

Wellcome Leap & Temasek Trust Launch US\$60M Dynamic Resilience Programme to Extend Health Spans

- ***Average human life expectancy has doubled from 35 to 70 years over the past century¹, but health spans (number of years spent in good health) have not correspondingly improved²***
- ***Multimorbidity (multiple coexisting health conditions) poses an urgent challenge for global health services³ - it affects more than 1 in 2 adults aged over 60, and this is set to increase in the coming decades⁴***
- ***The Dynamic Resilience Programme aims to increase health spans by identifying and validating health resilience measures and models, and to develop and test new interventions to improve health outcomes in older people after stress events***
- ***The call for abstracts and proposals to meet programme goals is now open***

Los Angeles, United States | Singapore, 25 April 2023: Wellcome Leap and Temasek Trust have partnered to launch a US\$60 million (~S\$80 million⁵) Dynamic Resilience programme aimed at increasing health spans. Average human life expectancy has doubled from 35 to 70 years over the past century, but health spans have not correspondingly improved. Data shows that worldwide, more than 1 in 2 adults aged over 60 have multimorbidity, or multiple co-existing health issues. This and decreasing dynamic resilience - the ability to respond to and cope with stress - contribute to clinical frailty which makes us vulnerable to sudden and serious health deterioration in the event of acute illness or injury.

Multimorbidity poses an urgent challenge for health services⁶ and this is set to increase in the coming decades⁷. Frailty affects up to half of adults over 65 globally⁸, and people who have experienced traumatic injury, cancer treatment, or menopause. Frailty reduces our ability to live independently and increases the likelihood of falls, hospitalization, the need for long-term care, and death. The negative impact of frailty and age-related ill health on patients, their families, caregivers, and societies, is unsustainable. **The Dynamic Resilience programme aims to reduce frailty progression by 25% which could prevent 71,000 hospitalizations and 8,000 deaths annually from falls in the US alone and benefit 87 million older adults globally.**

¹ Roser, M. et al. [Life Expectancy](#). Our World in Data. Last revised October 2019.

² Garmany et al. [Longevity leap: mind the healthspan gap](#). npj Regenerative Medicine, 2021. 6(1): p. 57. DOI: 10.1038/s41536-021-00169-5

³ Pearson-Stuttard J., et al. [Multimorbidity – a defining challenge for health systems](#). The Lancet. Dec 2019.

⁴ Chowdhury, S., et al. [Global and regional prevalence of multimorbidity in the adult population in community settings: a systematic review and meta-analysis](#). The Lancet. Feb 2023.

⁵ Currency exchange rate of US\$1 = S\$1.33

⁶ Pearson-Stuttard J., et al. [Multimorbidity – a defining challenge for health systems](#). The Lancet. Dec 2019.

⁷ Chowdhury, S., et al. [Global and regional prevalence of multimorbidity in the adult population in community settings: a systematic review and meta-analysis](#). The Lancet. Feb 2023.

⁸ O’Caoimh, R., et al., [Prevalence of frailty in 62 countries across the world: a systematic review and meta-analysis of population-level studies](#). Age and Ageing, 2020. 50(1): p. 96-104. DOI: 10.1093/ageing/afaa219

“The World Health Organization estimates that by 2030, 1 in 6 people globally will be aged 60 years and above, and many will be afflicted with multiple co-existing health conditions. Our partnership with Wellcome Leap to further the research on Dynamic Resilience is aimed at extending health spans – the number of years spent in good health – so that more people can live fuller and healthier lives for longer,” said Mr. Desmond Kuek, CEO, Temasek Trust.

Ageing does not have to mean poor health. The rising number of centenarians and supercentenarians shows humans can live well for a long time. These resilient individuals enjoy good health for most of their lives and can bounce back from significant stress events. Resilience offers a new way to understand health spans and how to prevent frailty and the age-related coexistence of multiple chronic health conditions.

“We all share a desire to be healthy and live independently to our last breath,” said Dr. Regina E. Dugan, CEO, Wellcome Leap. “To do so, we will need to be able to measure, support, and maintain robust levels of dynamic resilience.”

New therapies have been developed to combat age-related diseases and frailty, but clinical trials are hindered by the lack of reliable biomarkers for resilience and frailty, incomplete understanding of resilience mechanisms, and a lack of mechanism-targeting interventions to prevent health deterioration. Current frailty scores and indices can provide reasonable predictions of statistical outcomes after a stress event, but not outcomes for an individual.

The three-year Dynamic Resilience programme has three goals: (1) **to identify new biomarker signatures of resilience that predict health outcomes after a stress event** using collections of biological specimens and associated health data that have been collected from individuals over time; (2) **to understand what causes frailty and resilience**, using lab tests to assess the effects of stress on biological systems at different levels of complexity, including cells, tissues, and whole organisms; and (3) **to test ways to improve biological resilience** in at-risk people prior to predictable stress events like surgery, targeting reduction to further frailty or death by at least 25% in intervention versus control groups.

Researchers who are interested to participate in the programme can find out more about it [here](#).

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Note to Editors:

About Wellcome Leap

Wellcome Leap builds and executes bold, unconventional programmes, funded at scale. Programmes that aim to deliver breakthroughs in human health over 5 – 10 years. Founded by the Wellcome Trust in 2020 as a US nonprofit with initial funding of \$300 million, Leap programmes target complex human health challenges with the goal of achieving breakthrough scientific and technological solutions. Operating at the intersection of life sciences and engineering, Leap programmes require best-in-class, multi-disciplinary, global teams assembled from universities, companies, and nonprofits working together to solve problems that they cannot solve alone.

About Temasek Trust

Temasek Trust, established by Temasek Holdings, is a steward of philanthropic assets, advocate of sustainability, and catalyst of positive impact. It provides governance and financial oversight of non-profit endowments and gifts for an ecosystem of entities with the shared purpose of building better for every generation by protecting the planet, uplifting communities, connecting people, and advancing capabilities. In forging new pathways for philanthropy and impact investing with like-minded partners, Temasek Trust aims to promote catalytic philanthropy as a force for good. For more information, visit <https://www.temasektrust.org.sg>.

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