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Opportunities and Collaborative Strategies

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Transforming Pensions and Healthcare in a Rapidly Ageing World:
Opportunities and Collaborative Strategies

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WORLD ECONOMIC FORUM

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Preface

The ageing of society demands action as the window of opportunity to adequately prepare for this shift is closing fast. While immediate concerns about rising healthcare costs and pension structures require attention, fundamental long-term questions should not be neglected. Although the current global economic turmoil has put further pressure on already stretched resources, heightening the urgency of addressing demographic shifts, it is also presenting a once-in-a-generation opportunity for transformational change. Times of uncertainty create space for radical and creative thinking, and now may be an ideal time to attempt reform while people are more open than ever to new ideas.

This report is important for three main reasons. First, it addresses the question of ageing societies from a perspective that integrates implications and solutions for both healthcare and pensions, whereas most reports look separately at one or the other. In taking this integrated approach, which emphasizes multistakeholder collaboration, the World Economic Forum is reacting to the strong interest expressed by financial services and healthcare companies, employers, governments and civil society. However, no single stakeholder can hope to tackle the associated challenges or make the most of the abundant opportunities; success will require diverse, multistakeholder collaboration and innovative approaches.

Second, the report focuses on opportunities, whereas most previous ones have focused primarily on risks. The risks of ageing societies are widely apparent: systems' adequacy may be called into question, stakeholders often seek to shift cost burdens onto each other, and there is a prospect of significant social tension. However, there are positive sides to ageing as well. More people can expect to enjoy better health later in life, enabling a greater level of activity in old age that can, in turn, improve the quality of life and social outcomes. There is ample room for the prevailing culture of youth to better integrate, learn from and appreciate the skills and experiences of older generations.

Third, the report provides an overview of a broad set of practical solutions, ranging from the existing, but underappreciated, to the highly innovative. The strategic options it presents are not drawn with broad brush strokes, but rather are explored with sufficient specificity to enable their potential to be meaningfully evaluated. Ideas exist on how to tackle demographic change, but in pockets. This report brings together the most promising solutions and shares them with decision-makers who can assess which ones best suit their particular contexts. This report thereby challenges all stakeholders to collaborate in new ways and consider connections they have not considered before.

This report combines the experience, ideas and wisdom of a wide range of participants and is the outcome of the second phase of a project mandated by the World Economic Forum's financial services and healthcare communities. Phase one culminated in the publication of *The Future of Pensions and Healthcare in a Rapidly Ageing World: Scenarios to 2030*. Phase two, embodied in this report, distils the insights of interviews and workshops with approximately 200 experts and decision-makers in Beijing, Brussels, Davos, Dubai, Geneva, London, Milan, New York, Rome, Tianjin and Tokyo.

We trust the insights gained through this publication will offer new perspectives on collaborative approaches to the sustainable financing of pensions and healthcare in ageing societies. The ageing of society can be a positive and value-creating experience. We hope this project can play a part in advancing the changes needed to make this desire a reality.

Robert Greenhill
Managing Director and Chief Business Officer
World Economic Forum

Executive Summary

The ageing of society provides challenges *and* opportunities

Timely and appropriate action can transform the challenge of ageing societies into an opportunity to stimulate economic growth and improve well-being. There is a collective opportunity to turn a "greying society" into a "silver society": a society in which the elderly are valued, healthy and active, the private sector can benefit by catering to the unmet needs of the current and future elderly, and governments can still facilitate old-age security for citizens while overcoming financial pressures on public pension and healthcare systems.

The window of opportunity to plan and prepare is, however, quickly closing. In many countries, the elderly will grow as a percentage of the total population while the labour force declines. The ageing of society is a current challenge in developed countries and an imminent challenge in others. By 2030, it will have become a major issue in most of today's emerging economies, and by 2050, few countries will be unaffected.

These demographic trends challenge the financial sustainability of pay-as-you-go pension and healthcare systems, as well as capital-funded systems, and risk undermining access and quality. This report responds by exploring 11 strategic options to address the following central question: *How can stakeholders strengthen the financial sustainability of, access to and quality of retirement and healthcare provisioning in a rapidly ageing world*?

Three key requirements to seize the opportunities presented by ageing

The process of defining the 11 strategic options explored in this report started with a scenario-building exercise to chart diverse possible futures of the pension and healthcare industries to 2030, which resulted in an earlier World Economic Forum report, *The Future of Pensions and Healthcare in a Rapidly Ageing World – Scenarios to 2030* (summarized in Appendix A and available on the Forum's website[1]). This, in turn, served as the foundation to develop, through research, interviews and workshops, a longlist of over 50 strategic options (summarized in Appendix B). From this process three key requirements became clear:

- **Effective multistakeholder collaboration**
  Effective collaboration among the key stakeholders – financial institutions, healthcare providers, employers, governments and citizens – is crucial to overcome challenges and seize opportunities. The earlier scenarios report highlighted how different forms of collaboration may contribute to shaping the future. This report further analyses how collaboration may, in various combinations, be fostered by aligning interests, enforced through rules and regulation, or stimulated by focusing on shared benefits and long-term objectives and reinforcing a sense of moral responsibility and leadership.
- **Transformational change in thinking**
  The actions of individual stakeholders must be based on a shift in thinking towards incentive structures that reward long-term planning and societies that value and honour old age as a productive life phase. This shift in thinking entails significant changes in the way that work, health and retirement are conceived, and can create new opportunities for growth as well as improving quality of life. It will impact on the lives of the young as well as the old, because early intervention is necessary to achieve long-lasting effects.
- **Integrated retirement and healthcare solutions**
  The longlist of 50 strategic options looked at possible solutions from the perspective of retirement, healthcare and hybrid solutions. The findings indicate that hybrid solutions to address both the healthcare and retirement financing challenges are possible and, in fact, essential to better cater to ageing societies.

The 11 strategic options explored in this report were chosen by a process of selection and consolidation based on four central criteria: potential effectiveness, level of innovation or exploration, robustness and suitability for multistakeholder collaboration. They range across healthcare-focused, retirement-focused and hybrid solutions, and reflect six strategic dimensions (Figure 1).

1 http://www.weforum.org/en/initiatives/Scenarios/FinancingDemographicShifts/index.htm

Towards a "silver society"

While each strategic option could stand alone, their strength lies in their synergy and complementarity. Their overarching themes make them relevant to readers in different countries regardless of their degree of economic development, structure of systems or funding mechanisms. There is much potential for two-way learning between developed and emerging economies, which may yield other benefits such as strengthening the services sector, empowering consumers and nurturing the development of capital markets. Each strategic option is presented with practical examples of potential action for each group of stakeholders, enabling decision-makers to assess which best fit their particular circumstances.

This report is published at a time when economic crisis is stimulating new critical thinking about fundamental challenges, and potentially triggering a new spirit of collaboration which can dissolve old barriers and enable the exploration of new solutions. We hope these options will open doors to new thinking about ageing and a new approach to creating a "silver society".

Figure 1 **Categorization of the strategic options**

Key Strategic Objectives	Retirement-focused	Hybrid	Healthcare-focused	Selected High-impact Strategic Options
Control and transform demand				**1. Promote work for older cohorts** For many people, better health in old age means productive employment is now possible and desirable well into their 70s. Coordinated action to change public policy, business practices and personal behaviour can promote lifetime employability and active aging.
				2. Shift delivery of healthcare to a patient-centred system Instead of a reactive focus on curing disease, patient-centred healthcare systems have a proactive focus on maintaining good health. Such a fundamental reorientation of healthcare systems can help reduce the incidence of preventable chronic diseases in old age.
Stimulate consumer empowerment				**3. Promote wellness and enable healthy behaviours** Lifestyle factors and behavioural choices play a major role in determining the level of health in old age. Making people aware of the health consequences of their choices must, however, be accompanied by creating physical and social environments that are conducive to healthy behaviours.
				4. Provide financial education and planning advice Financially literate individuals are more likely to plan responsibly for their old age. Improving awareness and understanding of private pensions and retirement saving products enables people to make informed choices and take effective action to ensure an adequate retirement income.
Strengthen funding and savings				**5. Encourage higher levels of retirement savings** As public pensions increasingly offer lower replacement rates, retirees' standards of living depend more on their level of complementary private benefits. Incentives and opportunities need to be provided to expand participation in, and increase contributions to, private pension systems.
				6. Facilitate the conversion of property into retirement income Reverse mortgages (or "lifetime mortgages") allow elderly individuals to release equity in their home without the need to sell the home and move to a smaller property. Borrowers can choose to receive the loan in the form of a lump sum, a series of payments or a lifetime annuity.
				7. Stimulate micro-insurance and micropensions for the poor As an extension of the microfinance movement, micropensions are a combination of micro-insurance and microsavings products which have retirement income as their primary objective. They target poorer households, and the amounts contributed may be very small.
Optimize capital allocation				**8. Enhance pension fund performance** Pension fund performance is one of the key drivers of retirement benefits in capital-funded pension systems. It can be enhanced by measures to optimize the design of investment strategies and improve the quality of pension funds' governance and administrative efficiency.
Improve efficiency and cost effectiveness				**9. Realign incentives of healthcare suppliers** Better health in old age is compromised by waste and inefficiency in healthcare systems that reward doctors and hospitals for services provided rather than health outcomes achieved. Pay-for-performance measures can improve efficiency by realigning incentives of healthcare providers.
				10. Ensure that cross-border healthcare delivery benefits all stakeholders Cross-border healthcare delivery includes patients travelling overseas for treatment and patients interacting electronically with a healthcare provider in another country. It has the potential to be developed in ways that can benefit patients and countries of all income levels.
Enhance risk management and risk sharing				**11. Promote annuities markets and instruments to hedge longevity risk** Longevity risk is the uncertainty surrounding future improvements in mortality and life expectancy. Annuities protect individuals against this risk. The functioning of annuity markets can be improved by further developing longevity indexes and issuing longevity-indexed bonds.

Source: World Economic Forum

Section 1

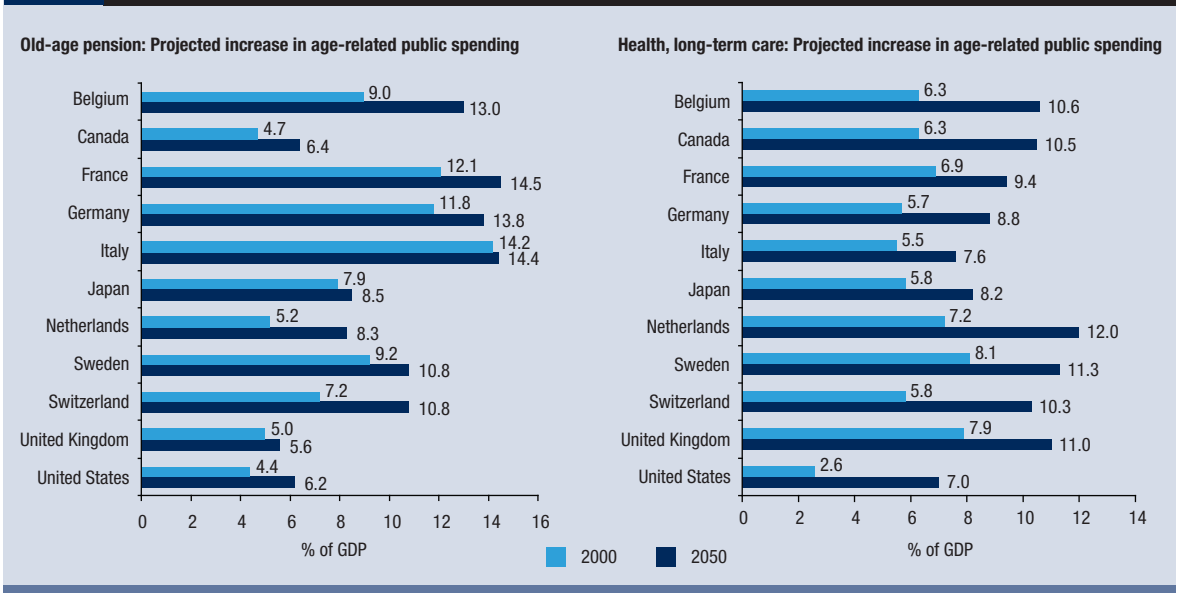
Shaping the Silver Society: Challenges and Opportunities

Section 1

Shaping the Silver Society: Challenges and Opportunities

The ageing of society can be seen as a daunting challenge, as the implications for resource allocation are sobering, especially in the context of the current economic crisis. Public spending on pensions is expected to rise, often dramatically; the proportion of GDP devoted to healthcare will also increase, as older people generally require higher levels of care and medical expenditure (Figure 2). These challenges do not affect only developed economies, as is often assumed. While the degree and timing of demographic shifts will differ by country, emerging economies will see many of the biggest gains in elderly population by 2030, and all but a handful of countries will be affected by 2050 (Figure 3).

Figure 2 **Projected increase in ageing-related public spending, 2000-2050 (Assuming unchanged policies as from the early or mid-2000s, in % of GDP)**

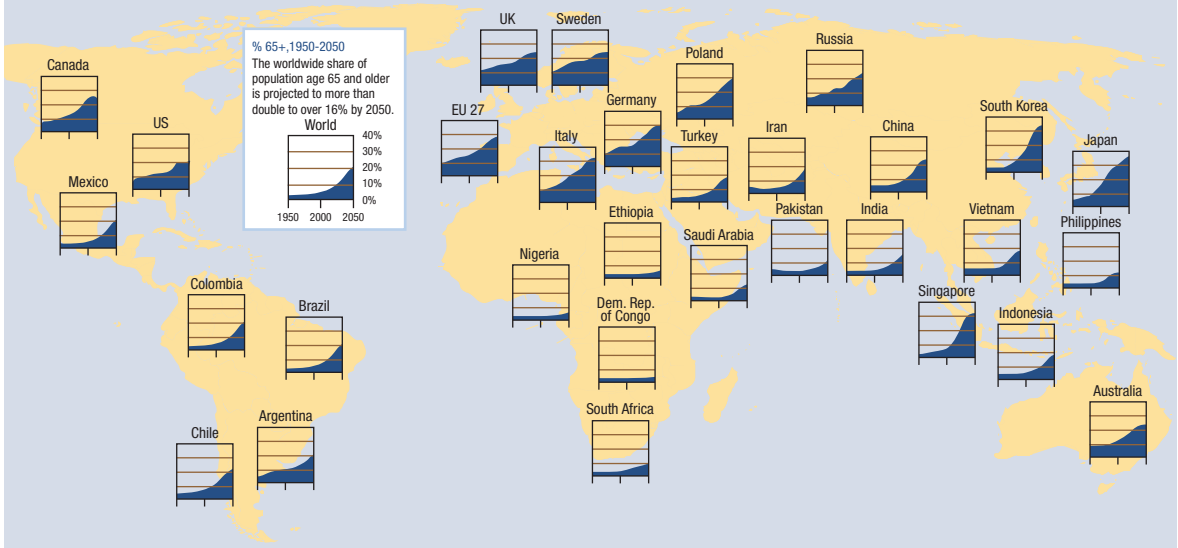


Source: OECD (2005)

However, the ageing of society also presents opportunities. There is potential to create a "new age of age", in which growing old is no longer synonymous with declining health, experience is valued as much as youth, the "silver economy" is vibrant, and the "wellderly" are active and valued in society.

This requires a paradigm shift in thinking about ageing, and the current economic turmoil presents a once-in-a-generation opportunity to achieve such a change in mindset. There is a sense that the world is at a crossroads. Old certainties have been overturned, and new ways of thinking can emerge from the current state of flux. Fundamentally reorienting from a "challenge mindset" to an "opportunity mindset" can prepare the ground for thinking more creatively about strategic options for managing demographic change (Figure 4).

Figure 3 **Global Ageing**



15 Biggest Gains in Older Population, 2005-30
Population in millions

By 2030, the population 65+ will double. More than a quarter of worldwide growth will occur in China.

	Total Population	Population 65+		Change in 65+
Country	2030	2005	2030	2005-30
1. China	1,458	100.5	238.4	138.0
2. India	1,508	58.5	133.1	78.8
3. US	368	38.8	71.1	34.3
4. Brazil	238	11.5	29.7	18.2
5. Indonesia	280	12.5	30.0	17.5
6. Japan	118	25.3	38.2	11.0
7. Mexico	128	6.1	15.8	9.7
8. Bangladesh	218	5.4	14.9	9.5
9. Pakistan	240	6.2	15.4	9.2
10. Vietnam	110	4.7	12.0	7.3
11. Thailand	69	4.9	12.1	7.2
12. South Korea	48	4.5	11.3	6.8
13. Germany	79	15.5	21.6	6.1
14. Philippines	122	3.2	9.2	5.9
15. Turkey	92	4.1	10.0	5.9
EU 27	498	81.8	118.7	38.8
World	8,318	477.4	978.9	499.6

Source: United Nations, World Population Prospects (2006), Stanford Center on Longevity (2009)

Figure 4 **Reorienting from a "challenge mindset" to an "opportunity mindset"**

Domain	Conventional mindset	Alternative mindset
Population ageing	• The ageing of our societies is a challenge • Older workers are less productive	• The ageing of our societies is both a challenge and an opportunity • Older workers are productive and healthier than ever before
Time horizon	• There is still time to solve pension and healthcare financing challenges in a rapidly ageing world	• The window of opportunity to solve pension and healthcare financing challenges is closing fast
Work	• Work in old age is burdensome • A person's career ends with a hard stop at retirement	• Work in old age can be enjoyable and fulfilling • A person can have multiple careers and flexible working arrangements at an older age. • Work, rewards and career progression can be adjusted to life stages
Solutions	• Change must be incremental, and be bound by established concepts of roles and responsibilities • The pension and healthcare financing challenge can be addressed with siloed pension and healthcare solutions • Individual interests, single-stakeholder perspectives and risk shifting will predominate • Healthcare is curative and reactive • Higher-income countries rely on state care systems; lower-income countries rely on informal care	• Change can and should be transformational, with a fundamental re-conception of roles and responsibilities • The pension and healthcare financing challenge can be simultaneously addressed with integrated solutions • Collective interests, multi-stakeholder perspectives and risk sharing will predominate • Healthcare is preventive and proactive • Hybrid models are tailored to stages of economic development and cultural norms

Source: World Economic Forum

Below are some examples of how stakeholders might think with an opportunity mindset (Figure 5). The list is not intended to be exhaustive, downplay the legitimacy of stakeholders' concerns, or deny that there are conflicting interests among stakeholders – a dynamic addressed in the following chapter. Rather it is intended to illustrate the potential for a new way of thinking.

Figure 5 **Opportunities for key stakeholders**

Opportunities for governments	• Recognize the economic crisis as a once-in-a-generation opportunity for transformational change in pensions and healthcare policies, which can help stimulate economic growth and, in emerging economies, nurture the development of capital markets • Nurture a vibrant "silver economy" by creating opportunities for seniors to continue to work for as long as they want to and remain engaged in societies • Revive the ethic of community by harnessing volunteerism and supporting community-oriented solutions to elderly care
Opportunities for financial institutions	• Create new capital market products to deal with concerns about extended life expectancy, such as longevity bonds and swaps • Collaborate with healthcare providers to promote products that integrate retirement planning with healthcare insurance and long-term care • Develop cross-border solutions to serve increasingly mobile populations
Opportunities for healthcare providers	• Cater to the growing markets of the elderly, the middle classes in emerging economies, and individuals concerned with "wellness" • Mainstream a new paradigm of healthcare that is patient-centred, preventive, and takes a "life course" approach • Develop solutions in individualized medicine that help prolong good health into old age and are affordable for the mass market
Opportunities for employers	• Retain experienced workers by offering more flexible working arrangements and gradual retirement • Explore ways to transfer knowledge from the retiring baby boomer generation to their successors • Empower employees to take charge of their retirement and healthcare choices
Opportunities for individuals, families and civil society	• As consumers, demand the provision of more innovative and tailored products and services in healthcare and retirement planning • Remain healthy and active until later in life, contributing to a positive cycle of older age groups enjoying improved visibility, status and opportunities in society • Help strengthen communities through volunteer work as a part of an active ageing

Source: World Economic Forum

Section 2

Analysing Multistakeholder Collaboration

Section 2

Analysing Multistakeholder Collaboration

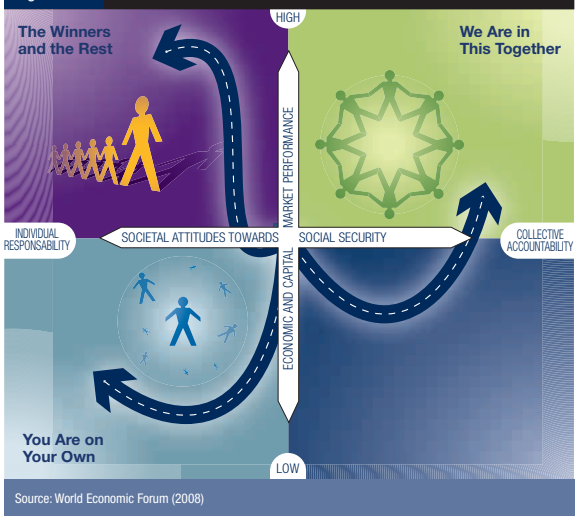
In a fast-moving and interconnected world, effective and creative collaboration is more important than ever – but it must be enacted strategically to achieve the desired results. Decision-makers need to be careful in judging when collaboration would create or destroy value, and must promptly identify barriers and tailor interventions accordingly.[2] However, by effectively mobilizing key stakeholders and aligning their interests at the right time, collaborative efforts can yield transformational changes.

Through two years of work on envisioning scenarios and developing strategic options, this project has identified four pillars of collaboration:

- **enforce** collaboration through rules and regulation
- **stimulate** collaboration by aligning incentives
- **initiate** collaboration with a sense of moral responsibility and leadership
- **overcome** short-term barriers to collaboration by focusing on long-term objectives, shared benefits and overlapping interests

All four pillars are integral to facilitating collaboration in proportions that vary dynamically. Traditionally, most of the focus has been on the first and second pillars, while the latter two require more energy and investment – especially the fourth pillar, as will become apparent in the following chapter on strategic options.

Figure 6 **Matrix overview of the scenarios**



Source: World Economic Forum (2008)

Using scenario analysis to underpin collaborative strategies

Using scenario analysis for the first phase of the project, the World Economic Forum and Partners explored how the operating environment might look for pensions and healthcare industries in 2030. The analysis focused on two key questions: the path of global growth and whether societal attitudes to social security would become characterized more by individual responsibility or collective accountability (Figure 6). The three scenarios which resulted are summarized in Appendix A and described in detail in *The Future of Pensions and Healthcare in a Rapidly Ageing World: Scenarios to 2030*, available on the World Economic Forum's website.[3] They embodied different degrees of collaboration, ranging from a single stakeholder merely consulting another stakeholder and taking his/her position into account, to multiple stakeholders creating a joint decision-making structure and operating it together.

2 Hansen, Morten. *Collaboration*, Harvard Business School Press, 2009.
3 http://www.weforum.org/pdf/scenarios/Pensions.pdf

In the scenario *We Are in This Together*, stakeholders collaborated on devising creative and lasting solutions for the common good, despite limited resources. This scenario envisaged that the shock of global recession and a major pandemic led electorates around the world to demand more responsible and far-sighted leadership; new, progressive movements emerged and came to power, committed to universal social security and healthcare, and to simplifying and harmonizing tax systems to distribute wealth more equally. Participants in the first phase of this project found this world to be the most sustainable, though also requiring the most conscious effort to attain from where we stand now.

At the other extreme, conflicting interests and burden-shifting attitudes led to the future described in *You Are on Your Own*. In this scenario, governments struggling to sufficiently borrow or raise taxes to cover soaring welfare costs resorted to aggressive measures. They privatized healthcare systems and "retired retirement", off-loading the burden and responsibility of pension provision to individuals and corporations. Participants found this world to be both detrimental and unsustainable.

Recognizing common interests and individual responsibilities

Collaboration could prove to be difficult. The impact of conflicts of interest should not be underestimated, and market forces alone have proved insufficient to overcome them completely. Key stakeholders typically fail to recognize common interests, because they are overshadowed by conflicting interests. It became clear through the second phase of this project, building on the above-mentioned scenarios, that concerted effort for the common good can be realized only if barriers are acknowledged or at least partially reconciled, and stakeholders are willing to embrace their respective responsibilities.

Topic Box 1: Changed mindsets can stimulate golden opportunities

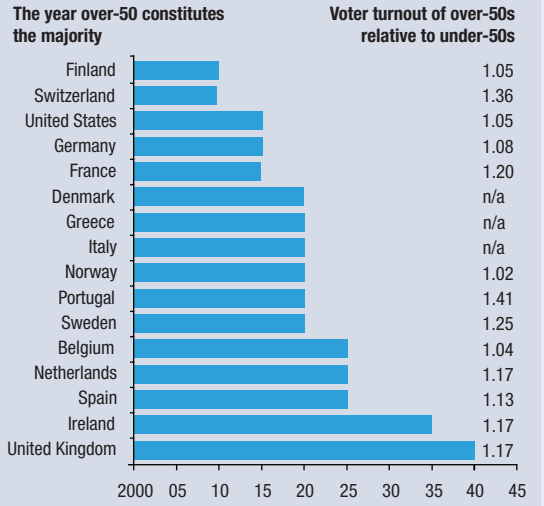
- Parents of a migrant worker, who now live abroad
- Still keeping to their morning routine of Tai-Chi
- Average health but husband has progressive dementia

- There are the Millennials also known as Generation Y
- They are all from the same class in high school, are peer-oriented and seek instant gratification
- They define their 'family' as those they connect with on the web

Creative thinking can be stimulated by focusing on common rather than conflicting interests. In a session entitled "Turning Silver to Gold: Business Opportunities in an Ageing World" at the World Economic Forum's Annual Meeting of the New Champions 2008 in Tianjin, groups of participants were assigned characters and asked to think from their perspectives about what new products or services could meet the currently unaddressed needs of an ageing population. The result was a non-obvious collection of products and services that could potentially benefit all characters. It was topped by "virtual living room" technology, which uses real time, three-dimensional projections to enable geographically separated families to feel like they are in the same space. Also on the list was a skin-like device which constantly monitors the state of health, food intake and level of exercise, and gently reminds the user when straying from the path towards an active and healthy life.

Topic Box 2: Reaching 50% of 50-plus

Figure 7 **The over-50 age group bears significant responsibility**



Source: Adapted from Eberstadt (2005) and OECD Social Indicators (2006)

In a democratic society, the over-50 age group bears particularly significant responsibility to shape society in a way that values long-term perspectives and common interests. Over-50s will soon constitute a majority of the voting population in many developed economies, and historically have been more likely to vote than under-50s (Figure 7).

Figure 8 illustrates how the five key stakeholders addressed in this project could move from a mindset of prioritizing individual interests, which may conflict, to a mindset of appreciating both common interests and individual responsibilities both between and within these stakeholder groups. The previous chapter argued that ageing should be seen as an opportunity; catalysing multistakeholder collaboration requires the additional step of understanding that the opportunity can be grasped only if stakeholders work together to mobilize each others' strengths and appreciate that they each have a clear responsibility to make it happen.

Building on the idea of collaboration and the learning that emerged from the scenario process, the strategic options outlined in the following chapter share the goal of achieving financial sustainability while increasing access to and the quality of pensions and healthcare provision. Each strategic option lists examples of key barriers and potential actions for stakeholders, encompassing both opportunities and responsibilities to further multistakeholder collaboration.

Figure 8 **Towards an appreciation of common interests and responsibilities**

	Interests	Conflicting interests	Overlapping and/or common interests	Responsibilities
Governments	• Ensure adequate healthcare and old-age security for all citizens • Keep public expenditure under control	• Individuals, employers and governments are hesitant to bear financial risks associated with longevity • Older cohorts want to maximize their PAYG benefits, younger cohorts want to minimize their taxes • Imperfect overlap among the most commercially attractive healthcare products and those most in the general public interest • Healthcare providers have an interest in prolonging life, pensions providers prefer limited payout periods • Competition for limited resources	• Nurture populations to be aware of the long-term implications of their current behaviour and decisions, and act accordingly • Flexibility in retirement options • Employment opportunities for everyone who wants to work • Productive and fulfilled labour force • Improved ways of managing the risks associated with longevity • Patients who are satisfied with their experiences of healthcare products and services • Cohesive and inclusive societies	• Create incentive structures that encourage long-term thinking • Inform and educate • Regulate to enforce risk-sharing
Financial institutions	• Leverage the commercial opportunities associated with ageing societies			• Provide products that make it easy for people to behave responsibly • Inform and educate
Healthcare providers	• Leverage the commercial opportunities associated with ageing societies			• Collaborate in making the incentive structure in healthcare more conducive to the public good • Inform and educate
Employers	• Reduce long-term liabilities • Reduce costs of employee illness • Be an attractive employer			• Provide opportunities for older workers • Inform and educate
Individuals, families and civil society	• Have sufficient retirement security in old age • Have adequate healthcare coverage			• Take responsibility for saving for old age • Take responsibility for maintaining health with healthy lifestyle

Source: World Economic Forum

Section 3

Strategic Options to Transform Pensions and Healthcare

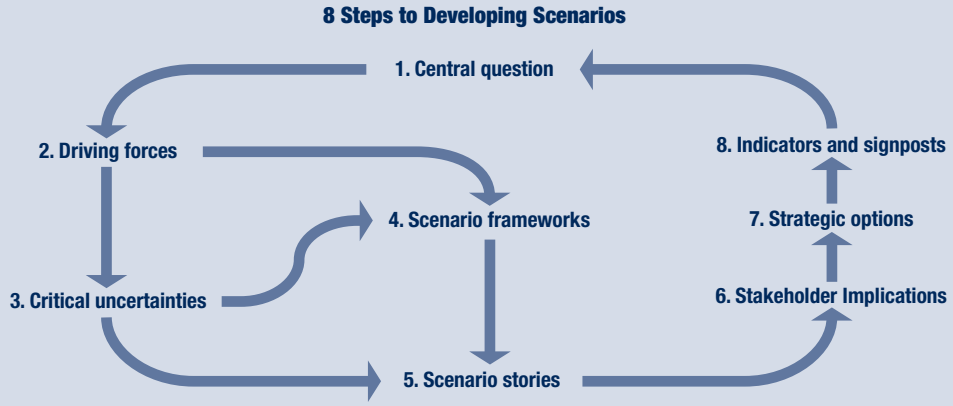
Section 3

Strategic Options to Transform Pensions and Healthcare

From scenarios to strategic options

Scenario thinking is a strategic management tool that can be used in the private, public and non-profit domains. Scenario thinking challenges current assumptions and mental maps to help stakeholders better prepare for possible futures in a disciplined, structured and holistic manner. The World Economic Forum's approach focuses on providing stakeholders with a shared platform to hold strategic conversations, explore and clarify uncertainty, and catalyse insights into robust strategic opportunities to shape the future proactively (Figure 9).

Figure 9 **The World Economic Forum's approach to developing scenarios**

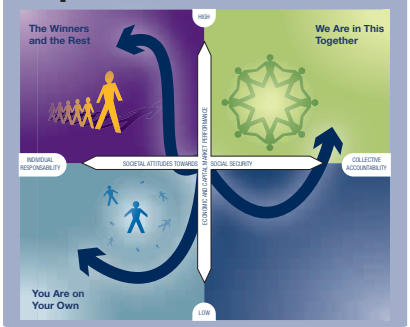


Source: GBN, World Economic Forum (2008)

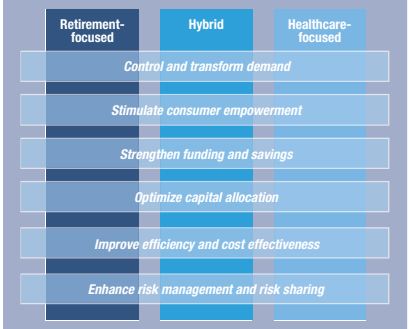
The strategic options outlined in this report suggest ways of improving the access to and financial sustainability and quality of the pension and healthcare systems in a rapidly ageing world. These options have been identified and developed through a three-step, interactive and multistakeholder process based on three challenging scenarios for the pension and healthcare industries to 2030 (summarized in Appendix A and Figure 10, and described fully in *The Future of Pensions and Healthcare in a Rapidly Ageing World: Scenarios to 2030*).

Figure 10 **Key steps to develop and prioritize strategic options**

Step 1



Step 2



Step 3

Decision criteria:

- **EFFECTIVENESS**: Which solutions have the potential to create high impact?
- **INNOVATION**: Which strategic option have been less explored and/or have elements of high innovation?
- **ROBUSTNESS**: Which strategic options will withstand the context of scenarios?
- **MULTISTAKEHOLDER**: Does the realization of options require more the 4 key stakeholders?

Source: World Economic Forum

Generate initial list of strategic options based on scenarios

Based on the scenarios, a longlist of strategic options was generated through extensive interviews and workshops with a broad cross-section of stakeholders.

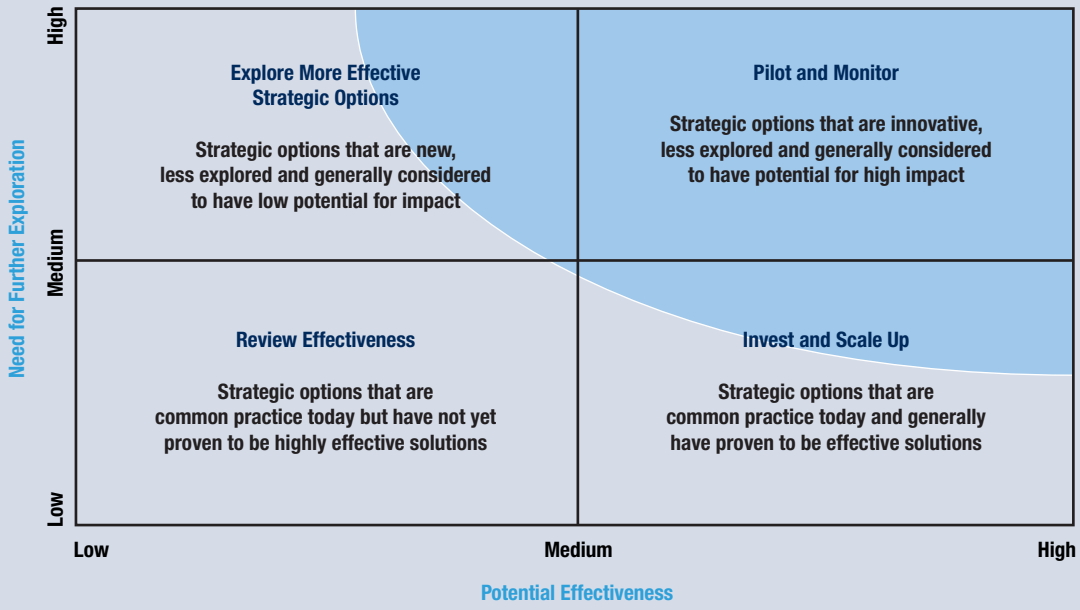
Analyse, expand and refine strategic options based on stategic framework

These strategic options were analysed, expanded and refined based on a framework which addressed six key dimensions across retirement-focused, healthcare-focused and hybrid categories. In total, more than 50 strategic options have been identified based on the scenarios in step 1 and the strategic framework in step 2 (summarized in Appendix B).

Prioritize and create shortlist of strategic options

Short-listed strategic options were prioritized based on the criteria of effectiveness and degree of innovation and/or under-exploration (Figure 11). Eleven options selected and consolidated from the list of 50 were then fine-tuned based on the criteria of robustness and suitability for multistakeholder collaboration. An important consideration was synergies within the set of strategic options: while the 11 strategic options could each stand alone, part of their strength and the path to successful implementation lies in their complementarity.

Figure 11 **Prioritization of strategic options**



Source: World Economic Forum

The rest of this chapter presents a detailed look at the 11 selected strategic options (Figure 12), with practical examples of potential action for each stakeholder. These are intended to stimulate thinking and serve as a starting point for further discussion and collaborative action.

Figure 12 **Categorization of the 11 selected strategic options**

Strategic Dimension	Selected High-impact Strategic Options
Control and transform demand	1. Promote work for older cohorts
	2. Shift delivery of healthcare to a patient-centred system
Stimulate consumer empowerment	3. Promote wellness and enable healthy behaviours
	4. Provide financial education and planning advice
Strengthen funding and savings	5. Encourage higher levels of retirement savings
	6. Facilitate the conversion of property into retirement income
	7. Stimulate micro-insurance and micropensions for the poor
Optimize capital allocation	8. Enhance pension fund performance
Improve efficiency and cost effectiveness	9. Realign incentives of healthcare suppliers
	10. Ensure that cross-border healthcare delivery benefits all stakeholders
Enhance risk management and risk sharing	11. Promote annuities markets and instruments to hedge longevity risk

Source: World Economic Forum

Strategic Option 1: Promote Work for Older Cohorts

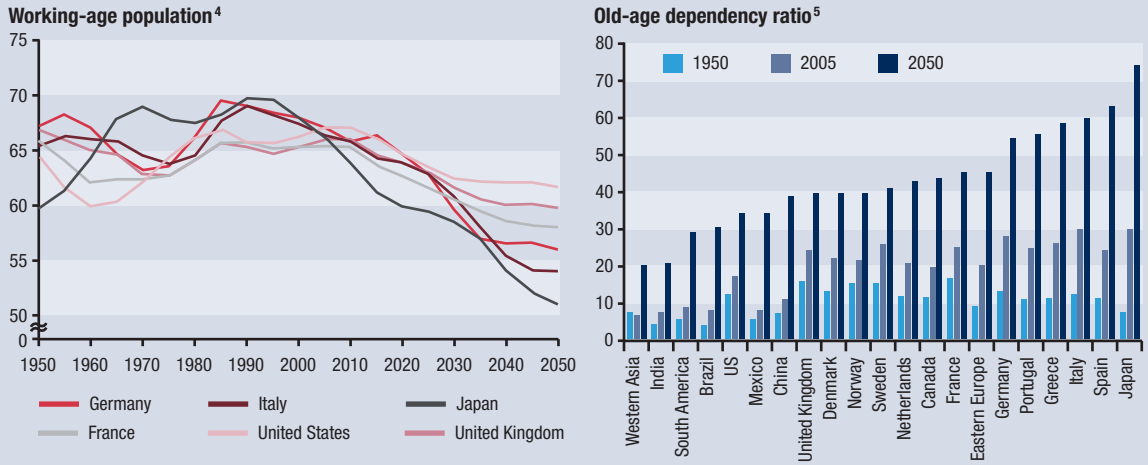
1.1 Definition

Promoting work for older cohorts implies shifting public policy, business practices and personal behaviour towards lifetime employability and active ageing. For many people, productive employment is now possible and desirable well into the 70s; life expectancy has increased by around two decades in the last half century, while retirement ages in many countries have changed too little. Coordinated action on many fronts is required to craft a comprehensive package of age-friendly employment measures and to create work opportunities, both paid and unpaid, that are flexible and of high quality while also ensuring the availability of social support mechanisms for older adults who are forced to withdraw from the workforce due to ill health.

1.2 Importance of this strategic option and current status

As a consequence of declining fertility rates, the working-age populations in some countries are already shrinking, and many other countries will soon join the trend (Figure 13). For example, Japan is projected to have a 17% drop in the working-age population from 2005 to 2030, followed by a further 19% drop by 2050. The global old age dependency ratio (the number of people aged 65 years or over as a percentage of the number aged 15 to 64) will more than double, from 11.5% in 2007 to 25.4% in 2050. Maintaining existing pension and healthcare provision models will thus place unprecedented pressures on public funds as more pensioners depend on the wealth produced by a shrinking workforce. As a result, living standards in many countries are likely to decline unless the labour force can be made more productive or expanded.

Figure 13 **Decreasing work-age population and increasing old-age dependency ratio**



Source: UN World Population Prospects (2006 revision)

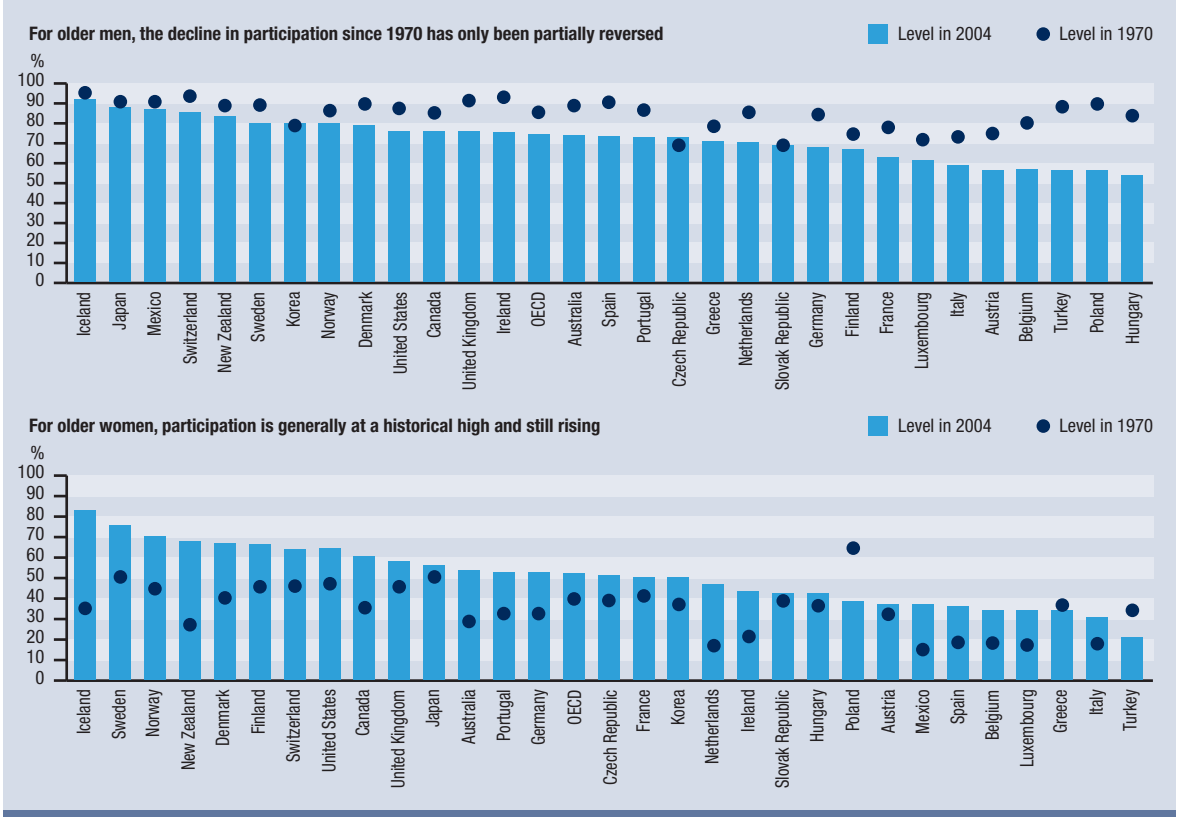
Promoting work for older cohorts can play an important role in increasing the importance of the "silver economy". Economic activity among seniors reduces financial pressure on retirement benefits and promotes economic growth, while the physical and social activities associated with employment help maintain physical and mental wellbeing and thus reduce pressure on healthcare benefits.

While there has been a large increase in the labour force participation of older women in virtually all OECD countries since 1970, participation rates for older men have fallen substantially in stark contrast (Figure 14). Reversing this trend will require tackling numerous disincentives and barriers – both employment-related and social – which lead people in many countries to exit the labour market early, or hinder their re-entry into the labour force if they are made redundant at a later stage in their careers. These range from the structure of tax and benefit systems and the use of early retirement to stimulate employment among the young to a culture of ageism that undervalues the potential contribution of older workers.

4 Aged 15-64 as a percentage of the total population
5 Number of people aged 65 and over per 100 persons of working age

With the highest percentage of older cohorts in the world and the highest labour force participation rate among workers age 50 or over of all high-income countries, Japan has arguably made the most significant progress of any country to date in pioneering initiatives to shape the silver economy.

Figure 14 **Participation rate trends differ for older men and older women (older age group 50-64)**



Source: OECD, Ageing and Employment Policies: Live Longer, Work Longer (2006)

1.3 Key barriers to successful implementation

In many countries there are financial disincentives for employers to hire or retain older workers.

- At times, older workers cost more in salary payments to employ than younger workers.
- Notwithstanding age discrimination regulations, other employment costs may increase with age, for example the cost of pension provision. Risks and costs may also increase in life, disability and medical policies.
- Employment protection rules in some countries (e.g. Belgium, Finland, Japan, South Korea and Norway) make it more costly to hire and retain older workers, for example by requiring longer notice periods or higher severance pay.

In many countries there are financial incentives for workers to retire early.

- Some policy-makers regard early retirement as a solution to youth unemployment. Measures such as pre-retirement in Denmark and Germany, the "Brugpensioen" in Belgium and the Job Release Scheme in the United Kingdom have actively encouraged early labour force exit.
- In some countries such as Ireland, workers are required to stop working at age 65 to receive their pension. In others, such as France, retirement can be taken as early as 60.

There is often a lack of suitable and fulfilling job opportunities for older workers.

- Legislation on benefits and working hours in some countries means that employers are unable to offer more flexible work.
- Some employers are reluctant to offer flexible work arrangements, such as part-time work, to existing employees.
- Jobs that are physically demanding or have inflexible schedules are less suitable for older workers.

Ageism is a serious problem, along with a failure to appreciate the business case for employing older workers.

- In many countries, there is a culture of valuing youth over experience and underestimating the capacities of older workers to show flexibility and learn new skills.
- Despite success stories of companies that have benefited from adapting to the needs of older employees, many businesses perceive that there is no attractive business case for employing older workers, especially when they would need to be trained in the use of new technologies.

There is an increasing rate of chronic disease at an earlier age.

- Workers who begin to suffer from chronic diseases at an earlier age are more likely to be unable to work in older age, or to incur costs through absence and healthcare that outweigh their productivity.

1.4 The roles of key stakeholders in driving this strategic option

Stakeholders	Potential Actions	Examples of Innovation
Governments	• Use public policy to drive the shift towards the silver economy by removing barriers and disincentives for older people who want to continue working • Remove incentives for early retirement, for example by banning compulsory retirement and age discrimination • Promote gradual retirement schemes such as phased retirement, pre-retirement leave and pre-retirement preparation programmes, allowing flexibility for post-retirement workers to take some retirement benefits • Establish decent work conditions and encourage high-quality roles for older workers • Implement awareness-raising campaigns to tackle ageism and misperceptions among employers of the capacities of older workers • Support older workers, employers and labour market intermediaries such as community groups by providing subsidies, advice, training, retraining and placement programmes for older workers	• Rather than increase the official retirement age, Singapore's government is legislating to require employers to offer re-employment to workers for another three years until 65, though not necessarily in the same job or at the same pay. • Singapore People for Jobs Traineeship Programme subsidizes employers who hire workers aged 40 or older by covering 50% of their salaries for the first six months, up to a maximum of US$ 2,000 a month. • Japan's network of Silver Human Resource Centers help individuals aged 60 or over to find temporary, contract or part-time work opportunities. • Subsidizing part-time employment of older workers in Germany increased workforce participation among the 55-64 cohorts from 37.5% in 2000 to 45.4% in 2005. • Denmark's state-funded "Seniors Help Seniors" programme facilitates volunteer work opportunities. • The United Kingdom's "New Deal 50+" programme offers £ 1,500 training grants and wage supplements of £ 40-60 per week. • The Pension Protection Act in the US lifts a previous ban on companies with defined-benefit plans paying benefits before an employee has terminated employment or reached the normal retirement age, thereby making gradual retirement an easier option.
Financial institutions	• Offer financial products that enable gradual, partial withdrawal of retirement benefits during phased retirement	• Lincoln Financial Group and Hartford Financial Services are among US companies targeting baby boomer retirees with options including income withdrawal guarantees, spousal withdrawal benefits and "laddering" (purchasing retirement income every year instead of all at once).

Note: The references to companies, organizations and countries have been extracted from reports cited in the Key Reference section on pages 70 and 71, and/or explicit consent has been given.

Stakeholders	Potential Actions	Examples of Innovation
Healthcare providers	• Train workforce to expect that older adults will continue in employment and that health services need to facilitate this • Advise on age-friendly workplaces, ergonomics and job design for older cohorts • Integrate geriatrics into formal medical training curricula so that doctors and nurses are able to better care for older workers • Provide services and products that enable older cohorts to remain active and healthy	• Japan's healthcare providers implement health screening to help individuals aged 55-74 remain active and healthy, categorizing them according to risk factors and providing counselling and care, such as health coaching and exercise trainers.
Employers	• Redirect recruiting and sourcing efforts to include older workers • Retain employees through developing alternative flexible work arrangements such as reduced hours, phased retirement, occupational shifts and telecommuting • Preserve critical knowledge through succession planning • Undertake demographic audits to inform labour force planning • Provide "lifelong learning" opportunities for workers to continually update their skills, including use of technology • Facilitate the coexistence of multiple generations in the workforce through exchanges such as mentoring or teaching	• The retailer ASDA in the United Kingdom provides older workers with such benefits as "Benidorm leave" (three months unpaid leave between January and March) and "Grandparent leave" (a week unpaid leave after the birth of a grandchild). • YourEncore.com works with companies to identify and fill part-time opportunities for retired research scientists, engineers and product developers who want to work on a project-by-project basis. • Westpac, an Australian financial services provider, trained 900 recruits aged 55 and over to address concerns of some older customers that younger staff were too inexperienced to appreciate their financial concerns. • The hardware retailer B&Q in the United Kingdom has two stores staffed entirely by persons over 50. Their profits are higher and they score higher for customer appreciation of the staff's knowledgeability. • Managed by Ireland's Chambers of Commerce, ARROW (Assisting the Recruitment and Retention of Older Workers) subsidizes training of older workers in, for example, IT, customer service skills, communication skills, and occupational health and safety. • Singapore Health Services (SingHealth) offers a "Silver Connection Consultant" who provides guidance on career transitions and management of older employees, including automation to alleviate physical demands and make work more suitable for older employees. • Finnish companies have access to a tool developed by the Finnish Institute for Occupational Medicine, Ilmarinen, for keeping the working population as fit as possible – the "Work Ability Index". • US-based Group Health is offering nurses who are five years from retirement opportunities to mentor and teach, as well as do part-time work after retirement.

Stakeholders	Potential Actions	Examples of Innovation
Individuals, families and civil society	• Plan multiple careers, including after official retirement age • Be flexible about employment opportunities in old age, including willingness to learn new skills, retrain or consider lower-paying or part-time work • Seek ways for non-profit organizations to complement government programmes for education and employment for older cohorts • Honour individuals who actively contribute to workplaces and communities during older age	• The Singapore Action Group of Elders is a non-profit organization that works with the government to provide services such as counselling, employment, recreational activities and education. • With 35 million members and both state and private funding, the American Association for Retired Persons administers educational, employment and community service programmes for individuals over 50. • In the US, the "Experience Works Prime Time Awards Programme" challenges stereotypes by honouring people over age 65 for contributions to their workplaces and communities.

Strategic Option 2: Shift Delivery of Healthcare to a Patient-centred System

2.1 Definition

A patient-centred system fundamentally reorients healthcare from a reactive, curative and disease-focused approach to a preventive, life course and health-focused approach. Shifting delivery of healthcare to a patient-centred system helps reduce the financial pressures of an ageing society on healthcare systems by encouraging individuals to take ownership of their health across their life course, thereby reducing the incidence of preventable chronic diseases and leading to better health in old age. There are close complementarities among this strategic option, Strategic Option 3 on promoting wellness and Strategic Option 9 on realigning incentives of healthcare suppliers.

Figure 15 summarizes the fundamental shifts involved in moving from a payer/provider-centred system to a patient-centred system. Key characteristics include:

- more integrated care, through the use of secure electronic medical records that can be accessed only with an individual patient's authorization, and a "team medicine" philosophy that promotes interaction and joined-up thinking among all in the care delivery team, including physicians;
- more personalized care, through responsiveness to individual preferences and the increasing use of gene scan technology to customize treatments;
- more interest in preventing disease, through biomonitoring and proactively assessing risks;
- systems that reward healthcare providers for the overall health outcomes of a population, controlled for its profile and risk factors rather than for the cases they see or the treatments they prescribe.

A patient-centred system encourages patients to be informed and active partners in managing their own health, as opposed to passive consumers of healthcare services. It starts with a close, direct and continuous relationship between an individual and a designated contact person, whose role is to get to know each individual's circumstances, mentor them to manage their health so that they are less likely to need medical interventions, and help them make informed choices among specialist care options when care becomes necessary. Such contact persons can be highly trained, such as nurse practitioners, or "health coaches" who have basic training and a sufficient level of generalist healthcare knowledge to help patients elicit information from providers and make more informed choices. In either case, the contact persons should be easily accessible to patients, whether virtually or by being conveniently based in local neighbourhoods.

Figure 15 **From payer/provider-centred healthcare to patient-centred healthcare**

Payer/provider-centred healthcare	Patient-centred healthcare
System designed for disease	System designed for health
Patients are passive consumers of care services	Patients are active partners in managing own health
Reactive – aim for cures when symptoms occur	Proactive – aim for prevention and early detection
Providers held responsible for advising patients	Providers held responsible for health of population
Culture of avoiding mistakes	Culture of striving for improvement
Fragmented care – physicians work as individual experts	Integrated care – physicians work as part of cooperative teams
Decisions by clinical autonomy	Data-driven decisions
Episodic testing	Clinically impactful biomonitoring
Focus on current medical problem	Focus on all risks and needs
Short visits with little information	Continuous personal relationship with coaching
One size fits all	Customized personal approach
Costs out of control	Affordable, value-based care

Source: World Economic Forum, adapted from Institute for Alternative Futures, *2019 Healthcare That Works for All* (2009), and the World Health Organization, *The World Health Report (2008)*

2.2 Importance of this strategic option and current status

Shifting healthcare delivery from a payer/provider-centred system to a patient-centred system will require a fundamental transformation of both mindsets and behaviour from many stakeholders. At an organizational level, there must be more leadership development and training in quality improvement, changes in internal rewards and incentives, and the development of more practical tools derived from an expanded evidence base. At a systemic level, further use of initiatives such as public education and engagement, accreditation, certification and transparent reporting of standardized patient-centred measures can pave the way for reforms of incentive structures to reward organizations for health outcomes (see Strategic Option 9 on realigning incentives of healthcare suppliers).

Many healthcare systems currently incorporate some elements of a patient-centred approach – a study of US primary care practices by the Commonwealth Fund in 2003 found that nearly all incorporate some attributes of patient-centred care, and about one-fifth incorporate most. But although patient-centred approaches exist in pockets, no large-scale healthcare system has embraced all elements of the patient-centred approach, as it requires a far-reaching reorientation of healthcare systems which are currently largely determined by the needs of providers or payers, such as insurers and governments, rather than those of patients.

A patient-centred healthcare system has the potential to deliver better health outcomes at lower cost. One reason is that the use of health coaches can improve efficiency by allowing better use of specialization. Health coaches can relieve highly-trained experts of the responsibility to reassure and guide patients, and by coordinating those experts they help reduce the costs of duplicated or contradictory treatments for patients with multiple conditions – for example, specialist treatment of an elderly patient's heart condition which does not take into account her status as a diabetic.

Furthermore, a patient-centred system has the potential to overcome some of the perverse incentives that lead to waste, such as "fee-for-service" mechanisms which reward providers for inputs rather than health outcomes (see Strategic Option 9). If patients are more informed about their conditions and treatment options, and if they have the opportunity and the financial incentive to choose between providers based on transparent information about their relative costs and success in achieving defined health outcomes, then there is less likely to be over-diagnosis and over-prescription.

A growing number of studies demonstrate that patient-centred care offers better returns on investment.[6] There is evidence that patient-centred hospital inpatient units are associated with both lower costs per case and higher patient satisfaction; that patients who report feeling involved in decisions about their treatment plans make better recoveries and fewer rebound visits; and that levels of malpractice litigation are related to the extent to which patients feel informed and involved.

2.3 Key barriers to successful implementation

There are upfront costs in shifting to a patient-centred system, while the benefits may take time to emerge.

- Publicly funded healthcare systems in particular may struggle to find or justify the upfront investment needed for new forms of training, technology and monitoring and evaluation techniques. For example, in the US, organizations cannot currently bill Medicare for consulting multiple providers at one patient encounter, reducing the feasibility of the interdisciplinary team model.
- Although it should eventually reduce time demands on physicians by reducing the frequency of the interventions patients need, a patient-centred approach may initially be difficult to manage within typical current timeframes of around 7-8 minutes per consultation.

6 See, for example, Stone, S., *A Retrospective Evaluation of the Planetree Patient-Centered Model of Care Program's Impact on Inpatient Quality Outcomes*, Hahn School of Nursing and Health Science, University of San Diego, 2007.

Attitudes among both patients and physicians may be difficult to change.

- Physicians who are used to being autonomous, independent decision-makers may find it difficult to adapt to becoming part of a team decision-making process or to working in partnership with patients.
- Some early and incomplete attempts to implement patient-centred methodologies were perceived to have been unsuccessful, leading to scepticism among some physicians and other stakeholders in the healthcare industry whose business models are fundamentally challenged by the changes involved.
- While some patients respond positively to the invitation to learn more about their health and participate in decisions about treatment options, others find it unnerving. Older patients may feel more comfortable in the traditional role of placing absolute trust in their physician to know what is best.
- Many patients perceive better healthcare to be synonymous with more prescription drugs, diagnostics and interventions. A patient-centred system must strive to educate patients who are inclined to demand ineffective treatments on the basis of anecdotal evidence from relatives or friends.

Entrenched features of established systems will be difficult to overhaul.

- Fragmentation of specialist care is deeply ingrained in many systems. In surveys in multiple countries from Austria to Zimbabwe, a high number of patients report poor care coordination for chronic conditions, consulting different providers for related conditions or even for the same conditions.
- Most medical education and training do not currently emphasize coordinating care from multiple sources, systems thinking and prevention. Nor do most systems specifically train contact persons with generalist knowledge to guide patients and coordinate teams of specialists.
- Asymmetry of information between patients and healthcare providers underlies why many healthcare systems respond more to the interests of payers or providers than patients. Greater transparency, giving more power to patients, threatens to undermine existing business models and engender resistance.

2.4 The roles of key stakeholders in driving this strategic option

Stakeholders	Potential Actions	Examples of Innovation
Governments	• Reform metrics, systems, incentive structures and curricula to promote and reward patient-centred care, prevention rather than cure and "team medicine" • Promote electronic patient records with privacy safeguards that can be securely shared among professionals • Improve transparency by collating and publishing information on the prices and quality of healthcare options • Train more health coaches, possibly including retraining retirees (see Strategic Option 1 on promoting work for older cohorts) • Encourage innovation, entrepreneurialism and openness to new methods, including a culture of being able to admit mistakes • Involve patient groups and families in setting priorities	• Although 80% of hospital care in Singapore is delivered by publicly-owned hospitals, patients contribute towards the cost of their care and can choose different options for procedures and ward accommodation. • The new contract in the United Kingdom for general practitioners offers bonuses of up to 30% of their income for providing certain aspects of patient-centred care. The system rewards physicians not only for improving clinical performance, but also for conducting patient surveys and acting on feedback to improve care. • New York's Opportunity NYC programme offers lower-income groups cash incentives for participating in preventive healthcare – for example, families can earn from US$ 100 to US$ 200 per family member for preventive health screenings, and US$ 100 per member for preventive dental care.

Note: The references to companies, organizations and countries have been extracted from reports cited in the Key Reference section on pages 70 and 71, and/or explicit consent has been given.

Stakeholders	Potential Actions	Examples of Innovation
Financial institutions	• Offer consumers a choice of healthcare insurance products with transparent information on price and quality • Shift the focus on insurance to efforts to reduce claims for catastrophic care through encouraging preventive care and early detection • Investigate "Web 2.0" tools of facilitating consumer feedback and recommendation to find better ways of offering insurance products customized to personal needs	• HealthAllies, a division of UnitedHealth Group, offers a wide variety of health insurance products transparently differentiated by price and quality of coverage, some costing as little as US$ 300 per year. • BlueCross BlueShield of South Carolina is embarking on innovations including healthcare reimbursement accounts and savings accounts, wellness incentives to motivate behaviour change; and electronic health records and real time information for patients, providers and pharmacies. • PatientsLikeMe.com is a disease-specific networking site for patients that could provide a model for insurers to use consumer feedback and recommendation to improve their ability to offer more personalized products.
Healthcare providers	• Financially reward value and overall health outcomes through payments based on care coordination and benchmarking against expected costs of treatment of other patients with comparable conditions and profiles (see also Strategic Option 9) • Monitor patient experience, clinical outcomes and effectiveness of care coordination • Implement the "medical home" model, which emphasizes an ongoing relationship between the patient and a first point of contact who coordinates specialist care • Train nurse practitioners and health coaches to offload general patient-guiding responsibilities from expensive experts • Personalize treatment through gene scanning to improve effectiveness	• After a medical centre in Alaska with 45,000 patients established a direct relationship between patients and a specific staff member, emergency room visits reduced by half and referrals to specialists by 30%, while waiting times shortened significantly. With fewer rebound visits, workload decreased and job satisfaction improved. • Primary care physicians in Denmark are responsible for about 1,500 patients and offer such patient-centred features as walk-in appointments, an electronic prescribing system connected to local pharmacies, and an out-of-hours phone service staffed by physicians with access to patients' electronic health records. • There is great potential for more drugs to be tailored more effectively to individuals through gene scanning; for example, 40% of asthmatics respond differently to the same medicines.
Employers	• Assist employees in using healthcare services more effectively, for example by employing health coaches or creating secure electronic records	• Wal-Mart and Intel are among a consortium of companies collaborating on an electronic system to store employees' healthcare records in an effort to cut costs by managing treatments more efficiently. • Many employers see the value in promoting knowledge among employees that reduces healthcare costs by enabling better prevention (see also Strategic Option 3 on promoting wellness).
Individuals, families and civil society	• Civil society organizations can investigate and promote patient-centred care • Individuals can embrace opportunities to become more informed and involved in taking responsibility for managing their own health • Individuals can help to reward good practice by considering survey data on other patients' experiences when choosing their care provider	• The US-based Robert Wood Johnson Foundation has been using grant making since 2001 to encourage innovative patient-centred approaches – for example, in St. Joseph's Hospital in Washington State, "shared care plans" are jointly drafted by patients and physicians and include self-management and treatment goals. • Hospital Consumer Assessment of Healthcare Providers and Systems publishes comparative surveys of patients' experiences of hospitals, such as information on how communicative the nurses and physicians were, how well their pain was controlled, cleanliness and noise levels.

Strategic Option 3: Promote Wellness and Enable Healthy Behaviours

3.1 Definition

Health promotion is the process of enabling people to take control of their health. As many of the health problems people experience in old age are at least partially a consequence of earlier behaviours, health promotion should occur not just in old age but throughout the course of life. Promoting health and preventing disease is just as important as (and probably cheaper than) providing age-appropriate healthcare to ensure that people remain independent and productive as they age. This requires more than just making people aware of the factors and behaviours that may have positive or negative health consequences – healthy behaviours must be enabled. For example, informing someone that smoking causes detrimental health issues is likely to have only limited impact on the person's decision whether to continue smoking. A wide range of other influences such as social norms, exposure to advertising, cost and access to tobacco products are also important factors.

Five key approaches for promoting health have been identified, all taking place at the local and societal level (Figure 16). The basic strategies used include advocacy, legislation and regulation, investment, building alliances and building capacity.

Figure 16 Five Domains of Health Promotion Action

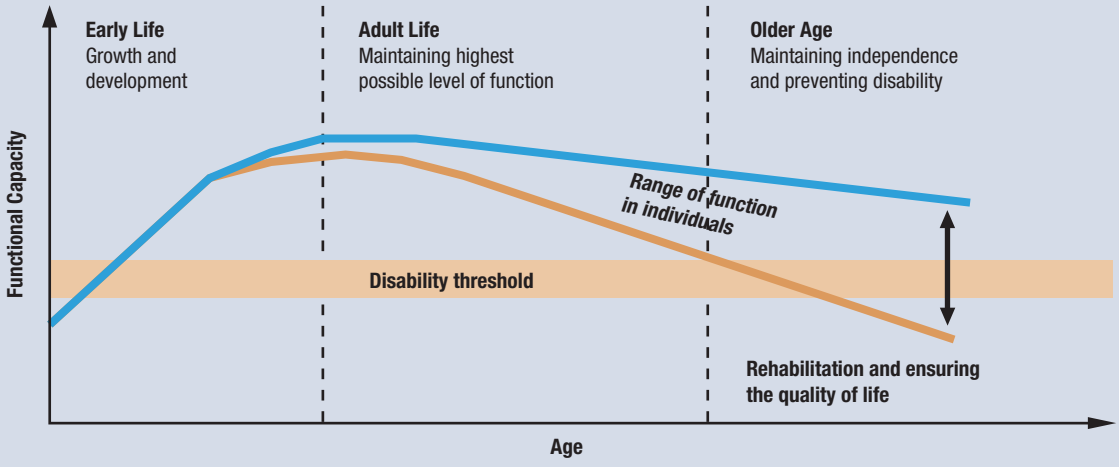
1) Addressing determinants of health through public policy
2) Creating physical and social environments that are conducive to health
3) Increasing the ability of communities to address their own health concerns
4) Building the knowledge and skills of individuals
5) Reorienting health systems towards prevention (see Strategic Option 2)

Source: WHO analysis (2009)

3.2 Importance of this strategic option and current status

The goal of health promoton is not simply to prolong life, but to prolong healthy life. As shown in Figure 17, functional capacity falls gradually throughout a person's life. Ideally, this reduction will not cause problems until in very old age, when it may ultimately lead to an individual losing independence. However, earlier in life, individuals make choices on health-related behaviours (such as smoking, diet and physical activity) that can cause this deterioration to accelerate. The implications are great, not only for the quality of life but also for economic productivity and the financial sustainability of healthcare systems. For example, the resultant chronic diseases – which are largely preventable – account for fully three-quarters of medical costs in the US, and their indirect costs in terms of worker absenteeism and reduced productivity are estimated to be almost four times as great.

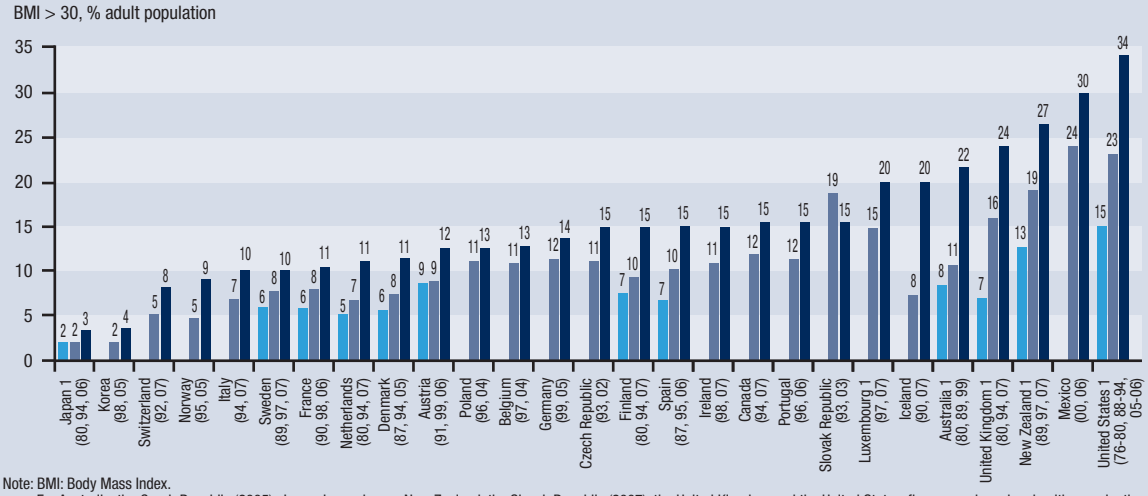
Figure 17 Maintaining functional capacity over the course of life



Source: WHO (1997)

A growing problem in many countries as shown in Figure 18, obesity is an example of a condition which has significant impact on healthy lifespan. While it is estimated that obesity itself has a limited impact on life expectancy, it increases the risk of certain chronic diseases that can dramatically increase both mortality and morbidity for the remaining years. These consequences not only impact the individual, but also increase health system costs and reduce the period the individual can remain productive and independent. Health promotion strategies that encourage a healthy diet and increased physical activity may be a cost-effective means to avoid these consequences. These strategies should take place throughout the course of life, but particularly in older age when, for example, physical activity appears to have many tangible benefits.

Figure 18 **Increasing obesity rates among the adult populations in OECD countries**

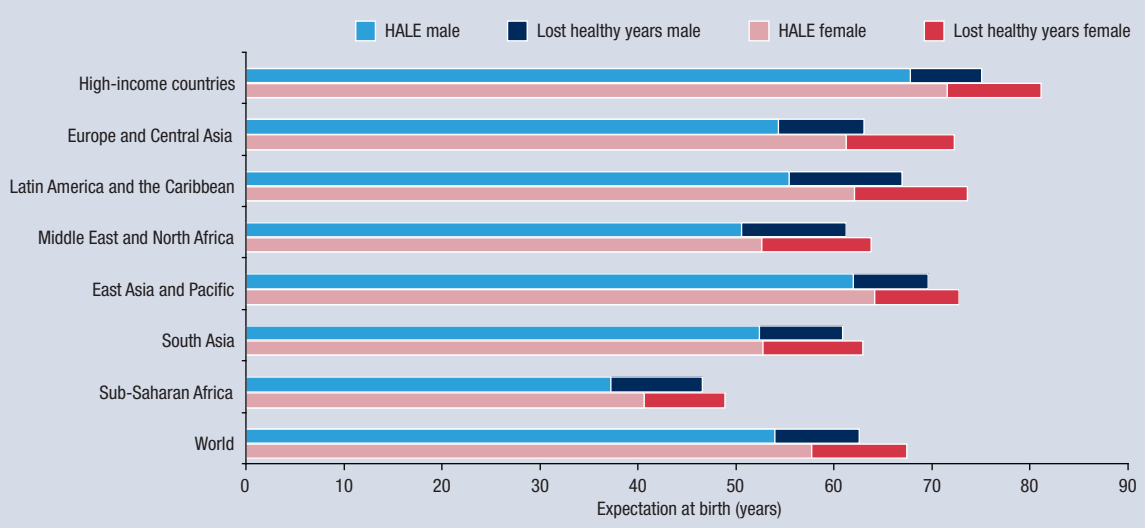


Note: BMI: Body Mass Index.
For Australia, the Czech Republic (2005), Japan, Luxembourg, New Zealand, the Slovak Republic (2007), the United Kingdom and the United States, figures are based on health examination surveys, rather than health interview surveys.

Source: OECD Health Data (2009)

Figure 19 illustrates the difference between life expectancy and health-adjusted life expectancy, or HALE, which indicates the number of years an individual can expect to remain in good health. Promoting health literacy and enabling behaviour change are intended to reduce morbidity, prolong good health and reduce the number of years lost to disease and disability.

Figure 19 **Life expectancy, health-adjusted life expectancy (HALE) and healthy years lost, by region and sex**



Source: WHO, Global Burden of Disease and Risk Factors (2006 based on 2001 indicators)

3.3 Key barriers to successful implementation

Healthy lifestyles can be expensive.

- Health education programmes which do not account for affordability and other social and environmental factors can fail to reach vulnerable low-income groups or even provoke a backlash.
- The United Kingdom's celebrity chef Jamie Oliver's campaign to promote healthier eating among low-income groups was criticized by some for failing to acknowledge the cost of healthy, quality food.

Health promotion programmes require action from an extremely wide, diverse and complex range of stakeholders if they are to significantly bring about behaviour change.

- A health promotion campaign focused on awareness of alcohol-related diseases can be made more or less effective by the application of taxes, the actions of drinks manufacturers, retailers and entertainment venues, and social norms portrayed in the media and advertising.
- A health promotion campaign to discourage sedentary lifestyles will be affected by such factors as the layout of roads, the attitudes of other road users towards cyclists and pedestrians, the local availability of safe and attractive walking routes, whether the location of shops makes it easier to walk or drive to them, and so on.

The cumulative effect of health education messages on the public can be confusing, misleading and even harmful.

- The media tends to over-sensationalize isolated scientific studies which tentatively suggest links between certain foods and health risks or benefits, and which often contradict other studies.
- Without adequate regulation of advertising, companies may advertise, for example, products as being fortified with calcium and iron without simultaneously drawing attention to high sugar content.

3.4 The roles of key stakeholders in driving this strategic option

Stakeholders	Potential Actions	Examples of Innovation
Governments	• Develop effective overarching strategies to promote health and prevent priority diseases throughout the course of life • Use policy measures such as regulation and taxation to facilitate healthy behaviours • Ensure that health education and literacy campaigns are clear and consistent, and that accurate and authoritative advice is readily available for those who want further information • Ensure that the importance of health promotion and disease prevention is appreciated throughout government and considered in decisions on, for example, city planning, transportation, school curricula and adult education • Work with other stakeholders who have an interest in promoting wellness among certain target groups, such as employers and community-based organizations working with seniors	• The WHO's Age-Friendly Cities initiative describes how planners should take the reduced mobility of older people into consideration when designing cities, as conventionally-designed cities are challenging for this age group. • Australia's "Stay on Your Feet" initiative to prevent falls in older people has been demonstrated to change behaviour and reduce hospital admissions in a cost-effective, population-based programme. • Brazil's comprehensive anti-tobacco strategy includes such innovative measures as educating young school children to pressure their parents to give up smoking. • Japan's Basic Law on Food Education in 2005 popularized the notion of "shokuiku", the knowledge and ability to choose a diet conducive to long-term wellness. For example, school children are taught how to grow vegetables, understand the food chain, eat a balanced diet and appreciate a healthy lifestyle. • Sweden and Quebec were among the first to restrict advertising of unhealthy foods during children's television programming. • The United Kingdom offers a tax incentive for purchasing bicycles for commuting. • Germany's "Fit for 100" project is a 45-60 minute exercise programme offered twice a week in places such as nursing homes, assisted living facilities and centres for seniors. Evaluators found improved health that led to financial savings of €639 per person per year from participants receiving outpatient rather than inpatient care.

Note: The references to companies, organizations and countries have been extracted from reports cited in the Key Reference section on pages 70 and 71, and/or explicit consent has been given.

Stakeholders	Potential Actions	Examples of Innovation
Financial institutions	• Promote health by incentivizing healthy behaviour and disincentivizing unnecessary treatments through preauthorization and managed care approaches	• Discovery in South Africa partners with fitness centres and supermarkets that have loyalty schemes which track an individual's purchases, and hence can offer the incentive of lower premiums to customers who can prove they are taking steps to remain in good health.
Healthcare providers	• Develop and implement patient-focused strategies to promote health and prevent diseases that are consistent, sustainable and appropriate for each individual's life stage and generation	• In Japan, there is an initiative for "public health nurses" to be specifically trained to work with individuals to improve their lifestyle habits, taking the burden of this responsibility away from doctors, nurses and nurse practitioners. • Popular in Japan, the "Lifewatcher" is a mobile device which helps users keep track of their behaviour, such as eating habits, and alerts them when they should change their behaviour.
Employers	• Ensure that working practices and environments are conducive to long-term health • Explore the feasibility of on-site or near-site health facilities to control the cost of routine and urgent care • Implement programmes to help employees with specific chronic diseases to manage them more effectively • Provide practical incentives for employees to engage in physical activity • Subsidize the healthiest eating options in workplace canteens and vending machines	• Some companies encourage employees to cycle to work by providing facilities such as secure cycle storage and facilities to shower. • GlaxoSmithKline and Royal Bank of Scotland are among companies in the United Kingdom which offer health club facilities integrated into their office space.
Individuals, families and civil society	• Seek out reliable information on maintaining health and take advantage of opportunities for good lifestyle decisions • Civil society organizations and volunteers can work with government initiatives on promoting healthy behaviour	• The United Kingdom's Walking the Way to Health Initiative involves volunteers working with local governments to offer guided local walks to elderly or sedentary people. A randomized trial indicated significant health improvements among people who took advantage of this opportunity.

Strategic Option 4: Provide Financial Education and Planning Advice

4.1 Definition

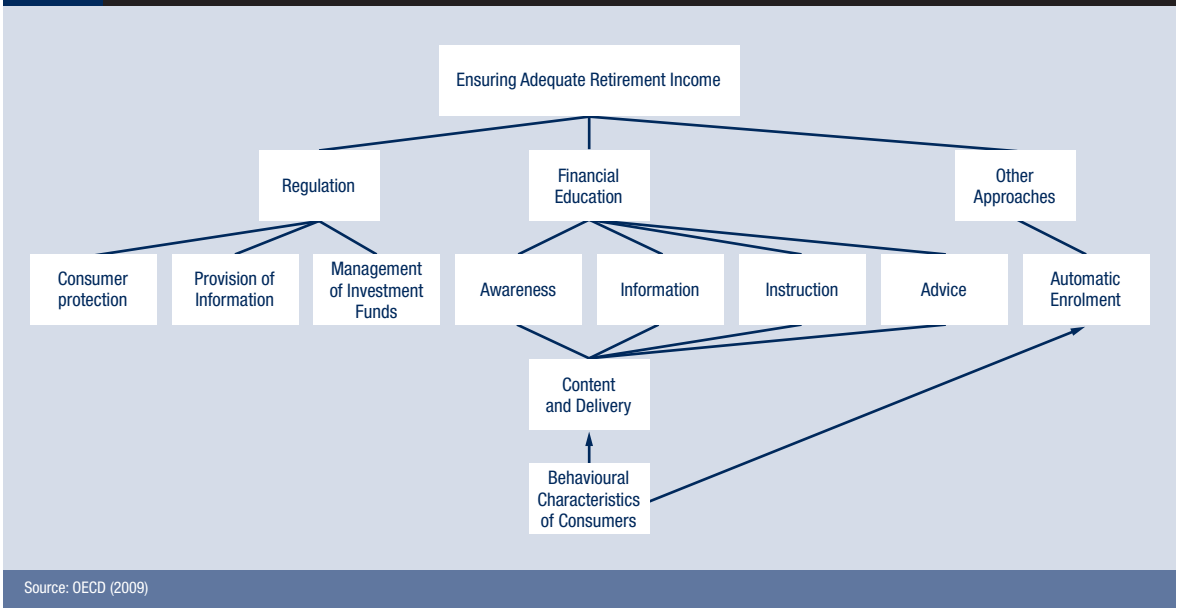
In the area of retirement, financial education is the process by which individuals improve their understanding of private pensions and retirement saving products and concepts. This enables them to become more aware of risks and opportunities, develop the skills and confidence they need to make informed choices, know where to go for help, and take effective action to ensure an adequate retirement income. Financial education may be obtained through self-study or through educational initiatives by the public and private sectors, and as with the previous strategic option, must be accompanied by practical measures to make it easy for individuals to change their behaviour. Planning advice consists of recommendations to specific individuals about their financial planning – for example, their level of contributions and asset allocation.

4.2 Importance of this strategic option and current status

Individuals generally lack the awareness, economic literacy and planning skills to adequately assess their needs for financial and social protection and choose the appropriate insurance and pension services and products (Topic Box 3, p. 33). Raising awareness and educating individuals on insurance and pensions issues are critical and challenging priorities for most countries. They are critical because individuals are increasingly expected to take responsibility for management of risks and determining their level of coverage, and must bear the consequences of wrong or inappropriate decisions. They are challenging because of the complexity and sophistication of insurance and private pension products, providers and markets.

However, policy-makers and pension plan sponsors and providers must also acknowledge that financial education alone may not be sufficient to overcome behavioural biases such as a tendency to procrastinate about retirement savings decisions. Moreover, the complexity of investment decisions is such that complementary regulations on investment choices and default options are critical (Figure 20, see also Strategic Option 5 on encouraging higher levels of retirement savings, and Strategic Option 8 on enhancing pension fund performance).

Figure 20 **Financial education as a part of the system: an example from retirement**



Source: OECD (2009)

4.3 Key barriers to successful implementation

For many individuals, especially younger people, financial planning for retirement seems a complex and far-away concern. Even if they are aware and informed about the need to save more, people tend to remain passive.

- A 2005 study entitled "Australian consumers and money" by the Australian Consumer and Financial Literacy Taskforce found that fewer than two thirds of those surveyed said they were able to understand financial language.
- In a 2006 survey entitled "Une enquête sur les jeunes et l'argent" by the French Institute for Financial Education, 15- to 20-year-olds rated planning for retirement the worst financial challenge they faced. Over half thought they were very badly or quite badly prepared to start planning for retirement later in their lives.
- A 2006 survey entitled "Establishing a Financial Capability in the United Kingdom: Establishing a Baseline" by the Financial Services Authority (FSA) of the United Kingdom reported that of the 81% who did not think their state pension would provide them with their desired retirement standard of living, 37% had not made any additional provision.
- A 2005 benchmark survey on financial literacy in Singapore, the National Financial Literacy Survey, found that many Singaporeans do not have a clear idea how much they will need for their retirement and are not well-versed on common financial products such as life insurance policies and unit trusts.

Individuals tend to underestimate the level of savings needed to provide future pension income.

- A 2006 survey by Barclays showed that the average worker in the United Kingdom expects to retire on a level of benefits around three times higher than the savings they are currently accumulating would actually deliver.

Seeking planning advice from independent, professional agents can be very costly, especially for middle- and low-income earners.

- A standard fee in the United Kingdom for a financial adviser is 3-5% for the first 100,000 pounds, or 3,000-5,000 pounds.

Even educated individuals can overestimate their ability to make wise and rational decisions.

- In Australia's 2005 survey on financial literacy, 67% said they understood the concept of compound interest, but only 28% could correctly answer a simple problem using this concept.
- In the FSA's 2006 survey, those under age 30 were found to be particularly prone to choosing financial products poorly, even when they were experienced buyers.

Employers may face risk of litigation from plan participants for "poor advice".

- US pension plan sponsors can provide basic financial education to plan members and inform them about the impact of different investments choices under so-called "safe harbour" rules, which treat these activities as educational rather than "investment advice". However, some US sponsors may shy away from providing more advanced forms of financial education directly, as they may then be considered by regulators to be providing investment advice and hence subject to fiduciary responsibility rules.

Topic Box 3: 2009 Assessment of Financial Literacy in the United States

A 2009 survey by the US National Foundation for Credit Counseling found that many US adults show surprisingly low levels of financial literacy and that most have had to teach themselves, having not received much financial education at school.

- 41% of US adults gave themselves a grade ranging from C to F on their knowledge of personal finance. Those over age 55 were more likely to give themselves an A, while those ages 18-34 were more likely to give themselves a lower grade.
- Only 42% keep close track of their spending.
- 26% admit they do not pay all their bills on time.
- One-third has no savings.
- One-third does not save for retirement.
- Two-thirds do not know their credit score.
- Only 9% said they received most of their financial literacy education in school.

4.4 The roles of key stakeholders in driving this strategic option

Stakeholders	Potential Actions	Examples of Innovation
Governments	• Introduce pension issues in national strategies for financial education • Develop national awareness campaigns to inform people about pension reforms and the functioning of the pension system • Improve the level and quality of pension disclosure, in particular information on projected benefit levels • Introduce education about pensions in school curricula • Provide resources and support to stakeholders who have comparative advantages in reaching out to specific vulnerable segments of the population • Ensure educational programmes are consistent with the regulatory framework for private pension systems • Establish "safe harbour" rules or other protections to sponsors of pension plans who wish to provide planning advice or hire outside firms to provide it • Establish a national retirement savings guidance service, providing independent, individualized advice for a small fee • Develop financial education programmes on general money management matters	• The Hungarian government's recent communication campaign about the need for pension reform used tools adapted from other sectors, such as breaking consumers down into groups and adjusting the complexity of the message for each. • The latest financial education scheme of the Hong Kong Mandatory Provident Fund Schemes Authority uses cartoon characters to explain different types of investment funds, targets special groups such as self-employed persons, and educates the younger generation through programmes from kindergarten to university. • Governments in many countries (such as Hungary, Italy, Mexico, Poland and Turkey) have responded to the current financial crisis with broad pension awareness campaigns. • Since January 2009, the Italian Ministry of Public Education and the Bank of Italy have been teaching basic notions of banking and household finances to primary, middle and high school children. • Brazil's Ministry of Education is preparing a project to include financial literacy in the school curriculum, aiming to reach 58 million children with education about savings and investments, banking services and the cost of credit. • The Financial Supervisory Authority (FSA) of the United Kingdom launched a national strategy in 2006 to equip people to manage their money more confidently, including printed guides and a website, Moneymadeclear.fsa.gov.uk. The FSA is working with many different organizations, for example distributing a "Parent's Guide to Money" through midwives.
Financial institutions	• Partner with other financial institutions to provide free, independent educational programmes to individuals • Acknowledge the potential business opportunities of better-educated consumers, while ensuring the objectivity of any free advice or education offered	• A working group of German insurance companies is providing school lessons and Web-based information (www.safety1st.de) on pension and social insurance to pupils. • Citibank has developed a global programme on financial education that includes modules on retirement planning. The initiative has been extended to low- and medium-income countries. • Goldman Sachs has developed the 10,000 Women Initiative, which is designed to educate female entrepreneurs and nurture them to become future clients. • Prudential plc* has worked with Citizens Advice, a non-profit group in the United Kingdom, over the last seven years to build their "Financial Skills for Life Programme". In a further initiative, more than 18,000 women have participated in Prudential's "Investing in Your Future" financial literacy seminars, which aim to enhance the financial literacy of women in Asia.

* Prudential plc is a company incorporated in the United Kingdom and is not affiliated in any manner with Prudential Financial, Inc, a company whose principal place of business is in the United States of America.

Note: The references to companies, organizations and countries have been extracted from reports cited in the Key Reference section on pages 70 and 71, and/or explicit consent has been given.

Stakeholders	Potential Actions	Examples of Innovation
Healthcare providers	• Partner with financial institutions to include advice and education on the advantages of combining healthcare protection and pension income in old-age products	• Insurers and healthcare providers could develop joint financial education programmes for older workers.
Employers	• Provide free financial education programmes covering pension and retirement planning issues • Provide more targeted communications to members about their pension plans, taking into account individual levels of financial literacy • Provide access to cost-effective planning advice by selecting advisors and/or subsidizing the cost • Offer managed accounts with investment advice for plan members who wish to take control of their retirement savings	• A 2001 law on defined contribution pensions requires Japanese employers to provide investment education services to pension plan participants so they can take responsibility for their own investments. Some employers have introduced regular seminars and provide more than just the basic education required by the law. • Employer-sponsored financial education seminars covering retirement planning are common in larger US corporations.
Individuals, families and civil society	• Attend freely available seminars and make use of Web-based independent sources providing financial education with pension content • Non-governmental organizations (NGOs) can partner with other stakeholders to develop innovative savings tools and reach out to the most vulnerable consumers.	• In Canada, the NGO Skills for Change has developed the Learn$ave programme, with government sponsorship and administrative assistance from the banking and credit union sectors. Learn$ave helps low-income consumers establish saving accounts and matches their deposits. This is coupled with intensive financial management training, which, against a control group, has proven very effective for some individuals.

Strategic Option 5: Encourage Higher Levels of Retirement Savings

5.1 Definition

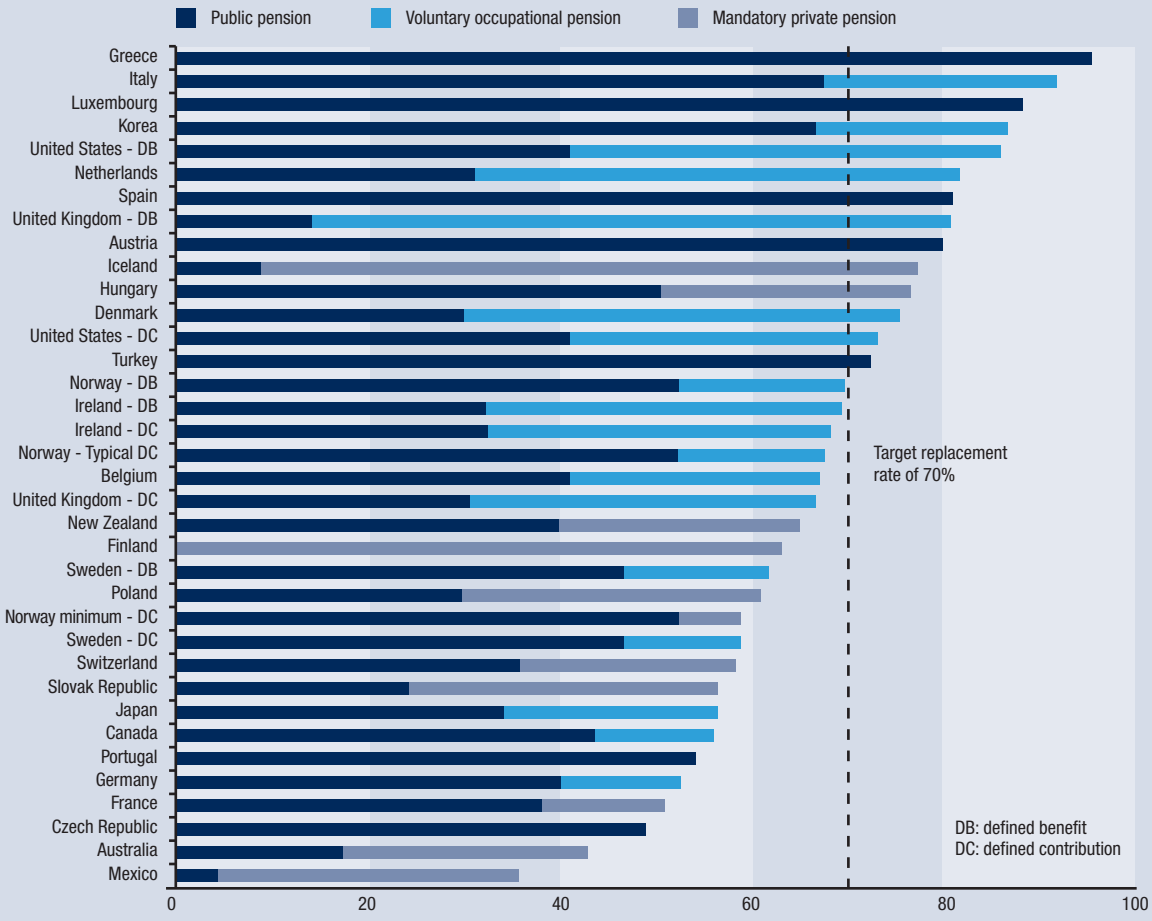
Incentives and opportunities need to be provided to expand participation in, and increase contributions to, private pension systems. As public pensions increasingly offer lower replacement rates, standards of living after retirement will depend on whether private benefits offer sufficient complement. The required growth of private pensions will depend on the starting level of coverage and benefits and expected future changes in public benefits.

5.2 Importance of this strategic option and current status

As a result of reforms implemented over the last decade, public pension benefits are set to decline in many countries. While later retirement may partly offset this fall (see Strategic Option 1 on promoting work for older cohorts), the current working-age population in a large number of countries is likely to retire with an insufficient level of income. The average worker retiring in 2050 in the 12 OECD countries shown in the lowest part of Figure 21 is expected to have a combined public-private pension benefit that represents less than 60% of final earnings.

Increased contributions, combined with longer careers, are therefore essential to boost the private pension component. However, younger individuals generally resist saving for retirement and are unwilling to think about the issue. Employers are also keen on reducing their contributions to defined contribution (DC) plans, which are gaining ground at the expense of defined benefit (DB) plans. Hence, institutional mechanisms such as automatic enrolment and default contribution rates are needed to facilitate the expansion of private pensions.

Figure 21 **Projection of potential replacement ratio in 2050 at normal retirement age (as a % of final earnings)**



Source: Adapted from *Private Pensions Outlook*, OECD (2009)

There is a need for greater transparency and simplification of options to enable workers to make informed choices and take ownership of their retirement savings. Financial incentives may also be needed for lower- and middle-income workers. So may greater flexibility in contribution schedules and temporary access to funds in cases of emergency, especially where health insurance coverage is not widespread.

In low-income countries, it may be difficult to bring the informal sector into contributory pension schemes (see Strategic Option 7 on micropensions). With the breakdown of family support networks, a strengthening of non-contributory public safety nets may also be required. The most effective safety nets are flat, universal old-age benefits which are paid to all residents. Their cost can be partly recovered and their progressivity further enhanced via tax systems and other forms of claw back.

5.3 Key barriers to successful implementation

Competing demands for money mean individuals may value early access to their retirement savings and decide to opt-out of automatic enrolment programmes if they are not carefully designed.

- Under the recent severance pay reform in Italy (Trattamento di Fine Raporto, or TFR), employers' and workers' severance contributions are automatically directed into workers' pension fund accounts unless they explicitly opt out. A large number of workers, up to 60%, have expressed the wish to keep their TFR monies, watering down the expected increase in pension coverage.

Pensions represent a major expense for employers. Companies may resist automatic enrolment programmes if they are required to match employee contributions.

- As a result of the current financial crisis, some US employers have cut back or stopped matching contributions to their employees' 401(k) plans. Even before the crisis, many employers deliberately set low default contribution rates to minimize the degree of opting out.
- Companies in the United Kingdom are concerned about the cost of the national retirement savings plan to be introduced in 2012, which will oblige them to provide a 3% contribution. They argue that this may lead to a crowding out of existing voluntary arrangements.

Market competition creates choice but when the decisions are complex, as in pension systems, too much choice may lead to no choice.

- In Sweden's mandatory individual account system, individuals must choose from a bewildering range of over 600 funds. More than 90% end up in the default option managed by the state.
- US research shows that participation rates in 401(k) pension plans decline rapidly as the number of fund options increases.

Ability to understand pensions and investment issues is limited, even if options are simplified and made transparent.

- In many Latin America countries, individuals face only a few choices of providers and funds, yet most do not make active choices. In Chile, for example, less than half of all participants make an active choice, even though there are only five funds to choose from.

Financial incentives to save for retirement may benefit mainly higher-income households, while fuelling a perception that public pension safety nets are too costly.

- New Zealand eliminated the tax incentives for occupational pension arrangements in the mid-1980s as they were deemed to benefit mainly higher-income workers.
- Only a few low-income countries (such as Botswana, Namibia, Mauritius and Nepal) have succeeded in establishing a universal pension for all elderly resident citizens.

It is very difficult to bring people who work in the informal sector, including most rural workers and many of the self-employed, into formal retirement income arrangements.

- The International Labour Organization estimates that less than 20% of the population in low-income countries is covered by social security plans.
- Coverage rates of mandatory private pension plans in Latin America range from less than 20% of the workforce in Bolivia and El Salvador to about 60% in Chile and Uruguay.
- In China, only urban workers are covered by the social security system. There are about 200 million migrant workers in China, many of whom lack any social security coverage.

5.4 The roles of key stakeholders in driving this strategic option

Stakeholders	Potential Actions	Examples of Innovation
Governments	• Introduce national retirement savings schemes with automatic enrolment, sufficiently high default contribution rates and simple, transparent choices • Create savings incentives for lower-income households by matching contributions or providing subsidies • Increase the transparency of fees charged by providers • Make the contribution requirements of mandatory systems more flexible, allowing temporary and rural workers better access to both public and private pension systems • In low-income countries, introduce a public safety net in the form of a universal, basic pension	• New Zealand's KiwiSaver, which involves automatic enrolment in individual retirement accounts with an opt-out feature, has raised private pension coverage from about 20% in 2007 to over 60% at the beginning of 2009. The government provides a kick start and matching contributions. • In 2012, the United Kingdom is planning to introduce a national retirement savings scheme with a total contribution rate of 8% (4% from the employee, 3% from the employer and 1% from the government). Two of the stated objectives of the scheme are low charges and simplicity. • Some provinces in China, such as Jiangsu, have started to roll out pension programmes for farmers to make contributions that are partially or fully matched by the government. • India has introduced a mandatory retirement savings scheme for government workers which is also available to all Indian residents voluntarily. It has low costs, only three investment choices, and access in rural areas via existing networks of post offices and banks. • Mexico's government contributes a fixed amount equivalent to about 5% of the minimum wage into mandatory retirement savings accounts. • Since 2008, Mexican private pension providers are only allowed to charge fees on the assets they manage. Previously, they could also charge performance-based and contribution-based fees, which made cost comparisons between providers very difficult. • Brazil's rural pension scheme allows farmers to contribute to the scheme irregularly, and links the amount of contributions to commodity prices. • In the United States, tax penalties for early withdrawal of retirement savings are waived if the funds are used to pay for healthcare. • The generosity of universal pensions can be adapted to a country's resources. Botswana's system costs less than 0.4% of GDP and replaces about 15% of the average wage, while the one in Mauritius costs nearly 2% of GDP and replaces over 40% of the average wage. Some Northern European countries also have universal, non-contributory pensions, but apply a means test to claw back transfers to wealthier households.

Note: The references to companies, organizations and countries have been extracted from reports cited in the Key Reference section on pages 70 and 71, and/or explicit consent has been given.

Stakeholders	Potential Actions	Examples of Innovation
Financial institutions	• Engage with employers' and workers' organizations to extend coverage • Facilitate choice for individuals by providing products that are simple to understand and have suitable risk features • Make fees, withdrawal options and other plan features more transparent	• Launched in 2002, Riester plans already cover over one quarter of the workforce in Germany, and, along with new industry-wide arrangements, have raised coverage rates from about 50% in 2000 to over 60% in 2008. The financial institutions who provide the schemes worked with trade unions and employers to design and communicate them to workers. • The introduction of balanced funds with different levels of risk in the mandatory private pension systems of Chile, Peru and Mexico has increased interest in the system and arguably strengthened some participants' sense of ownership over their individual accounts.
Employers	• Introduce automatic enrolment retirement savings plans with sufficient default contribution rates or automatic increases with age	• Some US companies took advantage of the 2006 Pension Protection Act to introduce automatic enrolment and raise default contribution rates. Automatic enrolment is also common in the United Kingdom, as voluntary pension arrangements are offered as part of a labour contract. • The "Save More Tomorrow" initiative in the US allows employees to pre-commit to saving a higher percentage of their future salary increases unless they opt out, and has been shown to increase overall savings rates over time.
Individuals, families and civil society	• Make use of free Web-based tools to calculate what level of retirement savings will be needed to maintain an acceptable standard of living after retirement	• Developed by the Employee Benefit Research Institute (EBRI) and its American Savings Education Council (ASEC), the award-winning Choose to Save® website's retirement calculator is viewed by up to 300,000 people annually. The savings tips and ballpark estimates of contributions required to reach a certain retirement income have proven particularly popular.

Strategic Option 6: Facilitate the Conversion of Property into Retirement Income

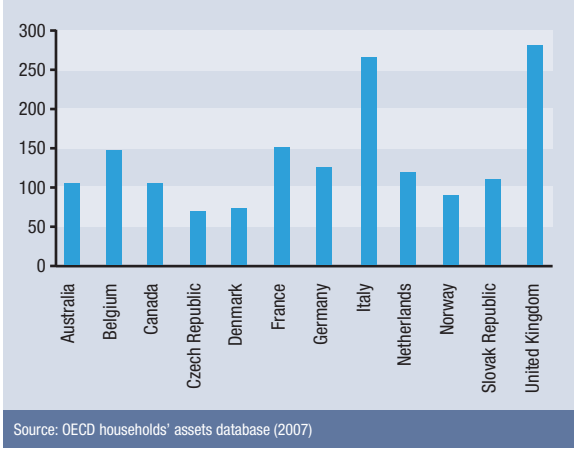
6.1 Definition

Reverse mortgages (or "lifetime mortgages", as they are termed in some countries such as the United Kingdom) allow elderly individuals to take out loans secured by their homes. The borrower may receive the proceeds in a lump sum, as a series of fixed payments or as a lifetime annuity (a "reverse annuity mortgage"). The individual makes no payments on the loan and is allowed to continue to live in the home. When the individual moves or dies, the loan amount plus interest and fees becomes due. Generally, the amount owed cannot exceed the value of the home at that point in time; this is achieved by purchasing an insurance policy when the reverse mortgage is borrowed that caps the amount due in case the policy-holder lives longer than anticipated. Any remaining equity in the home in excess of the amount due belongs to the individual or his/her heirs.

6.2 Importance of this strategic option and current status

Reverse mortgages exist mainly in Anglo-Saxon countries and in some other countries such as Spain and Switzerland. The market is still small – of all mortgages in the United Kingdom, less than 1% are reverse mortgages. However, the potential market is very large. Property is by far the main non-financial asset owned by households at retirement. Figure 22 illustrates gross housing wealth by comparing the value of housing stock against the GDP of selected countries. Even after recent falls in house prices, the total in many OECD countries surpasses annual economic output.

Figure 22 **Housing stock as a % of GDP in selected countries**



Source: OECD households' assets database (2007)

Elderly households usually have already paid off the mortgage on their homes, and it may make financial sense for them to tap some of the wealth accumulated in their homes – for example, to complement pension income, to defray healthcare or long-term care costs, or to help children or grandchildren with tuition or with purchasing a new home. However, as houses are relatively illiquid assets and usually cannot be sold in parts, the only way to do this traditionally has been to downsize to a smaller residential property after retirement. Equity release products offer a way to release funds from a house while continuing to live in it.

Caution is needed, however. The market for these products is quite new and undeveloped, and the risks associated with them are not yet fully understood. House prices are prone to wide fluctuations, as witnessed during the latest property boom and crash, and if they are not appropriately regulated and used with caution, equity release products can exacerbate this volatility by encouraging over-indebtedness: in a booming property market, younger households will also face the temptation to convert part of the equity in their home into cash, thereby increasing their risk of negative equity when the market turns.

6.3 Key barriers to successful implementation

Advisers and sellers of these types of products may not always be adequately regulated.

- A 2005 survey by the United Kingdom's FSA found that 70% of advisers at firms selling equity-release products did not gather enough relevant information about consumers to assess their suitability for the products sold.
- In the "mystery-shopping" phase of the same survey, it was found that 60% of advisers did not explain the downsides of the products being sold. In all firms surveyed, advisers generally failed to make links between equity release products and subsequent options for investing the proceeds.
- In 2007, the US Senate Committee on Aging criticized the aggressive marketing and sales techniques being used by many mortgage institutions to persuade senior homeowners to purchase reverse mortgages.

The structure and design of the products may not always be adequately regulated.

- It is important that certain key safeguards be mandated by law, such as protection against fraud and provider bankruptcy. In particular, vulnerable individuals should not be evicted from their homes if real estate prices fall, and care should be taken that financial products attached to equity-release products – such as annuities and long-term care insurance – are not mis-sold.

There may be a lack of appropriate disclosure, and fees and loan provisions are often far from transparent.

- Some individuals in the United Kingdom have lifetime mortgages that allow the accruing loan amounts to exceed the value of their homes. This was typical of the first generation of lifetime mortgages marketed in the United Kingdom.

Individuals may not fully understand these products or how they may be beneficial.

- Individuals who purchase these products need to understand the financial commitment they are taking on and the potential consequences.
- Individuals may have complex decision processes such as their entitlement to means-tested state benefits, the effects on requests of other family members, amongst other issues.

When only a small number of financial institutions provide these products, the lack of competition can stand in the way of transparency.

- Lack of competition may result from lenders tending to shy away from longevity risks and the possibility that the home price may fall below the mortgage value.
- In Singapore, the only reverse mortgage lender (NTUC income) stopped issuing reverse mortgages in 2008.

6.4 The roles of key stakeholders in driving this strategic option

Stakeholders	Potential Actions	Examples of Innovation
Governments	• Regulate advisers and sellers • Regulate the structure and design of equity release products • Promote competition to reduce fees • Provide sources of neutral information about products and relevant risk warnings	• After mis-selling problems during the first generation of reverse mortgages in the 1990s, with pensioners encouraged to riskily borrow large amounts, the United Kingdom introduced safety features such as rules on disclosure, a requirement that an independent solicitor verifies the client's understanding of the product, and an agreed code of practice called SHIP (Safe Home Income Plans). • The US Department of Housing and Urban Development (HUD) provides detailed information on reverse mortgages for older citizens and has a list of approved lenders that can offer reverse mortgages insured by the US federal government (Home Equity Conversion Mortgages, or HECMs). To apply for an HECM, a borrower is required to complete a 45-minute counselling session with an approved counsellor. • A county in Maryland, US, offers reverse mortgage counselling to residents aged 62 and older. • The possibility of a reverse mortgage in India was introduced by the Central Budget 2007-08. • The Singapore government has offered a reverse mortgage scheme on three-room flats for low-income groups. • In 2007, Spain established legislation and tax advantages for reverse mortgages stipulating that they will be available only to people aged 65 or over and that the lender will not be able to repossess the property if the loan is fully drawn and the borrower is still alive.

Note: The references to companies, organizations and countries have been extracted from reports cited in the Key Reference section on pages 70 and 71, and/or explicit consent has been given.

Stakeholders	Potential Actions	Examples of Innovation
Financial institutions	• Improve product design • Improve disclosure of fees and loan provisions • Use advisers and sellers with sufficient expertise in these products • Provide a comprehensive analysis of equity-release products for potential clients • Explain the negative as well as positive implications of such products	• An example of improved product design is the second generation of lifetime mortgage products in the United Kingdom, which rectified the weaknesses of the first generation by ensuring, for example, that the amount to be repaid can never exceed the value of the home. • The Senior Australians Equity Release Association of Lenders ensures minimum standards of financial institutions offering equity release products. • In India, The National Housing Bank sponsored a seminar in Mysore to educate people on the nature of reverse mortgages. • HILD Management, a US financial company, has launched an equity release product in Romania. • In its advertising, the financial institution Prudential plc* in the United Kingdom encourages prospective clients to discuss with their heirs the decision to use an equity release product.
Healthcare providers	• Collaborate with lenders so that proceeds from reverse mortgages can be easily used for long-term care and health expenditures	• In the US, UnitedHealthcare's Golden Rule Insurance Company provides a product which allows those contemplating early or partial retirement to insure their health insurance by paying an extra 5-20% of the premium each month, meaning they would not be subject to future underwriting and thereby eliminating insurability concerns as they age. One way to pay for such premiums is via reverse mortgages.
Employers	• Provide information to employees about reverse mortgages when they approach retirement	• Employers could include in their financial education programmes for workers close to retirement a special module on reverse mortgages, highlighting both their appeal and their risks.
Individuals, families and civil society	• Seek information and advice to ensure a sufficient understanding of products that convert wealth into retirement income before making a decision	• The American Association of Retired Persons (AARP) offers detailed information on its website (www.aarp.org) about reverse mortgages, including tips for choosing a provider and the type of product, information about federally insured loans, and information about alternatives to reverse mortgages. Seniors First in Australia offers free advice to seniors seeking equity release programmes.

* Prudential plc is a company incorporated in the United Kingdom and is not affiliated in any manner with Prudential Financial, Inc, a company whose principal place of business is in the United States of America.

Strategic Option 7: Stimulate Micro-insurance and Micropensions for the Poor

7.1 Definition

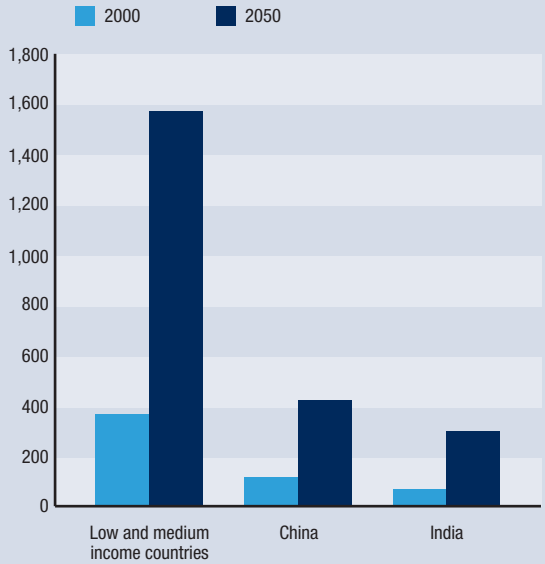
Micropensions are long-term retirement savings and insurance products that target poorer households. As they must be accessible to people with low incomes, the amounts contributed to micropensions schemes may be very small, even less than one dollar per month. Strictly speaking, micropensions do not fit the traditional definition of a pension plan: savings dedicated exclusively for retirement, with the possibility of transforming them into income in the form of a lifetime annuity. Micropension schemes may need to allow early access to funds in case of need, and annuities may not always be an option, given the informational and risk management requirements. Micropensions may be best understood as a combination of micro-insurance and microsavings products, with retirement income as the primary objective.

7.2 Importance of this strategic option and current status

Micropensions have their roots in microfinance, the practice of offering very small loans to poorer households who have been unable to access the formal banking system. The commercial viability of microfinance is now widely accepted, and products such as micro-insurance (including life insurance and weather insurance for farmers) and microsavings are infiltrating the market.

The elderly in low-income countries have traditionally relied on their extended family, but informal systems of intergenerational care are breaking down to some extent because of urbanization and declining fertility – that is, people are having fewer children, and those children are more likely to migrate away from where their parents live. While state-provided basic universal pensions can be effective in tackling poverty in old age, few low-income countries currently offer them. The option of saving privately for old age is effectively denied to many poorer individuals, not only because of poverty or being outside the formal employment sector, but also due to lack of access to suitable financial instruments. In addition, the poor often lack access to products that could insure them against basic risks such as bad health, disability or the death of a working spouse.

Figure 23 **Growth in the number of over-60s between 2000 and 2050 (millions)**



Source: *World Population Ageing 1950-2050*, United Nations (2002)

As more and more poor people reach old age and live longer (Figure 23), their needs for retirement income and protection against basic risks become more prominent. Poorer workers tend to have manual jobs, often in the informal sector, which may not be easily continued in old age or ill health. Women are particularly exposed to poverty in old age, as they tend to outlive their husbands, and the scale of extreme poverty in old age is large and growing – the NGO Help Age International estimates that 80% of old people in developing countries have no regular income. While saving through children, business or home is often more attractive than financial savings for poorer households, micropension products have more scope for older workers whose children are already working and who may wish to diversify the risk of investment in their own business or home. The attraction of micropension savings products may be greatest when combined with insurance products that protect against death or disability of the working spouse, long-term care or other major healthcare expenses.

Even in countries which offer basic universal pensions, there is merit in providing micropensions as an opportunity to supplement state income. They can help foster a savings culture among poorer households which may be transmitted through generations and facilitate access to other financial services. There is also potential for micropensions to appeal to low-income groups in more developed countries or those working in the informal sector.

7.3 Key barriers to successful implementation

The poor have a limited ability to save, especially as they face other, more pressing needs such as children's education, health, the need to invest in their own business or buying a house.

- According to the World Bank's latest statistics, published in 2008, 1.4 billion people live in extreme poverty, defined as living on less than US$ 1.25/day. Almost half the world's population lives on less than US$ 2.50/day, and around 80% live on less than US$ 10/day.

The long-term character of pension saving may make the idea unappealing to poorer households.

- Formal pension plans often do not allow access to savings. For the poor, short-term needs and shocks such as the death or disability of a working spouse and health expenses call for products that allow early access to accumulated savings and contain insurance elements.

Microfinance institutions (MFIs) lack expertise in managing long-term investments and pension products, in particular longevity risk, and may also lack the scale to hedge effectively.

- The first time lifetime annuities were offered by CARD, an MFI in the Philippines, mistakes in pricing and risk calculations threatened to bring down the institution. CARD linked up with a formal provider and instead launched a life insurance scheme, which currently has more than half a million subscribers and fund capital which topped US$ 66 million in 2007.
- Delta, a private sector insurance company in Bangladesh, offered two life insurance schemes to poor people – "Grameen Bim" and "Gono Bima" – which failed and lost the savings of many clients. Many mistakes were made, including inadequate internal controls, poor product design and lack of experience in and knowledge of microfinance.

Larger pensions players have mostly not yet shown an interest in entering the market.

- Lack of expertise and fear of high administrative and transaction costs put off many of the bigger players from entering the micro-insurance and micropensions market.

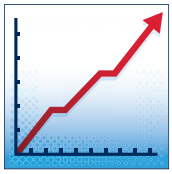
7.4 The roles of key stakeholders in driving this strategic option

Stakeholders	Potential Actions	Examples of Innovation
Governments	• Establish a tailored regulatory and supervisory framework for micropension products and providers • Encourage micropension products by providing subsidies or matching contributions, up to a limit, into accounts opened by low-income workers • Provide guarantees or bridge financing if immediate access to accumulated funds is needed by the poor • Collaborate in micropension administration through state institutions with a wide reach, such as postal offices and local savings banks • Offer protection to micropension providers against longevity "tail risk", the risk of someone living to a very old age	• As MFIs are likely to be the main provider of micropensions, there is a need to protect the savings from MFI bankruptcy. One way to do so is to require the legal separation of the micropension assets into a separate trust, held by a custodian on behalf of the micropension members. • Regulation is also needed to avoid the misuse of micropensions by unscrupulous vendors, ensuring that members are properly informed of any hidden costs, such as early withdrawal fees. While civil society bodies could play a major role in oversight, the government could set basic rules of disclosure. • The Indian New Pension Scheme, which is a DC system mandatory for civil servants and voluntary for the private sector, relies on post offices as so-called "points-of-presence" to act as intermediaries between plan members and providers, collecting money and providing information. • To reduce the longevity risk borne by providers of micropension products, the state could offer to take over responsibility for making annuity payments once an annuitant reaches a certain age, for example 100.

Note: The references to companies, organizations and countries have been extracted from reports cited in the Key Reference section on pages 70 and 71, and/or explicit consent has been given.

Stakeholders	Potential Actions	Examples of Innovation
Financial institutions	• Develop micropension products that are flexible, allowing withdrawal after a certain period, or payment in the form of regular income streams and lump-sums, in addition to lifetime annuities • Develop micropension products that combine savings and insurance elements, including protection against death or disability of a working spouse, or the need for major health expenses and long-term care • Design micropension products to appeal to the poor by having low management fees, simplicity of enrolment and choice between options, and the possibility of guaranteed pay-outs • Partner with mobile phone companies to make it easier for people to transfer surplus cash into micropension schemes • Partner with existing NGOs and MFIs to introduce new financial products, focusing in particular on older workers • In countries where there are not yet formal annuity markets, offer lifetime annuities on a "tontine" basis, whereby the group of annuitants collectively bears the longevity risk by having the annuity paid adjusted in the light of the mortality experience of the group	• Since 2006, UTI Asset Management Company (UTI AMC) of India has partnered with various MFIs and NGOs to offer a retirement benefit pension fund. Members pay monthly or quarterly contributions of between US$ 1 and US$ 4, and the plan pays pensions as a drawdown after age 58. Early withdrawals are penalized, by as much as 6% of the amount saved in the first year. The annual management cost is also relatively high, ranging from 1.75% to 2.5% of assets. • Grameen Bank in Bangladesh offers a product called "Grameen Pension Savings", which is effectively a fixed interest, fixed term (five or 10 year) deposit account with an option to have interest paid out as monthly income. • MFIs and civil society bodies could link up with formal financial institutions to manage administration and investment risks, providing the former with the necessary expertise and scale to develop this sector. • "Commitment savings plans" provided by MFIs are especially popular in South India. They involve regular monthly pay-ins and offer a lump sum targeted for specific expenditure, such as defraying marriage or burial costs. • In a model which could easily be adapted to savings for micropensions, customers of microfinance institution Small and Micro Enterprise Programme (SMEP) in Kenya can make repayments and savings over their mobile phones using the M-PESA money transfer system of Safaricom. For a small transaction fee, customers can transfer credit on their mobile phone to their SMEP accounts by text message using a personal identification number. • In a pilot project launched in 2007, Swiss Re partnered with the Aga Khan Agency for Microfinance to offer 15,000 lower income households in Northern Pakistan micro-insurance against events such as death and hospitalization expenses. This is a model which could be adapted to launching new micropension schemes.
Employers	• Provide matching contributions into micropension savings chosen by less well-paid workers	• Matching contributions have been shown to encourage enrolment and additional contributions to formal pension plans, so it is likely to also be effective for micropensions.

Stakeholders	Potential Actions	Examples of Innovation
Individuals, families and civil society	• Engage in civil society bodies, such as NGOs, workers' associations or churches to foster links with microfinance institutions that may offer micropensions plans	• Civil society bodies which have strong grassroots support and command the trust of their members could serve as intermediaries for micropension products. They could undertake administrative functions such as enrolment, contribution collection and benefit payment, while MFIs would be in charge of the financial management. • In Southern India, churches and temples play a central role in collecting deposits from parents who wish to save for "marriage funds", deposit accounts used to defray wedding related expenses, a model which could be adapted to old age planning. • In many countries that now have developed private pension systems (such as Japan, the Netherlands, the United Kingdom and the US), informal and often guild-based organizations such as mutual aid associations were the first type of institution to provide some form of pension for the elderly, widows and the disabled. Benefits typically included money or assistance for education, births, sickness, funeral expenses and unemployment. • Mutual aid pension associations (Montepios) were common in Brazil during much of the late 19th century and first part of the 20th century. They are the predecessors of modern pension funds.



Strategic Option 8: Enhance Pension Fund Performance

8.1 Definition

Together with the level of contributions and the age of retirement, pension fund performance is one of the key drivers of retirement benefits in funded pension systems. Performance has two main aspects: investment returns and management costs. Apart from the performance of equity and bond markets, returns and costs are determined by three main factors:

- The **quality of governance** of pension funds depends on the managers who run them on a day-to-day basis, and the governing board or entity that takes the key strategic decisions and bears the ultimate responsibility for those decisions. The knowledge, diligence and accountability of these managers and boards are central to good governance.
- The **administrative efficiency** of pension funds depends on such factors as economies of scale and timeliness of execution.
- The **design of investment strategies** depends on the fund's risk profile and liabilities in the case of defined benefit plans, and on participants' targeted benefits in the case of defined contribution plans.

These three factors can interact. For example, the quality of governance can affect the efficiency and investment strategy of the fund.

8.2 Importance of this strategic option and current status

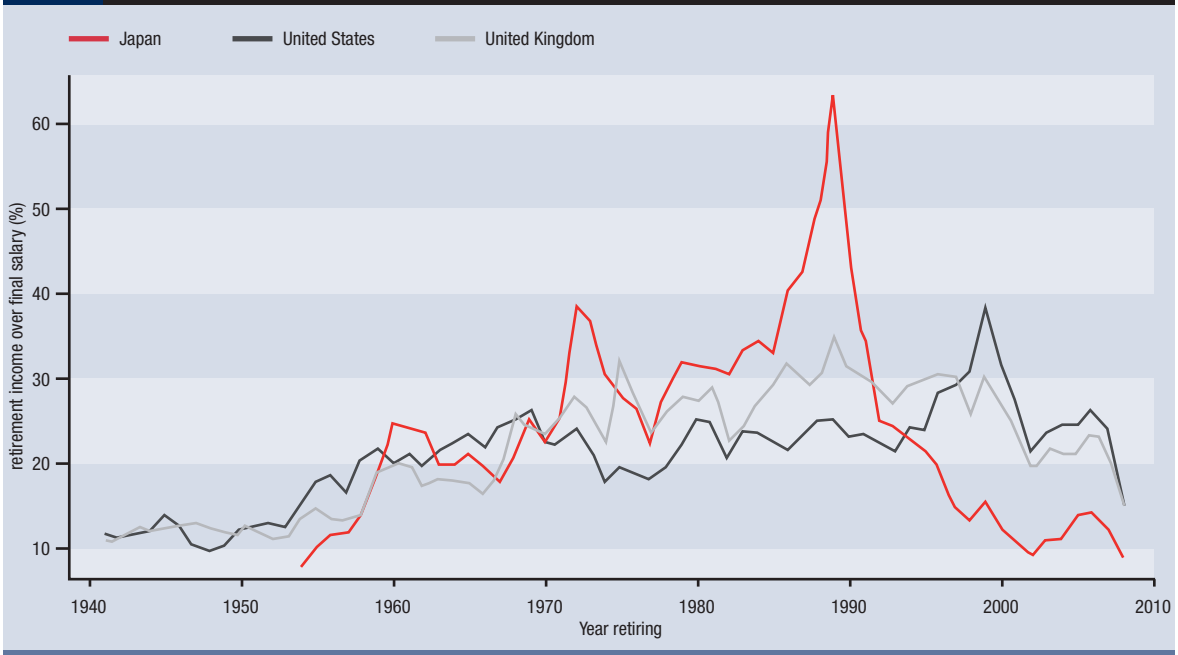
Weak governance, administrative inefficiency and poor investment policies can all jeopardize fund performance. Estimates show good governance leading to one to two percentage point gains in net investment returns per year.[7] Studying the CEM database, which contains information about governance and investments of individual pension funds in a wide selection of countries, academics have also shown that the difference in operating costs between small and large pension funds can be as large as one percentage point of assets under management. Decreases in returns and increases in costs of this magnitude can reduce pension benefits by 20% or more.

The choice of investment policy – in particular, allocation of the portfolio across asset classes – has long been regarded as the key driver of returns. Defined benefit sponsors are increasingly worried about their liability risks and thus are concerned whether their investment strategy will generate sufficient returns to fund promised benefits. They are exploring diversification options in sectors such as infrastructure and high tech, as well as expanding their investment opportunity set, which now often includes private equity and hedge funds. Long-term investment risks driven by environmental, social and governance (ESG) factors are also increasingly important for fund performance, as environmental policies are tightened and corporate governance comes to the fore as a result of the global financial and economic crisis.

The choice of investments is also critical in defined contribution (DC) plans. Participants have a strong interest in obtaining adequate and secure benefits, but because in DC plans benefits depend on actual investment returns, these plans often deliver highly unpredictable results. Figure 24, below, illustrates the replacement rates obtained by a hypothetical worker retiring in the years shown, after contributing 5% of his or her wages for 40 years to a DC plan and investing those funds in a balanced portfolio of 60% domestic equities and 40% domestic bonds. The simulation assumes the worker purchases an annuity at retirement, so the long-term interest rate is also a key determinant of the actual benefit. In the three countries shown, the replacement rate varies tremendously, with Japan showing the largest disparities because of the greater amplitude of its stock market boom/bust in the late 1980s and 1990s and a bigger drop in interest rates than in other countries. The hypothetical Japanese worker retiring just before 1990 would have had a replacement rate of over 60%, while one retiring only 10 years later would have obtained less than 10%.

7 Ambachtsheer, K., Capelle, R., Lum, H., (2007), "The State of Global Pension Fund Governance Today: Board Competency Still a Problem, Rotman International Centre for Pension Management"

Figure 24 **Hypothetical replacement rates in DC pension plans, selected OECD countries**



Source: Adapted from *Pensions at a Glance*, OECD (2009)

In defined contribution systems, it is sometimes said there is a governance "vacuum" because individuals are expected to make complex financial decisions but often do not have the capacity or will to do so. The choice of investments at the time of retirement is particularly critical.

8.3 Key barriers to successful implementation

Stakeholder representation traditionally has been seen as more important than expertise and accountability on the governing bodies of pension funds.

- Pension trustees in many countries around the world – such as Brazil, the Netherlands, the United Kingdom and South Africa – are chosen mainly as representatives of employers and employees, not as experts on pension issues. Member-nominated trustees often rotate every two or three years and have little if any experience in pension matters prior to their appointment. In the United Kingdom, however, governance has been much improved as a result of regulatory initiatives by The Pensions Regulator.
- Sponsoring employers tend to dominate decision-making in some countries, such as Brazil, South Africa and the US. At times, their interests come into conflict with those of plan beneficiaries. In the US, there is an extensive legislative framework ensuring that the best interests of beneficiaries are safeguarded in such cases – including a long set of prohibited transactions.

The administrative and managerial investment required to upgrade governance and risk management may be regarded as very costly by small pension funds, which already suffer from high operating expenses.

- The operating expenses of Irish pension funds with fewer than 50 members are about 3.6% of assets under management, in contrast to 0.3% for those with more than 500 members.
- In the Netherlands, the average administrative cost for pension funds with fewer than 100 members is 0.59% of assets, but only 0.07% for funds with more than one million members (1.23% for funds with assets of less than 10 million euros; 0.1% for funds with assets of more than 10 billion euros).

Setting a DC plan investment strategy that is consistent with each participant's risk profile and goals, and accounts for the risk of extended downturns, requires a significant educational effort.

- DC plans usually offer a range of investment options and let participants choose from among them. However, many participants are unable to make suitable choices or are insufficiently engaged in setting an investment strategy. They end up in the default option, which is designed for those who do not make an active choice. In Chile, over half of all participants are in the default option, while in Sweden over 90% of new entrants end up in the default fund.
- Because of the assumption that equities will always go up in the long term, not enough attention is paid to the risk of being forced to draw down on pension funds during an extended downturn.

8.4 The roles of key stakeholders in driving this strategic option

Stakeholders	Potential Actions	Examples of Innovation
Governments	• Introduce a certification or licensing regime for pension trustees • Strengthen "fit and proper" requirements for pension fund trustees and promote or require trustee training • Strengthen risk management requirements for pension funds and require DB plans to set out investment policies that are consistent with their liabilities • Regulate investment options in DC plans, facilitate choice by having only a few options, and limit risk exposure in the default option as participants approach retirement • Require pension funds to disclose if and how ESG factors are addressed in their investment policies	• Between 2004 and 2006, Australia introduced a new licensing regime for superannuation fund trustees. Together with the introduction of fund choice, this reform has led to more independent, professional trustees and a consolidation of funds. • The United Kingdom's 2004 Pensions Act requires trustees to have the necessary knowledge and understanding of relevant legislation, including trust law, scheme rules, funding and investment matters. • The Pensions Regulator in Australia has introduced a framework for trustee knowledge and understanding (the TKU regime) that promotes trustee training and includes a free Web-based tool. The Pensions Regulator chairs the Investment Governance Group, set up in October 2008 to promote best practices in investment-related governance by occupational pension schemes. • In the United Kingdom, The Pensions Regulator's internal controls code of practice requires schemes under trust to have a robust risk management framework. Similar risk management requirements exist in Australia and the Netherlands. • New regulations issued by the Indonesian government in 2006 require pension fund supervisory boards to evaluate the implementation of governance guidelines and report annually to the regulator and to plan sponsors. • Mexico has introduced legislation establishing detailed risk management requirements for pension fund providers, including the appointment of a risk management officer. • Various countries have introduced life cycle funds as default options, although the design varies across countries. • Chile, Mexico and Peru have enacted legislation requiring pension providers to offer a specific range of investment choices (three in Mexico and Peru; five in Chile) and default options that depend on the member's age ("life styling"). • Countries such as France, Italy and the United Kingdom require pension funds to disclose their ESG policies.

Note: The references to companies, organizations and countries have been extracted from reports cited in the Key Reference section on pages 70 and 71, and/or explicit consent has been given.

Stakeholders	Potential Actions	Examples of Innovation
Financial institutions	• Develop appropriate risk-hedging products, such as duration, inflation and longevity swaps • Coordinate or merge pension funds and retirement savings arrangements to lower costs • Collaborate in strengthening risk management systems and developing a risk management culture in their organizations • As possible investment options for pension funds expand, consider the governance and risk management requirements of new asset classes – in particular, so-called alternative investments • Broaden the definition of risk to include environmental, social, and governance (ESG) risks, assessing their potential short- and long-term impact on investments	• Industry-wide pension funds are common in the Netherlands and the Nordic countries. They have also experienced rapid growth in Australia since the 2006 introduction of fund choice and a licensing regime for trustees in the mandatory pension system (superannuation). Many small corporate, single company funds have merged into the much larger industry funds. • Various Icelandic occupational pension funds have merged over the last 10 years, leading to more efficient operations. The number of pension funds has dropped from 66 in 1998 to 37 in 2008. • PensPlan, an Italian regional pension administrator, and APG Group, the Dutch company that runs the largest pension fund in Europe, have been collaborating since 2008 to improve the performance of Italian pension funds in areas such as risk management and control, asset pooling and fiduciary management. • ESG risks have gradually entered the mainstream of investment management. The UN's Principles of Responsible Investment counts over 100 institutions among its signatories. These represent over US$ 10 trillion in assets under management. • The active role of pension funds in corporate governance has been championed by the likes of the United Kingdom's BT pension scheme (via Hermes Asset Management) and, in the US, the California Public Employees' Retirement System (CalPERS). The two largest pension funds in Brazil, Previ and Petros, are also increasingly active as investors in calling for corporate governance reform.
Employers	• Introduce life cycle funds into DC plans, considering in particular the timing of the annuity purchase • Where appropriate, appoint independent professionals to trustee boards • Incorporate trustee responsibilities in individuals' job descriptions and recognize competence in the role as part of the overall performance management process • Pool investment expertise to leverage the best thinking across plans and geographies • Provide professional support for plan management	• Large employers in the United Kingdom are increasingly appointing professional trustees to pension fund boards. Many work for corporate trustee firms that offer their services to different funds. Sponsors are turning to these trustees to enhance board knowledge and expertise. • Many large pension funds have appointed a chief executive officer. Examples include the French Pension Reserve Fund, the New Zealand Superannuation Fund and the British Telecom Pension Scheme. • Employers could fund the appointment of a dedicated executive team to provide services to fiduciary boards.
Individuals, families and civil society	• Working through trade unions or other trustee representatives, demand that pension funds be run by trustees with relevant expertise and qualifications • Engage more fully in investment strategy decisions • Act as trustees or run for elected trustee positions, and undertake the training needed to acquire the necessary level of competence	• The Irish Congress of Trade Unions, working with other major stakeholders including the Irish Business & Employers Confederation and the Irish Association of Pension Funds, has established training programmes for pension fund trustees to enhance their knowledge and empower them to challenge external advisors and service providers.

Strategic Option 9: Realign Incentives of Healthcare Suppliers

9.1 Definition

Pay-for-performance (P4P) is a way of structuring incentives in the healthcare system to reward **doctors** and **hospitals** for meeting agreed-upon efficiency and quality targets that provide higher-quality healthcare for a lower cost, thereby promoting good health until later in life. P4P is a radical departure from traditional incentive methods in which doctors and hospitals are paid for the services they provide, regardless of the quality of care or the effectiveness of the clinical outcomes. P4P aims to reward doctors and hospitals for providing care that has been proven to improve health outcomes, and encourage them to minimize waste whenever possible.

Performance measures used in P4P programmes may include risk-adjusted rates of mortality or complication, hospital readmission or length of stay, patient satisfaction, or structural indicators such as the use of health information technology. Incentives may include additional payments for meeting target indicators, a share of savings generated by greater efficiency or financial penalties for poor performance. Targets may be relative or absolute. Incentives may be targeted at the level of hospitals or physicians: studies show that, currently, around twice as many P4P programmes target physicians as hospitals, and that, on average, P4P programmes combine five different performance measures. P4P programmes can be implemented by organizations which employ individual physicians, employers, public healthcare agencies or health insurers acting alone or in collaboration.

Further up the healthcare supply chain, incentives for **pharmaceutical companies** must also be reformed to encourage the development of drugs which will deliver the best global health outcomes and has high potential for profits. Possible ways of realigning incentives for pharmaceutical companies include collaborative models such as “patent pooling”, agreements between companies which can widen and streamline their researchers’ access to protected data, and partnership models with public and/or philanthropic bodies. These include advance market commitments (AMCs), whereby governments or philanthropists incentivize research into neglected diseases by promising in advance to buy for a specified sum the patent rights of a new remedy which meets stated criteria of effectiveness.

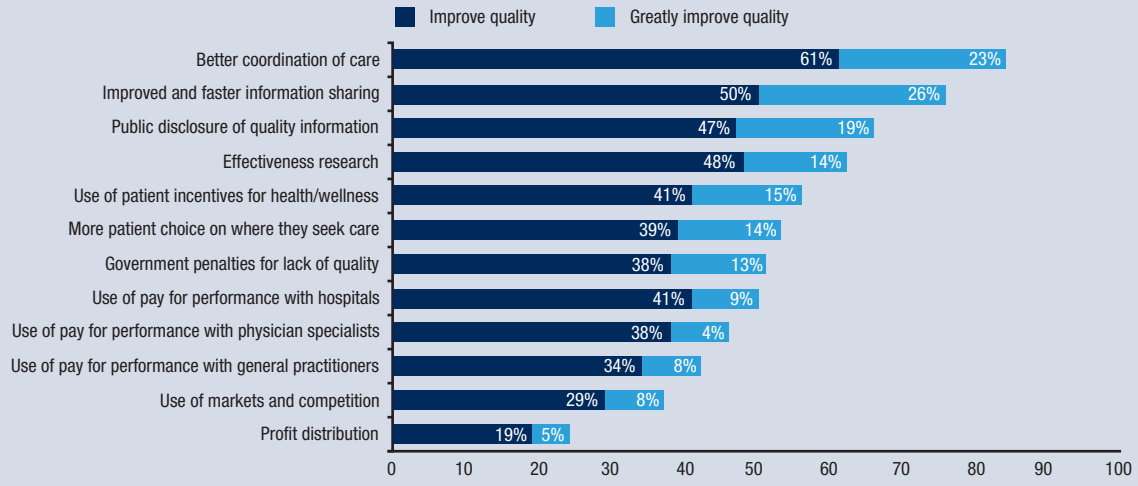
9.2 Importance of this strategic option and current status

Perverse incentives are a major cause of waste and inefficiency in most healthcare systems. By paying healthcare providers for each service performed, “fee-for-service” (FFS) systems give providers a perverse incentive to perform as many services as possible, even if they are not necessary. A variant is to pay providers per patient treated, which creates the perverse incentive to see as many patients as possible, even if that means not spending enough time with each patient.

FFS methods can actually discourage doctors and hospitals from delivering better health outcomes at lower cost because care that gets it right the first time, so a patient does not need further consultations or treatment, reduces revenues. It is typically more profitable to treat patients for disease than to work with patients through lifestyle advice and early intervention to prevent the disease from occurring. FFS systems are therefore difficult to reconcile with the concepts of patient-centred care (see Strategic Option 2) or promoting wellness and enabling healthy behaviours (see Strategic Option 3).

P4P mechanisms can play a vital role in shifting delivery of healthcare to a patient-centred system, maximizing the impact of preventive care. Research by the American College of Physicians found that P4P measures improved quality in five of six studies of physician-level financial incentives, and seven of nine studies of provider group-level financial incentives. P4P for healthcare providers is also identified as a top action for improving the quality of healthcare in a global study conducted in 2008 by PricewaterhouseCoopers’ Health Research Institute (Figure 25).

Figure 25 **Which of the following actions would improve the quality of healthcare the most?**



Source: Adapted from PricewaterhouseCoopers' Health Research Institute Survey 2008: *You Get What You Pay For* (2008)

In addition to optimally incentivizing physicians and hospitals, a different but important challenge is incentivizing pharmaceutical companies to optimize access to quality care and provide the right incentives to reward R&D in areas of greatest unmet need. To bring new drugs to market is expensive and time-consuming – it can easily take eight years to accumulate enough data to get a new drug approved by regulatory agencies – and then there is a limited time to recoup expenditures before the patent expires, at which point generic competitors can typically attain 80% market share within a year.

This creates perverse incentives for pharmaceutical companies, from the point of view of optimizing global health outcomes. They are incentivized to chase marginal but patentable improvements to existing treatments, rather than to gamble on researching bold and experimental new possible treatments. They are also incentivized to focus on non-life-threatening diseases which afflict many affluent patients rather than more serious, life-threatening diseases that afflict mostly poorer populations.

9.3 Key barriers to successful implementation

It may be difficult to reach agreement on the definition of quality in P4P.

- Quality standards are objective measures used to determine whether providers are offering high-quality care. For example, one possible quality standard would be for doctors to test A1C levels in patients with diabetes four times a year. However, differing opinions can result in a ballooning number of diverse measures.
- If not carefully designed, quality measures may incentivize providers to game the system by focusing on meeting targets rather than optimizing health outcomes, or pre-selecting patients who are perceived as being more likely to respond to treatment and thereby improve their success rates.
- Many healthcare providers believe that the practice of medicine is as much an art as it is a science, and that reducing everything to checklists and treatment algorithms would do a disservice to patients.
- Emphasizing financial incentives for healthcare may risk debasing the professional commitment of healthcare providers to quality as a non-negotiable core value informed by the Hippocratic Oath.
- Providers sometimes disagree on the proper course of treatment in patients with the same diagnosis and similar medical histories.

P4P programmes are dependent on data collection measures which may be difficult to get right.

- Inadequate electronic patient records can make it difficult to track performance or outcomes.
- Improper management of data has led to several payers coming under pressure from regulators.
- The fear of litigation and reputational damage inhibits many doctors and hospitals from reporting and learning from problems. For example, some hospitals prefer not to monitor the incidence of infections for fear that it could be used against them, making the problem difficult to tackle.

In many countries, a large amount of healthcare is delivered for profit, giving many providers a financial interest in continuing with the FFS system.

- Hospitals and doctors in private practice make much of their income from diagnostics and prescriptions, making a P4P system less attractive.

It is conceptually challenging to fashion an intellectual property rights (IPR) regime that can incentivize R&D while getting new treatments to a wide population promptly and align with other public health policies.

- Without the promise of IPR protection, there would be limited incentive for pharmaceutical companies to develop new drugs. But IPR legislation means that new drugs of proven effectiveness are sold at much higher prices than if competitors were legally able to produce generic alternatives, which in turn means that healthcare systems pay more for the drugs and poorer patients cannot afford them.
- While many reforms to IPR legislation have been adopted and proposed – including various forms of requirements to offer branded drugs for sale at lower prices in low-income countries, which in turn risk creating a further problem of incentivizing grey markets and counterfeiting – the fundamental underlying conundrum remains unresolved.

9.4 The roles of key stakeholders in driving this strategic option

Stakeholders	Potential Actions	Examples of Innovation
Governments	• Incentivize providers to meet quality standards by imposing financial penalties for failing to do so • Promote use of electronic health records to facilitate exchanges among health professionals and reduce duplicative tests and treatments while increasing quality • Promote public-private partnerships that incentivize the research and development of drugs for treating neglected diseases • Establish regulatory mechanisms designed to bring about the most favourable pricing of drugs for low-income countries • Consider participating with other governments and/or philanthropists in advance market commitments (AMCs) to incentivize the development of drugs for neglected diseases • Consider tying payment for drugs to their effectiveness on health outcomes	• After two years of negotiations, WHO member states adopted in May 2008 the Global Strategy and Plan of Action for Public Health, Innovation and Intellectual Property, which aims to improve access to new medicines and promote new ways of stimulating drug development. • Singapore's government is working in partnership with Novartis and the Gates Foundation to develop new medicines for drug-resistant tuberculosis, dengue fever and malaria. • The Finnish government has a carrot and stick approach of allowing some hospitals to share in the productivity savings they generate, while also fining them for poor performance. For example, three of 21 hospital districts were fined €500,000 to €1 million for failing to reduce waiting times for surgery to six months or less. • Relaxed patent requirements, tiered pricing, voluntary licensing, compulsory licensing, bulk purchasing and corporate donations have all been tried with some success as ways of improving access to patented medicines in developing countries. • A pilot AMC was launched in February 2007 with a joint commitment of US$ 1.5 billion by Canada, Italy, Norway, Russia and the United Kingdom in partnership with The Bill and Melinda Gates Foundation to spur research into a pneumococcal vaccine.

Note: The references to companies, organizations and countries have been extracted from reports cited in the Key Reference section on pages 70 and 71, and/or explicit consent has been given.

Stakeholders	Potential Actions	Examples of Innovation
Financial institutions	• Incentivize effective treatment by limiting reimbursement on health insurance for follow-ups to ineffective treatments • Make participation in a P4P programme a part of belonging to a Preferred Provider Network • Collaborate among payers and providers to standardize incentives and encourage coordinated care	• California-based health insurer Anthem Blue Cross, one of the industry leaders in P4P for physicians, in 2008 launched its Quality-In-Sights(R) Hospital Incentive Program, paying out more than US$ 3.1 million to 16 of 38 participating hospitals by April 2009.
Healthcare providers	• Embed quality and efficiency incentives in payment • Tie a portion of overall hospital budgets to quality indicators • Use quality scorecards to increase transparency of information • Improve R&D capacity in global health • Pharmaceutical companies can boost their reputations by voluntarily providing medicines in low-income countries at cheaper prices or for no charge • Pharmaceutical companies can increase collaboration on "patent pools" to facilitate research on neglected diseases	• The United Kingdom's National Health Service began a major pay-for-performance initiative in 2003, known as the Quality and Outcomes Framework, tying income of general practitioners to performance with respect to 146 quality indicators covering clinical care for 10 chronic diseases, organization of care and patient experience. Early data suggest the programme has been effective. • The California Pay for Performance Program, which started in 2001, is now the largest P4P programme in the US. Developed by California healthcare plans and physician groups, with voluntary provider participation, it involves financial incentives being based on a set of quality performance measures and public "report cards". • GlaxoSmithKline (GSK) pledged in February 2009 to put into a "patent pool" any chemicals or processes over which it has intellectual property rights that are relevant to finding drugs for neglected diseases, so they can be explored by other researchers.
Employers	• Provide senior executive support for pay-for-performance programmes that affect employees' healthcare • Introduce "healthcare consumerism" to employees, to give them financial incentives – for example, through variable co-insurance or tiered networks – to question their healthcare providers and satisfy themselves that they are choosing the most cost-effective treatment option • Promote the development of preferred provider networks • Build standardized healthcare provider quality measurement into health plan contracts	• Bridges to Excellence is a pioneering pay-for-performance programme started in 2002 with the help of GE, which spends nearly US$ 3 billion a year providing healthcare for its employees. • Multinational employers with global workforces are seeking to improve efficiency by encouraging employees to question their healthcare providers more closely about drug and treatment options, and by using their healthcare purchasing decisions to promote preferred provider networks that will improve quality of care and clinical outcomes. • Leapfrog Hospital Rewards Program in the US launched a P4P programme that rewards hospitals that post gains in quality and efficiency in five clinical areas: coronary artery bypass graft, percutaneous coronary intervention, acute myocardial infarction, community acquired pneumonia, and deliveries and newborn care.
Individuals, families and civil society	• Individuals can become more informed and efficient consumers of healthcare products and services by seeking out information on the effectiveness of treatment options • Non-profit organizations can provide grants or AMCs to pharmaceutical companies to incentivize research drugs for neglected diseases, either individually or through public-private partnerships also involving governments and pharmaceutical firms	• Successful examples of civil society partnerships with drug companies to tackle neglected diseases include the Merck MECTIZAN® Donation Program, and a partnership between WHO, GlaxoSmithKline and the Gates Foundation on providing a vaccine against meningitis in Africa. • The Gates Foundation's G-FINDER survey tracks annual global investment in research and development of new medicines for neglected diseases, producing evidence to policy-makers and funders.

Strategic Option 10: Ensure That Cross-border Healthcare Delivery Benefits All Stakeholders

10.1 Definition

Cross-border healthcare delivery takes two forms: medical travel, in which the patient travels to another country for treatment, and cross-border telemedicine or remote diagnostics, in which the patient interacts electronically with a healthcare provider in another country. Currently, cross-border healthcare benefits mostly low-income patients in high-income countries and high-income patients in low-income countries, but there is potential to also make it benefit low-income patients in low-income countries.

Medical travel is still mostly paid for by consumers, although employers and insurers are increasingly exploring medical tourism by offering to fund treatment in lower-cost countries, including travel costs for an accompanying family member. A fast-growing phenomenon related to medical travel is for seniors from high-income countries to retire in low-cost countries in warm climates, motivated in part by lower healthcare costs. Cross-border telemedicine, meanwhile, is projected to grow so rapidly over the next 10 years that by 2030, healthcare may no longer be thought of as a primarily domestic service.

10.2 Importance of this strategic option and current status

Medical travel is a fast-growing market. McKinsey & Company estimates that gross medical tourism revenues were more than US$ 40 billion worldwide in 2004, and will rise to US$ 100 billion by 2012. It is driven largely by long waiting times for public treatment and high costs for private treatment in high-income countries. As medical cost inflation drives up insurance premiums relative to income, more people choose to decline coverage and meet their medical expenses out-of-pocket; in the US, over 45 million people, around one in six of the population, are uninsured. The enormous price advantage of travelling overseas for treatment (Figure 26) may reflect the quality of provision, particularly pre- and post-surgery care, but also reflects both the lower wages paid to healthcare workers in low-cost countries and cheaper prices offered there by global suppliers of medical devices and other healthcare products.

Figure 26 **Savings available through medical travel (US$)**

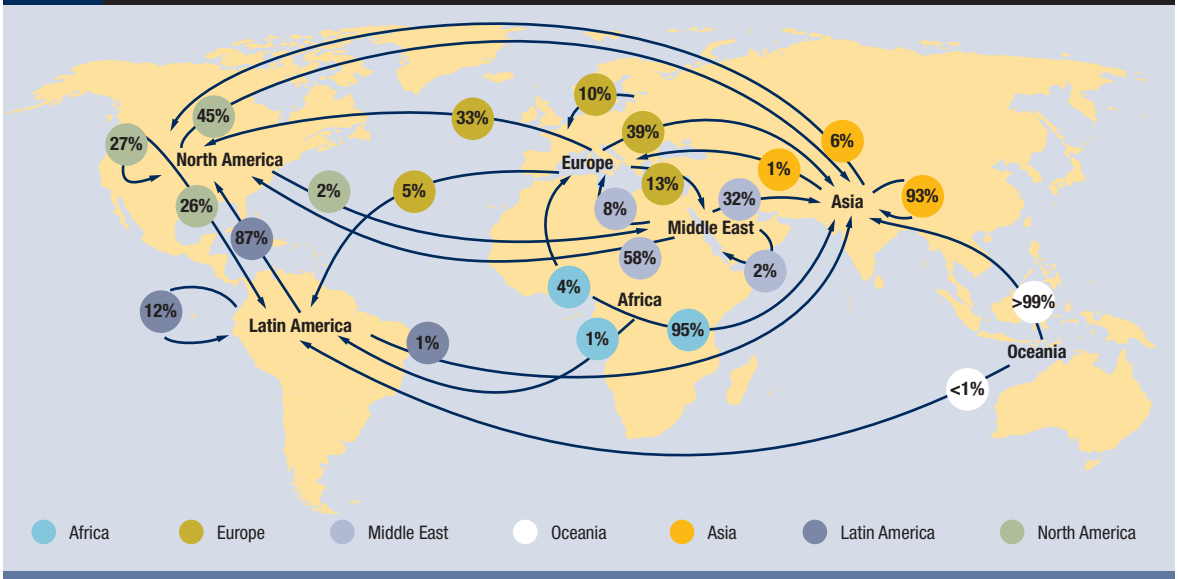
Procedure	United States	India	Thailand	Singapore	Malaysia	Panama	South Korea	Taiwan	Typical medicare payment
Coronary artery bypass surgery	70,000-133,000	7,000	22,000	16,300	12,000	10,500	31,750	27,500	18,600-23,600
Bypass surgery with heart valve replacement	75,000-140,000	9,500	25,000	22,000	13,400	13,500	42,000	30,000	30,900-43,000
Hip replacement	33,000-57,000	10,200	12,700	12,000	7,500	5,500	10,600	8,800	10,100-12,300
Knee replacement	30,000-53,000	9,200	11,500	9,600	12,000	7,000	11,800	10,000	10,100-12,300
Prostate surgery (TURP procedure)	10,000-16,000	3,600	4,400	5,300	4,600	3,200	3,150	2,750	3,000-3,700
Gastric bypass	35,000-52,000	9,300	13,000	16,500	12,700	8,500	9,300	10,200	7,900-9,900
Face-lift	10,500-16,000	4,800	5,000	7,500	6,400	2,500	6,650	8,500	*

* Not reimbursable. Note: U.S. charges are list prices. Physician and certain other fees are generally excluded. Prices at non-U.S. hospitals are all-inclusive other than for Panama, which does not include surgeon's fee. Medicare amounts represent typical reimbursements to hospitals.

Source: Adapted from US News and World Report (2008)

Medical travel is a global phenomenon (Figure 27). In addition to middle- and low-income patients from high-income countries travelling to lower-income countries in search of cheaper care, high-income patients from low-income countries travel to higher-income countries in search of better care. Singapore, Thailand, India, Costa Rica and Colombia are notable examples of countries that have successfully established themselves as hubs for medical tourism, while the governments of South Korea and Taiwan are about to launch campaigns to promote medical tourism services within their countries. In 2007, 600,000 foreigners sought medical treatment in Thailand and 450,000 foreigners in India. Singapore aims to service one million medical tourists annually by 2012.

Figure 27 **Medical travellers by point of origin**



Source: McKinsey & Company, *Mapping the market for medical travel* (2008)

Medical travel has the potential to either exacerbate or alleviate the problem of healthcare workers from low-income countries migrating to high-income countries. According to the World Health Organization, this ongoing exodus has created a critical healthcare worker shortage in 57 countries, equivalent to a global deficit of 2.4 million doctors, nurses and midwives. Unless many more workers are trained, this crisis has the potential to deepen in the coming years as ageing populations will require more care for chronic and degenerative diseases, technological advances will require more specialized experts, and families' declining capacity or willingness to care for elderly relatives will require more basic care provision. While medical travel could divert even more healthcare workers in low-income countries from domestic patients, it also offers healthcare workers in low-income countries the opportunity to improve their incomes and skills without needing to migrate.

Telemedicine has even more potential to improve healthcare in lower-income countries. Firstly, it can improve access for remote populations – 45% of the world's population, but less than 25% of all doctors, are located in rural areas. Secondly, it can enable healthcare workers to receive higher-quality training remotely. For the moment, however, a more well-developed application of telemedicine is the remote consultation of highly specialized experts in high-income countries. There is considerable potential for high-income countries to lower costs by using physicians in lower-income countries to diagnose, examine and even perform procedures on patients remotely. There is also potential for greatly expanded use of telemedicine in routine monitoring of older people, through devices such as the Intel Health Guide.

10.3 Key barriers to successful implementation

It is difficult to coordinate across borders to distribute healthcare resources equitably.

- National governments can shape healthcare markets to improve access for lower-income groups in their own countries, but this is more difficult to achieve in an international healthcare market.

There are concerns that regulations are fragmented on issues of consumer protection, transparency and accountability.

- Most countries do not require hospitals to measure and report surgical outcomes.
- Voluntary accreditation schemes, such as Joint Commission International, are growing in popularity but are still on a small scale. This makes quality of care difficult to assess transparently.
- Instances of medical negligence or malpractice may be more difficult to redress in another country.

Protectionism may be a common response to the increasing importance of remote diagnosis.

- Physicians in high-income countries may lobby for legislation that ostensibly seeks to maintain standards but has the effect of limiting scope for offshoring.

There is poor coordination between the public and private sector to address healthcare worker shortages.

- Paradoxically, countries with severe shortages of healthcare workers often also have health professionals who are unemployed due to imperfect private labour markets, lack of public funds or bureaucracy.

Continuity of care is important but may be harder to achieve when treatment happens overseas.

- Patients with chronic diseases want physicians who know their history. Follow-up procedures may be better performed by the original surgeon. Physicians can be reluctant to offer pre-operative and post-operative care when operations are to be performed overseas. It is unclear how well offshoring of healthcare can address this issue.

Low-cost countries often have capacity constraints.

- There are still relatively few high-quality medical centres and physicians in low-cost countries.

Concerns may hold back high-income country insurers.

- Insurers in high-income countries may be concerned that offering lower-cost treatment abroad may pose a risk to their public image, or provoke a backlash from health providers in their home countries.

Extrinsic factors can unexpectedly affect the attractiveness of travel.

- Fluctuating currency values may render medical tourism uneconomic in some countries, and a significant global pandemic could drastically reduce patients' willingness to travel.
- Geopolitical events can influence willingness and ability to travel. For example, after the 11 September 2001 attacks, would-be medical tourists from the Middle East found it more difficult to obtain US visas.

10.4 The roles of key stakeholders in driving this strategic option

Stakeholders	Potential Actions	Examples of Innovation
Governments	• Consider ways of using medical travel and telemedicine to improve the quality of healthcare systems in lower-income countries, for example virtual link-ups between teaching universities • Promote global accreditation schemes for healthcare providers in low-cost countries and for medical tourism companies • Facilitate "ethical medical tourism" by promoting global accreditation schemes for cross-border healthcare providers that are involved in improving access to healthcare for low-income groups • Facilitate overseas retirement, for example by encouraging the development of retirement villages in low-cost countries, or negotiating reciprocal arrangements which could save money in high-income country healthcare systems while providing funds for lower-income country systems • Inform and educate people about their choices and the relative risks and benefits of cross-border healthcare	• Global accreditation options include a voluntary assessment scheme run by Joint Commission International (JCI), a not-for-profit, US-based organization. • Colombia is one example of an emerging economy that has established a system that regulates prices and locally certifies the quality of surgical centres and hospitals. • The governments of Nigeria and India have signed a memorandum of understanding on facilitating telemedicine exchanges between the two countries, enabling, for example, Nigerian patients to consult Indian specialists and Nigerian students to earn degrees from Indian universities without leaving Nigeria. • The WHO has outlined a "working lifespan" approach to attracting more healthcare workers – including steps to improve training, establish attractive career structures and manage migration – which is being implemented by countries including Singapore. • A growing number of Latin American countries are developing retirement community resorts to cater for retiring Americans, Canadians and Europeans, offering high-quality medical care. • The Singapore Tourism Board and Tourism Authority of Thailand support FlyFreeForHealth, a portal to advise would-be medical travellers interested in exploring options for treatments in Asia.

Note: The references to companies, organizations and countries have been extracted from reports cited in the Key Reference section on pages 70 and 71, and/or explicit consent has been given.

Stakeholders	Potential Actions	Examples of Innovation
Financial institutions	• Make offshore options available in insurance products if satisfied that the cost savings outweigh the reputational and litigative risks • Consider offering "ethical medical tourism" by identifying and promoting high-quality offshore medical facilities which also work to improve access to healthcare for lower-income groups in their own countries	• Though most big health insurance carriers do not yet offer the option of medical tourism, OptiMed Health/United Group Programs covers travel and expenses, eliminates the member's deductible and co-pay, and even pays US$ 5,000 in cash. • Health insurer Aetna has teamed with Microsoft to allow its customers secure Internet-based access to their claims information and medical records, and allows corporate customers to save money if their employees opt to have surgery outside of North America.
Healthcare providers	• Evaluate the costs and benefits of medical travel, taking into account pre- and post-operative costs, complications and long-term outcomes • Explore telemedicine as a means of making affordable health services more conveniently accessible to poor and rural populations • Develop devices to facilitate remote monitoring of elderly patients' health • Train specialists in geriatric care and gerontology	• Apollo Hospitals Group, which has hospitals of sufficiently high quality to attract Western medical travellers, has pioneered telemedicine centres to serve isolated populations across India and is now working in Pakistan, Sudan and Kazakhstan. • Intel's Health Guide is a device that enables patients to routinely measure their glucose levels and blood pressure at home and transmits the readings securely over the Internet to medical professionals. • Implemented by the Singapore-University of Washington Alliance, the Personal Healthcare Information Management System (PHIMS) establishes a telemedicine framework between medical specialists and care-givers in Singapore-based homes for senior citizens. • The Public Health of Thailand Telemedicine Network has 20 hospital-based stations nationwide and a computerized outpatient services information system.
Employers	• Investigate feasibility of extending coverage to offshore providers, including risks of legal liability and attitudes of employees • Consider whether in-country differentials in cost exist	• US supermarket chain Hannaford Bros offers employees the option of hip and knee replacements in Singapore. • In a "within-borders" variant of medical tourism, some US employers are encouraging workers to travel domestically for lower-cost medical care, which can offer some cost savings with fewer concerns about quality and litigation.
Individuals, families and civil society	• Individuals need to balance the potential risks of medical tourism with the savings; generally, it is most attractive for high-cost, non-urgent, short-duration treatments for conditions that are not worsened by flying • Individuals can research the option of planning for retirement in a low-income country with acceptable care standards • Unions and non-profit organizations can evaluate the pros and cons of medical tourism and cross-border telemedicine, and advocate for "ethical medical tourism" • Civil society organizations can embrace telemedicine as a way of reaching the poor	• The United Nations, University of KwaZulu-Natal and International Society for Telemedicine and eHealth together run the UN/Africa Fellowship on Telehealth, which was launched in 2008 and will provide short-term, basic training in telemedicine to 40 to 80 physicians in two to four African countries each year. • Around 1.2 million American and Canadian retirees live in Mexico, where they have the option of joining the national healthcare system for about US$ 350 a year, or – more commonly – paying cash to receive healthcare at Mexico's top hospitals for a fraction of the cost of equivalent care in the US. Assisted living resorts aimed at foreign retirees and incorporating healthcare facilities are growing rapidly. • Addressing concerns about medical tourism, the American Medical Association has published recommendations for insurance companies who send patients overseas.

Strategic Option 11: Promote Annuities Markets and Instruments to Hedge Longevity Risk

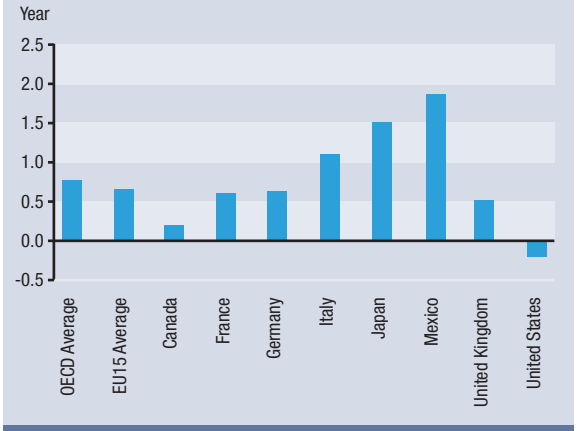
11.1 Definition

Longevity risk is the uncertainty surrounding future improvements in mortality and life expectancy. For retirees, it means the risk of outliving their resources, forcing them to reduce their standard of living as they age. Individuals can protect themselves against this risk by purchasing annuities and may need further understanding or encouragement to do so more. However, the underwriters of these products in turn need to hedge their own longevity risk exposure. Therefore, improving the underlying market instruments available to manage longevity risk should improve the functioning of annuities markets. Options to enhance the market for longevity risk include the further development of longevity indexes and the issuance of longevity-indexed bonds (LIBs).

11.2 Importance of this strategic option and current status

Pension systems are exposed to various long-term risks. Long-term inflation risk can be mitigated through the purchase of inflation-indexed bonds of sufficiently long maturities. Equities, real estate and other asset classes can be used to increase returns beyond the risk-free rate. On the other hand, there is insufficient capacity to hedge longevity risk through existing market instruments.

Figure 28 **Overrun of actual life expectancy**



Source: OECD (2007)[8]

Longevity risk is important because life expectancy has been rising faster than forecasted by experts (Figure 28). Mortality in old age is particularly difficult to forecast, and may even be becoming more unpredictable because of uncertainty over medical advances and changes in demand for healthcare. The lack of financial instruments such as LIBs to hedge this uncertainty exposes pension funds and annuity providers to unexpected increases in costs. As a result, insurance companies and employers who sponsor defined benefit plans are increasingly reluctant to guarantee life-long pensions. Those that continue to do so are reducing promised benefits.

Given the ongoing shift towards defined contribution arrangements, there will be a growing need for annuities to enhance the security of retirement income. LIBs and markets for hedging longevity risk could play a critical role in ensuring an adequate and secure provision of annuities. LIBs should also help insurance companies satisfy the demand for defined benefit terminations, in which DB sponsors pay an insurer to assume their outstanding liabilities and close the scheme. Issuing LIBs would also ensure there is a government-endorsed longevity index and mortality pricing points, further encouraging the development of capital market instruments to hedge longevity risk.

8 Adapted from: Antolin, P. Longevity Risk and Private Pensions, In *OECD Working Papers on Insurance and Private Pensions* No.3, Paris: OECD, 2007. The life expectancy projections were originally published by the UN in 1999 using 1995 mortality data. They refer to the average life expectancy for the period 2000-2005. These were then compared to life expectancy projections based on 2003 data.

11.3 Key barriers to successful implementation

There is no consistent global regulatory or disclosure framework requiring pension funds and annuity providers to account for or disclose assumptions about longevity risk in a way that facilitates the analysis or emergence of a best practice.

- The practice of accounting for longevity risk by pension funds and annuity providers varies across countries.
- Pension funds in some countries incorporate an allowance for expected future improvements in mortality, while others use tables that relate to mortality observed over a period in the past, without allowing for the fact that life expectancy may continue to increase.
- Some countries that incorporate an allowance for future mortality improvements only do so for a short number of years, generally using an out-of-date base year.
- Insurers often use higher estimates of life expectancy than pension funds.
- Capital requirements, which are limited in the case of pension funds, and the ability of insurers to treat longevity risk as a diversifier, may also discourage holders of longevity risk from paying to transfer it to others.

There is no commonly accepted methodology for assessing longevity risk.

- Actuaries and official agencies use different forecasting techniques. Government agencies tend to extrapolate historical trends in a deterministic manner using past trends and expert opinion, while actuaries use several smoothing approaches – generally parametric approaches such as the Gompertz model.
- Currently, there is increasing support for using stochastic models – such as the Lee-Carter and P-Spline models – to generate probability distributions of future mortality and survivor rates, which in turn can be illustrated using mortality and survivor fan charts. Examples of institutions using such models include the OECD and the Continuous Mortality Investigation CMI of the Association of UK Actuaries.
- There have been only limited attempts to look at cause-of-death models, which could hold the key to greater predictability about the future of longevity.

There is not a reliable and widely accepted longevity index.

- Governmental statistical agencies produce population life tables but not a longevity index.
- Private financial institutions have begun producing their own longevity indices (such as the JP Morgan/Pensions Institute LifeMetrics Index), which provide statistical information on the mortality experience of specific population groups. However, these indexes are not widely available, their reliability has not been tested, and they are currently available for only a few countries.

Governments are already exposed to significant longevity risk through their public pension obligations, although this is attenuated by the extra taxes paid by those who live longer and by policies aimed at increasing retirement ages.

- Eurostat calculations for EU countries have indicated that public pension expenditure could increase by 0.3% of GDP if life expectancy during the period 2005 to 2050 is only one year higher than currently assumed.

Public debt managers generally have short-term fiscal and risk management objectives in mind and may not consider the potential value of the longevity risk premium they could earn by issuing LIBs.

- The mandates of public debt managers rarely mention their role in facilitating risk management by financial institutions – as happens, for example, with inflation-indexed bonds. Their main counterparty tends to be the banks that place the debt in capital markets.

Annuity markets are often held back by disincentives and perceptions that dampen demand, in addition to the problems of managing longevity risk.

- There is a strong motive to bequest assets to dependants. Traditional annuities are often felt to be of low value by individuals because if they die soon after purchasing them, their dependants get nothing.

- There is a perception of unfair pricing and general mistrust of institutions providing annuities. For example, since 1997, Decima has conducted a public opinion survey for Canada's Office of the Superintendent of Financial Institutions to measure public confidence in Canadian banks, life and property and casualty insurance companies. The study has found that the level of trust and confidence in insurance companies is lower than it is for banks.
- There may be tax disadvantages for converting voluntary retirement savings into annuities, or tax advantages for competing assets. For example, the Life Insurance Association of Japan has requested the raising of the tax-deductible limits for insurance premiums every year since 1995. However, the government's Tax Commission and the country's ruling party have held a negative view even of the continuation of the tax deduction.
- Personal circumstances such as family support and the need to cover the costs of medical care may leave insufficient assets to contemplate purchasing an annuity. For example, one reason for the relative unpopularity of annuities in the US is the fact that old people need to save for potentially high healthcare expenses.
- Competition from more flexible alternatives at retirement, such as programmed withdrawals and lump sum payments, may also deter the purchase of annuities. For example, most countries in Latin America with defined contribution pension systems (such as Chile, Colombia, El Salvador, Mexico, and Peru) allow individuals a choice between programmed withdrawals and annuities.
- There is a lack of appropriate financial knowledge and awareness, especially of the magnitude of the longevity risk that individuals face. Surveys often show individuals underestimate their life expectancies by a few years.

11.4 The roles of key stakeholders in driving this strategic option

Stakeholders	Potential Actions	Examples of Innovation
Governments	• Change the regulatory framework to require insurers and pensions funds to consistently and fully account for longevity risk and carry out regular reviews • Ensure annuity businesses hold optimal levels of economic capital to provide security, but avoid excessive levels of capital that result in lower annuity rates • Produce longevity indexes • Issue inflation and longevity-indexed bonds • Increase the retirement age and allow retirees to work while drawing benefits • Address adverse selection problems in annuity markets and reduce DC participants' exposure to investment risks by making annuitization mandatory for at least part of the accumulated balance • Improve financial education • Ensure there is an adequate scheme to protect annuity payments in the event insurers are unable to fulfil their promises	• Chile is discussing an agreement with the World Bank to issue longevity-indexed bonds. • Some countries address adverse selection and pricing problems by making annuitization mandatory and encouraging competition. Annuitization can also be the default arrangement, with individuals allowed to opt out. • Singapore's Central Provident Fund, the mandatory system of savings for retirement, has introduced an annuity scheme which transfers part of savings at age 55 into an annuity. Payments generally start at 65 and individuals are able to continue working while receiving them. • One default option could be to buy deferred annuities at or before retirement that start payment at 80, for example. • In Malaysia, for a period of approximately two years, contributors to the state fund were able to withdraw their balance and purchase deferred annuities. These were priced to reflect the fact that there is less risk of adverse selection when the vesting date is further away. • In the United Kingdom, DC plan members can take one quarter of their accumulated savings as a lump sum at retirement. The rest must be annuitized by age 75. This has ensured annuity market scale (circa 400,000 pension annuities and £12 billion per annum), which in turn has led to price competition and innovation. • The Financial Services Compensation scheme in the United Kingdom guarantees 90% of annuity benefits in cases of insurer insolvency. There is also a Pension Protection Fund to guarantee DB benefits, although at a potentially lower level.

Note: The references to companies, organizations and countries have been extracted from reports cited in the Key Reference section on pages 70 and 71, and/or explicit consent has been given.

Stakeholders	Potential Actions	Examples of Innovation
Financial institutions	• Introduce and promote the use of longevity indexes • Stimulate the longevity market and educate potential investors • Encourage the use of stochastic and medical-based modelling (which uses individual and group factors such as health, lifestyle and profession rather than purely life tables) for assessing longevity risk • Collaborate with academics to design and test new stochastic mortality models and longevity risk hedging products • Continuously update mortality and longevity improvements • Increase the choice of annuity products available and add valuable ancillary benefits and features, to overcome individuals' reticence about buying these products • Securitize longevity risk, by creating a product similar to mortality catastrophe bonds	• The Continuous Mortality Investigation (CMI) body of the United Kingdom's Actuarial Profession encourages members to use stochastic modelling. It also produces indexes of longevity improvements that are updated regularly, and encourages the production of indexes by others. • JP Morgan is one of several financial institutions that have begun producing and promoting their own longevity indexes and are using them to value the longevity risk hedging products they trade, such as longevity swaps and mortality forwards. • Recent innovations in modelling and capital market solutions have been facilitated by academic research, such as the Cairns-Blake-Dowd stochastic mortality model and the survivor bonds and survivor swaps designed by the United Kingdom's Pensions Institute. • Several financial institutions have introduced new annuity products, increasing flexibility and widening choice. • Variable annuities provide protection from longevity risk but also allow annuitants access to potential equity gains. Other annuity products include lump-sum payouts to survivors in case of early death, and guaranteed-period and joint-lives annuities to ensure a continuing income to a surviving partner. New annuity products could also be developed that include long-term care insurance.
Healthcare providers	• Pharmaceutical companies could be important counterparties in longevity risk transactions, as they generally stand to benefit from longer life expectancy among the elderly • Healthcare protection and long-term care insurance could be included in old-age retirement income products such as annuities	• Pharmaceutical companies and life insurers could enter into longevity swap transactions. • Healthcare providers could work with life insurance companies directly to create a product that combines protection against both longevity risk and poor health. The insurance provided could also be extended to long-term care.
Employers	• Facilitate the purchase of annuities by retiring employees • Educate employees about the need to provide for a lengthy retirements and what they can realistically expect to receive from their DC plans • Introduce more formal risk sharing arrangements in occupational pension plans • Encourage fiduciaries to investigate the longevity hedging products currently available for employer-sponsored plans • Increase the pension age in company pension plans • Introduce flexible work and retirement arrangements	• In the United Kingdom, employers that sponsor DC schemes often offer a group annuity contract for retiring workers, reducing management costs. • Conditional indexation of pension payments, as in the Netherlands, can be used to share longevity risk between workers and pensioners. • A small number of employers in the United Kingdom have introduced risk-sharing mechanisms into DB schemes, allowing future benefits to be reduced if life expectancy increases more than anticipated.
Individuals, families and civil society	• Carry out a comprehensive assessment of potential pension income before retirement in order to decide how much of their savings need to be converted into annuities • Consider the best way to annuitize some retirement wealth while insuring against bad health and disability in old age • Assess life expectancy more realistically • Participate in financial literacy programmes	• Reverse annuity mortgages (see Strategic Option 6 on conversion of property into retirement savings) can be used instead of the traditional solution of moving to smaller homes. • Individuals can use on-line calculators to get an approximate prediction of their life expectancies using basic information about their lifestyles and health.

Section 4

Conclusions and Next Steps

Section 4 Conclusions and Next Steps

Population ageing around the world demands action, and the window of opportunity is closing rapidly. This report aims to stimulate collaborative multistakeholder action to strengthen the financial sustainability of, access to and quality of retirement and healthcare provisioning in a rapidly ageing world. Though the actions envisioned in the 11 strategic options presented in this report focus on changes in the healthcare and retirement provisioning, their social and economic impact will be felt more broadly once respective stakeholders take action.

This report highlights that to achieve the necessary changes, a shift in thinking is required. It will be necessary to:

- recognize and emphasize the opportunities, both collective and individual, in the ageing of our societies
- develop collaborative ways to shape the "silver society", sharing benefits and risks rather than merely shifting the burden
- address the challenges associated with retirement and healthcare using an integrated approach, and stimulate action on joint solutions
- shift perceptions of retirement from an abrupt end to working life to a more gradual transition of forms and levels of activity
- approach healthcare from a patient-centred, life course perspective, with an increasing focus on prevention

The strategic options presented in this report were selected and elaborated through a two-year process of engaging leading minds and key decision-makers – from the private sector, public sector, academic institutions and civil society – in envisioning the future and exploring solutions. Over 50 strategic options are summarized in Appendix B, of which 11 have been described in detail. While each strategic option can stand alone, overarching themes give them synergy and make them relevant to countries at different stages of economic development. They are intended to serve as a starting point for further discussion and exploration of action by decision-makers.

The World Economic Forum is committed to continuing to play a prominent role in facilitating this discussion and action, through its:

- Global Redesign Initiative
- Global Agenda Councils on Ageing Societies, Population Growth, Global Healthcare System Cooperation, Chronic Diseases & Conditions
- Financial Services industry partnership programme and dialogue series
- Healthcare industry partnership programme, including the Wellness Initiative and the Network for Non-Communicable Diseases Prevention Initiative and dialogue series
- Official World Economic Forum meetings

In the meantime, we hope that readers of this report are persuaded that the ageing of society can be transformed into a positive experience, and that they are inspired to play their role in the multistakeholder collaboration that is required to make this a reality.

This report is also available at: http://www.weforum.org/en/initiatives/Scenarios/FinancingDemographicShifts/index.htm

Appendix A:

Three Illustrations of the Future of Pensions and Healthcare in a Rapidly Ageing World

The global scenarios outlined here are the result of the first project phase. Scenarios should not be considered as forecasts. Rather they are intended to be challenging yet plausible descriptions of possible future environments in which pensions and healthcare provision could unfold. These scenarios have been used as the basis to generate ideas for the strategic options presented in this report and to test their robustness. For further details and to access additional scenarios for China and Italy, please see the phase one report, *The Future of Pensions and Healthcare in a Rapidly Ageing World: Scenarios to 2030*.[9]

The Winners and the Rest: The world economy gets back on track. As capital markets and tax revenues recover, most countries can find just enough money to keep health and retirement benefits close to historical levels, and politicians gratefully postpone the need for painful decisions.

In relative terms, however, those benefit levels start to seem increasingly inadequate as wealth inequality continues to rise. The lifestyles of the "winners", with comfortable retirements and access to impressive new medical technologies, diverge further and further from those of "the rest".

By 2030, climate change and resource shortages have caused another economic slowdown. The financial consequences of the demographic crisis can no longer be postponed, and they look more difficult than ever to tackle in the context of deeper and more entrenched social divisions.

We Are in This Together: The shock of recession provokes a worldwide backlash to extreme wealth inequality in the early 2010s. An emerging sense of global interdependence is solidified by the increasingly obvious and negative impacts of climate change, and the impact of a major pandemic.

As a result, electorates around the world demand more responsible and far-sighted leadership. New progressive movements emerge and come to power, committed to universal social security and healthcare. They simplify and harmonize tax systems, to distribute wealth more equally.

In the search for efficient and inclusive ways of managing the financial implications of ageing societies, governments emphasize community-based initiatives and "back-to-basics" in healthcare. However, public debt remains a serious concern in 2030 due to high levels of public spending.

You Are on Your Own: The world economy is slow to recover from a prolonged and serious global depression. With dramatic shifts in consumer behaviour and spending levels, continued market volatility and protectionist trade policies, global growth remains only 2% into the 2020s.

As a result, state systems run into fiscal difficulty and pension funds suffer crises. Struggling to borrow or raise taxes sufficiently to cover soaring welfare costs, many governments take aggressive measures to privatize healthcare systems and "retire retirement".

By 2030, a new paradigm has emerged, in which increasing numbers of governments limit themselves to providing only minimal, means-tested assistance to the most needy, regardless of age. The burden of retirement and healthcare is shifted onto individuals and corporations.

9 http://www.weforum.org/en/initiatives/Scenarios/FinancingDemographicShifts/index.htm

Appendix B:

Comprehensive List of Multistakeholder Strategic Options

The 11 strategic options described in detail in this report were arrived at by a process of selection and consolidation from the longer list of strategic options presented here.

RETIREMENT-FOCUSED

Control and transform demand

- **Raise the official retirement age**
  For example, by gradually adjusting it to the changes in life expectancy.
- **Implement phased retirement and flexible work arrangements**
  Enables employees to retire gradually and work reduced hours over a period of time before full retirement. Flexible work examples: compressed work weeks, job-sharing, telecommuting, retiree job bank.
- **Gradually reduce the replacement ratio for current and/or future retirees**
  For example, by making the retirement benefits dependent on average salary of whole career as opposed to final salary or by not correcting inflation fully.

Stimulate consumer empowerment

- **Provide financial education and planning advice**
  Financial education related to retirement products should help promote consumer understanding of the changing retirement environment and the need for long-term savings and investment products. Financial education helps consumers budget and manage their income, save and invest efficiently.
- **Provide transparent retirement benefits information and financing planning tools for consumers**
  Integrated overview of current and projected benefits (pillar 1-3). Provide tools so people can project their financial future.
- **Stimulate cross-border pension schemes**
  The portability of pensions across nations allows people to be far more mobile and thus work in various countries. A cross-border pension scheme makes the retirement benefits far more transparent.

Strengthen funding and savings

- **Stimulate automatic enrolment to encourage retirement plan membership and savings**
  Automation includes auto-enrolment (with or without opt-out option), auto-escalation of savings, automated asset allocation via default funds (e.g. life-cycle funds) and automated spend-down. Includes simplifying plan enrolment materials and choices. Members need to be informed of fees they are paying and choose low-cost options to maximize returns.
- **Stimulate micropensions schemes for the poor**
  For example, the micropension scheme in India, managed by the government-run financial institution UTI, allows each worker to open a retirement account with a minimum contribution of Rs. 50 (US$ 1.15) and withdraw money only at age 58. The idea is to pool accounts and invest in the stock market and other financial instruments much like any pension fund.
- **Make rich retirees contribute to the funding of the PAYG public pensions of less rich retirees**
  In many PAYG pension systems, retirees (rich and less rich) do not pay pension-funding related taxes. There could be an argument that richer retirees do pay these pension-specific taxes to partly finance the PAYG public pensions of less rich retirees. This would also improve the intra- and intergenerational equity.
- **Promote flexible, long-term savings arrangements**
  For example, develop pension plans which allow participants to draw from it in major life events (e.g. unexpected health expenditure, mortgage, education, etc.). This will address younger generations' aversion to save in pension vehicles because money is locked for too long, while as an individual gets older their concern would be centred on protection against longevity risks.

Optimize capital allocation

- **Ensure that pension plans provide sufficient (international) investment possibilities**
  This allows people to benefit from overseas investment opportunities and – potentially – realize higher returns on their pension investments.
- **Ensure that pension plans provide the opportunity to invest in low-cost funds**
  Many private pension plans have relatively high fund management fees. By providing low-cost investment opportunities (like index funds), consumers have the opportunity to realize higher net returns from a long-term perspective.

Improve efficiency and cost effectiveness

- **Strengthen the administrative efficiency of pension funds, e.g. via outsourcing**
  Examples: total benefits outsourcing (including administration and delivery for all wealth, health and flexible benefits); total retirement outsourcing (including administration and delivery for all retirement benefits); and stand-alone outsourcing (e.g. of defined benefit administration only).
- **Outsource investment management activities**
  Examples: outsourcing institutional investing and/or investment manager selection.
- **Facilitate retirement in low-cost countries**
  Retirees from high-income countries migrate seasonally to or retire in a low-cost country.

Enhance risk management and risk sharing

- **Issue government longevity-indexed bonds and inflation-linked bonds to hedge long-term risks**
  Develop markets to hedge long-term risks, for example long-dated bonds beyond 30 years and index-linked bonds. According to an OECD analysis, through their national statistical institutes, governments could encourage or support the development of a private market in longevity hedging products by producing a reliable and widely accepted longevity index as a benchmark for pricing hedging products. Alternatively, the data and information could be made widely available to produce this index.
- **Promote annuities markets and instruments to hedge longevity risk**
  One reason why annuity markets are underdeveloped despite potential demand is the information asymmetry in annuity market transactions – the buyer knows more than the seller about his or her life expectancy. Insurers are uncertain of the risks of systematic mortality improvements, so they have been reluctant to hold an extensive life annuity portfolio.
- **Promote risk sharing in pension arrangements**
  Promote risk sharing between employers and employees through hybrid plans that combine defined benefits and defined contributions features.
- **Governments fundamentally rethink their role in ensuring old-age security**
  For example, governments do not provide a universal pension plan for everybody, but for the neediest only. Governments focus on covering tail risks, e.g. extreme longevity risks

HYBRID

- **Promote work for older cohorts**
  Shift government policies and corporate strategies towards "lifetime employability". Introduce a programme to help retirees find new work roles to remain active and healthy. Employers are a key in shaping the employment prospects of older workers and governments can introduce supporting regulations, e.g. review existing policies on mandatory retirement, age discrimination, part-time employment, gradual exit from work and government subsidies for employers hiring older workers.
- **Personalize underwriting of health insurance and life insurance based on health habits**
  This would give customers a strong incentive to adopt healthy lifestyles. The focus is on healthy habits and not the overall health of the person, as the latter is not fully within the control of the customer (e.g. chronic diseases within the family).

- **Provide employee benefits tool to employees**
  Providing flexible benefits to accommodate for personal preferences, lower costs and to encourage individual responsibility.
- **Provide transparent information to consumers regarding the costs and quality of pension and healthcare providers**
  Based on this information, consumers are better equipped to choose their preferred provider of retirement and healthcare services. This is especially relevant when consumers have been given appropriate incentives, e.g. to manage their healthcare costs.

- **Stimulate integrated retirement and healthcare benefits schemes**
  For example, an individual plan that covers both retirement and healthcare benefits. The plan provides a financial incentive in the form of higher pension benefits to individuals who accrue low healthcare claims over their lifetime.
- **Prefund public pension and healthcare systems through special government investment funds**
  For example, Norway use the surplus wealth produced by Norwegian petroleum to finance future pension liabilities. Other countries such as the US and China also have special state pension funds. The same principle could be applied to prefund the expected rise in old-age healthcare expenditure.
- **Expand the labour force to strengthen the funding of the PAYG retirement and healthcare system**
  In many high-income countries, the labour force is expected to peak in 2010 and then shrink significantly. Additional workers will be needed to fund the PAYG retirement and healthcare systems. Possibilities to increase the labour force are stimulating more women and older people to work, immigration of skilled, young workers from abroad or by implementing policies to increase the fertility rate, for example through tax deductions and child care benefits. This last option will – of course – take a long time to have an effect on the number of workers.
- **Further strengthen the funding of the PAYG retirement and healthcare systems by improving labour productivity**
  Labour productivity could be increased through technological innovation and/or further improving educational levels
- **Stimulate and facilitate home equity release products, such as reverse mortgages**
  A reverse mortgage (or lifetime mortgage) is a loan available to seniors, and is used to release the home equity – the difference between the market value of the house and the unpaid balance of the mortgage plus any outstanding debt over the house – in the property as one lump sum or multiple payments. The funds from a reverse mortgage can be used for anything: healthcare expenses, daily living expenses, home repairs or modifications, to pay off existing debt, and other needs.

- **Ensure that integrated retirement and healthcare plans provide a broad range of low-cost investment opportunities**
  See column to the left. From an investment perspective – to optimize the return in the long-run – it is important to profit from overseas investment opportunities and to invest against low costs.

- **Stimulate community-based and informal care solutions**
  Formally involve retirees and family members in care provisioning. For example, Norway has historically placed emphasis on a programme in which family members – usually daughters or daughters-in-law – are paid salaries by the government to provide home help services for an elderly and/or disabled relative or non-relative. This is also relevant for many less-developed countries, where the family traditionally played a strong role in old-age care and security.
- **Enhance the use of electronic records and a centralized database**
  The transformation from paper-based to electronic medical records has resulted in notable cost savings where implemented, but there has been less comprehensive action than promises. In countries that are implementing the use of electronic records, standards for medical technology records and for associated consumer analyses on healthcare and retirement needs are essential but missing.
- **Combine information and payment systems**
  Many countries and providers keep duplicate records of base information and make multiple payments to the same people. Combining information and payment systems will not only improve efficiencies, including by removing updating errors, but also bring data together from which further detailed analysis of joint retirement and healthcare cost issues might be analysed.

- **Introduce catastrophic post-retiree healthcare coverage into the retirement plan**
  Public policy initiatives to alter the relative costs of healthcare pre- and post-retirement have implications for retirement behaviour. Post-retirement health insurance which includes catastrophic risks could be integrated into retirement plans.
- **Invest in and regulate macro swaps**
  One form of macro swaps allows the retirement fund and healthcare industries to swap their complementary exposures to longevity. The swap allows retirement funds to reduce their exposure to unexpected increases in longevity by transferring the "increased" liabilities to healthcare companies, whose higher revenues from increased age-related healthcare expenses may allow them to meet these liabilities.
- **Align public healthcare and pension policies**
  The government assumes the role of risk manager, has control over the budget, and streamlines the decision-making process among different ministries which are involved in providing social security pensions and healthcare and which approach it from a lifecycle perspective.

HEALTHCARE-FOCUSED

- **Shift delivery of healthcare to a patient-centred system**
  A patient-centred system fundamentally reorients healthcare from a reactive, curative and disease-focused approach to a preventive, lifespan and health-focused approach. Shifting delivery of healthcare to a patient-centred system should help reduce the financial pressures of an ageing society on healthcare systems by encouraging individuals to take ownership of their health across their lifespan, and ensuring a more holistic care for elderly patients with multiple ill health conditions.
- **Promote active ageing**
  Promote active ageing and reduce morbidity through physical activity. Encourage the elderly to remain engaged cognitively and socially, occupationally and vocationally, emotionally and spiritually.
- **Give consumers a stake in managing and limiting their healthcare expenses, e.g. through co-payments**
  Design health plans conducive to raising cost awareness and individual responsibility (e.g. out of pocket cost, tiered benefits), contribution levels and incentives.
- **Stronger focus on early detection and preventive healthcare**
  Early screening, diagnosis and detection increase the chances of successful treatment and minimize treatment costs. Consolidating data helps address connections between interdependent risk factors.

- **Promote wellness and enable healthy behaviours**
  For example, employer-based programmes focusing on building a healthy worksite culture.
- **Promote health literacy programmes and ageing education**
  Ensure that individuals become health literate – learning about healthy living and nutrition and treatment options. This is currently a prerogative of doctors. A group of learned intermediaries and informed patients could act as check and balance to the system.
- **Promote public health campaigns and programmes**
  For example, "Vamos Por Un Million de Kilos" (Let's Lose a Million Kilos), a national campaign to get Mexicans to collectively trim one million kilos. The campaign reached its goal in just four months with 2 million people.

- **Stimulate health savings accounts**
  (Pre-tax) health savings accounts give consumers a stake in managing their medical expenses and let them save for future ones.
- **Stimulate automatic enrolment to encourage healthcare plan membership and savings**
  Automatic enrolment (with or without opt-out option) has proven to be an effective instrument to increase the participation rate.

- **Allocate health funding according to economic merits**
  This approach aims to publicly agree on fair and consistent ways to set public healthcare funds according to merits, for example to decide which healthcare services to fund within available resources and to reduce government costs over the lifecycle. Explicit priority setting of health services is being debated in an increasing number of countries.

- **Improve effectiveness of healthcare supply chain by removing disincentives and misalignment of regulation**
  An example of aligning incentives is pay-for-performance (P4P). P4P is a way of structuring incentives in the healthcare system to reward doctors and hospitals for meeting agreed-upon efficiency and quality targets that provide higher quality healthcare for a lower cost. P4P is a radical departure from traditional incentive methods in which doctors and hospitals are paid for the services they provide, regardless of the quality of care or the effectiveness of the clinical outcomes.
- **Ensure that cross-border healthcare delivery benefits all stakeholders**
  Cross-border healthcare delivery takes two forms – medical travel, in which the patient travels to another country for treatment, and cross-border telemedicine or remote diagnostics, in which the patient interacts electronically with a healthcare provider in another country.
- **Introduce mini clinics in local communities**
  Mini clinics bring basic routine medical and preventive care closer to the consumer's neighbourhood.
- **Personalize/tailor healthcare using "genomics"**
  By using "genomics", or the identification of genes and how they relate to drug treatment, personalized healthcare will enable medicine to be tailored to each person's needs. Personalized healthcare begins with health information technology (HIT) and an electronic health record.
- **Enhance value-based healthcare purchasing**
  The concept behind this new approach, practised by the National Health Service of the United Kingdom, is that buyers should hold providers of healthcare accountable for both cost and quality of care. Value-based purchasing brings together information on the quality of healthcare, including patient outcomes and health status, with data on the financial outlays going towards health. It focuses on managing the use of the healthcare system to reduce inappropriate care and to identify and reward the best-performing providers.
- **Introduce regulations conducive to high-quality generic drugs and affordable branded drugs**
  Engage governments, healthcare (pharmaceutical companies) and financial services in developing a way to secure higher-quality generic drugs or affordable branded drugs targeted for better access to medication. Although controversial, some means to realize this is open sourcing of R&D and reviewing the intellectual property system.

- **Promote reinsurance to manage healthcare risks**
  Reinsurance is used to a limited extent to manage healthcare coverage and costs, and there is no capital market activity for healthcare-related risks.
- **Personalize underwriting of health insurance and life insurance based on health habits**
  This would give customers a strong incentive to adopt healthy lifestyles. The focus is on healthy habits and not the overall health of the person, as the latter is not fully within the control of the customer (e.g. chronic diseases within the family).

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