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'Even our physical buildings are f*cked': navigating spatial shocks in women's shelters during COVID-19 and recommendations for future resilience

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ABSTRACT

COVID-19 has dramatically changed the way we use and view space across all sectors, including those servicing survivors of violence against women (VAW). The increase in prevalence and severity of VAW during this pandemic impacted an emergency residential shelter system that, in many jurisdictions, was chronically underfunded; the compounding effects of COVID-19 restrictions, such as bed capacity reductions and physical distancing requirements, significantly influenced how shelter space could be applied to support women and children experiencing violence. Using interpretive description methodology, 26 interviews were conducted with shelter staff, eight with women accessing shelter services, and five focus groups with 24 organizational leaders of VAW services in Ontario, Canada to understand the use of shelter spaces during the pandemic. Two main themes were identified in the data and explored: (1) are spaces working?; and (2) to change or not change a facility's architectural configuration? Implications and recommendations for VAW shelter space design are discussed.

Introduction

It is well understood that the role of the architect, especially in the case of a new building, is to design for the function of their client. However, over time, a client's needs can change in both major and minor ways, impacting the usefulness of the building's initial form. In 'major' cases, though the building might require internal alterations, extensions, or even demolition, the problem is clear, and a long-term solution requires decisive action and innovation. 'Minor' instances can be more wicked, especially as they force stakeholders to (1) question the permanence of the problem and (2) weigh the impact of service disruption against costly and lasting solutions. During these 'minor' disruptions, innovation is still required but acts instead as the means of adapting to a new normal as a way of continuing to find function within the existing building.

The most useful theory describing the problems of 'minor' disruptors comes from Leach, Scoones, and Stirling (2010). They see 'shocks' as transient interferences, while 'stressors' connote an enduring structural shift. In a 'style of action', stakeholders can proactively 'control' the tractable, and reactively 'respond' to the intractable, drivers of change. Controlling shock produces 'stability', whereas controlling stress results in 'durability'. Proactively dealing with intractable drivers associated with shock denotes 'resilience', while the response to stress produces 'robustness'.

In the architectural context, shock and stress can arise from the tension between intended building occupancy at the beginning of a project, and incomplete knowledge about the future needs of the client. The relevance of these authors' theorizing has been underscored most recently during the COVID-19 crisis. Functionally, this shock has changed the way we use and view building form. From practices like physical distancing that create a constant awareness of our bodies in space (Burton 2021) to the collapsing of previously disparate spatial uses for multiple purposes (e.g. work-at-home), the pandemic has reframed our conceptions of the built environment and adaptability within architecture.

At a high level, enforced changes to the way we view and use space have prompted reconsiderations of architecture's societal promotion of equity (Dong 2021), community (Alraouf 2021), and health (Emmanuel, Osondu, and Kalu 2020; Nowosielska 2021). At a more proximate level, facility operators have struggled with incomplete information about the likelihood and extent of harm caused by COVID-19 and, thus, with the success or failure of any adjustment to architectural form which they might take. In its early stages, the pandemic confronted facility designers and mangers with 'known unknowns' in creating COVID-safe and post-COVID hospitals (Bologna et al. 2020; Emmanuel, Osondu, and Kalu 2020), schools (Güzelci et al. 2020), and housing (Allen 2021; Peters and Halleran 2020). These

challenges have emerged in spaces that are established within the purview of architectural practice. Yet, given that the implications apply widely, more research is needed across a variety of service arenas, especially those traditionally relegated in the professional discourse.

This article demonstrates these theoretical elements in real life, by focusing on one venue significantly impacted during COVID-19 in regard to space alterations, but unacknowledged in the literature: the violence against women (VAW) service sector (World Health Organization 2021: WHO). VAW, specifically intimate partner violence (IPV, also called domestic violence), can be understood as any form of physical, sexual, psychological, or financial harm perpetrated within formal or informal relationships (WHO 2021). As in other countries, the Canadian VAW sector operates several forms of service for survivors of IPV, including short-term emergency housing (i.e. 'women's shelters'; the focus of this study), second-stage transitional housing, and outreach services (Maki 2019). Before the COVID-19 pandemic, evidence demonstrated that, although the housing provided by VAW services is often conceived of and funded in similar ways to other forms of congregate housing (Harris, Wathen, and Lynch 2014), women's shelters and VAW second-stage transitional housing are unique in the types of services provided. Due to lack of access to safe and affordable housing (Maki 2019; Clark et al. 2019; Wood et al. 2022), these services are often the only thing between IPV survivors and homelessness. Beyond those of traditional homeless shelter services, they include counselling, programming for children, and support in navigating the health, legal, employment, immigration, and housing systems (Maki 2019), addressing IPV survivors' complex needs.

Along with these services, many VAW providers in Canada have adopted a trauma- and violence-informed care (TVIC) approach (Ponic, Varcoe, and Smutylo 2016; Wathen and Varcoe 2023) to recognize how 'individuals' experiences of violence relate to how systems respond to them' (Ponic, Varcoe, and Smutylo 2016). It emphasizes past and ongoing forms of interpersonal and structural violence as central to complex trauma and how it is approached by service providers. TVIC means that VAW shelters attempt to mitigate the effects of systemic forms of discrimination while helping their clients safely leave abuse (Browne et al. 2018; Wathen and Varcoe 2023).

There is well-documented evidence demonstrating how COVID-19 increased the prevalence and severity of violence against women in Canada and globally (WHO 2020). These instances emerged in large part due to the 'stay-at-home' orders and mass employment disruptions during the earlier stages of the pandemic, as found by studies in Australia (Carrington et al. 2021), the United States (Peterman et al. 2020), Peru (Agüero 2021), and Italy (Viero et al. 2021). The increase in prevalence and severity of VAW encountered a women's shelter system already chronically underfunded, and with increasingly limited pathways for women and children to access alternate forms of safe and affordable housing (Burnett et al. 2015; Harris, Wathen, and Lynch 2014; Maki 2019). Even before COVID-19, the unaffordable Canadian housing climate meant that VAW services had difficult time moving women and their children through emergency and transitional housing into long-term affordable solutions (Maki 2019; Noble 2014). Adding to the complexity of providing safety and care to more severely abused women and their children were new COVID-19 restrictions. They broadly followed the physical distancing and shuttering of public-facing services that were seen across many sectors, but also included things that specifically affected space use in congregate settings, including emergency VAW shelters. Key examples relate to bed capacity limits and increased cleaning protocols throughout shelter spaces (Carrington et al. 2021; Lyons and Brewer 2021; McLean and Wathen 2021). While these new restrictions shocked many different congregate housing settings, including homeless shelters and long-term care facilities (Ministry of Health 2020), the problem was not that VAW shelters were held to a different standard, but that the homogenous standards in which they were confined did not consider the day-to-day realities and organizational values of operating a women's shelter (Wathen et al. 2022). Though physical distancing rules were difficult for everyone, VAW staff described enforcing them as replicating coercive control (Wathen et al. 2022); closures of communal areas also impacted the quality care interactions between clients and staff (Burd et al. 2023). Overall, a system already struggling to deal with the service demand (Maki 2019) met up with additional need and decreased capacity to serve IPV survivors during the pandemic.

VAW shelters and the built environment

Literature directly related to the study and design of VAW shelter space and the built environment is limited. An earlier study from the United States found that certain design decisions could lead to feelings of support and safety, such as façade treatments that mimic a more residential form, while others could produce feelings of unease, such as larger-scale institutional buildings (Refuerzo and Verderber 1990). These findings were later used to inform design guidelines and a prototypical design (Refuerzo and Verderber 1993). In more recent studies by Rutledge (2015; 2017), IPV survivors emphasized that shelter design should incorporate aspects that support feelings of safety; they include good lighting, outdoor space that is not visible from the street, and the separation of residential and public areas. Creating a sense of community should also be a focus, for example by installing seating that is flexible enough to be rearranged by women, creating group rooms for different activities, and designing communal dining and kitchen seating (Rutledge 2015; 2017). However, only our companion analysis discusses how physical shelter space – or lack of it – impacts the provision of services (McLean and Wathen 2021), and, given VAW organizations' often limited capital funding opportunities (Maki 2019), there is no indication of whether Refuerzo and Verderber's (1990; 1993) or Rutledge's (2015; 2017) recommendations have been considered in the design of shelters. Repeated searching in architectural periodicals, including the *Architectural Science Review*, *Built Environment*, and the *Avery Index to Architectural Periodicals*, did not yield any subsequent research.

In addition to the research specifically related to design interventions in women's shelters, reports are available about the existing conditions of VAW service buildings in Canada. Even before the COVID-19 pandemic, women's shelters nationally were struggling with ageing infrastructure, with buildings being on average 45 years old (Maki 2019). A survey of 281 shelters by the national advocacy organization, Women's Shelters Canada

(WSC), indicated that '[t]he vast majority (80%) … are in need of some form of repairs and renovations, with almost half (46%) unable to afford them' (Maki 2019, 16). High rates of IPV against women further compound the problem of the shelters' ageing by elevating the demand for shelter beds, meaning that many facilities were consistently operating at or over capacity, especially in urban centres (Maki 2019).

These problems, along with increased service needs due to more severe IPV caused by pandemic lockdowns, left shelters ill-equipped to respond to the public health requirements mandating increased physical space to reduce the spread of COVID-19. These new public health stipulations, though often inconsistently applied across different public health agencies in Ontario (McLean and Wathen 2021), manifested in two significant ways across shelters: (1) room occupancy reductions, including the limitation of bathroom use to one designated bathroom per woman or family; and (2) new physical distancing requirements within the shelter that mandated at least two metres of separation between shelter inhabitants and staff and increased cleaning throughout (Ontario Ministry of Health 2020). Overall, the room occupancy reduction severely limited the number of women or families who could stay in a shelter, while physical distancing requirements resulted in lessened capacity to provide service for women and children experiencing violence (McLean and Wathen 2021). The WSC survey (2020) reported that *71%* of shelters had to lower their capacity to serve women to fulfil the new public health guidelines, closing bedrooms (and thus beds) due to a shortage of bathrooms, along with limiting access to communal spaces (Women's Shelters Canada 2020). Our own analysis of pandemic-induced space restrictions within 15 exemplar Ontario shelters indicated an overall reduction of *27%* of the total floor area to COVID-19 pandemic protocols, specifically with a loss of *18%* of primary space, which included these bedroom and bathroom spaces (McLean and Wathen 2021).

Beyond occupancy, the COVID-19 physical distancing requirements also resulted in a reduction of capacity and usability of communal spaces in shelters as people were required to stay at least 2 metres apart. Our quantitative analysis of these spaces found that an average of 47% of secondary spaces had been closed due to pandemic procedures, including kitchens, dining rooms, living rooms, and staff offices (McLean and Wathen 2021). Physical distancing requirements and the closure of these communal spaces had unique impacts on women's shelters. In the United Kingdom, Bowstead (2019) found that, while functionally serving the same purpose as in other building typologies, kitchens, dining rooms, and living rooms have been shown markedly to benefit healing through contact, encounter, interaction and collaboration among women and children, and between clients and shelter staff.

Literature specific to the built environment in the VAW sector during COVID-19 is sparse. There are only two known Canadian studies, the overview in the Women's Shelters Canada report (2020) and our quantitative analysis of physical shelter space loss during the pandemic (McLean and Wathen 2021; above). No literature from outside of Canada could be found. Our primary research question, therefore, became: what were the experiences of navigating physical space changes by clients and staff in women's shelters during the COVID-19 pandemic?

Methods

Design

This qualitative interpretive description study (Thorne 2016; Thorne, Kirkham, and Flynn-Magee 2004) used an integrated knowledge mobilization (KMb) approach (Kothari and Wathen 2013; 2017). Below we provide an overview of the methods specific to data collected for the analysis. Additional detail is available in Mantler, Veenendaal, and Wathen (2021).

Sampling and recruitment

Five Executive Directors (EDs) from our partner organizations supported recruitment of staff and their ED colleagues in selected regions in Ontario, Canada, using purposive and snowball sampling. This groundwork was supplemented by invitations to direct service staff to participate, sent via major VAW sector email list-servs, as well as invitations to women using shelter services. Interested staff and women were asked to email the research team; individual interviews were conducted with shelter staff ($n = 26$), women ($n = 8$), and five focus groups of four to six participants were completed with EDs ($n = 24$).

Participants

Participants in this study came from 24 different agencies across Ontario in both urban and rural areas, situated in communities ranging from 4700 to 1,500,000 people. Ten EDs and eight staff were engaged at rural VAW service organizations. Two EDs were from Indigenous organizations. Staff had worked for their various agencies from less than one to 30 plus years with the majority in full-time positions (*65%*). Of the eight women using shelter services, all were from urban areas and had an average age of 32 years (SD = 11.13). Seven of the eight were born in Canada, and all were Canadian citizens and self-identified as Caucasian. Four had less than a high school education, three had a high school diploma or equivalent, and one had completed some university courses. Four were unemployed and receiving provincial disability benefits, two self-identified as homemakers, and two were receiving permanent disability benefits.

Procedures

Ethics approval was obtained from Western University's Non-Medical Research Ethics Board (Protocol 115865) and data collection occurred between June and October 2020. Participation for shelter staff and women consisted of a single video/telephone-based interview ranging between 60–90 min, and for EDs one 2-hour focus group conducted by videoconference. Appendix displays questions asked during the interviews and discussions with focus groups that yielded data for this study (for a complete list of questions see Mantler, Veenendaal, and Wathen 2021).

All interviews and focus group proceedings were audio-recorded and transcribed verbatim by a professional transcription service and anonymized prior to analysis. Data collection and analysis were guided by Lincoln and Guba's (1985) and

Thorne and colleagues' (Thorne, Kirkham, and Macdonald-Emes 1997) principles of auditability, fit, dependence, and transferability. To reduce barriers to participation, shelter staff and women received a $CAD50 gift card in recognition of their time. EDs, who participated during normal working hours, were not provided with an honorarium.

Data analysis

Transcripts from interviews and focus groups were organized using Quirkos qualitative analysis software (Quirkos 2021). The researchers who conducted the interviews/focus groups and the principal investigator created a preliminary coding structure, then each of the 34 transcripts was independently coded by two of the seven researchers. The coding structure used definitions based on field notes, and findings from the literature that had guided the creation of the interview questions. Coding of all transcripts was accomplished by two research staff independently, in four rounds. In round one, dyads met to discuss and refine the applicability of the preliminary coding structure and code definitions. In rounds two to four, the process was repeated until the coding team was confident that the structure sufficiently covered the data, and was informed by extant practice literature, a fundamental principle of interpretive description. Next, Quirkos files were merged across coders, and queries were posed to provide reports on each code and associated data, which for the present analysis, related to the concept of 'space'. The coding team met to theorize the relationship and structure of the data and extract meaning from them, an approach consistent with interpretive description (Thorne, Kirkham, and Flynn-Magee 2004). Findings were then member-checked with the research partners during two half-day sessions, and recontextualized in the broader literature by the academic team (Thorne, Kirkham, and Flynn-Magee 2004). For additional analysis details, see Mantler, Veenendaal, and Wathen (2021).

Results

'And most of our shelters, except for a couple, have been built in the spirit of community and sharing and connection. Right? So even our physical buildings are f∗cked' (FG205). This excerpt highlights the changes that pandemic protocols brought to many shelter spaces. Overall, VAW shelters found it difficult to maintain pre-pandemic services and organizational values given their new COVID-19 space restrictions. Through the analysis of the interviews and focus groups, two distinct but inter-related themes pertaining to space disruptions were identified: (1) Are Spaces Working?; and (2) To Change or Not to Change?

The theme of *Are Spaces Working* has three subthemes, including:

- 'not enough vs. too much', highlighting the tension between physical space needs in shelter and public health guidelines;
- finding work-arounds: identifying new space limitations and using creative and short-term solutions;
- existing spaces that worked: underscoring how the utility of some spaces remained unchanged during the pandemic.

To Change or Not to Change comprised two sub themes:

- looking forward
- dreaming of going back: underscoring the tension of whether or not to permanently adapt physical spaces.

Each theme will be discussed in turn.

Are spaces working?

Not enough versus too much

EDs and staff identified that, due to COVID-19 public health guidelines, spaces were not adequately able to meet client needs. One ED described grappling with how the lack of space changed service priorities, saying, 'it's not great. I mean, it's not ideal … because we're having to try to really prioritize the fewer rooms that we have' (FG205). One of the most impactful changes to space was the reduction of the number of usable beds specific to sharing bathrooms. One staff member described the effect on capacity:

> Our place is a 28-bed shelter, right? So, typically, we would allow 28 people there. But, because we only have eight bathrooms, we can limit to eight bedrooms. So, we have to intake according to our bathrooms, not our bedrooms. (S125)

This was a consistent struggle for all shelters in this study, with some losing upwards of *70%* of their pre-COVID-19 capacity (McLean and Wathen 2021).

Interestingly, while a lack of physical space was an issue for all shelters, there was simultaneously excess physical space in some contexts. One staff member illustrated the impact of this tension using shift changes and, now empty, dining rooms as examples. She explained,

> So, that means there's, like, six to seven people standing in the one area to have a shift change. And it's impossible to socially distance, because you can't, like, you can't yell out this information, right? It's, like, confidential information about the women staying there … The dining room is not private enough. (S105)

Finding work-arounds

Due to the ever changing nature of public health guidance, many shelters found fast, creative, and inexpensive ways to adapt their spaces. EDs and staff leveraged bedrooms and communal areas left empty by physical distancing protocols by changing their uses. As one staff member described, 'We made one of our bigger bedrooms that couldn't be occupied because [of the] one person per room [rule] for women who are coming without children … into, like, a school room' (S118). Altering the use of spaces also included decisions to turn dining rooms into new staff areas or personal protective equipment (PPE) storage rooms, and expanding family access to bedrooms so that children, who would have historically slept in the same room as their mother, had their own room. Another staff member described how this process worked well for some families,

> And we have two small bedrooms that can have just one person in them, sort of across the hall from where all the bedrooms with the bathrooms are, and what we're thinking is quite possibly we'll use those for overflow if we have a family. So if we had a family with a teenager, for example, the teenager would have that room and then still share the family bathroom. (S123)

Another work-around was reimagining the use of outdoor spaces, particularly when the weather was good. For shelters, providing some services outside meant they could avoid shutting down some of their in-person work but, as one ED explained, this was not necessarily a sustainable solution,

> and then in recent weeks we pivoted to outside which, in Canada, isn't a long-term solution. But it certainly allowed us to return to in-person programming which enabled us to better meet the values held by our organization and community. (FG202)

These changes to space use were not always a perfect substitution for the original purpose-built rooms, but they demonstrate the need and ability of shelters to adapt quickly to their new pandemic circumstances.

Smaller-scale changes also allowed shelters to maintain the intended use of available space under the new circumstances created by COVID-19. Whereas shelters had previously discouraged women from eating in their rooms and avoided having televisions and mini-fridges in bedrooms to better encourage community-building in communal areas, some closure of kitchens saw mini-fridges installed in bedrooms. Televisions, baby monitors, and expanded WiFi access also allowed new forms of communication and entertainment to reduce the impacts of isolation. One staff member said,

> we got … smart TVs for all the rooms and we were able to get fridges so they could keep food in there and drinks and we were able to make it a little bit more comfortable for how uncomfortable the situation can be. (S118)

Existing spaces that worked

Although COVID drastically changed the ways that many shelters operated, one space that maintained its utility, as noted above, was the outdoor area. With lockdowns limiting the amount of time women and their children could spend away from the shelter, outdoor spaces became very important not only for formal service provision, but for informal social interaction. As one woman noted, 'the way it's set up there is really great for kids. There is a playground in the back. There was a lot, we could go outside whenever we wanted pretty much. It was good for fresh air' (W127).

Staff members also described getting creative to expand the use of their outdoor spaces, 'We would plan, like, little outdoor activities for them to do, we got, like, a lot of, like, water activities for the backyard, which the kids enjoy' (S118). The newfound focus on outdoor activities was often specifically geared towards children staying in shelter, providing them a chance for play outside the confines of their rooms and experience safe interaction with one another.

With many indoor communal areas limited by public health protocols, these outdoor spaces were increasingly important for reducing isolation in the shelter.

To change or not to change?

Looking forward

Shelters grappled with making changes to their physical space based on COVID-19 requirements. While, as the pandemic continued, all shelters implemented less permanent workarounds such as placing tape on floors to signal physical distancing protocols, certain organizations took more lasting action. For some,

COVID-19 resulted in additional funding opportunities previously unavailable for building updates. Of the shelters looking into the future of their spaces, some leveraged the funding for existing projects. One ED said,

> And you know we just accepted $100,000 to renovate that area and to redo floors, walls, paint, … take out walls so we can make it wheelchair accessible, things that we wanted to do years ago but couldn't because we just didn't have the money to do it. (FG203)

Other shelters looked to adapt to the new demands created by the physical distancing guidelines, particularly for communal spaces so that their service could provide more stability in the event of another pandemic. As one ED explained,

> now we're looking to try to get … a grant to restructure some of the other … larger communal spaces that aren't being utilized and we're looking at actually trying to put another two, potentially three, units into the shelter that would then be able to go forward. It would give us almost as … many funded beds as we had before, and then we could keep going with that model into the future. (FG205)

Dreaming of going back

However, some EDs struggled with how much money should be spent to accommodate the current pandemic guidelines, such as physical distancing, when there was the potential that current system shocks would not endure. One explained the difficulty in making this decision, the challenge being

> trying to figure out [is] how much – if you're changing your physical space how much do you do that's permanent … But then the question is how permanent do you make these changes? … and then doing a cost–benefit [analysis]. (FG202)

Though there was, for some, new funding due to the pandemic, EDs felt anxiety around making large irreversible changes to their space that might be difficult to undo once emergency grants were gone. This anxiety stemmed from the reality that removing communal space has implications for the ability to foster interaction and connection in shelter, which is a vital part of support for women and their children. One ED explained 'I wasn't in a hurry to make major [physical] changes to make it even more clinical' (FG201 Rural Shelter).

Discussion

The findings of this study are consistent with those from the Women's Shelters Canada (WSC) survey that found *71%* of shelters had a reduced capacity to serve women because of space loss caused by pandemic guidelines (WSC 2020), as well as our quantitative analysis showing an overall average loss of *27%* of shelter floor area in 15 shelters across Ontario (McLean and Wathen 2021). However, the present qualitative analysis provides an in-depth look at the impact that this loss had on VAW services from the perspectives of EDs, shelter staff, and women. While our quantitative account found that, on average, only *18%* of bedroom, bathroom, and laundry spaces was lost due to pandemic public health guidelines (McLean and Wathen 2021), those from the VAW services participating in this study pointed to a *30–80%* reduction in bed capacity. This discrepancy can be linked to the historical stress of Canadian VAW shelters needing to run over-capacity, with multiple beds often used in each bedroom to handle the high demand (Maki 2019). For many shelters, new public health guidelines limiting one person/family to

a bathroom (Ministry of Health 2020), meant the closure of bedrooms, often leading to the loss of multiple beds and significant consequential service disruptions.

In response to these shocks, shelters were, as per the model of Leach, Scoones, and Stirling (2010), resilient and consistently able to adapt their physical spaces to the constantly changing pandemic protocols. The types of changes, however, were differentiated between services based on the public health guidelines for each local area, which were inconsistent across different agencies (Wathen et al. 2022) and the existing layout of shelters which varied across organizations (McLean and Wathen 2021). As was also reported in the quantitative analysis of VAW shelters in Ontario (McLean and Wathen 2021), the number of existing bathrooms was the lead indicator of bed capacity during the pandemic, forcing most shelters to match the number of available beds to their existing number of bathrooms. A new finding from this research is that outdoor spaces were the one consistent asset that shelters used to maintain certain VAW services, such as providing space for outreach programming.

Though many of the short-term workarounds that VAW shelters created to adjust their spaces to new guidelines could not entirely offset the disruption that COVID-19 caused to service provision, they did create opportunities for women to shape their own rooms in ways that aligned both with TVIC principles (Ponic, Varcoe, and Smutylo 2016; Wathen and Varcoe 2023) and existing literature around creating feelings of safety and comfort within shelter (Rutledge 2015; 2017). New policies that allowed for televisions, mini-fridges, and access to WiFi, while acting to mitigate the lack of community interaction due to room closures by better using outdoor spaces, also provided a possible future strategy for choice and empowerment (Rutledge 2015) in conditions which had not been considered before the pandemic. Though Pable and Ellis (n.d.) have explored how trauma-informed practices can be designed into homeless shelters, no research has yet been undertaken specifically to identify design strategies or means which incorporate trauma- and violence-informed principles within women's shelters.

Given the disruptions to VAW services due to space loss, many shelters struggled with whether or not to go beyond smaller-scale workarounds and make permanent changes to their facilities. Given the apparent need to reconfigure and/or renovate based on a reduced capacity to house women, there was anxiety about spending money on long-term changes, especially due to the rapidly shifting guidance from local, provincial, and federal authorities. In part, this concern was fuelled by the historic lack of funding for infrastructure for VAW services (Maki 2019), and the general environment of austerity in which shelters typically exist (Harris, Wathen, and Lynch 2014). It led organizations to question whether what some experienced as a surge of funding during this pandemic (Mantler et al. 2023) might be better used for other non-architectural purposes. While this pandemic created a unique funding moment for some shelters, the short timelines for spending subsequently created uncertainty around whether or not money would be available to revert to pre-pandemic structures, should guidance shift again.

The dramatic reduction of available space, including bedrooms and communal areas, was the basis for many other shifts that VAW services had to make throughout the pandemic. From the move to hotel use to accommodate women who could no longer be housed in shelter (Mantler, Veenendaal, and Wathen 2021), to the frustration caused by shifting job descriptions for counselling staff (responsible for meal preparation and delivery after kitchens and dining rooms were shuttered) (Burd et al. 2022), space loss in VAW shelters had a profound impact on the ability of organizations to provide quality care (Burd et al. 2023).

Recommendations

Given these findings, and the limited previous research on shelter space loss (McLean and Wathen 2021; WSC 2020), our recommendations are as follows:

(1) There is a need for clear direction and consistent resources from VAW sector funders, at all levels of government, to ensure that changes made to service spaces are stable and durable for normal operations but also during crisis situations.

(2) Outdoor space should also be carefully considered in the design or redesign of shelter residences. As the only space that worked consistently in pandemic conditions, outdoor areas were resilient and provided the flexibility to shift programming and necessary social interaction from the restricted shelter spaces. Attention should be taken to ensure year-round access to the extent that it is possible, especially in colder and/or wetter climates.

(3) Communal spaces such as kitchens, dining rooms, and living rooms should be given special attention during the design and redesign of VAW spaces to ensure that their importance in community-building within a shelter is not lost during times of crisis. This step could mean providing adequate space and ventilation for social distancing, depending on local public health requirements, as a matter of course.

(4) As found in our quantitative analysis (McLean and Wathen 2021), context-specific approaches to pandemic protocols allow shelters to maintain access to their communal spaces for as long as there is no immediate threat of viral infection. It is recommended that local and provincial public health agencies encourage these multi-step, context-specific arrangements to allow VAW shelters more flexibility in maintaining their services.

(5) Renovations and designs for new builds should focus on creating a bedroom to bathroom ratio as close to 1:1 as possible in order to maintain total shelter occupancy close to normal during times of crisis (McLean and Wathen 2021; see also our open access Best Practice Handbook for Space Planning 2020).

(6) Funders and designers should look to VAW service sector leaders, staff and clients when designing or redesigning their spaces. New forms of participatory design that engage these residents in a trauma- and violence-informed way need to be developed to ensure that the values of the organizations along with the lived experience of people who have worked and lived in shelters both under normal and pandemic protocols are meaningfully considered (Bjögvinsson, Ehn, and Hillgren 2012; Ponic, Varcoe, and Smutylo 2016; Wathen and Varcoe 2023). Best practices and situational learning should be publicized.

Conclusion

Our findings expand the small body of research into design considerations specific to VAW shelter spaces. They also provide insight into reactions to operational shocks and stresses, as occurred during the early COVID-19 pandemic. To contextualize the findings, these ideas of shock and stress were defined using a transdisciplinary theoretical framework, enabling operational concepts such as resilience and the distinction of proactive and reactive strategies to enforce change.

The study was conducted in the early stages of the COVID-19 pandemic, during Ontario's second wave from June to October 2020. As a result, the findings respond more to the initial shocks of new and ever-changing public health guidelines than to the ongoing system-level stresses that defined later periods in the pandemic. Given the rapid and escalating onset of the pandemic-related changes, architectural and operational proactivity prior to 2020 was obviously infeasible. In this article, issues which VAW shelters faced during this stage of the pandemic are highlighted along with the initial reactions of care providers and clients. However, other experiences which likely occurred as guidance changed throughout the remainder of the pandemic are not captured. A practical follow up to the current study would be to investigate how, later in 2020 and subsequent months, shelter staff and clients reacted to variations in the availability and configuration of space.

Though a diverse group of shelter EDs and staff was interviewed, all the women accessing emergency shelter services identified as Caucasian. We explored the impact on women and staff of racism and other forms of discrimination during pandemic conditions in a related analysis (Mantler et al. 2023), yet, to better align with the TVIC principles recommended here, future enquiry is needed among a more diverse set of service users. It should examine whether, and how, space-related decisions intersect with race and other forms of identity within shelter settings and in the implementation of protocols and policies for service delivery.

The pandemic brought both significant increases in the incidence and severity of violence, and a reduction in accessible refuges, negatively affecting the ability of shelters to provide service. The relayed experiences of EDs, staff, and women provide on-the-ground evidence relating to the design, or redesign, of shelter spaces to address the vagaries of the fiscal and public health environments. Though specific to the type of care provided to women and children in VAW shelters, many of the recommendations inform the design of other communal spaces.

Future research should build upon this work to explore how different identities and abilities can be addressed more thoughtfully within shelter design, specifically how they can further bolster the resiliency and robustness of ever-changing client needs. Overall, a more consistent and reliable source of funding for VAW infrastructure is indicated, along with flexible, participatory, and trauma- and violence-informed design approaches to allow services better to recover from pandemic and other system shocks which arise. From the findings presented here, architecture and the shaping of infrastructure have a key role to play in matters of readiness and recovery.

Data availability statement

While we do not have Research Ethics Board approval to share raw data beyond the research team, interested readers may contact the first author for further study details or additional findings not reported herein.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Appendix. Questions asked during interviews and focus groups with women, shelter staff, and executive directors

Cohort	Questions
Interview with Women	• How have things been for you (and your kids, if any) here at [shelter]? • We're especially interested in how things have changed at the shelter since the pandemic was declared: • How are you (and your kids, if any) coping with COVID-19 related rules and other issues? • Has the pandemic impacted how you're thinking about next steps for you and your family?
Interview with Shelter Staff	• Tell me about the last few months – how have things been at the agency? • What changed for you the most in your everyday work practice as a result of COVID-19? • How was the timeline from when the pandemic started, to now? • If you were giving your ED, or other shelters, advice right now about what changes to keep and what to get rid of, what would you say? • How have these changes impacted your clients? • Are there new stresses in your work, due to COVID-19 or other factors, that make it harder to care for your clients or yourself?
Focus Group with Executive Directors	• How are things going for you in your shelter/service? • What have the big changes been? • How are you using your space in different ways? • What lessons have you learned from COVID-19?