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# Through the eyes of hospital-based healthcare professionals: exploring their lived experience during the COVID-19 pandemic

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## ABSTRACT

**Objective** The spread of the COVID-19 virus has caused an unforeseen strain on the healthcare system and particularly on healthcare workers (HCW). In this study, 1 year after the COVID-19 pandemic began, we used photovoice, a visual photographic approach, to understand HCW needs, concerns and resilience and to determine improvement strategies aligned with the HCW-described challenges.

**Methods** Using a qualitative design, HCW were recruited from a single Western Canadian hospital, voluntarily submitting a photographic image and narrative that depicts their experiences. An artist artistically enhanced the photovoice submissions, which were then displayed at the hospital-based art gallery for public display. A survey was used to collect feedback from gallery viewers. Inductive thematic analysis was completed identifying themes from the photovoice narratives and survey comments, aiding the identification of recommendations.

**Results** There were 25 submissions, and 1281 individuals viewed the art exhibit. Six themes emerged: (1) hopeful and resilient, (2) pandemic fatigue-negative mental and physical states, (3) personal protective equipment is our armour but masks who we are, (4) human connection, (5) responsibility, preparation and obligation and (6) technology surge. According to survey results from the art exhibit, the use of photovoice was a creative method that personalised the HCW experience and validated viewers' perceptions of the difficulties faced by HCW. Ten improvement strategies that were aligned with the described challenges were identified.

**Conclusion** The ongoing COVID-19 pandemic continues to strain HCW. Photovoice has great potential in the professional clinical setting to provide unique insights that narrative language alone cannot capture. Future research exploring the longitudinal impact of COVID-19, reviewing photographs at different timepoints could be beneficial. Using this method as a creative outlet intervention and evaluating participation artistic experience may offer additional insights to further support both HCW and patients.

## WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Healthcare workers (HCW) have experienced unprecedented physical and mental strain since the onset of the COVID-19 pandemic. Several studies have been conducted on this topic, and a number of recommendations have been suggested. However, a lack of available evidence makes interventions difficult to prioritise.

## WHAT THIS STUDY ADDS

⇒ Our study uses photovoice, a visual photographic approach to capture the lived experience of hospital-based HCW. This method allowed HCW to share their lived contextual experiences that allow workers to be seen and heard to better inform the public, hospital personnel and leaders about the issues they encounter.

## HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ The identified improvement recommendations can inform updates to policies and practices aiding HCW. Further, we hope that reporting of this research would help to inspire other organisations or individuals to use creative methods to communicate complex challenging issues.

## INTRODUCTION

The COVID-19 has resulted in an unprecedented strain on the healthcare system and healthcare workers (HCW). In particular, HCW reported increasing physical and mental stress during the pandemic.[1 2] The WHO has called for immediate measures to prevent serious impact on the physical and mental health of HCW.[3] Recognising increased worker burden, health organisations are looking for the most effective strategies to support their workers for the duration of the pandemic and beyond.[4]

Several recent studies have been conducted to understand the impact that COVID-19 has had on the healthcare workforce. Findings from a recent systematic review suggest an increase in mental health issues, anxiety, depression and insomnia among HCW.[1] The same review also acknowledged that a majority of the studies conducted have used

qualitative methods such as surveys and interviews.[1] There is limited evidence of intervention effectiveness, suggesting that greater understanding of HCW context and lived experiences during the pandemic is imperative.[5] A different method that adds contextual enrichment would add value to develop targeted interventions that may alleviate the rising distress among HCW.

Photovoice is a participatory photographic method that allows people to express their views and opinions by photographing their everyday experiences. It can be used to address topics that are difficult to discuss in traditional interview/focus group methods.[4] Photovoice enables people to use a powerful means: visual imagery, to reveal personal aspects of their lives. HCW can capture their perspectives, concerns, needs and communicate these issues to senior leaders who can then be mobilised to develop improvement action.[6 7] This provides a platform for their individual voice to be seen and heard.[8 9]

In this study, 1 year after the COVID-19 pandemic began; we sought to understand HCW needs, concerns and resilience through the use of photovoice, and to determine improvement strategies aligned to the study participants' described challenges. In addition, we aimed to assess whether photovoice was an effective approach to understand this health system issue in a hospital setting.

## METHODS
### Design
A qualitative study was conducted using a participatory photographic approach and a survey. A multidisciplinary study team comprised of a physician, medical student, hospital-based art gallery artist, administration assistant and a Quality Improvement (QI)-specialist; supported by a hospital executive director, art gallery manager, artist and a senior operating officer completed this study.

### Setting
This study took place in a large urban academic tertiary care hospital (869 beds with ~10 000 employees and physicians) in Western Canada. An art gallery is located on the main floor of the hospital, is accessible to HCW in person and on the art gallery's website to patients and visitors. The gallery formally provides art-making programmes for staff and patients, displays art and hosts art exhibits.

### Participants and recruitment
All hospital-based HCW, who worked in any hospital department since January 2020, were eligible to voluntarily submit a visual image (defined as a self-taken photograph or a web-based image) with an accompanying narrative description using a study submission template (figure 1). Undergraduate trainees from any health profession were excluded, trainee hospital exposure was limited due to pandemic restrictions, as were any submissions that contained obscene/vulgar imagery or language. The study administrative assistant sent a recruitment email to all hospital managers and physician division leaders via their professional email addresses for
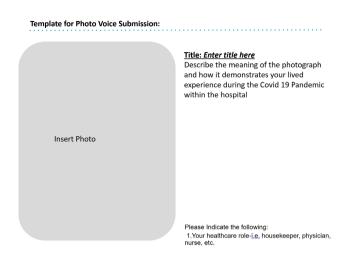


**Figure 1** Photovoice study submission template.

further staff email dissemination. Within the recruitment email, study consent form, health organisation photo-release form and the photovoice submission template were attached. Reminder emails were sent 2 weeks apart during the submission timeframe (a total of six were sent). Submissions were accepted in early May 2021 in the midst of the province second COVID-19 wave, and ended in early July 2021 when the provincial COVID-19 immunisation programme was operational.

### Data collection
Participant submission occurred via their professional email address directly to the study assistant using the provided submission template. No participant personal identifiable information was collected, job title/role was collected. Optional Zoom photovoice training sessions, facilitated by one study member (PM), were held monthly during the submission timeframe, participants could ask questions or clarify instructions; however, no participants attended. All submissions were reviewed and the study team artist enhanced eligible submissions artistically. Drawings and background formatting were incorporated; no image or textual information was changed. Additional artistic elements were included to improve the presentation of the image and text (figure 2). The photovoice submissions were printed, and displayed in an art gallery exhibit that was held from 6 October to 1 November 2021 (figure 3 and online supplemental file A). During the exhibit, voluntary anonymous feedback, containing the same survey questions, were obtained from in-person and on-line viewers using either a paper-based or a Google form survey. The survey was a total of six questions, three scaled and three open-ended questions and collected no personal identifiable information (figure 4). The survey questions were designed to learn how viewers became aware of the exhibit, how it made them feel and think, how they rated the exhibit, if their perception of HCW lived experience had changed, what they would recommend to support HCW and what they would suggest for future art displays about the pandemic.

**Figure 2** Pre and post submission artistic enhancement examples.

## Patients and public involvement

Patients were not involved in the study design, but could have viewed and completed (on-line) the art gallery exhibit survey.

## Data analysis

Submitted photovoice images and narratives were analysed using a thematic analysis.[10 11] Microsoft Excel facilitated data coding and retrieval of coded statements. Data were independently coded by three study team members (PM, ML and JV), then jointly reviewed using consensus to resolve any coding discrepancies, resulting in a finalised codebook. One submission, for example, stated that 'behind the mask, stethoscope and pager, I hide my own uncertainty and doubt about the pandemic from others'. Parts of this statement were coded. Coded text was then independently grouped into initial emerging themes, researchers reviewed initial themes, using consensus to resolve any discrepancies, and then finalised the themes. A fourth study team member (ZP) reviewed the finalised codes and themes to ensure code consistency. All team members and executive leaders/supporters of this study collaboratively developed improvement strategies reviewing the themes (coded submission narratives and survey comments), and photographs using discussion and consensus. This research followed the criteria established in the Consolidated Criteria for Reporting Qualitative Studies.[12] No focus group session was held to garner further participant perspectives.[6] Rather, an art exhibit survey was used to gather further insights. Triangulation was used to enhance the reliability of the study findings. This involved using more than one source of data (photographic image, coded submission narratives, viewer survey feedback) and method of collection to confirm the credibility of the research data, analysis and interpretation.[13]



**Figure 3** Example of three photovoice submissions.

## RESULTS

Participant submissions totaled 25 and no submission was excluded. The participants represented various HCW, nurses (n=9), physicians (n=4), administration staff (n=3), residents (n=2), surgical staff members (n=2), food services (n=1), emergency department staff member (n=1), medical interpretation coordinator (n=1), executive director (n=1) and for one submission the HCW role was not indicated. A total of 1281 individuals viewed the hospital art gallery exhibit, 685 in person during the hours of 8:00 to 16:30, and 596 viewed the exhibit via the hospital art gallery website. The art gallery operates 7 days per week but has no staff after 16:30 on weekdays and on the weekends; therefore could not track the number of in person viewers during these timeframes. From the 25 submissions 95 narrative statements were coded resulting in 6 themes.

## Themes

Six themes emerged: (1) hopeful and resilient, (2) pandemic fatigue-negative mental and physical states, (3) personal protective equipment (PPE) is our armour but masks who we are, (4) human connection, (5) responsibility, preparation and obligation and (6) technology surge. Table 1 details the themes, codes and examples of aligned quotes.

### Theme 1: hopeful and resilient

Participants' narratives inferred resilience as a reflection of one's ability to adjust to the challenges posed by Covid-19 on a mental, physical and strategic level. Many took pride in both individual and collective resiliency, as reflected in the following quote: 'At first nothing is easy, however we've learnt how to cope and adopt to changes as we fight this uninvited virus Covid-19'—S17. Resilience was recognised in the narrative comments and was often paired with hope in the vaccine to achieve a COVID-19-free future. One narrative included, 'We believe these vaccines are a turning point, signalling hope that we are moving towards the beginning of the pandemic end'—S11 and another wrote 'knowing that each vaccine administered means we are one step closer to an end to the illness and gives us the energy to keep fighting'—S2.

### Theme 2: pandemic fatigue-negative mental and physical state

In contrast to the first theme, negative mental and physical states were significant. Feelings of isolation were found in the narratives submitted. One participant described the once social cafeteria as 'currently: Quiet… Empty … Isolating…'—S1 staff fatigue/burnout was highlighted in expressions of exhaustion, a participant noted, 'I could see my colleagues' weariness, and we all felt like we were getting nowhere'—S2. Uncertainty, anxiety and apprehension about the future seemed to add to staff fatigue. A participant described their feelings as a tangible weight, 'the weight of the world was on me, and I knew it was on everyone around me too'—S4. Exhaustion from falling ill themselves, or seeing colleagues fall ill with Covid was

**Photovoice Art Exhibition Feedback Questionnaire**

Background

The purpose of this photographic artistic project is to understand the lived experience of healthcare employees from the University of Alberta Hospital (UAH) through visual imagery captured during the COVID-19 health crisis.
This voluntary survey will take about 3 minutes to complete and will allow you to express your opinions anonymously (no personal identifiable questions).
There are no right or wrong responses, thoughtful and honest responses will provide the most valuable information.
This project has been approved by the University of Alberta's Health Research Ethics Board- REB ID (Pro00108449).
Do you **consent** to completing this survey questionnaire?
☐ Yes, please proceed to the next section
☐ No, thank you and please submit survey into the drop box

1. How did you become aware of the UAH Photovoice art exhibition?
☐ AHS internal communication (i.e. Wellness newsletter, EZ Communication)
☐ Art Gallery
☐ Hospital signage
☐ Work Colleague
☐ UA-DoM
☐ Other (please specify: _____
_____

2. Please indicate the extent to which you agree or disagree with the following statements based on your experience of the UAH Photovoice art exhibition? Place an 'X' in the appropriate response box

|  | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|---|---|---|---|---|---|
| I felt moved or inspired |  |  |  |  |  |
| I felt engaged in the experience |  |  |  |  |  |
| I was exposed to new points of view or ways of thinking about things |  |  |  |  |  |
| It made me want to know more about what I was seeing |  |  |  |  |  |
| It felt relevant to our society and the times we live in |  |  |  |  |  |

3. How would you rate the UAH Photovoice art exhibition overall? Please circle one
Excellent      Very Good          Good                Fair              Poor

4. Did the exhibit change your perception of healthcare workers lived experience during Covid 19 pandemic?
If yes, please explain: _____
_____

5. Based on the exhibit, do you have any recommendations for how to better support health care workers during the pandemic? _____
_____

6. Do you have any suggestions on how we can improve future exhibits, to showcase the lived experience of UAH employees during Covid-19?
_____
_____

**Your Feedback Matters!**
**Please submit this survey in the drop box**

**Figure 4** Photovoice art exhibition feedback questionnaire.

expressed in feelings of burnout. A participant shared their concern of the long-term consequences of COVID-19, 'from caregivers to patients, now living in the shadows of the long-term side effects of Covid'—S10. Participant narratives were frequently accompanied by a will to push forward and focused on present or past difficulties inferring a greater struggle to be resilient. One participant wrote 'Yet as healthcare workers we want and need to keep moving through our day…with the weight'—S4.

### Theme 3: PPE is our armour but masks who we are
Several participants expressed a struggle to connect with others through the barrier of PPE, particularly masks. Participants expressed far more concern regarding how others perceived them, as opposed to expressing difficulty in perceiving the social cues of others. One participant doubted that others could interpret their expressions at all from behind their mask, writing 'do I look happy? Angry? Afraid? Or is it just a blank stare? …this is what I look like! I actually have emotions'—S12. Participants are thankful for the protection provided by PPE, for example, one narrative included 'PPE is our armor in the war against COVID, and it protects our patients and

the surgical teams'—S14. Participant comments simultaneously infer that PPE is a barrier to personal connection to others, which they have made efforts to overcome. A participant documented 'we did our best on how to deliver customer service by giving our best smile even if it means we are wearing a mask'—S17.

### Theme 4: human connection
In reflecting on a more vivid social life prior to the pandemic, participants mentioned a desire for human connection. A participant wrote 'longing for the day we can visit with family and friends and go out to explore the world again'—S25. Submitted narratives emphasised the importance of social interaction in general, the following narrative quotes reflect this need, 'all human beings have a pervasive drive to form and maintain at least a minimum quantity of lasting, positive and impactful interpersonal relationships'.—S6 and 'a message or action of love when needed most is life-saving'—S20. One participant noted appreciation for peer–peer connection and support during these trialling times, attributing teamwork and peer support for getting through their workdays. 'But

**Table 1** Themes, codes, example of submission narrative quotes and recommended strategy

| Themes | Codes | Examples of submission narrative quotes | Recommended strategy |
|---|---|---|---|
| 1. Hopeful and resilient | a. Hoping for a future without Covid<br>b. Vaccination hope<br>c. Reliance and adaptability | This photo symbolizes the first time I truly allowed myself to hope for a future without COVID—S2.<br>After wave upon wave of Covid-19, the vaccines bring hope to what feels like a never-ending pandemic—S11.<br>Being resilient in a long career in Medicine is always encouraged. More than ever, I felt my resilience was tested and strengthened since the pandemic began—S15. | In hospital vaccination accessibility for patients. |
| 2. Pandemic fatigue-negative mental and physical states | a. Feeling of social isolation/loneliness<br>b. Staff fatigue/burn out<br>c. Emotional anxiety<br>d. Healthcare workers are Covid-patients<br>e. Apprehension about the future | During the pandemic, many have had feelings of isolation during these tough times—S25.<br>I do not think any of us knew what was to be done, and you could not really move under the pressure of it all…it was all consuming and paralyzing—S4.<br>As nurse colleagues started to fall ill from Covid-19 we all felt fearful, anxious, and scared—S23.<br>Many healthcare providers have survived Covid-19 months ago but… It is still hard to breath, head hurts, difficult to concentrate, feeling anxious and worried. We are injured—S10.<br>Behind the Mask, Stethoscope and Pager, I hide my own uncertainty and doubt about the pandemic from others—S16. | Mental health supports offered via digital platforms, hospital-based councillor and accessible through the human resources department.<br>Staff self-reflection (eg, 'Pause and Reflect'—a peer-to-peer debriefing support activity or self-reflection questioning) on ethical issues arising from the pandemic, such as caring for unvaccinated patients, highly emotional and traumatising events. |
| 3. PPE is our armour but masks who we are | a. PPE is our armour<br>b. Masking who we are | PPE ensured our patients received the caring professional hands of our dedicated nursing teams—S8.<br>I wonder what people think when they see me smile, laugh, frown from behind the mask—S12. | Staff safety as a top priority, that is, PPE supplies accessible and PPE coaches present on the units to provide assistance.<br>Wearable buttons to show HCW faces. |
| 4. Human connection | a. Reflecting on life pre-Covid<br>b. Importance of social interaction<br>c. Peer support and teamwork | Previously an area where staff, patients, and families visited in large groups, Previously an area that was noisy and often full of laughs from hard working teams on their much-deserved breaks. Previously an area of gathering—S1.<br>We can overcome it when we surround ourselves with the right support system. And when we acknowledge it, we can allow ourselves to feel, heal and continue growing—S15.<br>The strength of the team is each individual member; the strength of each member is the team—S8. | Collaborate with existing programmes following local infection prevention guidance to reintroduce safe staff interaction/activities (ie, pet and music therapy, and hospital-based artistic programmes)<br>Hospital-based HCW peer support group. |
| 5. Responsibility, preparation and obligation | a. Covid planning and preparation<br>b. .Clinical responsibility | We have spent countless hours on surge Covid-19 planning to prepare our teams for the pandemic—S8.<br>I had the moral duty to listen to my patient's fears, to try to answer their questions and to understand their doubts—S21. | Proactively address HCW fatigue through ongoing recruitment into regular, casual, temporary and new graduate positions in addition to redeployment strategies. |

Continued

**Table 1** Continued

| Themes | Codes | Examples of submission narrative quotes | Recommended strategy |
|---|---|---|---|
| 6. Technology surge | a. Pros new digital communication<br>b. Challenges of new digital communication | For me, the pandemic marked a widespread adoption of digital medical interpretation across the province—S7.<br>(…)during COVID it became more and more difficult to keep on top of the latest information due to the flood of emails that felt like they would never end—S18. | Technology accessible and training provided (ie, digital medical interpretation, virtual appointments, etc).<br>Centralise and reduce COVID-19 communications, preventing information overload (ie, weekly and daily summary of key messages). |

PPE, personal protective equipment.

through these challenging times we supported each other!'—S23.

### Theme 5: responsibility, preparation and obligation

Participants expressed a sense of moral and occupational responsibility and obligation to continue providing clinical care. There was mention that HCW were often in the forefront of the discussion regarding solutions for this pandemic. This viewpoint can be appreciated in the following quote 'not only were health care workers the last line of defense for patients who were sick but we were also the first line in the building a future without the virus'—S2. Participant narratives suggest that different hospital units and individuals in different roles have had their own struggles when preparing for the pandemic, and have adapted a variety of solutions. One participant documented 'we did all the possible ways on how to serve the food safely to protect everyone's health'—S17. 'We strategized on how to set-up our area to meet customer's expectations during the pandemic'—S17.

### Theme 6: technology surge

The pandemic expedited technology implementation in clinical practice. Video and teleconferencing technologies became quickly used in the context of physical distancing measures. There were mixed sentiments regarding this surge in technology, some had thought it was a logical and positive adaptation as reflected in this narrative comment, 'I need a clinic office at home! From my bedroom to the clinic room via Zoom and Skype […]'—S5, whereas some thought the technology exacerbated their feelings of loneliness and disrupted their workflow. One participant wrote 'Few of us had ever used Zoom before the lockdowns; now, many of us see our colleagues every day on this IT platform for hours'—S22.

### Art exhibit viewer survey

The voluntary art exhibit survey response rate was low (n=21, 2% (21/1281)), and over half (n=14) of the surveys were completed electronically. Majority (n=19) of respondents indicated feeling moved or inspired and felt engaged in the artistic experience. Most viewers (n=15) indicated that the exhibit exposed new experiences and ways of thinking and 14 respondents indicated wanting to

know more about what they were seeing and had read. All respondents felt the exhibit was relevant to our current societal context and rated the exhibit excellent or very good. Responses from the open-ended survey questions were grouped into themes. Three themes were emerged from the viewer's comments regarding perception of HCW lived experience during the pandemic. The themes were (1) validated viewers understanding, one viewer shared 'It put the perception I had into images and words', (2) personalise the experience, a viewer noted 'Words of staff paired with images that they chose made their story stronger', (3) working hard, a viewer wrote, 'Gives me a great insight into how hard they all work'. Three themes resulted from viewers' recommendations to support HCW during the pandemic: (1) mental health assistance, as reflected by this viewer comment, 'More onsite psychological services for staff', (2) support each other, a viewer documented, 'They need to feel that they are a part of a community' and (3) encourage staff and patients to creatively express their lived experience, one viewer noted, 'Wish we could make it a more regular method for staff and patients to communicate their experience, use storyboards, art and music'. Viewer suggestions for how to improve future exhibits, that showcase the lived experience of HCW during the pandemic were (1) advertise broadly to capture and showcase more patient and multidisciplinary HCW experience and (2) be creative and use digital artistic platforms.

### DISCUSSION

This study used a participatory research method to explore hospital-based HCW experience 1 year after the start of the pandemic. The photovoice submissions were shown in a hospital-based art exhibit and viewer feedback was collected and analysed. Thematic analysis of the submission narratives emerged six themes: (1) hopeful and resilient, (2) pandemic fatigue-negative mental and physical states, (3) PPE is our armour but masks who we are, (4) human connection, (5) responsibility, preparation and obligation and (6) technology surge. The art exhibit survey identified that viewers enjoyed the creative method–photovoice to personalise the experience and

acknowledged their perceptions about the difficulties faced by HCW were validated. Viewers empathised with the challenges that came with increased clinical workload and additional stressors. Mental health assistance, HCW peer support, self-reflection[14] and using creative outlets such as artistic programmes for self-expression and social connection[15] were among the suggestions made by viewers to support HCW during the pandemic. The viewers also mentioned that the hospital administration should help develop programmes to support workers in the afore-mentioned areas identified. To improve future art exhibits on this topic, viewers' indicated that a broad representation of multidisciplinary HCW are needed and to use digital artistic platforms.

There are a number of existing studies examining the topic of resilience in HCW during the pandemic.[1 4 5 16–19] Similar to our study, many of these studies have found that HCW often face increased physical and mental demands, leading to feelings of isolation, stress and burnout.[1 4 19] Studies also mention a sense of personal duty, responsibility and resilience, which emerges particularly during the subsequent 'de-escalation' phase of a pandemic.[5] This was true of our participants as well, wherein the themes of loneliness, a strong theme of resilience and hope emerged. This is likely attributable to the timing of our study, as we collected responses during the de-escalation phase between two 'waves' of the pandemic. In general, studies reviewing pandemic response agree that systematic or organisational-level interventions are needed to support the health of HCW,[4 5] but unfortunately there is insufficient evidence to help prioritise interventions for implementation.[5]

Based on our study themes (table 1) and viewer feedback, the research team suggest the following 10 intervention/strategies: (1) vaccination accessibility for patients; (2) mental health supports offered via digital platforms and a hospital-based councillor; (3) collaborate with existing programmes following local infection prevention guidance to reintroduce safe staff interaction/activities (ie, pet and music therapy), to promote safe social events and regain a sense of normalcy; (4) proactively address HCW fatigue through ongoing recruitment into regular, casual, temporary and new graduate positions in addition to redeployment strategies; (5) staff safety as a top priority (ie, PPE supplies accessible and PPE coaches are present on the units to provide assistance); (6) technology accessible and training provided, via digital medical interpretation, and virtual appointments; (7) encourage staff self-reflection (ie, 'Pause and Reflect'—a peer-to-peer debriefing support activity or self-reflection questioning) on ethical issues arising from the pandemic, such as caring for unvaccinated patients, highly emotional and traumatising events; (8) hospital-based HCW peer support group; (9) centralise and reduce COVID-19 communications using daily and weekly update summaries, preventing information overload; and (10) wearable buttons to show staff faces. By December 2021, many of the recommended strategies identified in this study had been successfully implemented at this study hospital with the help of our senior executive team member.

Public Health Ontario recently published a synthesis assessing potential interventions and offered guidance for prioritisation. In an assessment of the existing literature and literary reviews, it was felt that individual mental health interventions were more prevalent in the literature than organisational interventions, but it was the organisational interventions that were often more effective.[4] A rapid review by Magill et al suggested that organisational activities, even those not associated with mental health, had helped to improve psychological outcomes among HCW.[17] The afore-mentioned align with our suggestions, whereby the authors feel that organisational activities such as on unit PPE coaches, peer support activities and safe staff interaction programmes be prioritised, in addition to increasing access to personal mental health counselling.

One of the most common recommendations in previously published literature is the management of staffing and workload management for the staff.[1 19] Particularly during a pandemic, staffing shortages arise from staff sick leaves, staff redeployment and increased workload due to increasing patient volume. A systematic review by Muller et al reported a common preference of workers for manageable and safe working conditions (eg, Adequate rest time, safe resting spaces, adequate PPE, contingency plan for management of staffing shortages) over individual counselling or psychological interventions.[1] Furthermore, a rapid review by Kisely et al found that clear and prompt communication from leadership regarding latest guidelines, and facilitated discussions (such as listening groups, town halls, managers visiting staff, etc) are effective for staff engagement.[16] This was felt to minimise the psychological burden of pandemic response on front-line staff.[16] This aligns with the themes of our analysis as well; emerging themes identify in this study that included the availability and use of PPE, and sense of human connection, including teamwork, effective communication/directives and comradery with peers. The photovoice method was a successful platform for initiating discussion between HCW and management. The feedback received from art gallery visitors indicated that having pictorial representations of HCWs' realities helped to empathise and clearly illustrate HCW struggles in a way that narrative language alone could not capture. Furthermore, the resulting themes from this study led to development of interventions, which were implemented by management. Photovoice could serve as an alternate communication medium in addition to traditional communication approaches (ie, staff meetings) between staff and management.

In addition, providing the opportunity for a creative reflective practice of taking a photograph and writing a narrative is a supportive intervention in and of itself.[8] Wang, who initially described the practice of photovoice in scientific literature, implied that the practice empowers the participants through documentation and portrayal of

their realities.[6] In doing so, it allows participants to come to terms with their struggles, and also reflect/document their resources and strengths.[6 7] The authors perceive that photovoice is intrinsically a valuable exercise to HCW in the time of the COVID-19 pandemic.

## Limitations

This study provided interesting findings but it was not without limitations. Low hospital staff participation, viewer survey response rate and the recruitment process of hospital and physician leaders disseminating the study information may have introduced a power imbalance. Potential participants may have felt intimidated or worried about anonymity and selected not to participate, as they may have perceived participation could compromise their professional role. An alternative recruitment process could have been to send all hospital HCW the study information via a hospital wide email communication with the submission sent to the hospital-based art gallery. Other strategies would include having recruitment posters displayed throughout the hospital with a QR code that linked to the study information, or using a photovoice study kiosk in a public area of the hospital such as the cafeteria, where art gallery personnel explain the study. All the afore-mentioned may have improved participation and anonymity. In addition, during the recruitment timeframe, the hospital faced various difficulties where clinical priority may have preceded study participation. Participant submissions lacked many of the challenges faced during this timeperiod. This means the depth and breadth of our study findings may be limited. Another potential limitation is the use of an artist for enhancement of the final images, participants were not given the option to contribute to the artistic enhancement of the submissions. However, colloquially, image enhancement offered an added interest and made the submissions more suitable for presentation at the art gallery. Geographical and hospital context may affect the generalisability of our findings. Regardless of these limitations, the use of photovoice to capture HCW lived experience was a powerful method to visually share unique viewpoints of the pandemic from hospital-based staff.

## CONCLUSION

Photovoice has great potential in the professional hospital setting to provide unique insight into HCW lived experiences during the COVID-19 health crisis, as well as suggestions for improvement to alleviate HCW challenges. For healthcare leaders and policy-makers, our findings can support development of strategies to enhance social action planning leveraging existing resources commonly found in healthcare such as teamwork, technology and linkage with community partners to support the identified challenges. Future studies exploring the longitudinal impact of COVID-19, reviewing photographs at different timepoints may be valuable. Further, using this method as a creative outlet intervention and evaluating the benefit

of the artistic participation experience may offer additional insights to support both HCW and patients.

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