MORE YEARS, BETTER LIVES

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Strategic Research Agenda on Demographic Change

Joint Programming Initiative (JPI) "More Years, Better Lives

–

The Potential and Challenges of Demographic Change"
2014

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BETTER LIVES

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on Demographic Change

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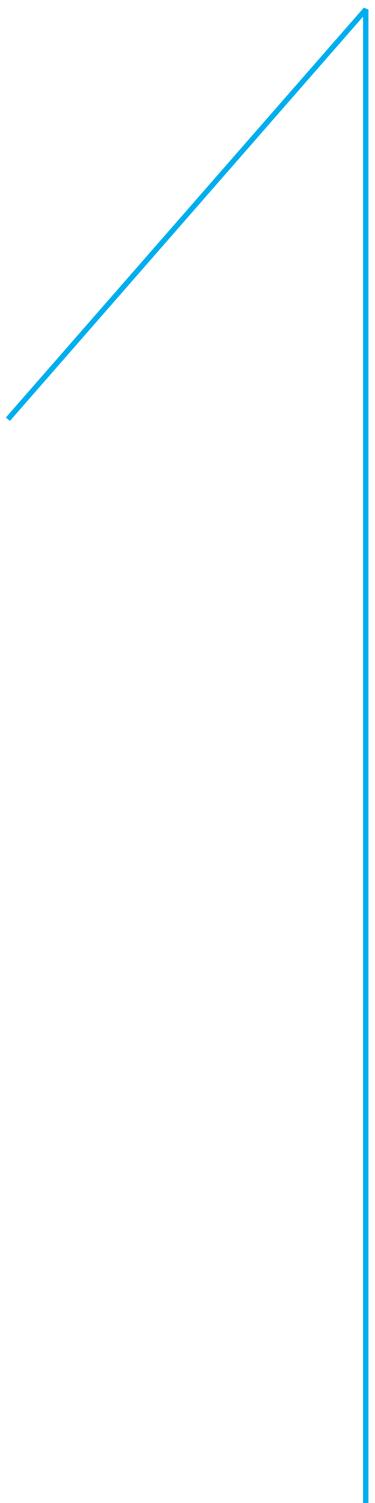
PREFACE

Demographic change is one of the "Grand Challenges" facing Europe[1]. Fertility rates are below replacement level, migration is changing the shape of many societies and, most fundamentally, we are living longer. As a result, Europe is an ageing continent. For over a century, average life expectancy has risen by over two years every decade, and in the next 50 years the proportion of people over the age of 60 is expected to rise from one in six to one in three[2].

Longer life should be good news: more years could mean more opportunities for people to live rewarding lives and to contribute (in many ways) to a healthy and creative society. However, there are real challenges. As we age, our quality of life may be limited by poor health, by poverty and age discrimination, while the economy, and social cohesion, are increasingly challenged by a changing dependency ratio. We have yet to find good ways of distributing employment across the extended life course and many countries are trying to sustain a four (or even five) generation population, with welfare models designed for three. Although demographic change affects young and old, the most dramatic change is the growth in numbers of older people. But older people are not a uniform group:

they vary widely in ambitions, expectations, resources and capabilities, and most no longer conform to traditional stereotypes of "old people".

Although countries and regions within Europe differ greatly, we face many common challenges and opportunities, and many issues where more or better research could lead to improvements in the lives of individuals and in the functioning of the economy and society through better policy and practice. For that reason, in 2010 nine Member States agreed to use the EU's Joint Programming Initiative framework to explore how they might coordinate their research into the implications of demographic change. The aim was to share knowledge; to reduce duplication of effort; to ensure that the best possible use is made of funds and expertise; and to capitalise on opportunities for comparative studies. The work was supported by the European Commission through the J-AGE project[3], as part of the 7th Framework Programme. As the work proceeded, other states joined the JPI, with a total to date of 14.

This document is our shared Strategic Research Agenda. It aims to help all the participating countries, and other research funders like the European Commission, to prioritise

1. The seven "Grand Challenges" of the Europe 2020 Strategy concern: Health, Demographic Change, and Well-being; Food Security; Secure, Clean and Efficient Energy; Smart, Green and Integrated Transport; Climate Action, Resource Efficiency and Raw Materials; Inclusive, Innovative and Secure Societies; and Secure Societies.

2. Eurostat (2012) Active ageing and solidarity between the generations, Brussels.

3. http://www.jp-demographic.eu/about/j-age-1

and design research activity related to demographic change: an issue which cuts across many fields of academic study and public policy. It was produced in discussion between the representatives of the participating states, the national research bodies, five transnational working groups of scientific experts, and representatives of European stakeholder groups. We were also informed by policy documents of the United Nations, and the European Union, and by previous research work, notably by the Futureage project, and the European Innovation Partnership on Active and Healthy Ageing.

There are no simple "European" solutions to the challenges of demographic change, since Member States and their Regions vary greatly in history, culture, economic circumstances and welfare models. Our aim is to ensure that policymakers and practitioners, at all levels, have access to the research evidence they need to enable all their citizens to live the most satisfying and productive lives possible. We believe that the research proposed in this paper will help to ensure that demographic change becomes an opportunity for Europe and its citizens: so that "more years" really do mean "better lives".

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Acknowledgements

MORE YEARS
BETTER LIVES

Contents

EXECUTIVE SUMMARY

Demographic change

Demographic change is changing the shape of Europe. Rising life expectancy, combined with low fertility rates and complex patterns of migration, mean that while the size of the population remains stable, its distribution and average age is rising steadily. At the same time general health is improving, so that today's 65-year-olds are likely to be healthier and more active than their parents were at the same age, and the proportion of people aged over 80 is rising rapidly. As a result, for the first time in history, a substantial – and growing – proportion of the population is healthy and active but not in the workforce.

Demographic change is caused by three factors: rising life expectancy, an upward trend which has been consistent for over a century; low fertility rates, which vary between countries, but are overall below replacement rate; and migration, within Europe itself and between Europe and the rest of the world, which may help offset the effects of ageing in some counties or regions, but which brings its own challenges.

Alongside this change in the structure of the population, we are seeing a reshaping of the lifecourse, from a fairly simple one with three stages – childhood, working life and retirement – to one with four stages – childhood, mid-life, the new phase of active later life[4] and old age. At the same time, patterns of family structure, and intergenerational relationships, rights and responsibilities are all changing .

This is not happening in a vacuum. Changes in the nature of work – both paid and unpaid – are taking place, as are the expectations we have of government. The financial crisis which began in 2008 has led governments to question the viability of welfare models which had been relatively stable for a generation or more. Developments in biotechnology and assistive technologies are enabling people to live longer and healthier lives, but sometimes at a substantial cost. Communication technologies are transforming how people interact, how business is done and how public services are delivered. These changes have positive and negative dimensions and can present special challenges to some older people.

Demographic change affects people of all ages, but the changes affecting older people are particularly marked. In this paper we use the term "older people" generally to embrace all people over the age of 50. They include both the "young old" who are active and healthy, and the "very old" whose capacities are

4. Sometimes referred to as the "third age".

limited by medical conditions, frailty and disability. We recognise that the age of 50 is an arbitrary point, but in many countries the 50s is the period when health problems, disability and age discrimination become more common and begin to limit opportunities in life and work, and people begin to consider and plan for a new phase of life.

Opportunities and challenges

Demographic change provides a great opportunity: for all of us to live longer, more active and rewarding lives, to fulfil ambitions, to see grandchildren grow and to contribute to society through informal activities and voluntary work. However, it also presents us with significant challenges. Are social, economic and political structures created when 40 years of employment was sufficient to pay for the care of the young and old, still sustainable when "retirement" grows from five years to twenty or even thirty? What is a fair distribution of resources and wealth between generations? What about those who still die in their 60s, or whose longer life involves more years of illness and disability? Who will win and who will lose, and how far and when should the state intervene?

Systems and institutions designed to ensure the health and welfare of citizens are already changing and they will have to adapt even further in the future. Retirement ages are rising, pensions are being redesigned, and welfare benefits are being reshaped. In some places working practices are being changed to allow people to stay longer in employment, and technology is making this easier for some people, as well as enabling the very old to live more independent lives. Yet many of the changes, and their implications, are not well understood, and the evidence base for making good policy is uneven, both within countries and regions and across Europe.

A Joint Programming Initiative

Recognising the scale and importance of demographic change, many European countries are seeking better evidence to inform policymaking. In 2010 nine of them came together to explore the potential for collaborative and comparative research, using the EU framework for Joint Programming Initiatives (JPI)[5]. The work was supported by the European Commission as a Coordination Action of the 7th Framework Programme, through the J-AGE consortium of nine Member States.

This Strategic Research Agenda is one outcome of this work, developed iteratively by five scientific working groups, a Scientific Advisory Board and a Societal Advisory Board. It seeks to inform policy and to explore what it means to be born into, grow up in, and grow older in, a world where both five generation families and single person households are becoming increasingly common and where extending lifespan is challenging traditional notions of social and economic sustainability. Importantly it also recognises the diversity of individual experience: while many people are living beyond the age of 90, some barely survive beyond retirement.

Demographic change is not just about ageing: factors like fertility rates, rural depopulation, and migration are all significant issues. Furthermore, some of the problems, especially in health and social care, which arise in later life could be prevented by interventions earlier in the lifecourse. Since ageing is the largest of the changes, it is the principal focus of our work, but our research agenda also touches on the wider issues.

The Agenda has a particular focus on the kinds of research which can inform policy. The term is sometimes associated with the short term positions of particular political parties or governments. Here we take a broader view of policy: as the whole complex network of objectives set, at all levels, by governments and by commercial and third sector organisations. We are concerned with the major demographic issues facing some or all of these agencies. The questions we have addressed will remain important in the long term, whatever specific responses individual agencies and governments may adopt from time to time.

5. Initially there were nine countries, but the group later expanded to fourteen, including Canada.

Four research domains

Our work began with the creation of five expert working groups, drawn from all the participating countries[6]. Each prepared a report, and these provided the basis for the development of the current agenda. The ideas from the five working groups were grouped into a framework of four overlapping research domains (Figure 1., page 9). Each domain addresses a single broad policy issue and includes a series of more specific topics to be considered.

The four domains are:

Quality of life, health and wellbeing:

How to ensure the best possible quality of life for all people, throughout their lives (including the final stages), recognising the diversity of individual circumstances and aspirations, and the role of social relationships in fostering individual wellbeing.

This is arguably the overarching objective which all Governments seek to achieve. We need to better understand what quality of life means for different people at different life stages and to use that knowledge to evaluate the impact of policies in all the other domains.

Key questions include:

› *How can we properly understand and measure quality of life and well-being?*
› *What is the role of health in quality of life across the lifecourse?*
› *How do we understand the social dimensions of quality of life, including social inclusion?*
› *How does paid and unpaid work affect quality of life?*
› *How can the physical and social environment be designed to secure quality of life?*
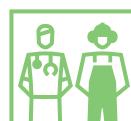
Economic and social production:

How can economic and social production be maintained across the extended lifespan in ways that are sustainable, equitable, and efficient in the use of human and technical resources?

Production is a complex area. As our active post-retirement lifespan expands and young people take longer to enter the paid economy, the boundaries between paid and unpaid work are shifting.

Key questions include:

› *How do we understand and measure the changing social and economic value of paid and unpaid work?*
› *What models of labour market organisation, regulation and legislation support the effective use of individuals' skills and experience across the lengthening lifecourse?*
› *How should age management practices and policies be developed to better suit a more age-diverse workforce?*
› *How does health affect employability in later life?*
› *How can lifelong learning best contribute to maintaining productivity across the life course?*
› *What are the implications of greater population diversity (in age and background) for the workforce and its management?*

Governance and institutions:

How might institutions and decision-making processes need to change, at all levels from local to European, to meet emerging needs and to ensure that all citizens can be full participants in decisions affecting their lives as the normal life course extends?

Systems of governance, through which decisions are made, have the potential either to empower or to exclude citizens, or particular groups of citizens, from control over their lives and thus over their wellbeing. Often the best, and most economical, solutions for older people require the integration of separate services, but, because institutional responsibilities and structures have evolved to meet the needs of society in the past, they are often structured in ways that make such integration difficult and expensive. Furthermore, not all the emerging needs are well met by existing institutional structures, especially in relation to learning and access to technology.

Key questions include:

› *How can we achieve better integration between policies and services, including those providing health care and social care?*
› *What factors support social, civic and economic participation across the life course?*
› *How can we ensure that people have access to relevant opportunities for learning at all stages of the life course?*
› *What are the implications for older people of the spread of – and routine use of – information technologies?*

Sustainable welfare:

How is it possible to secure adequate levels of social welfare for all people, as the age balance of the population changes, and the proportion who are economically inactive grows?

Welfare systems, in the broad sense, have evolved differently in different countries, but all will be challenged by demographic change.

Key questions include:

› *What can we learn from comparative studies about the relative adequacy and sustainability of different welfare models?*
› *How can we develop fair and sustainable ways of distributing resources, rights and responsibilities between generations?*
› *How can we develop the potential contribution of informal services to the welfare of older people?*
› *How can we ensure that patterns of migration enhance, rather than damage, quality of life, social cohesion and social inclusion?*
› *What models of care are most appropriate and effective for people who are nearing the end of their lives?*

Figure 1 shows the relationship between the four domains and the broader themes of social cohesion and inclusion. As it indicates, they overlap with each other and some of the most important research issues are to be found in these overlapping areas.

Figure 1:
The four research domains

See also the more detailed
Figure 2., page 37

demographic change

society

sustainable welfare
& intergenerational equity

social inclusion &
inequalities

public — governance
& institution — people of
all ages — social & economic
production — private

social cohesion &
living environment

quality of life
health & learning

individual

technological & environmental change
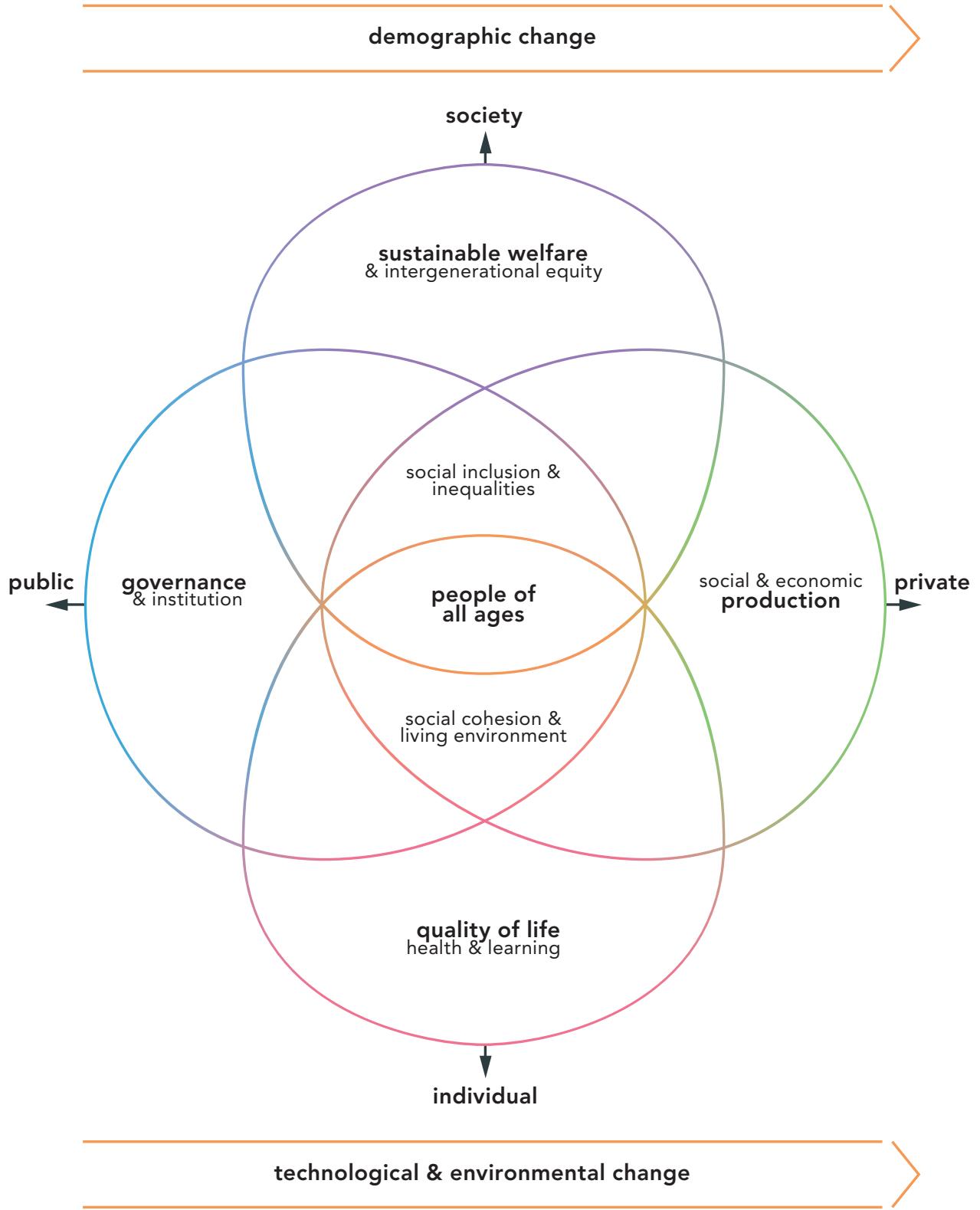
Our approach to research

The Joint Programming Initiative is a collaborative project between participating countries, not a European funding programme. Implementation will therefore depend on the willingness of national governments and funding agencies to take part. We believe that the research proposed would provide good quality evidence to inform policymaking, and that our arguments will also convince EU agencies and others to support work on particular issues from the agenda.

In choosing which of the many interesting issues identified by the scientific working groups, we have prioritised those:

› *Which could inform us about "what works": that is, with a potential application to policy and practice;*
› *Where demographic change is the central issue, as distinct from broader issues where demography plays a marginal role;*
› *Where a European comparative perspective is likely to add value to what can be achieved by the usual national research programmes;*
› *Which do not duplicate the work of other programmes, especially in the field of biomedical and technology research where much research funding is currently concentrated.*

In addressing these issues, we would expect to encourage research which:

› *Is innovative and interdisciplinary;*
› *Is of high scientific quality;*
› *Builds on previous work;*
› *Actively engages relevant end-users, including older people, as participants and co-researchers;*
› *Presents results both in conventional academic forms and in policy relevant ones;*
› *Balances the need for long term work with the shorter term priorities of policymaking.*

Some issues are particularly urgent, either because they address specific current policy priorities, or because they provide a necessary basis for future work. The JPI will therefore, from time to time, mount "fast track" projects to address such issues. The first of these was the JPI "fast track" project on data conducted in 2013.

In the early stages of preparing the Agenda, it became clear that, although quantitative data sources are critical to research on demographic issues, no one had an overview of the adequacy of existing sources of data. This is because of the large number of sources, they vary greatly between countries, and relate to very different scientific disciplines. Accordingly, twelve of the JPI members agreed to mount a "fast track" project to map data sources relevant to demographic change. Twelve national experts reviewed their own national data sources, coordinated by The Max Planck Institute for Demographic Research, which also reviewed European and international sources.

The result was a critical analysis of 337 national and European quantitative databases. This is now publicly available online[7]. It provides an invaluable new resource for researchers and policymakers and particularly for those addressing the issues raised by the present Agenda. The project report also identifies ways in which the evidence base could be strengthened.

7. http://www.jpi-dataproject.eu/

The Agenda: eleven research topics

Many important and interesting issues were identified by our Scientific Working Groups, but because resources are necessarily limited we used the criteria listed above to identify eleven broad topics as our priorities for work in the short and medium term.

All are important, and we do not suggest that any one is more important than the others. At any given time, individual countries and agencies will select which to engage with, in the light of their own national priorities.

The eleven topics are:

1. **Quality of life, wellbeing and health**
   To develop agreed measures, to explore how these vary between individuals and groups and how best to use them to evaluate the impact of policies and practices.

2. **Learning for later life**
   To better understand how learning can contribute to quality of life across the extended lifespan and how opportunities for such learning can best be made available by public, private and third sector means[8].

3. **Social and economic production**
   To explore the nature, scale and value of the contribution of older people to society, in both paid and unpaid roles, and the relationships between the two.

4. **Participation**
   To explore what kinds of systems, institutions and interventions are most effective at engaging and empowering people, in particular individuals from groups which are traditionally excluded.

5. **Ageing and place**
   To understand what kinds of housing, transport and urban design policies are most effective at enabling people to remain independent and socially engaged throughout the lifespan.

6. **A new labour market**
   To identify effective and equitable ways of distributing employment across the extending healthy life course, including extending paid working life through governance, management and regulation.

7. **Integrating policy**
   To explore ways of integrating policy and practice across traditional institutional and professional boundaries, and to evaluate the costs and benefits of such approaches.

8. **Inclusion and equity**
   To identify who benefits and who loses, and in what ways, from demographic change; how inequities can be reduced, and solidarity supported.

9. **Welfare models**
   To understand the relative strengths and weaknesses of different welfare models, how sustainable they are in the longer term, and how countries might learn from one another.

10. **Technology for living**
    To explore how existing and emerging technologies can better contribute to the quality of life, contribution, and social engagement of people of all ages.

11. **Research infrastructure**
    To support researchers and institutions in developing interdisciplinary methodologies and expertise; to undertake systematic reviews on demographic issues; and to improve the quality and accessibility of data to support demographic research.

Conclusion: gathering evidence to inform policy

Demographic change presents Europe with a complex range of issues, challenges and opportunities. The "Europe 2020 Strategic Agenda"[9] commits all Member States to the pursuit of "smart, sustainable and inclusive growth" across Europe. If policymaking is successful, it could result in both a sustainable economy and an improved quality of life for all people of all ages. It would enable older people to remain active and contributing members of wider society, and ensure the protection of those at greatest risk of poor health and social exclusion. This will not happen by chance and in the past the reverse has often been the case. Achieving this goal calls for long term strategic thinking and policymaking, based on good evidence. We believe that this strategy will ensure that policymakers and practitioners, at all levels, have the evidence needed to ensure that all citizens of Europe have the most satisfying and productive lives possible.

9. Europe 2020: A strategy for smart, sustainable and inclusive growth. Brussels, EC 2010.
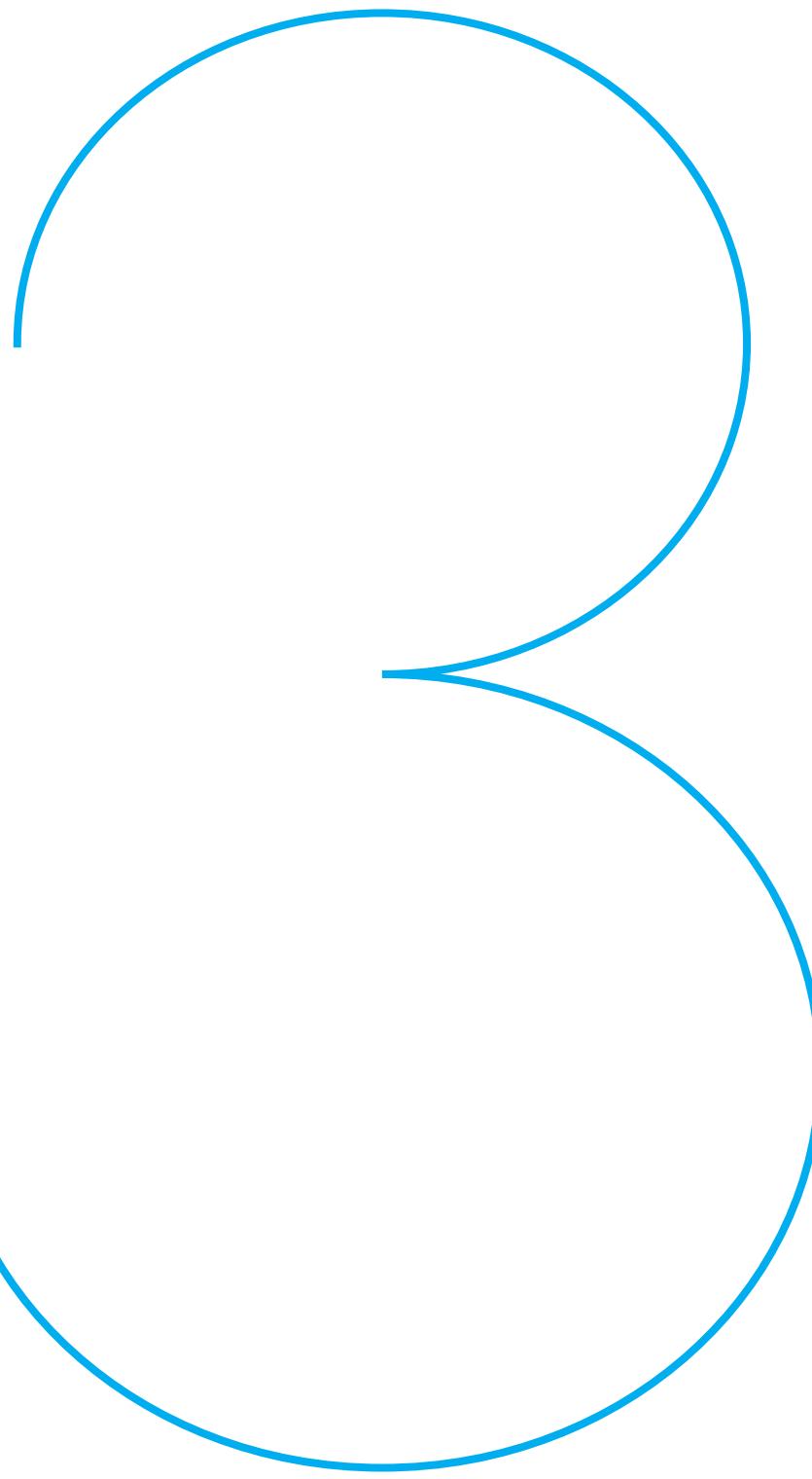
THE "GRAND CHALLENGE" OF DEMOGRAPHY

A unique challenge

The demographic challenge facing Europe in the next decades is unique in human history. Now that people are living for twenty, thirty or even forty years after leaving paid work, the historic idea of "retirement" as a few years of "holiday" at the end of a working life is no longer sustainable – socially, psychologically or economically. The challenge is further complicated by changing fertility rates and patterns of migration.

Longer lives should mean more and better opportunities for all, and the key challenge is to realise this as equitably as possible. However, welfare and economic models developed for a lifespan of 70 years or less are being placed under great strain as it stretches towards 100. What happens to family structures and the relationships (social, financial, emotional) between generations as we move from a world of three-generation families to a world of five-generation ones? What will it mean to age, in a world in which many people may live for several decades after traditional "retirement age"? What are the implications for relationships and equity between generations.

Demographic change is not the only factor at work: many other things are changing the nature of lives in Europe in the 21st century. However, the purpose of this research agenda is to help us better understand the nature of demographic change and its implications, in order to inform policies and practices which can secure the best possible quality of life for all the people of Europe.

Europe is not alone in facing this challenge. The ageing of societies is a global phenomenon, affecting all continents and most countries, with varying degrees of urgency. This was reflected in the Madrid International Plan of Action on Ageing, adopted at the Second World assembly on Ageing in 2002, and in Europe with the Council Declaration on the European Year for Active Ageing and Solidarity between Generations (2012) and the declaration of the Vienna Ministerial Conference on Ageing[10] which agreed four policy goals for Europe by 2017, that:

> › longer working life is encouraged and ability to work is maintained;
> › participation, non-discrimination and social inclusion of older persons are promoted;
> › dignity, health and independence in older age are promoted and safeguarded; and
> › intergenerational solidarity is maintained and enhanced.

10. These are described in Annex 3.

This agenda endorses these goals, in fact, they can be understood as being in close correspondence to the four research domains described below. However, our perspective is much wider, recognizing that demographic change has implications across the whole life course; that early experiences impact on later life; and that changing demography means changing relationships, rights and responsibilities between generations.

Demography: what is changing?

Demographic change is the product of three factors: the fertility rate, which measures how many people are born; the death rate, which measures how many die; and migration, which measures how many come in and go out. Research can help us understand the nature of these changes and, in particular, why some groups suffer high mortality; why birth rates vary between and within countries; and the scale, nature and impact of migration in all its forms.

The absolute death rate is affected by the size of age cohorts, reflecting past rises and falls in the number of children born, but also – and most critically – by life expectancy, which has been rising consistently across Europe for more than a century[11]. Although the causes of improvement have changed over time, the long term trend is remarkably consistent. From the mid-19th century improvements in sanitation and public health were followed by improvements in diet; improvements in education; and the overcoming of most fatal infectious

GLOSSARY

Demographic Change

Demographic change refers to the transformation of age structure in societies under the influence of modernisation. The important factors are birth rates or fertility, mortality rates, health or life expectancy, and migration. Lower birth rates and higher life expectancy lead to an increase in the percentage of older people – the "ageing society". Migration can modify this trend: population ageing will increase or decrease depending on immigration or emigration of older or younger age groups. Migration will also modify the overall effect of population decrease associated with lower birth rates.

diseases. Most recently, we have seen the emergence of medical treatments which enable people to be cured of, or to live much longer with, conditions which would previously have proved fatal. Now the focus of attention is shifting from acute to chronic conditions and complex patterns of multi-morbidity. As a result of all these factors, life expectancy in the leading European countries has been rising consistently for nearly 200 years, at a pace of about two and a half years per decade, and there is no current evidence to suggest that the trend is likely to halt.

Fertility rates are less predictable. After the second world war there was a boom in births, but since the 1970s the availability of contraception, and changing lifestyles and gender roles have reduced European fertility rates to about 1.6 births per woman, which is well below the recognised replacement rate of 2.1[12]. Most significantly, the large cohort of people born in the late 1940s and 1950s, who are now retiring from the workforce, is not being replaced by equal numbers of young people.

Migration changes both the total population size and its age structure, with implications for social costs and benefits. Movement of people into and out of Europe, individual countries, regions and localities is driven by economic pressures as well as factors like war and climate change, and managed to only a limited extent by public policy. Patterns of migration are less predictable than fertility and life expectancy, and this is a field where data is limited and sometimes of poor quality, especially about movement between countries, regions and localities within Europe. Welfare regimes can

encourage or discourage migration, but migration policies made at national and European levels can create problems for regions and municipalities, which often have to manage the consequences, in terms of infrastructure and labour markets.

Overall, there is general movement from south to north, while the countries around the borders of the EU, and especially those bordering the Mediterranean sea, come under particular pressure as a result of global insecurities. Some central and eastern countries are now experiencing more rapidly declining and "double ageing" populations as their young migrate west. At the same time, we see young people moving from rural to metropolitan areas and in some cases older people moving on retirement from urban or northern areas to southern and more rural ones.

The combined effect of all these changes is that Europe has a population which is stable in size, but ageing[13], and although ageing is a global phenomenon, Europe is already the oldest continent. In the last 20 years the median age of the population rose by 12% and it is predicted to rise a further 16% (to over 47 years) by 2060[14]. In the same period, the proportion of people over 65 years rose by 27%, while the proportion aged over 80 years is now 4.7% and rising rapidly. On average, today's 65-year-olds can now expect to live for another 20 years.

However, these patterns do not affect everyone in the same way. Women live longer than men (although the gap is closing); people in non-manual occupations, with higher levels of qualification and more wealth, live considerably longer. Marked variations also

12. Although there is considerable variation in fertility rates between countries

13. Although population is now beginning to fall in some parts of central Europe.

14. In the fifteen years from 1995 to 2010 the European median population age rose from 36.5 years to 40.9 years. In the 20 years from 1990 to 2010 the proportion over 64 yrs rose from 13.7% to 17.4%.

exist between countries. Five of them, led by Germany, already have median ages over 40, while Ireland and Iceland are both below 36. The proportion aged over 65 varies from over 20% in Germany and Italy to under 14% in the Czech Republic, Slovakia and Poland. The proportion of the population that is over 80 ranges even more widely, from nearly 6% in Italy to less than half that, in Ireland. Regional differences are even more marked, with declining industrial and rural areas ageing fastest as young people move away. As a result, life expectancy can vary between neighbouring districts by as much as ten years.

Opportunities and challenges

More years should provide the opportunity for people to lead more rewarding lives for longer. Research can help us understand how to maximise the benefits and minimise the disadvantages.

A longer life course offers the possibility of multiple careers and of a better distribution of work across the life course. Average real retirement ages are already rising and there is evidence that many older people welcome the chance to stay longer in paid work, not only for financial reasons but for the intrinsic interest of the work, for social engagement and for the sense of being contributing members of society which working provides[15]. At the same time, longer "retirement" provides opportunities for people to contribute through unpaid activity, in civic, educational and political roles, as well as through caring for elders and grandchildren[16]. Longer retirement provides opportunities for

The vision: Society for People of all Ages

The vision of a "society for people of all ages" guides policies coping with the impact of demographic change; it emphasises not only challenges, but also opportunities connected to longer lives. Typically, the focus is on the increasing percentage of older people, their needs, and necessary adjustments of social welfare and economic production. But the needs of middle age and younger people are also affected in the transition. Life courses change under conditions of longer lives and of 3–4 generations living together. Moreover, people are different and are ageing differently creating new diversity and inequalities. (Therefore, people of all ages are placed in the center of Figure 2., page 37).

people to explore new activities and satisfy aspirations which the pressures of mid life made impractical.

However, demographic change can also bring problems. It can produce intergenerational tensions, as a shrinking proportion of younger adults is called on to pay for the welfare of the growing retired population. Although most people will spend a lot of their extended lifespan in relatively active good health, healthcare costs are rising, as a growing number of people experience complex, severe and expensive health limitations, and experience them for much longer periods. While extended lifespan means longer and more rewarding paid working lives for many people, for others opportunities will be limited by health and disability. Meanwhile, in most countries, declining fertility means fewer young people entering the labour market. Immigration is delaying population ageing in some countries by replenishing the young adult population, though this brings its own social tensions, and pressures on infrastructure like schools, housing, and health services.

The economic and social effects of demographic change relate not only to absolute numbers, but also to the degree to which individuals contribute to society through paid or unpaid activity. Traditionally, this has been measured by the "dependency ratio", calculated as the relationship between people of "working age" (16 or 18 to 65 years) and those outside this range. By this measure, the ratio will decline over the next 50 years from 4:1 to 2:1. However, changing patterns of retirement and of young people's entry into the labour market make the notion of "working age" more

GLOSSARY
Quality of Life

Quality of Life refers to conceptions of a "good life" and encompasses the participation in societal welfare (objective wellbeing) and individual life satisfaction (subjective wellbeing). Quality is determined by ethical and socio-cultural norms and by individual experiences of "happiness". Typical and influential elements of QoL are health and education, and autonomy, meaningful activities and social relations; the former are essential for the development of capabilities to participate in societal welfare, the latter are essential for the integration into the community and finding meaning in life.

problematic. Furthermore, the costs of dependency among the 65+ population are significantly affected by how healthy and active people are after retirement, and in general, levels of health among older people have been improving.

A new lifecourse and intergenerational relationships

One consequence of extending lifespan is a reshaping of the lifecourse. Research can help us understand how the lifecourse is changing; how people's aspirations and opportunities change as they age; and how the distribution of rights and responsibilities between generations may need to be reshaped.

Traditionally the lifecourse has been seen as three simple stages: youth, adulthood and retirement, with single earner families in the adult phase and a relatively short period of retirement, much of it in poor health. This is no longer the dominant model. Formal "youth" has extended for most people into the early and mid 20s, with many young people taking much longer to enter the workforce than in the past. In mid life, dual earner families are the norm, generating great pressures on individuals and families, especially for the growing numbers with elder care responsibilities, and it is perhaps significant that measured subjective wellbeing is lowest in this age group. Retirement, which used to take place at a fairly predictable age, is becoming more fluid, with people retiring at a wider range of ages (through choice or necessity), some phasing gradually out of paid work, and some returning later. Most people are now much healthier in their 60s and 70s than their parents were, and an entirely new period of

healthy active retirement (the "third age") has emerged as a distinct phase of the lifecourse, lasting more than 8 years on average, and substantially more for many. Finally, the phase which used to be seen as "old age"- when people experience significant dependency and declining health – is beginning later, but lasting longer, as medical treatments make preserving life with disability and chronic conditions more possible.

There is no historical precedent for a society where most people spend many years of active adult life outside the paid labour market, and in this context some redistribution of employment across the lifecourse may be desirable – improving employment opportunities for young adults, reducing the pressures on people in their 30s and 40s, and allowing people in their 60s and beyond to remain active contributors.

These changes suggest a need for more flexible employment practices, which might enable people to combine paid work and periods of leave over a longer working life, and to integrate life-long learning more effectively with work. Realising a better fit for individuals between work and life outside of work though flexible working patterns could make working longer, and in better health, more practical, and such changes could also result in a more diverse and creative workforce.

A changing lifecourse also has implications for relationships between young and old, and between current and future generations, in terms of finance, social relationships, rights and responsibilities. In Western Europe, the second half of the 20th century saw steadily rising living standards, with each generation healthier and wealthier

than the previous one, supported partly by the large cohort of working age people born after 1945. However, there is growing evidence that this process is now reversing, for a variety of reasons, including the fact that this "post-war" cohort is now entering retirement.

This risks the growth of intergenerational tensions, particularly in three areas: the transfer of wealth between generations through pensions systems; the provision of social care, which inevitably requires more resources for older people (and more work for younger ones); and access to the paid labour market. Firstly, pensions have traditionally been funded on the assumption of a short life in retirement and a long one in paid work, but the extension of the retirement phase means fewer younger people paying for more economically inactive people drawing pensions[17]. Secondly, in those countries where much social care for the old is provided by younger relatives, demographic change is increasing the burden on people in mid life, while in those where care is seen as a collective responsibility, the tax burden is growing[18]. Thirdly, there is a widespread belief that extending working life for older people excludes new entrants from the labour market, although there is very little economic evidence to support this.

Finally, although this agenda focuses particularly on the most dramatic aspect of demographic change – the rapid growth of an older population – we must not forget that many of the challenges faced by older people are the result of their life experiences and decisions made much earlier in life. Early intervention can, for example, reduce the health risks of old age,

GLOSSARY

Social Inclusion & Diversity and Inequalities

Social inclusion refers to the important role of political, cultural and economic institutions to integrate people into the society. Social inclusion means that social diversity and differences of interests do not lead to social inequalities which exclude and discriminate people. Demographic change will create "winners" and "losers" within and between generations raising the issue of intergenerational equity.

17. This remains true, whether those pensions are funded directly through taxation or by the return on savings invested in the productive economy.

18. Although this can be partially offset by the a healthier retired population providing childcare for grandchildren, reducing the familial burden on the mid life generation, and making dual earner households feasible.

19. Particularly as a result of the work of Sen, Stiglitz and Fitoussi for the French Government. Stiglitz.J. Sen, A. Fitoussi, J-P Report by the Commission on the measurement of economic performance and social progress http://www.stiglitz-sen-fitoussi.fr/documents/rapport_anglais.pdf

by changing individual behaviour, social norms and working practices. Young people now in school need to be prepared, not for the life patterns experienced by their parents and grand-parents, but for a working life which may extend for 50 years, and a lifespan approaching 100.

Securing quality of life, wellbeing and healthy ageing

Wellbeing and quality of life have become increasingly prominent in policy debates in recent years. Research can help us to understand better what wellbeing means for people at different stages of the lifecourse, what factors influence wellbeing, and how it can be promoted.

Governments increasingly recognise quality of life and wellbeing as legitimate objectives for public policy, despite the technical and conceptual difficulties involved in measuring them.[19] Quality of life is about more than health, although poor health and disability limit it, and no policy which aims to improve wellbeing in later life can ignore them. Fortunately, life expectancy and healthy life expectancy are both rising steadily, partly due to improvements in public health, in medical and care services, and innovations in the biomedical sciences. As a result, limiting physical decline is no longer the norm for people in their 60s and 70s. The average 65 year old woman can expect to spend 40% of her remaining years disability free, while for men the figure is even better at 47%. However, there are very large variations between socio-economic groups, and between countries: a 65 year old Swedish man is likely to spend

GLOSSARY
Health

Health is used in a broad sense referring to physical and mental health and the biomedical, social and environmental conditions of high life expectancy. The focus is on wellbeing, capabilities and empowerment for active and healthy ageing supported by social and health care services. It includes a concern for prevention over the life course, occupational health, and the special needs of disabled of all ages and of frail older people, and a death in dignity.

three quarters of his remaining lifespan in good health, but this is true of less than one woman in five in Slovakia. It is therefore particularly important when considering quality of life, to distinguish the period of active healthy later life, from the later period when issues of physical and mental health, disability and frailty become significant.

The present research strategy is not directly concerned with the biomedical dimensions of ageing, which are being studied extensively by many others.[20] However, it is concerned with the interaction of health and medical developments on society. How can people be empowered and supported to remain healthy, active and productive for as long as possible, and how can we ensure that the quality of life of those with limiting conditions is maximised. Such an approach needs to take into account the full spectrum of individual factors, social determinants of health and progress in therapies, including new pharmaceutical and technological opportunities. It also calls for attention to prevention: developing and maintaining good health across the lifecourse; the prevention of communicable and non-communicable diseases; and to helping people to recover from – and mitigate the effects of – limiting health conditions. Unhealthy living and working conditions in mid-life, for example, have long term consequences for health and activity in later life, while lack of opportunities for social engagement among older people, perhaps related to housing or transport policy, can lead to social isolation, declining mental health, and premature (and expensive) dependency. Chronic diseases are now a much larger challenge than acute ones, and specific

models are needed to respond to this new challenge, including new forms of patient engagement and self-management. We need to better understand the nature and implications of variation between groups, generations, cohorts and cultures, and what kinds of intervention are most likely to be productive and equitable.

Building a fair society: the diversity of individuals

Demographic change does not affect everyone in the same ways, and its challenges and opportunities are not evenly distributed. Policy is concerned not only with "average" wellbeing, but also with a fair distribution of opportunity and resources, and much political debate is about what is regarded as "fair", and how it can best be achieved. Research can help us to understand how the relationships between groups in society are changing, whether the benefits and disadvantages are fairly distributed, and how equitable outcomes and social inclusion might be achieved.

In the past "old people" have sometimes been treated as if they were a homogenous group. Yet older people are as diverse as any other age group, and public policy needs to be informed by an understanding of the ways in which individuals vary in aspirations, capabilities, resources, and circumstances. Health is a key dimension of inequality, with some people experiencing severely limiting illness or disability decades before their contemporaries. Given the different life expectancies and health trajectories of men and women, gender will be a significant factor in change, as will

20. See notably the EU's Horizon 2020 programme, which focuses strongly on biomedical issues.

social class. Other factors include the growing impact of ageing in migrant and ethnic minority communities, and the ageing of people with long term disabilities and health conditions which would, in previous generations, have proved fatal in early life. Social class and lifestyle factors are also significant: those with more initial education live longer, while those who have spent their lives in heavy manual work die younger. In many countries the gap between rich and poor, and urban and rural, is expanding, with different impacts on different age groups, and raising issues about the distribution of both income and wealth both between groups and between generations.

Older people as contributors

Older people are full citizens, and should not be treated as merely a dependent group, or as the "subjects" of research. Research can help us to understand better the contribution which older "economically inactive" people make to the welfare of society.

Like any other citizens, older people have rights to a quality of life and opportunities to develop their talents, to pursue their aspirations and be recompensed for their contri-butions. A proper policy response to demographic change should not be simply to defer dependency by raising retirement ages, and to postpone health costs by improving independence, though both are desirable in many cases. Rather, we should treat ageing as an opportunity, for individuals to lead fuller lives, and for society to make better use of their experience, wisdom and time.

As the period which people spend outside the paid labour market increases, it is increasingly important
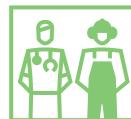
GLOSSARY

Economic and Social Production

Economic production refers to creation and provision of goods and services. The organisation is the task of management which has to orient production on different markets (e.g. resources, labor, consumer, capital) under conditions of competition and political requirements. Social production recognises that a considerable share of goods and services, varying in different societies, is not provided by the state or by paid work in the formal economy, but by informal production in civil society – typically in households and voluntary organisations and typically as unpaid work.

to understand and value the ways in which they contribute to the welfare of society. Older people have always been significant contributors, through paid and unpaid activity. Yet the ageing of society is often seen as a problem, and traditional attitudes and active age discrimination have often marginalised older people. This attitude was never acceptable, but as the number of years people spend in healthy active retirement grows, it becomes increasingly indefensible.

One key issue is the notion of a "demographic deficit": that a growing "dependent" population of older people is being supported by a shrinking "working age population". However, this fails to recognise the contribution which older people make, through paid work after "normal" retirement age, and through unpaid work, especially in caring for older people, and for grandchildren, which can release younger adults to participate in the paid economy. Because "working age" is commonly defined as under 65, it also fails to recognise the growing proportion of people who remain in the paid labour market well beyond this in many countries.

Older people also have the potential to contribute to research, into the issues raised by demographic change, and in other fields, and they can bring both time and experience to this. Some have extensive research skills derived from previous occupations, others have experience to contribute as partners in research work, and yet others may wish to train as researchers in their retirement.

The ageing of society can also have a positive economic impact, since – in the short term at least – many older people have more disposable income and wealth than younger ones.[21] The economic impact of this is twofold. Firstly it expands demand for goods and services specifically designed to counter the challenges of declining health and capability to which older people are particularly prone. These include aids to overcome declining strength, hearing or sight; to increase mobility and improve communication; and developments in medical treatments and technologies. Secondly, there are many business opportunities in meeting the aspirations of the growing cohort of active people in the "third age", with more discretionary time, and more disposable money than younger people.

Improving living conditions

Current urban design, housing stock and housing markets reflect a three generational world, designed around a nuclear family living together, where few people spent very long in retirement, and with transport systems designed around the private car. A growing proportion of single person households, and of people who do not or cannot drive or walk far, calls for different kinds of urban design, as well as changes to the design of houses. Research is needed to explore the preferences and practices of different types of older people, and the integration of policies across a comprehensive range of environmental fields, including, inter alia, housing policy and design, planning and development, transport, town planning, and communication technologies.

Neighbourhoods also need to be designed to encourage both individual independence and social interaction,

21. The relative wealth of people now in their 50s and 60s in some countries is a product of economic and social policies over past decades. It is not true of all countries, and as demography and policies change, it may not be sustained into the future.

and make it easy for those with limited mobility to engage socially with a wider community, in ways which they prefer. We need better understanding of the role and nature of neighbourhood services and structures promoting social cohesion, and of options for promoting mobility, which is restricted for many older, and sometimes younger, people by physical and financial barriers, and by simple lack of public transport.

As people age, some will want to stay in the family home, while others will want to move to smaller – or adapted – accommodation, possibly in the same area, but sometimes to other regions and countries. Some will prefer to live with people of a similar age, while others will seek mixed age communities. New forms are emerging on an ad hoc basis, but unless the housing market is flexible, moving is easy, and appropriate housing has been built, many older people will be trapped for many years in unsuitable accommodation, becoming isolated, lonely and depressed. At the same time, housing opportunities for young families may be restricted because family housing is occupied by older couples or single old people. However, urban design and housing design involve long term planning, which inevitably makes change slow.

Developing appropriate technologies

Technological innovation offers many ways of improving the quality of life, and of mitigating some of the risks, and costs, of ageing. Research can help us understand the nature and potential of a very wide range of technologies,

GLOSSARY

Social Cohesion & Living Environment

Social cohesion refers to trust, cooperation and care in social relations, and trust in institutions which both integrate people into networks and communities and build up links within and between social groups. Trust has to be experienced and to grow in personal relationships in all domains of everyday life. In this way, cohesion is embedded in the living environment, in neighborhoods and municipalities, and is vulnerable to environmental changes – both social and physical – and to mobility and migration. New technologies of communication and transport influence our ways of relating to others and affect social cohesion.

and how they might be made more appropriate to the needs of people at different stages of the lifecourse.

New medical technologies and treatments are enabling people of all ages to survive what were – in the past – fatal conditions, to live longer and healthier lives, and to remain longer in their own homes. Modifications in transport technologies, and mobility aids, are increasing the independence of older people, while communication technologies can reduce the isolation of those who are no longer mobile. In the workplace, technological change has reduced the physical effort involved in many jobs, making it easier for people to continue working for longer, even in some traditionally physically demanding roles. More ambitiously, relevant work is being done – with, as yet unpredictable implications – at the interface between biotechnology, information technology and nanotechnology, and in robotics.

Many of these developments can reduce the costs of an ageing society, to the individual or the state, but others raise the costs significantly, and the benefits will not necessarily be equally shared. Furthermore, "technologies" are not all alike. Some are very directly relevant to older people, while others benefit everyone. Some may make life more difficult for older people, and many of the social outcomes are unpredictable during the early stages of development. In many fields, technological development takes place in the private sector, led by agencies outside the control or influence of public policymakers. Some technological developments raise new ethical issues about the balance between what is technically possible, and what is appropriate to the

GLOSSARY
Technology
Technology refers to the wealth of tools, systems and methods – material and immaterial, informational as well as social – developed to improve our quality of life and mitigate its risks. New technologies presuppose or implicate social innovations, they change our lives and should be responsive to values and needs and support self-determination. A focus is on technologies for wellbeing and health over the life course and in the design of living environments including technologies for housing, communication, and transport for "people of all ages".

individual's quality of life, and civil rights, and these issues need to be better understood.

Our aim here is not to investigate technologies for their own sake: this is being done by many other agencies. Rather, we seek to better understand how people of different ages are using existing technologies, and how they might use emerging ones. How might technological innovations benefit an ageing population, by initial design or adaptation, and how can individuals be helped to acquire the capabilities needed to make full use of them. What technologies might the very old and frail be willing and able to use. Finally, how do we ensure that everyone can keep up to date with constantly evolving technologies, given the fact that older people have had less exposure to many technologies in adult life, and the very variable levels of take up between countries and generations.

The role of learning

Lifelong learning can make a major contribution to wellbeing, employability and health across the new lifecourse. However, although the principle has been repeatedly endorsed by European, international and national policy-makers, in most countries, policy and practice have lagged behind the rhetoric. Research is needed to better understand the costs and benefits of older people's learning, and how public policy and institutional structures can improve access and relevance, especially to those with the greatest needs.

Many of the "younger old" need better access to learning in order to maintain employability. Later in life,

GLOSSARY
Learning

Learning refers to lifelong learning and acquiring competencies, skills and knowledge – cognitive as well as social and emotional – to conduct a self-determined life. It is a prerequisite for wellbeing and health, for performance in working life as well as for political participation, for finding new social roles over the life course and for coping with life events. A focus is on learning in later life, on capabilities in use of new technologies, and on smart technologies and education opportunities empowering people of all ages.

their needs include learning to manage health (generally and for specific conditions); to undertake civic and political roles; to take on new roles (including growing caring responsibilities); to manage money (since many older people face very different financial challenges after retirement). In some countries, adult education has traditionally provided an important tool of social integration, enabling people to meet and engage with others, especially as their circumstances change after events like moving house, divorce and bereavement. Perhaps most critically, older people need opportunities to learn to take on new roles and responsibilities, and to use new and changing technologies, without which their ability to contribute to the community, and access many public and private services may become increasingly limited. Although the use of technology to support learning is expanding, there is much work still to be done to make it readily accessible to most older people.

However, despite the needs and potential benefits to the individual and to society, resources for learning of any kind remain very heavily concentrated in the first two decades of life, and evidence on the scale and nature of older people's learning is extremely sparse. In many countries there are few or no public resources for learning for people after retirement, or even after 40, and in some cases public policy has been reducing expenditure on older people in order to concentrate on the needs of the "working age" population. In most countries there is no adequate infrastructure of institutions or organisations to support older people's learning, and while some have a modest private or self help adult education sector, most learning after middle age is ad hoc: self organised, experiential and independent.

This has had the effect of concentrating opportunities: those with most previous education, and thus with the skills to identify learning needs and to find ways of meeting them, are much more likely to be doing some learning than those with less education, although their needs may be greater.

The diversity of Europe: a changing picture

Because a Joint Programming Initiative is a European enterprise, it creates valuable opportunities for comparative studies. Research can help us understand the relative performance of different approaches to common issues; to explore whether – and in what circumstances – some approaches are more or less efficient, effective, ethical or publicly acceptable; and to what extent they might be transferable between different contexts and promote sustainable welfare.

However, countries and regions vary for a range of historical, cultural and economic reasons, good and bad. Across Europe, there are wide differences, for example, in life expectancy, retirement behaviour, pensions systems, health and social care systems. Expectations of the role of the state, the family, the private and third sectors vary greatly, and responsibility for many aspects of welfare provision is shifting in many countries, between central, regional and local government, and between public, private and third sector agencies, with implications which are not always well understood.

Not only do nations differ from each other at any given time: they also change over time. Recent decades have seen the rise of a neo-liberal state in countries where post-war welfare state models were felt to have exhausted themselves, while the end of the Cold War has brought fundamental challenges to governance at all levels in Central Europe. Most recently, the economic crisis of the late 2000s has raised questions about the relationships between Member States and their citizens, as well as issues about the governance and regulation of global enterprises and financial markets, and we have seen the rise of political parties hostile to migration and to ethnic and cultural minorities.

The patterns of change are far from uniform, with – sometimes conflicting – pressures to seek democratic legitimacy, and to increase efficiency, leading in some countries to greater devolution and in others to greater centralisation. The relationship between Member States, their citizens and the European Union in its various forms is changing, and in some countries powers, responsibility and accountability which formerly rested with national governments have transferred, in varying ways, to the private or third sectors, while in others the state has reclaimed powers and functions from the private sector.

The shape of the state itself has also been changing. For practical reasons national governments divide public policy into discrete areas, with separate structures, budgets and policy priorities. However, effective policymaking for an ageing population requires approaches which span such

GLOSSARY

Sustainable Welfare & Intergenerational Equity

Welfare refers to the goods and services made available in society for a "good life". Ethics, law, and a diversity of social, cultural, and ethnic traditions guide us in developing a "society for all ages". Sustainability recognises that the capability of younger generations to satisfy their future needs and the needs of future generations should not be compromised. Intra- as well as intergenerational equity has to be achieved and sustained.

divides, and which coordinate work on the ground. Regional, municipal and local government play a critical role here, since it is at this level that coordination of a range of services and functions (like social care, transport, and housing) takes place. However, the degree of devolution varies greatly, and sometimes responsibility is devolved without corresponding resources, with damaging effects on accountability and public trust in Government itself.

Research can help us to understand better the costs and benefits (and unintended consequences) of particular interventions, and how expenditure in one area may reduce costs or improve benefits, in another. For example, if improved public transport enables people to stay longer in their own homes, the savings in health and social care budgets may outweigh the cost of transport subsidies. Better ways of measuring wellbeing might enable us to better evaluate competing public policy options.

Legislation and regulation

One way for policy to respond to demographic change is through regulation and legislation. These can not only define what is and is not permitted, but can also help to influence public perceptions of what is "normal", for example in setting retirement ages. Research can help us to understand the effects and limitations of legislation in response to demographic change.

One relevant area of European legislation is age discrimination. In the labour market, the Employment Equality Directive of 2000 outlawed discrimination in the workplace on various grounds, including age, across

GLOSSARY

Governance & Institutions

Governance refers to policy making, implementation and administration in the provision of public goods and services. It is exercised within a framework of rights and institutions, guaranteeing the "rule of the law", while enabling democratic participation and protecting freedom and dignity of all citizens. Governance is stratified over different levels with varying responsibility and accountability.

all member states. However, countries differed in their interpretation, especially in relation to compulsory retirement age. Some countries still permit employers to force employees to retire on grounds of age alone, while others do not. Proposals to extend the law on age discrimination to goods and services have not yet been agreed.

A further area where legislation and regulation are important concerns access to social assistance, social security and health services across the Union. Regulations and legislation in this area influence the extent and nature of people's mobility across Europe, with important implications for their quality of life.

Ethics and values

Demographic change – and responses to it – are not ethically neutral. In all domains of policy, decisions have to be made, not only about what can be done, but what should be done, raising issues about priorities and fairness. Alongside – and sometimes integrated into – research into what works, in what circumstances, for whom, should be studies of these philosophical and ethical issues.

There are a number of obvious examples of this. When growing demands for health or social care, and advancing but expensive technologies, come up against resource constraints, difficult decisions sometimes have to be made between competing interests. Similarly, raising retirement ages may appear economically desirable, and practicable, but it may be unfair on those whose life expectancy has been reduced by physically or mentally

GLOSSARY
Natural Environment
Natural environment refers here to the conditions – the resources and opportunities as well as limits and challenges – imposed by natural ecology. Demographic change impacts on the sustainability of societies through population size and the ecological "footprint" of changing ways of living and living environments. The focus is here not on ecological changes themselves, but on implications for sustainable welfare and quality of life as visions and goals for policy making under demographic change.

stressful working lives. The fact that it is possible to manipulate public opinion to support particular policies does not make it right to do so. Policies designed to promote quality of life necessarily involve value judgements about the nature of a "good life" (and a "good death") and the sustainability of our ways of life in relation to our natural environment.

Implementation and acceptability

The European Quality of Life Survey shows declining trust in public institutions, and particularly in national governments, and in many countries there is growing public concern at a perceived lack of accountability of firms and financial institutions. Research can help us to understand how attitudes are formed and may be changed. It can also help us to understand the ethical questions of equity and legitimacy.

Responding to demographic change raises questions about both efficiency and political acceptability: "technocratic" solutions which may be eminently rational and efficient, may fail to command public consent, while traditional forms of accountability may become a barrier to necessary change. In a democracy, rational and efficient long term solutions to policy challenges may be difficult to implement where they are perceived to threaten the interests of particular groups: old versus young; the employed versus the unemployed; established populations versus migrant groups; women versus men, etc. A high profile issue in many countries is policy on retirement, where the long term pressure to raise real retirement ages is

often resisted by older people seeking to preserve the status quo; and this is particularly difficult where different groups have different propensities to vote and be politically active. This combines with the pace and uncertainty of change to cause anxiety and confusion among citizens, who may react in very hostile ways when they feel their interests threatened by forces which they see as unaccountable – be they governmental, commercial or supra-national.
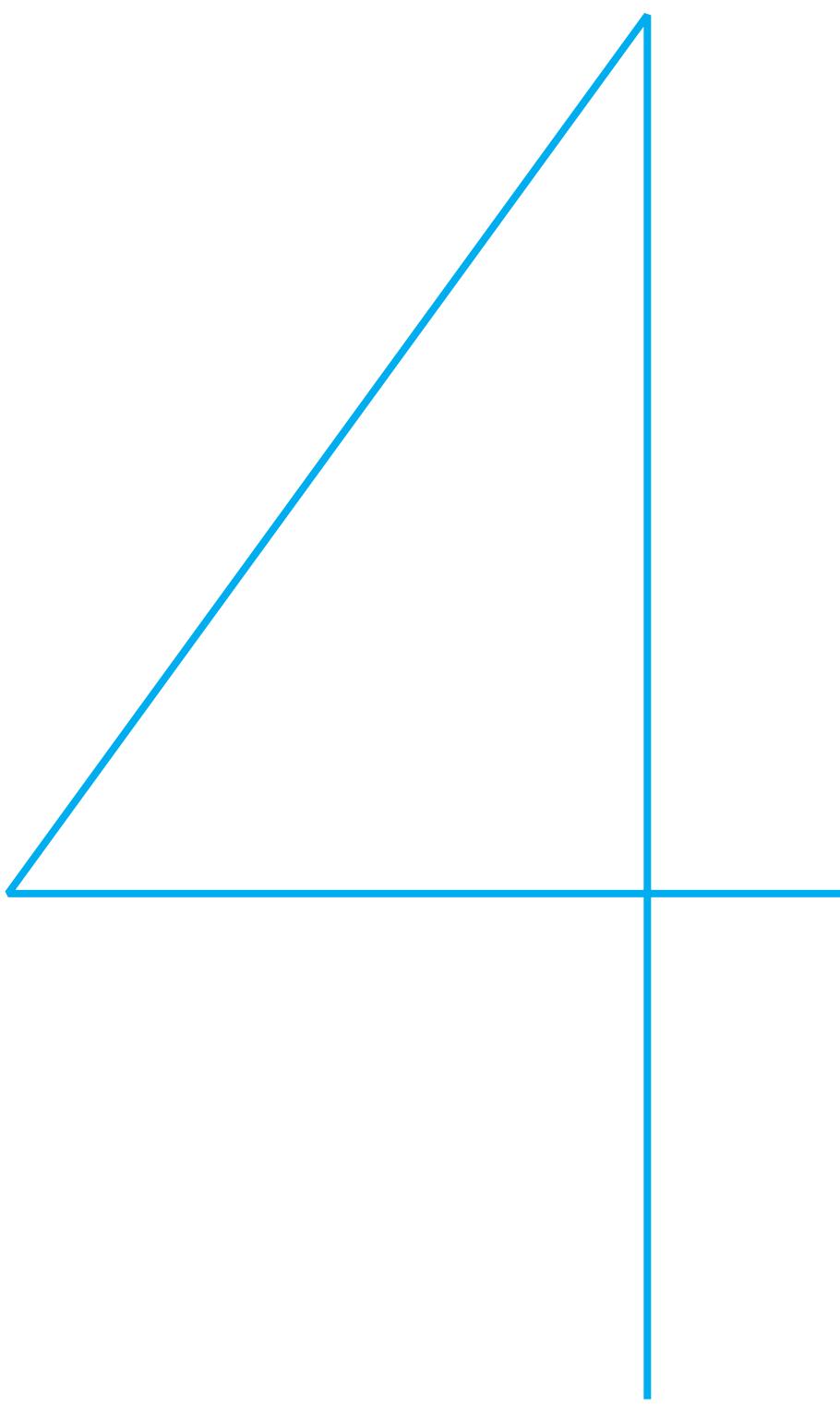
FOUR
RESEARCH DOMAINS

The previous chapter outlined the challenges which demographic change presents to policymakers. In this chapter we group these challenges into four broad research domains, each of which includes a range of more specific topics.

In Chapter 5 we explain how we have prioritised the issues, identifying the most important and urgent ones, which are summarised in the final agenda of eleven priority topics presented in Chapter 6.[22]

The four research domains are:

Quality of life, health and wellbeing
How to ensure the best possible quality of life for all people, throughout their lives (including the final stages), recognising the diversity of individual circumstances and aspirations, and the role of social relationships in fostering individual wellbeing?

Economic and social production
How can economic and social production be maintained across the extended lifespan, in ways that are sustainable, equitable, and efficient in the use of human and technical resources?

Governance and institutions
How might institutions and decision making processes need to change, at all levels from local to European, to meet emerging needs and to ensure that all citizens can be full participants in decisions affecting their lives as the normal lifecourse extends?

Sustainable welfare
How is it possible to secure adequate levels of social welfare for all people, as the age balance of the population, changes, and the proportion who are economically inactive grows?

22. The agenda was developed through iterative discussions between the representatives of the participating member states, scientific experts on the five Working Groups, the Scientific Advisory Board and the Societal Advisory Board, representing wider stakeholder groups.
The process is described in more detail in Annex 1.

Figure 2 below shows these four domains, set in a broader societal context. Demographic change is seen as affecting all domains of society, while technologies and the natural environment set a frame of opportunities and conditions for social innovation and social policy. The figure shows how the "top down" collective policy issues interlock with the "bottom up" individual ones and how the four domains all overlap, form a continuum of public and private provision, and relate to the cross cutting issues of social cohesion and social inclusion. It also shows the important role of health and learning in securing quality of life, and the underpinning role of the living environment. Some of the most important research issues are in the areas where the domains overlap, where cross-policy and interdisciplinary research will be critical (see Figure 4 on page 89).

At the centre is a vision of a society for people of all ages. From an individual perspective, quality of life is the overarching issue: improving the quality of life of citizens is the objective of all public policy, to which the other three all contribute. By contrast, its mirror image – sustainable welfare – is the most urgent issue for Governments, faced with a deteriorating "dependency ratio" and the need to reform pension systems and manage intergenerational equity.

Figure 2:
The four research domains in context

Source: Pieper & Vaarama
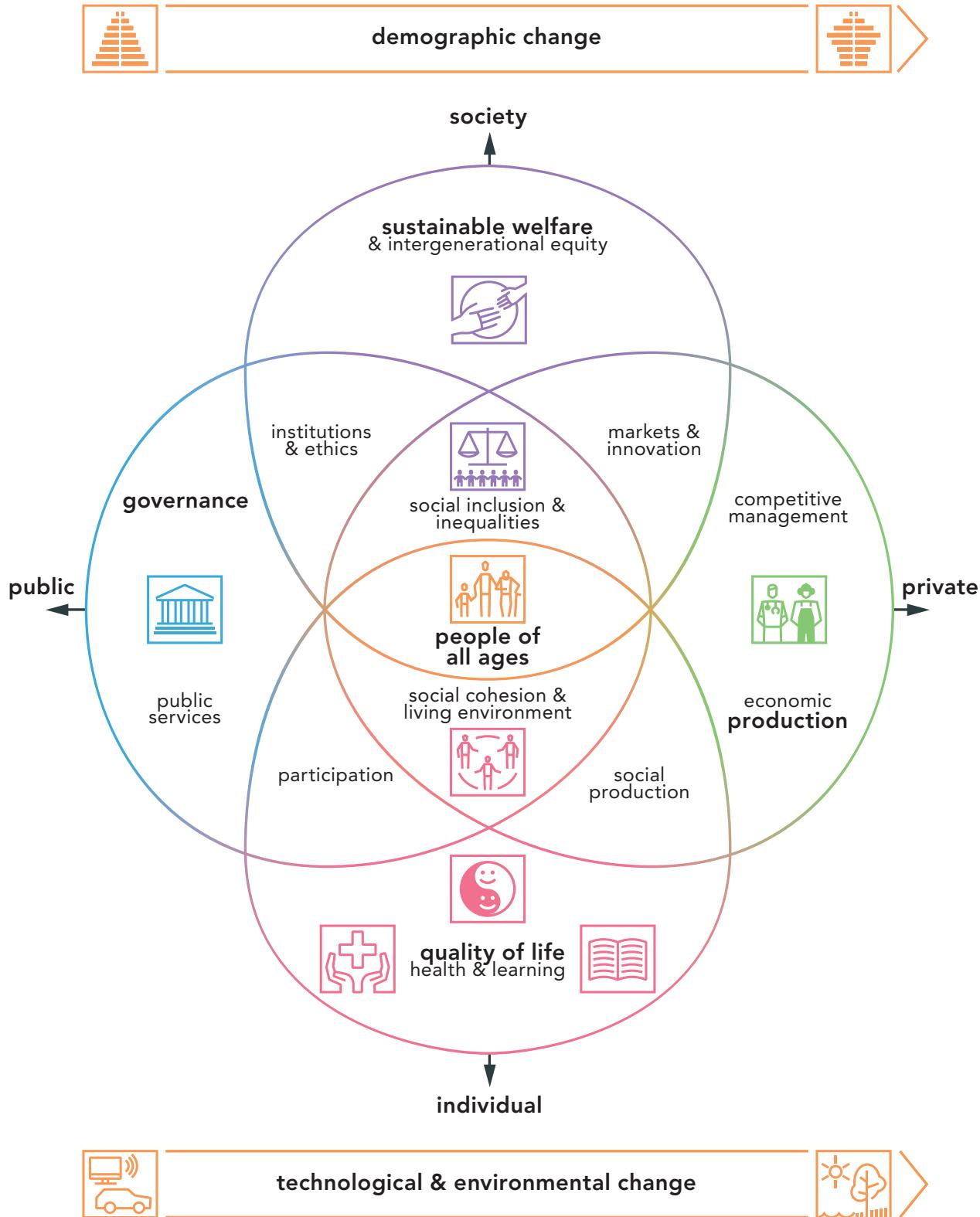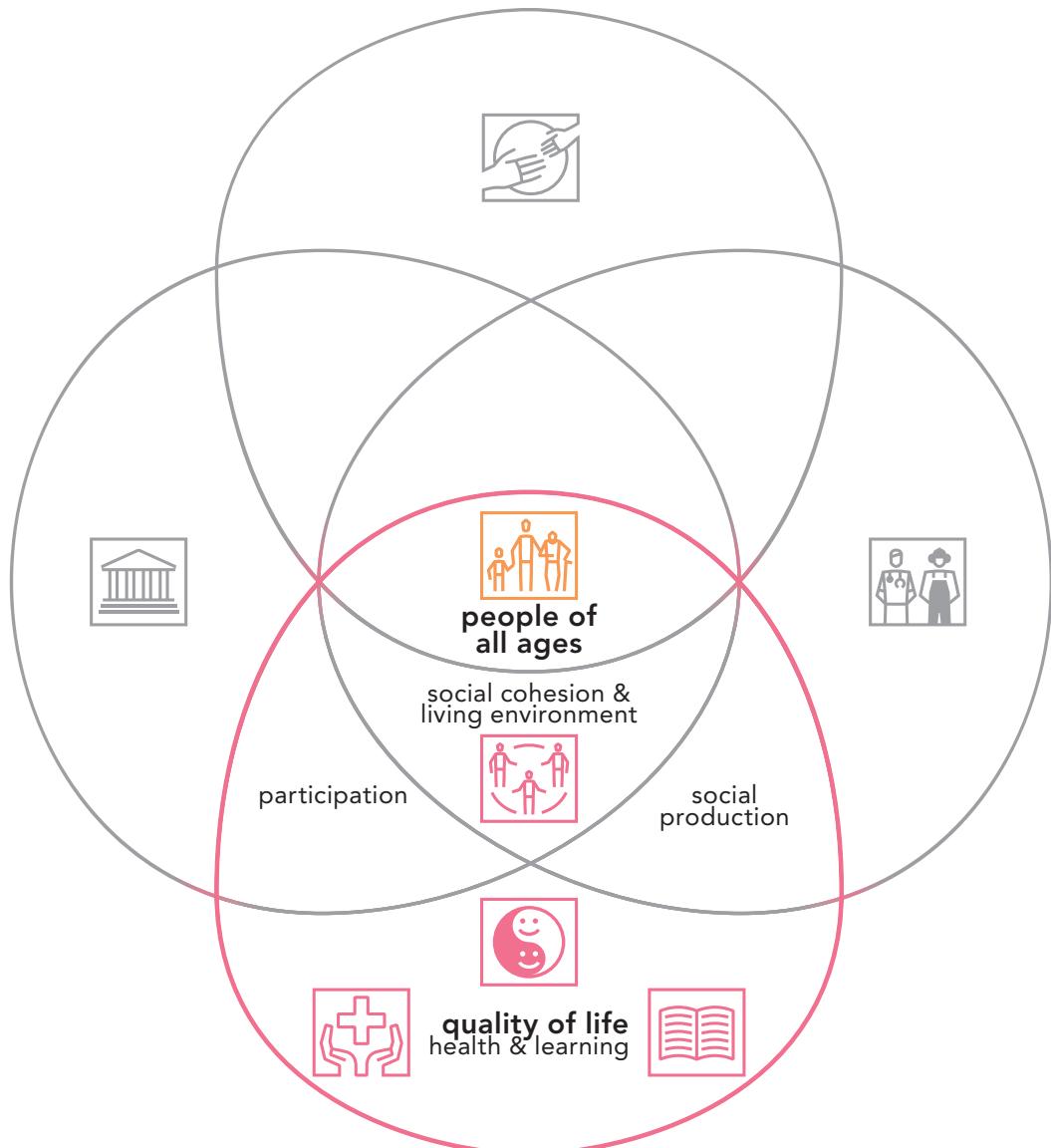
demographic change

society

sustainable welfare
& intergenerational equity

institutions
& ethics

markets &
innovation

governance

social inclusion &
inequalities

competitive
management

public

people of
all ages

private

public
services

social cohesion &
living environment

economic
production

participation

social
production

quality of life
health & learning

individual

technological & environmental change

people of
all ages

social cohesion &
living environment

participation

social
production

quality of life
health & learning

Quality of Life, Health and Wellbeing

How to ensure the best possible quality of life for all people, throughout their lives (including the final stages), recognising the diversity of individual circumstances and aspirations, and the role of social relationships in fostering individual wellbeing.

Key policy issues

Across the extended lifecourse which demographic change brings:

› *How can we properly understand and measure quality of life and wellbeing?*
› *What is the role of health in quality of life?*
› *How do we understand the social dimensions of quality of life, including social inclusion?*
› *How does paid and unpaid work affect quality of life?*
› *How can the living environment be designed to secure quality of life?*

Context

Demographic change has the potential to improve or damage the quality of life of everyone, and policymakers seek to intervene to ensure that the outcomes are positive. In this domain, our research strategy aims to provide evidence about what a good quality of life mans at every stage of the lifecourse, how it can be measured, and what policies might maximise it.

We define "Quality of life" as a comprehensive concept, including:

› *objective indicators of welfare,*
› *levels of social development and human rights,*
› *subjective reports of wellbeing,*
› *a range of domain specific concepts and measurements (including health-related quality and work satisfaction).*

These issues have risen to prominence in public policy in recent years, stimulated by the economic disruptions of 2008, and by the work of Stiglitz, Sen and Fitoussi[23], which argued that, since measures of individual wellbeing do not correlate closely with changes in Gross Domestic Product, governments should place more emphasis on policies which promote the former. These ideas have found support in policy circles, and have been adopted by the OECD as a major area of development.[24]

However, while it is easy to agree the securing of quality of life as a policy objective, it is much more difficult to agree upon a mechanism for measuring it in a way which could inform public policymaking, and avoid unintended negative consequences. Despite the work of a range of agencies and researchers, there is only limited agreement about definitions of "quality of life", "wellbeing", "happiness", and

23. http://www.stiglitz-sen-fitoussi.fr/documents/rapport_anglais.pdf

24. http://www.oecd.org/statistics/betterlifeinitiative-measuringwell-beingandprogress.htm

"life satisfaction", and the relationships between them. Furthermore, different scientific disciplines take differing views about ways of measuring them; for example, health scientists, psychologists and economists all have their own ways of understanding the question, and different views on what constitutes legitimate evidence.

Defining and measuring quality of life is problematic because it is a subjective outcome. Definitions and perceptions will vary between individuals. People with identical circumstances and resources may report differing levels of quality, while the same individual may report different levels at different times, even if nothing measurable has changed. Measures of physical functioning, for example, do not always correlate with self assessed wellbeing in the ways one might expect. Quality is also relative concept, changing independently of objective circumstances, because perceptions of wellbeing are often more closely related to an individual's relative position than to absolute resources or opportunities. Furthermore, one person's wellbeing may impact on another's. All these factors have important implications for equity and the distribution of income and wealth.

By contrast, it is much easier to measure inputs. There is much stronger agreement on the factors likely to lead to a good quality of life: health, education, income and other resources, housing, access to infrastructures, social relations, culture, empowerment and social rights. Because these are much easier to measure consistently, these inputs are sometimes used as proxies for quality of life or wellbeing. However,

it is unclear how reliable such indirect measures are, and how much weight should be given to them.

In relation to demographic change, we are interested not only in how to measure the outcome, but also in how other factors impact on quality. These include the role of health, social interactions, work, welfare regimes and the physical environment, and each of these is discussed briefly in this section.

Research topics

How can we properly understand and measure quality of life and wellbeing across the lifecourse?

Research can help us to understand how people perceive quality of life and wellbeing, how they are distributed across society, and the impact on both of health and other factors as they change across the lifecourse.

If we are to understand the impact of policy on quality of life or wellbeing across the extended lifecourse we will need appropriate measures. However, this is challenging, since they involve the interaction of a complex combination of social, biological, physical, and mental factors, and there is, as yet, no widespread agreement on definitions.

We need more comparative research over the life course, examining the differences between age groups, generations, cultural and regional traditions, and welfare regimes in Europe. We also need to understand the impact of factors like religious belief and ethnicity in increasingly multicultural societies, to better understand both the diversities and the commonalities between concepts of quality of life

and wellbeing, and to understand why some ways of life are evaluated as worth living while others are seen as unacceptable.

What is the role of health in quality of life?

Although health is closely associated with quality of life and wellbeing, and sometimes definitions of mental health treat them as if they were identical, there are other dimensions. Research can help us understand what place health interventions play, alongside other ways of improving wellbeing.

Undoubtedly, good health contributes to quality of life, and poor health diminishes it. Although individuals vary greatly in the rate and impact of declining health and capability, decline is a feature of ageing, which will necessarily play an increasingly important role as people age.

Patterns of health in later life are also changing. The interactions between disease, disability, frailty and dementia are becoming more complex, and increasingly the main issue for health policy is the management of multi-morbidity, which is a challenge for medical and social care practice. Biomedical developments are providing solutions to some issues, but sometimes only at increased cost. On the other hand, health promotion and self management of conditions has the potential to reduce costs, but raises issues about modes of delivery, about the training of professionals, and about how to ensure such strategies reach those in most need.

Furthermore, demographic change does not affect all citizens equally. Health trajectories in later life are affected by a range of factors, including

gender, social class, occupation, previous education, ethnicity, and disability. Demographic change will alter the relative and absolute impact of these factors on individuals both within these categories, and between groups, raising ethical questions about whose quality of life is improving, and whose is deteriorating.

However, reported wellbeing does not always reflect objective physical health. It is common, for example, for people who experience sudden disability to initially report diminished wellbeing, but for wellbeing levels then to rise again, as they adapt to a transformed lifestyle. A critical policy issue is how to determine which kinds of health intervention will be most effective, and cost effective, and how much emphasis to give to direct health interventions, by comparison with other initiatives – in broader public health, finance, social engagement, housing, transport or education – which may have equal or greater impact on quality of life.

How do we understand the social dimensions of quality of life?

Much research on quality of life treats it as a matter of individual preference. However, it is not an exclusively individual issue. Research can help us to understand the role of social relationships in the quality of life of older people, and how such relationships can be fostered.

Quality of life depends heavily on the quality of social relations in which factors like cooperation, trust, and caring for others have an important part to play. Furthermore, our preferences in life always reflect the adjustments and compromises we have made over the life course in order to live together with others in particular places and relationships.

Each of us needs other people to play complementary roles in partnerships, families, neighbourhoods, social networks, communities, and organisations. For example, the changing nature of the family, with more generations living at the same time, in changing kinds of relationship and interdependency, must have a bearing on the individual's quality of life. Isolation and loneliness also becomes an issue as people live longer, gradually losing partners and friends as they age. We therefore need a better understanding of how wellbeing is related to social cohesion and social inclusion, how it is supported by social networks, communities, organisations and institutions. Local and municipal government has a key role to play in integrating services and fostering partnerships at local level.

This calls for methodologies for understanding and measuring quality of life which take proper account of the interaction between the individual and others, and which enable us to evaluate the impact of changing circumstances, and especially of changing technologies, which can, for some, maintain social contact even when mobility is severely limited.

How does paid and unpaid work affect quality of life, especially in later life?

Work, paid and unpaid, is important to an individual's sense of meaning, identity and status, and to creating and maintaining social networks. It can also be important in maintaining health, and for some it is a vital way of ensuring a sustainable income. Research can help us to understand what kinds of work lead to good quality of life and health, and how these can be encouraged, in both paid and unpaid work.

Rising levels of health, changes in technology and the nature of work all mean that "working age" can continue for some people into their 70s and even beyond. The policy question here is how good working environments can be encouraged, especially for those working later in life, when the organisation of work, flexibility, adjusted physical demands, and access to assistive technologies may be particularly important.

Well organised work (paid or unpaid) can be good for quality of life and for mental and physical health. At any age, the ability to contribute to society through work enhances the individual's self-esteem and social recognition. Those who extend their working life beyond "normal" retirement age generally report that a sense of purpose, a structure to life, a congenial social environment and social status as a "worker" are significant elements of motivation to stay, while people who take on similar roles on an unpaid basis (for example through voluntary work, before and after "retirement") report similar benefits. This can be true in many kinds of work, but not all workplaces and jobs provide these positive opportunities. Unfair discrimi-

nation is known to have a seriously damaging effect on wellbeing, and age discrimination is widely reported by older people in the workplace. Furthermore, poor management and insufficient possibilities to influence the nature and organisation of work and working hours can have an impact on mental and physical health which continues into retirement.

We need to better understand whether, and how, perceptions of "good work" change with age and changing physical and mental capacities. We also need to understand how capabilities, and aspirations to work change over the life course; how they can be promoted by lifelong learning; how they interact with the opportunities in formal and informal labour markets; with the design of work places and work environments (including the uses of new technologies); and how human resource management can enable people to balance paid work with other commitments over the life course. Finally, we need to understand how different retirement trajectories – sudden retirement, phasing out over years, and career or job change – affect quality of life before and after final retirement.

How can the living environment be designed to support quality of life?

Our quality of life is profoundly affected by the physical and social environment in which we grow up and grow older. However, until recently, policies on the living environment, from town planning and transport to the design of individual houses and assistive technologies have not paid much attention to the new lifecourse, and new patterns of living deriving from it. Research can

help us to understand what kinds of modification to the living and social environment are most likely to support active ageing, and how they can be implemented. It can also explore how those making planning decisions can be made accountable to the relevant populations, and how individuals can be better engaged in decisions on the development of systems which support their independence, security and wellbeing.

The changing age structure of the population is leading to changes in patterns of household formation, perhaps most notably in the growing numbers of people in single person households in the earliest and latest stages of adult life. We need to better understand how peoples' environmental preferences change over the lifecourse, and about how to make the housing market sufficiently flexible to allow people to move easily over the lifecourse, from single person accommodation, to family homes and back again over the lifecourse, while maintaining positive relationships between generations. We also need to understand the specific issues facing older people in isolated and rural areas, and especially in places where the younger population has moved away, leaving very high concentrations of old people.

It is important not to equate age with disability, nor to assume that all members of particular age groups have similar preferences. However, a growing population of old people necessarily implies a need for more – and more diverse – kinds of supported living, from modified homes to residential institutions and hospitals, and forms of transport which do not depend

on the ability to drive. People can be helped to remain independent much longer by well managed housing and transport systems, and good design of urban and communal spaces. This solution – with people living in their own homes with relatively low levels of outside support – is not only what most want, but is also the most economical for the public purse. Some prefer age segregated communities, while others prefer age mixing, but planning to meet these preferences is a long term process, especially if housing design and location is to be appropriately related to transport systems, access to community facilities and communication services.

Environments need to balance privacy with encouraging social interaction and social cohesion through the layout of living units and the provision of appropriate public space. We also need better understanding of the potential for incorporating information, communication and assistive technologies into housing design. A further key issue is transport, both the design of vehicles, and of public transport systems, to allow people without access to private cars to remain mobile and active.

Older people should not be treated merely as subjects in policy formation, and research needs not only to explore the changing patterns and demands, but also to understand how those making planning decisions can be accountable to the relevant populations, and how individuals can be better engaged in decisions on the development of housing and transport systems which support their independence, security and wellbeing. This is one of the many

areas where older people can themselves be actively involved in research and development.

Environmental design is the policy area which has the longest timescale: urban development, the design and construction of houses, and of their infrastructure necessarily takes time, and decisions made today are likely to affect the kind of housing and transport available two or more generations ahead. Critical partners in such research will be regional, municipal, and local authorities, which generally have responsibility for local planning, and for relating it to other aspects of social welfare.

Quality of life: cross domain issues

The four research domains are not independent of each other. From an individual perspective, quality of life can be seen as the overarching policy objective which all governments seek to achieve, and the ultimate purpose of all welfare regimes. Without an understanding of what constitutes a good quality of life for different people at different life stages, it is impossible to define, develop and evaluate appropriate welfare models. It is also the basis for evaluating models of governance and institutional fairness and effectiveness, while, in the domain of production, the promotion of "good work" is a critical contributor to quality of life.
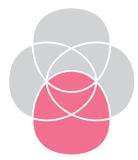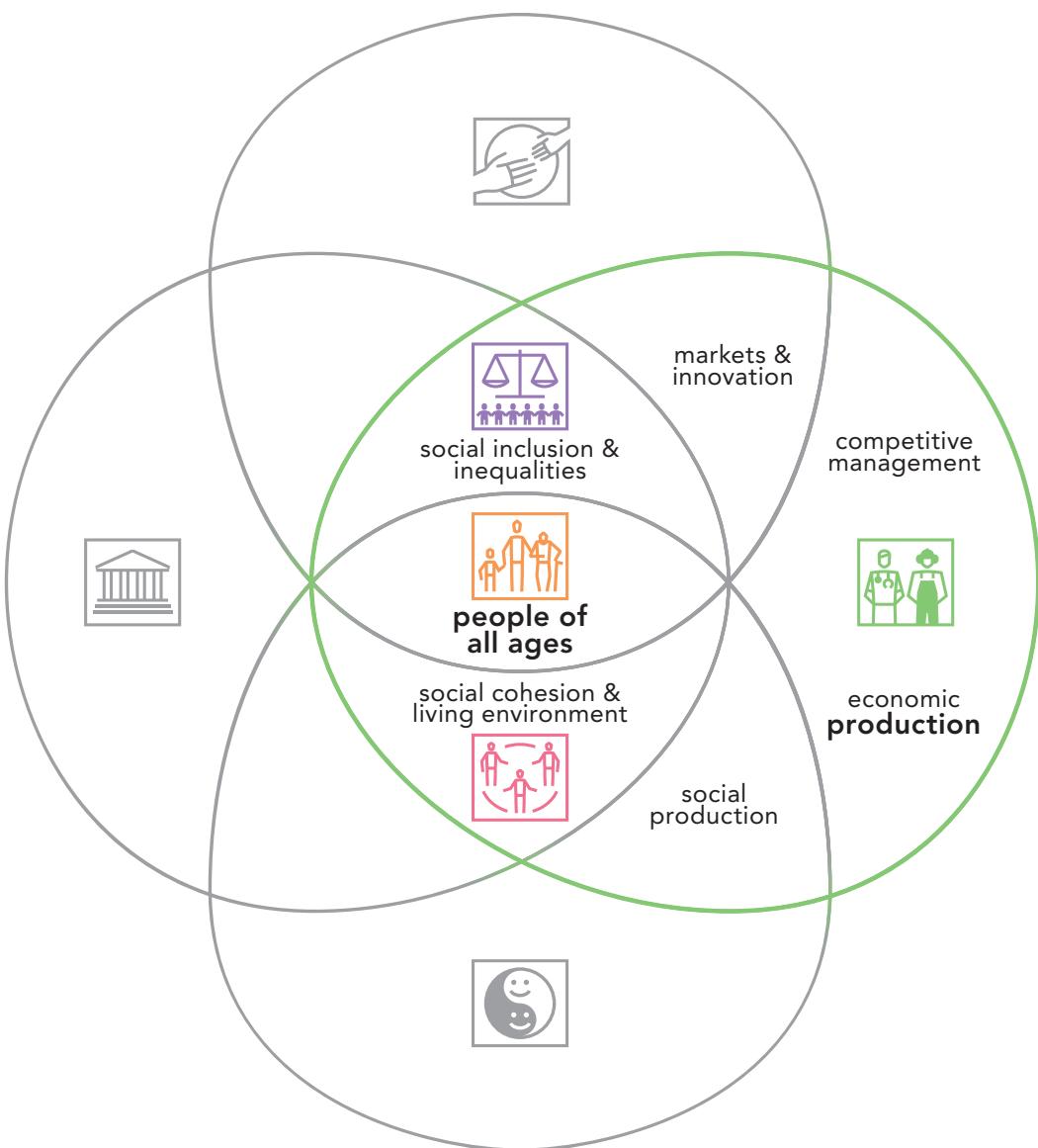
markets &
innovation

competitive
management

social inclusion &
inequalities

**people of
all ages**

economic
production

social cohesion &
living environment

social
production

Economic and Social Production

How can economic and social production be maintained across the extended lifespan, in ways that are sustainable, equitable, and efficient in the use of human and technical resources?

Key policy issues

› *How do we understand and measure the changing social and economic value of paid and unpaid work?*
› *What models of labour market organisation, regulation and legislation support the effective use of individuals' skills and experience across the lengthening lifecourse?*
› *How should age management practices and policies be developed to better suit a more age diverse workforce?*
› *How does health affect employability in later life?*
› *How can learning best contribute to maintaining productivity across the lifecourse?*
› *What are the implications of greater population diversity (in age and background) for the workforce and its management?*

Context

The overarching objective in this domain is to improve our understanding of how people contribute to society, through formal and informal means, throughout the extending lifecourse.

As average life expectancy increases throughout Europe, there is political pressure to extend working life, by raising real retirement ages, in order to reduce the proportion of the lifespan spent in dependent retirement. Strategies for this include legislation, raising pension eligibility ages, financial incentives and persuasion to change social norms and expectations. However, there is strong public resistance to this, on a variety of grounds: that it breaks an implicit social contract; that older people lack the necessary health and physical capacity for some work; or that older people should retire to "make space" for unemployed young people to enter the labour market. Furthermore, the lead times required to implement change are necessarily long, if the rights of those approaching retirement are to be respected.

However, there are counter arguments: today's older people are generally healthier than their parents were at the same age; work performance does not necessarily decline with age (at least before the late 60s); some research suggests that older workers compensate for declining physical capacity by drawing on experience and personal networks. Furthermore, there is no fixed number of jobs in an economy, young and old often complement each other in the labour market, and, in general, areas with high employment of older people also have high employment rates for young people.

25. Some
countries still
retain compulsory
retirement ages,
while others have
abolished them.

26. Although in
some countries
a high proportion
of the oldest
workers are
employed
in manual
occupations.

Rising life expectancy offers the opportunity to redistribute activity across the extended lifespan, with less pressure in the middle years balanced by a longer paid working life, and better employment opportunities for young people. Changed working practices can enable older people to stay longer in the paid economy, but the gain in production and productivity needs to be offset against added costs for employers. Simply extending work in the same roles may be impractical for many, but changing career or role in later life is only possible if the labour market is sufficiently flexible, in terms of recruitment, flexible working arrangements, and resisting discrimination. In some, but not all, occupations there are opportunities to develop longer career patterns, allowing people to move as they age into less physically or mentally demanding roles, for example as mentors and trainers. We also need to understand better why people choose to retire when they do (where they have a choice)[25] and what might cause them to change their plans.

There are good economic and social reasons to explore these changes, but they do not always match the particular priorities of employers or individuals, particularly in the short term. For example, deferring retirement may be more acceptable – and practical – for those in non-manual occupations, although it may be more important financially to manual workers[26]. Models of workplace governance vary greatly across Europe, in the role of social partners, of legislation, regulation and enforcement, and they vary considerably in their impact. Structures which give strong influence to existing workers, run the risk of

excluding "outsiders" (new entrants, the unemployed, disabled and old), and reducing flexibility.

There is also great diversity in age profile between sectors and occupations. Some seem more able to accommodate older workers than others, and some face more challenging labour market and skills shortages as the population bulge born in the early 1950s moves into retirement. The issues may be very different for large and small firms, competing on global or regional markets. Established theories of discrimination may no longer be adequate to explain employers' conduct and behaviour in contemporary work organisations: we do not know enough about why some employers in some sectors and firms show a greater propensity to employ older people than others. If, as is commonly argued, job gains are occurring mainly in those sectors of the labour market that provide either high or low qualified jobs, with a thinning out of the middle ground of skilled manual work, what are the implications for an increasingly age-diverse workforce? Can policy interventions aimed at raising the quality of work close the gap between those – often unskilled – workers retiring early and the – often highly educated – people who work longer?

The extension of the lifespan also brings changes in the balance between paid and unpaid activity. The implications of this are not fully understood, partly because of the difficulties of measuring and valuing unpaid activity in the informal economy, and work which is undertaken on an unpaid basis, in the family and the wider community. This issue is particularly pertinent now in the parts of Europe which are

experiencing high levels of unemployment among young adults. However, it is particularly important in the context of an ageing society, because the point of "retirement" from paid work does not necessarily mark a change in productive contribution: it can simply represent a movement from one kind of activity to another – formal to informal, or paid to unpaid. From a comparative perspective these issues are important, since some services – notably caring roles – are undertaken in some countries on an unpaid basis, while in others, they are provided by paid workers, through either the state or the private sector.

Research topics

How do we understand the changing social and economic value of paid and unpaid work?

As the proportion of the lifecourse spent outside the conventional paid labour market increases, research can help us understand and measure the benefits and costs of new ways of working, including extending paid working life, and the relative roles of paid and unpaid work.

People contribute to the collective welfare of society in many ways. Some of these result in goods and services which benefit individuals, while others produce less tangible, but still valuable, collective benefits, like security and social cohesion. Conventionally, these contributions are divided into "employment and self-employment" on one hand, and "voluntary work" on the other. Economics normally focuses on the former; and for most economists, therefore, "productivity" is the relationship between inputs and measured output, calibrated through financial transactions. Demographic change challenges this in three ways. The first is that the proportion of people's lives spent in paid employment is shrinking, producing what is conventionally described as a deteriorating "dependency ratio". This issue is important even though the conventional measure of "dependency" – the proportion of the population aged 17 or 19 to 64 – fails to recognise the growing numbers still in paid work after 65 in many countries. Secondly, demographic change is increasing demand for labour in one of the principal expanding fields of activity, the provision of social care for the old, the young and the disabled. Thirdly, many people – young and old – who are not in the paid economy are nevertheless contributing, sometimes on a basis which would conventionally be recognised as "voluntary work", but sometimes through processes like internships, work experience, and trial jobs. Furthermore, there is a proportion of people outside the recognised paid economy who are nevertheless generating goods and services for money, but in the grey and black economies, through "cash in hand" work or crime. This work is significant, but outside the scope of regulation, taxation and conventional labour market statistics.[27] Because the balance between paid and unpaid is changing, in different ways in different countries, conventional economic analysis may give a misleading picture of how total productive activity is changing, and lead to inappropriate policy responses.

Social care is the most obvious area where the boundaries between paid and unpaid work diverge between countries. In some, care is largely provided on

an unpaid basis, principally by women, with consequences for their own lives and income. In others the same activities are normally provided by paid workers. This makes comparative studies of costs and benefits particularly difficult. Furthermore, the extent of demand for such services is also affected by other factors, reduced, for example by strategies which make it easier for people to remain independent longer in their own homes, through early intervention and rehabilitation, and through access to technologies, or the design of housing and transport systems.

To develop understanding of the connections between ageing and work, including care work, there is a compelling case for a remapping of the shifting boundaries between paid and unpaid work and between the formal and informal economies. We require new research that illuminates the potential benefits and the opportunity costs of individuals' movements between paid and unpaid production: is the real dependency ratio actually deteriorating? In terms of the total welfare of society, what are the most effective ways of balancing the paid and unpaid elements? We also need to better understand the significance of extended paid working lives for measures of output and labour productivity.

What models of labour market organisation, regulation, and legislation support the effective use of individuals' skills and experience across the lengthening lifecourse?
As workers age, they are increasingly likely to be unemployed, disengaged and discriminated against in the labour market and the workplace. The key

issue here is how to make the best use of the skills and experience of older workers, by retaining them for longer, and deploying them better, and there is a growing body of experience of these issues in most European countries. Research can help us to learn from this experience, and to identify what kinds of regime make working longer practicable and popular with employees and employers.

There is both convergence and divergence between countries, reflecting differing national priorities and stakeholder interests, and coalitions. However, with respect to the ageing population, member states are faced with similar challenges. How should responsibility for decisions on the labour market participation of older workers be distributed between the state, employers, civil society, and the individual?

The quality and duration of paid working life is influenced by a combination of factors, including labour market structures, national policies and regulation, production regimes, vocational training, industrial relations and occupational health and safety regimes. Factors like the scope and coverage of employee participation in decision-making, task discretion, autonomy, team-working, and equal opportunities also have an impact both on quality of life, and on productivity. Occupational sectors also differ greatly, in the age profile of their current workforces, in their future levels of labour demand, and their willingness to adopt new working practices for an ageing workforce. In many countries, older people are more likely to be self employed than younger ones, sometimes from choice,

and sometimes because this is the only way of continuing to earn in the face of age discrimination in recruitment by employers.

Research is required to explore the impact of regulation on the incentives for recruiting and retaining older workers; on the disincentives for dismissing them; on the impact on retirement patterns of different financial rules for early or deferred retirement; and on the impact of European and national legislation. It will be important to engage all the social partners in such work, since their capacity to support or obstruct change is considerable in many countries.

How should management practices and policies be developed to better suit a more age diverse workforce?

As the population and the workforce ages, employers are increasingly interested in understanding "age management". Research can help us to understand what factors make working later in life practicable for employees and manageable for employers.

Management is critical to economic and social production, with a vital role in enhancing the employability and productivity of workers of all ages, including the management of a more age diverse workforce. Important work has been done in some countries on notions of "workability" and "flexicurity". How transferable are such models, and is it possible to identify the management practices and employment systems that secure the most effective and equitable use of all the talents of the workforce? Why are some employers more successful than others at retaining and integrating older workers into their organisations? How far is labour produc-

tivity determined by the skills, character and conduct of employees rather than by the design of the jobs that people do? How far, and in what ways, do we need to train staff to take on new roles in relation to an ageing population?

There is no evidence that older workers are less productive than younger ones, given appropriate management and working conditions, but securing this calls for better evidence-based models of "age diverse" workplaces. There are three significant gaps in current knowledge. First, is it possible to identify clusters of human resource policies and practices that can promote productivity in organisations with ageing workforces? Are new models of work-life-balance and flexible working time arrangements supporting or discouraging older people from continuing in employment? Second, can monitoring, performance measurement and reporting mechanisms in companies be designed to support improved productivity, innovation and competitiveness on the one hand and sustainable employability and active ageing on the other? Third, how can a viable life cycle design of work systems be developed to take advantage of technological and technology-related innovation?

How does health affect employability in later life?

Declining health and the onset of disability are major reasons for premature exit from the labour market. Research can help us understand how disabled people can be helped to stay in – or return to – work, and what modifications to work processes and environments can reduce the likelihood of such problems arising in the first place.

The determinants of health and quality of life in the workplace involve a combination of factors: individual (capacity, skills, motivation and health); company based (leadership, job design, working conditions, training, and work environment); and social (labour market, employment systems, voluntary work options). Since many of the issues which arise in later working life are the product of poor working practices in earlier life, a lifecourse approach is particularly important in this field. Occupational health research has traditionally focused mainly on health risks and only recently started to examine positive factors that may promote motivation, well-being, work participation, and productivity in older age.

We need to better understand what factors are most important in securing the well-being, employability, productivity and participation of older people. We need better evidence based models to support the prevention of disability in the workplace, and for the re-integration into the workplace of those with disabilities and/or chronic diseases. We also need to understand what modifications to working practices would prevent disability and promote health and well-being, and how cost effective they might be. Finally, we need better indicators of the changing relationships between work, health, and retirement, in order to monitor trends, forecast developments and inform policy.

How can learning best contribute to maintaining productivity across the lifecourse?

Research can help us to understand the role of lifelong learning in ensuring the employability of older workers, and how it can best be promoted.

Lifelong learning is often proposed as a tool to enable people to remain longer in the paid labour market and to return to paid employment after redundancy, although there has been relatively little empirical study of this. Studies which use formal qualifications as a proxy for learning, or which weight initial schooling heavily, may be particularly inappropriate for older workers, who may have learned a great deal during a working life, despite having low levels of formal qualifications, acquired many years ago. Learning also has the potential to underpin the career advancement and employability of older workers, and support them in undertaking a range of roles in civil society, for example in education and caring, both before and after they leave the formal labour market. Pre-retirement education may also have a role to play in improving decision making on the timing and phasing of retirement, with benefits both for the employer and for the quality of the individual's life in retirement.

What are the implications of greater population diversity (in age and background) for the workforce and its management

Demographic change is bringing a more diverse range of people into the workforce, not only older people, but more women, more people from minority ethnic groups, and more migrants from other parts of Europe. Research can help us to understand the implications of this for the management of work and for productivity

Gender is one of the key factors with a major influence on employment and career trajectories, since men and women have different rates of wage

growth; women are still more likely to suffer career limitations through childcare and elder care responsibilities, and the latter are becoming more extensive as older parents live longer. Women are more likely to work part-time, and retire earlier than men, although they then live longer. Women are heavily concentrated in the care sector, both in paid employment, where they are typically low paid, and in informal care, which limits their earning potential and may reduce the value of pensions when they retire. Would better formal child care and better elder care change this and result in a more even distribution of work in the labour market for men and women as well as later retirement for women? How might the balance be made more equitable?

Income and career trajectories also differ, for a variety of reasons (including discrimination), between ethnic groups, and between native born and migrant groups. In many countries, migrant communities are at present relatively young, and it is unclear how far their needs and expectations will differ from those of the host community as they age. Many (both refugees and economic migrants), are in low wage occupations and in physically demanding sectors such as construction and agriculture, where work is associated with earlier retirement, poorer health, and smaller – or no – pensions. How can low status jobs and the situation of migrants be improved to promote both extended working lives, and healthier retirement?

Production:
cross domain issues

Productive activity, through paid or unpaid work, is integrally linked to quality of life. Work, paid and unpaid, is the way in which people contribute to society, through the production of goods and services, in return for which they obtain an identity, meaningful lives and social status. Contrary to popular belief, much research suggests that work is good for health and wellbeing, and in those countries where regulations permit, growing numbers of people are working longer, not only for money, but for reasons to do with life satisfaction, sense of purpose, and social engagement. The opportunity provided by a longer lifespan to redistribute work across the lifecourse, might improve wellbeing for people at all life stages. Employment and welfare systems are also inextricably linked. Through paid work, people contribute to the costs of those who do not work, but unpaid work also contributes to collective welfare. How will the boundaries between paid and unpaid work shift as some governments attempt to re-balance their economies by shrinking public service provision? How will single or dual earner households with dependent children or other dependent family members be affected by changes in welfare benefit systems, and what will be the impact on their availability for paid employment? Governance in the workplace can also have a major influence on employment patterns. How do different models affect patterns of retirement and flexible working?
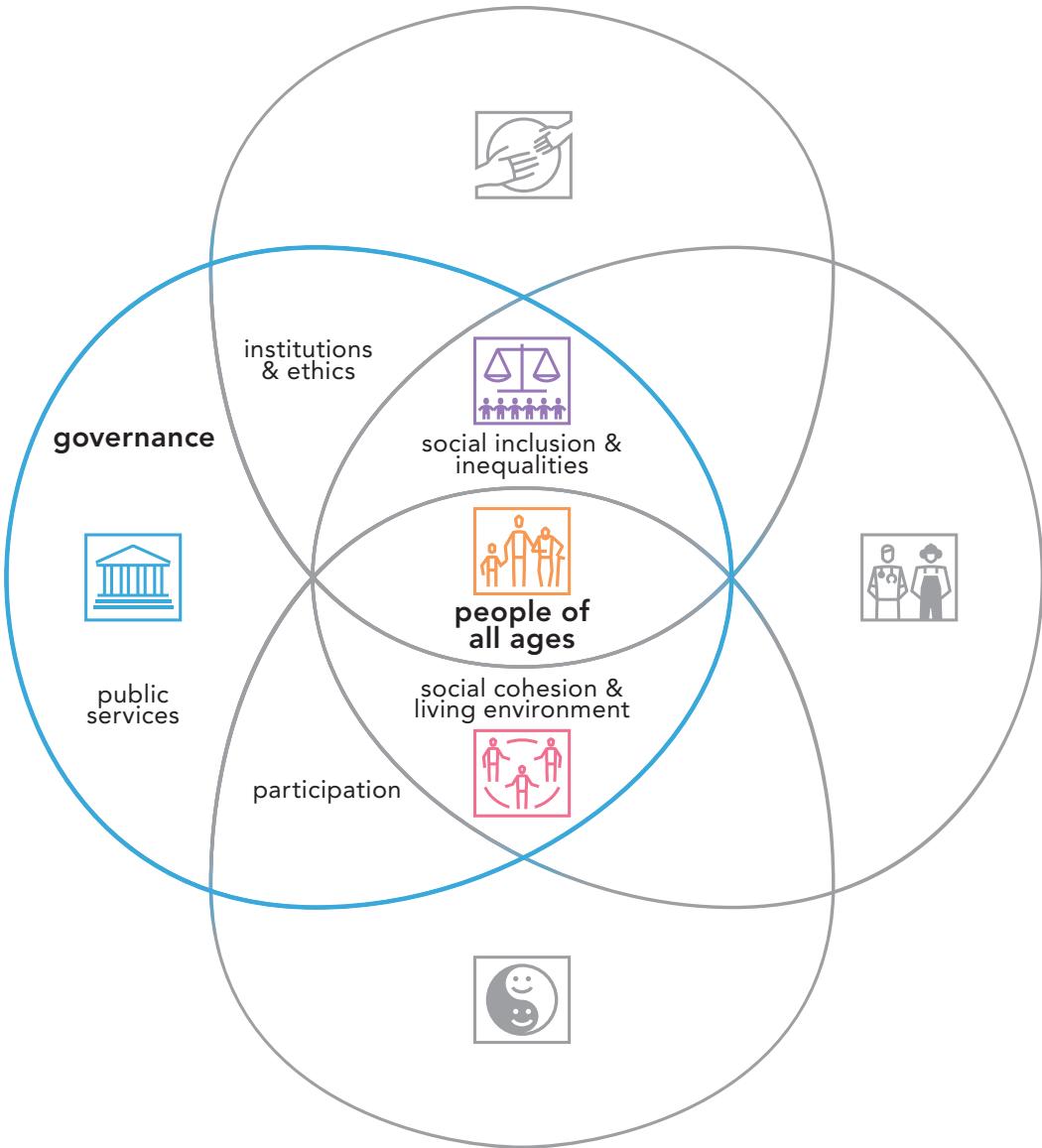
governance

institutions
& ethics

social inclusion &
inequalities

public
services

people of
all ages

social cohesion &
living environment

participation

Governance and Institutions

How might institutions and decision-making processes need to change, at all levels from local to European, to meet emerging needs and to ensure that all citizens can be full participants in decisions affecting their lives as the normal life course extends?

Key policy issues

› *How can we achieve better integration between services , including those providing health and social care?*
› *What factors support social, civic and economic participation across the lifecourse?*
› *How can we ensure that people have access to relevant opportunities for learning at all stages of the lifecourse?*
› *What are the implications for older people of the spread of routine use of information technologies?*

The context

Good governance is a matter of making and implementing decisions, in a legitimate and accountable way. This section of the strategy is concerned with the impact of demographic change on the nature of decision making, and with the institutions which implement those decisions: how they are organised and funded, and how they are controlled and managed. Research can help us understand what kinds of legal frameworks, institutional structure and governance processes encourage participation, enabling individuals, at all life stages, to take active control over their lives and participate fully in the life of the community. It can also help us understand how to make institutions more effective and efficient in delivering those services which will be needed as a result of demographic change.

There are two overarching questions here. On one hand we need to understand how well current institutions and organisations are realizing welfare goals and meeting the changing and emerging needs, and how they might change in order to do this better; and on the other hand we need to understand how far, and by what means, individual citizens and other stakeholders can legitimately influence those institutions and their work.

The most critical institutional issue is the coordination of services. Many of the challenges of an ageing society require the participation of a range of distinct agencies – health, social care, transport, housing, education – but institutional structures and funding systems often make it difficult to implement the solutions which would be best for individuals, as well as most

cost effective. The issue here is how best to integrate public policy across these boundaries between institutions, services and agencies, and between local, regional, national, and European levels. Very different models of delivery exist across Europe, in relation to the role of the public and private sectors, and the place of voluntary effort, especially in social care. Furthermore, new business models, and new kinds of partnership between public, private and third sector agencies are emerging in some countries. What can we learn from this experience?

There are two particular areas where current institutional structures appear particularly inadequate to address the needs of an ageing society in most, if not all, countries. These are access to opportunities for learning, which is extremely weak for older people in most countries, and access to support in the use of new technologies.

The key governance issue is how to ensure that all citizens, including the very old, can be enabled to participate in decision making which affects their lives, communities and interests. Good governance depends on trust between citizens, and between citizens and government. However, Eurostat surveys show worryingly low levels of trust in government among citizens across Europe, which makes implementing necessary change difficult. There is also often political resistance to change, even when the intended outcome is improved quality of care for individuals, as for example with plans to rationalise hospital provision.

The fact that different groups have different propensities to participate in democratic processes also makes it difficult to secure a balance between the welfare of all and the interests of those who vote. As the balance of numbers shifts in favour of the old, these differences may raise questions about social inclusion, intergenerational equity and consent to decisions.

Research topics

How can we achieve better integration between services, especially those providing health and social care?

People's needs and aspirations do not fit tidily into the compartments of government agencies. A coherent response often calls for integration and partnership between agencies and institutions. Research here can help us to understand how to best integrate public policy across the territories of different arms of government (local, regional, national and European) in order to deliver the best possible quality of life, fairly, in the most cost effective ways. The diversity of models across Europe provides scope for powerful comparative study, examining issues of management, financing and governance.

For practical and historical reasons, the implementation of public policy is organised through separate departments, professions, and legislative frameworks. However, current structures evolved to meet the needs of a very different world from the one that is emerging, and the result is sometimes major inefficiencies, and damage to the quality of life of individuals. For example, where different agencies are responsible for health and social care, the consistency and quality of care received by individuals may be endangered, and the results can be

expensive, with individuals whose needs could best (and most economically) be met with social care support in their own homes, ending up in (expensive) hospital beds. However, "joining up" budgets between services can be problematic. Accountability for the quality of care can be unclear as individuals move between agencies, and this is a particular issue for people who are heavily dependent, have multiple conditions, or are incapable of taking decisions for themselves.

Similar issues arise in other areas. For example, policies which produce savings in public funding for childcare or elder care can lead people (usually women) to withdraw from the labour market, reducing their economic contribution in the short term; damaging their career progression; and reducing their income in retirement. Lack of effective links between policy and institutions in health and housing can make older and disabled people more dependent, raising the costs – to the public purse and the individual – of health and social care, and reducing wellbeing. Inflexibilities in the housing market also result in many older people occupying houses which are too large, and poorly adapted to people with growing physical limitations. In the transport field, decisions to cut public subsidies for public transport can increase the isolation of older people – particularly those who are no longer able to drive – leading in the longer term to poorer mental health and growing dependency. The issue of integration and partnership is not simply a concern for public institutions and policy. In some countries, many relevant services are delivered by commercial or third sector agencies.

How are these best linked to public services, and to each other, given the additional complexity of issues like commercial confidentiality and accountability to shareholders?

What factors encourage and support social, civic and economic participation across the lifecourse?
Good governance requires that citizens are able to contribute to decision making on issues which affect their own lives and the nature and values of their communities, at local, national and global levels. Demographic change means that some groups are growing while others are shrinking, raising the question of how both can be fairly represented, particularly when some groups have a much higher propensity to participate in formal democratic processes. Research can help us to understand the factors which encourage or discourage individuals from participating actively in the formal processes of democracy (voting, political parties etc.) and in the less formal ones of the workplace and the local community, and how such participation can be encouraged to enhance social inclusion.

One key concern is diminishing participation in political and civic life, linked to declining trust in government and the state[28], which may limit the ability of governments to address the long term issues raised by demographic change, like changes in retirement behaviour or the delivery of social care. We need a better understanding of how the organisation, administration and management of institutions can empower individuals and foster social inclusion and quality of life for all citizens, with special concern for those who are vulnerable or isolated.

28. Eurobarometer (2013) Public Opinion in the European Union: first results

This might involve an expansion of civic education, which has a long history in some parts of Europe, but is neither well developed or widely understood generally. Access to opportunities to develop the skills and knowledge which could unlock the talents and time of older people for the good of the broader community, is very unevenly distributed.

We need to better understand how attitudes to participation vary with age, birth cohort, and by other variables like gender, ethnicity, social class and disability. We also need a clearer under-standing of how governance is currently exercised; of how it is changing in different fields and countries; and with what impact on democratic participation, accountability and public trust, among particular groups and sub-groups. Key topics for investigation include: what kinds of institutional structures promote active engagement by citizens of all ages; and what kinds of process, including formal and informal education, increase the ability of citizens to participate in decisions affecting their lives. The answers to these questions will be different for different groups of people: the very old may be limited by physical or mental constraints, while the young are limited by disaffection with conventional democratic processes. Research needs to help us better understand how public attitudes are changing and are shaped, since effective participation and accountability depend on public confidence and consent.

How can we ensure that people have access to relevant opportunities for learning at all stages of the lifecourse?
Lifelong learning has the potential to improve life chances and quality of life across the whole lifespan, including the final years, and for many years policy documents at European and national levels have argued for the expansion of lifelong learning, for a variety of social and economic reasons. However, provision remains minimal, especially for the old. Research can help us to understand how this gap might be effectively and economically filled.

Learning is relevant to older people both in the labour market and in retirement. It can help people to make appropriate health choices and manage chronic conditions; to enter and move through the labour market; to negotiate life phases like child rearing, retirement, and moving location (locally or inter-nationally); to manage life crises like divorce and bereavement, and changing roles, including civic engagement. It may do this through formal, informal and non-formal means, with or without support from the state. However, apart from vocational programmes aimed at people of conventional "working age", levels of participation in lifelong learning remain extremely low in most countries. This is particularly true in the case of older people, whose participa-tion in learning of any kind is minimal in most countries. Public and private resources for education and training are very heavily concentrated on the first quarter of the life course, despite the fact that extending lifespan and tech-nological change both imply a need for more frequent and continuous learning, up to and including the final years. This is particularly true in ensuring that

everyone – and especially the old – has the skills necessary to be confident users of emerging digital technologies, which are increasingly critical to participation in society and the economy.

In many countries there is no significant public institutional support for learning for people over the age of 60, and what exists is left to a patchwork of private and voluntary providers, together with occasional programmes aimed at particular topics.[29] Some countries have seen the emergence of self organised learning programmes through organisations like the Universities of the Third Age, and there has been a growth of participation in online learning among the "young old", but rarely, if ever, is there any strategic attempt to ensure that the range of learning opportunities available matches the social, health, or employment related needs of an ageing population. Here the critical research agenda is to better understand the wider range of benefits of learning for older people; what might constitute an "adequate" range and level of opportunities; and the most effective mechanisms, including institutional structures, for providing learning opportunities, through public, private and voluntary means.

What are the implications for older people of the spread, and routine use, of information technologies?
Government, and commercial services are increasingly being delivered electronically. Such technologies are also spreading into the delivery of services – like health and social care – which are particularly important to older people. This can improve the quality of services, efficiency and speed of response. Online

shopping and telemedicine can, for example, make a significant difference to the ability of older people to continue to live independently. Similarly, technological change provides new ways of engaging people in the processes of civic society, and recent years have seen rapid and unexpected changes in the ways in which people can engage in political processes through social media, online petitioning etc. However, there are issues about the appropriateness of these technologies for people with limited vision, manual dexterity or literacy, and how to modify them appropriately.

Furthermore, access to these technologies is not evenly distributed. Peoples' access may be limited by income, access to learning, and personal circumstances. This is a particular issue for older people, who are less likely to have been exposed to information and communication technologies in their initial education or working lives, and who are more likely to lack confidence in developing appropriate skills. Furthermore, the speed of change means that this is not a matter of acquiring a set of generic skills at one point in time: even for the "young old" who have had such exposure, the pace of change in many technologies can make it difficult to keep up to date. Research needs to examine how to maintain appropriate skill levels among all groups, and how new technologies can enable individuals to play a more active part in society, as citizens, learners, and consumers.

29. Like education to manage particular health conditions; or financial education to the relatively wealthy.

Governance: cross domain issues

Effective governance processes and appropriate legal frameworks and institutional structures underpin all the other three domains. Good systems of accountability and democratic engagement empower people in ways which improve their wellbeing and quality of life. Similarly, effective governance of the workplace, paid or unpaid, can improve people's quality of life, and is a key component of the notion of "good work". However, we do not know enough about how far worker participation in decision making can influence work and life satisfaction, and how far, and in what ways, this might influence retirement decisions and behaviour. Critically we need institutional structures which are capable of dealing equitably and efficiently with the rapidly changing welfare challenges, and which can secure public support and consent.
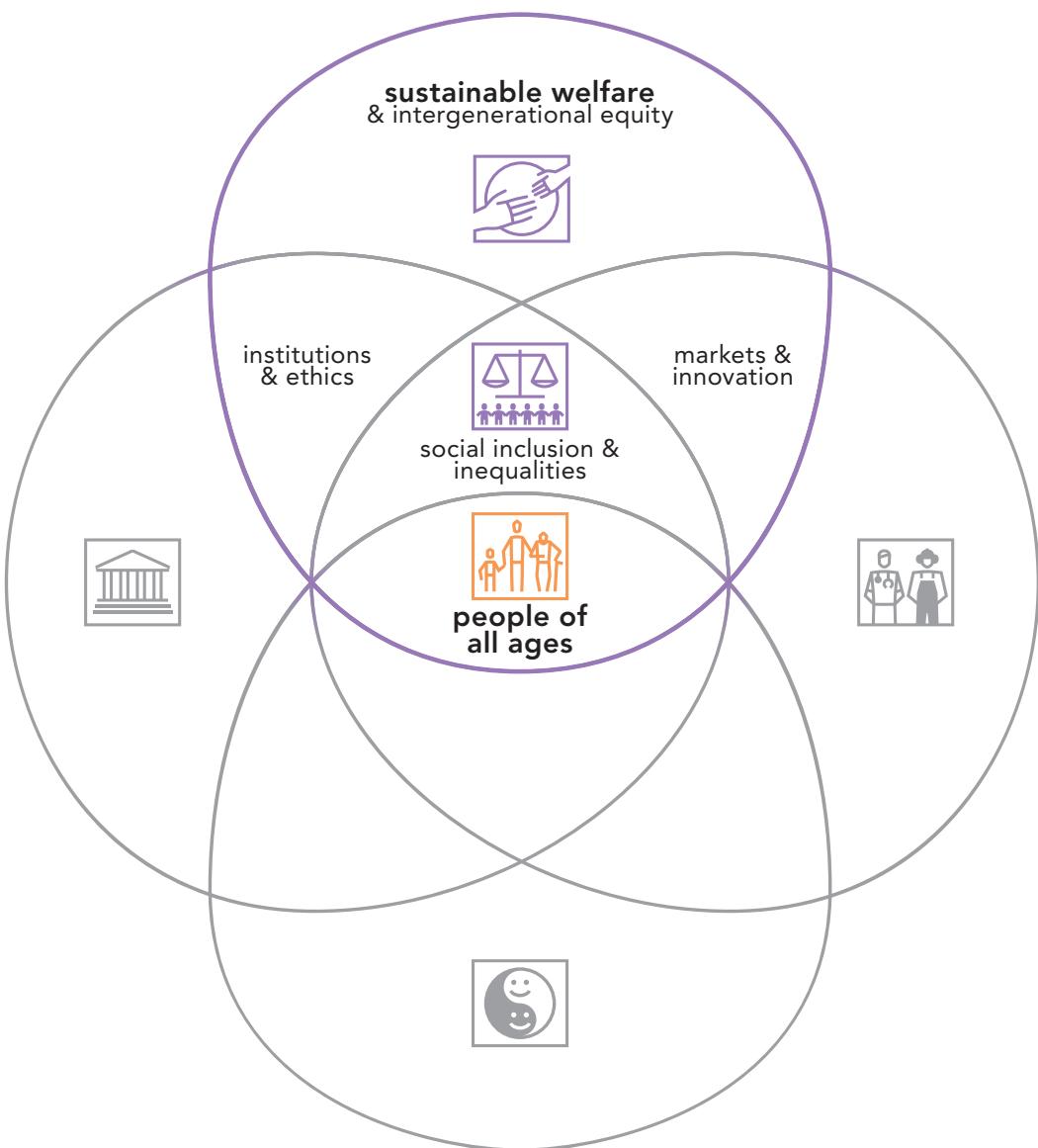
sustainable welfare
& intergenerational equity

institutions
& ethics

markets &
innovation

social inclusion &
inequalities

people of
all ages

Sustainable Welfare

How is it possible to secure adequate levels of social welfare for all people, as the age balance of the population changes, and the proportion who are economically inactive grows?

Key policy issues

› *What can we learn from comparative studies about the relative adequacy and sustainability of different welfare models?*

› *How can we develop fair and sustainable ways of distributing resources, rights and responsibilities between generations?*

› *How can we develop the potential contribution of informal services to the welfare of older people?*

› *How can we ensure that patterns of migration enhance, rather than damage, quality of life, social cohesion and social inclusion?*

› *What models of care are most appropriate and effective for people who are nearing the end of their lives?*

Context

In the broad sense, all Governments seek to secure the "welfare" of their citizens.[30] In the twentieth century, all European countries developed models to secure this and, by historical standards, most of today's citizens have better quality of life, health, wellbeing and life expectancy than any previous generation. However, changing demography and economic as well as ecological circumstances are raising issues about the sustainability and equity of these models. Research can assist by clarifying our understanding of the nature of welfare and of the relative merits of alternative ways of securing it.

Historically, countries have differed greatly in how broadly they interpret the notion of welfare; in what was seen as adequate and affordable; and in the relative roles which they saw for the state (national, regional and local), the private sector, civil society and the individual and family. They also differed in their views on the proper role of the state in redistributing wealth and income between individuals and across the lifecourse.

Investment in the welfare of the population benefits society as a whole: a population which is healthy, well housed and educated, and confident in the long term sustainability of its economic and political systems, is more stable, productive and happy. However, the combination of demographic change and the economic crisis which began in the late 2000s has raised questions for governments about both the short term affordability, and the long term sustainability, of models which have been in place and evolving for generations. At the same time, individuals worry about

30. We use "welfare" here to include all those factors which create wellbeing for individuals, which may come from the private and third sector agencies as well as the activities of Government through "welfare systems" and the "welfare state".

maintaining adequate levels of welfare across the extending lifecourse, and about the security of their (explicit or implicit) social contract with the state if and when they become dependent, through illness, disability, unemployment or old age.

This is not a matter for government alone, although government plays a key role in creating the framework realizing social inclusion and enabling citizens to become more of a resource in their own lives; enables them to engage more effectively in local communities, and to become resources for one another; and deploys technology to assist people to better manage their daily lives.

One of the most critical issues is defining "retirement age" and the related issue of pension entitlements. Some countries still retain a mandatory maximum retirement age, while in others retirement is a much more flexible concept, and the links to pension entitlement are similarly complex and diverse. Decisions on these issues have very long term implications, both for the individual and the state, for social inclusion, for intergenerational equity, and for the trust of individuals in the state itself. There are also important issues about change in the bonds between generations and intergenerational transfers, in the light of increasingly complex family structures and patterns of migration, as well as growing labour market instability. In some cases, change is strengthening the role of the family in supporting younger generations, while in others those links are being eroded.

A further issue is how the opportunities offered by new technologies – pharmaceutical, medical, communications, and assistive – can be used in ways

which are equitable and cost effective. In the health field, for example, constant improvement in pharmaceutical, medical and care technology make it possible to cure or alleviate conditions which would previously have been fatal. Some of these significantly reduce costs or increase efficiency, but others result in a net lifetime cost increase: when, for example, disabled people who would in previous generations have died in childhood live into old age, but with lifelong support needs. Decisions on such interventions raise complex issues of equity and ethics: not only what is affordable, but who should pay, and who should benefit, and how to avoid the danger of increased polarisation, between groups, communities and countries. This is an area where research should be able to inform the inevitable policy debates.

Some see these changes as a reinvention of the "welfare state" while others would describe it as a movement from a "welfare state" to a "welfare society". The central questions concern how to arrive at agreement on the relative responsibilities of the parties (principally the state, employers, local communities, individuals, and families); what levels of welfare are acceptable; who should pay, and for what; and how the efficiency of current welfare systems can be improved, including better synergy between areas of public policy. We need to understand new and emerging business models for service delivery, and evaluate their impact on social inclusion, social cohesion, quality of life and sustainability.

In this field, above all, close working relationships between researchers, policymakers, and service deliverers will be crucial, to explore "what works" best, with what costs and benefits for individuals and society, and in what situations. Regional, municipal and local government are key partners in this, since they are usually responsible for integrating welfare policies and practices at local level.

Research topics

What can we learn from comparative studies about the relative adequacy and sustainability of different welfare models?

An individual's quality of life is substantially affected by the structures and processes of the welfare regime in which he or she lives. These create underpinning security against misfortune and changing circumstances, and express the ways in which decisions can be influenced. Here the research issues concern: who benefits – and in what ways – from different approaches to welfare; who is included and excluded (in terms of factors like gender, class, ethnic and religious identity, citizenship status, and generation); what are the costs, and who pays them; how equitably resources are used; how affordable they are in the long term; and how politically acceptable they are to the relevant populations.

A range of different models for securing the welfare of citizens exists across Europe, with different levels of intervention and support, and different views of the proper balance between the state, the private sector, civil society, the family, and the individual. There

is considerable scope for comparative work, to explore the relative strengths and weaknesses of these different approaches in promoting social inclusion and delivering quality of life to all citizens, while recognising that since they have evolved over time in very different social and cultural contexts, direct transfer of models is rarely feasible or desirable.

A critical issue is the extent to which such systems meet the physical and emotional needs of individuals, and enable them to exercise autonomy and control in decision making over issues which affect their lives and those of the people around them.

How can we develop fair and sustainable ways of distributing resources and responsibilities between generations?

As the age distribution of the population shifts, the nature of the transfers between generations also changes. Research can help us to understand the true nature of such transfers, and how they might be made more sustainable and equitable.

In a three generation society, the distribution of resources between generations was relatively simple: parents supported children, who in turn supported parents in (relatively brief) old age. People in middle age earned money which paid for the care of the young and the old, or they achieved this by providing unpaid support. As the lifespan lengthens, this model is called into question.

Pension systems are the key tool for distributing financial resources between generations. However, these systems have evolved across Europe in societies where retirement was a relatively short

proportion of the lifecourse, following a long working life: indeed, for much of the 20th century, state pension age in some countries was barely higher than average life expectancy. This is no longer the case, raising issues about the sustainability of current models.

However they are organised, pensions rely on the success of the formal economy to generate funds, either through the financial return on savings invested in pension funds, or directly through taxes on the productive economy. Thus they represent a transfer from the economically active to the retired, and when they are funded by borrowing, they represent a charge against future generations. As the period spent in retirement grows, questions arise about what is an appropriate balance in this relationship. Once again, Member States vary greatly, in the nature of their systems, in the balance between state, occupational and personal schemes, and between schemes where people save into a fund, and those where pensions are paid from general taxation. Schemes also vary greatly in their generosity, from those which offer something close to a replacement of former income, to others which provide only a bare subsistence level.

Resources are also transferred through inheritance, by which accumulated wealth is passed between generations. The underlying effect of this is to concentrate privilege, sometimes counteracted by taxation of inheritance. In a four or five generation society these patterns become more complicated, with changing implications for the distribution of wealth, and the financing of dependency in later life.

However, intergenerational relationships are not only a matter of money. They also involve, usually tacit, agreements about mutual rights and responsibilities, which vary considerably between countries. Again, demographic change raises issues about the sustainability of traditional patterns of social inclusion and social cohesion and how they might be changed, and embodied in policy.

How can the potential contribution of informal services to the welfare of older people be developed?

Perhaps the most important policy challenge arising from demographic change is the growth in the numbers of old people requiring some degree of health or social care. In most countries, a substantial part of this is provided by civil society on an unpaid basis, by families, by voluntary services and by older people themselves. Here research can help us understand what works, in different contexts and circumstances, as well as to explore the ethical issues of what are reasonable demands to make of such "voluntary" effort.

Older people in the active "third age" contribute to collective welfare in a variety of ways. This is most noticeable in relation to social care, where older people are major providers of care for yet older people[31], and for grandchildren (thus often enabling their own children to remain in the labour market). Many continue to do this into their 80s and beyond. The extent of this varies dramatically between countries within Europe, from those where most social care is provided within the family, to others where it is assumed to be largely the role of the state. Older people are also active as voluntary providers of

other services, for example in civic and political roles, in the heritage industry, and in informal adult education.

Much of this activity is undertaken willingly, and often is assumed to be "normal". For many people such caring gives meaning and purpose to life and represents a positive contribution to their quality of life. However, this is not true for all: such caring roles can become increasingly onerous as the parties age, and it is difficult to "retire" from these responsibilities. There are legitimate questions about where the boundaries should lie between "voluntary" effort and the proper role of the state. Research should explore the experience of individuals and the impact of different models on those who "volunteer" and on those who receive support, and seek to establish a better understanding of legitimate boundaries.

How can we ensure that patterns of migration enhance, rather than damage, quality of life?

For a variety of reasons, migration – into, out of, and between countries within the EU – is a continuing feature of demographic change. Research can help us to understand how to maximise the benefits and minimise the difficulties, by understanding the patterns, their scale and effects on the migrant; their effect on the economies and societies of both donor and host countries; and the implications for transferability of welfare benefits and obligations.

Because migration brings people into and out of individual countries, and the EU itself, it forms an important element of demographic change. Immigration helps some member states address general or specific labour market needs, providing an injection of new ideas and energy, and strengthening the tax base. It is especially significant in the care sector, where demographic change is generating growing labour demand. In some countries migration helps counter the effects of the decline and ageing of the population, but sometimes it creates further problems, like pressures on housing, welfare services or the labour market (at least at a local level), and political resistance is widespread and growing in many countries. Furthermore, the aspirations and needs after retirement of long established immigrant communities from outside Europe are generally unknown. Some of their members will want to return to their countries of origin, but others will face retirement for which the likely lifestyle patterns are still unknown. At a time of high unemployment, immigration, like extending working life, raises fears about the displacement of young workers from the labour market. We also know relatively little about movement between countries within the EU: of young people from South to North and East to West, and from rural communities to cities; and of those who move in mid life, and at retirement. There are unanswered questions about the costs and benefits of these different kinds of migration. These include the impact on the "donor" countries or regions, which can be deprived of skilled workers who move to better paid but less highly skilled work elsewhere, as well as on "recipient" areas which experience an inflow of older retirees.

Migration within the EU itself raises other issues, including the transferability of welfare entitlements for

people who migrate, in mid life, at retirement, and in later old age. Welfare entitlements do not always correspond to those of their original country, and some seek to return "home" when they find, for example, that social care support is assumed to be provided by the (absent) family. National rules on pensions, healthcare, social care and other entitlements for such migrants are not always clear, or are not understood by those who migrate. Educational provision, including tuition in languages and broader cultural issues, to enable such migrants to integrate into their new societies is generally poor or non-existent. These issues can be particularly difficult for local and regional governments, which have to manage changing populations, sometimes with insufficient recognition, in policy or resources.

What models of care are most appropriate for people at the end of their lives?

Although average life expectancy is rising steadily, everyone eventually reaches the end. For most people this is preceded by a period of dependency, and as people live longer, the complexity of their medical conditions, and the length of time they are experiencing them, is increasing. Here we need research into the best policy approaches and management strategies to develop and secure the quality of life for people in the final stages of life. This will include exploration of new service models.

In terms of public welfare expenditure, the later stages of old age are often the most expensive phase of life, with high costs of medical intervention and social care. The design and

delivery of services needs to secure the best possible quality of life in this phase, but it is clear that conventional measures of quality may be inappropriate. There are implications both for carers and for patients themselves, who are increasingly being expected to play a role in managing their own conditions. This issue also raises questions about the role of assistive and communication technologies in managing care in the final stages of life.

While health and care providers are trained to seek full recovery, and improvements in medical technologies and treatments, rehabilitation and chronic care have made this more common (though sometimes expensive), recovery is often not possible, raising questions about the appropriateness of intensive medical interventions for people whose life expectancy is limited or uncertain. For some, a "good death" may be better achieved with palliative care at home, than with intensive attempts to prolong life. Preventing elder abuse – physical, psychological and financial – is also a challenge in all care settings and in all Member States. All these issues raise complex ethical issues, as well as practical ones for the management and organisation of services, for the training of staff, for relatives and caregivers, and for the community.

Welfare: cross domain issues

Through welfare systems, government, in partnership with private and third sector organisations, provides the policies, legislative and regulatory frameworks and systems which embody the social contract which secures the quality of life of their citizens. They

support individuals' quality of life by enabling them to remain active contributors for as long as possible, while providing a safety net to protect those who are unable to do so. These welfare systems are embodied in legal frameworks, institutions, and governance structures, which either encourage or discourage individuals from active engagement in decision making on issues affecting their lives. Welfare and production are two sides of a coin: those who are producing contribute to the wider welfare of society, and those in paid work also contribute through taxation to the costs of welfare for those deemed to require support. Understanding the shifting boundaries of paid and unpaid work will be critical here.
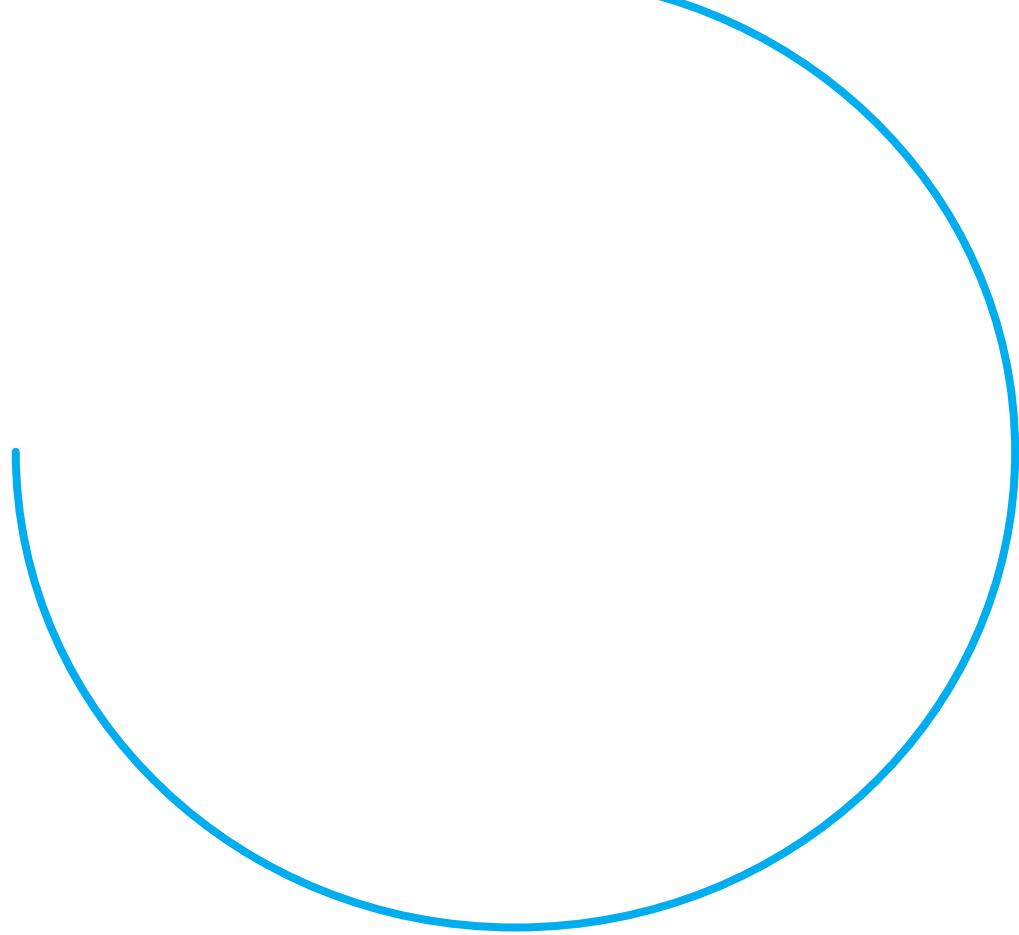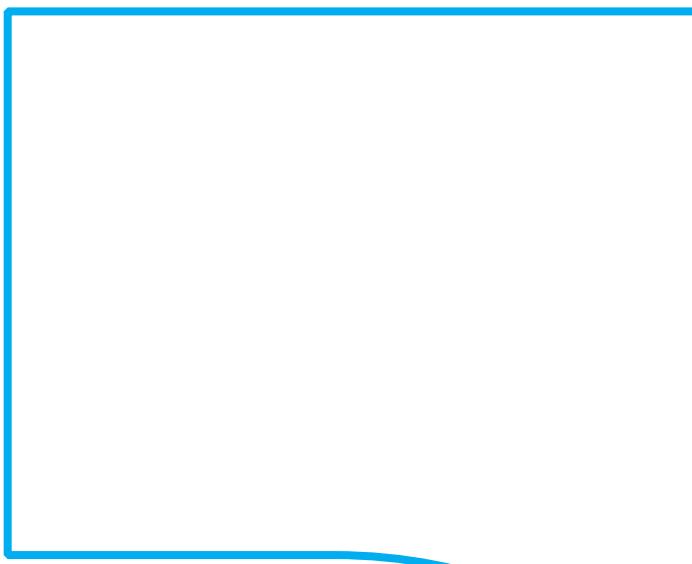
OUR APPROACH
TO RESEARCH

This chapter outlines how we have prioritised research topics from the long list of issues identified by the scientific working groups, and the broader issues described in the last chapter.

The goal

Demographic change presents many opportunities, but it will not inevitably lead to a better life for all. Many of the consequences are poorly understood, and economic, political and social pressures may increase social and economic polarisation, damaging the life chances of many. If policymakers are to reduce these risks, to ensure a sustainable economy and good quality of life for all, they need access to good research on: what is happening; what policy options have been tried, with what effects, for whom; and on what might be done.

The purpose of this agenda is to advance scientific knowledge, across the many relevant academic disciplines, in order to ensure that policymakers and practitioners, at all levels, have access to the research evidence they need to enable all citizens to live the most satisfying and productive lives possible across the whole lifecourse. We hope that, in time this work can be extended to a wider range of Member States,

and especially to establish stronger involvement of Central and Eastern European countries, which face similar but distinct demographic challenges.

The Agenda has a particular focus on research which can inform policy, not in the simple sense of the short term positions of particular political parties or governments, but as the complex network of objectives set, at all levels, by governments and by commercial and third sector organisations. The four "research domains" identify some of the major issues facing some or all of these agencies. These questions will remain important in the long term, whatever specific responses individual agencies and governments may adopt from time to time.

Demographic change is about more than ageing: factors like fertility rates, rural depopulation, and migration are all significant issues. Furthermore, some of the problems which arise in later life, especially in health and social care, can be prevented or mitigated by interventions earlier in the lifecourse. Change also raises issues of ethics and sustainability. Models of welfare and governance need to be sustainable over the long term, as well as equitable between generations and socio economic groups. Research studies need to examine not only what is possible, but also what is

Figure 3:

JPI Process of Strategic Research Agenda Development (2010–2014)

Please see Annex 4 for the full membership
of Advisory Boards and Working Groups

Stage 1:
Establishing
JPI-MYBL

Stage 2:
Conceptualisation

General Assembly ⟶ **Evaluation and approval**
of reports and activities
• 14 National partners

Societal ⟶ • Survey on societal relevance
Advisory of research themes (within JPI-MYBL)
Board • 7 recommendations
• 11 EU stakeholders

Scientific ⟶ • Development of themes
Advisory • Evaluation of scientific relevance
Board
• 16 Scientific experts

5 Working Groups ⟶ • 5 research reports on
• Health & performance opportunities and challenges
• Education & learning • 52 specific research questions
• Social systems & welfare and priorities
• Economic productivity
• Housing, environment
& mobility

CSA J-Age ⟶ • Coordination & support
• 9 members in of activities, meetings,
the Consortium reports & editing of SRA

Stage 3:
Consolidation of Strategic Research Agenda

Stage 4:
JPI Implementation

National consultations
• with policy makers and experts

MORE YEARS, BETTER LIVES
—
Strategic Research Agenda on Demographic Change

Joint Programming Initiative (JPI) "More Years, Better Lives
—
The Potential and Challenges of Demographic Change" 2014

Strategic Research Agenda
• 4 Research Domains
• 11 Research Topics with Priority
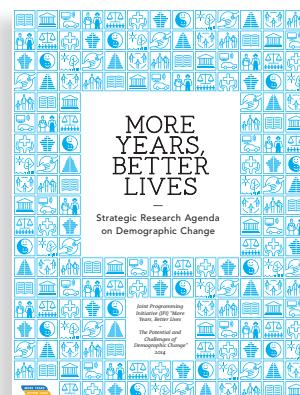
Launch event in Brussels April 2014

32. Initially there were nine countries, but the group later expanded to include fourteen, including Canada.

33. The five groups were: Health and Performance; Welfare and Social Systems; Work and Productivity; Education and Learning; Housing, Environment and Mobility (see Annex 4). Each comprised national scientific experts nominated by the participating states. In total, some 80 individual academic experts were involved in these groups, and their reports are available on the JPI website at http://www.jp-demographic.eu/information/publications/working-papers-of-the-jpi

34. The process by which the JPI participants arrived at the present agenda is described in more detail in Annex 1.

35. http://era-age.group.shef.ac.uk/

36. http://ec.europa.eu/programmes/horizon2020/en/h2020-section/health-demographic-change-and-wellbeing

37. http://www.neurodegenerationresearch.eu/initiatives/annual-calls-for-proposals/open-calls

ethical. Not all possible technical and medical developments are desirable, while changing rights and responsibilities between generations raise issues not only of practicality but also of equity, and long term sustainability.

The JPI process

In 2010 nine EU Member States came together to explore the potential for collaborative and comparative research, using the EU framework for Joint Programming Initiatives (JPI).[32] The work was supported by the European Commission as a Coordination Action of the 7th Framework Programme, through the J-AGE consortium of nine Member States.

A General Assembly of national representatives created five trans-national expert working groups[33] to explore and report on the issues, and on the current state of knowledge. Each was represented, together with some additional invited experts, on a Scientific Advisory Board, which prepared the present Agenda. The General Assembly also invited a range of relevant European stakeholder organisations to join a Societal Advisory Board. The board conducted a survey on "Societal Relevance of Research on Demographic Change" which was addressed to JPI members and included a broad scope of research questions for evaluation. The present Agenda was refined in consultation between the Scientific Advisory Board, the Societal Advisory Board and the General Assembly. Finally, a draft was circulated to all JPI member states for comment before final revision.[34]

Other related work

In designing and implementing this strategy, we do not wish to duplicate or compete with the work of other programmes. We are very aware that there has been much research in recent years on those aspects of demographic change which relate to ageing, especially in relation to the later stages of life, when health and care issues become particularly prominent. Here, a key role has been played by the "Futurage" programme, developed in consultation with the 13 countries which formed the European Research Area on Ageing (ERA-AGE 2)[35]. This focused explicitly on older people, rather than broader demographic issues, but we share its view of the importance of a broad interdisciplinary perspective, and we endorse their view that research should prioritise:

› *multi-disciplinarity,*
› *user engagement,*
› *a life course perspective,*
› *a person-environment perspective,*
› *the importance of diversities,*
› *intergenerational relationships,*
› *knowledge exchange, and*
› *technological innovation.*

More recent initiatives have had a more specific focus. The major contribution of the EU's Horizon 2020 programme[36], will concentrate heavily on the health and biomedical dimensions of ageing, as will the JPIs on "Alzheimer & other neurodegenerative diseases"[37], and "A healthy diet for a healthy life"[38]. The European Innovation Partnership on Active and Healthy Ageing[39] has a more immediate practical focus, with an explicit aim of identifying interventions which will add two years to healthy life in Europe by 2020. The JPI

on "Urban Europe"[40], which examines the relationship between age and place is also relevant.

There is also much relevant work on technologies. The Ambient Assisted Living Programme "ICT for Ageing Well"[41], focuses on uses of information and communication technologies, while, in 2014 the European Institute for Innovation and Technology will be creating a new Knowledge and Innovation Community on "Innovation for healthy living and active ageing"[42], which will bring together higher education, researchers and business, across the entire innovation chain.

We do not intend to duplicate this important work. Our concern is broader than merely ageing, and stretches across the whole field of demographic change, both in age range, and in its breadth of disciplinary perspectives. Bearing in mind the strong medical and technical emphasis of many other programmes, we have placed particular emphasis on the social issues arising from demographic change, while recognising that relevant research will require work across many scientific disciplines.

Our criteria for prioritising research topics

There are many research issues where policy could be improved by better evidence. In choosing which to give priority to, we have applied the following criteria:

"What works"

This research programme is concerned to inform policymaking. It must therefore address questions which are important, or likely to be important in the future, to decision making by government (national, regional and local), employers, and civil society bodies. The objective should be not only to properly describe the demographic challenges, but also to contribute to addressing them. Achieving this relevance, without compromising research quality, calls for closer working between policymakers and researchers than is sometimes the case.

Where demographic change is a central issue

Since many areas of social policy have some implications for demography, this programme could easily become extremely diffuse. Priority will be given to topics where demographic change is a central component. We have also prioritised issues where there is synergy between two or more of the four research domains – for example where economic and social production by older people contributes to sustainable welfare.

Where a comparative perspective will add value

Comparative, and especially transnational, work is by its nature, expensive. Much relevant research is, and can most efficiently be, conducted within individual countries and regions, and should be funded at that level. Resources for transnational work, of the kind addressed by this agenda, should therefore concentrate on those areas where a comparative perspective can add significant value (as, for example, in the comparison of welfare or public health models), bearing in mind the importance of national and local contexts.

38. https://www.healthydietfor-healthylife.eu

39. http://ec.europa.eu/research/innovation-union/index_en.cfm?section=active-healthy-ageing

40. http://jpi-urbaneurope.eu

41. http://www.aal-europe.eu

42. http://ec.europa.eu/research/innovation-union/index_en.cfm?section=active-healthy-ageing

Implementation

The JPI is a voluntary programme, jointly managed by the countries which have chosen to participate, and not all will wish to take part in, or fund, work on any given topic at a particular time.

Funding for research may come from a variety of sources, including the European Commission through its various programmes and agencies; through Member States themselves, through government departments or research funding bodies; through regions or municipalities; and through charitable institutions. This may involve direct funding of "JPI programmes", or collaboration with other programmes that share our objectives.

Types of research

The kinds of research undertaken are likely to vary according to the topic, the number of partners and the funds available.

Some issues are particularly urgent, either because they are of high priority for current policy, such as scoping activity before specifying or commissioning primary research, or because they need to be resolved before further work can be done. In these cases "fast track" projects may be undertaken[43].

It is not appropriate for an agenda of this sort to be prescriptive about research methods, which are properly a matter for researchers to decide. We would expect that researchers will adopt a range of approaches, which might include conceptual and empirical; longitudinal and cross-sectional work. There may also be a place for foresight and scenario studies, as well as evaluations of policy impacts.

In selecting how to approach research topics, we intend to prioritise work which:

Is innovative and interdisciplinary

We are keen to encourage research which is interdisciplinary, and innovative in both methodology and topic. We recognise that much research is already in progress within individual scientific disciplines on the issues identified in this paper. However, many of the policy issues created by demographic change call for understanding which crosses the traditional boundaries of scientific disciplines and which combine quantitative and qualitative methods. This agenda therefore focuses particularly on issues which require interdisciplinary approaches, and encourage cross fertili-

sation of expertise and methodologies. A particular priority might be the closer integration of research between biomedical and social sciences, which has sometimes been underdeveloped in the past.

Is of high quality
Innovative approaches should not imply a reduction in the rigour and quality of research. Nor should relevance to policy-making imply subservience to policy-makers' prior conclusions. We believe that good policy is best served by research which is rigorous in design and implementation, even if its conclusions are sometimes politically unpalatable. The quality of research is therefore a priority in deciding what to undertake, and how to do it.

Builds on previous work
All good research begins with an evaluation of what is already known, and any research commissioned under this agenda should do this. However, the same principle should apply to the research programme itself. In some of the fields which we prioritise, much is already known, and before any specific primary research is commissioned it will be important to review this. Sometimes what policymakers need is best provided by a systematic review of existing knowledge, rather than primary research.

Engages directly with older people
Older people represent a valuable potential resource for research, not only as subjects, but as active participants. This includes "retired" scientists with existing expertise and experience to offer in their retirement, as well as older people who wish to acquire the skills and knowledge needed to undertake research, either independently, or in partnership with scientific institutions. Innovative approaches may be needed to ensure that the voices of older people are represented effectively.

Is accessible to scientific and policy audiences
Findings should be published in mainstream scientific forms, but they should also be presented and interpreted in forms which are relevant to a policy audience.

Timescales and priorities
Some of the issues identified in this agenda can only be understood by relatively long term studies, whereas policymakers typically operate on much shorter time horizons. Work will need to seek a balance between the ideal and the pragmatic, and different countries will have different views about the degree of urgency of particular issues.

Research infrastructure

General infrastructure issues

Much work is being done to improve research infrastructure across Europe, and there is no need to describe this here. However, because demographic change raises research issues which are not only transnational, but cut across a wide range of scientific disciplines and areas of public policy, it calls, in some cases, for innovative approaches to research and research infrastructure. Researchers will come from many scientific fields, and will need training to work in the interdisciplinary ways which are central to demographic research. European support will be particularly important to encourage teams working across national boundaries, to build links with other European programmes and to build the capacity of institutions to support and manage new kinds of research.

Relevant issues include:

Bridging research, policy and practice

Demographic research is intimately linked to public policy. Mechanisms will be needed to improve the dialogue between researchers, policymakers and practitioners across academic disciplines and policy fields. Continuing to work within the various "silos" will not achieve the necessary synergy, nor will it produce the most fruitful outcomes.

Transnational literature reviews

One way in which comparative research can be strengthened is by undertaking transnational literature reviews. These can enable researchers to identify opportunities for new research in other countries, but also help to avoid simplistic attempts to transfer practises and policies between countries. This is a particular issue in the field of demographic change, where the interaction of policy, practice and research makes it particularly important to include policy and practitioner literature, which is often not available in the most widely spoken languages, nor found on conventional academic research sites. Such reviews can provide an important underpinning base for new research. The model of the Cochrane Collaboration in the Health sector demonstrates what can be achieved.[44]

Developing innovative methodologies
In pursuing research on demographic issues it will be important to explore innovative approaches to data gathering and analysis, and comparative indicators, and to share these among researchers internationally. One important opportunity is provided by the emergence of "big data" systems for gathering and analysing data, especially perhaps in countries with registry based data systems. These offer opportunities for new kinds of research, but also raise issues of ethics and privacy which will need to be considered in designing research approaches.

Development of transnational and interdisciplinary networks
Good comparative work depends critically on good working relationships between researchers from very different backgrounds. The development and maintenance of scientific networks to encourage such dialogue is a precondition for such research.[45]

Training of researchers
Research training traditionally takes place in relatively isolated disciplinary forms, and often only within a national frame. New and experienced researchers can both benefit from training which exposes them to methodologies and theories from unfamiliar disciplines and to different national and cultural contexts, as well as an understanding of the long term research and policy objectives. International exchange of researchers through initiatives like the Max Planck Postdoctoral Fellowships[46] could help with this.

Active engagement of end-users, clients and subject groups
An important dimension of research in recent years in the EU has been the engagement of end-users, clients or target groups: in identifying research issues and approaches, and as researchers and co-researchers. This opens new possibilities for innovative and sometimes cost effective forms of research, and there is scope for making more and better use of such approaches.

Data systems and access
Quantitative data sources provide an important underpinning for much research on demographic issues, yet, because of traditional disciplinary and policy boundaries, researchers are often unaware of key sources. Because this was seen as an important and urgent issue, the JPI undertook a "fast track" project to map key data sources in twelve countries. This provides an important underpinning for much of the research proposed in the Strategic Research Agenda, and a valuable tool for both researchers and policymakers.

45. Interdisciplinary working has also been identified as a priority by the European Innovation Partnership on Active and Healthy Ageing.

46. http://www.research-in-germany.de/dachportal/en/Research-Funding/Funding-Programmes/Max-Planck-Grants-for-Advanced-Postdoctoral-Training.html
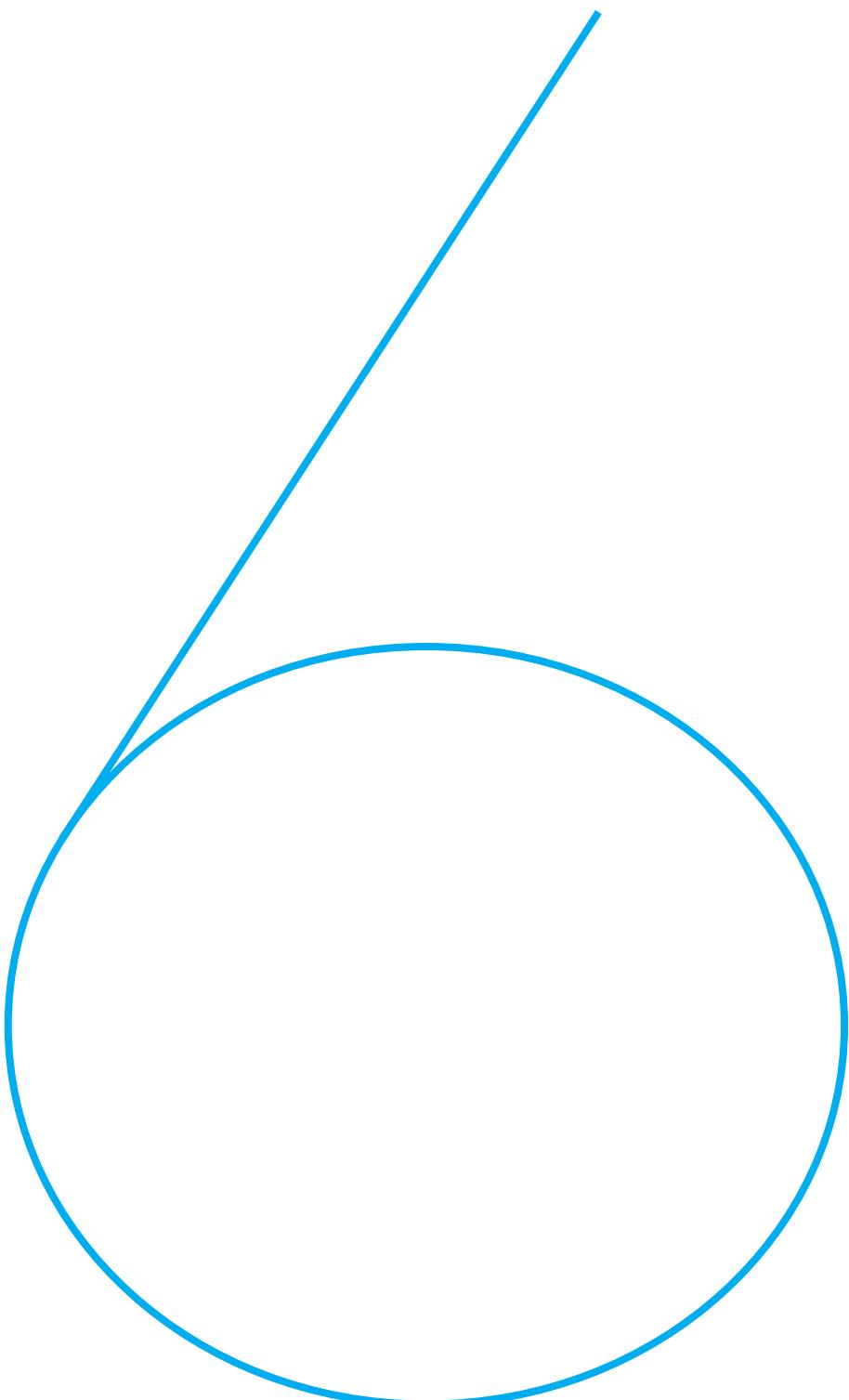
THE AGENDA: ELEVEN RESEARCH TOPICS

Previous chapters have described how the research agenda was developed, through dialogue between the five scientific Working Groups, the Scientific Advisory Board, the Societal Advisory Board and the General Assembly (which represents all the states participating in the JPI), and how the many research ideas discussed were prioritised.

Chapter 4 identified the range of important research issues raised by demographic change. All are important, but we believe that some require particularly urgent attention. This chapter identifies the eleven issues to which we give priority in the short and medium term. The rationale for each can be found in the previous chapters, and in the reports of the five Scientific Working Groups[47].

We do not suggest that any one of these is more important than the others. All are relevant, and there is no particular reason to argue for addressing one sooner than another, although at any given time, individual countries and funders will choose which to engage with.

47. The five Working Group reports can be found on the JPI website, at http://www.jp-demographic.eu/

1. Quality of life, wellbeing and health

To develop agreed measures; to explore how they vary between individuals and groups over the life course; and evaluate how best to use them to evaluate the impact of policies and practices.

The JPI research aims to inform policies and practices which will ensure the best possible quality of life for all the citizens of Europe, in the context of demographic change. However, although there has been a growing amount of research into quality of life and wellbeing in recent years, there is still little agreement about how to define these, and how best to measure them. There is also an ethical debate about how far Government and others should actively seek to promote wellbeing, rather than to simply reduce the factors which damage it. Physical and mental health are vital contributors and preconditions for wellbeing, whose impact changes across the lifecourse, and changes in biomedical sciences and technology are altering that impact. However, they are not the only, or necessarily the most important, components.

Particularly critical issues are to understand how wellbeing is affected by the changing shape of the lifespan; how far notions of wellbeing change with age; the effects of contextual factors like location, employment, and physical environment; and of personal characteristics like disability, gender, ethnicity, occupation, family contexts and life stage. There are particular issues about understanding wellbeing among the very old and those with terminal conditions or limiting disabilities.
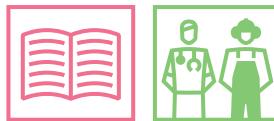
2. Learning for later life

To understand the ways in which learning can contribute to quality of life across the extended lifespan, and how opportunities for such learning can best be made available, by public, private and third sector means.

Despite public endorsement for lifelong learning in European and national policy papers, education, (and often learning of any kind), is often seen as a matter for young people, and participation in formal learning declines rapidly with age in most European countries. Demographic change makes this even less appropriate than in the past. Those in paid work need to update and maintain skills; especially if they wish to change occupation or role in mid life. Learning is critical for those who become unemployed after the age of 50, who face a higher risk of long term, or permanent, unemployment unless they can refresh their workability. Careers education and advice can help people to make better informed decisions about the timing and management of retirement. Learning can help people to prepare for the new challenges of later life, for successful retirement, for new voluntary roles (including caring), for new civic responsibilities. "Adult education" is known to contribute to health and wellbeing, partly because it provides a means for people, especially older people, to overcome isolation and loneliness, and to rebuild their lives and social networks after retirement, separation or bereavement. For those in residential care institutions, learning programmes can improve health and wellbeing by providing structure and purpose to lives which can be lacking in both.

This does not imply simply that the state should provide more "courses". Even in countries with a strong tradition of publicly funded adult education older people were not always a priority, and we are unlikely to see the widespread restoration of such public services. In any case, much – perhaps most – learning by older people happens in voluntary and informal settings, some of it organised by older people themselves, who may discover new talents and purpose as teachers and organisers. The research question is therefore how to ensure that an appropriate range of opportunities is available to all older people, in consultation with older people themselves: what kinds of partnership (between public, private and third sector agencies) can ensure that the needs are being understood and met in sustainable ways, and that appropriate infrastructure exists to mobilise voluntary effort.

3. Social and economic production

To explore the nature, scale and value of the contribution of older and economically inactive people to society, in both paid and unpaid roles, and the relationships between the two.

While average healthy lifespan is growing steadily throughout Europe, formal and actual retirement ages are not keeping pace, while a growing cohort of young people are experiencing long periods outside the labour market, or in unpaid employment, and patterns of life-work balance are changing across the whole lifecourse. The result is a growing body of people in relatively good health who are – or could be – contributing skills, knowledge and experience to society, but doing so outside the conventional paid labour force. This is a particular feature of social care for the young and old, where in many countries the majority of such "work" is unpaid. Because the groups involved are growing rapidly, it is important to understand the changing relationship between paid and unpaid production, how these are measured, valued and recognised in policy, their impact on tax and benefit systems, and on the lives of those who undertake unpaid work. It is also important to understand the role of third sector organisations, and municipalities which often play a key role in facilitating "voluntary" activity. There is considerable scope for comparative work since services, especially in social care, are delivered in very different ways in different countries.

4. Participation

To explore what kinds of systems, structures and interventions are most effective at engaging and empowering older people, and especially groups which are traditionally excluded.

One objective of public policy is to enable older people to take greater control of their own lives, and increase their engagement in economic, civic, and social activity across the extending lifespan. However, demographic change increases the size of some groups who have traditionally participated less in society and the economy, notably – but not only – the old and some migrant groups. We need a better understanding of what factors promote or inhibit engagement by these groups in the full range of activity and decision making, including paid and unpaid work and wider civic roles, at all levels from the neighbourhood to national. Research should explore what kinds of systems, structures and interventions are most effective at engaging and empowering people, both as individuals and in groups, and especially people from traditionally excluded groups, including the very old.

5. Ageing and place

To understand what kinds of housing, transport and urban design policies are most effective at enabling people to remain independent and socially engaged throughout the lifespan.

Quality of life is critically affected by the physical environment, which is shaped by a very complex mix of factors, historical and contemporary. These include planning systems and policies at local and regional levels, the design and modification of housing and transport systems, and assistive technologies, in the home and more widely. We need to understand better how these interact to affect the quality of life of older people, especially in very old age; and how they can be developed in a coherent and economical way. Some of these factors are amenable to relatively quick modification, but others, like urban planning, develop over decades. In some cases standards and regulations can influence new design and future opportunities, in other cases change must be encouraged through the education of professionals, and the creation of appropriate consultative processes. Regional, municipal and local government are key partners here, since they are usually responsible for these services on the ground.

6. A new labour market

To identify effective ways of redistributing employment across the extending healthy lifecourse, including extending working life, through regulation, governance and management.

All developed countries are seeking to extend working life in response to rising life expectancy, but demographic change also provides an opportunity to rethink the distribution of work across the lifespan, perhaps reducing pressure in the middle years, in return for working later in life. However, change will not be achieved simply by formal regulation, although outlawing age discrimination and mandatory retirement ages are important both as regulators and in setting public expectations. Change requires incentives for both employees and employers. For employees, work has to be more attractive than the alternatives, and for employers the benefits of a more age diverse workforce need to be evident. Furthermore, there are important issues of equity, given the ways in which the experience and nature of work influence life expectancy. For older people, the quality of work and its benefits vary by sector and occupation, and their impact is affected by gender, ethnicity, migrant status and disability. Across Europe there is a growing body of experience of age management strategies and practices (including modifications to recruitment, work flexibility, career management and performance assessment); in workplace governance; and in access to lifelong learning and career guidance. Research is needed to distil the lessons of this practice, and to explore effective ways of progressing further.

7. Integrating policy

To explore ways of integrating policy and practice across traditional institutional and professional boundaries, and evaluating the costs and benefits of such approaches.

Demographic change presents a challenge to traditional models of policymaking. Institutional and policy frameworks evolved in different circumstances can sometimes stand in the way of rational and economic solutions to new problems. For example, better integration of health and social care services may both improve the quality of life of older people and reduce costs to the public purse. Improvements in the design of housing or transport systems may enable people to remain longer in their own homes, with major savings to social care costs. Research should explore ways of promoting integration, and evaluate the costs and benefits of such approaches. A critical dimension here is the role of regions, municipalities and local government, which is usually the level at which complex, and sometimes conflicting, policies have to be made coherent for the individual and for the local community.

8. Inclusion and equity

To identify who benefits and who loses, and in what ways, from demographic change; how inequities can be avoided, and solidarity supported.

If we are to secure the welfare of all citizens, it is important to understand how demographic change impacts on particular groups of people, by factors including: age, class, occupation, gender, disability, ethnicity and migrant status. A particular issue is how full advantage may be taken of the complementary capabilities of different groups, especially across generations, where there is sometimes concern that policies which encourage older people to stay longer in the workforce have the effect of excluding young people from the labour market, and by doing so perhaps undermining the long term economic base on which the welfare of the old depends. Policies which focus exclusively on older people risk failing to understand the dynamics and potential of intergenerational relationships. A further issue is to understand the long term sustainability of economic models. For example, pension systems represent a long term intergenerational contract, with impli-cations for the distribution of wealth and income which extend far into the future. Research here should explore who benefits and who loses, and in what ways, from demographic change; how inequities can be avoided; and solidarity supported.

9. Welfare models

To understand the relative strengths and weaknesses of different welfare models, how sustainable they are in the longer term; and how countries might learn from each other.

Countries within Europe vary greatly in how they secure the welfare of their citizens. Some have high levels of public sector support while others have much less. The degree of centralisation and devolution of responsibility varies greatly, but in most countries regions and municipalities play a key role, especially in integrating the work of multiple agencies at local level. What is provided, and who is supported, varies greatly, as does the mix of public, private and third sector support, and all these are changing over time, under pressure from changing demography as well as current budget constraints. While it is important to avoid simplistic attempts to transfer models from one context to another, there is considerable scope to learn from comparative studies of which needs and demands are best met by which systems and models; how sustainable they are in the longer term; and what elements might be transfer-able to other countries or contexts.

10. Technology for living

To explore how existing and emerging technologies can better contribute to the quality of life, contribution, and social engagement of older people.

Technological and social change are intimately linked, and the former is happening at an accelerating pace, often in unexpected forms. Some technologies are designed to address issues specifically related to an ageing population or to those facing health and disability issues which are commoner among older people, while others provide unexpected benefits or risks. For example, mobility scooters are designed to address a specific problem, of particular relevance to older people, while online shopping – which enables older people to remain independent in their own homes – was not. Social networking can help older people to overcome isolation and improve their mental health. Older people already use internet forums to share ideas on many issues, including ways of adapting to their changing circumstances, or managing health conditions. Workplace technologies which overcome the physical effort involved in many manual tasks make extended working life possible for some, and may reduce the likelihood of people arriving at retirement with work related health conditions.

However, not all who might benefit have opportunities to acquire appropriate skills and confidence, and relevant learning opportunities are needed. Research needs to explore how existing and emerging technologies contribute to quality of life for older people, and how standards and incentives to designers and commercial organisations can support positive developments.

It also needs to explore how technologies can enhance older peoples' ability to contribute to society, and how they can facilitate social engagement of older people, especially those from socially excluded groups, who may be particularly reliant on public services which are being converted to online forms. Above all, it needs to explore how older people can be active agents in developing technologies and their uses.

11. Research infrastructure

To support researchers and institutions in developing interdisciplinary methodologies and expertise; to undertake systematic reviews on demographic issues; and to improve the quality and accessibility of data to support demographic research.

The infrastructure issues raised by this agenda have been outlined in chapter 5. The key priorities are to provide appropriate support for the development of closer working relationships between researchers, policymakers and practitioners; for improving the quality and accessibility of cross-disciplinary data; for the training and development of researchers (including the direct engagement of clients in research); and in building institutional research capacity.

The maintenance and expansion of the work begun by the JPI Fast Track project on Data is a particular priority, to keep the existing database up to date, and to extend its coverage to other Member States.

Figure 4 on the right indicates the relationship between the research topics and the four domains.

Figure 4:
The research priorities and the domains

demographic change

society

sustainable welfare
& intergenerational equity

9

institutions
& ethics

8

markets &
innovation **6**

social inclusion &
inequalities

competitive
management

governance

public **7**

4

people of
all ages

private

public
services

social cohesion &
living environment

economic
production

5

social
production **3**

participation

2

1

quality of life
health & learning

individual

10 **11**

technological & environmental change

CONCLUSION

The European Union's 2020 Strategic Agenda,[48] which seeks the pursuit of "smart, sustainable and inclusive growth" across the EU has stressed that demographic change presents Europe with a complex range of issues, challenges and opportunities.

Successful policymaking in this field could result in both a sustainable economy and improved quality of life for all people of all ages. It would enable older people to remain active and contributing members of wider society for longer; and ensure that those at greatest risk, of poor health and social exclusion, are protected.

Achieving this will depend on long term strategic thinking and policy-making, based on good evidence. Such evidence can be built through rigorous research which draws on a wide range of academic disciplines, and makes full use of the comparative perspectives which European collaboration can provide. Gathering this evidence, and relating it to the policy challenges is the purpose of the present strategy.

This Research Agenda sets out a shared strategic approach to research on the issues arising from demographic change. It has been developed through iterative discussion between scientific experts, societal stakeholders and government representatives. We believe that it can support world-class research which can exploit emerging scientific opportunities, confront barriers to progress, and identify new approaches to the full range of challenges. The eleven priorities for research which it identifies will form the basis for future work by the participating member states, together and in partnership with other players at European and national levels. We commend these to our Member States, their research funding agencies, to the European Commission, and to all those concerned to see that research enables more years to mean better lives for all Europe's citizens.

48. http://www.jp-demographic.eu/information/publications
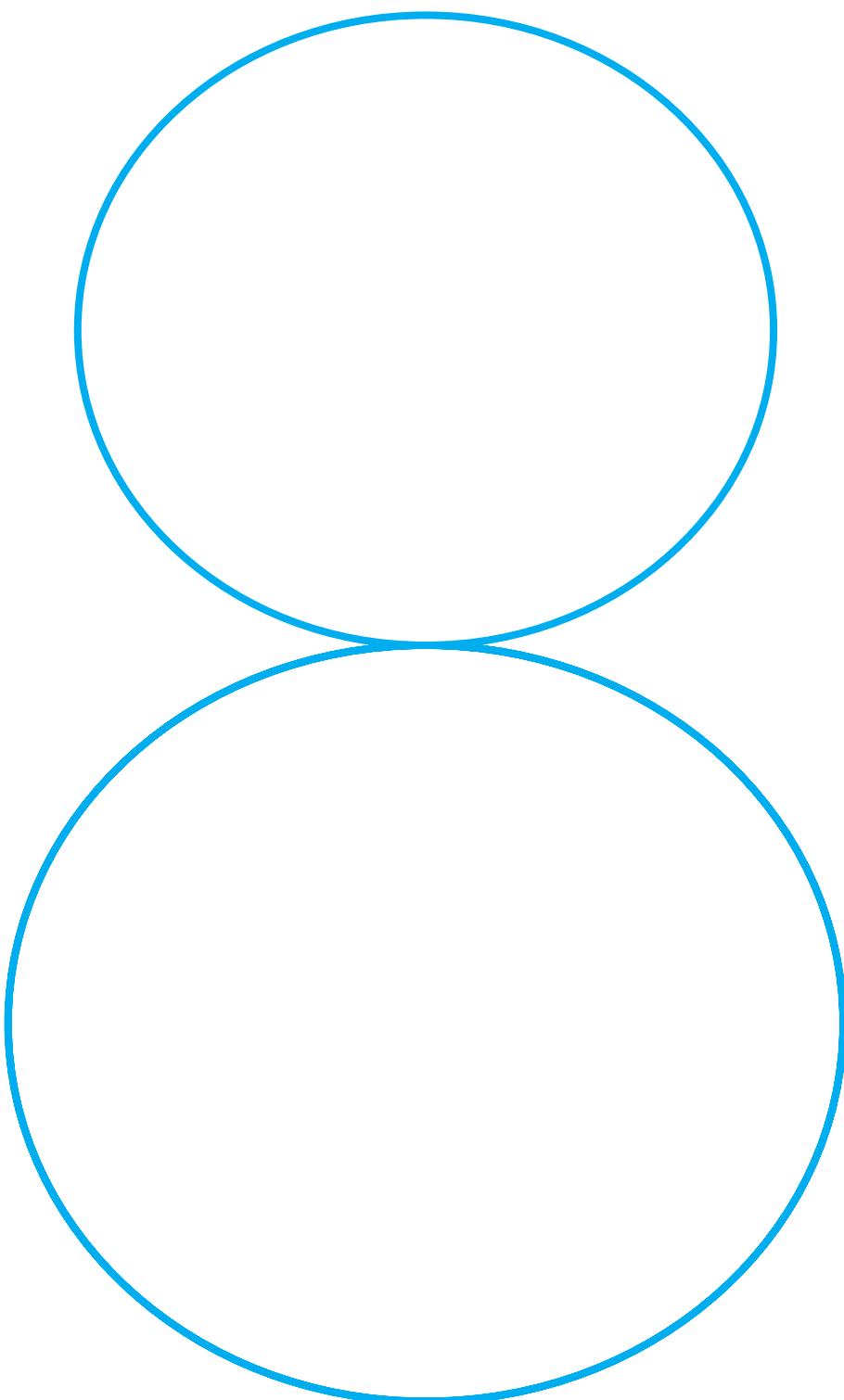
ANNEXES
Annex 1: The JPI process

Participants

A Joint Programming Initiative (JPI) is a coordination activity between a group of Member States and other countries, which have volunteered to share ideas in order to develop a common research agenda.

In the case of the "More years: better lives" JPI, nine member states initially agreed to take part. They were joined later by five more countries, including Canada. The representatives of the states formed the General Assembly, responsible for the overall management and decision making of the Initiative. The participating countries were:

> › *Austria*
> › *Belgium*
> › *Canada*
> › *Denmark*
> › *Finland*
> › *Germany*
> › *Italy*
> › *Netherlands*
> › *Norway*
> › *Poland*
> › *Spain*
> › *Sweden*
> › *Switzerland*
> › *United Kingdom*

In addition, France, and Turkey took part as observers.

Scientific working groups and advisory bodies

The General Assembly created five scientific Working Groups, and each country was invited to nominate a scientific expert to serve on each group. Some Working Groups included members from all participating countries, but in other cases some countries chose not to nominate. The five groups were:

> › *Health and performance;*
> › *Social systems and welfare;*
> › *Work and productivity;*
> › *Education and learning;*
> › *Housing, urban and*
>   *rural development.*

The General Assembly also created two other groups:

> › *A Societal Advisory Board of*
>   *representatives from stakeholder*
>   *groups at European level;*
> › *A Scientific Advisory Board,*
>   *comprising the chairs and vice chairs*
>   *of the working groups together*
>   *with invited additional experts.*

The Working Groups met a number of times to review previous work by other agencies, and the issues raised by demographic change in their field. Each group then produced a report, which was summarised by the Working

Group's chair before being discussed by the Scientific Advisory Board, and the Societal Advisory Board.

Mapping

As a starting point for aligning and improving the coordination of national programmes, a brief mapping exercise reviewed the scale and scope of funding activity in demographic research among JPI MYBL member countries. It found that there are many multi-purpose or umbrella funding programmes with some relevance to demographic change and some explicitly include the impact of demography among other issues. However, few if any of these examine the specific impact of demography on the domains highlighted in this agenda. As a result it is impossible to estimate how much money might be currently committed to demographic issues. In many cases, work is confined to specific scientific disciplines, and does not adopt the broader interdisciplinary approach which we are proposing.

Some funding is available for all important areas of demographic change, but the review also shows that some areas (like health), receive more funding than others (like education and learning). The level and approach to funding also varies across countries. While, in some countries (like Austria, Finland, Switzerland), most funding is channelled through research institutions and universities, others rely more on competitive funding (like Belgium and the United Kingdom), whereas a third group (including Germany and the Netherlands), offer a mixture of approaches.

Developing and implementing the Agenda

The overall Strategic Research Agenda was developed from the Working Group reports through in iterative process of discussion with the Scientific Advisory Board, the Societal Advisory Board, and the General Assembly.

In Autumn 2013, a draft version was circulated to members of all the Boards, and to the member states for comment, and these comments were considered by a joint meeting of the Scientific and Societal Advisory Boards in November. The draft was then revised and approved by the General Assembly in January 2014.

The Agenda is not a conventional "research programme" to which researchers can bid for funds. Rather, the intention is that it will help to shape the funding priorities of national and European agencies, including the partners who served on the JPI General Assembly.

The agenda may be carried forward in a variety of ways including:

› *European research calls;*
› *Transnational expert networks;*
› *Training and mobility programmes for researchers;*
› *Collaborative funding between member states or their research funding bodies;*
› *Programmes organised by individual countries alone.*

The Demographic Data project outlined in Annex 2 demonstrates one way in which such transnational collaboration can be effective. The aim is that this agenda will encourage more such attempts.

The following 14 countries took part in this JPI as full members:

› *Austria*
› *Belgium*
› *Canada*
› *Denmark*
› *Finland*
› *Germany*
› *Italy*
› *Netherlands*
› *Norway*
› *Poland*
› *Spain*
› *Sweden*
› *Switzerland*
› *United Kingdom*

Countries participating as observers:

› *France*
› *Turkey*

Annex 2: The JPI Data Project

49 For example, researchers in health sciences may be unaware of relevant material in urban planning or sociology, and vice versa.

50. In this case the German Federal Ministry of Education and Research.

51. http://www.demogr.mpg.de/en/

Purpose

The JPI Agenda embraces an extremely wide range of research issues across a range of scientific disciplines. In most cases research and policymaking depend on the availability of good quality quantitative data. However, much of the data currently available to researchers is organised in academic or policy compartments, which make inter-disciplinary work difficult.[49] Similarly, many key sources are national, with limitations of language or access that make comparative work difficult.

Since much of the JPI's agenda depends on an understanding of what data is, and is not, already available, the JPI General Assembly agreed that reviewing the adequacy of data sources to support demographic research was a shared and urgent priority.

Methodology

Accordingly, twelve of the JPI countries agreed in 2012 to undertake an exploratory project to map what is currently available in ten broad policy areas at national, European and international levels.

Each country appointed and funded its own researcher to join a collaborative team. Each of these experts produced a national report, identifying and reviewing the key national quantitative data sources in ten relevant policy fields against a common template. One of the partners[50] agreed to fund central coordination, and a parallel review of European and international sources.

The ten policy areas were:

› *Health and performance*
› *Social systems and welfare*
› *Work and productivity*
› *Education and learning*
› *Housing, urban development and mobility*
› *Public attitudes to old age*
› *Social, civic and cultural engagement*
› *Uses of technology*
› *Wellbeing*
› *Intergenerational relationships*

Each national expert identified the key data sources used in his or her country against each of the ten headings. Each then produced a narrative report, with a critical review of the quality and usefulness of each data source, and completed a detailed matrix, covering issues like sampling methods and sample sizes, access, key strengths and weaknesses. Alongside this, the Max Planck Institute for Demographic Research[51], which coordinated the project, produced a similar report on European and International sources.

Project outcomes

The project produced a map of data resources related to demographic change in the 12 countries. A total of 337 national and European-wide data sources were described and evaluated. This material was then used to produce:

> › *A searchable open access European website*[52]*, which will enable researchers and policymakers to quickly identify the best sources of data on major policy issues related to demography in any of the participating countries, and to understand their strengths and weaknesses;*
> › *A set of the narrative country reports, which provide a critical review of the range of data available on relevant issues in that country;*
> › *A set of short national briefing papers;*
> › *An overall project report which reviews general issues about the usefulness of available data on demographic issues.*

Key findings

The following are the key findings of the report.

Strengths and weaknesses of current data sources

The broad conclusion of the project report was that, while the provision and quality of data on ageing populations has been improving, through the (partially combined) efforts of national and international statistical offices, non-governmental data providers, and the research community throughout Europe and abroad, there is still a lack of high-quality information in a number of areas. The most significant shortcomings concern:

> › *Limited access to data for researchers;*
> › *Uneven coverage of sub-populations and topics;*
> › *Inconsistent survey methodologies.*

Access to registry data

Some countries have substantial central registers of population data.[53] Such data is particularly important in population research, as it represents a source of current, high-quality information, with excellent coverage of the resident population. However, in some cases material is only available in the language of the originating country, and with – understandably – strong controls on access, making comparative work difficult for many researchers, especially when working internationally.

Missing population groups

A second weakness concerns sampling and coverage of specific population sub-groups. In many of the surveys and registers, particular sub-groups (notably, the oldest-old, residents in institutions, people with disabilities, people with chronic diseases, elderly people with immigrant backgrounds, and people with very low or very high socio-economic status) are underrepresented. This is unfortunate, since much demographic related research is particularly interested in these groups.

The present Strategy has concentrated mainly on the issues affecting the second half of the lifespan. Future demographic work will also need to consider the position of young people and young adults.

52. www.jpi-dataproject.eu

53. Microdata in a database, gathered usually for administrative purposes.

Missing topics

In terms of coverage of the key topics for demographic research, shortcomings were identified in a range of areas. These included:

› *Living arrangements: There was a lack of data on living arrangements, not only of the elderly, but also of the general population, which limits the ability to study social and family networks, and the deployment of housing resources.*
› *Mobility and migration: There was little data about mobility, both within and beyond Europe, including the mobility of older people. Data was lacking on both residential migration and on travel for work, health, and leisure purposes.*
› *Learning and education: There was very little data on lifelong learning, especially for older people. Surveys rarely examine the involvement of older people in lifelong learning and training activities, especially when these are not related to employment or formal qualifications.*
› *Use of technologies: Data on assisted living, and on the use of information and communication technologies, especially by older people, was also scarce.*
› *Wellbeing: Here data is available at the national and the international levels, but it is often fragmented and stems from surveys which differ in scope and time. Rarely do sources link objective and subjective components. Very few, if any, surveys are specifically focused on the wellbeing of older people.*

› *Attitudes to age: Another shortcoming is the absence of data on individual attitudes towards and societal images of old age, either on how older people are perceived or how they perceive themselves. Data is also sparse on age discrimination, and on individuals' attitudes to – and expectations of – ageing and retirement.*

Methodological issues

The project identified a number of methodological shortcomings.

› *Incomplete data: Important databases and surveys with a high degree of international recognition remained incomplete and fragmentary, and can thus be only partially used or will rapidly become out-dated.*
› *Delays in publication: In a number of cases, the preparation and the harmonisation of data takes a long time, which may result in a delayed release of data, thus limiting its policy relevance.*
› *Methodological diversity: A further shortcoming of the existing data infrastructure is its methodological diversity. Data is not always homogenous and thoroughly comparable due to the use of differing definitions, methodological concepts, and analytical instruments. Problems of harmonisation and conceptualisation, along with differences in the timing of data collection periods, limit comparative research and options for linkage across databases and countries.*

Geographical coverage

Another concern relates to the great variety among the member states in terms of the geographical coverage of the available register and survey data. There are two key topics:

› *Multiple levels of collection: Collection of data at a variety of administrative levels – national, regional and municipal sometimes leads to fragmented data.*
› *Regional diversity: In countries where autonomous or linguistically diverse regions exist, register and survey data is frequently collected at the regional level. This data is not always harmonised, and might therefore be neither comparable nor compatible.*

Risk to future data

In times of economic recession and budget constraints, especially as the pressure on state budgets is increasing, there is a risk that fewer resources will be devoted to research and data collection. Some of the national experts expressed concern that surveys might be dropped from programmes or reduced due to funding limitations. Furthermore, there is a trend towards multipurpose data collection and surveys covering the general population (instead of specifically targeted populations). While these changes may save money and use resources more efficiently, they might also jeopardise the level of detail and the explanatory power of the collected data. As a consequence, costs may still increase if information is needed later for research projects or policy interventions tailored to a specifically targeted population sub-group.

Maintaining the data map

The Data Project created a new and innovative map of data sources, of great potential value to researchers and policymakers, especially where they are working across disciplines or policy areas, either within their own countries or transnationally.

However, in time the material will become out of date as surveys change or cease, and as questions and sampling methodologies change. It is important that some resource is found to allow the periodic (perhaps biennial) updating of the map, if it is it remains relevant and useful. It would also be desirable to extend its reach to other countries.

While a substantial amount of work was required to create and populate the website on the initial 12 participating countries, updating, by well informed national experts, is a relatively modest task, since major national surveys do not change greatly from year to year.

Adding new countries would involve significant costs to the relevant country, although this might be cheaper than for the original project, since some of the methodological issues have been resolved.

Annex 3: European and international commitments on active ageing

Demographic change is more than a matter of ageing alone. However, there is an important series of global and European policy statements on ageing which contribute to policy on demographic change, and which we support.

The international policy framework is laid out in the Madrid International Plan of Action on Ageing, adopted at the Second World Assembly on Ageing in 2002. The purpose of the Madrid Plan was to respond to the opportunities and challenges of population ageing and to promote the development of a society for all ages. The Plan was designed to guide policy aimed at successful adjustment to an ageing world. The success of this adjustment was to be measured in terms of social development, improvement in quality of life for older persons and sustainability of the various systems, formal and informal, that underpin well-being throughout the life course. The recommendations were grouped into three priority directions:

› *older persons and development;*
› *advancing health and well-being into old age;*
› *ensuring an enabling and supportive environment.*

The implementation of the Madrid Plan of Action in Europe is guided a the Regional Implementation Strategy with ten commitments:

› *to mainstream ageing in all policy fields with the aim of bringing societies and economies into harmony with demographic change to achieve a society for all ages;*
› *to ensure full integration and participation of older persons in society;*
› *to promote equitable and sustainable economic growth in response to population ageing;*
› *to adjust social protection systems in response to demographic changes and their social and economic consequences;*
› *to enable labour markets to respond to the economic and social consequences of population ageing;*
› *to promote life-long learning and adapt the educational system in order to meet the changing economic, social and demographic conditions;*
› *to strive to ensure quality of life at all ages and maintain independent living including health and well-being;*
› *to mainstream a gender approach in an ageing society;*
› *to support families that provide care for older persons and promote intergenerational and intra-generational solidarity among their members; and*
› *to promote the implementation and follow-up of the regional implementation strategy through regional co-operation.*

In 2012, at the Vienna Ministerial Conference on Ageing, the representatives of the member states of the United Nations Economic Commission for Europe elaborated a series of recommendations for reaching, by 2017, four policy goals:

› *longer working life is encouraged and ability to work is maintained;*
› *participation, non-discrimination and social inclusion of older persons are promoted;*
› *dignity, health and independence in older age are promoted and safeguarded; and*
› *intergenerational solidarity is maintained and enhanced.*

At the end of the European Year of Active Ageing and Solidarity Between the Generations, the European Council approved a declaration identifying a set of key principles:

› *Active ageing and solidarity between generations are key to the creation of a Europe for all ages – a competitive, prosperous and cooperative Europe of innovation, creativity, social inclusion and cohesion.*

› *Active ageing encompasses the participation of older people in social, economic, political, cultural and civic affairs, as well as in the labour force.*

› *The work potential of older people should be fully utilised through lifelong learning systems, active ageing policies which enable both women and men to remain in employment for longer, health and safety at work policies and the promotion of healthy ageing as a continuous process across the lifecycle.*

› *The transmission of older people's knowledge and skills to the younger generations and vice-versa should be encouraged and their skills could also be utilised after retirement, for example in the social economy and through voluntary work.*

› *Measures encouraging cooperation between generations should be promoted and the negative perceptions and stereotypes, including gender stereotypes, should be eliminated at central, regional and local levels.*

› *The active ageing perspective should be mainstreamed across all relevant policy areas.*

› *The reconciliation of work and family life, for women and men, could be enhanced through gender equality policies, family-friendly measures and practices at the work place, leave arrangements for both women and men and measures for the care of children and elderly family members or other dependants with disabilities.*

Annex 4: Members of Advisory Boards and the thematic Working Groups

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