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### Cover Page Footnote

We wish to thank the patients and providers that participated in the interviews. Without them, we would not have the insights we have gained. This article is associated with the Staff & Provider Engagement lens of The Beryl Institute Experience Framework (<https://www.theberylinstitute.org/ExperienceFramework>). You can access other resources related to this lens including additional PXJ articles here: [http://bit.ly/PX\\_StaffProvEngage](http://bit.ly/PX_StaffProvEngage)

## Effect of wearing masks in the hospital on patient-provider interaction: “They (providers) need to stay safe for their family and keep us safe.”

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### Abstract

Since March 2020 when the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) pandemic was widespread in the U.S., masks became a primary form of protection for healthcare workers when caring for patients. While wearing masks was not a new phenomenon in the health field, there is little known on how the use of them affects the patient-provider relationship. This study explored the experience of wearing masks on the patient-provider relationship in the hospital. This qualitative study involved interviews with both providers and patients at an academic hospital in the Midwest. At the time of this study, in July 2021, hospital policy required all healthcare providers and staff to wear surgical masks with patients, but patients were not required to wear masks while in their rooms. Interviews were audio-recorded and transcribed; they were coded using MAXQDA. Nine patients and nine providers took part in interviews. There were 4 women and 5 men in each group. The primary benefit of mask-wearing identified by both groups was safety and protection from disease. Connection with patients was a major theme as well. Providers adapted to try to improve connection in four primary ways: showing the patient their face, speaking loudly and clearly, spending additional time with patients, and being more expressive. It was also reassuring that safety was one of the main themes and encouraging that masks were not a substantial barrier to communication with patients.

### Keywords

Mask-wearing, patient connection, safety, hospital

### Introduction

In late March 2020, when the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) pandemic was widespread the U.S., the Centers for Disease Control and Prevention (CDC) published a recommendation that masks be used by those who are sick or are caring for someone who is sick and not able to wear a mask themselves.<sup>1</sup> Therefore, masks became a primary form of protection for healthcare workers when caring for patients. While wearing masks was not a new phenomenon in the health field, there is little known on how the use of them affects the patient-provider relationship.

Masks may adversely affect the clinical environment. Healthcare workers have reported discomfort and irritation, especially when worn for an extended time.<sup>2,3</sup> Medical grade masks can act as a low-pass acoustic filter for speech; therefore, those people with cognitive, communication, or hearing impairment may experience a reduction in their ability to process what is being said resulting in communication challenges.<sup>4</sup> In addition, covering the mouth eliminates the ability to read lips to augment comprehension. Some patients who struggle to

recognize clinical staff due to face coverings may lack personal connection with their care team; this can evoke feelings of loneliness and isolation.<sup>5</sup> However, for those patients who understand the rationale behind mask-wearing, there could be increased trust with providers.

The need for clinicians to wear masks has unintentionally hindered aspects of nonverbal communication. Building rapport and gaining trust are crucial for good clinical outcomes and accurate emotion interpretation is important in shaping the patient-provider relationship.<sup>6</sup> A convenience sample of medical and nursing students from Italy were randomly assigned to one of two groups.<sup>7</sup> One group saw photos of people without masks and the other group saw the same photos of people with masks. They used a modified version of the Diagnostic Analysis of Nonverbal Accuracy 2—Adult Faces (DANVA2-AF), which displayed 24 photos of people for the purpose of identifying emotions. There was a significant effect of misattribution for all four emotions being studied for the masked group compared to the non-masked group. Thus, the whole face communicates emotion much better than just seeing the eyes.

Given that little is known about how mask-wearing affects the interaction and connection between patients and providers, this study explored the experience of wearing masks on the patient-provider relationship in the hospital.

**Methods**

**Setting and participants**

This qualitative study involved interviews with both patients and providers at the University of Nebraska Medical Center (UNMC), the academic hospital associated with UNMC. This 557-bed facility houses inpatients in 24 units across four connected buildings. On the hospitalist service, there are approximately 63 physicians and 29 advance practice providers (APPs) who provide primary and consultative care to hospitalized patients.

At the time of this study, in July 2021, hospital policy required all healthcare providers and staff to wear surgical masks with patients, but patients were not required to wear masks while in their rooms. With this policy in place, the interview questions for patients focused on their interactions with providers who were wearing surgical masks. However, earlier in the pandemic, patients were also required to wear masks in the hospital and providers often reflected on those interactions as well. This study received IRB (Institutional Review Board) approval in June 2021.

**Data collection**

All recruitment and interviews were accomplished in July 2021. Recruitment for patients was via hospital rounds, as seen in Figure 1; providers were randomly selected and contacted by leaders in the Division of Hospital Medicine for participation. The consenting and interview process

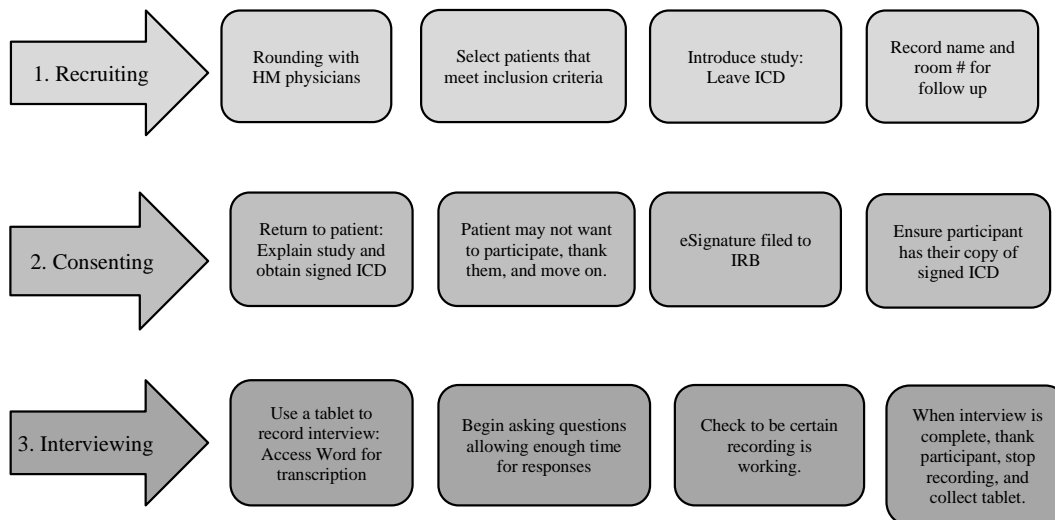
were equivalent for both parties. Both parties signed an informed consent document (ICD) with an eSignature. The semi-structured questions for patients were 1) What is it like to be a patient in our hospital when providers are always required to wear a mask? 2) How does this affect your relationship with the people taking care of you in the hospital? Providers were asked 1) What is it like to be a provider in our hospital when you are always required to wear a mask? 2) How does this affect your relationship with your patients? 3) How does this affect your relationship with your colleagues? Prompts included 1) Please provide an example; 2) Please tell me how that feels/felt; and 3) Tell me more about that experience.

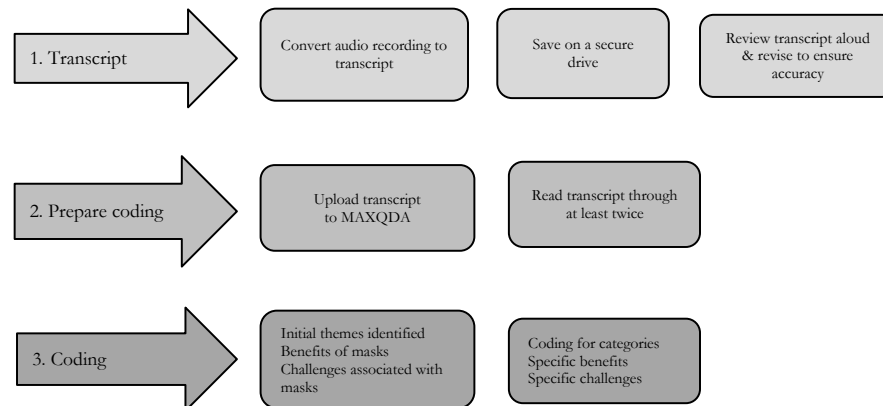
This qualitative study aimed to close interviews when data saturation was reached.<sup>8</sup> Data saturation was accomplished when new information was no longer being obtained. We reached saturation at 9 interviews for patients and at 9 interviews for providers and after recruiting a somewhat equal number of male and female participants in both patients and providers.

**Data Analysis**

From a phenomenological or lived experience standpoint, we used a hermeneutic approach in our qualitative interpretive process.<sup>9</sup> These data were acknowledged as the experience of the interviewees. Thus, the interviewers were simply a sounding board to reflect the responses back to ensure clarity in understanding the interviewees’ perspectives. As seen in Figure 2, the analysis process was the same for both parties once we had audio recordings from the interviews. Qualitative analysis of the recordings involved transcription into text and coding into common themes. With the coded information and themes identified, the data could be interpreted for concluding the effects of surgical masks in hospital interactions.

**Figure 1. Data Collection**



**Figure 2. Data Analysis Process**

## Results

We explored the experience that mask wearing had on the patient-provider relationship in the hospital environment. Sixteen patients were invited to take part in interviews and 9 opted to participate. The age ranged from 44-97 years old; 5 were male and 4 were female, and no patients had a diagnosis of Covid-19. Nineteen hospitalist physicians and APPs were invited to participate in interviews and 9 (7 physicians and 2 APPs) completed an interview. The age range was 31-61 years old; 5 were male and 4 were female. Thus, n=9 patients and n=9 providers participated in interviews.

Qualitative analysis revealed that the benefit of mask wearing in the clinical environment was safety and protection from disease. Both patients and providers agreed that mask-wearing was a deterrent to infection. The

primary challenge of mask-wearing was connection. Providers were concerned about connecting with their patients and some felt the masks may be a barrier to effective communication. Other providers believed that they were able to communicate clearly and had made the necessary adaptations to connect with their patients. This was stated in a variety of ways (Table 1).

### *Adaptations to Improve Connection*

Many providers discussed how they adapted to wearing a surgical mask during patient encounters (Table 2), “In the end, we were all in it together...we adapt quickly and just moved on.” The adaptations related to improving connection with patients in four ways. Some providers were distracted that patients did not know what their face looked like; they solved this problem by showing the patient their face either by briefly pulling their mask down or showing the patient their photo on their identification

**Table 1. Primary Themes**

| Themes     | Patients (N=9)  | Providers (N=9)   |
|------------|---|---|
| Safety     | <p>“I like the safety they're taking.”</p> <p>“And they (healthcare workers) need to stay safe for their family and keep us safe.”</p> <p>“I mean it (wearing a mask) just makes sure that we're both safe. That they're safe and that I'm safe.”</p> <p>“I approved of the masks. That's for sure. Whatever they can do to stop this (COVID).”</p> | <p>“So, I don't think it's just COVID that it protects from.”</p> <p>“masks protected me from getting sick...I never was sick. I mean, I reported to all my shifts.”</p> <p>“we're doing this for safety or for ourselves and for our patients.”</p> <p>“I prefer wearing masks around patients, especially patients that have any type of respiratory issue”</p> |
| Connection | <p>“I can see the eyes, but the eyes don't tell you what the rest of the face is doing, so it's a little hard for communication factor.”</p> <p>“so, they make sure that they talk clear and loud.”</p>   | <p>“your emotions aren't perceived as well when half your face is covered up”</p> <p>“they're (patients) talking normally, but the sound that comes out is mumbled.”</p> <p>“just those kinds of tough emotional conversations where I need to see their face and they need to see my face”</p>   |

**Table 2. Provider Adaptions to Masks**

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|   |
|---|
| <b>Show your face</b>   |
| “I’ve pulled my mask down and physically showed me with a big toothy grin and then put it back up.” (Provider)  |
| “...that's one of the bigger things I try to do is when I introduce myself, I kind of hold my card up too to show them hey, this is me I do have a face without a mask.” (Provider) |
| <b>Speak loud and clear</b>   |
| “...they (provider) make sure that they talk clear and loud.” (Patient)   |
| “I myself have adapted by trying to speak more loudly, more clearly, more slowly...” (Provider)   |
| <b>More time with patients</b>  |
| “She (provider) really takes the time to connect and make sure you understand everything” (Patient)   |
| “I try to spend more time elaborating to try to fix what the mask has created.” (Provider)  |
| “I think I've spent more time trying to do what I used to do in less time because there's an emotional connection that's harder to make with a mask on.” (Provider)                 |
| <b>Be more expressive</b>   |
| “...showing more head and body language as opposed to facial expressions.” (Provider)   |
| “...patients have to rely on the eye-smile...” (Provider)   |
| “Your emotions aren't perceived as well when half your face is covered up.” (Provider)  |

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badge. Many realized the need to speak loudly and clearly when interacting with patients, especially those who are hearing impaired. Additionally, others felt the need to spend additional time with patients to ensure they were communicating clearly. Finally, a few providers felt they became more expressive in their interactions to make certain the proper emotion was communicated.

### ***Mask wearing going forward***

One provider echoed a common thought, “In a perfect world they (masks) are not there.” However, this provider maintained a moderate position, “Personal inconvenience aside, I would be fine with it as we go forward because it turned out to be widely successful at maintaining healthcare workforce.” Another provider agreed, “I would be very comfortable wearing masks going forward for all my patient encounters in the hospital, especially during the season where we have transmissible respiratory infections.”

Mask wearing was applauded for protecting against conditions other than COVID-19. One provider stated, “I prefer wearing masks around patients, especially patients that have any type of respiratory issue.” She even declared, “I hope that we continue to wear masks forever.”

Other providers made the point that there are times when masks are a distraction to the healthcare process. For example, a physician stated mask wearing can interfere with critical conversations, “just those kinds of tough

emotional conversations where I need to see their face and they need to see my face.”

### **Discussion**

Patient and provider comments about surgical mask wearing in the clinical relationship included two primary themes: 1) Safety and 2) Connection. Patients were more focused on provider and patient safety and related that communication with providers was adequate. Rarely, patients said they were not certain what was being communicated; however, that may not have been necessarily due to mask wearing. Providers were similarly concerned about safety and worried about connection with their patients. This different perception of connection may be due to differences in past experiences. Providers have experience caring for patients while not wearing masks while patients may have not had this experience in a healthcare setting before.

As the pandemic progressed, concerns regarding how masks could affect people, especially in the health field, became more common. A common belief was masks would hinder communication between patients and providers and as a result, adversely affect patient-provider relationships.<sup>10,11</sup> This concern came from the notion that facial expressions and clear communication are crucial for positive patient-provider relationships. Natural adaptations from our providers were consistent with recommendations from Marler<sup>11</sup> and Duckett.<sup>10</sup> Recommendations included establishing personal connections by showing an image of

the provider without their mask, communicating non-verbal information verbally and by emphasizing gestures and body language, acknowledging issues and challenges associated with mask wearing, and talking loudly and clearly. We believe these adjustments may be a factor in why patients reported minimal issues with communication. Health systems should provide the resources needed to assure patient-centered communication. Regarding mask wearing, health systems can encourage providers to show a picture of their face to the patient on their ID badge or even provide large buttons or lanyards with photos to providers to support this approach. Additionally, collection and review of both patient and provider feedback regarding mask wearing is recommended. Feedback via direct observation, patient focus groups, and/or patient and provider surveys are all valuable and can help inform the specific approach at each health system. Finally, general education as it relates to patient-centered communication, including the importance of avoiding medical jargon, using “teach back,” and appropriate use of interpretive services can all help to narrow the gap when masks are required.

### Limitations

This study involved a single academic Midwestern health system and results could vary by region or by health system. We believe we had a diverse sample of patients or providers when considering age and gender; however, we did not explicitly record ethnicity/race or socioeconomic status for this study. Further, the age of internal medicine patients in this study ranged from 44-97. Future studies may want to include a younger group that may have had different views. Additionally, a different demographic of providers other than hospitalists aged 31-61 (with the majority being under 50) may have had varying perspectives.

This study took place during a very unpredictable time when information about SARS-CoV-2 and hospital policies were constantly changing. For example, the hospital policy at the time required surgical masks to be worn by providers but not patients. Additionally, the fear surrounding SARS-CoV-2 could have played a role in the feeling of safety for both patients and providers. If interviews were conducted at a different point in the pandemic, where policies or opinions on masks were different, our results might have been different. As mask policies evolve, future studies may be conducted to determine how mask wearing is affecting the patient-provider relationship in hospitals and outpatient clinic care.

### Conclusion

Taking care of hospitalized patients during unprecedented times has posed many challenges. It is encouraging that masks were not a substantial barrier to the important communication that we have with patients. It was also reassuring that safety was one of the main themes. Studying this question in various environments and formalizing some of the stated adaptations for communication would be logical next steps.

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