

Future of Aging Research: *a humble, slanted view*

*2024 SPACE, Supportive Environments for Physical
& Social Activity, Healthy Ageing & Cognitive Health*

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Outline

- Macro background
- Healthy aging
 - Tracking progress – need data
 - Moving focus from disease-free to healthy aging
 - Life-course framework
 - Environments – physical, social, policy; technological innovations- multimodal data, real-time data, gateway policy initiatives
- Climate change in an aging world

In December 2020, the UN General Assembly declared 2021-2030 the Decade of Healthy Ageing



Decade of Healthy Ageing: a new UN-wide initiative

Health is central to our experience of older age and the opportunities that ageing brings. The ageing of the population impacts our health systems but also many other aspects of society, including labor and financial markets and the demand for goods and services, such as education, housing, and long-term care.

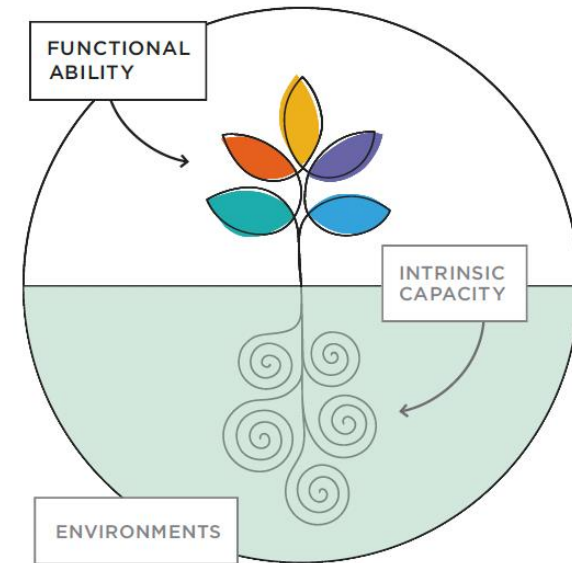
Decade Action Areas

- **Combatting Ageism:** Change how we think, feel, and act towards age and ageing
- **Age-friendly Environments:** Facilitate the ability of older people to participate in and contribute to their communities and society
- **Integrated Care:** Deliver integrated care and primary health services that are responsive to the needs of the individual
- **Long-term care:** Provide access to long-term care for older people who need it

The Resolution calls upon the World Health Organization to lead the implementation of the Decade, in collaboration with the other UN organizations.

WHO mandate to track progress

- What is measured drives action.
- Action needs to be informed by evidence and aligned with older persons' expectations and the priorities that are negotiated with stakeholders and resourced by decision-makers.



**DECADE OF
HEALTHY AGEING
BASELINE REPORT**

The lack of data on healthy ageing or older populations increases the invisibility of older people

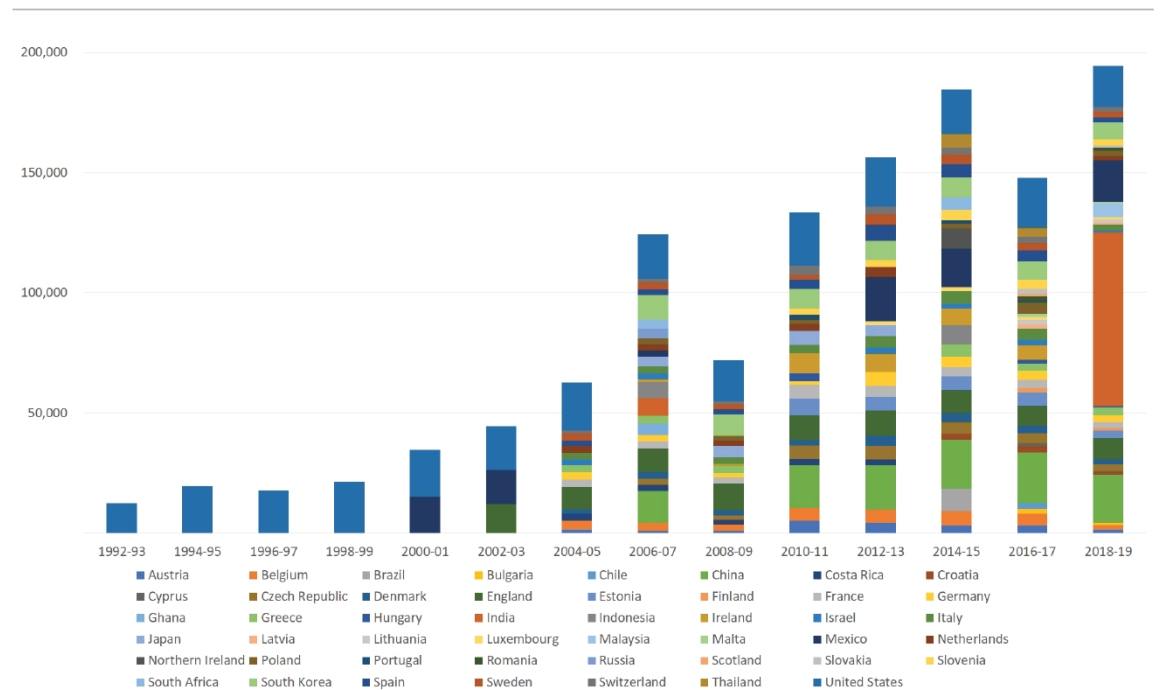
New data collection initiatives funded by WHO, Asian Development Bank, NIH

GATEWAY TO GLOBAL AGING DATA

A platform for population survey data on aging around the world

HEALTH & RETIREMENT STUDIES

are population representative, longitudinal, and multidisciplinary surveys of older adults with internationally coordinated survey instruments



20
STUDIES

47
COUNTRIES

62
SURVEYS

227,401
SURVEY QUESTIONS

Data collection initiatives

Global Regions

 World Health Organization

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Understanding global health through data collection


ADB WHO WE ARE WHAT WE DO WHERE WE WORK WORK WITH US Search

Data and Statistics

Data and statistical analysis in the Asia and Pacific region contribute to knowledge generation in ADB, helping strengthen its institutional priorities and operational effectiveness in its developing member economies.

Main Economic Research Statistics Corporate Data


What We Do Data and Statistics Statistics Economic and Social Statistics



Economic and Social Statistics

Data goes hand in hand with empowerment. High quality data, with its power to inform and drive action, is needed more than ever.

ADB acknowledges the need for reliable, timely, granular, and integrated data, as well as innovative ways to produce them, to guide economic and social development to ensure that nobody is left behind. To aid in evidence-based policymaking, ADB produces key knowledge products and partners with statistical agencies to...



Department of Health and Human Services

Part 1. Overview Information

Participating Organization(s)	National Institutes of Health (NIH)
Components of Participating Organizations	National Institute on Aging (NIA)
Funding Opportunity Title	Building Neuroscience Research Infrastructure for Alzheimer's Disease (AD) and AD-Related Dementias (ADRD) in Africa (UG3/UH3 Clinical Trial Not Allowed)
Activity Code	UG3/UH3 Exploratory/Developmental Phased Award Cooperative Agreement
Announcement Type	New
Related Notices	<ul style="list-style-type: none">October 6, 2023 - Notice of Change to Key Dates Listed in RFA-AG-24-027. See Notice NOT-AG-23-056.August 31, 2022 - Implementation Changes for Genomic Data Sharing Plans Included with Applications Due on or after January 25, 2023. See Notice NOT-OD-22-198.August 5, 2022 - Implementation Details for the NIH Data Management and Sharing Policy. See Notice NOT-OD-22-189.
Notice of Funding Opportunity (NOFO) Number	RFA-AG-24-027

Moving focus from disease- free to healthy aging

- At least 142 million older persons worldwide are unable to meet their basic needs.
- **Optimizing functional ability is a key to healthy aging.**
- Governments and other stakeholders must invest in data to monitor healthy aging across the life course.
- Actions must be accelerated to make a measurable impact by 2030. Older people must be engaged at all stages.
- Global evidence and cases highlight what can be done and what we can learn.



Healthy ageing is
“the process of developing and
maintaining the functional
ability that enables well-being
in older age”.

Working Life Exposome

A Fundamental Shift

Single Occupational Exposure



Single Disease



Interrelating Working Life Exposome



Health, Biological Changes and Vulnerability



Paradigm shift

- Multi-dimensional health, biological changes → Multi-omics
- Social environment, not only interpersonal, but also structural
- Physical environment: natural and built environment, air, and water
- Policy environment:
 - Individual determinants (access to healthy diets, tobacco consumption, etc.)
 - Community and national determinants (e.g., education, transportation, retirement, pollution, health care, etc.)



The human exposome encompasses exposures to environmental factors **throughout life**, starting from conception and pregnancy.



Life-course framework

- Linkage to administrative data
- Calibrating data using linking items

Technical Innovations: Multi-modal study

THE USC COUPLE
MOBILE
SENSING PROJECT

<http://homedata.github.io/>

self-reports
✓ mood
✓ quality of interactions



context and interaction
✓ GPS
✓ activity count
✓ body temperature
✓ alcohol/caffeine/drugs



electrodermal activity
✓ skin conductance level
✓ skin conductance response



language use

- ✓ linguistic constructs
- ✓ psychological factors
- ✓ personal concern
- ✓ paralinguistic



electrocardiogram
✓ heart rate
✓ heart rate variability



physiological synchrony
✓ joint sparse representation
✓ multiple time scales



acoustic analysis

- ✓ pitch (F0)
- ✓ intensity

Unweighted classification accuracy up to 81% and 86% for females and males

Gateway to Global Aging Data Policy Explorer

g2aging.org



LONG-TERM CARE POLICIES

The Long-Term Care (LTC) Policy Explorer captures historical public care policies for people with persistent care needs. The key dimensions of the Explorer are policy, country or state, and time. Select a policy and countries or states and then click View to see policy details. You can compare multiple countries or states during a single year or view one country or state's policy changes across many years.

Watch our example video demonstrating the key features of the Policy Explorer [here](#) (3:24).

POLICY

-- Select --

COUNTRY

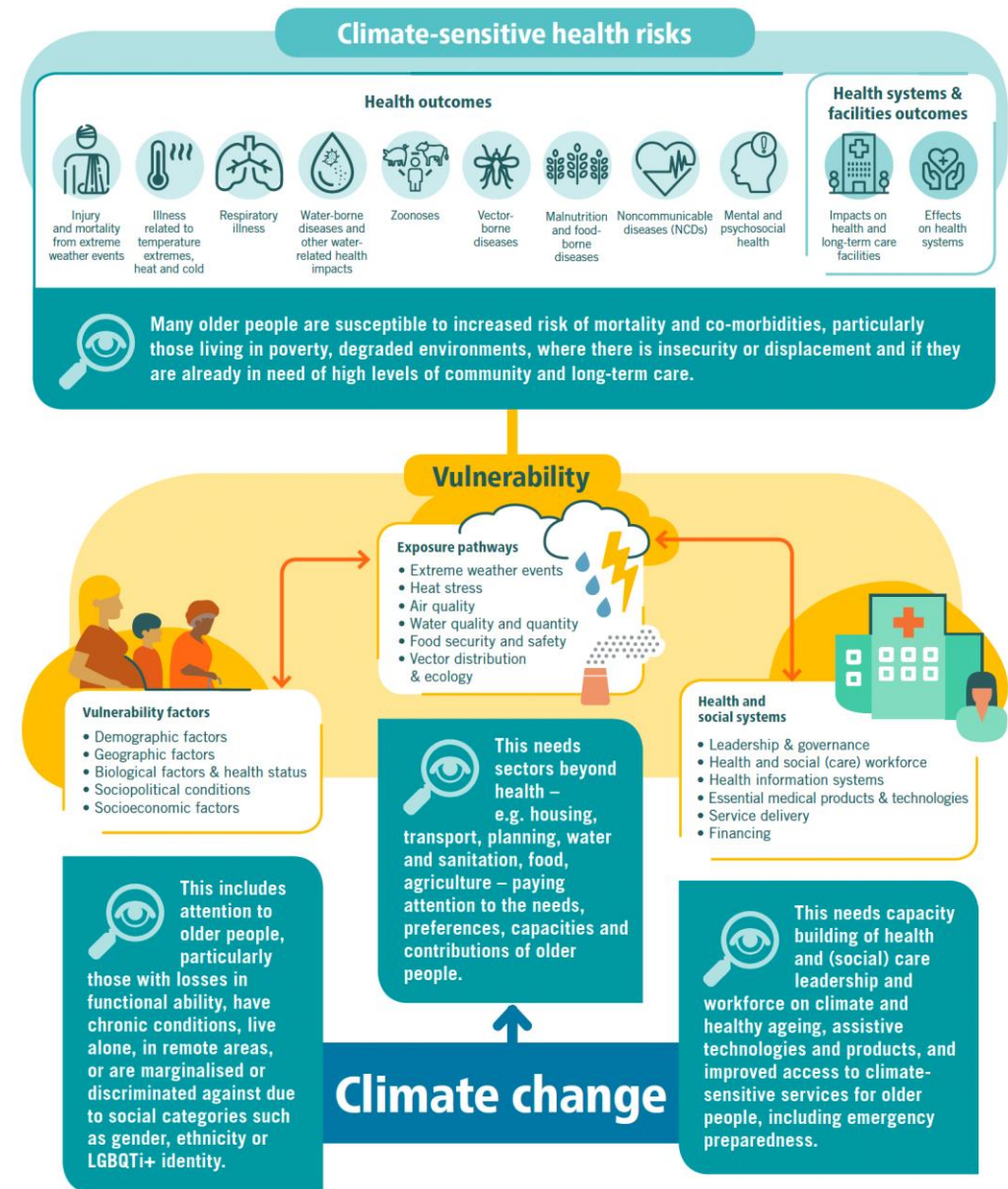
-- select --



Countries or States		Cash Benefits	In-Kind Benefits	24-Hour Care Benefits	Service Voucher
 Austria	First law	1993	1993	2007	None
	Major changes since '92	2012	2012	None	
	Documentation	PDF	PDF	PDF	
 Belgium	First law	1992	1994	None	2001
	Major changes since '92	2001, 2014	2014		2014
	Documentation	PDF	PDF		PDF
 France	First law	None	1997	None	None
	Major changes since '92		2002		
	Documentation		PDF		
 Germany	First law	1994	1994	None	None
	Major changes since '92	2008, 2017	2008, 2017		
	Documentation	PDF	PDF		
 Japan	First law	None	1963	None	None
	Major changes since '92		2000, 2006, 2014		
	Documentation		PDF		
 Korea	First law	1992	1992	None	None
	Major changes since '92	2008, 2014, 2018	2008, 2014, 2018		
	Documentation	PDF	PDF		

Climate change in an aging world

Healthy ageing will not be possible without a healthy planet



Climate change and rapid population ageing are occurring together

- Their combined effects on the health and well-being of older people will have to be much better understood and addressed urgently by policy-makers and planners everywhere.
- **Older people have been neglected** in studies of climate change, and the neglect should be redressed in the context of a rapidly aging population.
- **Older people are agents of change in actions for the climate** and for the social transformations necessary to adapt to, mitigate, and build resilience to different climate change scenarios.
- **Although older people are a widely diverse group, many are disproportionately affected by climate change** because of their greater physiological susceptibility, pre-existing health conditions, disability and social vulnerability, particularly when they live alone or in poor urban areas and are less capable of responding.
- **Older people must be protected from climate-related threats.** This must be built into multisectoral policy and program actions in cities and communities and across systems, with greener environments, less air pollution, adapted housing and health services, more sustainable food systems for healthier diets, and health promotion for well-being.
- **This is an opportune time to increase the visibility of older people and to advocate for a healthy planet** – make healthy aging a pillar of plans for climate resilience.
- **The next 10 years will be critical** for the agendas of both climate change and healthy ageing.

Thank You!

“There is a rapidly closing window of opportunity to secure a livable and sustainable future for all.”

— IPCC Report, 2023

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