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Research article

Methodological reflections on using photovoice and photo elicitation: Family members assess their perception of spaces in long-term care units

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Abstract

Photovoice is frequently used to engage participants of all ages on a wide range of social and community-based issues, yet few studies to date employ photovoice for the purpose of research on older adults and long-term care. In this study, we used an adapted version of photovoice combined with photo elicitation to investigate family members' perceptions of special care unit spaces for residents with advanced dementia, as part of a broader evaluation of these units. Findings demonstrate the value of this methodology in the context of long-term care and design. The discussion reflects benefits and limitations, as well as making recommendations for next steps.

Keywords photovoice, photo elicitation, long-term care, family, older adults, design, environment, age-friendly

Introduction

Visual data is often incorporated into qualitative and multi-method research. Photovoice is one methodology frequently used to engage participants of all ages on a wide range of social and community-based issues, yet few studies to date employ photovoice for the purpose of research on older adults and long-term care. In this study, we used an adapted version of photovoice ([Wang & Burris, 1997](#)) combined with photo elicitation ([Harper, 2002](#)) to investigate family members' perceptions of special care unit spaces for residents with advanced dementia, as part of a broader evaluation of these units ([Porter et al, 2022](#)).

The broader multi-method study was designed to evaluate the renovations intended for four units in a residential healthcare facility in one Canadian Prairie city, in which designers and administrators sought to improve well-being of people living with advanced dementia (i.e. increase their activity and reduce agitation), to create a more home-like environment, and improve work spaces of staff ([Porter et al, 2022](#)). This paper will illuminate how both participant and researcher-generated photos can be used to collect data, alongside interviews, as a familiar and desirable approach to more deeply engage family and community members not only in research but also in long-term care design. With an increasing aging population worldwide, and an increase in long-term care use, creating suitable home-like environments for older adults is becoming more important.

Background literature

Photovoice and photo elicitation

Photovoice is intended to be a community-based and participatory method involving participant-generated photos based on a research question derived from the community stakeholder, usually followed by interviews and community-based dissemination of the photos, for instance, through a public exhibit ([Wang & Burris, 1997](#); [Wang & Redwood-Jone, 2001](#)). Academic papers and reports for policymakers are common additional deliverables. Photovoice is typically used to collect, identify and represent community members' life experiences based on a research question. The focus is on using photos people take and deem to be important on a specific topic, in order to develop knowledge and promote dialogue, as well as to inspire new initiatives, policy-based action, or individual empowerment. This can include discussions with relevant policymakers and funders ([Wang, Cash & Powers, 2000](#)). While photovoice has been adapted by some researchers to include researcher-generated photos, Harper ([2002](#)) and others have suggested using the term 'photo elicitation' to refer to using researcher-generated photos for the purposes of conducting interviews. Jenkins, Woodward & Winter ([2008](#)) suggest that the creation of researcher-generated photos can include a collaborative process with participants, explorations about focus or ideas, even while the photos are ultimately decided upon and generated by the researchers. Moreover, sometimes, photo generation is directed by researchers and may then be utilized in interviews alongside participant-generated photos – in other words, there are several ways the process

of photo-taking and conducting interviews can occur (Mitchell et al, 2017). Roger & Blomgren (2019) state the use of photos in any modality is a valuable tool for ‘elicitation,’ not only of data, but also of new ideas and knowledge, critical to any good research. Shaw (2021) underscores the value of using both photovoice and photo elicitation in studies for a range of outcomes and benefits; Carlsson (2001) similarly suggests that combining photos generated by participants with others generated by researchers can result in a highly beneficial research process. Together, these two sets of photos can promote communication between groups with different stakes, they can raise new issues about design and home-like qualities, they can offer insight into staff needs, and they can allow for unexpected new data, creating an important point of commonality between diverse stakeholders.

Photo use in research on older adults and/or long-term care

Notable in the use of photovoice in research on spaces and older adults is the research conducted by Novek and Menec (2014), Novek, Morris-Oswald & Menec (2012), and Ronzi (2020) in their work on age-friendly environments. Mahmood (2012) suggests that photovoice is a highly favorable approach for including older adults in research, and while his study focused on aspects of physical activity, the photos he collected in his research also elicited other data based on mental health – for example, expressions of ‘feeling safe’ and developing ‘peer support’. Those interviews further highlighted emotional and social aspects derived from the use of photos, taken by older adults. Altmeier et al (2021) and Miller et al (2018) used photovoice in

long-term residential care but confirm few studies have focused on long-term care design explicitly. Rempel (2015) explores ‘caring for those who once cared for us’ in her design related research using photos for an aging population living with dementia. Both Lewinson et al (2012, 2015) and van Hoof (2015) discuss how photovoice helped residents to identify ‘home-like’ characteristics in assisted living.

Mysyuk & Huisman’s (2020) review of research using photovoice and older adults concluded that there are limited studies to date focusing on living spaces for older adults, long-term care, or building design. Using photos towards improved environmental design such as city planning, interior design or architecture, however, is common. Examples include Pavlides & Cranz (2012), and Van Auken, Frisvoll & Stewart (2010). Another notable example is Tapak (2012) in which children and adolescents are asked how to improve design considerations for inpatient mental health environments. Photos played a key role in discovering essential new design features.

Below, we draw on photovoice and photo elicitation data collected in our study, to reflect on and illuminate the potential for continued use of photos in research including older adults and their living spaces, while also trying to better understand the needs of caregivers and their older adults living in care. A better understanding grounded in evidence of peoples’ homes (including older adults’ home in long-term care) must be taken into account as designers create spaces, environments, and buildings for this aging population, their caregivers, and the staff that care for them.

Methods

Eligibility criteria

To be eligible for this study, research participants had to be family members or friends of one of the 60 residents living in one of the four special care units to be renovated, 18 years of age or older, and had visited at least once a month. A ‘family member’ is defined as the key person who supports the resident on a regular basis. This could include a spouse, adult child, adult grandchild, niece or nephew, close friend, former neighbor, or other significant person, and did not necessarily have to be the resident’s legally appointed committee of property¹ and personal care, or person with enduring power of attorney.

Recruitment

All primary family contacts for the 60 residents received a letter from the care facility to introduce and inform them about the research project. Family members had already been previously notified by the facility about the planned renovation. Recruitment for this visual aspect of the study occurred at both the ‘pre’ and ‘post’ renovation stage (2017 and 2019), through posters, the facility newsletter, a family support group, an on-unit recruitment table, and brief study presentations on each unit. Family members were not directly approached by the research team, however, as this was not permitted in our ethics protocols. Rather, potential participants

were invited to contact project staff for more information and, after screening for eligibility, to participate and provide consent. Recruitment occurred between May and August of each phase of the study, although recruitment at the second phase was significantly hampered by delays related to the renovation. For this reason, we only discuss data in this paper which emerged from the pre-renovation phase.

Final sample

Nine family members of special care unit residents were recruited in the pre-renovation phase (2017). The participant group included daughters, spouses/partners, and other family (e.g. niece); all but one were women. Four had provided care prior to their family member entering the care unit. Most participants were in their fifties, although there was one participant who was in their forties, and another in their seventies.

Table 1: Summary of participant visits

Frequency	Duration	# of Participants
Every day	1–3 hours	4
One or more days a week	1–3 hours	4
Once a month	Less than 1 hour	1

All names in this paper are pseudonyms.

Ethics

The ethics protocol was approved by the local ethics review committee. All participants provided written informed consent.

¹ A committee is a person (or persons) including The Public Guardian and Trustee (PGT) appointed by The Court of Queen’s Bench or through the provisions of The Mental Health Act to make decisions for a person who has been found to be mentally incapable of making his/her own financial affairs. The PGT is appointed only as a last resort where there is no one else willing, able or suitable to act (Public Guardian and Trustee of Manitoba).

Participant and researcher-generated photos in our study

Not uncommon in architecture and design, the goal of photovoice and photo elicitation in this study was to collect data regarding family member perceptions and experiences of the spaces. There was a particular emphasis on understanding family members' perceptions of the effects of spaces on the residents' quality of life and the quality of their own interactions with the resident. An additional focus was on eliciting family members' feedback on researcher-generated photos, which were focused on the primary design elements to be changed in the renovations.

Research staff were invited to a training session on how to conduct photovoice, and subsequently, photovoice training was held on a one-to-one basis with family members who agreed to be participants. At the training session, family members were provided with a camera to use for a period of up to two hours. A log was provided for participants to record textual details about each photo they took. Participant-generated photographs acted as prompts to form the basis of the discussion at the beginning of an open-ended interview. For example, participants were asked why they took photographs of particular spaces and to elaborate on the meaning of the space and their experience of it.

Prior to the interviews, the research team met to determine what spaces should be photographed by the research team (photo elicitation) to reflect key special care unit spaces that were particularly salient to the renovation design. This entailed design features that were to be changed significantly post renovation, and/or

that we believed relevant to design for persons with dementia. Generating these photographs as the research team ensured that the interviews with participants could also discuss elements or features of the space that participants may not have noticed, but that were important to the design philosophy and planned renovations. The research team selected seven representative photos in pre-renovation (see Figure 1). Photo elicitation requires the research team to consider the research question, however, both sets of photos were used in participant interviews.

The benefit of this dual approach is that it gives researchers access to a range of perceptions of buildings by combining etic (outside) and emic (insider) points of view. Researchers and designers can benefit because users often identify design features that investigators were not aware of, and vice versa. The researcher-generated photos prioritized areas we knew would be most impacted by the design changes; whereas the participant's photos emphasized places where they interact with their loved ones, or spaces they deemed relevant.

Interviews

The interview questions were designed to elicit participants' impressions of, and experiences with, selected physical spaces, both through their own generated photos and those generated by the researchers. These were used as prompts, especially if those spaces had not been flagged inductively by participants to that point. Interviews were held in the project's office by research team staff, in the facility, and took approximately 40–60 minutes. Interview data were transcribed by research team staff, and

basic demographic questionnaire information recorded.

Data analysis

Both the photographs and transcribed interviews were reviewed by four research team members to begin to develop initial and broad-based themes, and the transcripts were initially coded into broad areas oriented around the study's research questions, which led to a focus on spaces, as we describe below. Some topics emerged as more fully formed conceptual themes, which were then cross-checked against each other, altered, or expanded, and then reviewed again by the team of researchers. For the purposes of this report, we have focused on space specific themes only; however, in some research, a fuller polytextual thematic analysis can be conducted as well ([Reavey, 2011](#)) - such an approach allows for exploration of visual as well as verbal data, assuming that the data sets are linked. In the present study, textual excerpts from the interviews and the participant-generated images were reviewed, noting emerging themes believed to reflect important descriptive and evaluative meaning about the spaces. As codes were developed, an iterative process emerged with multiple coders meeting several times in person over months. Four research team members reviewed emerging convergent and divergent themes, and outliers before finalizing the list of codes. Student coders, along with the research team, were then asked to code the complete set of data using the codes ascertained by the research team, and all textual data and images were then reviewed for suitability again by the research team. The focus was on the spaces themselves and how the photos, both participant

and researcher-generated, in tandem with the interview data, reflected dominant themes. Codes with similar properties were grouped together, and as such, the associated data might occur in more than one 'space.' Finally, each theme was confirmed, defined, and named. Data were re-examined to explore the ways in which the data were divergent or convergent across individual participants. Where necessary, themes were collapsed together or expanded. Qualitative data analysis software (Dedoose) was used to assist in the analysis and the organization of the data. Using this method of analysis enabled a rigorous and systematic analysis of the textual and visual data.

As an additional component of our analysis, alongside the textual analysis described above, was that the same four research team members compared and contrasted the content of photographs taken by researchers and family members. The complete research team subsequently discussed and reviewed the outcome, leading to agreement regarding the final themes in conjunction with the photo analysis. This was an iterative process applying the same principles described above.

Findings

In this section, we present a descriptive summary of the spaces using photovoice and photo elicitation data (both photos and interviews) to demonstrate the value of this approach for research related to renovations in long-term care. In total, six of nine participants took eight photos, and three took seven. The participant-generated photos often included content of outside areas (i.e., views, garden and courtyard areas), as

well as spaces external to the units themselves (e.g., chapel, sunroom), whereas our researcher-generated photos included none of these spaces. For example, for one participant, 75% (6 of 8) of their photos were of outdoor spaces, in addition to looking outdoors through a door or window. For all nine participants, on average about 26% were of outdoor spaces, and about 43% were of outdoor spaces or looking outdoors. All researcher-generated photos used for interviews were of indoor spaces of the units, even though some renovations were going to include a new outdoor courtyard (see Figure 1).

Tub room/bathing area

When presented with a researcher-generated photograph of the existing tub room or bathing area on the units (a space that was potentially poised to be renovated), one participant expressed concerns about needing to change the aesthetic environment of that space, to create a space that is calming, homelike and quiet, in order to soothe residents during what can be a very triggering experience for some.

Even just a different color on the wall, and even some nice artwork, pipe in some nice music – resident's choice. If you knew that they liked classical music I'd pump in some Beethoven just to help with the soothing. They got rid of all the jets [bath] now, because the jets would make noise, and because sometimes it can be very scary for bath, it can be very anxiety provoking so whatever you can do... I would change the lighting for sure so that maybe you can turn the lights a little bit so it's not so harsh. Maria



Figure 1: Bathing suite photo taken by the research team.

A secondary point raised by the same participant was that the existing space is difficult for workers and residents to move around easily in:

Typical tub room that would scare the crap out of the resident. It's just it's not even homey. It's bad. [Laughter] First of all the safety equipment in the corner, I don't know how anybody can reach that. I guess you can walk around. It should be kind of one sided. I mean that's a typical tub room. Maria

Another participant was also prompted by this photograph to reflect more broadly on her family member's orientation to being bathed in general, to being in a hospital room that looked like a bathroom, and how the family member uses the bathroom suite adjacent to their own room. The excerpt exemplifies the complexity of participant responses to photo-elicitation, providing insights into how the context of the resident's cognitive impairment infuses with the family members' talk about the space:

I don't know why they don't... My mom is a very interesting person. I know when she is in the hospital she didn't like to have a shower, or bath too much. Strange people bathing her. So they had a lot of problem with her in that way. But when I came and would do it for her she was fine. And her one room in the hospital, before she came to [Org X], you had a bathtub in it, and the toilet, so it looked like a bathroom kind of thing to her. She never knows where the bathroom is in her room. I don't know why. Maybe that's why it is; there's no bathtub because she's so used to having a bathtub in her bathroom. There is no door on it. It is the main door! She doesn't throw the toilet paper in the toilet she throws it in the wastepaper basket. She doesn't think... she knows that's a toilet but she doesn't know it is a toilet so to speak. She's funny that way. I don't know when she started that. She knew when she first came to my place where the toilet was, but then it slowly kind of she didn't really know what it was. Khusboo

Corridor/hallway

When presented with researcher-generated photographs of the corridor/hallway spaces, participant's comments highlight the importance of long, wide hallways as walking spaces, not only to keep residents busy, but in this excerpt, to provide continuity of a person's previous activities and perhaps identity as an active person.

With my mom, it's good to have the long hallways and ride around, because she does walk a lot. My mom is a walker. And I think most of the walking is, two reasons: 1) she is bored; 2) She used to walk out for years, all the time she used to walk all the time. And on her treadmill she used to walk three hours a day before this happened. And... she's gained quite a bit of weight, since

she is in the hospital and the care home. Not her fault though. Yeah, like, for walking it's good. Not very wide hallways though.



Figure 2: A photo of an example corridor taken by the researchers.

The second excerpt from another participant addresses the need for places (including 'niches') to sit, not only within hallways but throughout the space. This quote identified a desire not only for an aesthetically pleasing hallway space, but indicates valuing images of nature, examples of more natural, biophilic elements:

...it doesn't have any place for the residents to sit in the hallway when they're walking. So if you get tired where do you sit? You have to go back to the dining room there aren't like little niches for residents to kind of sit. Which there are on the [unit] and it's there's little niches built in and on the other side so... So yeah like bigger murals I would put up that have like the show the sky show the clouds, especially because the windows are so far at the end... Maria

The following excerpt refers to qualities of the floor itself in the hallway – the lighting and length of the hallways are highlighted as detracting from the space’s ability to ‘look inviting’ or welcoming. Again, we see the reference to nature through sunlight ‘at the end of the hallway’:

So, the shine on the floor is what kind of struck me, with the reflection from it. The only sunlight is way at the back; it's like the light that you see is so sleek, so untouchable. So that's kind of what struck me, the only hint of nature is at the very end of the hallway. It is a really long hallway. It just didn't look inviting. Maria

Dining room and kitchen

The dining area and kitchen were central aspects of the original design of the units and to the daily use of space. The first excerpt here refers to the use of furniture in the eating area:

I know that chair is hard to push people if they are able to sit down. They do have nice chairs that you can step on the bottom and you can push them in a lot easier now. They have such nice furniture now, beautiful. It's worth the investment to do that because if you have a heavier resident you have to push them in, it's too hard to do; but these chairs they do what they do, you step on like a little break there's the wheels at the front; I think the back goes up and then you just push it and you just slide them; and tell you, it's a back saver for the staff! So an investment in really good durable dining room furniture will cost but it should last for a long time. Maria



Figure 3: A photo of the dining room taken by the researchers.

The following excerpt refers to the way in which residents can orient themselves independently to things they may need given the (in)accessibility of the kitchen. It reflects a desire to ‘feel like home’:

And just that wood piece again just cuts the kitchen off, for no good reason other than decoration. It just cuts it off. And. I know you have to have the door there to keep the residents out of the kitchen. But in some ways I kind of think that's kind of sad because if some of the residents are hungry why can't they go help themselves to like a glass of milk or something, you know, if they're capable that is I guess. Like my uncle could still probably pour himself a glass of milk, I guess, because he is still fairly independent, but then he has to try and find somebody. If he's thirsty he won't drink anything because he won't ask, but if he had access to the fridge he would probably help himself get something. He might look for a juice or something like that. On the other hand, if they have jugs in their rooms, which is interesting. So he doesn't drink enough water. Rayna

Creating a ‘homey’ feeling in the dining area (in this case primarily through lighting, access to windows, and a more unspecified quality of ‘imagination’ in the space) was key for other participants, as the following excerpt describes.

What I like about the dining room is that there is lots of windows and lots of light so that it's not a dingy dark room. Maala

Nursing station/medication room

When presented with a view of the original nursing station, this participant conveys concern that the design of the station is too closed off, which the participant acknowledges is because of security concerns. Nonetheless, the participant places more emphasis on the need for residents to be able to approach staff with ease; the comment also highlights the symbolic importance of having staff (flagged here as a kind of ‘fictive kin’) be visible to and integrated in the daily lives of residents.

Well, this was the nursing station, looking from the dining room at the nurse's desk. Well they have the glass window which comes down so that I guess if you're in a wheelchair you could technically talk to the nurse through the glass, but it's covered with paper! So the nurse can't even see you or the clerk because it's covered with paper. So if you had a question you would never see anybody there. I know this is a behavior unit and this is some kind of security, but it just seems really closed off with the glass, but I know in my previous [care] home, we had some glass around, but we also had it opened. We had residents with behavior; they are everywhere. They're not just in this particular unit. So I don't know if there's a way to partially do the glass, like half up because the frame I think is what really

like...do a frameless that it wouldn't maybe looks like a box or something. It just seems so [pause]. Because the nursing staff are part of the family, right? Because they are all the family they are the team, right? And it just seemed very closed off from the residents because you're their life; they're, staff are the lifeline for the residents, and if they can't even access the staff because they can't see them if they're sitting. And I know staff like to hide sometimes from the residents, when they're doing their charting and stuff, but you just have to turn your back sometimes, but it just is very uninviting. You know even to families, like as a new family, I just thought that was just really kind of uninviting. Maria



Figure 4: A view from the nursing station, taken by the researchers.

Access to the nursing station is highlighted in the following two excerpts. Some participants believed that access was barred by design features, and this made it more challenging for residents to find the nursing station.

Well, my biggest concern is the nursing station. I am so glad you showed that. I mean, not that they are sitting there all the time, but, it is just not very visible, and it should be, special with people with special needs. And again, with the hallway being in a circle, and the nursing station the way it is, there are spots that can't be seen. And again, it is nice to have that, because people can walk around, but if something is going on in that area, it could take a while for people to see it. Maybe a camera or something would help, or maybe somebody could be assigned to do rounds sometimes, cause I see some of the homecare staff are kind of congregating. I mean, they are keeping an eye and stuff, but just doing a little bit more. And that could also be just me more concerned with a loved one. Frank

There is this window; there's Plexiglas; there's a small door. The accessibility is really difficult. I'm knocking on the door... although they keep the door open which is great. I think in terms of the design, and how it is, it could be more... Yeah. And I think not just for the family's benefit. And I've been speaking to that perspective more so but I think also for the residents you know there to be a better view of the residents and seeing what's going on. Because I've had to draw their attention: just by the way there is something going on down the hall and they can't see it! Especially if they're down on the computer and working on something. And so I don't know what the design is per se of the nursing station and what that looks like but I think they need to have a total view of what's going on. And I think that does support communication. Sarah

Resident rooms—General

The following two excerpts from participants touch on aspects of the residents' rooms. In the first comment, the participant expresses their

preference for the walls of the rooms to reflect a more home-like aesthetic, both in terms of visual interest directly on the walls, and a bright and well-lit space (with windows).

... other than the quilt that's out of view of the picture here on the left. And some are a little bit of a decal art by his room. There really wasn't anything engaging on the walls. And compared to another nursing home that I've just recently worked in, that was so much more homey, he had art on the walls, and pictures of flowers, and it had more windows that was more bright. And this just seemed because the resident rooms are on the periphery and the windows are just at the end it just this just seems so dark to me. Maria

Another participant expressed some concern about residents wandering into each other's own rooms, associating this behaviour with an implicit lack of safety. Bedrooms are spaces which are not easily monitored, which appears to add to the participant's concern. Their comment conveys some uncertainty about whether perhaps a change in the bedroom door design might prevent this behaviour, or whether it is unavoidable.

...overall, I find that the rooms are very safe, and the areas are very safe because patients tend to go to sleep in one another's beds and things like that, you never find any, at least I've never heard any harm after my dad's been here over a year. Anything happening. Because wandering, you can't help. I don't know whether if you change the door, whether you wind up going in, whether you'll stop that sometimes. With the disease, you're just going to go where you wanna go, I think. But yeah, better sight lines probably, so they could see the patients. Jackie

Other spaces

Other examples of spaces are noted in the participant photos. For example, Jackie took a photo of the main facility cafeteria, which they described as a great space where they spend a lot of time with their dad.

We spent a lot of time here because we try and get my dad sometimes... when he's having a good day with his disease. He'll wind up and he keeps his teeth in, we usually have a nice pie dessert with him, or he'll have some junk food, which he doesn't get on the unit and such. So we... I find the atmosphere is good. The windows are bright. It's nice that you can look out into the courtyard. So, again, it is one of his favorite places to kind sit with us and he usually has like four glasses of water and cup of tea, cause he just... he doesn't really want to really go back to the unit right away. So yes, that's a nice place to linger. Jackie

Frank took a photograph of a bench in the front courtyard:

I took it because basically when we go for walks outside out at the front it's a stopping point to take a rest and also a place where you don't have other people around you so you can have a much nicer—much quieter visit and if you don't want to talk you don't have to talk you can just kind of sit and have a visit. I think he feels familiar with that particular bench cause I will point and he'll make a beeline for it like, so, I think he maybe feels familiar. Frank

Beth took a photograph of a window view from the hallway outside of the unit, and commented on the beautiful Christmas decorations that her husband enjoyed:

...for him to take notice, because he doesn't always. He is not always aware of his surroundings. Numerous times when we walk past there, it got his attention and he responded; so it was just, again, a stimulating thing that he was able to respond.

Decorations may be of great interest to people living with dementia. The above excerpts illustrate the key importance of indoor spaces external to the unit, as well as outdoor spaces, from family members' perspectives. One participant provides the following insight in this regard, commenting more generally:

To me, [the unit] feels like a place where they throw them in to lock them up. Forget about [them]... I love the grounds. I love the cafeteria. I love everything else about being outside the unit.

Notably, many of Sarah 's photos (Figure 5) highlight natural elements such as wood and stone, versus synthetic materials, focusing again on the implicit value of natural elements over synthetic ones.

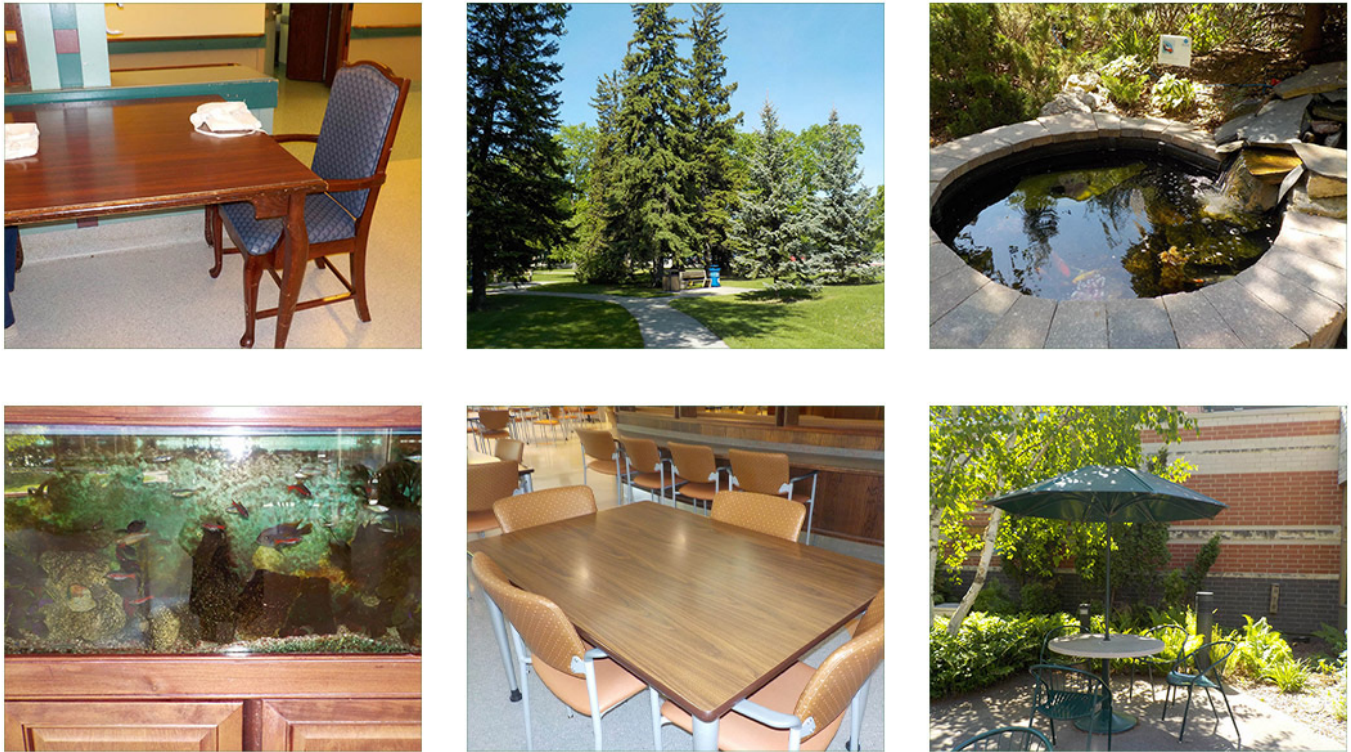


Figure 5: Photos taken by one participant which show the many natural elements.

Discussion

Reflections on photo choices: photovoice and photo elicitation

Overall, our analysis indicated the many ways in which family members' evaluations of spaces prioritized not only the aesthetic 'feel' of the environment (and the need for this to be 'home-like'), but also the ways in which the space facilitated both their own interaction with the residents, as well as the resident's interaction within the space. Moreover, comparison of the visual content of the participant versus the researcher-generated photos in this study yielded additional analytic insights. Participant pictures more frequently included windows, nature and greenery, and the outdoors. In contrast, the researcher-generated pictures focused on

indoor design features and elements specific to the units themselves, based on the team's unique knowledge of the renovation plans. This suggests participants perceived the outdoors, even if this was just a view from indoors outside, as important for the quality of life of their loved ones. Some similarities between the two photo sets exist. Both sets of photos featured personal and indoor aspects of the space – for instance, participants took photos of a virtual screen by a resident's door, or the wallpaper of flowers and nature depicted in the walkways. Overall, however, researchers focused on other spaces to be renovated such as indoor recreational areas more than family participants did.

Our findings confirm existing research by both Mahmood (2012) and Miller (2019) that the use of photovoice in the context of long-term care

and older adults can provide beneficial data. The participant-generated photos in our study underline the value of outdoor spaces for older adults, even when these are synthetic depictions of nature. There is a growing body of literature on the value of biophilic benefits in environments for older adults, including those in long-term care ([Miller & Burton, 2019](#); [Yankeelov et al, 2013](#)). This may include sitting on a bench, or being active outdoors, viewing the outdoors from inside, but it may also include viewing or being active in simulated or artificial representations of nature ([Orr et al, 2004](#); [Yeo et al, 2019](#)). It is interesting to note the interior focus on spaces of the researcher-generated photos, driven by our task to 'see' and assess the value of the renovations for the stakeholder without directly taking biophilic spheres into account. The researcher-generated photos reflect a responsibility to consider the design from the perspective of the funder and the facility. This divergence underscores Jenkins et al ([2008](#)) and Carlsson's ([2001](#)) findings that photovoice and photo elicitation used together can stimulate new ideas and encourage communication between different stakeholders.

In line with photovoice principles ([Wang & Burris, 1997](#)), utilizing photos for long-term care design can result in an opportunity to reclaim agency in a situation in which family or staff may feel disempowered, experience grief and sadness/fatigue or burnout, lack ownership over the spaces they are living/working in, or question the quality of life of a loved one in residence. Utilizing photos for improving living spaces for older adults, adds substantive value to themes otherwise not fully captured in interviews alone ([Mysyuk & Huisman, 2020](#)). The visual cues in the photos can also act as a foundation for

future questions in a follow up study ([Mitchell, 2017](#)). Using photos, interviewers can explore the detail and design related to persons in space, for example regarding recreational activities, the social impact of coming together in a space, benefits or limitations to new renovations related to mobility issues, or, referring to intersections of staff support and family's availability to assist in certain care tasks (e.g. bathing, feeding).

This data has demonstrated that facility administrators might consider integrating early inclusion of photovoice and photo elicitation interviews with staff and family, for example in the form of a feasibility study, prior to paving the way for renovations or even designing new models of long-term care units. Photovoice's roots in community-based research, listening to members of a specific population for a particular research focus, is ideal for a feasibility report. Elsewhere in our study, staff (DE-IDENTIFIED for purpose of review, 2022) had mentioned that they had hoped for renovations of some features that were ultimately not covered by the final design; pre-renovation photos can highlight such gaps and lead to discussions about feasibility.

Given the increasing older population worldwide ([Novek & Menec, 2014](#)), developing an action plan for designing improved long-term care can be seen as a way of building a collective future together for more home-like environments for older adults. Utilizing photovoice and photo elicitation is one opportunity that invites planners to listen to family/residents, and for a facility to invite a range of community-based stakeholders to the table. As Mysyuk & Huisman's review ([2020](#)) has pointed out, communication about design priorities for older adults using photos and asking multiple stakeholders early on, can

foster and strengthen a design's purpose: where staff felt safe, where they saw risks, what features caregivers and family liked/disliked, what they thought was important for their daily routines and regular visits. This approach can prevent potential design flaws not well suited for an older population, an unintentional use of funds for unnecessary renovation features, or poor priority setting overall.

Finally, these findings provide evidence that living in long-term care spaces needs to be understood by multiple stakeholders -- the residents, support staff, designers engaging in new concepts for quality of life in long-term care, and the family members who come in to support and visit their loved ones. Learning through early use of photos taken by a wide range of participants can lead to stronger improved communications between all stakeholders, a fundamental principle and recognized value of photovoice and photo elicitation ([Wang & Burris, 1997](#)), as more recent work by Novek & Menec ([2014](#)) on age-friendly environments has also shown. Like other research employing photovoice and older adults ([Lewinson, 2012](#); [Rijnard et al, 2016](#); [van Hoof et al, 2015](#)), family members in this study emphasize making the spaces more 'home-like.' Establishing a sense of home is extremely complex and may not be feasible in a residential care environment; Duyvendak ([2009](#)) discusses the importance of defining home, reflecting on the term 'haven' as a place one might feel safe, comfortable, and a predictable physical space. Recent research suggests pursuing concepts like a "co-operative" instead of a 'home'" more adequately captures an ideal form of collective living for older people who require care ([Ettelt et al, 2020](#)).

As made urgently apparent during the COVID-19 pandemic, we can consider how to more fully 'renovate' not only spaces, but also the practices and policies that govern care for older people living with dementia. While we were collecting data on the pre-renovation phase, it became clear that questions about staffing, training for care, and quality of working conditions erupted with frequency. What we see reflected in the participant photographs and comments in the interviews is a preference for visual and physical connection to nature, security/safety, visibility within spaces for their loved ones, opportunities for personalization and connectiveness but also privacy, and the importance of meaningful activity by engaging with people (e.g., accessibility of nursing station, welcoming to visitors,) or in the space (e.g., walking around for exercise or exploring, no closed doors). Insights from this study through the use of photovoice and photo elicitation have expanded our understanding of what is required when designing home-like settings for older adults.

Conclusion

This paper has explored the value of integrating a photovoice and photo elicitation approach in the context of better understanding design needs for long-term care. Considerations related to family have been explored with the intent of benefiting the older adults who live there.

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Methodological reflections on using photovoice and photo elicitation: Family members assess their perception of spaces in long-term care units

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