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New technology dives deeper into population health

A new Australian Catholic University study could revolutionise healthcare planning by digging deeper into population health than life expectancy.

The study, led by ACU head of discipline for IT Niusha Shafiabady and UTS senior lecturer Dr Robert Wu, introduced a visualisation tool to identify inequalities in mortality trends across almost 200 countries.

Researchers took a different approach to traditional metrics to explore how lifespan variation, modal age at death, and survival percentiles could reshape understanding about population health. It also projects how these patterns will evolve by 2030, offering policymakers and health systems a rare opportunity to anticipate future challenges.

“We know that longevity gains are slowing when compared with the improvements in the early 20th century,” Associate Professor Shafiabady said.

“What this paper shows is how policy makers can use new tools for tracking health outcomes that go beyond life expectancy, including lifespan inequality and survival curve horizontalization.”

Published in PLOS One, the study examined longevity as the world recovers from the pandemic, tackles aging populations and faces major conflict across many continents.

Using advanced clustering methods and multiple indicators beyond life expectancy, it identified distinct “mortality convergence clubs” that reflected geographic, socioeconomic, and gender-based disparities in longevity.

“It also projects how these patterns will evolve by 2030, offering policymakers and health systems a rare opportunity to anticipate future challenges,” Associate Professor Shafiabady said.

Associate Professor Niusha Shafiabady is the head of discipline for IT at ACU's Peter Faber Business School and is available for interview via phone or Zoom.
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