

Collaborative Innovation and Realizing Potential of Asia-Pacific

2020 Well Aging Society Summit

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Head, Johnson & Johnson Innovation, Asia Pacific

More Than 130 Years: Creating Value Through Innovation



Business
Segments



\$11.4B

Invested in R&D
in 2019

Selling products
in more than

 **175**

countries

Over



130,000

employees worldwide





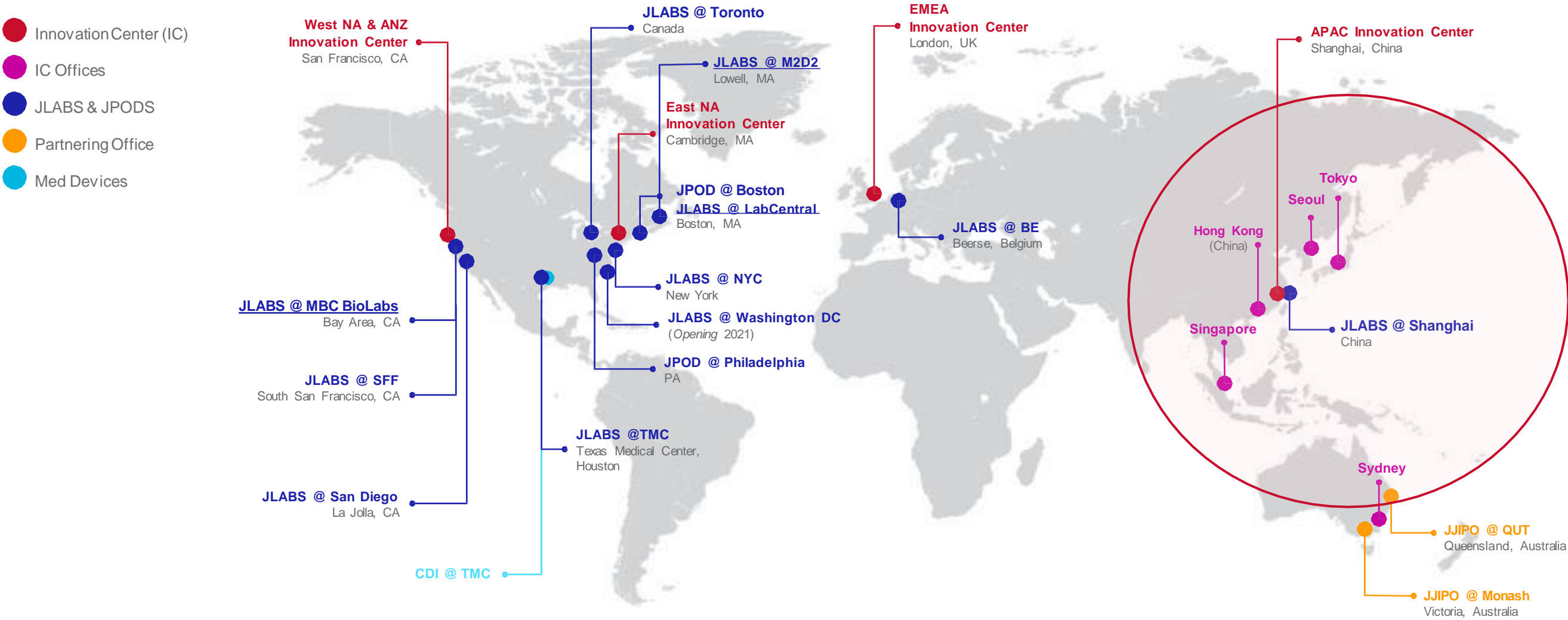
Innovation at Johnson & Johnson is about creating strong networks of people who can combine resources, ideas and technologies in a new way.

Paul Stoffels, M.D.

Vice Chair of the Executive Committee
and Chief Scientific Officer
Johnson & Johnson



Global Johnson & Johnson Innovation Network 2020



Convergence Across Johnson & Johnson External Innovation



World Without Disease Accelerator

Prevention, Interception and Cure Strategies and Solutions

- Focused on discovery, development and delivery of disruptive products, technology and business models to advance the elimination of disease
- Capabilities in areas including microbiome, immunosciences, data sciences & predictive biomarkers and behavioral neurobiology
- Technical expertise underpins scientific strategy



Lung Cancer Initiative at Johnson & Johnson

Cross-Sector Initiative to Prevent, Intercept and Cure Lung Cancer

- Formed in 2018 to transform standard of care for lung cancer
- Develop holistic solutions for lung cancer through consumer products, diagnostic, medical devices and pharmaceuticals
- Strategic collaborations with academic medical centers

Our Collaborations to Accelerate Innovation in Japan



Strategic collaboration agreements with several leading Japanese academia on open cross-innovation accelerator platforms across all of Johnson & Johnson Innovation's strategic areas of interest



A multi-target discovery collaboration to identify and optimize peptide candidates into therapeutic peptides



A 'World Without Disease Call-for-Proposal' awarding 5 awardees for research across lung cancer, myopia, infant/child health, healthy aging and neuroscience

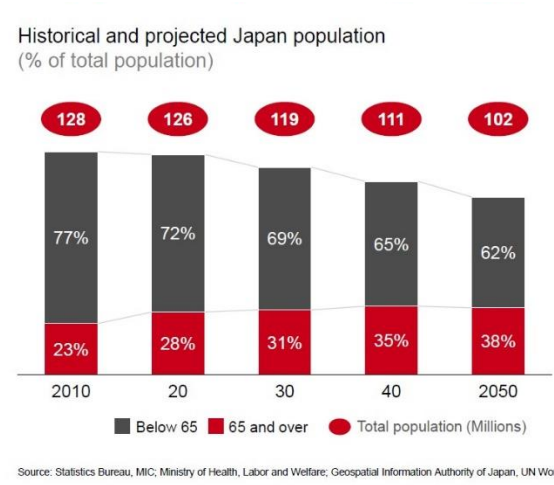


A research collaboration with a focus on drug discovery research for a specific protein-protein interaction (PPI) target

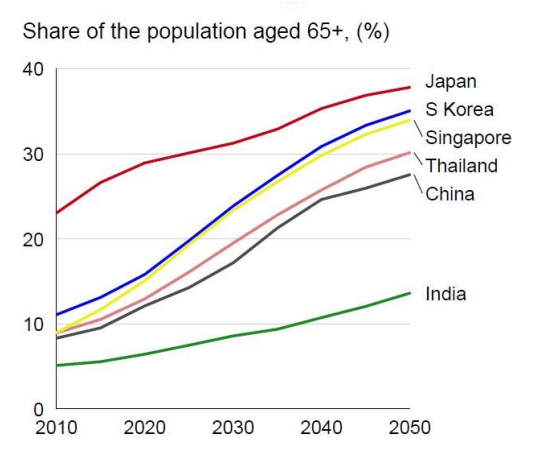


A collaboration to fast-track the R&D of novel biomarkers for the early detection of Alzheimer's disease and related dementias

Globally, aging is one of the largest societal issues and Japan is at the epicenter of aging



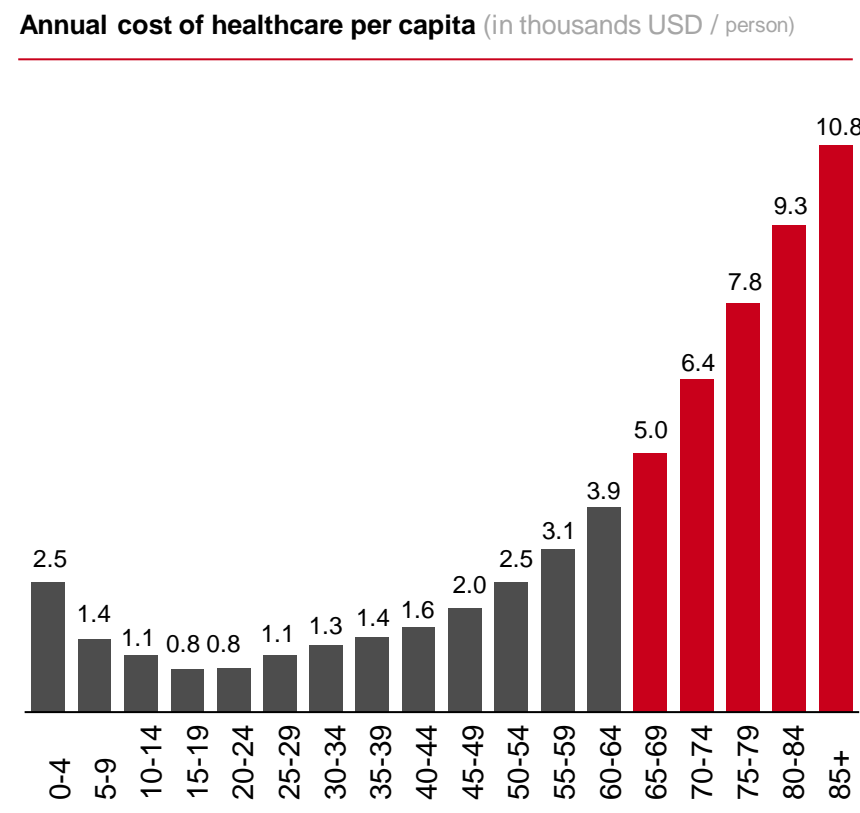
The population of Japan is declining and aging



... while having the highest share of 65+ individuals across the globe

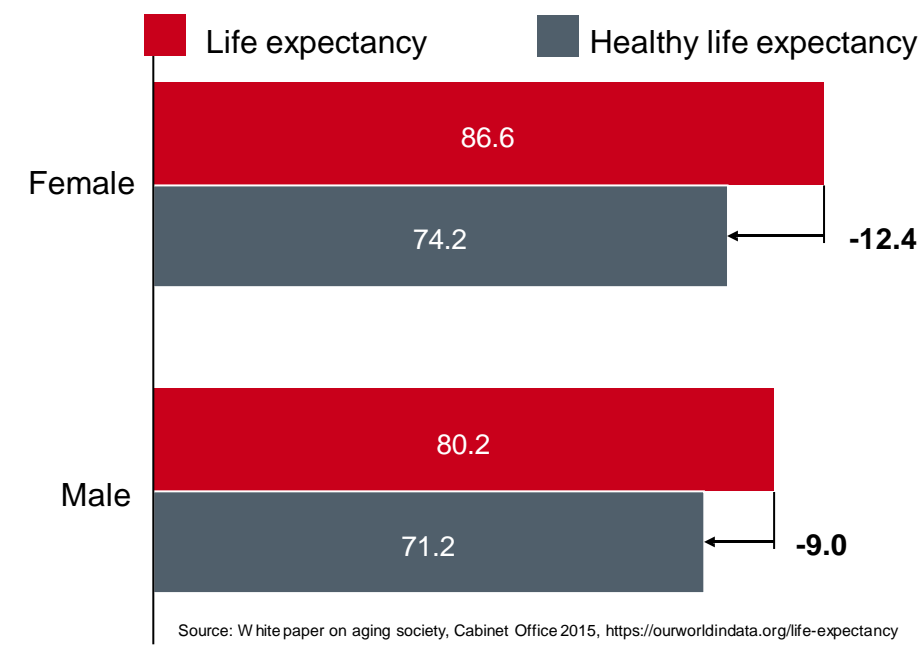
Japan has a growing 65+ segment along with the highest share of 65+ individuals globally

Major concern for Japanese government is the disproportionate cost of healthcare for the elderly population



Average annual cost of healthcare per person in Japan for an 80-year-old is **double** that of a 65-year-old

Life expectancy and healthy life expectancy for Japanese (2016, years)

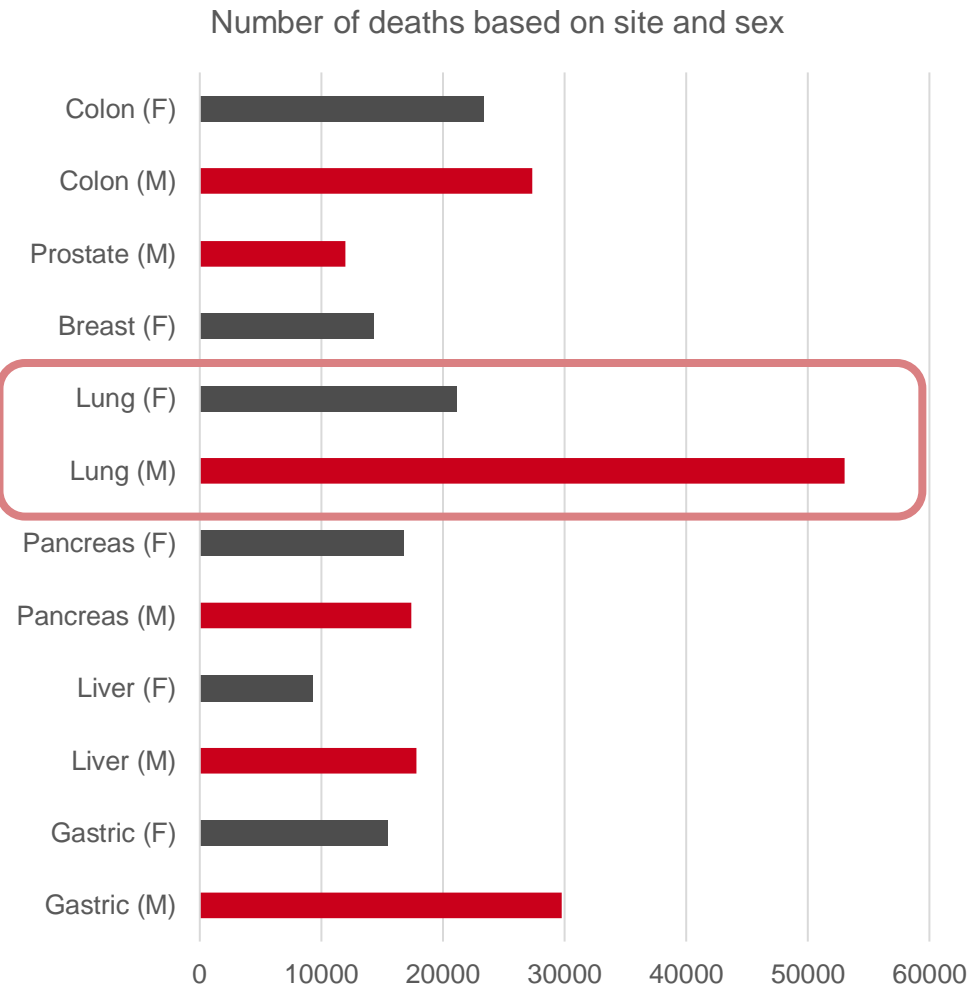


The average gap for Japan is 10.8 years which is **15% higher** than the global average at 9.4 years¹

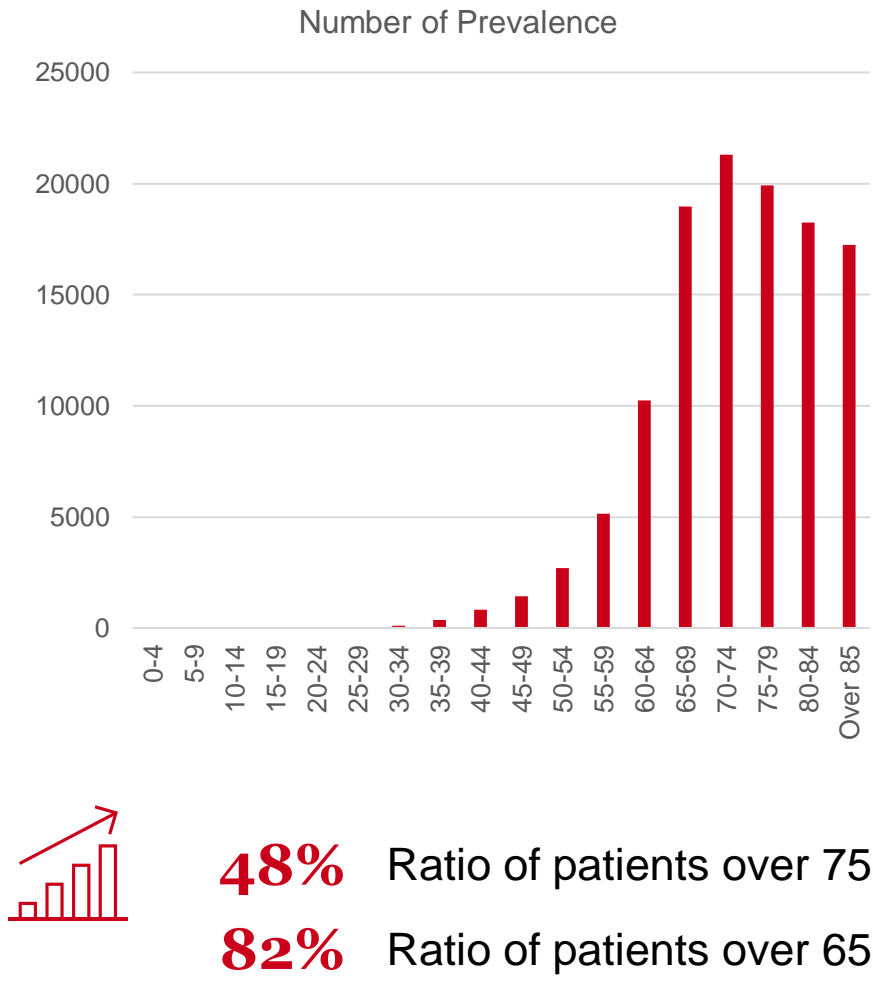
The **gap has been consistently increasing** for Japan with a growth rate 0.4%

Our first focus is on lung cancer

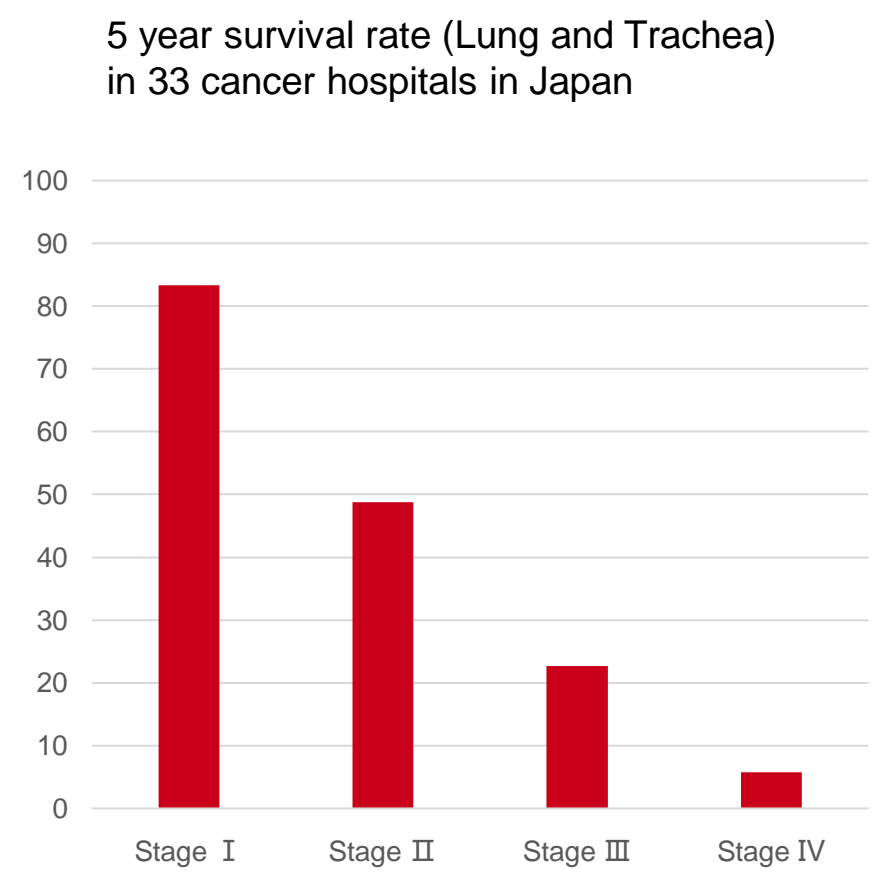
Lung cancer is the leading cause of cancer death



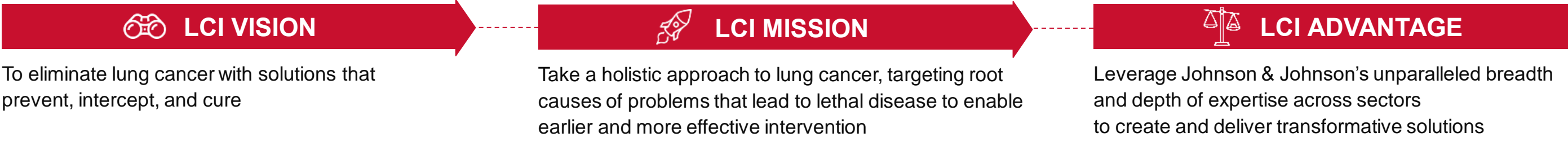
Nearly half of lung cancers patients are 75+



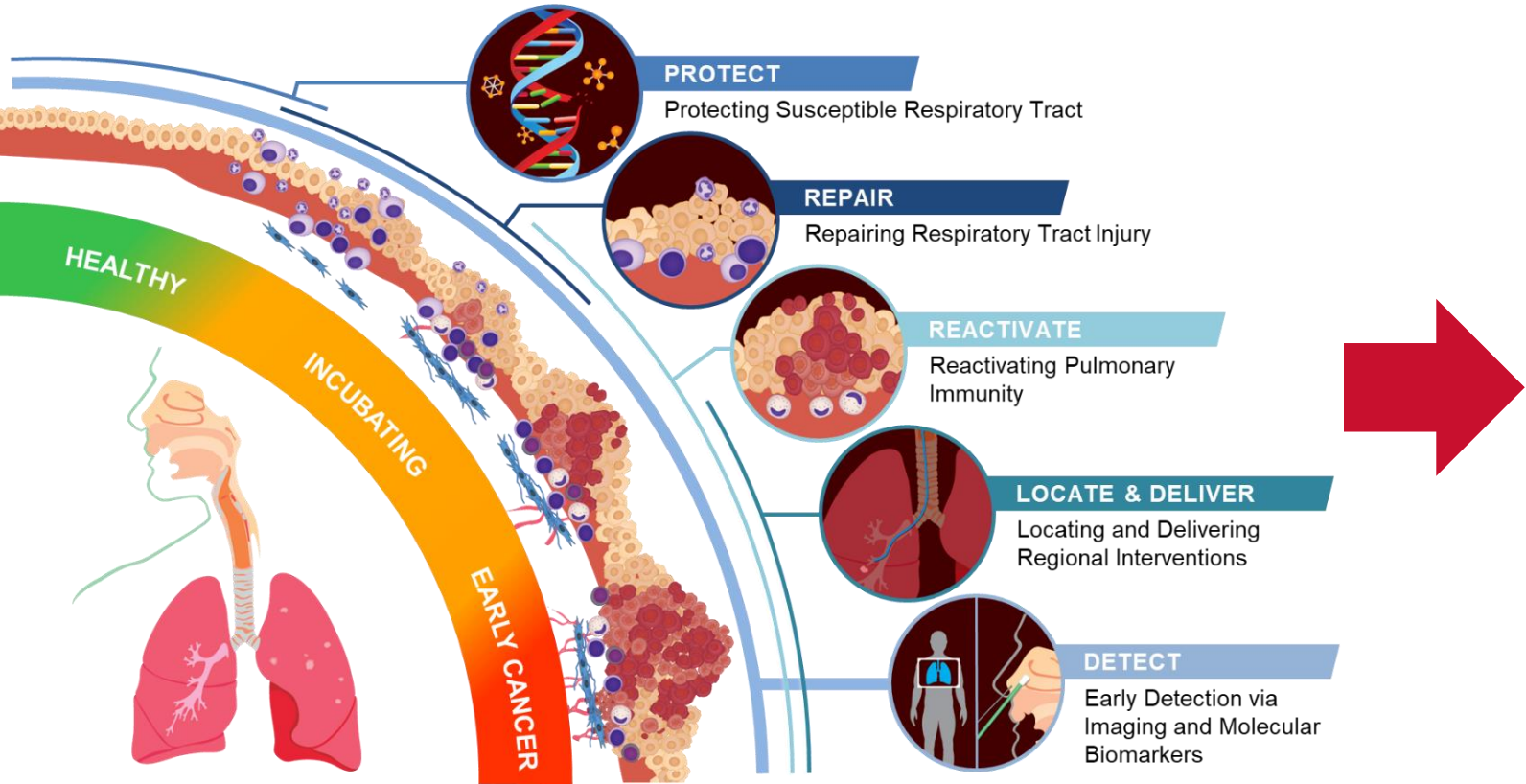
Higher survival rate in Stage I while Stage IV carries poor prognosis



LCI is focusing on five solution areas to change the trajectory of lung cancer – the leading cause of cancer-related death globally

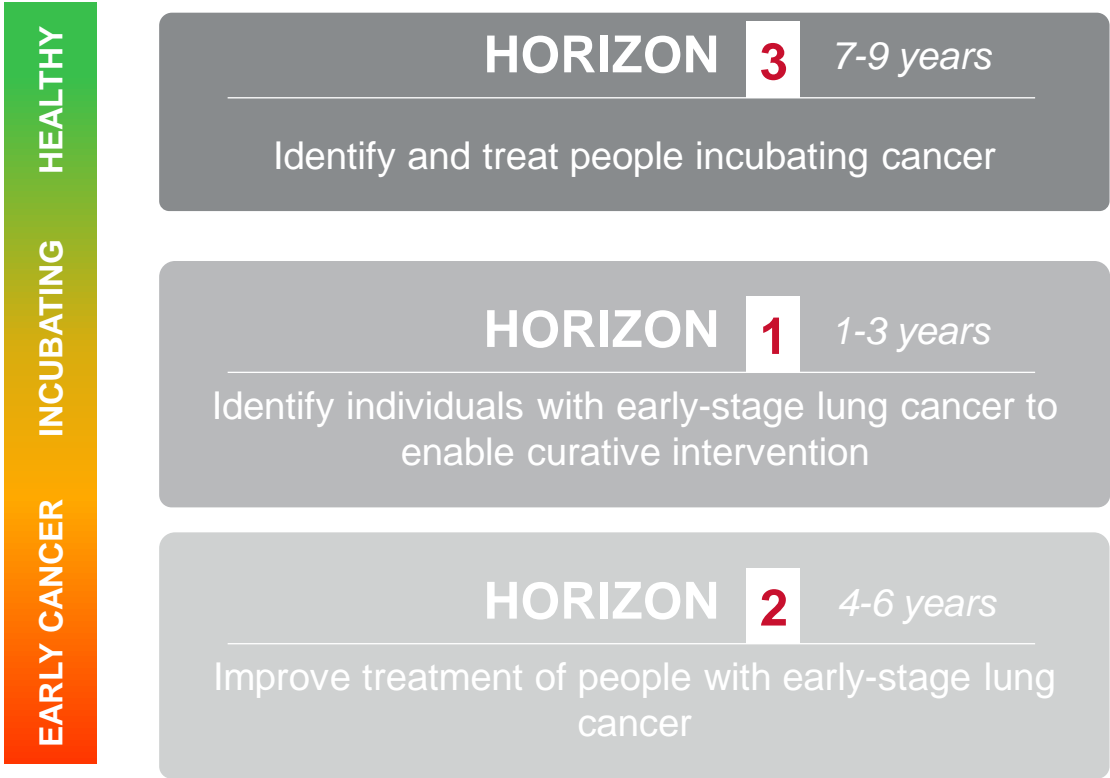


PRIORITY GLOBAL LCI SOLUTION AREAS




TRANSFORMING THE PATIENT JOURNEY

LCI solutions address challenges in order of scientific readiness



With Smart Healthy Aging Initiative (SHAI) J&J would like to lead this movement, starting in Japan with the potential to expand globally

By leveraging J&J's core strengths...

 **Scale and breadth:** world's largest and most broadly based healthcare company



Pharmaceutical




Medical
Devices

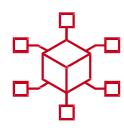


Consumer
Health



Vision Care

 **Innovator:** committed to positively impact human health through innovation

 **Collaborator:** works and partners with organizations—scientific societies, academia, industry, government



... J&J can lead the movement and enable transformative change



Bring healthy aging discussion to the forefront for the public, government and industry



Enable efficient and high-quality healthcare delivery for elderly and governments



Accelerate, empower and inspire innovation in healthy aging



Bring new solutions to support the elderly beyond medical interventions

World Without Disease Call-for-Proposal in Japan



Lung Cancer

Dr. Susumu Kobayashi
National Cancer Center

The identification and validation of circulating miRNAs as a biomarker related to lung tumorigenesis and early-stage lung cancer.



Myopia

The University of Tsukuba

Development of Highly Accurate Prediction Model for Myopia Progression Through Machine Learning (AI)



**Infant /
Child Health**

The University of Tokyo

A Simple & Safe, Predictable Diagnostic For Childhood Food Allergy



Neuroscience

Nexuspiral Inc.

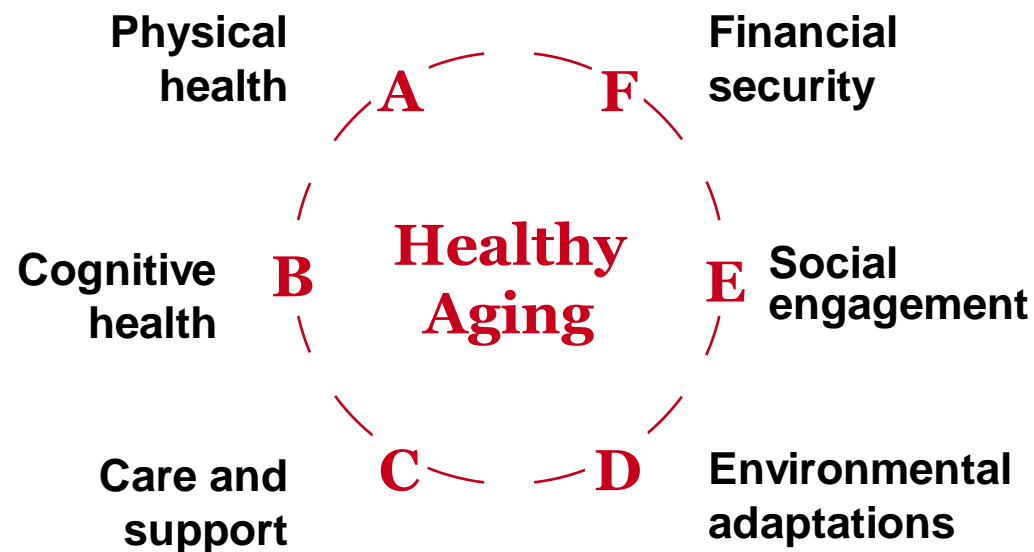
Genome Editing with Oligonucleotides

ExTherea Inc.

Exosomes: Next Generation Therapy to Combat Neurodegeneration

To address them, companies, governments and other entities within the ecosystem must work together to innovate new solutions and offerings

To address the unmet needs to the elderly...



...several challenges exist...

-  **Holistic approach needed** to tackle all dimensions of healthy aging
-  **Difficult for one company to serve all needs** making need for cross-industry partnerships
-  **High barriers to coordination** given fragmented landscape of services, despite recognized benefits of connection
-  **Complex stakeholder relationships** between patients, providers and payors / governments
-  **Need affordable solutions** to scale and serve the entire population while containing cost



...increasing the need for holistic innovation

Need for holistic healthy aging innovation approach to drive product and services advancements

Thinking needs to **shift from simple product focus towards networks and partnerships**

Cross-sector thinking of increasing importance

Innovation catalyst models need to adapt to drive impactful innovations

#MakeTheConnection

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