because they are a small rural facility. As one IP shared:

We're different from large hospitals and it's been terrible trying to get any supplies on our end. The distributors have just cut us off, because in the big scheme of things, we're really small.

Other IPs also described how a lot of rural hospitals are sent an allotment of PPE each month based on their typical patient census. When the COVID-19 pandemic hit, and patient numbers increased, those old PPE allotments were no longer sufficient. As the IPs explained:

Table 2
Personal Protective Equipment (PPE) access reported by participants between March through October, 2020

	N = 38 Yes % (n)
Ran out of any type of PPE during the pandemic	34.2 (13)
Ran out of N95 respirators	13.2 (5)
Ran out of isolation gowns	10.5 (4)
Ran out of eye protection	7.9 (3)
Ran out of gloves	7.9 (3)

Stockpiling isn't typical because you usually just get an allotment, and you have kind of a just-in-time system. So, for us, that was a major challenge.

[A lack of PPE] is what you get when you're working rural. The PPE problem was and continues to be a huge problem. We're very small. We might have one or two people on isolation in any given month. And since the allotments were based on our previous census, our allotments were very, very small.

We had a lot of issues obtaining supplies, especially N95's. Because we are a small hospital, we were not allotted larger amounts of supplies due to our previous ordering status.

That's been our challenge as a critical access or small hospital is that we're the little guys and we didn't have as much pull with the vendors and getting PPE. They wanted to go after the bigger hospitals and bigger orders.

Not only did IPs struggle to get supplies, but when they were provided an option to order more, the prices were no longer affordable. One IP explained, "The price gouging has been phenomenal. Like what we used to pay for cents on the dollar are like dollars upon dollars for isolation gowns and (other PPE). So that has really impacted our bottom line." Due to the struggle obtaining supplies, rural IPs were forced to find creative solutions. Some examples of temporary solutions included using cloth gowns, trash bags as isolation gowns, and homemade powered air purifying respirators (PAPRs). The IPs explained these solutions in their own words:

We transitioned to [cloth gowns]. But the most challenging part is, you then have to have a process of making sure the gowns make it into a different bin for laundering, make sure they're going to the laundry correctly. It's more complicated than something that's simply disposable.

We've been really beholden to donations. We're very fortunate to get some people who bought 3D printers in the community and made us face masks or face shields.

We have a little industry that actually shut down because of COVID, but they pulled their engineers together and basically created their own form of PAPR. They worked with the FDA and got a temporary emergency use authorization for it and we were actually able to start using those.

Disbelief and disregard about the pandemic

Many participating IPs described struggles with some community members acting in blatant disregard to the hospital's or state's COVID-19 protocols due to disbelief about the pandemic. As one IP said, "We have a lot of fights at our screening table and with security, people who don't believe [the pandemic is real] and that sort of thing." As another IP described, "One major challenge in my area is that the general population has varied widely in its interpretation of everything related to the virus from 'It's a hoax, a myth, not even real' to overwhelming fear and distrust." As another explained, "It's a constant education of the public coming in asking why masking is important, why social distancing is important." Some cited the political climate in the area surrounding the facility, saying that they were "dealing with the political issues with trying to get mask compliance"

or "the political issues are hurting my credibility with the community." As IPs explained:

In my community, I live in ranch country and I have a lot of non-believers that believe this is a conspiracy of the government. And so people don't wear masks and they don't social distance until our grocery store got fined by [a state health authority]. And now everybody wears a mask, pretty much, but we still deal with people who want to come into the hospital as a visitor and are like, 'Why are you taking my name? Why is the governor going to have my information?' It's really dealing with a lot of non-believers. It's very, very difficult.

We did not see COVID activity early on as we are quite far from metro areas. So staff began to feel we were immune to the disease and have come to not trust the numbers published about disease and death rates. We are now having a surge in community spread and are now working at getting staff to take the precautions seriously again.

Many of the IPs interviewed shared that some individuals in their community have gone a step beyond disbelief and have tended towards acting inappropriately and violating protocols when they were forced to follow public health safeguards. IPs had to rely on police, security personnel, and public health officials to help manage these situations. As IPs described:

We actually just had a security guard today that was attacked by a visitor who was upset about having to wear a mask and wanted to get into the ED to see a family member.

We even had a patient who tested positive who then came into the hospital, refused to wear a mask, and tried to...said she was going to expose everyone, trying to spit and breathe on people. We had to have the police involved.

We have a population that have been not social distancing who are coming up positive for COVID. We really had to work with public health and have those individuals understand why they can't be in the building.

Participating IPs discussed challenges posed by inaccurate or unsettling messages their community members were receiving via social media about COVID-19. Some IPs described challenges from staff who were worried they might become "the garbage bag nurses", or who would question protocols because a colleague in a different hospital talked about different policies at their facility. Other IPs described spending a lot of time reminding staff to "not feed into social media hysteria" and to keep focused on doing their best to keep themselves and patients healthy. The IPs described the social media challenges as follows:

Social media was actually one of my biggest hurdles, especially in the beginning of the pandemic, because we were not really affected until recently. Staff were seeing people in the media wearing garbage bags and using the same masks for weeks at a time, but I'm telling them to change the gloves and throw their mask away and things like that.

We had some physicians reprimand staff who are throwing their masks away, because there are other facilities that didn't have masks to throw away. Social media did not help at all in my situation.

We are having problems with the public and social media. We had somebody who came in wearing a fishnet mask, which was not caught by our screening table. I had just submitted an article to the paper about all the things we did in the hospital to affect people's safety here. She then took a picture outside of the hospital in her fishnet mask and posted it all over social media that we weren't that safe, she still was able to get through our safety net.

One of the major challenges faced by the IPs throughout the pandemic was handling the frequent guidance changes and conflicting practice recommendations. Though this was expressed by IPs in all work settings, rural IPs described a unique situation. The changing guidelines fostered a sense of mistrust between the small rural facilities and their larger system partners, something that was not described by IPs in suburban and urban settings. The critical access hospitals did not necessarily have the infrastructure nor resources to follow the same protocols as the larger hospitals. This included challenges, such as not having the same amount of PPE nor staff to follow the same protocols as larger facilities, and this created distrust among some healthcare personnel. One IP explained the challenge that arose when providers came to their hospital from larger institutions:

When they're doing surgery one place and then they come here and we have different guidelines, that's tough to kind of get your point across that this is how we do things here. We have a lot of difficulty with some providers and them buying in on our processes.

Perceived obligation to and reciprocity from the community

Many participating IPs in this study described having a deep sense of obligation to serve their communities, which resulted in increased work and stress. Because their community is much more insular, they believe they do not have the anonymity that IPs in larger hospitals or cities have and they felt they needed to serve as community experts for pandemic response. Many IPs found themselves in a consulting role for local businesses, faith-based organizations, and schools on how they could safely reopen or function during the pandemic.

As IPs explained

I felt like I really had the weight of the world and the weight of my community and the salvation of my community on my shoulders.

I absolutely had a similar experience in a small facility in a small town. There is no anonymity, even if you are [outside of work] and talking to other people. Your job becomes your personal life. So those lines got really blurred.

I've had city, county, and school districts kind of reach out to me as the expert on what to do.

I've worked at the hospital for many, many, many, many years. Many people know me in the community. They know what I do. And so I'm in their phone, too. And my church, a couple of churches in town have called me when they started meeting again. 'What do you think we should do and how should we do that?' And you don't want to let them down.

Though IPs welcomed the chance to educate the public about COVID-19, some felt an imperative to be unwaveringly exemplary

and serve as a role model. One IP explained, "I have become self-conscious, like I need to be a good role model and practice what I preach and wear my mask in the community all the time." Many IPs also expressed that they began to feel a sense of duty to not contract COVID-19. The perception was that if they were to get COVID-19, they would lose credibility with staff surrounding COVID-19 prevention, and there was no one to cover for them while they were out sick. As IPs described:

I feel pressure to not get sick. There is a stigma in our community with getting COVID. You know. 'What did you do wrong? What did you not follow?' Being an IP, if you were to become sick, I think there would be some questions there about what you did wrong.

I can't get sick. There's nobody here to take my place. Calls all night long, calls on the weekends, calls all the time. And then when you come back [after being out sick], you just have a mountain of stuff to work through because there's nobody to fill in when you're gone.

Although the IPs described a deep sense of obligation to their communities, they also discussed receiving tremendous support in return from their community. While they faced challenges with some community members not following COVID-19 protocols, in general, the IPs found support and hope from their communities. In particular, they discussed their professional communities of hospital leadership, colleagues, and administrative staff going the extra mile. The IPs also expressed gratitude to their families and faith-based organizations for providing support in many different ways during the worst of the pandemic. They also shared personal stories about how the community at large became their greatest supporters. Two IPs shared their bright spots during the pandemic:

One thing that in our small community was surprising, in some ways, and you know just absolutely terrific. We had one of our area plants that does plastics manufacturing donate huge reams of plastic. We made our own isolation gowns to get through. We had another company in town who does other types of plastics, who made face shields and donated to our facility. Other manufacturing and facilities donated masks and things they had on hand to help get PPE when we were having such a problem.

A local church group got together and they made homemade cloth masks and donated them to the hospital. So that was just very encouraging and uplifting and we appreciated that a lot.

Workload and role challenges

Many IPs described challenges with increased workloads during the pandemic. Participating IPs said they function as a team of one, with increased demands for infection prevention-related education and policy work. The IPs have been so inundated with COVID-19 response work, that they had difficulty keeping up with their normal duties. Many suddenly found themselves working 2-3 times more hours per week or were on call 24 × 7. This is compounded by the fact that the rural IPs were responsible for multiple roles in their facility. They manage not only infection prevention, but also occupational health, quality control, credentialing, and other responsibilities. This is challenging during non-pandemic time, but now became overwhelming. As one IP explained, "In small hospitals, you wear many hats and COVID has taken over." As other IPs explained:

In critical access hospitals, we wear more than one hat. I do infection prevention and employee health and it's just me. There's nobody else. Officially, I'm not on call, but that doesn't matter. We know everybody here. I get calls in the middle of the night, I get calls on Sundays when I'm in church. I get calls all the time.

Even though we're smaller, we still have to address every single thing that a larger hospital has to address when it comes to infection prevention. And then in addition, [we have] all the employee questions.

We're a small facility. I do compliance, quality, risk management, I'm the OSHA officer. I do maintenance. I do life safety. I do whatever. I do COVID testing if there's not a nurse available. So, a lot of other work is getting pushed to the back burner, but I try to do what's most important.

One role, in addition to infection prevention, that was very challenging for the IPs was occupational health. Because of the occupational health risk related to COVID-19 among healthcare personnel, this role often took up a large portion of the IPs' time. As one IP explained, "I am on call Monday through Friday, 7 AM-7 PM, so that if employees call in with symptoms consistent with COVID, I get them tests or to the right provider." Other time-consuming duties of employee health that the IPs shared included educating healthcare personnel, responding to exposure concerns, following up on illness, managing testing, validating PPE, and health screening.

Many rural IPs mentioned that not being associated with a larger health system made for twice the work. The IPs indicated that they did not have other IP colleagues from which to obtain answers to challenging questions nor any type of back-up if they became ill or exhausted. They described how they were essentially a one-person infection prevention team – which is very common in critical access hospitals – and this led to them feeling as though the work never seemed to stop. The added work and responsibilities contributed to stress and exhaustion among the IPs. One IP expressed how draining it can be "trying to be ready to go all the time and keep up with everything. We know it's a marathon instead of a race, but when you keep having big emergencies, it's just been really hard." This concept of COVID-19 being a marathon did not ring true for another participant, however. They shared their outlook on the exhausting year as follows:

I kind of push back to people when they tell me, 'Oh, this is a marathon.' I kind of push back with, 'You know what? Marathon runners prepare for marathons, they practice. And we didn't get that opportunity with this. There was nothing that any of us could do to possibly prepare for this or the subsequent issues like what we're dealing with out there in [my state].'

Virtual meetings were better

There was common consensus among participating IPs that APIC was a primary source of support and that virtual APIC meetings were extremely helpful during the pandemic. One respondent explained that monthly APIC virtual meetings provided a place, "to bounce ideas off each other and see what other folks are doing to handle the same issues that we're all having around the region." IPs also discussed the benefits of virtual platforms, which allowed them to interact with others outside of their region and to communicate with other critical access hospitals. As one IP described, "I've gotten most of my information and support from a rural health cooperative that

I'm part of and that's actually where I've received most of my local support, but even they are 5 and/or 6 hours away from me." Virtual meetings opened doors to more information sharing, collaboration, and comradery among the rural IPs.

DISCUSSION

This study, conducted across diverse healthcare settings, found that IPs practicing in rural regions during the pandemic faced unique challenges not experienced by IPs working in suburban or urban settings. One of the unique challenges identified by rural IPs was the lack of trust and disbelief about the COVID-19 pandemic and its impact on communities. The fact that the pandemic was first concentrated in urban areas of the US may have contributed to a false sense of immunity from the pandemic among rural residents, including among healthcare staff. Several participants reported various levels of willingness to comply with screening and universal masking protocols from healthcare facility patients and visitors, with some IPs reporting verbal confrontations, claims that the pandemic was a manufactured hoax, and even physical violence against healthcare personnel resulting in security and law enforcement intervention. These types of experiences were unique to the IPs working in rural areas, as other IP participants did not describe this happening at their healthcare facilities. This is similar to previous research that has found that there are differences between rural and urban residents in relation to their response to the pandemic. Callaghan et al.⁸ examined participation in 8 COVID-19 prevention behaviors, and found that rural citizens were significantly less likely than urban residents to participate in 5 of these 8 prevention behaviors, including mask-wearing, disinfecting their home or workspaces, and working from home. These behaviors could put rural citizens at increased risk of exposure and illness, given that social distancing and mask use are two of the most critical interventions to prevent COVID-19 transmission.⁹ These factors could compound the disparities that already exist between rural citizens and those who live elsewhere due to the higher prevalence of high-risk populations, and less access to transportation, the internet, healthcare, and mental health services in rural settings.^{10,11} Addressing these health disparities needs to be a priority to minimize morbidity and mortality among rural citizens. In addition, it is imperative to address the misconceptions and inaccurate beliefs about COVID-19 transmission heard by IPs in this study in order to increase compliance with public health safeguards among rural community members.⁸

A widely reported challenge identified by the rural IPs in this study was a lack of access to PPE, which may have put healthcare personnel at risk of exposure. In this study, over one-third of rural IPs reported depletion of some PPE during the pandemic, with shortages of N95s and isolation gowns being reported most often. A lack of PPE during a pandemic is not new to this event. Many IPs reported challenges with obtaining PPE during the 2009 H1N1 pandemic.¹² During the first month of the COVID-19 pandemic, only 13.6% and 18.2% of US hospitals reported having sufficient face shields and N95 respirators.¹³ A follow-up study conducted in fall, 2020 found that PPE supplies were sufficient, but only because US healthcare facilities had implemented crisis standards of care for respirators and masks, meaning that these supplies were worn for extended use, reused, or decontaminated between uses.¹⁴ In addition to the reasons why PPE was scarce throughout the US (sudden increased demand, a just-in-time ordering system, lack of adequate PPE stockpiles, and disruptions in the global supply chain),^{15,16} rural areas were uniquely challenged in obtaining PPE due to larger facilities/systems being prioritized to receive supplies and the increased prices due to higher demand. Researchers suggested options for rural areas to address PPE shortages, such as using novel PPE, using surgical instrument sterile wrapping material sewn into masks, or using 3D-printed face

shields.¹¹ In this study, rural IPs reported that creative approaches and community support prevented their facility from running completely out of PPE; masks, face shields, and even PAPRs were reported to be some of the community-produced PPE provided to their healthcare facilities.

Another unique challenge identified in this study was the impact of the reciprocal relationship between rural IPs and the community they serve. Rural IPs reported both an increase in workload due to perceived obligation to their community, but also a major source of support provided by their community during the COVID-19 pandemic. For many IPs working in rural areas, multiple job duties are the norm, such as performing both infection prevention and occupational health activities. A 2018 study⁷ found that more than half of rural IPs had responsibilities outside of infection prevention and they spent significantly more time on occupational health duties compared to IPs in urban or suburban settings. Juggling these multiple roles is challenging for rural IPs even during normal times. However, these challenges were amplified during COVID-19 when healthcare personnel were at increased risk of occupational exposure and illness¹⁷, necessitating IPs to spend an inordinate amount of time on employee health duties. Increasing workloads to manage COVID-19 occupational health concerns were reported to prevent IPs from focusing on infection prevention and control activities, which could lead to increases in healthcare associated infections.¹⁸ Furthermore, the rural IPs in this study described feeling a deep sense of obligation to their community, which increased their workload and personal responsibility. On the other hand, the rural IPs in this study also described the many benefits and support they received from their community that were not mentioned by IPs in other geographical settings. Because rural communities are smaller and individuals tend to know one another more frequently than in urban or suburban settings, this led to the IPs receiving more personalized support during the pandemic. This is a unique feature in rural settings, and one that should be fostered and celebrated during future events to serve as a support network for rural IPs. In addition, rural IPs in this study noted that they were able to join APIC meetings virtually during the pandemic, allowing them to participate in a way they were unable to do during routine times and providing a level of needed support from their infection prevention colleagues. Future APIC meetings should incorporate virtual technology so that rural IPs can continue to participate, even after the pandemic ends and more face-to-face meetings are resumed.

The focus group approach used in this study provided rich, detailed information about rural IPs' experiences during the first 9 months of the COVID-19 pandemic. Rural IPs who chose not to participate may have had different experiences or opinions than those who joined the focus groups. Therefore, these findings may not be generalizable to all rural healthcare settings, especially the questions related to PPE access that were gathered via the demographics survey.

CONCLUSION

This study identified the unique challenges and support networks of rural IPs during the first 9 months of the COVID-19 pandemic. Gaps in preparedness identified in this study, such as the lack of PPE, need to be addressed to prevent occupational illness. The unique reciprocal relationship between IPs and their community was found to create challenges during the pandemic, but also served as a

primary source of support for the IPs. Community support can include both emotional support as well as creative solutions for PPE shortages; these relationships should be leveraged to benefit both IPs and healthcare settings, which aids in overall community resilience. Lastly, it is imperative that inaccurate beliefs about COVID-19 transmission and control measures heard by IPs in this study be addressed in order to increase compliance with public health safeguards among rural community members and minimize morbidity and mortality in these regions.

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