

## *ICT-Enabled Social Innovation for Active and Healthy Ageing* *Redesigning long-term care and independent living in Europe*

### *In this issue*

Europeans are living longer and the ageing of societies affects the future sustainability of health and long-term care systems. The share of the population aged 65 and over in the EU-28 - 96 million people (18.9%) in 2015 - is growing and is expected to reach 125.3 million (23.9%) by 2030. The number of very old people - aged 80 and over - is expected to rise to 37.7 million from 26.8 (2015), and their share to 7.2% from 5.3 % (Eurostat population projections).

Population ageing will influence the demand for health and care services, and thus the sustainability of the welfare system, in three interrelated ways. First, a higher number of older people will be cared for by a proportionately smaller number of carers or health workers, and therefore there will be a rise in unmet needs. Second, health and care needs will also change, as more people live longer with chronic conditions, such as dementia, which require professional management. Thus the possibility of unmet needs will be increased even further. Third, health and social care providers will have to satisfy increasingly demanding customers, who expect personalised and customised services.

In all these cases, social innovation, and in particular ICT-enabled social innovation, can provide effective solutions and reduce the gap between the supply and demand for care. ICTs boost the matching process between service supply and demand by better targeting and identifying beneficiaries and their specific needs. Through improved payment mechanisms, ICTs can also generate cost savings. Rather than cutting back on services or surrendering to the idea of not being able to satisfy the care needs of a growing segment of the population, governments can take advantage of ICT-enabled social innovation to transform the way health and social care services are integrated and delivered.

This issue of JRC Insights presents results from the analysis of initiatives and case studies on *ICT-enabled social innovations promoting social investment in the field of Active and Healthy Ageing (AHA)* conducted as part of the JRC-led IESI research, in collaboration with DG Employment, Social Affairs and Inclusion.

### *Highlights*

- Over 70% of the initiatives in the field of Active and Healthy Ageing (AHA) promote social investment by supporting the modernisation of social protection systems as well as by supporting investment in people throughout their lives.
- AHA initiatives are frequently characterised by radical innovation potential and higher integration at service level, often combining funding, administrative and service delivery systems.
- AHA initiatives can increase efficiency and reduce costs by sharing information, functions, planning and budgeting. Through use of ICTs, they improve targeting and personalisation of services.
- Successful initiatives are needs-driven and outcomes-oriented, and generally foster open processes of co-creation and collaboration, by improving communication between professionals, informal carers, patients and family members.
- ICTs drive the organizational transformation of service delivery, bringing advantages by reducing overlaps and strengthening integration among service providers.
- ICTs can better align resources and needs in the care system by implementing new services and generating savings, thus inspiring the creation of 'sharing welfare' models.

## 1. Policy context and research design

For many years, the European Union has been devising policies which promote, directly or indirectly, social innovation and social investment. The Social Investment Package (SIP), in particular, calls for a radical change in the approach to social service design and delivery. It emphasizes that the potential of social innovation is further increased by the growing range of available innovative solutions based on ICTs.

ICT-enabled social innovation plays an important role in promoting social investment policies as ICTs help to fully digitalise services and processes, thus reducing fragmentation and duplication across organisations and systems delivery. In addition, ICT-enabled social innovation provides an opportunity to directly engage citizens in social services process design and management.

To demonstrate how ICT-enabled social innovation can modernise traditional health and care systems and energise initiatives for Active and Healthy Ageing (AHA), this issue of JRC Insights draws on analyses conducted during the multi-year research project 'ICT-Enabled Social Innovation to support the Implementation of the Social Investment Package' (IESI).

*The IESI research project defines ICT-Enabled Social Innovation as 'A new configuration or combination of social practices which provides new or better answers to the challenges of social protection systems and the needs of individuals throughout their lives. These initiatives have emerged from the innovative use of Information and Communication Technologies (ICTs) to establish new relationships or strengthen collaboration among stakeholders and foster open processes of co-creation and/or re-allocation of public value'*

The IESI project spanned three years and led to the collection of over 600 initiatives of ICT-enabled social innovation ('Inventory' sample) from across Europe. Approximately half of these initiatives provided evidence of policy relevant results and were included in the 'Mapping' sample. All the initiatives were categorised according to the type of Personal Social Service of General Interest (PSSGI) they innovated – e.g. childcare, education and training, employment/ employability – and the beneficiaries (needs) they catered for. However, only those included in the mapping sample were further analysed according to the IESI conceptual and analytical framework.

*18.8% of the Inventory sample (115 initiatives) and 20% of the Mapping sample (60 initiatives) belong to the area of Active and Healthy Ageing (AHA). These initiatives target primarily older users.*

## 2. ICT-enabled social innovation initiatives which foster Active and Healthy Ageing

ICT-enabled social innovation initiatives for AHA cover the following activities: prevention, health promotion and rehabilitation; integrated health and social care; and independent living.

Of the 60 AHA initiatives in the Mapping sample, 27 primarily support independent living; 20 mainly support integrated health and social care field, and the remaining 13 address prevention, health promotion and rehabilitation. However, these fields are closely related and often overlap in practice.

To understand how these initiatives can transform services in AHA, we analysed them according to the IESI conceptual framework (**Table 1**).

| IESI Analytical Framework | Multiple Choice                                | Multiple Response                                              |
|---------------------------|------------------------------------------------|----------------------------------------------------------------|
|                           | Typologies of ICT-enabled innovation potential | Elements of social innovation                                  |
|                           | Technical/incremental innovation               | Needs-driven/outcomes-oriented production                      |
|                           | Sustained/organisational innovation            | Open process of co-creation/ collaborative innovation networks |
|                           | Disruptive/transformational innovation         | Fundamental change in the relationships between stakeholders   |
|                           | Radical/transformational innovation            | Public value allocation and/ or re-allocation                  |
|                           | Levels of governance of service integration    | Types of services integration                                  |
|                           | Isolated                                       | Funding                                                        |
|                           | Intra-governmental integration                 | Administrative                                                 |
|                           | Inter-governmental integration                 | Organisational                                                 |
|                           | Inter-sectoral integration                     | Service delivery                                               |
|                           | Pervasive                                      |                                                                |

Table 1 – Dimensions of the IESI analytical framework

The IESI analytical framework is a representation of the fundamental dimensions of ICT-enabled social innovation. It includes elements of social innovation, typologies of innovation potential, governance and service integration.

The combination of these dimensions is used to build the IESI knowledge map. Placing an initiative on the IESI knowledge map provides insights as to its ability to deal with complex social issues and challenges.

## 2.1. Typologies of ICT-enabled innovation potential

Compared to ICT-enabled social innovation initiatives covering other PSSGIs, initiatives promoting active and healthy ageing make use of ICTs as "game changers" (75% of AHA initiatives vs. 62% of other PSSGI have disruptive or radical innovation potential). In particular, 89% of the initiatives providing services primarily for independent living are either disruptively or radically innovative. The same can be said of 77% of initiatives in prevention, health promotion and rehabilitation, and about 55% of the initiatives which promote integrated health and social care, as shown in **Figure 1**.

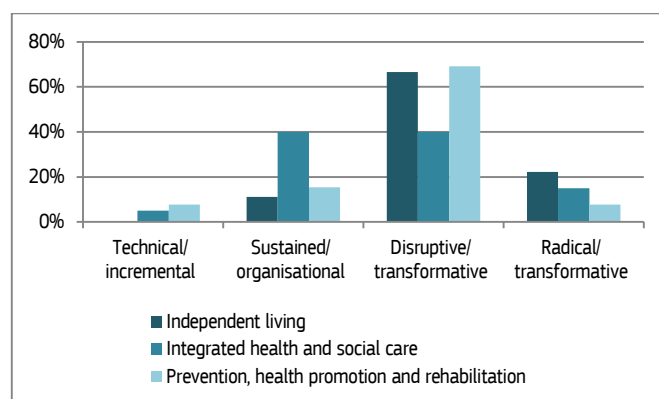


Figure 1 – ICT-enabled social innovation potential characterising initiatives in AHA

A large proportion of the initiatives which primarily support independent living make great use of assistive technologies: 67% use Telecare, 40% use Telehealth and 26% use Telemonitoring. Conversely, initiatives involved in integrated care make great use of ICTs for case management, integrating back office and front-line services across multiple agencies and actors.

Some initiatives are particularly interesting as they have adopted a combination of different assistive technologies, resulting in disruptive innovations and transformative change in services organisation and delivery.

For instance, the **Telecare development Programme (TDP)** in Scotland, UK, is a striking example of ICT-enabled social innovation that provides both robust evidence of policy relevant results and is characterised by strong innovation potential.

It has also shown that telecare can transform the quality of life of service users and carers and that it could play an important role in continuing efforts to shift the balance of care.

### ICTs as game changers: The Telecare Development Programme (TDP), Scotland, UK

The national TDP for Scotland was launched in August 2006 as a government-sponsored policy and practice initiative to drive the adoption of telecare by local social and health care service providers that are working to foster independent living. TDP's social innovation potential is radical, thanks to its substantial use of ICTs that takes place outside the recognised institutional setting and aims to transform the existing mechanisms of services. Despite some limitations due to the use of a relatively new technology and the lack of trained staff, the project was a success and is currently being scaled up. Overall, the benefits of the TDP programme for 2010/11 can be valued at approximately £30 million.

## 2.2. Elements of social innovation

In terms of social innovation elements, all the initiatives promoting AHA and long-term care are needs-driven and outcomes-oriented. 65% of them foster open processes of co-creation/collaborative innovation network. There was a fundamental change in the relationship between stakeholders in 38% of the initiatives and 30% managed to generate public value allocation and/or reallocation. As **Figure 2** shows, among the initiatives driven by a process of collaboration/co-creation, those promoting integrated care are more prevalent, while among those generating public value, the most prevalent initiatives are those supporting prevention, health promotion and rehabilitation.

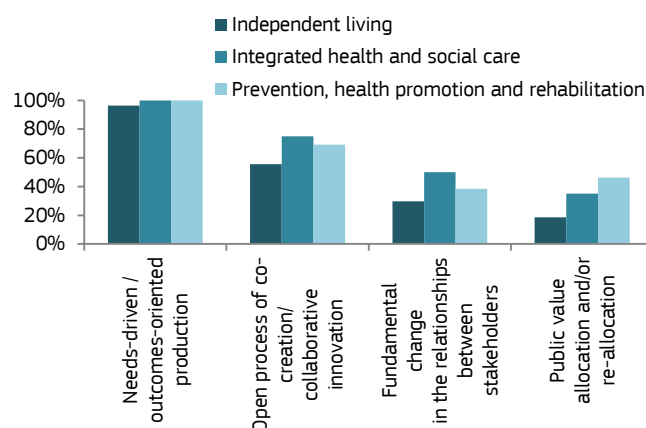


Figure 2 – Elements of social innovation characterising initiatives in AHA

A particularly interesting example of transformative ICT-enabled social innovation which promotes prevention, health promotion and rehabilitation is **ParkinsonNet** in the Netherlands.

## Public value creation: ParkinsonNet, Netherlands

The goal of ParkinsonNet is to optimise multidisciplinary care for patients suffering from Parkinson's disease (PD). Together with over 2,700 medical and allied health professionals, ParkinsonNet seeks to help families with PD and provide them with the best possible care. It was created in 2004 to remedy the lack of PD-specific knowledge among allied health professionals, along with an absence of practice guidelines, which were causing unacceptable variations in the quality of care. Patients share information about PD through education, meetings, conferences and online networking. Healthcare professionals listen to patients' specific needs and treat them in compliance with the latest scientific evidence. In doing so, they help patients with their condition and allow them to live with more dignity.

## Pervasive Governance Integration: SAM:BO, Denmark

SAM:BO is a shared IT platform which permits users to promptly exchange information between hospitals and municipalities. It ensures that discharged patients can find all the services they need from their homes. SAM:BO presents disruptive levels of ICT-enabled innovation: as well as an ICT system used by around 10,000 practitioners, telecare and telemedicine facilities are provided to those patients who need constant monitoring and health assistance at home. SAM:BO is particularly strong in terms of integration: all the municipalities, public hospitals and the regional authority of the Southern Denmark Region are involved in the partnership, which, at delivery level, also includes many service providers from the private and third sectors.

### 2.3. Levels of governance of service integration

63% of ICT-enabled social innovation initiatives in AHA are integrated at the inter-sectoral level. 13% are pervasive whilst other levels of integration score evenly below 10%. Initiatives promoting integrated health and social care are the most prevalent among those with pervasive integration of governance, i.e. the highest level of collaboration between government and service providers. Conversely, most of the isolated initiatives are those primarily supporting independent living.

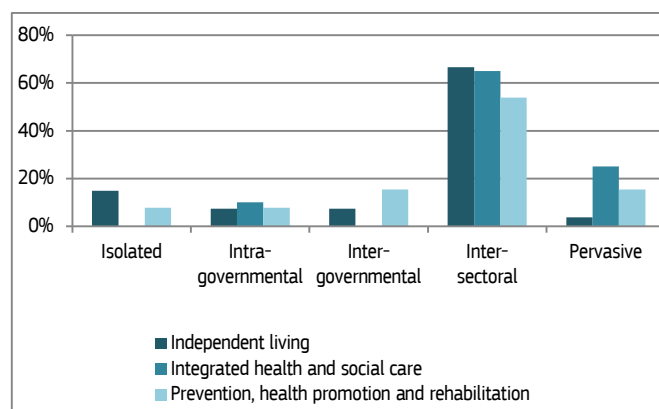


Figure 3 – Levels of governance of service integration characterising initiatives in AHA

A good example of a pervasive ICT-enabled social innovation initiative is the Danish project **SAM:BO - Cooperation on care pathways**, a public sector-led initiative which helps around 1.2 million patients in the Southern Denmark Region.

### 2.4. Types of services integration

In 80% of the cases analysed, integration of services occurs at the delivery system level. The other three types of service integration (funding, administrative and organisational) are present in around 60% of the sample.

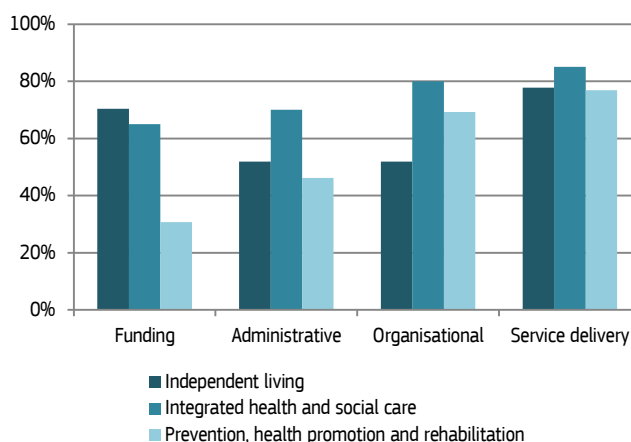


Figure 4 – Types of services integration characterising initiatives in AHA

Approximately 35% of the initiatives are characterised by integration of services at all levels, and therefore they share information, responsibilities and functions, inter-sectoral and inter-agency planning, referral and intake. In addition, some of them have developed multidisciplinary/ interdisciplinary teamwork, joint training, and around-the-clock coverage.

An example of an ICT-enabled social innovation initiative that combines both integrated care and independent living is the **Sotiria Hospital eHealth Unit** in Athens, Greece.

### **Combining integrated care and independent living: Sotiria Hospital, Greece**

*In the eHealth Unit of the Sotiria Hospital in Athens, Greece, the use of ICTs has been incorporated into clinical practice to develop home and community-based, health and social integrated care and chronic disease management. The initiative aims to modernise rehabilitation services, and help chronic patients affected by multiple morbidities to live at home independently with ICT-enabled supervision and monitoring. The preventative approach, and the service integration among the health and social care providers, has made it possible to empower patients and their informal carers to actively manage their health conditions, preventing illness from arising or worsening.*

### **Citizen centric model: Badalona Serveis Assistencials, Spain**

*The "Badalona Serveis Assistencials" (BSA) is an integrated private care organization that manages, among other care centres, the Hospital Municipal de Badalona, providing care to roughly 420,000 people. BSA has been contracted out by the municipality for health and social care services in the area since 2000, fostering a new model that puts the needs of citizens and users at the centre of the system. Interventions are well coordinated and supervised at different levels of care, from primary, home, and hospital care. Services are integrated at the administrative, organisational, and delivery system level.*

### **3. The IESI Knowledge Map for AHA**

The 'IESI knowledge map', created by intersecting levels of governance of service integration and degree of innovation potential, reveals that ICT-enabled social innovation is more prominent when innovation potential is high (disruptive/radical) and governance integration is more pervasive. Here we find more complex initiatives able to create greater public value, in terms of improved services, outcomes and trust. Good examples of ICT-enabled social innovation initiatives generating public value are **VITAEVER** in Italy, the **Badalona Serveis Assistencials** in Spain, and the **Partnerships for Older People Projects** in the UK, as well as the already mentioned Telecare Development Programme in Scotland.

### **Empowering patients to live independently and with dignity: VITAEVER, Italy**

*Vitaever is a cloud technology created by palliative care and pain management specialist, Fondazione ANT, and software developer Nethical, to manage more effectively homecare services for chronic patients in Italy. Operating with no installation, maintenance, or server hardware costs, the Vitaever tool works as an online web-based (Service as a Software - SaaS) or phone/tablet based platform, and is safely and easily accessible by physicians, social workers, volunteers, and patients. Thanks to Vitaever, ANT radically increased efficiency and quality of care services, lowering costs (from €50 to €30 per day) and time spent on administrative tasks. It contributes to modernising social protection systems by supporting formal/ informal carers and empowering patients to live independently and with dignity.*

### **Total Service integration: The Partnership for Older People Projects (POPP)**

*The POPP were launched by the Department of Health in the UK to promote healthy and active ageing in 29 localities across the UK, with a total budget of £60 million. ICTs were a key enabler, providing a centralised management system, web-based information systems, and alarm systems for falls and rapid response services. POPP is inter-sectorally integrated, with 522 organisations involved in POPP pilot projects alongside local authorities. POPP services are integrated across all service functions including funding, administrative, organisational, and delivery system.*

By contrast, service providers with more specific targets can present lower integration and innovation potential, yet being successful. For example, the **French Voisin-Age** exploits social networking technologies to connect older people with each other and with volunteers to provide personalised care and at the same time encourage independent living.

### **Enabling 'digital-local' social interaction: Voisin-age, France**

*Voisin-Age goes beyond the usual volunteering. This initiative facilitates social interaction promoting the view of older people as valuable resources in the neighbourhood. It is a digital platform which connects isolated older people with their neighbours and volunteers, who do not usually interact though they live in the same area. The association Voisin-Age is supported by a well-established charity association (Petit Freres des Pauvres) and the service is available everywhere in France. Social care professionals also collaborate and in some municipalities this tool is used as a catalyst for other actions and policy initiatives.*

## 4. Implications for Social Policy Innovation

Over 70% of the initiatives in the AHA field (in comparison to 34% of those revolving around other PSSGIs) promote social investment by supporting the modernisation of social protection systems and investing in people throughout their lives. Conversely, only about a third of the initiatives in AHA support active inclusion as opposed to 82% of the initiatives in other PSSGIs.

A possible explanation for this is that AHA initiatives often have radical innovation potential. They are also more highly integrated at service level and frequently combine funding, administration, organisation and service delivery systems. By sharing information responsibilities, functions, planning and budgeting, these initiatives can increase efficiency and reduce costs. At the same time, the extensive use of ICTs allows services to be more efficiently targeted and more personalised to older people's growing needs.

In this respect, it is worth noting that a relatively higher proportion of AHA initiatives with transformative innovation potential enabled by ICTs and high level of integration are led by the public sector (53% as compared with 40% in the private sector). This is partly explained by the way social services delivery models are organised in European countries, and also by the fact that public sector organisations tend to 'orchestrate' policy and service design, involving partners from other sectors to achieve large-scale implementation. This clearly requires wider governance integration, supervision and control, which can be greatly facilitated by ICTs.

A more in-depth analysis of case studies shows that many of the analysed ICT-enabled social innovation initiatives that promote AHA and long-term care adopt new approaches to dealing with growing societal challenges. Insights from successful cases illustrate a paradigm shift towards more proactive public intervention and social policy and service re-design.

This confirms that the social innovation potential offered by services integration can help to reshape social relationships and collaboration, and to reengineer care processes. In this context, citizens and patients experience significant changes in their roles and relationships with care professionals, service providers, care givers and volunteers.

ICTs can transform service delivery organisation, by building synergies among services, avoiding overlaps, and strengthening inter-governmental and inter-sectoral integration among providers. These factors make management systems more productive and service delivery processes more efficient.

The impact on the care system and on care professionals is considerable, as integration can lead to the creation of new services which complement or substitute existing ones. Outcomes in terms of savings can be also significant due to better alignment of resources and needs, and a redefinition of the role of public interventions, inspiring the creation of 'sharing welfare' models.



### Read more

European Commission, 2017 [Mapping and Analysis of ICT-enabled Social Innovation initiatives promoting social investment across the EU: IESI Knowledge Map 2016](#)

European Commission, 2017 [Exploring the role of ICT-Enabled Social Innovation to support the modernisation of EU Social Protection Systems: findings and insights from analysis of case studies in fourteen Member States](#)

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