

EUROPEAN COMMISSION – PUBLIC CONSULTATION ON AGEING AAE SOCIAL SECURITY SUB-COMMITTEE RESPONSE

The European Commission Green Paper launches a public consultation on ageing challenges and opportunities setting a number of questions on how these could be faced. As Social Security Sub Committee, we are participating in the consultation by responding to them on the basis of our expertise.

Living longer than 100 years and working productively for the greater part of them has already started being considered as a reality. That means that life stages as we know them have to be reinvented¹.

- 1. How can healthy and active ageing policies be promoted from an early age and throughout the life span for everyone? How can children and young people be better equipped for the prospect of a longer life expectancy? What kind of support can the EU provide to the Member States?**

Living longer is primarily an opportunity. Living longer in good health is the real objective which should be opened to as many European citizens as possible, following active lives.

It is important that longer active life and working longer should not be perceived as a burden, but as potentially a valuable gift.

How will we make the most of this gift? How will we be enabled to keep making career changes and keep offering ourselves the opportunity of exploring new areas of work?

Having a lot more time to spend should affect our lives in a way that instead of entering the Re-tirement status we enter the Re-engagement status.

European initiatives should promote, and may play a crucial role in, widening public knowledge and understanding, rather than simply discussion in professional circles.

¹ Lynda Gratton & Andrew Scott 2016: *The 100 year life*, Herminia Ibarra, *The Cora Professor of Leadership and Learning*, Institut Européen d'Administration des Affaires – INSEAD .

EUROSTAT should develop statistical research on how different aspect of active ageing as housing, age-friendly public spaces, parks and recreational areas, active and assisted living technologies influence longevity of residents.

2. What are the most significant obstacles to lifelong learning across the life-cycle? At what stage in life could addressing those obstacles make most difference? How should this be tackled specifically in rural and remote areas?

The skills and knowledge acquired by individuals over time represent productive assets. Changing life patterns mean that this is less and less seen as a “one-off” process, to be completed relatively early in life, but one which allows in later life for renewed learning, both by way of mental refreshment and stimulation, and in order to adapt to a changing employment landscape.

The EU should strengthen support to:

- the educational institutions of the Member States to enable
 - the incorporation of new learning technologies and experiential learning
 - the breaking down of boundaries between age groups *and thus*
 - facilitating inspiring mentorship
 - innovative thinking about ways to teach creativity, innovation, humanity and empathy
 - the development of practical specialisms aligned with technology development
- the further development of digital technologies.

An important educational objective is that young people should gain an adequate understanding of financial operations and systems. This should include the capacity to make investment decisions, particularly in the context of prevalent financial sales literature. In addition, increasing job mobility throughout a potentially long career means that skills and knowledge of this kind should be portable, and adaptable.

Policymakers should, however, consider the distribution of educational resources not only to younger populations, but across the life course as a whole. It is notable that, in the United Kingdom, for example², only 1% of the 2009 education budget was allocated to the oldest one third of the population. The range of learning opportunities needs to be adapted to the diversity of adult learners and to recognize both their needs and their strengths. Issues arising

² World Health Organization 2015: World Report on Ageing and Health
Social Security Sub Committee Participation in Ageing Consultation

from specific health conditions, which may include amongst others aspects of nutrition, and which may impact disproportionately on older persons, may be best addressed by programmes of (re)education. In general, the means by which individuals may maximize their health status reflect the learning opportunities which are of equal importance across the age spectrum. We note also the value of learning opportunities for those, increasing in numbers, who may in their later years finally have time to undertake study for an academic degree.

There are however a number of barriers that need to be addressed to facilitate older people's involvement in lifelong learning. These may include, for different individuals:

- the need to overcome long-held personal attitudes not well aligned to a learning environment;
- barriers of a physical or material (notably financial) nature;
- barriers reflecting societal and related structures

Adverse stereotypes could be challenged through communication campaigns, aiming to increase knowledge about and understanding of the process of ageing, among the general public, policy-makers, teachers and service providers and as reflected in the media. Ireland, for example, has run an ongoing campaign against ageism, noting the wealth of evidence that negative stereotyping and discrimination against older people are pervasive and damaging.

3. What innovative policy measures to improve participation in the labour market, in particular by older workers, should be considered more closely?

The longer the periods spent by individuals in paid employment, the better the prospects for provision of adequate pensions, noting also that management through pension systems with balanced redistribution supports sustainability. On that basis the following should be considered:

- Pension regulation, where actuarial provision is made to allow (in scheme rules) for retirement earlier or later than a "standard" retirement age, possibly combined with provision for flexible, part-time working and final retirement arrangements.
- New and innovative forms of employment aiming to support specific elements of the transition to jobs suited to older workers; these may be physically less demanding but still (for some, at least) mentally challenging ("life-cycle job descriptions").
- Specialized, continued training in the use of new technologies.

- Continued training focusing on skills and capabilities such as mental flexibility and agility. It might be worth considering offering short internships, as for example the right to do a specific assignment for a week or more, in a different working area without the need for the employee to take the financial risk of quitting his/her job and starting in the new area.

4. Is there a need for more policies and action at EU level that support senior entrepreneurship? What type of support is needed at EU level and how can we build on the successful social innovation examples of mentorship between young and older entrepreneurs?

An important externality for a national-level pension system is the nature of its interaction with the country's labour market. Pension regulation to allow for flexibility in schemes' retirement rules, including early/late retirement, and flexible arrangements for part-time working. The value of such provisions should consider actuarial estimations as it is dependent on a range of real-world parameters, including (a) labour demand for elderly, (b) the attitudes of employers, and (c) the personal decisions of individual retirees (which should be seen as informed, even if not always motivated by simple financial self-interest).

We note that a trend towards longer working lives will entail increased exposure (by comparison with younger cohorts) to a number of workplace risks.

- We consider therefore that means to reduce the potential disincentive for older individuals to remain in the labour force should be sought through positive incentives for employers to minimise such risks³. Means may be sought to overcome perceived divisions between entrepreneurs who might be categorised as "younger" and "older". Enhanced interaction between these groups should help to develop collaborations, if not friendships. This in turn encourages individuals to develop multiple perspectives and stretch their views of the world. In the words of the social scientist Valerie Braithwaite⁴, "schools, colleges and universities could create spaces where young, middle-aged and older people from all walks of life can get to know each other enough to build mutual respect, develop cooperative relationships, and reignite the norm of human-heartedness". While such places are currently hard to find; it may be that they might be most readily constructed within educational spaces.

³ *AAE discussion paper 2019: Meeting the challenge of Ageing in the EU*

⁴ *Lynda Gratton & Andrew Scott 2016: The 100 year life*

The impact of switching jobs will remain an important factor for potential lost years of pension accrual. From an actuarial perspective, to overcome it in the second and third pillar pension arrangements

- we propose the solution of a pension system with an individual pensions savings account.

Under this system a new employer can wire the pension contribution to the employee's individual pension savings account, the same way as with the salary to the employee's individual bank account. In case of a self-employed person, he/she could continue to add to his/her individual pension savings account (preferably in a flexible way, allowing for lower and larger monthly savings as a function of the financial success of the business).

5. How can EU policies help less developed regions and rural areas to manage ageing and depopulation? How can EU territories affected by the twin depopulation and ageing challenges make better use of the silver economy?

A crucial need is for the growth of awareness within each of the member states regarding their future population developments.

- Population projections play an important role in estimating, in particular, the scope and magnitude of future depopulation or population ageing. These projections should be carried out under a range of variant scenarios, so as to provide a deep understanding of the detail structure of changes in population structures, together with the options and drivers relating to possible policy interventions. Such studies are valuable for all countries, but particularly so for member states that are facing higher than average ageing, which may in turn be related to historical age patterns, or in some cases to projected migration.

The concept of a Smart city⁵ has only recently gained attention⁶. Smart cities employ Information Communication Technologies – ICT to improve their local economy, services (also social and health care), transport and traffic management and contribute to the quality of life of their citizens. Smart cities enable a smart environment, smart living and mobility and smart spatial planning, architecture and construction for their citizens and government. There is

⁵A smart city is an urban area that uses different types of electronic methods and sensors to collect data with the aim of making them smart in housing, sustainability, mobility, health, safety and social cohesion.

⁶ EUROMONTANA – European Association for mountain areas, 2019

human capital development, besides sustainable living standards and renewed concerns for the ecology that have redirected city planners to be concerned about sustainable cities and low carbon emissions⁷.

- The concept of smart communities is already very well established for smart cities, but less so for the rural areas⁸.

Smart technologies can solve many population challenges and provide the foundations for a sustainable future. They give us an opportunity for knowledge integration, which is necessary to address the crucial problems of contemporary cities and also the challenges in rural areas. It ensures a balance in the economic development of the society, from efficient and resource utilisation to circular economy and integration of renewable energy systems, for better connecting and pooling all age cohorts in the communities, but it also could support the balance between adequacy and sustainability of the Long-Term Care systems.

- The focus in rural areas should be primarily on how to develop
 - social infrastructure and cohesion
 - Information Communication Technologies - supported eldercare networks and services
 - social entrepreneurship which also gives an opportunity for new jobs in rural areas.

The demographic profiles of EU regions vary widely, notably between urban and rural areas, ageing significantly. This trend is having a significant impact on people's everyday lives and on our societies. It has implications for economic growth, fiscal sustainability, health and long-term care, well-being, and social cohesion. Access to health and social care services is extremely lower in rural areas.

- There is a need for reform that will enable the establishment of a uniform system of community-based services for ageing in place and for those that will need institution forms of care.

Slovenia, for example, is preparing a new legislation in this field according to which there are required: a) the development of a model for projections of needs and eligibility for integrated health and social services, b) the monitoring of recipients of services and funds for Long Term Care and c) the coordination of the development of integrated community-based services.

⁷ Sodiq et al., 2019

⁸ Ismagilova et al., 2019

Rural areas in the European Union are ageing faster than urban areas; in many cases due to outmigration of young cohorts. The older adults are being left alone in the countryside where their functional and cognitive capacities are declining.

- Actuaries may develop more sustainable models for health management and care delivery, that will increase the effectiveness and resilience of health and care systems which are needed to deliver new treatments and effective care at an affordable cost especially in remote rural areas where patients' needs manifest.

Overcoming the spatial dimension is especially important for the inhabitants of rural areas.

- It is thus necessary to take special care in the hierarchical system to design in the optimal hierarchical network, which will also reduce the logistical costs of the integrated care for the elderly.
- In rural areas, the Ambient Assisted Living⁹ (AAL) approach can contribute even more than in cities to the optimal functioning of the hierarchical system of care for the older adults and reduce the cost of distance management at the same quality of care and satisfaction of care recipients.

The development of smart silver villages are important factors that can enable older adults to live longer in the community. Creating an age-friendly environment in smart silver villages in different housing arrangements is, therefore, one of the most effective approaches to respond to demographic change in rural areas. The main components that make up a smart silver village include:

- support to residents to develop smart silver villages – especially resident empowerment
- access to the needed facilities
- services and amenities
- built and natural environments
- social networks/wellbeing
- housing

⁹ AAL can be defined as: the use of information and communication technologies (ICT) in a person's daily living and working environment to enable them to stay active longer, remain socially connected and live independently into old age

The smart silver villages enable different types of support to residents with decline functional capacities and reduce travel costs of caregivers to clients and seniors to the facilities on the higher level.

In order to improve the social, health and logistic assistance to the older adults in rural areas:

- it is necessary to establish good functioning of those responsible at all levels from domestic carers and local networks through municipal institutions responsible for the care of the elderly to regional and national institutions for the elderly. These actors need to be properly integrated into the integrated care network and supported by modern Information Communication Technologies tools and home automatization (domotics).

6. How could volunteering by older people and intergenerational learning be better supported, including across borders, to foster knowledge sharing and civic engagement? What role could a digital platform or other initiatives at EU level play and to whom should such initiatives be addressed? How could volunteering by young people together with and towards older people be combined into cross-generational initiatives?

It is essential to raise awareness about the availability and skills of older people and to create mechanisms for accessing their knowledge and skills. Two examples worth studying are: a) that of Thailand's "brain banks" which provide information about, and facilitate connections to, experienced, skilled retired workers for a range of organizations and b) that of the United States' foundation, American Association of Retired Persons, which aims to empower people to choose how they live as they age.

Multigenerational centres could be established, taking advantage of digital platform technologies where, among other activities and experiences, older people may provide appropriate guidance to the younger generations with regard to their financial futures. Not least, they may emphasize the long-term aspect of retirement income provision, and hence the need for saving from an early age.

Time banks, could be also included among proposed solutions. In Time Banks either one can get services from the community according to her/his contribution in the form of hours worked. Model and platform for Time banks could be developed at EU level supported by European Commission funding.

7. Which services and enabling environment would need to be put in place or improved in order to ensure the autonomy, independence and rights of older people and enable their participation in society?

- Digital technologies offer tremendous advantages for supporting access for elderly people to the relevant information so that they become aware about their rights.

The development of digital pension tracking systems may be seen as a valuable starting point in this regard, enabling the provision of insights into the current and future patterns of an individual's income and expenses.

Actuaries can support the set-up of such tracking systems and help to make differing pension systems comparable for the individual and/or the household.

- Age-friendly housing and facilities location reducing costs of social care and other services.

Choosing the optimal location and investing in specialised housing and other facilities for older adults, an age-friendly environment is created and as a consequence the costs of social care are reduced¹⁰. In addition, positive externalities are created for healthcare systems¹¹.

The prevention against falls and reduction of loneliness are essential. Because the built environment and especially the technical features of housing influence the decision of relocating three options are available in countries where many inhabitants have low pension income:

1. To subsidise investments in the adaptation of seniors' homes to reduce their healthcare expenditures¹² considering the costs of health and social services in a homecare system as a sum of all, or
2. To subsidise better organised community care with less dispersed housing of seniors or
3. To convince the senior citizens to move to very concentrated institutional care.

8. How can the EU support vulnerable older persons who are not in a position to protect their own financial and personal interests, in particular in cross-border situations?

¹⁰ Bogataj et al, 2019

¹¹ Wood, 2017

¹² Wood, 2017

Ageing is one of the biggest challenges for our society and an area where the actuarial profession can contribute to the welfare of society. Because the primary concern of the Actuarial Association of Europe is the wellbeing of people, actuaries promote the objective that, in the long run, pension benefits sufficient at least to prevent poverty will be provided to all European citizens.

Despite the fact that most countries provide poverty relief, means-tested social assistance that requires older people to parade their poverty is no substitute for the dignity and security of an unconditional pension¹³.

The need to pay attention to adequacy of the benefits is crucially important given the current social outlook in terms of poverty prevention, income replacement and equality. On that basis:

- Analysis of pension adequacy needs to focus particularly on vulnerable groups;
- Public explanation of the mechanisms of social security, together with the demographic, economic and other external factors that may affect schemes should take place.

From the Actuarial Association of Europe's perspective, the following topics may be considered:

- Intensify discussions on the sustainability and adequacy of social security pension systems in Member States. Actuaries can contribute inter alia to the analysis of inter-generational fairness, intentional and non-intentional transfers between subgroups of insured persons and generosity or adequacy of the systems.
- Actuarial modelling approaches and methodologies should be used to project future cash flows and assess the short-, medium- and long-term impact of pension policies and reforms on adequacy and sustainability of pension system provision in an integrated way. *This is not being done consistently across the EU at present.*
- Encourage Member States to have a statutory requirement for regular actuarial reporting on the long-term finances of social security, as this can be an important factor in ensuring sustainability of social security pension promises, as well as providing a firm financial monitoring environment.

¹³ AAE, discussion paper 2016 *The ageing of the EU – implications for pensions*

- International guidelines for reporting on social security should be followed, both for actuarial work in individual Member States and for EU level exercises such as The Ageing Report and the Pension Adequacy Report.
- As professionals with expertise in the quantification and management of long-term risks which are susceptible to mathematical modelling, actuaries are well-placed to play an active role in analysing the impact of future changes on pension and social security provision and to advise EU and national institutions

9. How can the EU support Member States' efforts to ensure more fairness in the social protection systems across generations, gender, age and income groups, ensuring that they remain fiscally sound?

From an actuarial perspective the following are highlighted:

- Social security provides by far the most important framework within which the issues of fairness across generations, gender, age and income groups can be addressed. In particular, social security pension systems have the capacity to contribute to the protection of low-income groups, not least through ameliorating the effects of systemic gender inequality.
- Social security systems are inherently redistributive in their nature and are most likely to achieve their objectives (notably of ensuring adequate livelihoods for those living in retirement) if the mechanisms of redistribution operate in a balanced way and are based on a high level of social accord, or “social solidarity”. In this sense, systems may seek to achieve fairness on a basis which is primarily collective, rather than individual, but which, in any case respects the broader objective of preventing wide-spread poverty, that itself and in the longer term would be harmful to economies.
- A further aspect of old age poverty in the context of increasing life expectancy is the relative experience – and hence perceived fairness - of the generations already retired and those, still active, yet to do so.
- Indexation of pensions can protect the achieved living standard of the elderly. Such design mechanisms should be allowed for in the financial planning of schemes and systems, so as to avoid (as far as possible) unexpected financing problems.

Well-designed redistribution mechanisms may remain in place for generations, so protecting in the future those making up the presently active cohorts, but who may in their turn experience vulnerability after their own retirements.

Actuarial modelling approaches and methodologies should be used to produce expert analyses of the impact of redistribution mechanisms and how they affect the balance between generations.

Active oversight and management of schemes is necessary to guard against undesirable forms of redistribution and weakening of intergenerational fairness, which may result from unexpected changes (or crises), whether financial or demographic in origin, but which may also arise as outcomes of ad-hoc or poorly-evaluated amendments to scheme rules.

- For such reasons, it is vitally important that adequate systems for monitoring the long-term impact of demographic and other changes should be built into the systems of pension schemes. Schemes seek, furthermore, means of (financial) risk management, in the face of disruptive changes of such kinds. An approach that has had success is the inclusion in the schemes' financial designs of so-called "automatic adjustment (or balancing) mechanisms".

It is understood with increasing clarity that social security pension schemes must pay attention to the need for fair, equitable treatment of women as compared with their male counterparts. A specific issue in this regard is the poor level of provision for women, arising in significant measure from their duties in relation to care work, which is (largely) unpaid, represents the main barrier to women's participation in labour markets, is a key determinant of the lower quality of their employment relative to men's¹⁴, and results, as an outcome of these factors in combination, in poor levels of pension provision.

- It is likely that no substantive progress will be made in achieving gender equality in the labour force until inequalities in unpaid care work are tackled.
- Long-term solutions require the effective recognition and redistribution of unpaid care work not only between women and men, but also as between families and the State¹⁵.

Most countries have by now recognized the need, in order to ensure the sustainable long-term financial balance of social security pension systems, to raise the general age at which individuals (on average) retire from active work. It is sometimes overlooked that a

¹⁴ AAE discussion paper 2019: Meeting the challenge of Ageing in the EU

¹⁵ AAE discussion paper 2019: Meeting the challenge of Ageing in the EU

concomitant need is to ensure that individuals have the scope to continue in work sufficiently long to match the planned increase in pensionable age. This issue has some implications in relation to the availability of early retirement pensions, and the actuarial neutrality of the terms for their provision.

- Incentives can be designed on an actuarially-equitable basis, and these should be considered in order to ensure that working longer and delaying pension take-up will be rewarded¹⁶.

10. How can the risks of poverty in old age be reduced and addressed?

It is naturally a key policy objective of governments to mitigate poverty in old-age. Social security systems offer a framework in which this can be achieved, through targeting resources on elderly people who may have been poor on a lifetime basis and thus unable to save enough to support themselves in old age. Countries vary both in the level of resources they devote and in the way they include these design objectives in social security programmes to support their earnings-related insurance system. The maximum impact in terms of old-age poverty prevention and reduction is likely to be achieved through policies jointly mobilizing national social protection systems together with other related services, including fiscal (taxation) and access to health and social support services.

- Actuaries strongly recommend having minimum guaranteed levels of pension
Minimum guaranteed levels of pensions provided through public systems can play a significant role in the social protection coverage of a range of vulnerable groups, including those on low incomes, those having short or interrupted career records, or having non-standard forms of employment, or who for a wide variety of other reasons may be excluded from the usual forms of social insurance coverage. Guaranteed and minimum pension systems are, however, designed to prevent old age poverty within a limited context.

These measures protect vulnerable groups, those with short and fragmented careers, and those who are unable, for diverse reasons, to participate in the insurance system where well-designed redistribution and indexation within social insurance schemes can

¹⁶ *AAE discussion paper 2019: Meeting the challenge of Ageing in the EU*
Social Security Sub Committee Participation in Ageing Consultation

contribute to overall well-being in retirement, and consequentially can contribute to the stability of national economies.

Accordingly, a minimum pension (or other income) guarantee scheme should not be assessed in isolation, but in the context of a comprehensive national social protection system comprising all of its complementary components. When assessing the effectiveness of national minimum old-age income policies, a holistic approach is required.

From an actuarial perspective, a key approach to achieving a universal social protection net preventing elderly persons in need from falling into poverty is to ensure an effective interface between *core* income security programmes, formed of social insurance and universal tax-financed schemes, and *last-resort* income support programmes, comprised of social assistance schemes.

Empirical evidence from the EU Member States suggests that the overall architecture and efficiency of national social protection systems, particularly the social insurance and universal programmes, are important factors in explaining low poverty levels in old-age. In fact, in a number of Member States, social insurance and universal programme benefits prevent poverty to a large extent, with the result that the role of public assistance becomes marginal.

Social protection programmes incorporating a minimum income guarantee should assess its effectiveness, in terms of optimal use of resources, not only as measured by the achievement of key pension policy objectives but also by reference to international standards, such as the European Code of Social Security and International Labour Organization - ILO social security standards.

Those key policy objectives, which could assist in determining effective design of minimum income guarantee programmes, may include:

- Guarantee of adequate and predictable income security, to conform to the European Code of Social Security and ILO Social Security Convention 102 (ratified by nearly all EU member States);
- Ensure universality of protection, based on social solidarity; and
- Achieve an adequate level of income for all through (redistributive) social insurance provisions, in order to provide minimum income guarantees, and where appropriate to achieve special social policy aims; this may require complementary provision

through other forms of social protection, notably tax-financed benefits for those not protected by social insurance, and fiscal measures.

Finally, in the context of assessing the effectiveness of minimum income guarantee policies in mitigating poverty, it is important to:

- Determine an appropriate definition and methodologically-sound measurement of poverty, which would take into account its multi-dimensional aspects and reflect better the aim of securing a minimum, basic standard of living for the elderly after retirement; and
- Develop an explicit, analytical framework based on which the chosen poverty risk measure is properly analyzed and monitored, based on the use of appropriate leading indicators of the key drivers of the poverty risk intensity. The relevant data could be used in order to provide ‘early warning’ signs, and to monitor progress in relation to risk prevention and mitigation.

Actuaries raise their concern that, if future reforms increase length-of-career qualification requirements for full (or proportional) pension benefits, increasing numbers of retirees with short or fragmented careers may receive pensions at only minimum levels, resulting potentially in increasing levels of old-age poverty.

- Raising public awareness of pension issues, in order to help people to avoid old-age poverty¹⁷, is an important, but difficult task; hence a wide variety of approaches is needed, underpinned in general by ensuring that “default” scheme rules and conditions are well-tailored to members’ needs¹⁸.

11. How can we ensure adequate pensions for those (mainly women) who spend large periods of their working life in unremunerated work (often care provision)?

It is felt that in recent years, pension reforms in many EU Member States have prioritized the financial sustainability of public pensions systems, rather than the complementary objective of ensuring or improving the adequacy of current and future pensions. Specific reforms have provided for (i) stronger links to be established between individual contribution payments and pension entitlements, (ii) reduced levels of indexation of pensions in payment, and (iii)

¹⁷ AAE discussion paper 2019: Meeting the challenge of Ageing in the EU

¹⁸ AAE discussion paper 2019: Meeting the challenge of Ageing in the EU

legislated increases in pensionable ages, with, in some cases, ongoing linkages to changing life expectancy statistics.

As a result of such reforms, it is increasingly unlikely that those (mainly women) who spend large periods of their working life in unremunerated work and those with lower earnings levels will receive adequate levels of old age pensions. Current high levels of youth unemployment in many countries increase further the risk of inadequate pensions for this generation.

The following policy implications follow from the AAE's perspective:

- Social protection systems should seek to include provisions for minimum old age pensions through existing redistributive measures or new ones, in order to protect people who are unable to build sufficient entitlements under social insurance (contributory) systems as a result of career breaks or low earnings. Those redistributive measures could include recognition of credits for those who are temporarily out of the workforce with caring responsibilities (be it for children, for disabled relatives or for elderly relatives) as well as other social security instruments, including universal non-contributory residency-based pension schemes and national flat-rate pension arrangements with less strict qualifying conditions.
- It is strongly desirable that tax-financed social assistance guarantees, that may be targeted to the poor, should be put or remain in place, as the residual component of national income security policies, offering complementary provision when social insurance is insufficient.

Sharp and increasing differentiation between employment statuses (notably, but not only, between those employed and the self-employed) sets a difficult challenge for national social security systems.

- Adequate social benefits (pension, unemployment benefits) should be available to all employed and self-employed¹⁹ persons.

Strategies must be developed with objectives that are not limited to the improvement of conditions simply for the “best off”, or for a notional “average” older person²⁰. For example, although the average person is living longer and experiencing better health than in previous

¹⁹ AAE discussion paper 2019: *Meeting the challenge of Ageing in the EU*

²⁰ World Health Organization 2015: *World Report on Ageing and Health*

generations, national averages may hide the increasing variation amongst sub-groups in both longevity and health conditions.

- Increased attention should be paid to the diversity of profiles amongst individual protected under social security²¹.

It is essential for policy making within each of the Member States to consider long-term projections on pension costs.

- In view of the uncertainty about the future outcome actuaries highlight that projections should be regularly updated and policies should be designed as far as possible to be robust to changes in the expected future outcome.

12. What role could supplementary pensions play in ensuring adequate retirement incomes? How could they be extended throughout the EU and what would be the EU's role in this process?

The extension of supplementary pension provision in the EU should be linked to pension adequacy gaps identified through an EU commonly agreed analytical framework, based on which the pension adequacy dimension is properly measured, analysed and monitored with the use of appropriate indicators (noting the development of “pension dashboards”) and in a manner which is consistent and fully integrated with the assessment of financial sustainability.

Robust funding of second- and third- pillar pension arrangements could potentially enhance adequacy, contributing towards the key policy objective of maintaining standards of living post-retirement²².

To evaluate fully the role of supplementary pensions, a clear picture of the long-term financial outcomes should be developed forthwith.

- Regular actuarial review of long-term financial progress of social security pension schemes is an essential tool of financial governance²³.

²¹ AAE discussion paper 2019: Meeting the challenge of Ageing in the EU

²² AAE discussion paper 2019: Meeting the challenge of Ageing in the EU

²³ AAE discussion paper 2019: Meeting the challenge of Ageing in the EU

13. How can the EU support Member States' efforts to reconcile adequate and affordable healthcare and long-term care coverage with fiscal and financial sustainability?

The ageing of the European population is progressing rapidly while influencing different needs of senior citizens regarding long-term care services provided in the community, type of housing units and accessibility to the age-friendly environment that can accommodate their functional capacities. Considering the pace of population change:

- It is necessary to develop new economic and social conditions in the urban structures and new types of long-term care insurance, especially when we wish to support longer ageing in place.
- Developed public records can improve the forecasting of the capacity needed to care for the elderly and, in this respect, the projection of all necessary human resources for offering service to the seniors at various levels of their functional capacities.

To develop the Silver Economy in the European Union member states, multi-state transition demographic tables on functional capacity are essential for planning long-term care on national and insurance company levels as well as on regional and municipality levels where it is needed to improve the spatial planning.

Such data are not available in any public statistical database.

- EUROSTAT should develop statistical research where collection of data would be harmonised in all EU member states so that research regarding health care, long-term care and housing for older adults would be comparable between EU member states.

14. How could the EU support Member States in addressing common long-term care challenges? What objectives and measures should be pursued through an EU policy framework addressing challenges such as accessibility, quality, affordability or working conditions? What are the considerations to be made for areas with low population density?

- Combination of technological and social innovations in providing health care and social care present opportunities for the digital transformation of support networks for older adults living in the community.
- Digital transformation of long-term care can facilitate deinstitutionalization and radically transform how developed societies care for their more senior members whose cognitive and physical abilities are on the decline.

Digitally supported health care and social care services provided in smart, age-friendly environments will be an essential part of how EU member states will not only maintain but improve the quality of life for older individuals²⁴.

A decline in cognitive capacities, sensory functions and social isolation issues can lead to low quality of life.

- This situation can be mitigated by the Ambient Assisted Living²⁵ - AAL technologies²⁶.

Smart age-friendly homes with different embedded sensors and different types of sensors and wearable devices embedded in clothes of older adults facilitate monitoring of the daily activities of older adults connected to wireless sensor network, using internet of things²⁷ (IoT) as infrastructure²⁸ and Big Data can gather large amounts of data regarding the realisation of risk to which older adults are exposed to in their homes and in the public places. Risk mitigation decision support system can be developed using Artificial Intelligence (AI) and Ambient Intelligence based on behavioural patterns of older adults developed from collected data and real time monitoring of their activities. This system enables the detection of individuals reaching the disability threshold (the stage of decline at which their environments become dangerous for them) and can indicate when such residents need to move to a more suitable living environment.

Ambient Assisted Living (AAL) technologies can facilitate longer tenure in the community by bringing health care and long-term care services to the homes of their users. They are becoming an essential part of the infrastructures of smart cities²⁹ in ageing societies.

The level of functional capacities that smart age-friendly environment can accommodate depends on the available health care and social care services and assistive technologies.

Digital health tools comprise a wide range of technologies to support health processes. The potential of these technologies to effectively support healthcare transformation is widely accepted³⁰.

²⁴ Gandarillas and Goswami, 2018

²⁵ See no 9

²⁶ Berridge, 2017; Blackman et al., 2016

²⁷ The Internet of things (IoT) describes the network of physical objects—“things” or objects—that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the Internet

²⁸ Davis et al., 2016; Del Campo, 2016; Kaluza et al., 2014

²⁹ Dlodlo, Gcaba, and Smith, 2016; Doukas et al., 2011

³⁰ Baltaxe, E. et al., 2019

- A wide-scale implementation of digital health tools should be developed in the EU member states.

15. How can older people reap the benefits of the digitalisation of mobility and health services? How can the accessibility, availability, affordability and safety of public transport options for older persons, notably in rural and remote areas, be improved?

Population projections across the European Union countries show that the share of elder adults with declining functional capacities, largely dependent on the help of others and in need of long-term care services, will triple in the next 40 years³¹ Telehealth which allows for real-time condition monitoring of older adults living in their own homes and offer access to medical services and care support to ageing population will be an expected to present growing share of European silver economy. The challenge faced by EU member states with growing share of seniors (80 +) in their populations is how to provide health care and social care services and develop sustainable supply systems.

- The ageing societies will maintain and improve the quality of life for a growing number of older adults with declining functional capacities by deploying technological solutions developed as Ambient Assisted Living Technologies. These technologies are based on Wireless Sensors Network embedded in Cyber-Physical Systems using the Internet of Things³² as an infrastructure. Telecare technologies for condition monitoring supported by ambient intelligence will enable older adults to live in their own homes longer before moving to the specialised facilities within their communities and therefore postponing or even preventing relocation to a nursing home

Technology though is part of the solution.

The development, implementation and evaluation of technologies in health and social care will be based on the extent to which they contribute to providing a good later life, as understood by the elderly and their caregivers in all their diversity and in conformity with internationally agreed human rights standards.

- Policies need to consistently bring together/align care strategies and digital strategies to ensure good service provision.

³¹ Eurostat 2019

³² See no 26

The restructuring which combines health and social care resources, involves the development and testing of innovative solutions and eventually the large-scale implementation of the most successful practices. A multitude of good examples developed throughout the EU led to the realisation that a comprehensive scaling-up strategy is needed at a pan-European level. The European Innovation Partnership on Active and Healthy Ageing (EIP on AHA), which brings together key stakeholders in this policy area and supports the good practices and references sites developed by its partners, can act as a catalyst to foster scaling-up across regions and countries.

- Social innovation will play an important role.

As social innovation applies to the healthcare system, it creates social value with an effective impact on society. Aggregating needs and interests increase civic participation and strengthening social cohesion.

In the last decade, several EU research and innovation programmes have developed advanced innovative solutions in areas such as independent living, age-friendly smart homes and living environments, social robotics and integrated health and care solutions. However, the market adoption of such digital solutions is lacking. Many barriers need to be overcome to facilitate the uptake of innovative digital solutions, such as:

- more funding for innovation
- new models for public procurements and
- a reduction in bureaucracy.
- A multidisciplinary approach needs to be taken, such as ecosystems, to successfully engage with innovative companies.

Ecosystems developed around the innovation quadruple helix³³ need to be strengthened.

Other enabling factors include fostering challenge-driven co-creation, bridging multiple levels (local, regional, national and international) and the sharing of good practices.

³³ *The quadruple innovation helix framework describes university-industry-government-public interactions within a knowledge economy. In innovation helix framework theory, each sector is represented by a circle (helix), with overlapping showing interactions.*

16. Are we sufficiently aware of the causes of and impacts of loneliness in our policy making? Which steps could be taken to help prevent loneliness and social isolation among older people? Which support can the EU give?

Older people who live alone are at higher risk of isolation and lack access to necessary services. Although an increasing number of older persons use online services, many still cannot access online services to meet their basic needs or remain socially engaged.

- Development of retirement communities, lifetime neighbourhoods, silver villages, co-housing solutions is much needed.

Many of the challenges that older people face in the context of digitalisation reflect more general societal problems that are prevalent “offline”, including ageism, lack of respect for the autonomy of older persons and lack of consultation.

- It is needed to strengthen older persons’ rights and adopt a rights-based approach to ageing policies.

This includes applying all the rights that the EU and its member states are committed to, working with older people to find solutions, respecting the principle of equality and non-discrimination and gathering data to capture the realities of older persons.

The ageing of the European population increases the number of people dependent on the help of others to carry out their daily activities and, at the same time, influences the demand patterns of built spaces due to their different needs with respect to free movement in apartments and contact with the environment.

Municipalities should deliver the following digitally supported programmes:

- development of integrated care
- development of independent living solutions
- development of age-friendly environments
- development of urban facility management for the maintenance of a safe environment
- development of a prescription adherence programme
- development of a falls' prevention programme and
- development of lifespan health promotion and prevention of age-related frailty and disease programmes

17. Which role can multigenerational living and housing play in urban and rural planning in addressing the challenges of an ageing population? How could it be better harnessed?

Housing needs of older adults are satisfied if the dwelling is specifically designed to meet their physical, emotional, recreational, medical, and social needs.

- It is important for local authorities, social care and spatial planners to study logistics for older people, other care and dwelling needs.

A growing number of frail and disabled older adults suffer from a decline in functional capacities.

- Smart, age-friendly environments with embedded ambient-assisted living technologies will be an essential part of how ageing societies will maintain and improve the quality of life for a growing number of older adults with declining functional capacities.

Research confirms that specialised housing for older people improves the physical and mental health of residents and reduces the cost of health services, even in half.

When the elderly experience a significant decline in functional capacities, the home, where they previously lived with their relatives, is no longer suitable for them, as it is adapted to the needs of younger family members. However, when elderly people move to eldercare institutions, they lose the important dimensions of housing rights that protected their privacy and dignity at home.

- Basic infrastructure and community services for elderly citizens should be developed; this way older adults will have constitutionally protected tenure rights.

REFERENCES

- Actuarial Association of Europe, 2016, The ageing of EU – implications of pensions
- Actuarial Association of Europe, 2019, Meeting the challenge of ageing in the European Union
- Baltaxe E. et al, 2019, Digital Health Transformation of Integrated Care in Europe: Overarching Analysis of 17 Integrated Care Programs, Journal of Medical Internet Research Volume 21
- Berridge C, 2017, Under Observation: The Interplay Between eHealth and Surveillance, Springer
- Blackman et al, 2016, Ambient Assisted Living Technologies for Aging Well: A Scoping Review, Journal of Intelligent Systems, Volume 25, Issue 1.
- Bogataj et al, 2019, The ageing workforce challenge: Investments in collaborative robots or contribution to pension schemes, from the multi-echelon perspective, International Journal of Production Economics Volume 210, pages 97-106
- Davis et al, 2016, A Generic Infrastructure Platform to Facilitate the Collection of Citizen Science data for Environmental Monitoring, International Journal of Spatial data Infrastructures Research, Volume 11
- Del Campo, 2016, MQTT in AAL systems for home monitoring of people with dementia, 27th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications
- Dlodlo, Gcaba, and Smith, 2016, Internet of things technologies in smart cities, Conference Information Science Technology -Africa Week Conference
- Doukas et al, 2011, Digital Cities of the future: Extending @home assistive technologies for the elderly and the disabled, Telematics and Informatics Volume 28, Issue 3, Pages 176-190
- Euromontana – European Association for mountain areas, October 2019

Eurostat 2019, Population Projections

Gandarillas and Goswami, 2018, Merging current health care trends: innovative perspective in aging care, *Clinical Interventions in Aging* Volume 13, Pages 2083 -2095

Gratton Lynda & Scott Andrew, 2016, The 100-year life

Ismagilova et al, 2019, Smart cities: Advances in research—An information systems perspective, *International Journal of Information Management* Volume 47 pages 88-100

Kaluza et al, 2014, Perceptron-like computation based on biologically-inspired neurons with heterosynaptic mechanisms, *The European Physical Journal B* Volume 87, pages 1-11

Sodiq et al, 2019, Towards Modern Sustainable Cities: Review of Sustainability Principles and Trends, *Journal of Cleaner production*

Wood et al, 2017, Disparities in Insurance Coverage, Health Services Use, and Access Following Implementation of the Affordable Care Act: A Comparison of Disabled and Nondisabled Working-Age Adults, *The Journal of Health care organization provision and financing* Volume 54

World Health Organization, 2015, *World Report on Ageing and Health*