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Title: Workplace Design for the Australian Residential Aged Care Workforce

Abstract:

Objective

This research explored Residential Aged Care (RAC) workplace design features that influence how RAC staff feel valued, productive, safe, like they belong, and connected. A secondary aim was to validate emerging themes about RAC design features with stakeholders.

Methods

A multi-stage qualitative study was conducted in one RAC facility with 100 residents in outer metropolitan Melbourne: 1) photo-elicitation – uses photos to prompt discussions with RAC staff; 2) individual interviews with RAC Directors; 3) validity testing with Advisory Committee.

Results

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Key workplace design features that influenced how RAC staff feel valued, productive, safe, like they belong, and connected, included: home-like environment; access to outdoor spaces; quality indoor environment; access to safe, open and comfortable workplaces.

Conclusions

Key workplace design features that matter to RAC staff in a 'shared workspace' exist. Increasing demands upon RAC, requires evidence-based workplace design policy and evaluation approaches that support RAC staff to work in RAC shared workspaces.

Key words: Aged Care, Workforce, Design

Practice Impact

- This article highlights the need for residential aged care (RAC) facilities to focus on the workspace design environment in their efforts to support the RAC workforce. Given the increasing demands upon RAC, consideration should be given to both traditional workforce support measures (e.g., funding, training) and workspace design environments.

Introduction

Residential Aged Care (RAC) facilities provide 24 hour personal care and accommodation for people who are unable to live independently¹. Over 1000 RAC providers exist in Australia staffed by Personal Care Assistants, Registered Nurses, Enrolled Nurses, Allied Health Professionals and Assistants and Nurse Practitioners². RAC faces unprecedented pressures and transformation due to an increased demand for RAC places from an ageing population.^{3,4}

The RAC workforce is diverse, getting younger and increasing⁵ and is experiencing skills shortages - the sector currently employs around 350k staff, with projections that 830k to 1.3m workers will be needed by 2050⁶. Ongoing RAC funding and regulatory reforms are occurring⁷. Overall, these factors influence RAC workforce recruitment and retention and workplace design⁸.

Evidence exists that workforce employment structures and the workplace physical environment can create an engaged, inclusive and resilient health workforce in the hospital setting^{9,10}. Workplace design frameworks also

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exist, such as Vischer's (2008) model of environmental comfort¹¹, that suggests health care workers require physical comfort as well as functional comfort and psychological comfort in their workspace environment to perform work tasks optimally. Within RAC facilities the quality and safety of the physical environment has mainly been researched from the residents' perspectives¹². The effects of workplace design on RAC staff health, the extent to which they feel valued, productive, safe, like they belong, and connected is increasingly recognised, as is the flow-on effects to RAC residents¹³.

Research to date has mostly led to traditional measures to support the RAC workforce including: staff recruitment, staff wages, funding training, career creation, regulations, work design, staff conditions, staff retention, workforce planning, new models of care¹²⁻¹⁵, and not on the RAC facility environmental workplace design. In recent decades, RAC facility design and construction is being transformed. For example, the once centrally located nurse stations, and medical care (medical files, computers, drug trolleys) are being re-located to the 'back-of-house'. The implications for RAC staff are unknown as the research focus has been, understandably, on the experience of the RAC residents¹⁶.

This research aimed to identify the RAC workplace design features that influence how RAC staff feel valued, productive, safe, like they belong, and connected feel. A secondary aim was to validate emerging themes about RAC design features with external stakeholders.

Methods

Research design

A multi-stage research approach was used: 1) photo-elicitation – an ethnographic method using photos to prompt group discussions with RAC staff; 2) individual interviews with senior RAC facility Directors; and 3) validity testing with an Advisory Committee.

Setting

Given that the research was funded through a University of Melbourne Hallmark Ageing Research Initiative seeding grant for a small pilot project, a purposive sampling framework was used to explore the experiences of RAC facility staff and directors about their workplace design. The research was conducted in one RAC facility as it met the following criteria 1) high organisational cultural strengths (e.g., stable leadership) and 2) high organisational workplace strengths (e.g., strong safety record, involved in quality improvement). The RAC facility has 100 residents and 180 full and part-time staff. The layout consists of four residential wings radiating from a common dining and lounge area. Each wing has a smaller living area. Each resident occupies a bedroom

with ensuite. Nurses' stations are located at the heart of three wings with one wing notable for not having a nurses' station. Ethics approval was obtained from the University of Melbourne Human Ethics Advisory Group (ID NUMBER: 1647219.1).

Participants

The RAC facility staff and directors were initially informed about the research via the RAC Facility Director, People and Communications. Upon agreement, two lead researchers met with the RAC facility Director to explain the research processes. To maximise participant recruitment, the RAC Facility Director informed their staff about the research via an invitation email and at routine meetings.

Data Collection

Stage 1: Photo-elicitation - uses visual images (e.g., photographs, videos, paintings, cartoons etc.) that can be taken either by the interviewer or the subject to elicit comments and discussion¹⁷. RAC staff who agreed to participate in the research, attended a briefing session led by the lead researcher who is an experienced health services researcher and evaluator with expertise in health care workforce issues and qualitative data collection and analysis. The briefing session explained the research – in particular for privacy reasons staff were instructed not to take photos of residents' rooms, nor of residents or staff themselves. Staff were also not given any suggestions about the workplace design features. RAC staff were provided with an i-pad and invited to spend 10 minutes to take five or six photographs of places in their workplace that made them or did not make them feel valued, productive, safe, like they belong, and connected with other staff.

Stage 2: RAC staff group discussions: RAC staff who took photos were invited to participate in a group discussion lasting approximately 30 mins facilitated by the lead researcher. The group discussions took place during Visit 1 and 2 and focussed on staff reactions and views about the photos, using a discussion guide. At the start of each group discussion, participants provided written consent and completed an information sheet (i.e., gender, age, role, years in RAC, work status). Group discussions were audio-taped and transcribed for analysis.

Stage 3: Management individual interviews: The RAC facility Executive Director and Care Director were invited to participate with the lead researcher in an individual semi-structured interview lasting approximately 25 mins about what workplace design features worked well or did not work well, and what they believed could improve the workplace design for their RAC staff.

Stage 4: Advisory Committee validation group discussion: To ensure the research process and outcomes were informed by aged care policy, practice and research, the research was supported by an Advisory Committee, comprised of advocacy peak body (Alzheimer's Australia, Vic); design (Woods Bagot); RAC industry (Australian

Unity); insurers (Employers Mutual Limited); workforce (Australian Nursing & Midwifery Federation) and government (Victorian Department of Health and Human Services) representatives. A group discussion was held after Visit 1 and 2 to assess the preliminary findings and interpretations. Field notes served as a source of data triangulation to enhance the research credibility.

Data Analysis

The group discussions and individual interview transcriptions were coded and analysed using the constant comparative thematic analysis approach¹⁸, which identified themes through a three-step iterative coding process: 1) Open coding – identifying coding categories; 2) Axial coding - identifying coding categories that reflect the nexus of open codes; and 3) Selective coding – identifying the central story(ies) by examining the relationships between the codes.

Results

Research Participants

A total of nine RAC staff participated in the research. These participants were predominantly female (7 females, 2 males); of mature age (with 6 staff over 50 years old); mainly worked full-time (n=5); had worked in multiple aged care facilities (ranging from 1 to 6 facilities); and performed a range of roles (5 Personal Care Assistants, 2 Allied Health, 1 hospitality, and 1 Director).

The research was conducted in three site visits: 1) 2 Personal Care Assistants and 1 Allied Health- Recreational Therapist took a combined total of 16 photos; 2) 3 Personal Care Assistants, 1 Hospitality, 1 Allied Health - Leisure Therapist took a combined total of 13 photos; and 3) Semi-structured interview with the RAC facility Care Director.

Stage 1: Photo-elicitation

Twenty-nine photos were taken by RAC staff that are clustered into 4 domains:

- 1) **Objects** – paintings, vase with flowers, caged bird, couch, wishing well, bookshelves, decorations, lead lighting;
- 2) **Dedicated Rooms**- staff meeting room, upstairs offices, staff room, residents' hair salon, chapel;
- 3) **External spaces** - garden beds, gazebo, fountain, pathways; and
- 4) **Public spaces** – front entrance, car park

It is worth noting that several key workplace features were not photographed by RAC staff. For example, while the nursing stations were prominent within each of the RAC facility wings, these were not photographed. The only living areas photographed were of the main living zones, rather than the smaller living areas within the nursing home wings. Work areas such as the kitchen and laundry were also not photographed.

Stage 2: RAC Group discussions

Four interconnected key themes emerged from the RAC staff group discussions in relation to what workplace design features matter.

1. **Home-like environment**- RAC staff took photos of artwork, couches, plants and leadlighting as these features gave the facility a home-like feel that made them and the residents feel happy. The objects like the artwork also served to distract them mentally from their work. The Hair Salon and Chapel were also mentioned by staff as it made residents feel happy and in turn made them happy. **Box 1** provides examples of home-like environment photographs and illustrative quotes.

Insert Box 1: Home-like environment Photographs and Illustrative Quotes

RAC staff had differing opinions on aspects of their workplace design. For example, a photograph of the front doors with leadlight windows was perceived as *'very pretty'* by one RAC staff, while others described them as *'not appealing'* and *'old / aged'* and *'don't like it personally'*. Some RAC staff noted the plants *'make it feel more like home and welcoming'* whereas another said *'but the plants are still fake and hideous'*. With regard to the cooking areas, RAC staff commented *'that's where we sustain the life. We feed them'*. *'That made me feel good because it's where we feed'*. One RAC staff said more directly that if *'residents [are] happy [then] staff [are] happy'*.

2. **Access to outdoor spaces**- RAC staff took photos of the outdoor gardens, pathways, gazebo and fountain – as these features were either spaces that they could use for lunch, taking time out alone or with residents, making them feel less stressed; or adding to the aesthetics of the facility. **Box 2** provides an example of an access to outdoor spaces photograph and illustrative quotes

Insert Box 2: Access to outdoor spaces Photographs and Illustrative Quotes

3. **Access to safe, open and comfortable workspaces**- RAC staff took photos of their staff rooms – viewed both positively (i.e., space for them, minimal clutter) but also negatively (dirty carpet, located near toilet). Staff also took photos of the Care Director's office who had an *'open door policy'* which was viewed as

positive. Public and communal spaces such as the front entrance and the car park were also mentioned as being valued by participants, as they were physically accessible (e.g., car park) and appealing (e.g., front entrance). **Box 3** provides examples of access to safe, open and comfortable workspaces photographs and illustrative quotes.

Insert Box 3: Access to safe, open and comfortable workspaces Photographs and Illustrative Quotes

4. **Indoor quality environment-** staff commented that clutter, cleanliness, being new, being able to see residents (visibility) and having access to natural light mattered to them. RAC staff also commented on the lack of windows with just a skylight and the closeness of the toilets. **Box 4** provides examples of indoor quality environment photographs and illustrative quotes.

Insert Box 4: Indoor quality environment Photographs and Illustrative Quotes

Stage 3: RAC Management interviews

One interview was conducted with the RAC facility Care Director within the research timeframe, which revealed four key themes that resonated with RAC staff group discussions:

1. **Home-like environment** – when the Care Director was asked about ‘*what workplace design features work well*’ the importance of working in a ‘home-like environment’ was commented on

It's a home-like environment. You walk in, it's like you're walking into an even bigger house than yours, which is good I think, because - well I cannot say that it erases the stigma, but it minimises the stigma of a workplace, at least to me. So when I walk in it's like I'm just walking into a different home, a much bigger home. So it actually makes me feel better - this is honestly - makes me feel better coming in. ...walking into a workplace that looks like this, one that feels like home, makes a difference.

2. **Safe and open workplaces**– the Care Director commented on working in a ‘zone’ where she felt safe, belonged, was productive and the importance of having an open space design.

Yes, safe would be the first word that I think would best describe this workplace for me. When I walk in I know that I am in a zone where I belong, where I can be productive, I can achieve what I wanted to achieve and that I'll be with people whom I know will work with me.

3. **Lack of staff facilities** - when asked about 'what workplace features were not working' – the lack of staff facilities in the upstairs staff room was mentioned

[the staff room] lacks facilities. They don't even have a sandwich press. No water dispenser. No bread. Nothing, no cutlery. Nothing.

4. **Comfort spaces** – when asked 'what workplace design could be improved?', having comfortable spaces for staff was mentioned.

I'm just going to redo the whole upstairs space. Yeah. I want it to be a space where they can put their feet up and have everything that they need - coffee, you know everything that they could possibly [need]. Then I'll really look into more comfortable chairs; because I know what they have upstairs are like rejects - the ones that we are not using here, that's what we have upstairs. So I'm going to get rid of that. I'm going to get them nice comfortable chairs or even armchairs such as this.

Stage 4: Validation Group Discussion with Advisory Committee

A total of five senior aged care policy, practice and research representatives attended the group discussion, commenting on the preliminary research findings, which are summarised below:

- Overall research findings resonated with current paradigm shifts occurring within RAC, in particular the move away from medicalised / institutionalised models to more domestic / home-like environments. The importance of home-like environments for RAC staff were perceived as particularly important.
- The Vischer Environmental Comfort model was perceived as appropriate and useful to explain the research. In fact, the Advisory Committee endorsed a funding proposal to: trial and evaluate an Environmental Comfort model within RAC facilities to enable workers to assess their workspace environment and to prioritise change to optimise job satisfaction, productivity, retention, safety, belonging, health and well-being.
- The research also confirmed the importance of monitoring and evaluating the intended or unintended or flow-on effects of workplace design on both RAC residents and staff. Furthermore, engaging and empowering RAC staff in assessing and informing future planned modifications or improvements in their workplace design, was perceived as essential.

Discussion

The research generated rich evidence about workplace design features that matter to RAC staff. The four key emerging themes are discussed in relation to three lenses: 1) Workplace environments and workforce; 2) Workplace design frameworks; and 3) Workplace environment evaluation.

Workplace environments and workforce

It is widely recognised that key factors in the workplace environment can effect employees' behaviors, perceptions, productivity, performance, satisfaction, social relations and health including: sound, temperature, air, light, color and space, workplace layout, and interior plants¹⁹. An alteration to these factors in the workplace environment such as lighting might improve or decrease worker performance. While our research confirmed the importance of lighting and space (e.g., *quality indoor environment*) and interior plants, a broader set of factors emerged that influence the RAC workforce, including the *home-like environment* and *access to safe (both physical and psychological), open and outdoor spaces*. However, other factors such as the workplace layout (e.g. open-plan) or noise/sound, indoor temperatures and color were not commented upon by the RAC staff. Possible explanations may include: it is not possible to capture factors such as: noise/sound nor indoor temperatures using the photo-elicitation methodology; and while the nine RAC staff participants varied in terms of gender, age, experience, and roles, they may not necessarily be representative of all RAC staff.

Our research also provides insights into the nature of a 'shared workspace - a 'home/residence' for RAC residents and a workplace for RAC staff from a RAC workforce perspective – an under-researched area. The research findings suggest a congruence between the needs of both the staff and residents, and that a workplace environment that is suitable for residents may also be suitable for staff. The finding that RAC staff were happy when residents were happy indicates such a proposition.

Our research also contributes insights into the role and importance of outdoor environments in healthcare settings (e.g., RAC facilities) for the health care workforce²⁰. The research findings reveal that RAC staff are using the outdoor spaces and nature for multiple purposes, including as a space for a quiet retreat/refuge and for general well-being. These findings resonate with existing evidence that outdoor spaces are also important for RAC residents well-being²¹. Given the shared workspace of RAC facilities, these finding may indicate the need to ensure RAC staff are supported to access these spaces. The research also confirmed that natural elements such as outdoors, real plants and flowers and natural lighting appeared to be preferred by RAC facility staff over artificial lighting and plants²²

We must also recognise that our research revealed the existence of differing opinions amongst RAC staff about aspects of their workplace design. The scale of our research does not enable us to fully explain these differences – but suggest the need to explore such difference in further RAC facility research.

Workplace design frameworks

The research findings may be partly explained by drawing upon Vischer's (2008) model of environmental comfort²³ in workplace performance, which has three dimensions: Physical, Functional and Psychological Comfort (**Figure 1**):

Insert Figure 1: Vischer's Model of Environmental Comfort

1. **Physical comfort** – at the base of the triangle—to meet basic needs for hygiene, safety, and accessibility. The research revealed that the **quality of the indoor environment and having facilities** mattered e.g., no clutter, cleanliness, new features, access to natural light and proximity of toilets to staff tearoom.
2. **Functional comfort** – at the mid-point in triangle— workspaces support workers to do their work, tasks, communication and connection. The research revealed that having **dedicated and comfortable staff spaces** mattered. The RAC facility Care Director emphasised that workspaces that were functionally comfortable helped them to get their work done – whereas, spaces that were functionally uncomfortable could increase stress levels.
3. **Psychological comfort** – at the peak of the triangle— workspaces that lead to feelings of belonging, ownership, privacy and control over one's workspace. The research revealed that the **home-like environment**, having **safe and open spaces**, and **access to outdoor spaces** are examples of psychological comfort. The artwork, couches and plants were features that made both staff and residents feel happy - or a sense of belonging (in a home not in a hospital or clinical facility) - hence provided satisfaction. Having access to outside gardens – provided staff with a territory to either use to have time out, de-brief, vent, have lunch – enabling them to gain/regain control over their work and empowering them.

Workplace environment evaluation

Overall this research also contributes to the current debate about workplace environment evaluation, especially within RAC. Given that it is recognised that '*what gets measured- gets improved*', simply identifying workplace design features that influence RAC staff, is not sufficient – building an evidence-based design evaluation approach for use in RAC facilities is required to inform future RAC workplace design. Traditionally, instruments to measure the effects of workplace environments, in general workplaces and in RAC settings, have focused upon: leadership, communication, conflict management, and staff cohesion – from an organisational management perspective²⁴. Multiple workplace environmental evaluation approaches, tools and guides exist – informed through design and environmental psychology perspectives: Post-Occupancy evaluation²⁵⁻²⁶; Building Performance Evaluation²⁷; and Building in Use Assessment²⁸. Reviews of evaluation

approaches³⁰⁻³¹ reveal that staff engagement and empowerment are key issues limiting their utilisation, and recommend evaluation approaches that engage and empower staff via: easy to use tools that require little staff training; clear indications of what workplace designs are (or not) working; provides a score to discuss; and leads to recommendations for workplace design modifications. Our research potentially informs the development of an evidence-based RAC workplace design self-assessment tool (e.g., photo-elicitation based informed by Vischer's Environmental Comfort model) that engages and empowers RAC staff.

Research Rigor and Limitations

The four stage qualitative methodology generated rich evidence about the complexity of influence of workplace design on RAC staff. As a participatory evaluation method, the photo-elicitation, group discussion and interview methodology provided the opportunity for RAC staff to self-assess while connecting with each other - building an understanding and appreciation for differing opinions amongst RAC staff about workplace design. Overall given the rich, frank and honest views expressed by RAC staff, we consider the methodology as successful in capturing the diversity in the RAC staff participant experiences. Furthermore, our interpretations of the research findings had high resonance with the RAC Facility Care Director and high face validity with the Advisory Committee suggesting high credibility of findings.

While the photo-elicitation, group discussion and interview methodology had multiple benefits, we acknowledge that limitations exist. For example, the risk of bias in participant selection could have resulted in selective or incomplete information. We also recognise that since RAC staff were instructed in the photo-elicitation process not to take photos of residents' rooms due to privacy issues (that these are also areas in which staff work), this may have constrained opportunities to take photos of their workplace and hence influenced their comments.

We acknowledge that the research was conducted in one RAC facility that was relatively new and modern, hence possibly limiting or biasing the extent and array of workplace environmental features that could be raised. Further studies are required of other RAC facilities to provide a more comprehensive range of issues.

Conclusion

The research has identified key workplace design features that matter to RAC staff in a 'shared workspace'. The increasing demands upon RAC, requires evidence-based workplace design policy, models and evaluation approaches that support RAC staff to work in RAC shared workspace.

The research has also identified additional design features that confirm and extend Vischer's Workplace Environmental Comfort model. In future RAC research, the adapted Vischer Comfort model could be used as a framework to guide the self-assessment of the comfort of the RAC shared workspaces and to set priorities for design improvements.

Lastly, the research contributes to the evidence-based design evaluation approaches, by also suggesting the need to engage and empower RAC staff to conduct self-assessments of their RAC shared workspaces.

Conflict of interest

The Authors declare that there is no conflict of interest

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Figure 1: Vischer's Model of Environmental Comfort

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