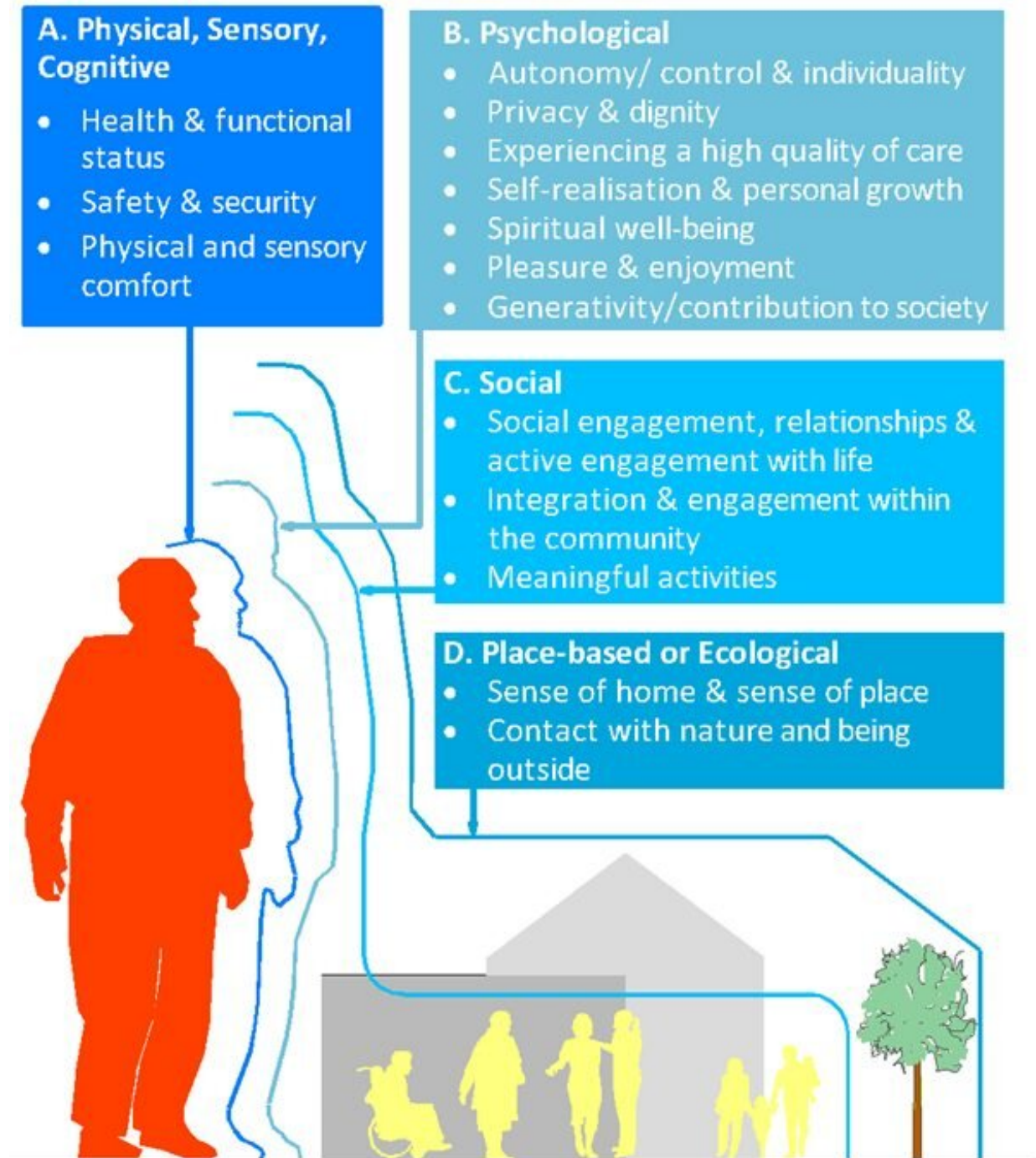


# **Universal design guidelines for improving quality of life and COVID-19 infection control in residential care**

March 14 2022

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Credit: Trinity College Dublin

Researchers from TrinityHaus, a research center in the School of Engineering in Trinity, today launched the world's first set of Universal Design Guidelines for improving quality of life and enhancing COVID-19 infection control in existing residential care settings for older people. There are 581 such residential care settings in Ireland.

The guidelines take into account many aspects of the physical environment across all parts of a setting and therefore, take a holistic and integrated approach across all spatial scales, from the location, access, and overall site layout, down to building layout, building components or specific applications of technology.

Dimitra Xidous, Co-Applicant and Research Fellow at TrinityHaus, said:

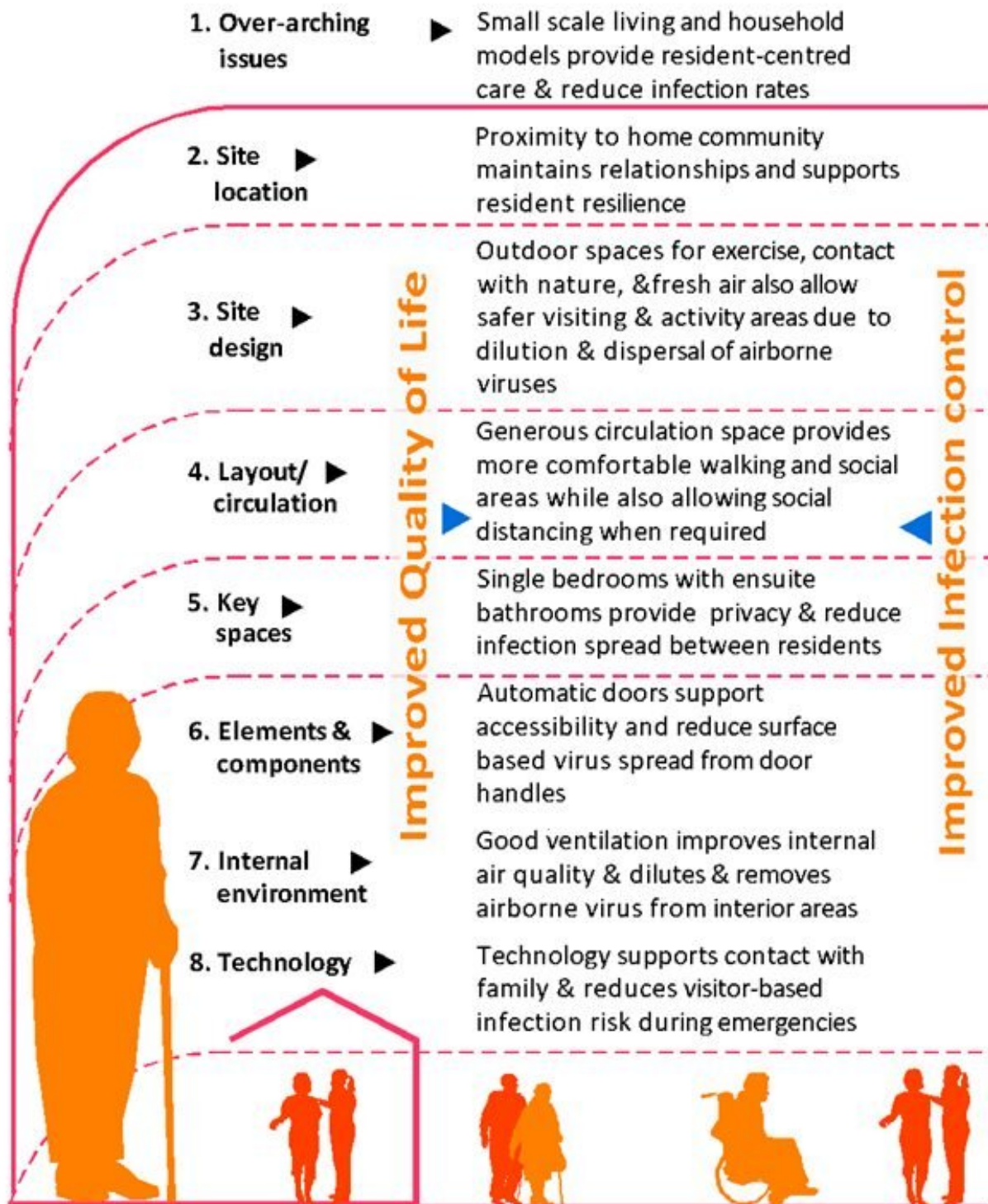
"The COVID-19 pandemic highlighted that Residential Long-Term Care (RLTC) is vulnerable to [infectious diseases](#) and recent research shows that RLTC settings have been disproportionately affected by COVID-19, with serious impacts on residents, staff, and family members.

"Like many other airborne infectious diseases, COVID-19 has serious implications for spatial practices and the design of the built environment, which is why this project was such an important one. The new guidelines we are launching today outline how the built environment in RLTC settings can be adapted and retrofitted to enhance the [quality of life](#) for residents; improve the visitor experience for friends and [family members](#); and improve COVID-19 infection control, [pandemic preparedness](#) and resilience while still protecting the psychosocial health and well-being of residents."

Adopting a universal design approach ensured that the research and resulting guidelines have been created in collaboration with key stakeholders, are people-centered, and address the diverse needs of residents, staff, and visitors regardless of their age, size, ability, or

disability.

This research examined the key spatial scales, from site layout to individual internal spaces, space management (i.e., function, use, and circulation), and the elements and systems (i.e., materials and finishes); fit-out; internal environment; and technology, of existing settings.



Credit: Trinity College Dublin

Furthermore, the research and guidelines prioritize design for quality of life in RLTC and emphasize the importance of universal design, including dementia-friendly design. COVID-19 and infection control issues were carefully examined, but at all times through a quality of life lens.

Tom Grey, Co-Principal Investigator and Research Fellow at TrinityHaus, said:

"Throughout this research a set of quality of life domains was used to provide indicators for an environment where residents have the support and freedom to live full and meaningful lives.

"It is vital that we learn from this pandemic and identify how the design, layout, management, and modification of the built environment can support quality of life for residents and improve pandemic resilience. This knowledge will help inform adaptation and retrofit of the 581 public, private, and voluntary RLTC settings in Ireland to protect the people who live and work in RLTC settings from the current pandemic situation and the possibility of future waves of COVID-19.

Additionally, at a policy level, research in this area will support the 'Our Shared Future' program for Government with its commitment to protecting those living in RLTC, while also supporting the work of the COVID-19 Nursing Homes Expert Panel tasked with providing learnings from the crisis and recommendations for the RLTC sector."

In terms of COVID-19 and infection control, the research highlights how respiratory viruses are transmitted through contact, droplets, and airborne routes and that infection control strategies should take account of all transmission routes. However, there is now good evidence that COVID-19-related contact transmission is generally lower risk and that the principal modes of transmission involve respiratory droplets and



airborne transmission.

Furthermore, research shows that risk of transmission is reduced outdoors due to air movement removing and diluting COVID-19 virus particles, and [environmental conditions](#) such as sunlight damaging the virus particles and decreasing transmission.

Professor Desmond O'Neill, Co-Principal Investigator and Geriatrician at Tallaght University Hospital, said: "Architecture and the design of the built environment has hitherto been a much-neglected issue in terms of nursing homes, yet it is clearly critical to quality of life and the support of long-term care of [older people](#) and staff in residential long-term care facilities."

Provided by Trinity College Dublin

Citation: Universal design guidelines for improving quality of life and COVID-19 infection control in residential care (2022, March 14) retrieved 6 May 2024 from <https://medicalxpress.com/news/2022-03-universal-guidelines-quality-life-covid-.html>

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