

## Poster Presentations

### 212 BUILT ENVIRONMENT OF NURSING HOMES AND INFECTION CONTROL AND PANDEMIC PREPAREDNESS

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**Background:** The disproportionately high death rate of nursing home (NH) residents from COVID-19 in many countries, including Ireland, has focussed attention on infection prevention and control, including the built environment, in nursing homes. This has been a poorly researched topic to date, and we undertook a systematic review of evidence for architectural design measures which support infection control and pandemic preparedness.

**Methods:** Databases were screened for keywords related to NHs, built environment,

infection prevention and control, and COVID-19; relevant papers were uploaded onto Covidence and screened for relevance. Data extracted from included articles was tabulated under 8 specific aspects of the built environment.

**Results:** Of 17 papers included in the final analysis, four studies found that larger nursing homes carried an increased risk of COVID-19 infection. Crowding in NHs was also a risk factor for infection, with a high crowding index associated with COVID-19 infection in five studies. Green House care homes, which are based on small clusters of domestic dwellings, fared better than traditional NHs. Two papers found an association between the location of NHs and the risk of COVID-19 infection, with urban NHs and those in areas of high prevalence being more at risk. Two papers identified internal fittings as a target for infection prevention and control. Seven papers highlighted the role of adequate ventilation in NHs in the prevention of spread of COVID-19. Only one paper described easy access to the outdoors as beneficial to infection control.

**Conclusion:** Residents of NHs are amongst the most vulnerable to COVID-19 infection. When designing and building NHs, the role of the built environment in controlling the spread of the virus should not be underestimated.

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