A Digital Twin for Population Ageing in Australia: Data Visualisation and Societal Complexity

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Abstract

Population ageing is gaining momentum across Australia. The complexities of that demographic process are likely to be profound and varied. Recent events including the Covid pandemic have seen significant shifts in population from urban to regional areas across Australia. In addition, bush fires and flooding events have complicated the consistent provision of care to vulnerable older populations in many regions.

Despite previous scientific warnings, many systems struggled to respond, and the long tails of such events continue to impact communities. In other words, population ageing is occurring within a context of growing societal and environmental complexity. How then could we do better in the future? Especially given that such events are expected to increase in frequency and severity.

One proposal is to build a digital twin of population ageing across Australia. This twin would be virtual but allow for timely planning, scenario development, resource allocation and data additions to ensure relevance and scalability. Such a digital twin would, as others have noted, support responses at scale in the event of future crises. It would incorporate key demographic, structural, workforce and logistical data to permit more timely and effective response(s) to crises.

In this paper we outline how this could be done, using work we have done to date across spatial mapping, business intelligence and design thinking, and the potential value it would have across the aged care environment. As the 2021 Census data comes on stream, now is the time to improve our strategic approach to population ageing.