Residential Long-Term Care and COVID-19: Role of the Built Environment in Balancing Infection Control and Quality of Life

Key Findings and Recommendations 2022

10.2 Underpinning Issues

Excerpt from report - For the full report see **www.residentiallongtermcaredesign.ie/resources/**

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10.2 Underpinning Issues

10.2.1 Ageing in Place

01: Five older people enjoying the fresh air at the local park.

Ageing in place is not only about continuing to live in your own home, but also the desire to continue living in your community. This is an important consideration for long term care and the location and community engagement of RLTC settings forms an important part of ageing in place in your community.

Ageing in place requires a continuum of care with an integrated approach to RLTC settings that are embedded in the community and well connected to the housing spectrum and community-based health and social care services.

10.2.2 Quality of Life

Using the quality of life domains set out in chapter 6 that included Physical, Sensory, Cognitive; Psychological; Social; and Place-based or Ecological themes, a further exploration of these issues was conducted as part of the stakeholder engagement process. This range of quality of life issues was confirmed by this process and all stakeholders agreed that quality of life, wellbeing, and resident thriving should be a key driver in the design process. Mapping quality of life issues across all spatial scales in the built environment was deemed to be an important consideration. From site location, down to detailed internal design,

applying a quality of life framework was useful when examining all aspects of the built environment in RLTC settings.

Stakeholder feedback: Interviewees noted the importance of choice for residents of residential long-term care, from the type of supported housing or care setting that they live in to a choice of activities and how they spend their time. They also note that it is important for older people's quality of life to provide care at home for those who need support, but not a high enough level requiring a move to residential long-term care. They stress the need for options in between private homes and residential long-term care, such as home care, community nursing, and supported housing.

Interviewees noted that residential long-term care settings can be institutional, in terms of either the environment itself or the model of care. Several interviewees mentioned how home-like touches such as carpeted floors and art on the walls, are sometimes removed for infection control reasons.

Interviewees added that quality of life considerations, privacy and dignity and supporting independence are often not prioritised in residential long-term care settings. In terms of privacy and dignity, one interviewee noted that this is particularly difficult for older people who are members of the LGBTQIA community, who are in a particularly vulnerable position and for older couples, who are rarely supported by the built environment.

Findings from the case studies point to the impacts of the pandemic on the quality of life of older persons in RLTC. Across all case studies, stakeholders shared personal elements on the impacts of the pandemic on their daily lives; reflecting on the experience, one case study resident noted that "we had to go through a hard part of life, and we are well past it. I am happy we can actually see the family now". Staff members described the impact of PPE, and it acting as a barrier between them and residents (in terms of creating emotional connections, i.e., residents finding it difficult to recognise staff, or the ability to share/convey a smile with someone). The following quotation from a family member with a loved one in RTLC throughout the pandemic goes a long way in highlighting the important role of the built environment in striking a meaningful balance between quality of life and

infection control in these settings: “her environment went from a homely place, with smiling staff to everyone wearing masks, keeping distance... It made her home very clinical, more like a hospital setting. Even now, when we can visit inside again, it is odd and distancing for us to be wearing masks. Health wise it is a necessary tool to reduce spread of germs, but still has an impact on her. Also, when we had window visits masks made it difficult for her to hear us, read lips/facial expressions etc. On a personal level, I feel the whole COVID-19 lockdown and restrictions have had a negative effect on our mother. She has greatly missed the contact with visitors. I notice this by way of her conversation now. Also getting confused more easily. The whole experience has made her feel more like an inmate than a resident”.

Specific to the international case studies, many of the settings show a deep and clear understanding of the relationship between quality of life and the design of the built environment; furthermore, this understanding of the relationship between the two is often a key pillar of the organisation insofar that, where greater attention was given to this relationship, it appears to have promoted further improvements and innovations around care in general.

A further examination of quality of life issues is threaded through Chapter 10.3 (Overarching Design Characteristics, Features, or Approaches) and Chapter 10.4 (Built environment issues across key spatial scales).

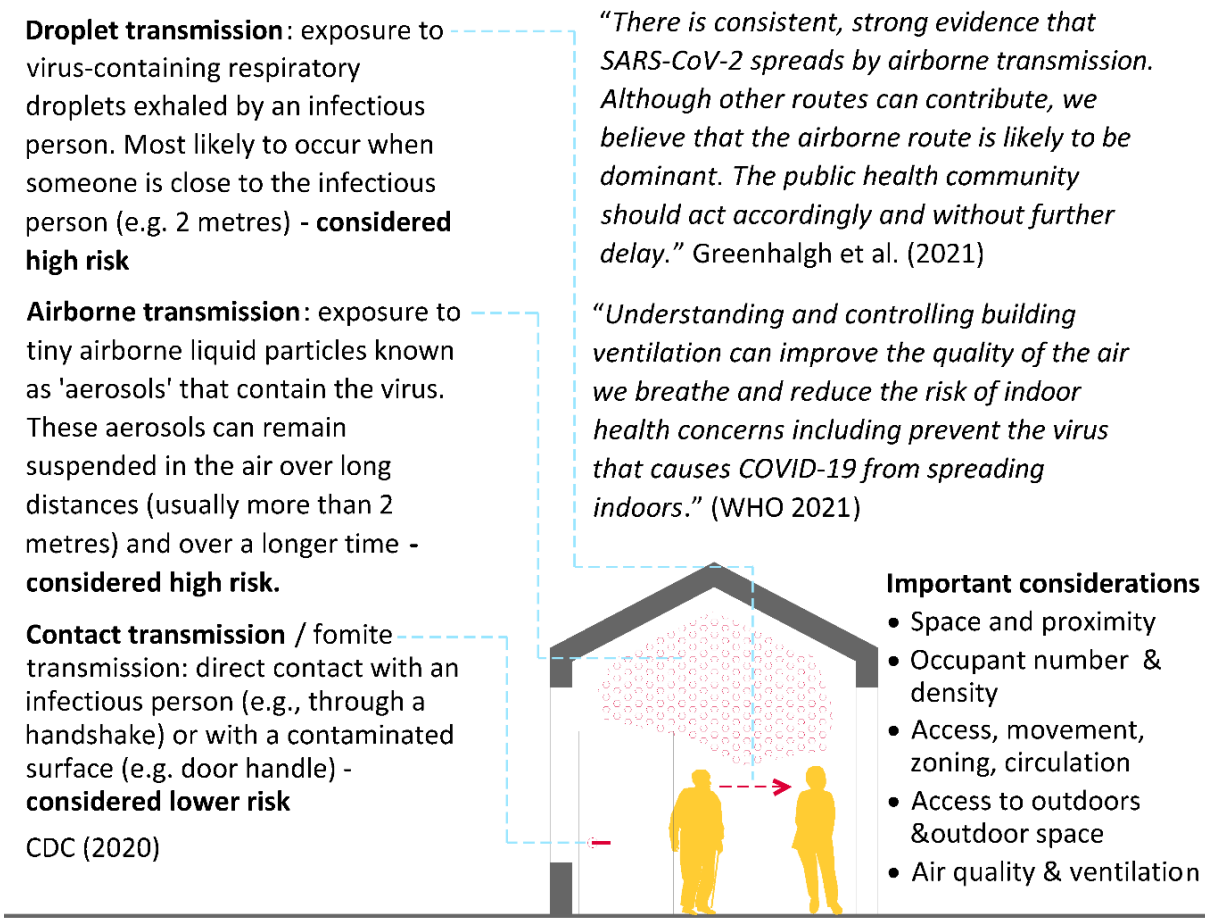
10.2.3 Infection Control

Respiratory viruses are mainly transmitted through contact, droplets, and airborne routes. Infection control strategies therefore must consider all transmission routes. However, as discussed in Section 6.3, there is good evidence that for COVID-19, contact transmission is generally lower risk and that the **principal modes of transmission involve respiratory droplets and airborne transmission**.

Furthermore, the research shows that the risk of transmission is reduced outdoors due to air movement removing and diluting COVID-19 virus particles and environmental conditions such as sunlight that may damage the virus particles and decrease transmission.

Based on these principal modes of transmission, design, retrofit, adaptation, or management measures within settings should primarily concentrate on:

- Zoning or the creation of smaller 'households' with zone or household specific staff to reduce the risk of infection spread. The 'household' approach groups residents into smaller clusters (typically less than 12 people) of single bedrooms gathered around dedicated common areas. These households often have an independent 'front door,' direct access to a garden and are designed to create a homelike setting (see section 2.1 for more detail on the household model).
- Circulation strategies and spaces used to reduce occupant density, create more comfortable walking areas, and maximise social distances.
- The provision for single rooms and ensuite bathrooms for protection or isolation
- Optimising ventilation, providing air filtration, and improving and monitoring air quality.
- Taking advantage of reduced outdoor transmission and the increased use of outdoor spaces.



02: Transmission routes diagram.

While these measures support infection control, they also greatly improve quality of life by supporting: a more homelike setting; mobility and physical exercise; privacy and dignity; improved air quality; and greater access to the outdoors and nature.

As mentioned earlier, some infection control measures can have secondary impacts and can negatively affect residents, families, and staff. To mitigate these negative impacts, any new design, retrofit, or adaptation measures should seek to balance infection control with quality of life through:

- Recognising that these settings are people's homes and that infection control measures cannot dominate the environment in terms of building layout and access, materials and finishes, and overall management of the setting.
- Creating and maintaining safe, attractive, homely, and comfortable interior and exterior spaces for mobility and social interaction with other residents, staff, and visitors.
- Providing and maintaining access to outdoor spaces and to nature for all residents on all floors of the setting.
- Using technology to enhance residents' communication with their family, to avail of telemedicine such as video consultations, or engage with therapeutic activities from listening to music to using augmented reality or virtual reality devices.

These recommendations highlight the role of the built environment in creating a balance between infection control measures and quality of life. In fact, **one of the key messages promoted is the convergence between many good infection control measures and improved quality of life.**

Based on the key infection control considerations outlined above, high priority infection control issues are highlighted at each spatial scale, as set out in Section 10.4 below. These infection control issues are informed by stakeholder feedback, Irish case studies, and international case studies, where relevant.

Stakeholder feedback: Interviewees noted the importance of a settings ability to break down into smaller units, with dedicated staff, for preventing the airborne transmission of COVID-19. This finding was supported in responses from specific Irish case studies.

Across both the Interviews and case studies, respondents added that infection control measures, such as PPE and the lack of visiting, are difficult for residents, particularly those with cognitive impairment or dementia.

Interviewees note that lack of space and staffing issues represent particular difficulties for infection control. Several interviewees commented on the lack of excess/unassigned space in nursing homes, and how this made implementing infection control spaces such as de-gowning areas, PPE stations, isolation rooms etc. more difficult. They added that where RLTC settings had multi-purpose resident areas such as communal spaces, activity rooms, sensory rooms etc., that these rooms were often repurposed for clinical use during the pandemic. Interviewees mentioned various staff related difficulties regarding Infection Control measures. They mention that a lack of excess staff made some measures more difficult and that settings were often understaffed, due to isolating staff and burnout. They note that staff were the pathway through which COVID-19 entered settings, and that an over-reliance on agency staff who move around different settings was problematic from an infection control perspective.

Looking at the findings from the Irish case study settings, lack of space across a number of spatial scales (sitting/living rooms and dining rooms in particular) created issues with respect to being able to effectively implement infection control measures (i.e., social distancing) across a number of settings.

On the other hand, in the context of the international case studies, most sites had in-built design features related to quality of life that also happen to support COVID-19 infection control measures, demonstrating a convergence between many aspects of design for quality or life and design for infection control (i.e., small-scale household layouts such as the Green House model; use of outdoor space; provision of external circulation routes; and good ventilation.

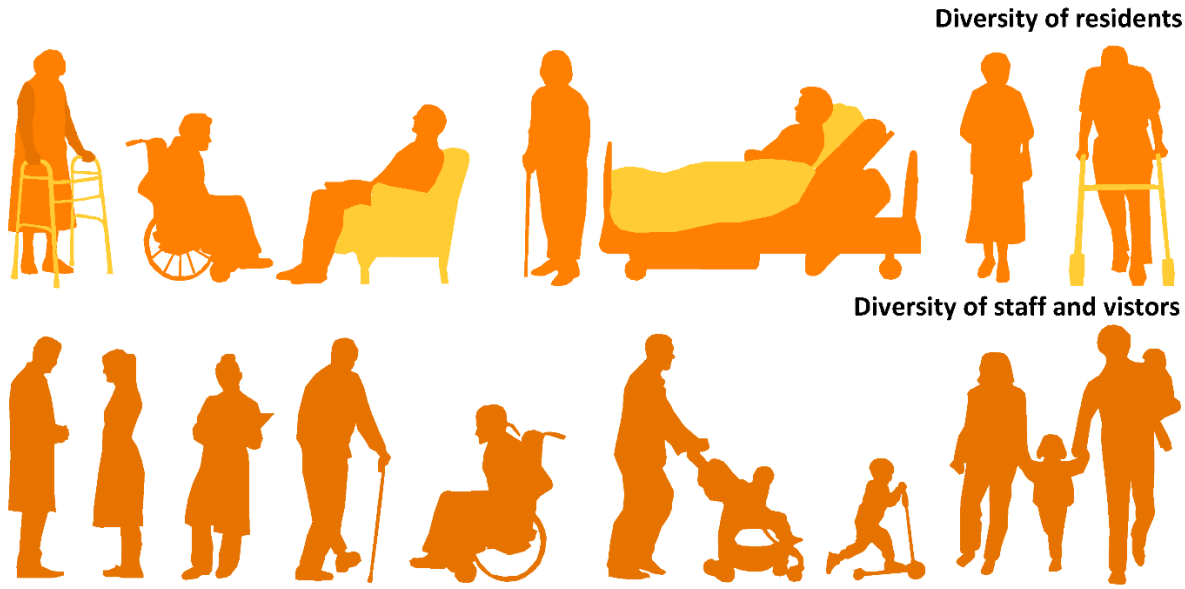
10.2.4 Resident Diversity

03: Various silhouettes showing the diversity of RLTC residents within settings.

This research demonstrates the wide diversity of resident care needs and levels of dependence in RLTC settings in Ireland (more detail in Chapter 4). It also highlights the current lack of detailed data and easily available anonymised data in this area. Hopefully however, this situation will be improved once the interRAI is established and fully operational throughout the country.

- Considering the diversity and evolving nature of care needs in RLTC, there is a need for responsive and supportive design that is flexible and adaptable enough to cater for diversity and ongoing change.
- Common assessment metrics are required for RLTC providers, clinicians, stakeholders, design professionals, setting operators, and facility managers to support design collaboration, and to ensure that settings meet the diverse needs of residents.
- Considering that interRAI is to become the standard form of assessment in Ireland, provide an appropriate level of awareness and training around the relevant aspects of interRAI (i.e., Activities of Daily Living Hierarchy Scale, or Resource Utilisation Groups) to allow various stakeholders to collaborate in a meaningful way in relation to the planning, design, and retrofit of RLTC settings in Ireland.

10.2.5 Universal Design



04: Silhouettes showing the diversity of RLTC residents, staff, and visitors within settings.

A Universal Design approach recognises that settings cater to a wide spectrum of people including residents, staff, visiting health and social care professionals, family members, friends, and various visitors. In this regard, an inclusive setting must support a diversity of users with varying physical, sensory and cognitive capabilities, needs and preferences. Compared to previous decades, many people are entering settings at a more advanced age and therefore may be experiencing greater levels of comorbidities, frailty, and cognitive impairment, thus reducing the average length of stay/life expectancy to less than two years. This has an impact on the design of settings in a variety of ways including the amount of additional space required for the use and storage of mobility aids, space for assisted bathing and toileting, and the provision of hoists and other forms of assistive technology.
It also impacts on the operation and management of the settings, the kinds of activities possible, and the level of engagement with the wider community. Adopting a Universal Design approach acknowledges the diversity of people who occupy long-term care settings.