

Longevity Industry in Canada

Landscape Overview Q4 2021

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www.aginganalytics.com
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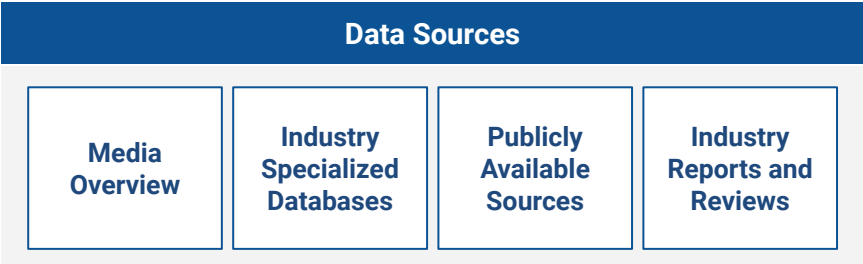
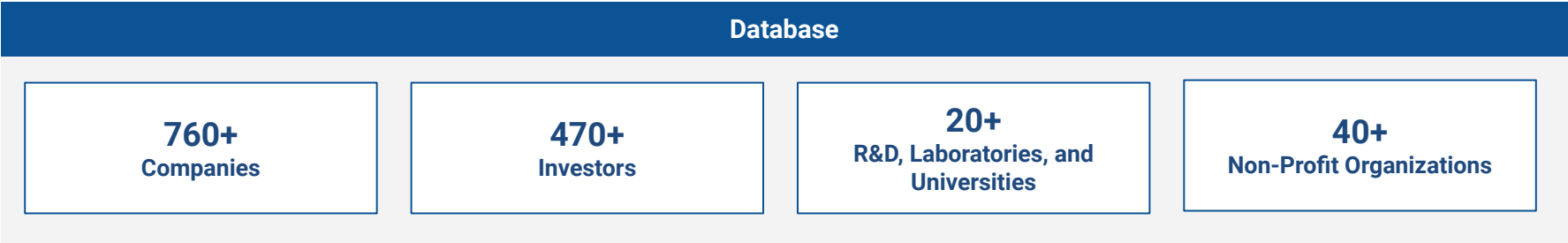
Introduction

This analytical case study reveals **key developments in the Canadian longevity industry**. The report is accomplished by highlighting major Canada players in the field of longevity, covering pertinent scientific, and technological trends and advances, analyzing existing and projected governmental policies, and providing an overview of underlying demographic and economic data.

By utilizing a variety of infographics and mindmaps, the report enables readers to quickly identify core analytical findings and conclusions. Its subsequent chapters then introduce readers to specific areas of the Longevity industry in Canada. The report also presents a unified industry framework based on a vast industry database: **760+ companies, 470+ investors, 20+ R&D centers and 40+ non-profit organizations**.

This analytical case study identifies relevant companies, investors, R&D organizations, and non-profit organizations that operate, interact, or are involved with the longevity industry. The key purpose of this report is to support all industry entities and stakeholders in strategic decision-making to gain maximum value.

Report Methodology and Approach



Containing a comprehensive overview of the longevity industry, the report relies on various research methods and analytics techniques. The report was compiled to give a detailed systematic description of the leading companies, investors, R&D centers, and other organizations related to the longevity industry in Canada. Canada is a highly competitive market with one of the highest densities of biopharmaceutical enterprises globally and has a pool of longevity specialists. The combination of innovative science and technology solutions brings together pre-eminent researchers and creates prominent prospects for future development.

Executive Summary

This Analytical Case Study was compiled to give a detailed systematic description of the current state and ongoing trends in the longevity industry in Canada, highlighting their advantages and disadvantages, predicting the development of the relevant market sectors, and determining the degree of technology relevance at the current time.

The size of the global longevity market **reached \$24T in 2020** and **is projected to reach \$34T by 2026**. Aging Analytics Agency's growth forecasts for the combined capitalization of the longevity industry is driven primarily by the oncoming **"Silver Tsunami"**, which is a demographic phenomenon that forecasts a growing proportion of retired people in the global population in the coming decade.

The 900+ companies in Canada were classified into 20 broad categories, each of which has a unique approach to contribute to the longevity ecosystem. The 195 companies in the **P4 Medicine category** provide precise diagnostics and treatment services. **AgeTech companies** are an important part of the longevity industry in Canada and mainly operate **in the Independence subsector**. **More than a quarter (27.5%) of all AgeTech companies** in Canada help older adults maintain their lifestyle without outside support.

The year 2015 marked the first time Canadians aged 65 and over started to outnumber children under the age of 15. This demographic shift in Canada prompted the publication of the first version of the National Seniors Strategy (NSS 2015). **However, despite many NGOs initiatives, Canada still needs a government-led National Longevity Strategy. One of the possible solutions might be UK's APPG model.**

Main Features of the Analytical Case Study

Robust Market Players Database

Overview of Longevity Industry in Canada

In-depth Review of AgeTech in Canada

Detailed Assessment of Longevity Governance

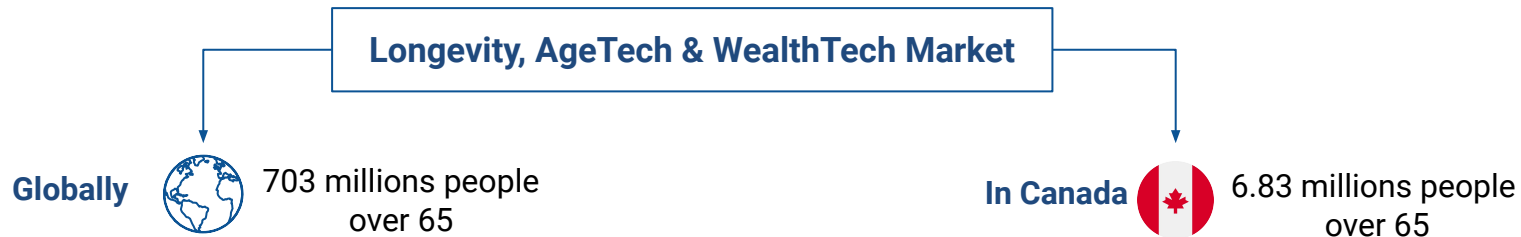
Hallmarks of Age-Friendly Communities in Canada

SWOT analysis of AgeTech and COVID-19 impact

Precise Analysis of Trends in Healthcare Industry

Longevity Industry Overview

Longevity has become a major focus of the largest financial institutions in the world, with many significant institutional investors seeking opportunities to contribute to the development of the longevity industry by investing in AgeTech, Longevity Fintech, Longevity Biomedical companies, and startups. Aging has become more than a challenge at the intersection of many of the most acute problems of our time — it also presents one of **the most promising opportunities**.



“The one billion retired people globally are a multi-trillion dollar opportunity for business.”

~ Dmitry Kaminskiy, interview in the Financial Times



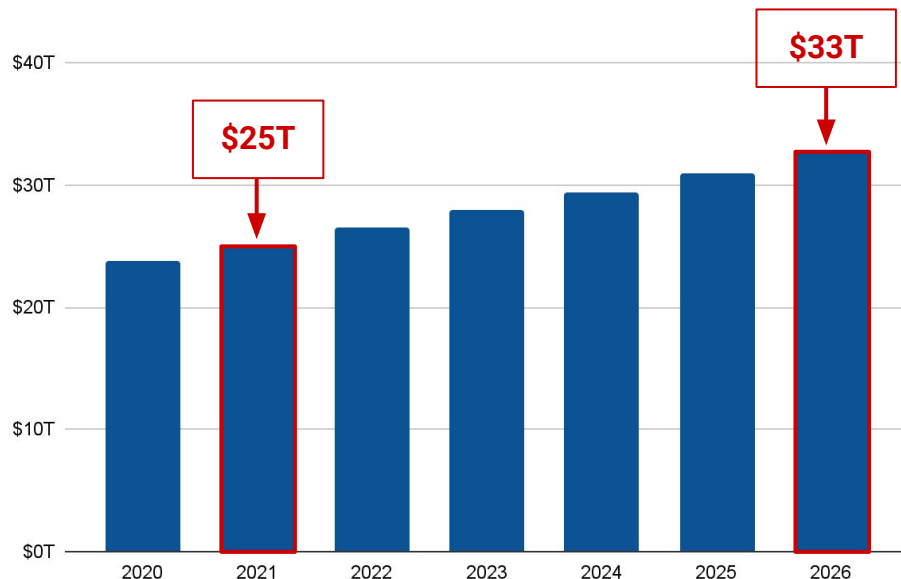
“The global spending power of those aged 60 and over will reach \$15 trillion annually by 2020.”

~ Bank of America Merrill Lynch



Global Longevity Industry Outlook

World Longevity Economy Size Projections



In order to estimate the **size of the Longevity Industry**, Aging Analytics Agency combined global healthcare spending (**capitalization \$9T**), the combined capitalization of publicly listed longevity companies (**ca. \$6T**), the capitalization of longevity-related insurance and reinsurance companies, banks and pension funds (**ca. \$9T**) and privately held longevity companies (**ca. \$1T**).

Aging Analytics Agency's growth forecasts for the combined capitalization of the longevity industry is driven primarily by the oncoming "Silver Tsunami," which is a demographic phenomenon that forecasts a growing proportion of retired people in the global population in the coming decade. These older adults will be a profound and disruptive force in several areas of society, first and foremost in the longevity industry.

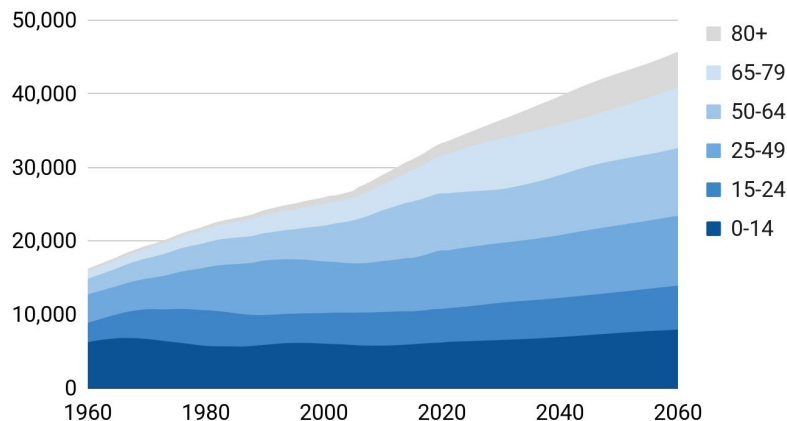
Financial institutions such as investment banks, pension funds, and insurance companies can either sink or swim when hit by this oncoming "Silver Tsunami."

Longevity Industry in Canada: Market Overview Q4 2021

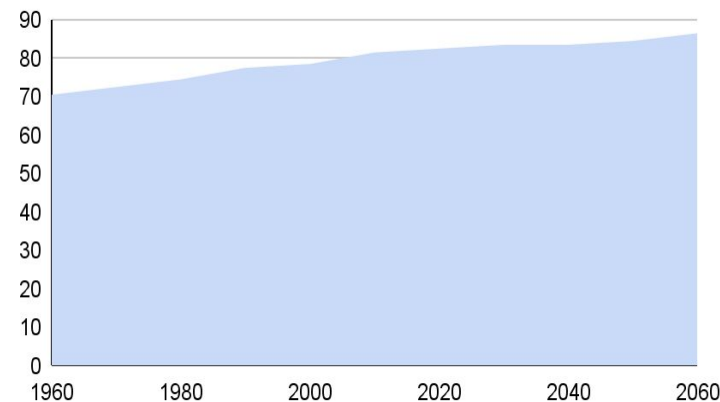


Canadian Life Expectancy Perspectives

Canadian Population by Age, Thousand People



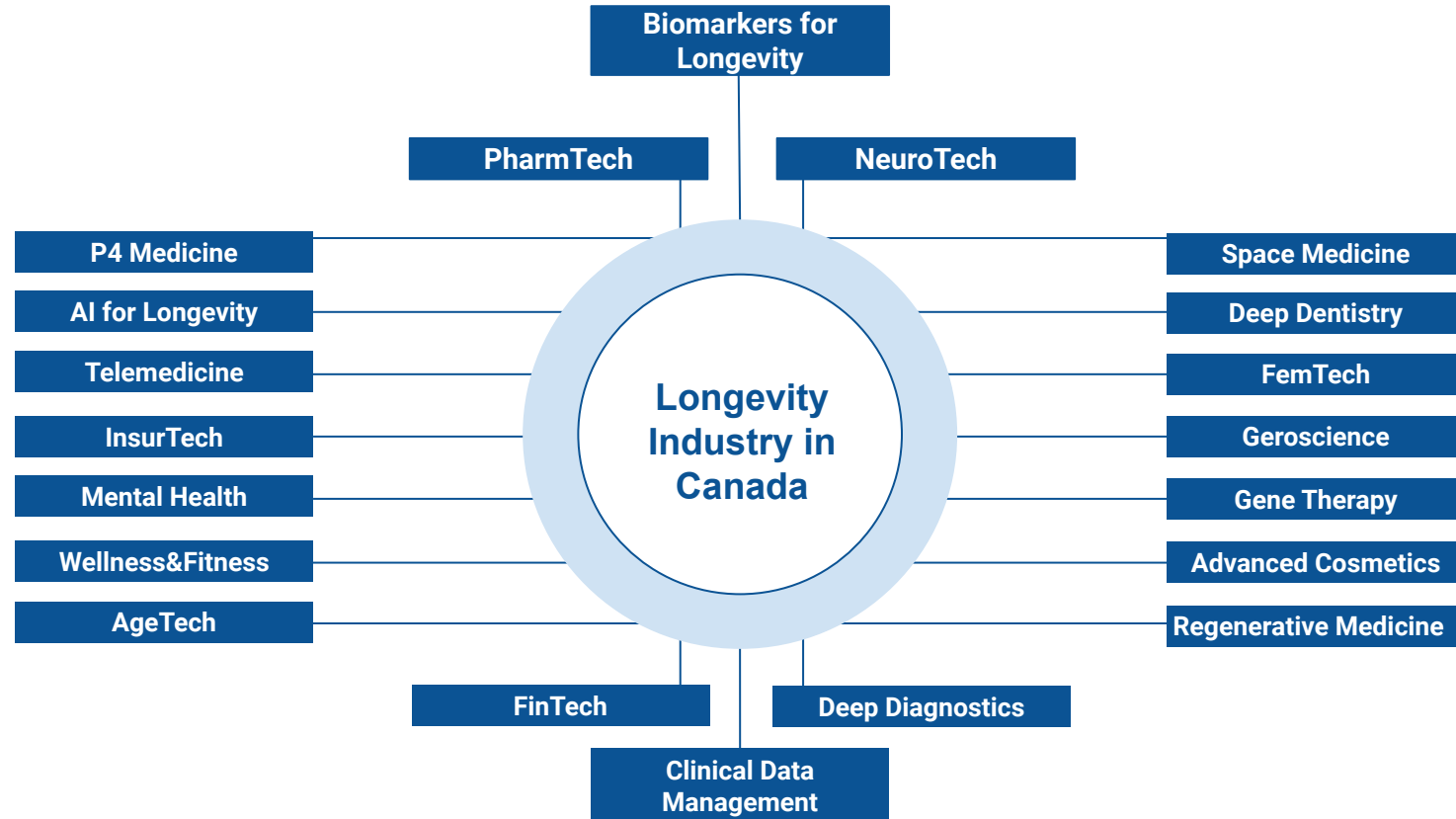
Life Expectancy in Canada



The population growth rate is determined by the rate of natural increase and net migration. In recent years, **net migration** has played a major role in driving population growth for Canada. Despite this increase in net migration, however, **there has been a slowdown in population growth**. At the same time, **life expectancy for Canadians is projected to continue increasing**. As of 2020, the life expectancy of the population of Canada is 82 years and it is projected to reach 86 years by 2060.

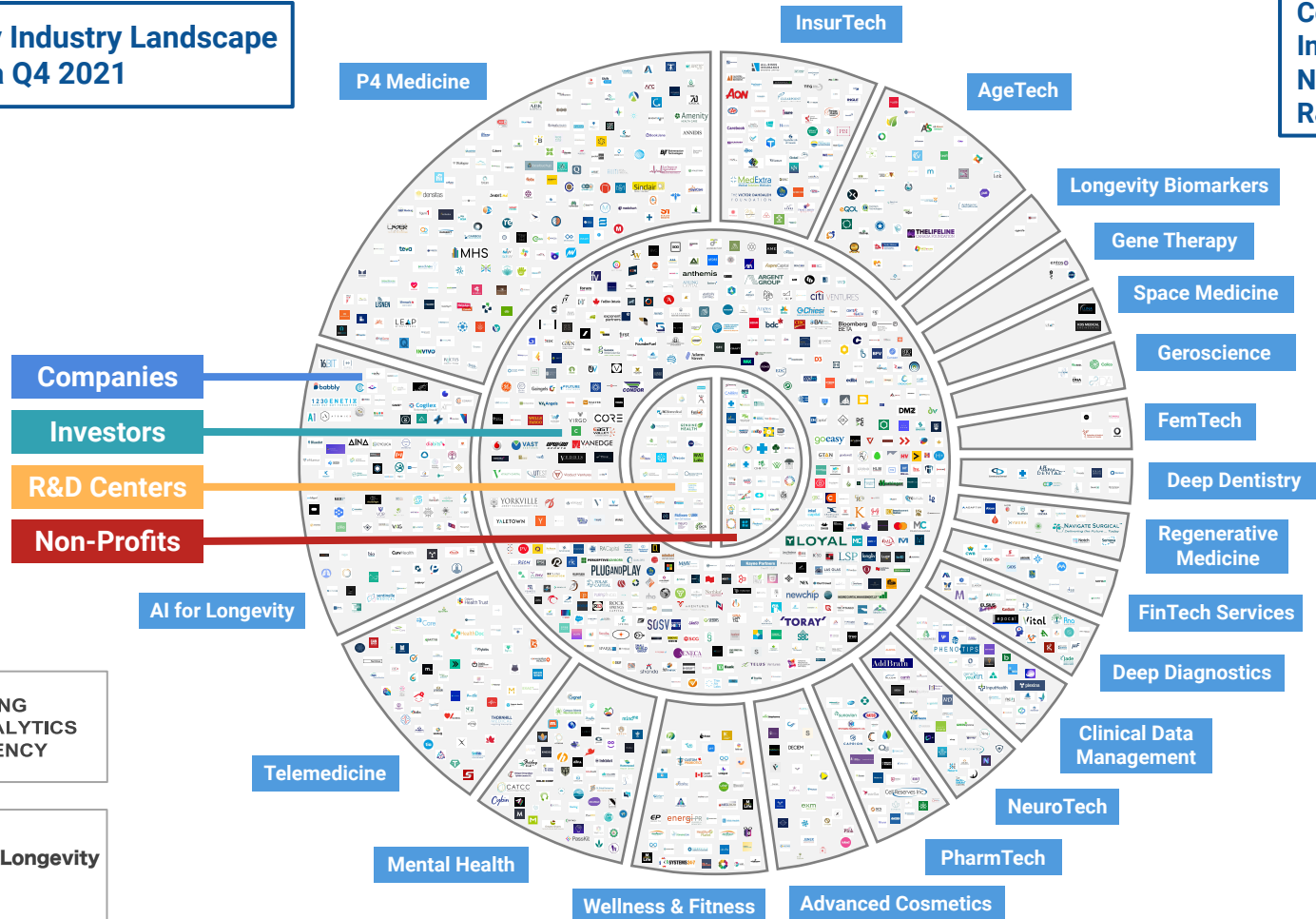
Source: Canada's Aging Population and Long-Term Projections for Federal Finances; Population Projections; Life expectancy; Life expectancy in from 1800 to 2020.

Canada Longevity Industry Structure



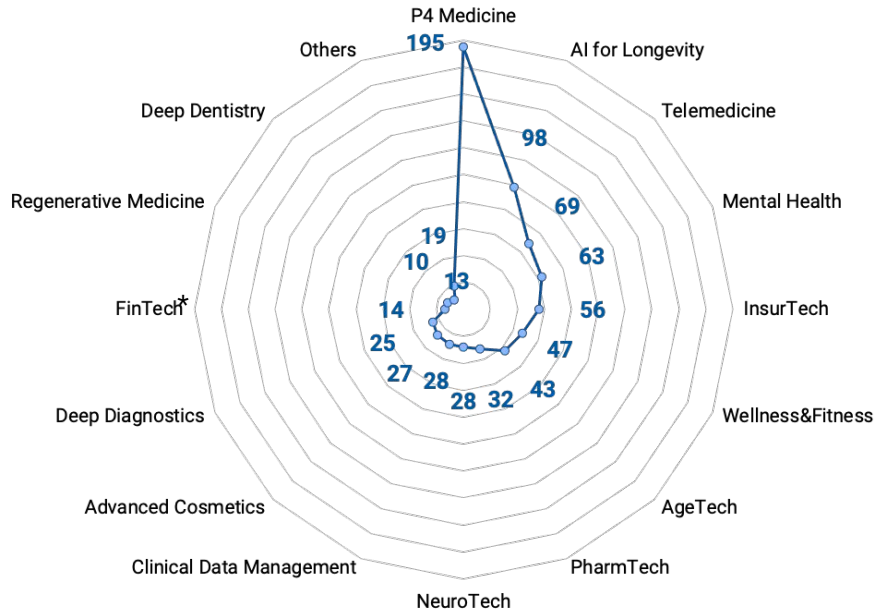
Longevity Industry Landscape in Canada Q4 2021

Companies – 760+
Investors – 470+
Non-Profit – 40+
R&D Centres – 20+



Longevity Industry in Canada: At a Glance

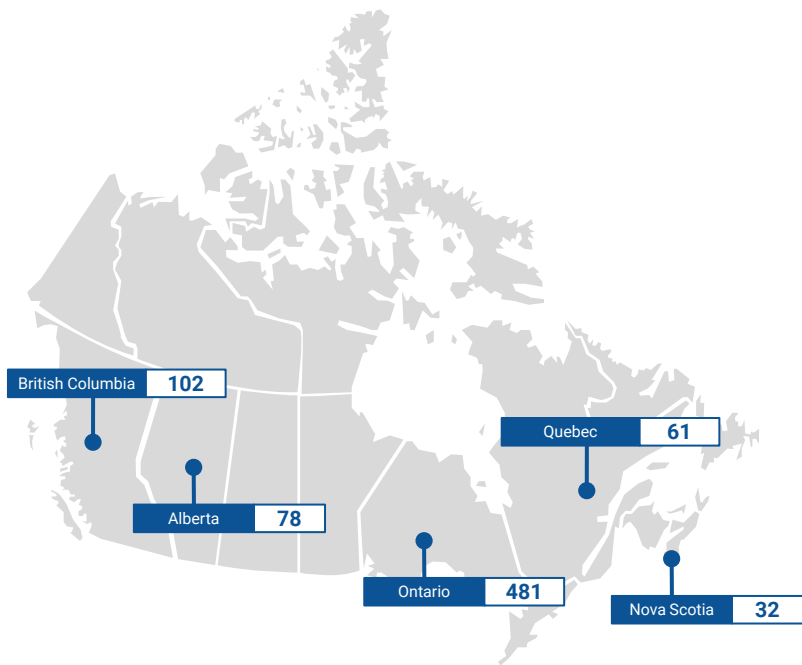
Distribution of the Longevity Companies in Canada by Category



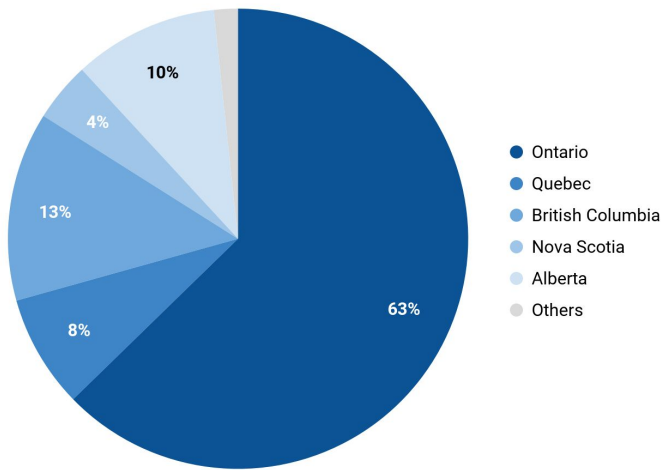
*Note: Others category include Geroscience companies, Gene Therapy companies, Geroscience companies, Space Medicine companies, Biomarkers for Longevity companies.

The 900+ longevity companies in Canada were classified into 20 broad categories, each of which has a unique approach to contribute to the longevity ecosystem. Companies in the **P4 Medicine** category provide precise diagnostics and treatment services. Companies in the **AI for Longevity** category offer AI-based healthcare solutions. **Telemedicine** firms provide remote diagnosis and treatments. Life insurance is the focus of **InsurTech** companies. **Mental health** organizations aim to assist persons suffering from mental disorders. The **Wellness & Fitness** category includes businesses that are concerned with physical fitness and well-being. **AgeTech** refers to digital technology firms that are designed to meet the requirements of older individuals. Companies in the **Advanced Cosmetics** category create cosmetics and advanced treatments. **PharmTech** firms are those that deal with pharmaceuticals, drug manufacturing, and distribution. **NeuroTech** firms create solutions that link technology components to the nervous system. **Clinical Data Management** companies assist companies that conduct clinical trials with managing their data. Companies in the **Deep Diagnostics** category offer deep diagnostics services. Companies in the **FinTech** sector offer financial solutions, business finance, and solutions to fund lifestyle and social care. Firms in the **Regenerative Medicine** category are focused on regenerative techniques and the restoration of human cells, tissues, or organs. And **Deep Dentistry** firms are focused on oral hygiene and procedures aimed at restoring dental health, as well as dental research.

Longevity Companies Distribution in Canada



Distribution of Companies by Location



More than 63% of the companies are concentrated **in Ontario**, where Ottawa and Toronto are major centers of business life. **British Columbia and Alberta** hold second and third place, with **13% and 10%** of total companies respectively.

Top Capital Raises in 2020-2021

AbCellera (NASDAQ: ABCL) is a Vancouver, British Columbia-based biotechnology firm that searches, decodes, and analyses natural immune systems to find antibodies that its partners can develop into drugs that improve health. **Its IPO in December 2020 raised CAD \$700M.**

Repare Therapeutics is a leading clinical-stage precision oncology company enabled by its proprietary synthetic lethality approach to discovering and developing novel therapeutics. It had the 4th largest Canadian **IPO in 2020, with CAD \$253M raised.**

AlayaCare is a provider of revolutionary cloud-based home health care software. The company raised **CAD \$225M** during its **Series D funding round.**

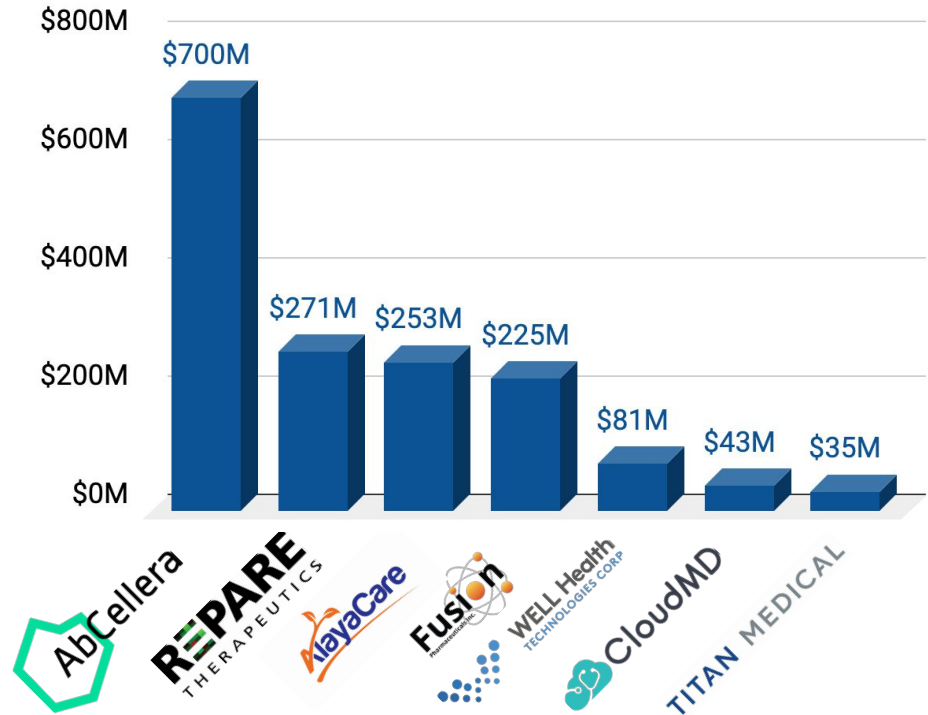
Fusion Pharma is using targeted alpha therapeutics to improve the safety of radiopharmaceuticals. **Its IPO in late June 2020 raised CAD \$271M.**

WELL Health Technologies aims to positively impact health outcomes by leveraging technology to empower and support patients and doctors. **The last funding round of the company raised over CAD \$81M.**

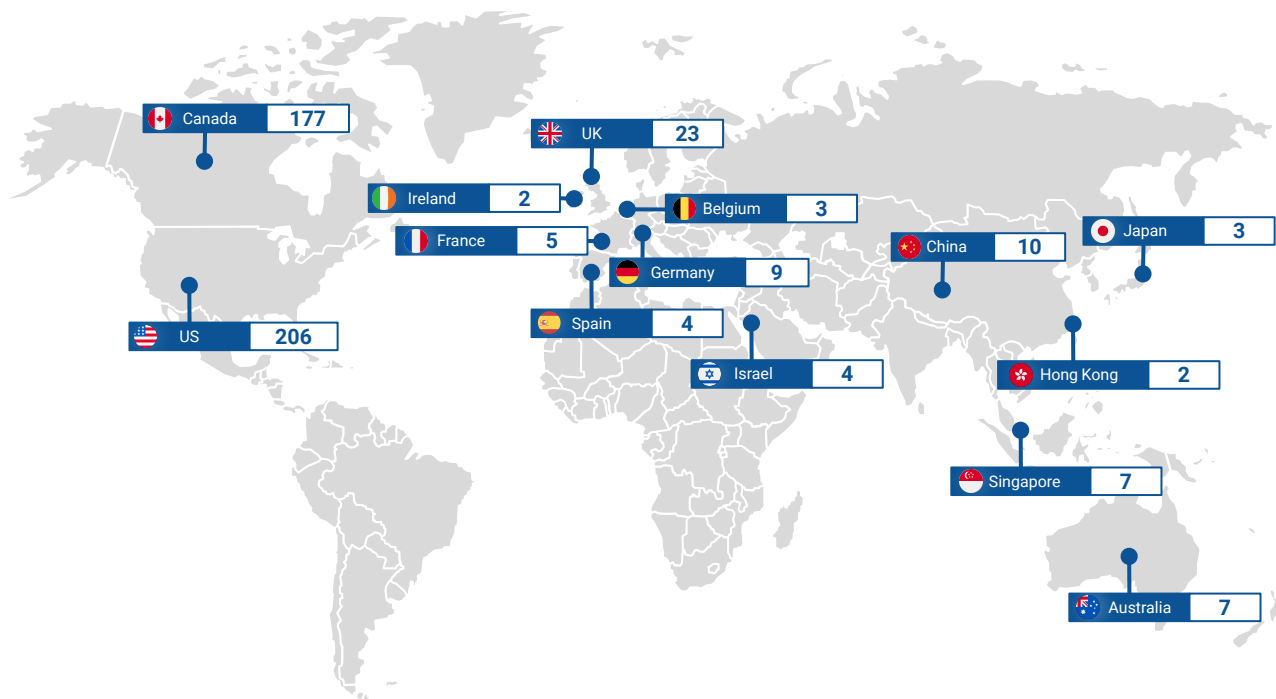
CloudMD is digitizing the delivery of healthcare by providing a patient centric approach, with an emphasis on continuity of care. Last time, it attracted **more than CAD \$43M** investments at the beginning of 2021.

Titan Medical is focused on developing robotic-assisted technologies for application in single access surgery. **The last funding round raised over CAD \$35M.**

Top Investments in Longevity-Focused Canadian Companies in 2020

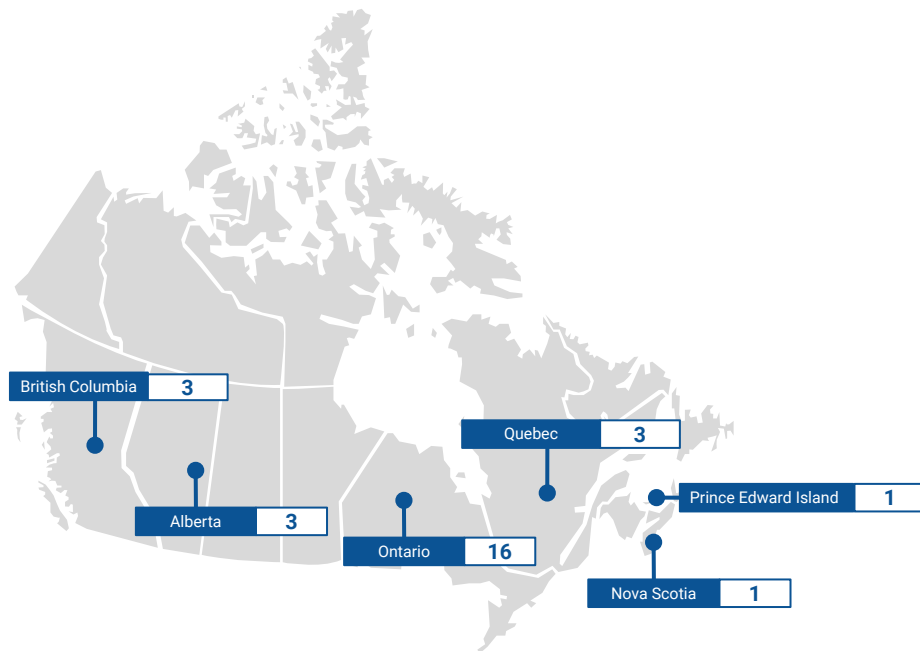


Investors Distribution by Region

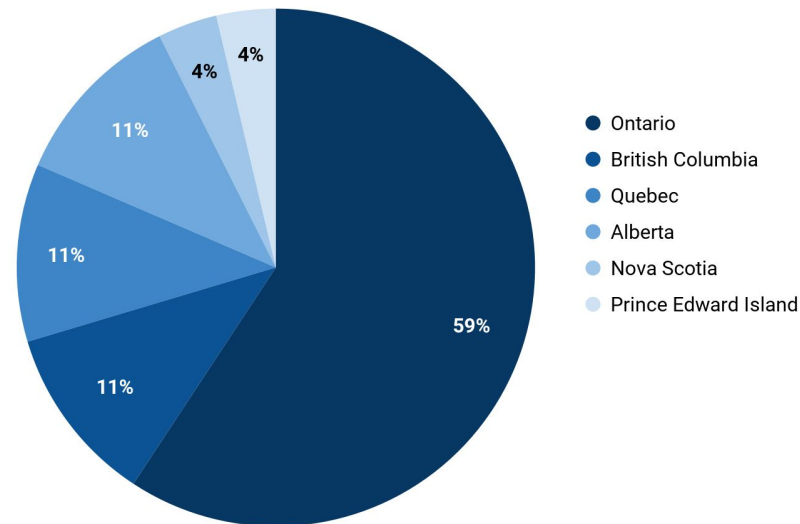


Most of the investors in the longevity industry in Canada are located **in the USA - 206 investors (43.5%)**. The second-largest number of investors are **domestic investors**. Such a great number of internal investors is a sign of the country's industrial maturity. Among European countries, the leader by number of investors is the UK. In Asia, the leader is China.

R&D Distribution in Canada



Distribution of R&D Organizations by Location



Overall, there are 6 major areas of concentration for longevity R&D facilities in Canada. **Around 59% of R&D centres** are located in **Ontario**, while **Quebec, British Columbia** each hold **11%**. Most of the R&D centre's activities are focused on studies of age-related diseases such as cancers, diabetes, dementias, Alzheimer's, other cognitive and memory disorders.

Peculiarities of R&D Centers in Canada



Current State

- International reputation of Canada for participating in cutting-edge research and development is strong, with 60% of top-cited researchers.
- The scientific research and development industry in Canada **decreased in size over the last five years due to decline in private investment.**
- R&D investment, output and impact are not equally distributed across Canada. Ontario, Quebec, British Columbia, and Alberta are the largest centers of research activity by province.



Major Focus Areas

- Development of cancer treatments, either by conventional therapies or by using new approaches, such as oncolytic viruses, is still one of the largest focus areas in R&D.
- Development of treatments for neurological disorders and therapies for inflammatory, fibrotic and metabolic conditions are emerging.
- Production of medicines is now mostly focused on plants and fungi therapeutics, and cannabinoid-based medicines, along with the discovery and development of marine-derived natural products with applications in human health and wellness.



AI Implementation

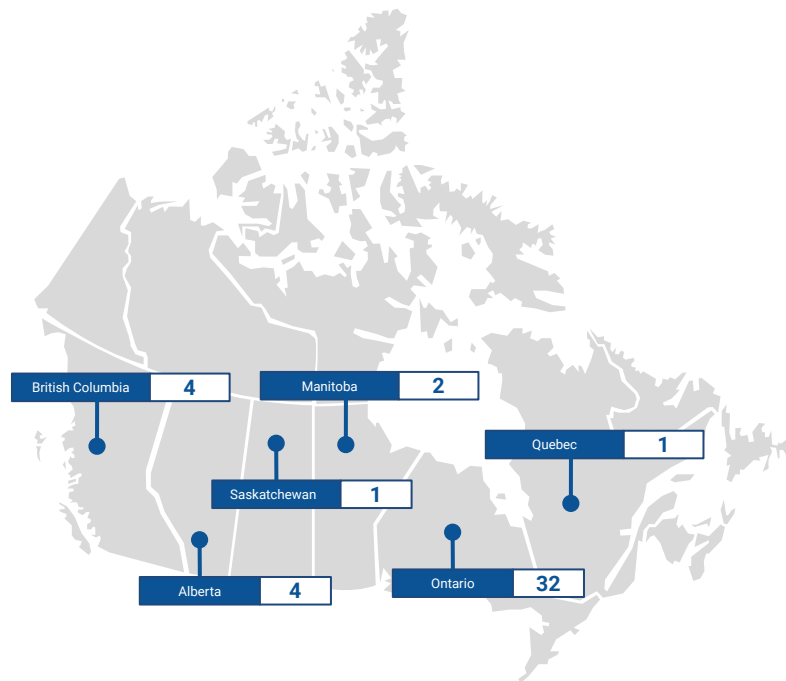
- In recent years, expansion of machine learning and Artificial Intelligence (AI) as a way for helping people, led to development of different platforms that allow easier diagnosis and clinical evaluation.
- Moreover, AI has been used for approaching cognitive impairment and neuromodulation.



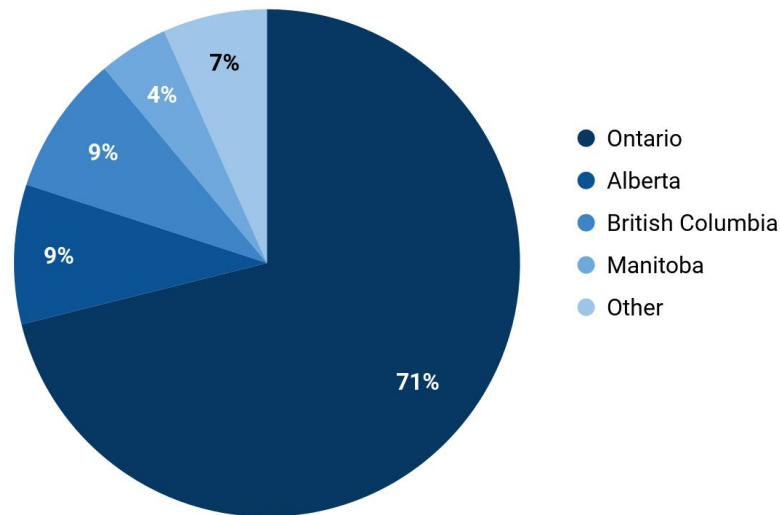
Projections

- It is expected that in the next few years, funding increases for scientific research of new technologies, with more focus on AI development and usage.

Non-Profit Organizations Distribution in Canada



Distribution of R&D Organizations by Location

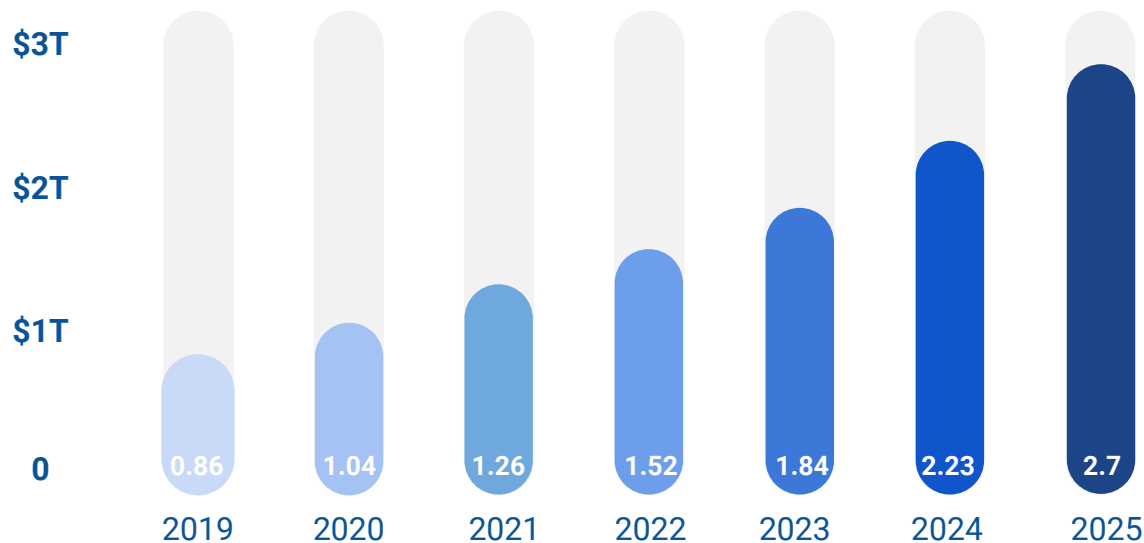


There are **over 40 Non-Profit Organizations** in total that provide health and mental care, palliative treatments, special insurance plans, and research in neurology, gerontology, sociology and other related fields. **Around 71%** of Non-Profit Organizations are located **in Ontario**. There are also western provinces such as **British Columbia and Alberta** that each host **9%** of all Non-Profit Organizations respectively.

AgeTech in Canada



AgeTech Global Market Capitalization



World AgeTech Industry Size Projections, Current US \$

AgeTech Sector:

- Elderly Care;
- FinTech;
- m-Health;
- Senior Living Communities;
- Social and Communication Caregiving;
- Independence;
- Social Protection;
- Cognitive Care.

While the global Longevity Economy is projected to reach **\$33T by 2026**, the AgeTech segment alone is projected to reach **\$2.7T by 2025**. This, in turn, implies **an annual growth rate of 21%** in the global AgeTech market, which is attributable to the development of the elderly care sector enhanced by IT, FinTech, and other digital technologies.

AgeTech Framework

For better understanding, wide range of AgeTech solutions could be divided by its functions into following categories:

Elderly Care

Because of growing care gap, various services related to nursing care, nursing services, medical care, etc. become more and more important for remaining growing demand met.

FinTech

FinTech can allow older adults to both manage their finances and provide protection from outside fraudulent behavior. Seniors are the highest targeted age group for fraud and exploitation and would benefit from notifications, alerts and assistance in scam prevention.

m-Health

Sector unites companies that provide remote health monitoring systems, such as fall detectors (especially important for single elderly people), vital signs tracking, drug intake control. Moreover, personalized medicine and telemedicine also contribute to the medicine accessibility for elders.

Senior Living Communities

In most countries, older adults prefer to age in place. Companies offer a wide range of options, including independent living, assisted living, memory support, skilled nursing, rehabilitation care and life care at home.

Communication Caregiving

Need to stay home as long as possible together with growth of smartphone owners among seniors pushes Social and Communication Caregiving to the new limits. The companies try to find new ways to provide these services through technologies.

Independence

Maintaining independence as a senior includes a variety of special services, such as development transportation services, support in daily activities, financial services for the elderly, sensory technologies (vision, hearing aids, etc.), mobility.

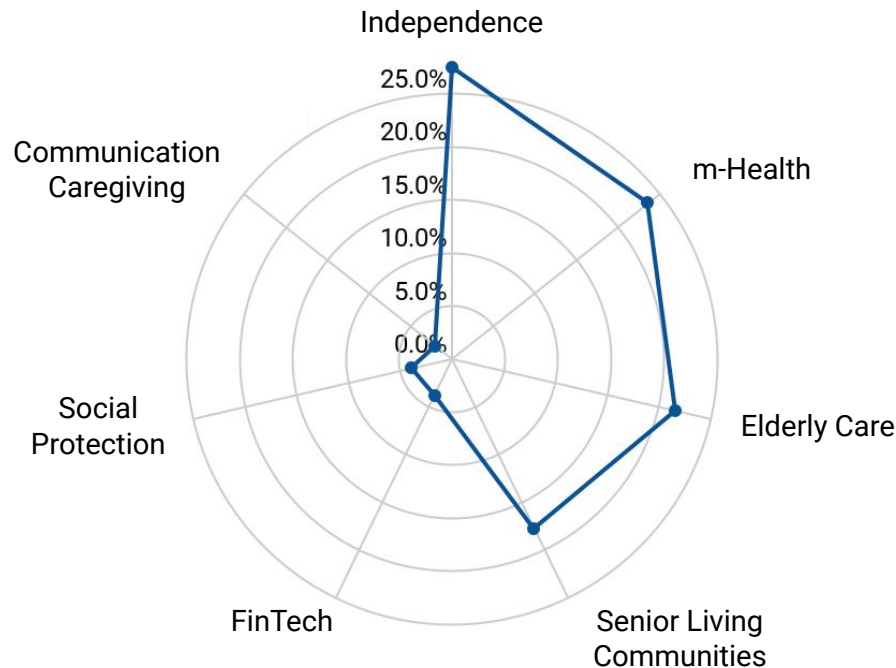
Social Protection

Vulnerability that grows with age requires social protection and assistance to maintain a decent level of life. That includes requirements for medical care in case of dementia, drawing up a will, etc.

Cognitive Care

Cognitive Care is a set of procedures and treatments used to diagnose, monitor, and treat cognitive impairments. It also includes a number of lifestyle approaches and self-care strategies that can be used to keep the brain healthy throughout life, especially as one gets older.

AgeTech in Canada



AgeTech companies in Canada mainly operate in the **Independence subsector**. **More than a quarter (27.5%)** of all AgeTech companies in Canada help seniors maintain their lifestyle without outside support.

The second largest sector in the Canadian AgeTech Industry is **m-Health**. It has **23.5% of the total number of firms**.

Elderly Care and Senior Living Communities are in third and fourth place, with a share of **21.6% and 17.6% of firms respectively**.

Remaining sectors: **FinTech, Social Protection and Social and Communication Caregiving together have around 10%** of the total number of companies, remaining an important part of the all-rounded development of the entire industry. Social Protection and Social and Communication Caregiving are parts of the national seniors strategy.

Some Examples of AgeTech Companies in Canada

Independence



m-Health



Elderly Care



Communication Caregiving



Senior Living Communities



FinTech



Social Protection



AgeTech Startups in Canada

The aging of Canada's population and the growing gap between the supply and demand for long-term care, are a huge opportunity for Canada's AgeTech startups. The majority of **Canada's AgeTech startups**, like mature companies, are mostly focused around innovation in the **Independence** sector of AgeTech.



Steadiwear is a Developer of **smart gloves designed to reduce hand tremors** for all those who suffer from Essential Tremor and Parkinson's Disease. The company's gloves are lightweight, compact and battery-free stabilizing that utilize a smart fluid to provide resistance to hand tremors, enabling seniors and people suffering from these conditions to be independent and improve their quality of life.



AceAge is a Healthcare technology company, creating intuitive products to ease the aging process and improve health outcomes. Karie is a **medication dispenser that organizes, schedules, and dispenses pills with one-button**, ensuring that users are taking the right medication at the right time.



AlayaCare is a provider of revolutionary **cloud-based home health care software**, providing organisations with an end-to-end software solution to manage the resident and client lifecycles in a secure, integrated cloud-based system.



HomeExcept is a Canadian technology company, Winner of the 2017 AARP Global Innovation Award for Caregiving. HomeEXCEPT develops **non-intrusive systems to monitor and predict risks relating to activities of daily living**. Their solutions use the latest sensor technology and advanced machine learning without the use of cameras or microphones. In 2019, HomeEXCEPT was named to the Branham Group's list of **Top 25 Canadian Up and Coming ICT Companies**.



MoviWear is an AI startup, supported by Mars, **remotely monitoring vital-signs** using MoviWearMED's web & App based medical AI platform. MoviWear's developments in technology provide an opportunity for people to self-manage their health and wellbeing, alert healthcare professionals to changes in their condition and support medication adherence.

AGE-WELL – Canada's Technology and Aging Network

About AGE-WELL

- Launched in 2015 through the **federally-funded Networks of Centres of Excellence** (NCE) program;
- Has **45 member universities** and research centres across Canada;
- Joined **network of more than 400 industry**, government and non-profit partners;
- Involves over **4,900 older adults and caregivers** to ensure that its products are practical and useful;
- **Identified the Challenge Areas** as a result of an extensive review and public consultation process carried out across the AGE-WELL Network with its members, partners, older Canadians and caregivers.

Partners

- Memorial University
- Iugm
- OCAD
- Alzheimer Society
- SHRF
- SFU

AGE-WELL's Eight Challenge Areas in 2020-2023:

- 1** Supportive Homes & Communities
- 2** Health Care & Health Service Delivery
- 3** Autonomy & Independence
- 4** Cognitive Health & Dementia
- 5** Mobility & Transportation
- 6** Healthy Lifestyles & Wellness
- 7** Staying Connected
- 8** Financial Wellness & Employment

AGE-WELL National Impact Challenge 2021

National Impact Challenge 2020

The AGE-WELL **National Impact Challenge** recognizes **top startups in Canada's technology and aging sector, and support entrepreneurship** in the sector since 2018 year.

The Challenge Areas were identified in 2018, when the company embarked on a comprehensive review of senior related policy priorities across governments in Canada and internationally. These priorities were validated with research, government, non-profit and industry stakeholders, and with older adults and caregivers.

For the last six years, **AGE-WELL has served as a catalyst for technological innovation that empowers older Canadians to live healthy, independent and engaged lives, while driving forward Canada's AgeTech sector.**

Winners of National Impact Challenge 2020

Able Innovations
Safe Effortless Dignified Contactless

Able Innovations

Novelty.

Novalte

National Impact Challenge 2021

In 2021, AGE-WELL National Impact Challenge will bring together **five finalists from across Canada to pitch their technology or service for the aging and technology sector.** Applicants will be challenged to explain how their solution can positively impact older Canadians or their caregivers as they compete for cash prizes and in-kind services.

This year's winner will receive \$25,000 in cash plus in-kind prizes. A runner-up will also be eligible for a \$10,000 cash prize. 50% of these cash awards **was contributed by the Ontario Brain Institute.** The deadline to submit an application in 2021 was September 20, 2021. The event will take place at **AgeTech Innovation Week** from **October 4-8, 2021**, a unique new event for anyone with an interest in technology and aging.

Eligibility Criteria

To be eligible for the challenge, applicants/companies:

- Must be a startup;
- Must be incorporated or intend to incorporate in Canada;
- Must have a majority of founders/co-founders that are Canadian residents;
- Must be the age of majority in their region;
- Can only pitch at a competition if their headquarters are located in the corresponding region.

AgeTech and Covid-19 in Canada

The COVID-19 pandemic has influenced the AgeTech Industry in Canada by accelerating some existing trends, revealing weaknesses and highlighting opportunities. SWOT analysis of occurred changes is presented below.

Strengths

- Strengthening the trend of tech's penetration into the life of seniors due to quarantine restrictions;
- Scaling-up and improving telehealth and telecare;
- 66% of Canadians 50+ agree that technologies help to lessen the impact of COVID-19 on daily life.

Weaknesses

- Challenges of the COVID-19 pandemic are significant for people with dementia and their caregivers;
- Lack of access to devices and the Internet because of income and social status, remoteness of area of residence, etc.

Opportunities

- Digitalization of care provision because of care gap;
- Increasing awareness of the importance of technology amongst older adults themselves;
- Growing role of online (video, audio calls) communication of the family and social caregiver with older people.

Threats

- Innovation aversion of Healthcare system;
- The weak evidence base (e.g. trials and impact evaluation) to support wider adoption of Age Tech solutions;
- Even before the COVID-19 crisis, about 25% of older adults experienced social isolation.

AGE WELL AT HOME

Age Well at Home is a person-centered approach that brings healthcare and housing services together to assist older homeowners in improving their ability to live healthier and safer in their own homes. **The COVID-19 pandemic** has highlighted the unequal access to technology among vulnerable seniors, who have inadequate access to much of the practical support they need to live independently. This is why the Government of Canada is committing **\$90 million** over three years to a new initiative, **Age Well at Home**.

Age Well at Home is intended to provide funding opportunities focused on

Assisting community-based organizations in providing practical support that helps low-income and otherwise vulnerable seniors age in place. This support could include matching seniors with volunteers who can help with meal preparation, home maintenance, daily errands, yard work, and transportation.



Supporting regional and national projects to expand services that have already shown results in at least one jurisdiction in helping seniors stay at home. For example, knowledge hubs can help seniors access the local services available to them or provide information, resources, and training to community-based organizations delivering practical support to seniors.

Investments under this new program are meant to complement and not duplicate provincial and territorial efforts to support the diverse needs of seniors by mobilizing community organizations and volunteers across the country.

Examples of Government Programs Supporting AgeTech Industry in Canada

The Assistive Devices Program (ADP)

The Assistive Devices Program (ADP), helps people with long-term physical disabilities pay for customized equipment, like wheelchairs and hearing aids, also helps cover the cost of specialized supplies, such as those used with ostomies. The ADP is funded by United Way.

The Health Care Connect Program

Health Care Connect refers Ontarians who don't have a physician to a family health care provider who may be accepting new patients. Unattached patients can call or go online to **ontario.ca/healthcareconnect** to register with the program. Priority is given to individuals who have greater health needs. Health Care Connect program is funded by the Federal Government of Canada.

Healthy Aging CORE

Healthy Aging CORE (Collaborative Online Resources and Education) is an online knowledge hub funded by \$250,000 from the Government of Canada, will help organizations access resources, communicate, coordinate, collaborate and learn from one another, so they can better serve seniors.

Government Programs Supporting AgeTech in Canada

The Connecting Families

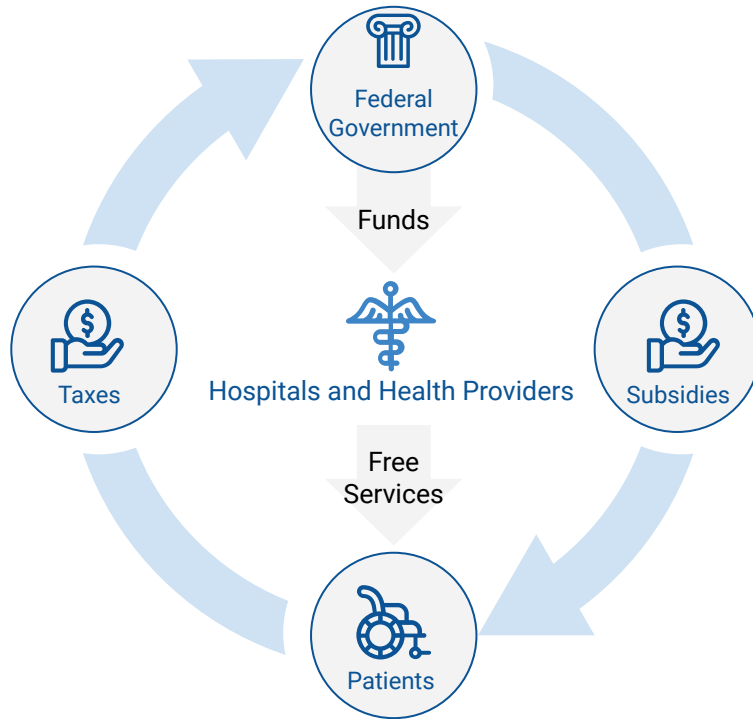
Through the Connecting Families initiative, the Government of Canada is supporting and funding affordable Internet service for those who need it most. Connecting Families is introducing significantly faster speeds and increasing the data usage amount.

Longevity Governance and Policy in Canada: External View



Canadian Healthcare System

HealthCare System Organization



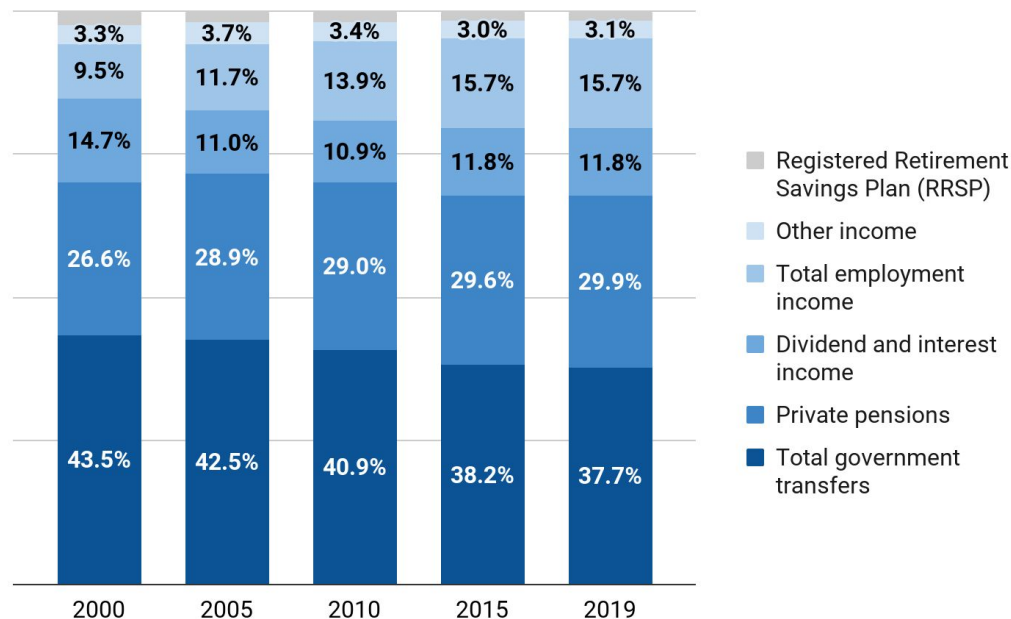
The organization of **Canada's healthcare system** is largely **determined by the Canadian Constitution**, in which roles and responsibilities are divided between the federal, and provincial and territorial governments. The provincial and territorial governments have most of the responsibility for delivering health and other social services. The federal government is also responsible for some delivery of services for certain groups of people.

Publicly funded health care is financed with general revenue raised through federal, provincial and territorial taxation, such as personal and corporate taxes, sales taxes, payroll levies and other revenue. Provinces may also charge a health premium to their residents to help pay for publicly funded healthcare services, but non-payment of a premium must not limit access to medically necessary health services.

The **responsibility for public health**, which includes sanitation, infectious diseases and related education, **is shared between the three orders of government: federal, provincial/territorial and local or municipal**. However, these services are generally delivered at the provincial/territorial and local levels by local hospitals and health providers.

Canadian Seniors Income

Personal Income of Canadian Seniors (65+) by Sources



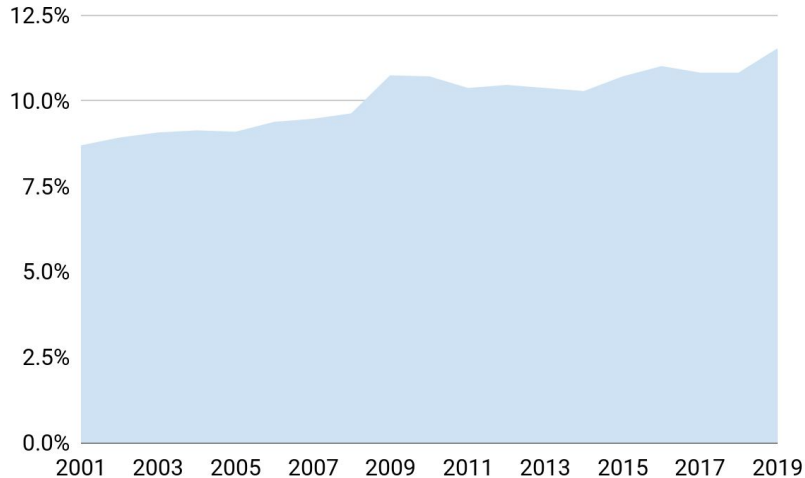
According to Statistics Canada, the main source of income for Canadian seniors (65+ years old) has been **Government Transfers - it constituted 37.7% of income in 2019**. Despite being more than one-third of income, the share of Government Transfers has been decreasing. In the last 20 years, the share of **Total Government Transfers has decreased by 5.8 p.p.** from 43.5% in 2000 to 37.7% in 2019.

At the same time, the share of private pensions has been increasing. During 2000-2019 the share of private pensions increased by 3.4 p.p. from 26.7% to 29.95%.

The standard age to retire is 65, however **more and more seniors continue to work after retirement**. As a result, **the share of income from employment has increased**. In 2000 only 9.5% of senior's income came from working. In 2019 it was already 15.7%.

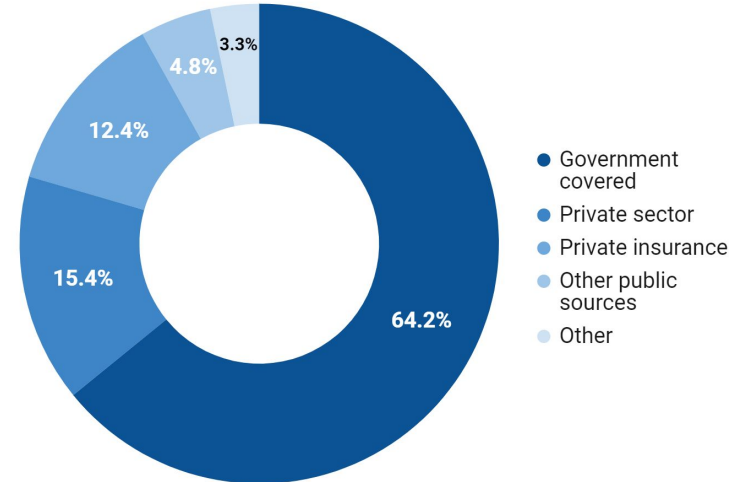
Healthcare Expenditures

Canada Healthcare Spending, % of GDP



Source: Canada Healthcare Spending 2000-2021

Healthcare Funding in Canada by Sources, 2019

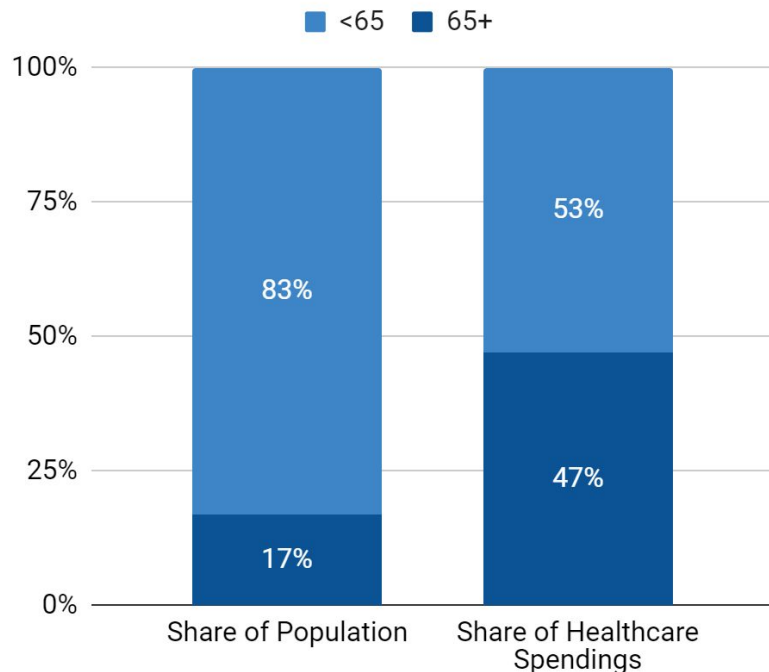


Source: Effective Public Healthcare Panacea Project

Canada's Healthcare spending has steadily increased over time. While the overall trend has been upward, there are several outlying years. For instance, the most significant jump was in 2010 when healthcare spending in Canada actually accounted for 11.6% of the nation's GDP. By the end of 2019, **Canada spent around 11.5% of GDP** on the healthcare. **Canadian Healthcare is funded** through a combination of different methods, including provincial and territorial government contributions (public) and private out-of-pocket costs. The split between public and private healthcare expenses are around **70%/30% (public/private)**.

Healthcare Spendings on Seniors

Share of Population vs. Share of Healthcare Spendings in 2017



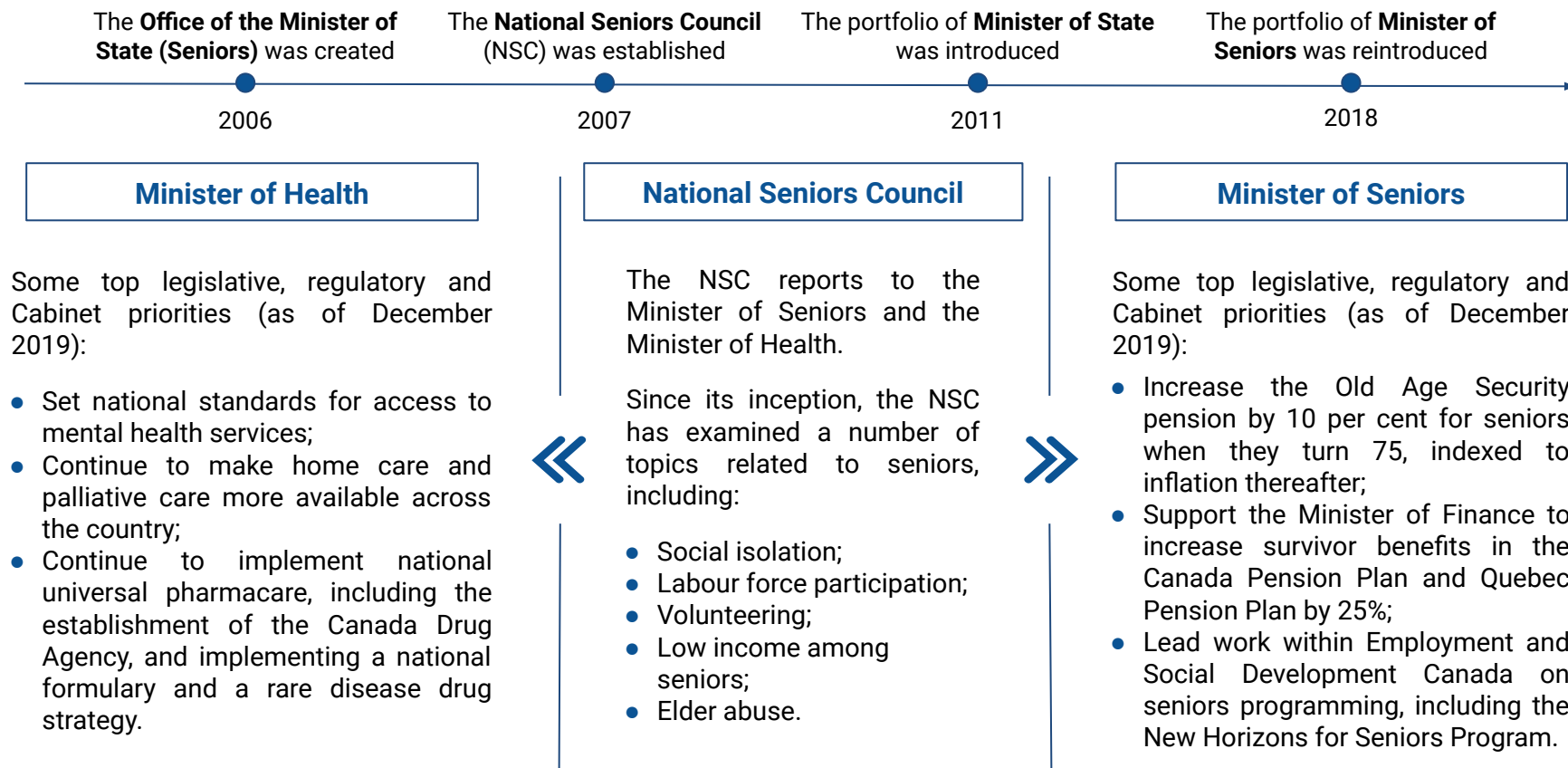
People over 65 are one-fifth of the population, but half of healthcare spending. In 1966, the median Canadian was 25.5 years old, but by 2020, the median age had increased to 41.1, and in the next decade we expect that to rise to 42.4 years.

An aging population can make a significant difference in the cost of healthcare. The average per-person spending on healthcare for Canadians **aged 64 and below is \$2,700**. The average per-person spending on Canadians **aged 65 and over** is more than **four times higher at \$12,000**. As a result, although Canadians aged 65 and over are currently less than one fifth of the population, they consume nearly half of all health care dollars.

This cohort will make up a greater share of the population over the next decade, and meeting their care needs will drive health care spending higher.

The Conference Board of Canada estimates that provincial and territorial governments **will need to find an extra \$93 billion in funding for health care** over the next 10 years because of population aging.

Authorities Responsible for Seniors Policy



Governmental Policy Priorities to Promote Seniors Inclusivity (as of 2014)

In **2014** the Ministry of Seniors together with more than 22 federal departments and agencies established a report with main aspects of Seniors Policy. In **June 2021 a Minister's Symposium** was conducted where an updated strategy was presented. This updated strategy will be analysed once it is published.



Ensuring financial security for seniors

The Canadian retirement income system's three pillars – the Old Age Security (OAS) program, the Canada Pension Plan (CPP) and personal pensions or investments – help to ensure Canadians maintain a basic standard of living in retirement and aim to reduce the number of low-income seniors.



Enabling active participation in the labor force and the community

Seniors increasingly want to remain active in the workplace for a variety of reasons. The Targeted Initiative for Older Workers (TIOW) helps unemployed workers aged 55 to 64 develop their skills and find new work, and the Third Quarter Initiative helps experienced workers who are over 50 find jobs that match their skills.



Helping seniors to age in place

In 2016, 93.5% of seniors in Canada lived in a private home. Recent Government of Canada investments in affordable and social housing, age-friendly communities, support for caregivers and programs to combat homelessness are helping seniors stay in their own homes and remain physically and socially active.



Healthy and active aging

Seniors are living longer and healthier lives than previous generations. The Government plays a leadership role in supporting health care innovation to improve patient care, with investments of over \$1 billion in various programs. The Government of Canada is taking a leading role in researching dementias.



Combating elder abuse

To better protect seniors from mistreatment, the Government put into force the Protecting Canada's Seniors Act in January 2013, which amends the Criminal Code of Canada so that age is considered an aggravating factor for criminal sentencing purposes.



Ensuring seniors have access to information, services and benefits

Service Canada provides information on a wide range of federal programs related to seniors and communities, such as the CPP, OAS, GIS, disability benefits for veterans and the Veterans Independence Program, by providing financial assistance for services like housekeeping, personal care and health.

*Note: CPP - Canada Pension Plan, OAS - Old Age Security, GIS - Guaranteed Income Supplement.

National Seniors Strategy

In 2015 **the National Institute on Ageing (NIA)** provided its own evidence-informed, non-partisan, policy blueprint focused on advancing the well-being of older adults in Canada, the **National Seniors Strategy**, based on four main pillars:



Independent Productive and Engaged Citizens

Enables older Canadians to remain independent, productive, and engaged members of our communities.



Healthy and Active Lives

Supports Canadians to Lead healthy and active lives for as long as possible.



Care Closer to Home

Provides person-centered, high-quality care as close to home as possible by providers who have the knowledge and skills to care for them.



Support for Caregivers

Acknowledges and support the family and friends of older Canadians who provide unpaid care for their loved ones.

National Seniors Strategy Problem

In addition to the local (municipal and provincial) seniors programs, **in 2014** the Government of Canada released **the Action for Seniors report**, where six themes were prioritized in order to meet Seniors' major concerns and problems. Ever since, the federal program has taken **steps to implement solutions in every direction**. However, retirement planning and income security remain a challenge, despite the enhancement to the Canada Pension Plan, as do others aspects of the Action Plan. With growing awareness of seniors' problems, **more non-government organizations are taking part in developing** evidence-base solutions to them.

Meeting the expanding and changing needs of Canada's aging population will **necessitate significant cooperation** and effort across local, provincial, and territorial governments, with the federal government serving as a key leader. **The government-led National Seniors Strategy** that takes into account all working propositions and unites the efforts of all related actors **would increase effectiveness**. While aging is a problem for modern societies, **longevity is an opportunity** if thought through strategically. Therefore, the government should not only develop a Seniors Strategy, but also **build up an all-rounded Longevity Industry Development Strategy** to meet the upcoming aging challenges and promote further growth and prosperity.

Organizations that Have Developed Recommendations to National Senior Strategy



Association nationale
des retraités fédéraux



ASSOCIATION
MÉDICALE
CANADIENNE



CANADIAN
MEDICAL
ASSOCIATION



INSTITUT
DE RECHERCHE
EN POLITIQUES
PUBLIQUES

INSTITUTE
FOR RESEARCH
ON PUBLIC
POLICY



Concept of Age-Friendly Communities

In 2006, the WHO launched **Age-Friendly Communities (AFCs)** – places that encourage active aging by optimizing opportunities for health, participation, and security in order to enhance quality of life as people age. The main features of AFCs are:



Outdoor spaces and public buildings that are pleasant, clean, secure and physically accessible;



Older people are treated with respect and are included in civic life;



Public transportation that is accessible and affordable;



Opportunities for employment and volunteerism that cater to older persons' interests and abilities;



Housing that is affordable, appropriately located, well-built, well-designed and secure;



Age-friendly communication and information is available;

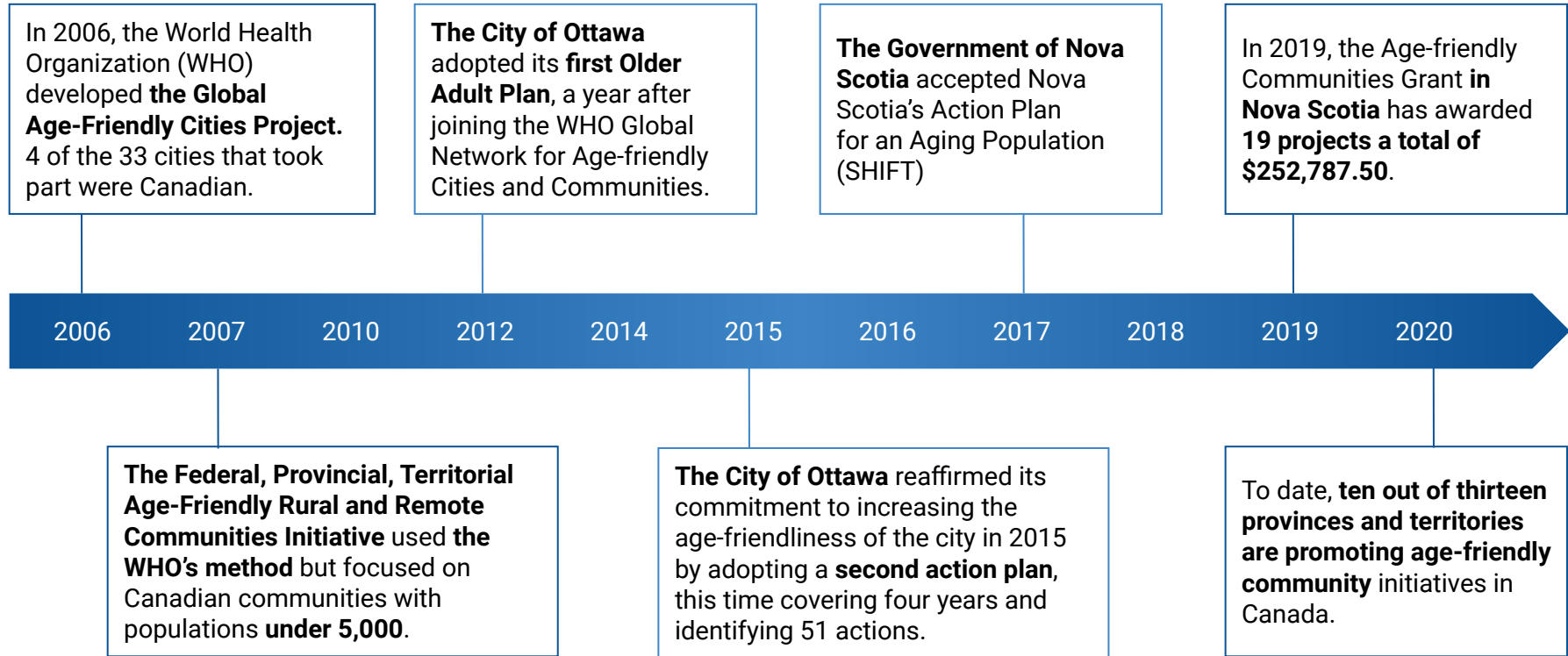


Opportunities for social participation in leisure, social, cultural and spiritual activities with people of all ages and cultures;



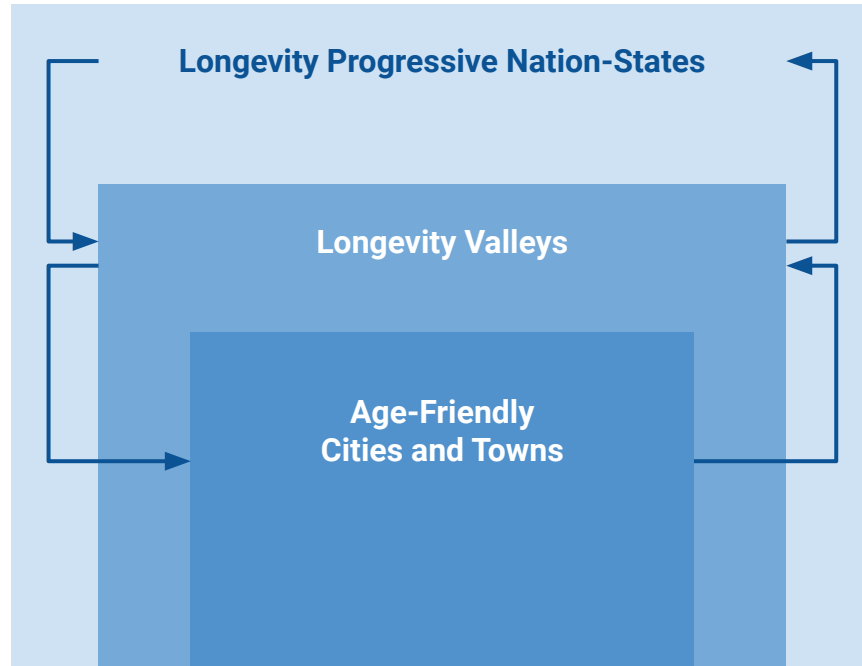
Community support, and health services are tailored to older persons' needs.

Age-Friendly Communities in Canada



Longevity Industry Development Strategy in Canada

Mutually Supportive Layers of a National Longevity Infrastructure



Current State and Next Steps

Canada is ahead of its time in advancing seniors' inclusivity. It is expected that a "Minister of Seniors" will become a typical portfolio in the coming decade. Seniors are the fastest-growing demographic group in Canada. By 2031 it can be expected that the number of seniors will reach one million and, as a result, senior citizens will represent almost a quarter of the Canadian population.

The age-friendly cities and towns that are actively developing in Canada are **the first step** towards a Longevity Valley, and the future growth of the industry. At the same time, Canada lacks an explicit **Longevity Industrial Strategy*** or/and **National Longevity Strategy****. Therefore, **the second step** is to upgrade those cities and towns into Longevity Valleys, clusters of industry where the four pillars of Longevity: Geroscience, P4 Medicine, AgeTech, and Longevity Finance, can be established. These Longevity Valleys will become the engines of industry for potential future **"Longevity-states"**.

*Longevity Industrial Strategy - strategy with primary purpose to support development of countries' domestic Longevity Industry.

**National Longevity Strategy - plan on how to optimize population-level HALE and QALY.

Trends and Prospects of the Longevity Industry in Canada



Trends in Canadian Healthcare Industry



E-Health

52% of Canadians aged 50+ had a telehealth appointment in the past 3 months, and 79% of those who had one were satisfied with it. Experience with video appointments is still limited (7%).



Fewer Hospitals

The current **trend of hospitals agglomerating is expected to continue**. This will reduce competition between independent hospitals, although it may lead to less readily available access to medical care in some regions of the country.



Senior Care

Expect to see a larger and **larger portion of Canadian healthcare funding go toward senior care**. Like the US, Canada has a significant aging population that requires access to different care solutions compared to younger citizens.

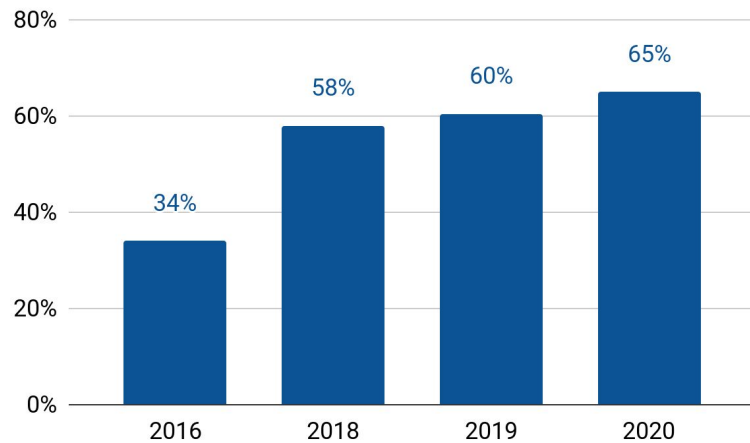


Private Insurance

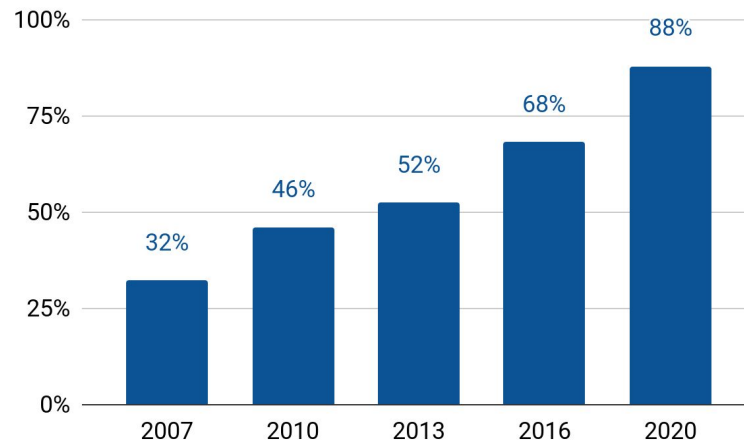
Some experts indicate that the **share of health care costs currently covered by private insurance will grow in the future**.

Seniors Online

Share of People Over 65 Owning Smartphones



Share of People Over 65 Using the Internet



A new AGE-WELL poll conducted by Environics Research in July 2020 shows that **two-thirds (65%) of Canadians** aged 65 and older now **own a smartphone**, compared to 60% in 2019, and most who own one (83%) use it daily. **About a quarter (23%) of Canadians 65+ now use video-calling on their smartphones**, twice as many as in 2019; 6 in 10 of whom report increased use due to COVID-19.

The Internet is penetrating even deeper into the lives of people over 65. Around **88% of Canadian seniors use the Internet**. Overall, the survey results also show that **72% of Canadians aged 65 and over feel confident using current technology**.

The facts above are signs of a new trend where seniors are active consumers of technology. Thus, the development of sectors that provide services through computers and smartphones, such as m-Health, Telemedicine, Communication Caregiving Services, will strengthen.

Prospects for Development

Canada is ranked sixth by the amount of investment into longevity companies. The level of investment into longevity companies in Canada reached \$5B. However, Canada ranked third by the number of companies, thus despite having more companies than China, India, and Switzerland, total investments are lower.

Canada has great potential for domestic investors. Currently 37% of all longevity investors are accounted for by Canadian companies. The government should proceed with the development of a **Longevity Industry Strategy** that will encourage investment in innovative industries such as BioTech, AI, Geroscience and others. It is worth noting that Canada has devised the **world's first national AI strategy**.

Canada-based longevity companies that have achieved some success and entered the maturity stage **should provide more support to the emerging longevity companies.** Establishing a business incubator program that would give early-stage longevity companies access to mentorship, investors, and other support to help them get established will be extremely beneficial.

Canadian Strengths, Helping to Strive Forward the Longevity Industry



Decentralization in the Healthcare Sector

A high level of decentralization and division of responsibilities among all levels of governmental institutions gives Canada the ability to achieve a deeper level of healthcare system development.



Human-Centred Digital Tools in Healthcare

To succeed in the development of longevity, the Canadian Government has adopted human-centered digital tools and aims to provide accessibility to all citizens.



Provincial and Territorial Public Drug Benefit Programs

The Canadian Government has set a goal to support all citizens, despite their age or wealth, with essential drugs that positively contribute to the general level of wellbeing in the country.

Conclusions



Conclusions



Growing Interest in the Longevity Industry. As a result of aging and the upcoming Silver Tsunami, there has been increasing interest in the Longevity Industry. Currently, the size of the global market is estimated at **\$33T**. The major players include national healthcare companies and Longevity-focused financial companies.



While the global Longevity Economy is projected to reach \$33T by 2026, the **Age-Tech segment alone is projected to reach \$2.7T by 2025**. This, in turn, implies **an annual growth rate of 21%** in the global Age-Tech market, which is attributable to the development of the senior care sector enhanced by IT, FinTech, and other digital technologies.



A slower population growth rate combined with increasing life expectancy means that seniors will comprise a larger share of Canada's future population. Over the last decade, the share of the population **aged 65 and older has increased from 14.1% to 18.0%** and is expected to **reach 25%** by the **2060**.



Canada's Healthcare spending has steadily increased over time. By the end of 2019, **Canada was spending around 11.5% of GDP** on healthcare. **People over 65 are one-fifth of the population but half of health spending.** The Conference Board of Canada estimates that provincial and territorial governments will need to find an extra **\$93 billion** in funding for health care over the next 10 years because of population aging.



Canada ranked sixth by the amount of investment into longevity companies. The number of investments into Longevity companies in Canada **reached \$5B**. Canada-based longevity companies that achieved some success and entered the maturity stage should provide more support to the emerging longevity companies. Establishing a business incubator program that would give early-stage Longevity companies access to mentorship, investors, and other support to help them get established will be extremely beneficial.

Conclusions



Most of the Longevity companies in Canada are involved in the **P4 Medicine sector - around 25.4%** of all companies. Another **12.8%** of companies develop **AI for Longevity** technologies. **Telemedicine** and **Mental Health** solutions are also near the top by number of companies - with **9%** and **8.2%** respectively. Moreover, most Longevity investors are either from the USA or domestic investors.



R&D centers' and **Non-Profit Organizations'** activity are concentrated on the same issues. The majority of the **26 R&D centers** are focused on studies of age-related diseases such as cancers, diabetes, dementias, Alzheimer's and other cognitive disorders, while **over 40 Non-Profit Organizations** provide health and mental care, palliative treatments. However, the scientific research and development industry in Canada **decreased in size over the last five years due to decline in private investment**.



AgeTech companies in Canada mainly operate in the **Independence** subsector. **More than a quarter (27.5%)** of all AgeTech companies in Canada help seniors maintain their lifestyle without outside support. Moreover, **AgeTech** is used in the **Government Programs**, supporting affordable Internet services and various online platforms to connect caregiver with care receiver: **The Assistive Devices Program (ADP), Healthy Aging CORE, The Health Care Connect Program and The Connecting Families**.



In 2006, the World Health Organization (WHO) developed **the Global Age-Friendly Cities Project**. **Out of 33 cities that took part, 4 were Canadian**. To date, ten out of thirteen Canadian provinces & territories are promoting age-friendly community initiatives. Despite local initiatives and grant funding, there is still no systemic solution and national strategy to embody age-friendly principles all over Canada.



Aging is a global problem of developed countries, not unique to the Canadian population. **2015 marked the first time Canadians aged 65 and over started to outnumber children under the age of 15**. Progress in longevity is no longer simply a question of progress in geroscience or advanced biomedicine. The political climate surrounding the longevity sector is playing a crucial role in this sector's development. Canada should develop an explicit **Longevity Industrial Strategy** and **National Longevity Strategy** so that the government will be able to maximize the health, wealth, and wellness of its citizens. One of the possible solutions might be **UK's APPG model**.

Appendices

- **List of Upcoming Longevity Events in Canada**
- **List of Longevity Influencers in Canada**

Upcoming Longevity Events in Canada

Date	Name	Location	Description
Oct 4 - 8, 2021	AgeTech Innovation Week	Toronto	AgeTech Innovation Week is a unique virtual event for anyone with an interest in technology-based solutions that support older adults and caregivers.
Nov 10 - 12, 2021	Global Conference on Aging	Niagara Falls	The Global Conference on Aging is entitled as Rights Matter , and it is an international platform to improve the understanding of age-friendly environments, to debate the solutions to address inequalities, to confront the reality of ageism, and to delve into what it means to enable the functional ability of an older person.
Nov 12 - 13, 2021	International Conference on Pharmaceutical Research & Innovations in Pharma Industry	Vancouver	The most anticipated Pharma event in the world. The focus will be on the latest advancements, research and development to inspect the challenges in Pharmaceutical Sciences, Clinical Research and related areas. Pharma Research 2021 is a specially designed cluster of all European Pharma conferences. The main theme of this Pharma conference is "Emerging trends in development of vaccines for COVID-19 " which covers a wide range of critically important sessions.
May 20 - 21, 2022	International Conference on Biotechnology of Reproduction and Genetics ICBRG	Vancouver	International Conference on Biotechnology of Reproduction and Genetics aims to bring together leading academic scientists, researchers and research scholars to exchange and share their experiences and research results on all aspects of Biotechnology of Reproduction and Genetics.
July 19 - 20, 2022	International Conference on Pharmaceutical Sciences and Research ICPSR	Toronto	International Conference on Pharmaceutical Sciences and Research aims to bring together leading academic scientists, researchers and research scholars to exchange and share their experiences and research results on all aspects of Pharmaceutical Sciences and Research.

Longevity Influencers in Canada



**The Honourable
Deb Schulte**
Minister of Seniors



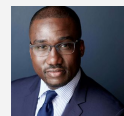
Chris Linnell
President,
Canadian Longevity
Association



Franco Cortese
Director,
Aging Analytics
Agency



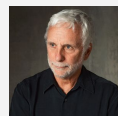
Bulat Gaifullin
Co-founding Member,
Canadian Longevity
Association
Scientific Editor,
Be Healthy Magazine



Jean Accius
SVP, Global Thought
Leadership
AARP



Michael Tamblin
CEO,
Rakuten Kobo



Jay Ingram
Board Member,
Longevity Partners



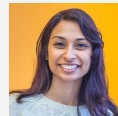
David Wright
Co-Founder &
Director,
YouAreUNLTD



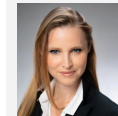
Azadeh Dastmalchi
CEO,
VitalTracer



**Elizabeth
Audette-Bourdeau**
CEO,
Welbi Technologies



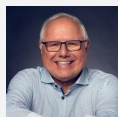
Pooja Viswanathan
CEO,
Braze Mobility



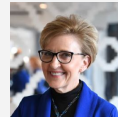
Yael Benvenisti
CEO,
Mediterranean
Towers Ventures



Shirlee M. Sharkey
President & CEO,
SE Health



Donald Juzwishin
Adjunct Associate
Professor,
University of Victoria



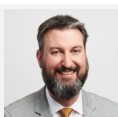
Anne Marie Wright
Co-Founder,
YouAreUNLTD



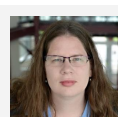
Caron Leid
Vice-Chair,
AGE-WELL's Older
Adult & Caregiver
Advisory Committee



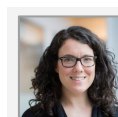
Joan Marie Aylward
Member of the
National Seniors
Council



Alex Mihailidis
Scientific Director &
CEO,
AGE-WELL

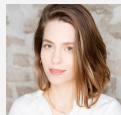


Shannon Freeman
Academic Director,
CTAAN



Bridgette Murphy
Managing Director,
AGE-WELL

Longevity Influencers in Canada



Keren Etkin
Founder,
TheGerontechnologist



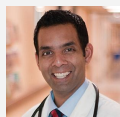
Parminder Raina
Lead Principal Investigator
Canadian Longitudinal
Study on Aging (CLSA) &
Scientific Director at
McMaster Institute for
Research on Aging



Joseph Coughlin
Director,
Massachusetts
Institute of
Technology AgeLab



Diane Côté
CEO,
MEDTEQ+



Dr. Samir K. Sinha
Director,
Geriatrics Sinai Health
System & University
Health Network



**Dr. Suzanne
Dupuis-Blanchard**
Chairperson of the
National Seniors
Council



Ine Wauben
Managing Director -
Canadian Longitudinal
Study on Aging (CLSA)
& McMaster Institute
for Research on Aging



Virginie Cobigo
Executive Director,
Open Collaboration
for Cognitive
Accessibility



Nathan Cheng
Program director of
On Deck Longevity
Biotech (ODLB)



Dr. Jane Rylett
Scientific Director,
Canadian Institutes
of Health Research
(CIHR) - Institute of
Aging



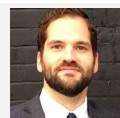
Richard McAloney
Director,
CTAAN



Stewart Hardie
CEO,
Tenera Care



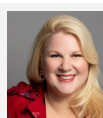
John Lavis
Director,
McMaster Health
Forum



Michael Nicin
Executive Director of
the National Institute of
Ageing



Colin Milner
CEO,
International Council
on Active Aging



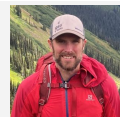
**Laura Tamblyn
Watts**
CEO,
CanAge



Gregor Sneddon
Executive Director,
HelpAge Canada



Lola-Dawn Fennell
Executive Director,
The Prince George
Council of Seniors

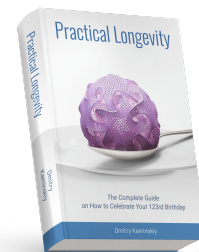
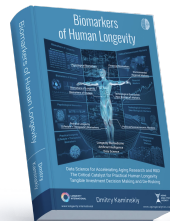
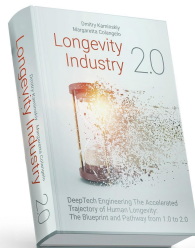
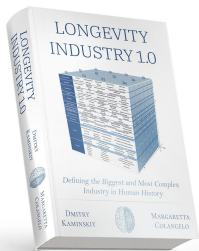


Aaron Bond
Executive Lead,
Elder Program
Northern Health
Authority



Dr. Drew Taylor
Founder & CEO
Acorn Biolabs

Longevity Books

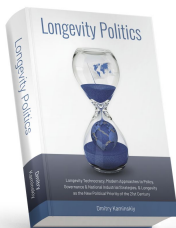


Longevity Industry 1.0
2010-2020: Evolution of the
Longevity Industry from Zero to 1.0

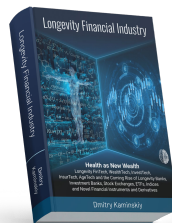
Longevity Industry 2.0
2020-2025: DeepTech Engineering
The Accelerated Trajectory of
Human Longevity – The Blueprint
and Pathway from 1.0 to 2.0

Biomarkers of Human Longevity
The Critical Catalyst for Practical Human
Longevity, Tangible Investment
De-Risking, and Accelerated Ageing
Research and Longevity R&D

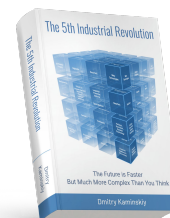
Practical Longevity
Practical, Market-Ready Tools,
Approaches and Frameworks for
Optimizing Personal, Practical,
Healthy Human Longevity



Longevity Politics
2021-2030: The Rise of Longevity Politics, and
the Solidification of Longevity as the New
Political Priority of the 21st Century



Longevity Financial Industry
Health as New Wealth, Engineered Solutions to
Bridge the Longevity Liquidity Gap, and the Rise
of Longevity Investment Banks, Stock Exchanges
and Financial Instruments



The 5th Industrial Revolution
2030-2035: Defining, Forecasting, Optimizing
and De-Risking the Accelerated Trajectory of
Progress Toward the 5th Industrial Revolution



About FemTech Analytics

FemTech Analytics is a strategic analytical agency focused on relatively young yet the next big market disruptor FemTech market, including subsectors:

- Longevity for Women;
- Mental Health & Healthy Lifestyle;
- Reproductive Health;
- General Healthcare.

The FemTech industry remains a viable investment opportunity due to an ongoing trend of preventive health and personalized medicine.

The range of activities includes research and in-depth analysis on major areas of high potential in the FemTech industry, profiling of companies and governmental agencies and providing consulting and analytical services to advance the FemTech sector.

FemTech Industry in Canada Landscape Overview Q4 2021



FemTech is becoming important because people are increasingly seeing the vital role women play in creating and sustaining healthy families.

The “**FemTech Industry in Canada Landscape Overview Q4 2021**” report developed by FemTech Analytics provides an overview FemTech Market Ecosystem and key trends to watch in 2021 in Canada. The **main goals of the report** are to highlight the importance of the FemTech industry; determine the most effective solutions invented and implemented, and to consider existing tools and solutions that have been further developed and boosted on the Canadian market.

About Aging Analytics Agency

[Aging Analytics Agency](#) is the world's premier provider of industry analytics on the topics of Longevity, Precision Preventive Medicine, the Economics of Aging, and the convergence of technologies such as AI, Blockchain, Digital Health and their impact on the healthcare industry.

About Canadian Longevity Association

[The Canadian Longevity Association](#) is a non-profit organization that aims to strengthen and grow the longevity industry and ecosystem in Canada through increasing public awareness and support, encouraging and funding research, assisting and advocating for established and startup longevity companies, informing and influencing government policy in a positive direction, and collaborating with like-minded organizations to increase the healthy longevity of all Canadians.





**AGING
ANALYTICS
AGENCY**

E-mail: info@aginganalytics.com

Website: www.aginganalytics.com

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